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VIA ELECTRONIC FILING

Brinda Westbrook-Sedgwick
Commission Secretary
Public Service Commission
of the District of Columbia
1325 G Street, N.W., Suite 800
Washington, D.C. 20005

Re: Formal Case No. 1167, *In the Matter of the Implementation of the Business Climate Plan*

Dear Ms. Westbrook-Sedgwick:

Enclosed for filing in the above-referenced proceeding, please find the *Office of the People's Counsel for the District of Columbia's Comments in Response to Potomac Electric Power Company's Proposed 15-Year Plan and Electrification Study*.

If there are any questions regarding this matter, please contact me at (202) 727-3071.

Sincerely,

/s/ Adam Carlesco

Adam Carlesco
Assistant People's Counsel

Enclosure

cc: Parties of record

2. Include program-level cost, benefit, and ratepayer impact analyses using the forthcoming Benefit-Cost Framework;
3. Provide the data used to support key assumptions underlying Pepco's proposal;
4. Identify concrete actions within these Plans that Pepco can take immediately and work towards their implementation; and
5. Center equity and affordability as core outcomes rather than ancillary considerations.

To assist the Commission in reviewing these comments, OPC has included a list of our recommendations for next steps as an appendix to this document.

1. Executive Summary

Pepco's 15-Year Climate Business Plan, while framed as a step toward achieving the District's decarbonization and electrification goals, remains conceptual rather than actionable. Across the Plan's core portfolios (*i.e.*, building decarbonization, transportation electrification, local energy ecosystems, infrastructure modernization), Pepco's Plan lacks the measurable metrics, transparent cost data, and program-level details necessary for effective Commission oversight or public accountability.

Pepco's Plan reads as a broad framework rather than a measurable roadmap. It offers limited quantifiable milestones, no annual implementation schedules, and few enforceable performance indicators. There are no specific engineering measures, adoption targets, or quantifications of emission reductions. Without them, neither the Commission nor the public can verify progress toward statutory climate goals or ensure that investments deliver tangible benefits to District residents. The Plan provides no program-by-program cost estimates or verification of claimed savings. Pepco's reliance on generalized projections without disclosing the underlying assumptions or consumer participation rates hinders a meaningful cost-benefit assessment. Furthermore, the Plan's costs are intertwined with actions pending in other dockets (FC 1160, FC 1176), obscuring the actual financial impact on ratepayers. OPC remains concerned that layering multiple climate and electrification initiatives on top of recent historic rate increases risks undermining energy affordability, particularly for low- and moderate-income ("LMI") households already facing disproportionate energy burdens.

OPC requests that the Commission direct Pepco to provide the implementation details and cost information that are essential to a full and fair assessment of the feasibility and affordability of the Company's vision. OPC also recommends that the Commission ensure integrated and coordinated planning between gas and electric utilities to prevent duplicative efforts or the development of to-be-stranded assets. However, OPC feels that the Commission should focus on implementation avenues rather than additional briefing on draft plans in this docket.

2. Statutory and Commission Directives

2.1. District Climate Goals and Legal Mandates

The District of Columbia has established one of the nation’s most comprehensive and binding legal frameworks for achieving carbon neutrality, which includes imposing obligations on the District’s utilities. The Carbon Free DC strategy, developed by the Department of Energy and Environment (“DOEE”), implements the goals codified in the Clean Energy DC Omnibus Amendment Act of 2018³ and the Climate Commitment Act of 2022,⁴ which together establish a legally binding pathway toward net-zero greenhouse gas (“GHG”) emissions by 2045. These laws are not aspirational; they impose specific enforceable requirements that directly govern Pepco’s planning, investment, and operations within the District. Pepco's Plan must therefore provide the specific steps to be taken (and costs to be incurred) to meet legislatively-defined goals.

Pepco observes correctly that the District’s statutory framework targets the elimination of carbon emissions from its three largest sectors (buildings, transportation, and energy supply) through mandatory timelines and performance standards:

- **Climate Commitment Act of 2022:** Requires the District to achieve 100% renewable electricity by 2032, a 60% reduction in citywide GHG emissions by 2030 (relative to 2006 levels), and net-zero emissions by 2045. These obligations apply to utilities and all major emitting sectors.⁵
- **Carbon Free DC and Clean Energy DC:** Establishes the city’s roadmap for achieving these mandates through aggressive building and vehicle electrification, renewable integration, and energy efficiency across all end-use sectors.⁶
- **Clean Energy DC Building Code Amendment Act of 2022:** Mandates net-zero energy standards for new construction or significantly renovated buildings by 2026 and continuous improvement of building performance through subsequent Building Energy Performance Standards (“BEPS”) cycles.⁷ The *Climate Commitment Amendment Act of 2022* (“CCAA”) requires BEPS to be updated by the Department of Energy and Environment (“DOEE”) every six years following the release of the 2021 BEPS.⁸ In

³ D.C. Code § 34-1431, *et seq.*

⁴ D.C. Code § 8–151.09(d).

⁵ D. C. Code § 8–151.09(d).

⁶ D.C. Department of Energy and Environment, *Carbon Free D.C.*, https://sustainable.dc.gov/sites/default/files/dc/sites/sustainable/page_content/attachments/Carbon%20Free%20DC.pdf; D.C. Department of Energy and Environment, *Clean Energy D.C.*, https://doee.dc.gov/sites/default/files/dc/sites/ddoe/page_content/attachments/Clean%20Energy%20DC%20-%20Full%20Report_0.pdf.

⁷ D.C. Code § 6–1453.01; D.C. Law 4-177, effective September 21, 2022.

⁸ District of Columbia General Laws Chapter 24, section 176 (2022). *Climate Commitment Amendment Act of 2022*. Available at: <https://code.dccouncil.gov/us/dc/council/laws/24-176>

addition, the CCAA provides a five-year period from the date BEPS are released for buildings to adhere to the standards.⁹ The DOEE released the latest BEPS on April 30, 2021, and a subsequent Guide to the 2021 BEPS on June 29, 2021.¹⁰ The 2021 BEPS outline performance standards by building type and include a consideration for whether the building can receive an ENERGY STAR Score. If the building can receive an ENERGY STAR Score, the Score may be used as the BEPS; for those that cannot, the standards are Energy Use Intensity values, measured in kBtu/ft².¹¹

- **Local Solar Expansion Amendment Act of 2022:** Expands local solar capacity, supporting distributed generation and community solar participation.¹²
- **Healthy Homes and Residential Electrification Act of 2024:** Provides rebates, grants, and low-cost financing for residents (particularly low- and moderate-income households) to replace fossil fuel appliances with electric alternatives.¹³

These interdependent laws form a binding policy framework and set of emission reduction and electrification goals that guide the direction of and timetable for utility planning. Under these statutes, Pepco's 15-Year Climate Business Plan must:

1. Demonstrate measurable compliance with the District's 2030 and 2045 emissions targets;
2. Integrate building and vehicle electrification, renewable generation, and efficiency measures sufficient to support statutory deadlines;
3. Avoid investments that perpetuate carbon-intensive infrastructure or hinder the District's legally mandated transition to clean energy.

In short, the D.C. Council's legislative directives create not only a policy expectation but a legal obligation that Pepco's Plan facilitate the District's transition to a carbon-free energy system. A plan that does not align with these requirements would be contrary to District law and

⁹ District of Columbia General Laws Chapter 24, section 176 (2022). *Climate Commitment Amendment Act of 2022*. Available at: <https://code.dccouncil.gov/us/dc/council/laws/24-176>

¹⁰ (1) District of Columbia General Rules Title 20, Chapter 35, Section 3530 (2024). *Establishment of the 2021 Building Energy Performance Standards*. Available at: <https://www.dcregs.dc.gov/Common/NoticeDetail.aspx?NoticeId=N107118>; (2) District of Columbia Department of Energy and Environment. 2021. Guide to the 2021 Building Energy Performance Standards. Available at: https://doee.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/1_Guide%20to%20the%202021%20BEPS%20v1%203-30-21.pdf

¹¹ District of Columbia General Rules Title 20, Chapter 35, Section 3530 (2024). *Establishment of the 2021 Building Energy Performance Standards*. Available at: <https://www.dcregs.dc.gov/Common/NoticeDetail.aspx?NoticeId=N107118>. P. 2.

¹² D.C. Code § 34-1432(c).

¹³ Law No. 25-0189 (June 19, 2024).

at odds with the Commission’s obligation to ensure that regulated utilities operate in the public interest and in full compliance with governing statutes.

2.2. *Commission Orders and Filing Requirements*

Pursuant to Commission Orders 22313 and 22339, Pepco was directed to file a 15-Year Climate Business Plan and Electrification Study that reflects updated statutory obligations enacted since 2021 and integrates findings from Formal Case No. 1160 (Energy Efficiency and Demand Response Potential Study).¹⁴ The Plan must also demonstrate measurable progress toward compliance with the District’s decarbonization laws.

2.3. *Focus on Actionable Planning*

The Commission stated that the Plan must move beyond aspirational statements and include a well-defined roadmap, action plan, and a set of milestones.¹⁵ However, Pepco’s current submission lacks:

- **Clear identification of actionable programs and engineering milestones:** Pepco’s 5-, 10- and 15-Year Plans are high-level, with overall descriptions of generalized milestones and guiding principles for actions and program areas, but lack any specific details on program implementation. Pepco’s proposed Plan provides some detailed program concepts but lacks definition of the scale and budget of programs as well as clear steps towards implementation. Bill impacts, together with energy justice and equity considerations, are required by PSC Order No. 22313 (p.11) but are absent from Pepco’s proposed Plan.
- **Cost-benefit analyses sufficient to support Commission oversight (due in part to the lack of a finalized BCA from the PSC):** More than six years have passed since PSC opened GD-2019-04-M inviting public comment on the analytical approach for reviewing the effects of utility proposals on global climate change, and more than three years have passed since PSC ordered the development of a BCA framework (see Table 1 below). This essential piece of the path forward nonetheless remains under development.

Table 1. Timeline of PSC actions in relation to the BCA framework¹⁶

¹⁴ Formal Case No. 1160, *In the Matter of the Development of Metrics for Electric Company and Gas Company Energy Efficiency and Demand Response Programs Pursuant to Section 201(b) of the Clean Energy DC Omnibus Amendment Act of 2018*, Pepco Energy Efficiency and Demand Response Potential Study, filed May 17, 2023.

¹⁵ Order No. 22313, ¶ 19.

¹⁶ DC PSC, Docket No. 2019-04-M, Order No. 21938, *In the Matter of the Implementation of the 2019 Clean Energy DC Omnibus Act Compliance Requirements*, (2023), available at: <https://dcpsec.org/getattachment/About-PSC/Procurement/Contracting-and-Procurement/Current-Solicitations/Attachment-I-Order-No-21938.pdf.aspx?lang=en-US>; DC PSC, Docket No. 2019-04-M., *Notice of Inquiry In the Matter of the Implementation of the 2019 Clean Energy DC Omnibus Act Compliance Requirements*, (2019), available at:

Date	Event
March 22, 2019	The District of Columbia enacted Clean Energy Amendment Act of 2018.
September 26, 2019	PSC opened GD-2019-04-M and invited public comment on the analytical approach for reviewing the effects of utility proposals on global climate change.
March 20, 2020	The first technical conference for stakeholders input on the utility proposals on global climate change was held; meetings later renamed the Clean Energy Act Implementation Working Group (CEAIWG).
November 16, 2021	The CEAIWG Report was filed containing the recommendation that PSC adopt a BCA framework.
February 28, 2023	A group of stakeholder submitted a letter to PSC requesting urgent action on items, including the development of a BCA framework.
December 8, 2023	PSC filed Order No. 21938 in GD-2019-04-M opening Phase 2 of the proceeding to establish an interim BCA screening tool.
April 3, 2024	PSC issued a request for proposals to hire a consultant to develop Parts A and B of the BCA.
June 7, 2024	PSC issued a request for proposals to engage consulting services on equity matters related to the BCA development; this lead to the creation of the Equity Advisory Working Group (EAWG).
December 10, 2024	PSC filed Order No. 22339 in Formal Case No. 1167 providing an estimated completion date for the BCA of Fall 2025.
July 23, 2025	PSC filed the EAWG's Final Recommendations Report in GD-2019-04-M.

<https://edocket.dcpsec.org/apis/api/Filing/download?attachId=87672&guidFileName=6ad19f25-8cd3-436c-abac-a0dda6a9fbc.pdf>; DC PSC, Docket No. FC1167, *In the Matter of the Implementation of Electric and Natural Gas Climate Change Proposals*, Order No. 22313, (2024), available at: <https://edocket.dcpsec.org/apis/api/Filing/download?attachId=212002&guidFileName=465c665e-2631-479e-bfe0-60b03b826548.pdf>; DC PSC, *Request for Proposals No. PSC-24-21*, June 7, 2024, available at: [https://dcpsec.org/getattachment/About-PSC/Procurement/Contracting-and-Procurement/Current-Solicitations/RFP-No-PSC-24-21-Consulting-Services-\(FINAL\).pdf.aspx?lang=en-US](https://dcpsec.org/getattachment/About-PSC/Procurement/Contracting-and-Procurement/Current-Solicitations/RFP-No-PSC-24-21-Consulting-Services-(FINAL).pdf.aspx?lang=en-US); DC PSC, Docket No. FC1167, *In the Matter of the Implementation of Electric and Natural Gas Climate Change Proposals*, Order No. 22339, (2024), available at: <https://edocket.dcpsec.org/apis/api/Filing/download?attachId=215430&guidFileName=0562ebee-efa9-498b-964c-59edaf3d2294.pdf>; DC PSC, Docket No. 2019-04-M, *Equity Advisory Working Group Recommendations: Equity Metrics for the District of Columbia's Benefit-Cost Analysis Model and Stakeholder Engagement for Utility Planning*, (2025), available at: <https://edocket.dcpsec.org/apis/api/Filing/download?attachId=227018&guidFileName=452144f2-a65d-4b5e-a63a-0d43d431a245.pdf>.

- **Implementation details that enable accountability to ratepayers and regulators:** PSC Order No. 22313 (p.15) requires that “As part of its 15-year Plan, the Potomac Electric Power Company is directed to file an updated electrification study with sufficient granularity on capital expenditures needed to bolster the electric grid for full electrification within 150 days of this Order.” Pepco’s Plan fails to meet this requirement, as it lacks granular information on the capital costs of anticipated actions, leaving regulators—and ratepayers—unable to gauge impacts.

2.4 Elements missing from Pepco's 15-Year Plan

Table 2. Rubric of PSC's utility climate plan requirements¹⁷

Requirements	Plan Type		
	Climate Change Commitment	Climate Solution Plan	15-Year Plan
Costs			
All cost models and work papers supporting them	X	X	X
Cost-benefit analysis for each scenario in the plan	X		
Customer Impacts			
Analysis of changes to consumption in the residential and commercial markets		X	X
Analysis of customer bill impacts from electrification proposals		X	
Forecasted Results			
Consideration of the potential application of utility-sponsored distributed energy resources	X		
Discussion of updates in heat pump technologies, including economics benefit analysis of dual fuel systems as applicable		X	
Forecasted greenhouse gas emissions reductions from plans	X	X	X
Quantitative comparison of energy efficiency analysis from the long-term EEDR potential studies and energy efficiency projections		X	
Quantitative results and actions from program implementation	X		
Policy Goal Impacts			
Complete list of proposed programs and initiatives filed or intended to be filed for both short-term (5 year) and long-term (30 year) timelines	X		
Demonstrate how the Plan will meet climate goals of the next 15 years		X	X
Discussion of how the Plan would provide safe, reliable, affordable, and sustainable service, as well as how the plan aligns with statutory mandates	X		
Discussion of how other climate-related projects from other Dockets impact proposals		X	
Quantitative analysis and qualitative explanations of how recent District and federal legislation impact any proposals		X	
15-Year Plan Specific Requirements			
Divide Plan into three 5-year horizons with well-defined roadmaps, actions plans, and milestones			X
Informational report that updates the status of the 15-Year Plans to be filed every 3 years			X

¹⁷ This table shows requirements provided by PSC's Order No. 22313 from 2021 in black Xs; PSC requirements provided by Order 22313 from 2024 are shown by red Xs. This table assumes all requirements for the revised Climate Solution Plan and the new 15-Year Plan outlined in Order No. 22313 will hold for future filings. *See*, Formal Case No. 1167, *Order No. 20754*, June 4, 2021, available at: <https://edocket.dcpsec.org/apis/api/Filing/download?attachId=125555&guidFileName=a43e32dd-d6d5-4145-bb8c-e06a8f929775.pdf> (in black); Formal Case No. 1167, *Order No. 22313*, October 10, 2024, available at:

PSC Orders Nos. 20754 and 22313 provide lists of required elements in DC utility climate plans.¹⁸

OPC notes ambiguity in the Commission’s language regarding whether requirements listed as specific to Pepco’s Climate Change Commitment and Climate Solution Plan are also required as part of its 15-Year Plan. That said, **of the components specified as requirements of the 15-Year Plan, Pepco’s Plan does not include: (1) cost models and supporting workpapers; (2) analysis of changes to consumption in the residential and commercial markets; (3) forecasted greenhouse gas emissions reductions from plans; and (4) demonstration of how the Plan will meet emissions reduction mandates for the next 15 years.**

2.5 *Future Proceedings and Commission Action*

Formal Case 1167 was established five (5) years ago, and the parties are now addressing the second round of plans from both Pepco and Washington Gas Light Co. (“WGL”). Despite the passage of time and multiple filings, the Office remains unsure what will be done to meet the District’s emissions reduction goals, when those actions will be taken, and what burdens customers will be asked to bear. OPC urges the Commission not to allow this docket to become a dead end for compliance with District emissions-reduction laws. The Office requests that the Commission follow its review of these 15-Year Plans by issuing clear guidance and directives to both Pepco and WGL, detailing the necessary next steps for this planning and implementation process – even if those are to be handled in separate dockets.

Consequently, OPC suggests that as an immediate next-step, the Commission focus on a handful of near-term, concrete actions identified within these Plans and work towards their implementation. This includes demand response improvements (subject to oversight in FC1160), identifying specific feeders that will need upgrading, reforming the interconnection process for new loads, reforming the DC fast charging rate, working with the District Department of Transportation (“DDOT”) and the Washington Metropolitan Area Transit Authority (“WMATA”) on developing bus charging infrastructure, and adopting a rate design aimed at facilitating broad transit electrification. By focusing on the low-hanging fruit profiled in Pepco’s Plan and implementing those actions promptly, while considering future plans that build off of this one,

<https://edocket.dcpsec.org/apis/api/Filing/download?attachId=212002&guidFileName=465c665e-2631-479e-bfe0-60b03b826548.pdf> (in red).

¹⁸ Note: This table assumes all requirements for the revised Climate Solution Plan and the new 15-Year Plan outlined in Order No. 22313 will hold for future filings. *See*, Formal Case No. 1167, *Order No. 20754*, June 4, 2021, *available at*:

<https://edocket.dcpsec.org/apis/api/Filing/download?attachId=125555&guidFileName=a43e32dd-d6d5-4145-bb8c-e06a8f929775.pdf>; Formal Case No. 1167, *Order No. 22313*, October 10, 2024, *available at*: <https://edocket.dcpsec.org/apis/api/Filing/download?attachId=212002&guidFileName=465c665e-2631-479e-bfe0-60b03b826548.pdf>.

the Commission can ensure that these 15-Year Plans become actionable launch paths for a resilient and clean energy system within the District rather than one-and-done administrative exercises.

3. Analysis of Pepco’s Building Decarbonization Plan

In 2022, buildings accounted for the overwhelming majority of the District’s total emissions (72%), followed by transportation (21%) and waste (7%). The most significant sources of emissions were electricity (46%), fossil gas (26%), and gasoline (18%). Within the building sector, approximately two-thirds of emissions originate from commercial properties and one-third from residential buildings, underscoring the critical importance of electrifying both sectors.

Pepco’s 15-Year Climate Business Plan (2025-2040) identifies building electrification and efficiency as central to achieving emission reduction goals. The Company proposes a staged approach—near-term (2025-2030), mid-term (2031-2035), and long-term (2036-2040)—to reduce emissions, manage load growth, and align grid modernization with the District’s decarbonization targets. While generally moving in the right direction, it is unclear what “approval” would mean where Pepco does not provide clear cost estimates or step-by-step launch paths for many of its programs and projects.

3.1. 15-Year Timeline Analysis

3.1.1 2025–2030 (Near-Term): Efficiency, Electrification, and Grid Upgrades.

In the first five years of the Plan, Pepco’s building decarbonization effort aims to implement programs that reduce energy demand, improve efficiency, and prepare buildings for electrification. This cycle of the Plan focuses on three major areas: building rate design solutions, behavioral and technical solutions, and building upgrades.

First, as rate design is key for encouraging customer load-reduction behaviors and managing energy burden as buildings are electrified, Pepco plans to introduce Time-of-Use (“TOU”) rates for residential and commercial customers. As part of Pepco’s plan to expand and improve its demand response (“DR”) programs, it aims to enable heating and air conditioning curtailment to reduce load in real-time to adjust to grid needs during peak periods. In the near term, Pepco plans to utilize customer thermostats to modulate electrified HVAC systems, including heat pumps, which is the most significant demand in the built environment. Pepco claims that the DC Energy Efficiency and Demand Response (“EEDR”) Study, completed in 2023, found that TOU rates could provide over 30 MW of load reduction by the end of 2032, making a meaningful contribution to the District’s grid flexibility.¹⁹ Pepco is currently

¹⁹ See, Formal Case 1160, *In the Matter of the Development of Metrics for Electric Company and Gas Company Energy Efficiency and Demand Response Programs Pursuant to Section 201 (b) of the Clean Energy DC Omnibus Amendment Act of 2018*, Item No. 110 (May 17, 2023) (“EEDR Study”).

developing several TOU rate proposals for residential and commercial customers in conjunction with DOEE as part of the Rate Design Working Group, the results of which will be filed in Formal Case 1176 by January 31, 2026.²⁰

Second, Pepco’s proposed expansion of DR through thermostat programs and direct load control aims to curtail use during peak load events and align customer energy use with off-peak hours, thereby reducing grid strain and costs. Under this direct load control strategy, Pepco offers participating customers bill credits for allowing the utility to cycle their air conditioners for short periods when electricity demand is the highest. Thermostat-based DR programs can offer a cost-effective way to reduce peak demand and enhance grid flexibility during periods of high demand. According to the EEDR Study, this program is expected to deliver up to 94 MW in load reduction from residential customers using the rebate option, 48 MW from Bring Your Own Device (“BYOD”) participants, and approximately 7 MW from commercial customers by 2032.²¹ This program would evolve into the Demand-Side Management program detailed in the second five-year phase of this 15-Year Plan.

Third, Pepco also plans on a behavioral and technical solutions program focused on education and engagement, audits and assistance, technical support, building upgrades, incentives for energy-efficient technologies, electrification make-ready programs, and support for commercial and residential retrofits and new construction. Pepco proposes engaging customers with marketplace, school programs, and commercial customer portals. Pepco’s Schools and Education solution would complement the 2023 D.C. Environmental Literacy Plan by engaging students, families, and educators from local schools through curriculum-aligned teaching materials and hands-on learning in energy efficiency.²² By providing education, engagement, and data-driven insight (*i.e.*, using the customer portal), customers will be engaged, coached, and supported to change their behavior.

Pepco proposes utilizing energy audits and assistance, such as the No-Cost Home Energy Report program, to help improve building energy efficiency by utilizing advanced metering infrastructure (“AMI”) data and modeling techniques to generate free, personalized home energy reports for residential customers. In-home energy audits can be an effective way to identify specific inefficiencies, such as poor insulation, outdated HVAC systems, and inefficient lighting, with special focus on LMI communities. Pepco also proposes to offer technical support to help builders meet building energy performance standards (“BEPS”) and net-zero energy (“NZE”) codes. To complement the programs bundled in this portfolio, Pepco plans to offer technical assistance by connecting homeowners, landlords, and businesses with available third-party incentives, including those provided by DOEE, DCSEU, the Commission, and Federal energy

²⁰ See, Order No. 22440; Order No. 22721.

²¹ See, EEDR Study at Section 6.

²² D.C. Office of the State Superintendent of Education, *2023 DC Environmental Literacy Plan*, https://sustainable.dc.gov/sites/default/files/dc/sites/sustainable/page_content/attachments/Environmental%20Literacy%20Plan%202023.pdf.

programs. OPC supports efficiency improvement efforts as they often serve as the lowest-cost avenue to energy conservation and emissions reduction.

Additionally, as part of the first five years of this Plan, Pepco aims to improve building efficiency via incentives for energy-efficient technologies (*e.g.*, heat pumps, smart thermostats, induction appliances), electrification make-ready rebates for electrical systems, and support for high energy standards in commercial and residential retrofits and new construction. The efficient products incentives provide instant, point-of-sale incentives to increase customer adoption of high-efficiency residential and commercial products, including electrified appliances. The electrification make-ready program would be offered to commercial and residential customers where electrical infrastructure upgrades are needed to enable the transition to electric appliances and building electrification. Furthermore, Pepco aims to incentivize the adoption of high-efficiency equipment, including HVAC units, variable frequency drives, refrigeration systems, and energy controls. Finally, Pepco aims to incentivize builders and developers of new construction and major renovations to construct high-efficiency single-family homes and small multifamily buildings, and to consider energy efficiency in the design of major renovation projects.

Pepco's Plan does not include cost estimates sufficient to enable OPC to determine whether and to what extent these programs will, when factoring in broader costs, provide significant customer benefits. **But given their relative simplicity and comparatively minimal capital investment, OPC believes that these programs can capture low-hanging fruit associated with electrification and energy efficiency and should be implementable with minimal delay.**

3.1.2 2031–2035 (Mid-Term): Scaling Programs and Evaluation of Cost Impacts

Pepco's mid-term five-year cycle is designed to deepen electrification and integrate demand-side management ("DSM") for grid reliability. The main program areas for years 5-10 of the Plan include maintaining and expanding successful programs from the first five years, as well as introducing new initiatives again focused on building rate solutions, behavioral and technical solutions, and building upgrades.

Pepco's proposed **building rate solutions** include a Critical Peak Rebate to reward participating customers for reducing energy use during high-demand periods; reintroducing the All-Electric rate schedule under a special pricing scheme to incentivize adoption of all-electric appliances and systems; and expanding DSM to integrate smart devices (EV chargers, batteries, thermostats, water heaters) for real-time load management.

Pepco's proposed **behavioral and technical solutions** include two components: (1) an in-depth LMI-only audit that consolidates previously available residential programs (*e.g.*, home energy check-ups) with a focus on reducing the financial and technical barriers to appliance electrification; and (2) a retrofit program to help commercial customers improve building

performance through building operator training and personalized data-driven recommendations for operational enhancements.

Pepco's **building upgrades program** during this mid-term 5-year period includes performance-based incentives, offering rewards for measured energy savings (utilizing a whole-building approach) and point-of-sale rebates for smart, electric appliances to incentivize full electrification. Pepco also proposes offering dedicated LMI electrification, higher rebates, and incentives to facilitate a transition to fully electric homes for those unable to do so without assistance. Finally, the building upgrades program offers an emerging technologies pilot to encourage the adoption of new commercial efficiency and electrification technologies.

OPC believes these are actionable and cost-effective steps that would incentivize market consumer behavior and reduce energy demand as the District transitions away from fossil fuel usage. It also prioritizes those who, absent assistance, would otherwise bear the brunt of the costs associated with an increasingly stranded gas distribution system as homes and businesses electrify over the next fifteen years. While specific cost figures are not in the Plan and ratepayer impacts are therefore unclear, it is likely that such programs come at a lower cost than extensive utility distribution system infrastructure investments and will therefore comparatively reduce individual LMI household costs compared to a no-action alternative. While OPC does not support approval of these programs without a clear financial analysis, they may serve as a relatively low-cost approach to facilitate building electrification.

3.1.3 2036–2040 (Long-Term): Decarbonization Within Statutory Timelines

Pepco's third five-year cycle offers no new programs; instead, it optimizes and expands participation in established programs. Pepco plans to maintain or refine all core programs, including (i) TOU rates, DR, and DSM for flexibility, (ii) continued LMI and commercial support, (iii) ongoing performance-based incentives and electrification rebates, and (iv) phase out of short-term programs (*e.g.*, full appliance electrification) as technologies become standard.

Pepco's 15-Year Plan anticipates (i) significant reductions in building GHG emissions, (ii) improved energy affordability and reliability, (iii) widespread adoption of electrified systems and smart devices, (iv) enhanced participation from low- and moderate-income (LMI) communities, and (v) strong alignment with District law outlined by the Climate Commitment Act of 2022.

Given that much of this Plan's building electrification relies on consumer adoption outside of the utility's direct control, Pepco's proposed tactics offer a path forward to the fullest extent possible within their ability. OPC believes that the iterative approach that Pepco has outlined provides a potentially feasible pathway for facilitating building decarbonization within the District. Once again, however, given that many of these results are conditioned upon consumer adoption trends and Pepco does not disclose anticipated costs and rate impacts for

residents and businesses, OPC is hesitant at this time to express unconditional support for this aspect of the Plan.

3.2. Building Rate Design Solutions

Pepco's building decarbonization plan relies primarily on customers' behavior, generating incentives (*e.g.*, TOU rate design, rebate programs), and hoping that homeowners will have a willingness to adopt new technologies. **While rate solutions such as TOU have been offered to consumers in various states over the past half-century, it has been estimated that only 3% of U.S. electricity customers adopted the TOU rate design**, in part due to a lack of smart metering.²³ These data make the Office skeptical of the approach's efficacy.

Building rate solutions (*e.g.*, TOU rates, peak rebates) require an in-depth examination of the trade-offs between the financial benefits of a proposed rate and the satisfaction or utility gained from changing behavior. Furthermore, these kinds of time-varying designs require extensive education among potential participants before their introduction. If implementing TOU or similar rates were as simple as was contemplated in Pepco's Plan, most utilities in the United States and the District of Columbia would have willingly adopted these rate solutions long ago, and customers would be eager to enroll.²⁴ For example, in 2007, Smart Meter Pilot Program, Inc. ("SMPPI") initiated PowerCentsDC to test the reactions and impacts on consumer behavior of smart prices, smart meters, and smart thermostats in the District of Columbia. **While TOU rate structures have demonstrated efficacy, nearly two decades later, there has been no sustained and successful adoption of time-varying rates by ratepayers.**²⁵ Pepco should provide more details on how it anticipates achieving meaningful customer enrollment in TOU rates.

3.3. Conditionality and Implementation Gaps

One concern OPC has is that Pepco's Plan relies on past and future regulatory approvals from the PSC that are not associated with Formal Case No. 1167. For example, measures like a TOU rates proposal for residential and commercial customers rely on the approval of energy efficiency and demand reduction initiatives, such as the implementation of measures proposed in FC1160 and FC1176. This leaves uncertainty regarding how these measures will be implemented, how many customers will adopt them, and what the impact of switching to TOU

²³ Ahmad Faruqui, et al., *A Survey of Residential Time-Of-Use (TOU) Rates*, The Brattle Groups, Nov. 12, 2019, https://www.brattle.com/wp-content/uploads/2021/05/17904_a_survey_of_residential_time-of-use_tou_rates.pdf.

²⁴ In 2007, Smart Meter Pilot Program, Inc. ("SMPPI") initiated PowerCentsDC to evaluate the reactions and impacts on consumer behavior of smart prices, smart meters, and smart thermostats in the District of Columbia. Yet, there has been no ideal ready adoption. *See*, Smart Meter Pilot Program, Inc., *PowerCentsDC Program Final Report*, Sept. 2010, https://www.energy.gov/sites/prod/files/oeprod/DocumentsandMedia/DC_OP_C_Attachment.pdf

²⁵ DC PSC, *From Luxury to Necessity – The History of Electricity Regulation in the District*, Ch. 6, at 30, <https://dcpsc.org/PSCDC/media/PDFFiles/centennial/History-ElectricityRegulation-1.pdf>.

rates will be on the District's load growth with any degree of certainty. OPC recommends that the Commission define measures and metrics that can be adopted to determine whether these TOU rates will be beneficial.²⁶

Adoption of other technologies also depends on the rate of diffusion and their cost-effectiveness. The cost-effectiveness of the energy efficiency measures proposed in FC1160, funding for those measures, and their adoption depend on the Commission's approval and implementation of the Benefit-Cost Analysis ("BCA") framework pending in GD-2019-04-M. This means that many of the measures proposed in the current version of Pepco's Plan will likely be altered when considered against an approved BCA framework. OPC anticipates that at that point hence, Pepco will need to update its Plan to demonstrate the efficacy of these proposals.

3.4. Appliance Electrification and Distributed Energy Adoption

While Pepco's Plan relies primarily on electrification, load growth may strain the grid if it is not synchronized with the expansion of generation and storage capacity. However, grid flexibility, a significant element of Pepco's Plan, faces technological and market uncertainty.²⁷ Reliance on emerging technologies (*e.g.*, smart building systems, remote HVAC controls) poses a risk if adoption lags or if standards change.

Additionally, Brattle's study assumed high electrification levels. But Brattle's projection was more a policy-based assumption rather than a rigorous, forecasted expectation based on an assessment of customer preference and willingness to adopt the proposed technologies. The study's contemplated 90% electrification by 2040 appears to be largely aspirational, conforming to DC planning documents and laws; however, adoption may be slower and may overestimate the required grid upgrades and associated costs. The high deployment of appliances (20-50%) assumes a level of market transformation in customer behavior, technology adoption, and regulatory support, which has not yet been proven. The study also assumes that by 2040, (i) 90% of buildings and vehicles are electrified in fifteen years, (ii) aspirational technology performance such as 85% battery efficiency and 10-50% DER adoption, (iii) costs based on average project "rules of thumb," not actual engineering estimates, and (iv) assumes stable inflation despite an observed escalating national debt and a depreciating currency. These assumptions are overly optimistic and may require further analysis of the data and assumptions used to produce these outcomes – data and assumptions which should be made public.

Although solar deployment is contemplated, the Plan and Electrification Study lack discussions on data inputs and assumptions about projected growth in solar, as well as integrated

²⁶ This can include enrollment rates, load-weighted participation rates, average bill change per rate class, elasticity of demand response, peak reduction, coincidence with PJM peak hours, avoided emissions, utilization of renewable energy, and annual pilot evaluations per TOU rate class.

²⁷ See, *e.g.*, International Energy Agency, *Lack of ambition and attention risks making electricity grids the weak link in clean energy transitions*, Oct. 17, 2023, <https://www.iea.org/news/lack-of-ambition-and-attention-risks-making-electricity-grids-the-weak-link-in-clean-energy-transitions>.

solar plus storage systems. Furthermore, no consideration is given to customers who choose solar generation options with limited or no electricity export, opting to avoid congestion on the system and the need for upgrades.

Ideally, the choice of new electricity technologies should be based not only on experience in other jurisdictions and/or literature, but also on an assessment of need in the District. This can be accomplished as a two-prong approach. First, determining the cost-effectiveness of these technologies will help demonstrate whether the savings are sufficient to produce a sustainable shift in preference for specific technologies. Second, **a series of annual or bi-annual appliance saturation studies is needed to monitor progress in building electrification.** These types of basic empirical evidence have not been produced for the Commission and District electricity consumers.

The electrification of the energy sector, as envisioned by the Brattle study, entails fuel switching, resulting in a shift of the electricity peak load from summer peaks to winter peaks. A little less than half of DC homes use natural gas as their primary source of space heating.²⁸ However, the Plan contains no discussion regarding the cost of switching, whether consumers will be willing to switch, the stranded costs associated with fuel switching, or the fuel price ratio (electricity and natural gas). Furthermore, while **the transition from a summer peak to a dual peak (i.e., summer and winter peaks) system requires analysis of local climate change patterns and discussions on how temperature trends are evolving,** this Plan provides little discussion of these planning criteria. The key to incorporating climate into load or demand forecasts is to calculate the essential modeling inputs of future Cooling Degree Days (“CDD”) and Heating Degree Days (“HDD”) to project higher summer peak demand (due to increasing cooling demand) and higher winter demand (due to heating electrification).²⁹

There are also significant upfront cost barriers to the adoption of electric appliances and energy efficiency measures. Despite Pepco’s offer of incentives, initial equipment costs, and make-ready upgrades (e.g., electric panels, wiring), the scale of the effort needed to transition may still deter participation, especially for small businesses. A relatively large share of the investment to implement measures proposed in the 15-Year Plan depends on the willingness of residential and commercial customers to invest in both energy efficiency measures *and* electric appliances concurrently. While BEPS requirements will result in electrification of new and significantly renovated properties, these do not compel the majority of homeowners or businesses with dated gas technology to adopt new electric appliances or efficiency upgrades.

There are several problems with Pepco’s assumption about electrification and efficiency adoption. There is no up-to-date appliance saturation study in the District. Most appliances are

²⁸ U.S. Energy Information Administration, *District of Columbia State Energy Profile*, <https://www.eia.gov/state/print.php?sid=DC>

²⁹ Pacific Northwest National Laboratory, *Emerging best practices for electric utility planning with climate variability*, U.S. Department of Energy, 2023, https://www.pnnl.gov/sites/default/files/media/file/Final%20Report%206_7_2023.pdf.

lump-sum investments with long service life. Without an in-depth survey and analysis of appliance stock, it is not plausible to ascertain how many customers will replace their existing appliances, even if the incentive is high enough to compensate for the value of the remaining service life of existing appliances. Furthermore, the adoption of appliances requires pre-electrification investments in wiring and other electrical upgrades. **Given that DC is experiencing a significant increase in electricity prices, high unemployment, downward trends in property values, and a loss of federal and District financial support, the adoption of energy-efficient appliances and measures will face considerable challenges for the near-term future.** Yet the Brattle study does not address in detail the impact of DC's economy and other factors on achieving the Plan's goals.

The decision for households to adopt new technologies or appliances is negatively affected by the 7 to 8 years it takes to recoup the investment.³⁰ To better model program efficacy, a technology-by-technology and appliance-by-appliance study of the optimal payback period should be conducted, which is not currently studied in either FC1160 or the Brattle study. This is especially true for LMI consumers, who face significant financial barriers to adopting new technologies.³¹ Considerable uncertainty remains around adoption rates, underscoring the need for a more thorough and systematic examination of the influence of various factors and assumptions on policy-relevant outcomes related to the cost of electricity supply and energy technologies.³² Energy prices, geography, climate, housing characteristics, and household income are collectively shown to explain 90% of the increasing adoption, with increasing energy prices being the most important single factor. **However, commodity price uncertainty, subsidies, and installation costs adversely affect adoption rates.**³³ **Such factors need careful investigation.**³⁴

With respect to modeling distributed energy resources ("DER"), detailed forecasts of DER adoption rates and their hourly generation/discharge profiles are required.³⁵ A general best practice is the necessity of moving toward 8,760 hourly time-series forecasting to precisely assess how DERs, electrification, and climate trends influence hourly net load patterns, a

³⁰ Jiyong Park, JongRoul Woo, *Analyzing consumers' willingness to purchase energy-efficient appliances in response to energy price changes: Case study of South Korea*, Energy Economics, Volume 127, Part A, 2023, <https://doi.org/10.1016/j.eneco.2023.107088>.

³¹ Burlinson, A., and Giulietti, M., *Technology adoption, consumer inattention, and heuristic decision-making: Evidence from a UK district heating scheme*, Research Policy, Vol. 47, Issue 10, December 2018, Pages 1873-1886, <https://doi.org/10.1016/j.respol.2018.06.017>.

³² Rubin, et al., *A review of learning rates for electricity supply technologies*, Energy Policy, Vol. 86 (2015), pages 198-218, <https://doi.org/10.1016/j.enpol.2015.06.011>.

³³ Crucitti, et al., *Green Technology Adoption over the Life Cycle*, Nov. 13, 2024, Available at <https://ssrn.com/abstract=5019631> or <http://dx.doi.org/10.2139/ssrn.5019631>

³⁴ Lucas W. Davis, *What matters for electrification? Evidence from 70 years of U.S. home heating choices*, Nat'l Bureau of Economic Research, Oct. 2023, https://www.nber.org/system/files/working_papers/w28324/w28324.pdf

³⁵ Energy Systems Integration Group, *Long-term load and DER forecasting: Addressing key issues in the transforming grid*, Aug. 2025, <https://www.esig.energy/wp-content/uploads/2025/08/ESIG-Long-Term-Load-DER-Forecasting-report-2025.pdf>

methodology many distribution companies now employ.³⁶ The Plan does not undertake this kind of in-depth analysis, and the load forecast underlying Pepco’s filing is based on only one year of hourly data, which is far too little to produce a robust analysis.

3.5. Energy Efficiency and Demand Response

The Commission has approved Pepco’s energy efficiency and demand response programs under Formal Case No. 1160.³⁷ While OPC recognizes that energy efficiency remains one of the most cost-effective tools for reducing consumption and controlling long-term energy costs, the success of these programs depends on their effective design and implementation. Programs that are not grounded in strong consumer education, informed by customer preferences and behavioral data, or tailored to differences in housing type and occupancy are unlikely to deliver sustained energy savings. Without these elements, **such programs risk producing only short-term reductions** and undermining the District’s broader efficiency and decarbonization goals.³⁸

Furthermore, the measures approved in FC1160 will need to be reassessed under the Commission’s forthcoming BCA framework. This reassessment will hopefully ensure that program investments align with cost-efficacy standards and deliver equitable value to all ratepayers. As such, OPC anticipates that several FC1160 measures may require refiling or modification to ensure compliance with the Commission’s updated evaluation criteria and to strengthen the long-term effectiveness of the District’s energy efficiency portfolio.

3.6. Equity and Affordability for LMI Households

Pepco’s program aims to support LMI communities during the first 5-year Plan cycle, but the 10- and 15-year timeframes risk diminishing equity outcomes if funding or participation declines. Additionally, the Electrification Study’s outcome does not translate total system costs into specific rate impacts, so **consideration of low-income equity or rate design impacts is absent.**

4. Analysis of Pepco’s Transportation Electrification Plan

Pepco’s 15-Year Plan provides an important, but incomplete, foundation for transportation decarbonization. The Company recognizes that vehicle electrification is essential to achieving

³⁶ Joint Office of Energy and Transportation – National Renewable Energy Laboratory, *Best practices in electricity load modeling and forecasting for long-term power system planning (Technical Report No. NREL/TP-7A40-86364)*, Oct. 2023, U.S. Department of Energy, <https://www.nrel.gov/docs/fy23osti/86364.pdf>.

³⁷ Commission Order No. 21417 (Aug. 11, 2022), available at <https://edocket.dcpsec.org/apis/api/Filing/download?attachId=172220&guidFileName=2cb48217-3e48-4672-80dd-87518f756561.pdf>.

³⁸ See, U.S. Environmental Protection Agency, *National Action Plan for Energy Efficiency, Chapter 6 – Energy Efficiency Best Practices*, Nov. 2008, https://www.epa.gov/sites/default/files/2015-08/documents/napee_chap6.pdf.

the District’s climate and air quality goals; however, its initial planning horizon (2025-2030) requires more rigorous attention to affordability, system equity, and consumer protection.

Additionally, while OPC supports transportation electrification, as a broader point, relying solely on individual consumer choices in vehicle adoption, especially at a time when federal electric vehicle (“EV”) tax credits have ended, will not be sufficient. Emphasizing smarter land use management at the District government level and facilitating the greater adoption of electrified public transit, as well as promoting non-vehicle use (*i.e.*, walking, biking), will present greater opportunities for emissions reduction than relying solely on consumers to replace their combustion vehicles one-for-one with EVs. However, within Pepco’s direct control, additional EV rebates or adders for LMI customers may incentivize greater adoption of EVs.

4.1. 2025–2030: Foundational Electric Vehicle Infrastructure and Load Management

Pepco’s first five-year planning horizon focuses on establishing the foundational physical and informational infrastructure needed to enable expanded EV adoption while maintaining system reliability and resource adequacy.

A. Engineering Priorities

Pepco identifies several key priorities for the initial stage of its transportation electrification plan:

- **Make-ready infrastructure upgrades** for residential, multi-unit dwellings, fleet, large commercial, and public charging stations are essential to facilitate the desired rise in EV adoption. OPC supports this focus but emphasizes that funding mechanisms must avoid cost-shifting to non-EV customers. Additionally, OPC emphasizes that equitable access to EV charging—particularly for renters, LMI residents, and neighborhoods east of the Anacostia River—must be embedded as a core performance metric, not an aspirational goal, as failure to include these groups will doom efforts to meet District adoption goals. Without clear accountability standards, infrastructure deployment risks concentrating in higher-income areas and exacerbating existing transportation access inequities.
- **Managed Charging and Time-of-Use (“TOU”) rate programs** are proposed to encourage charging during off-peak hours and reduce peak demand. Pepco’s commitment to managed TOU rates is a prudent step toward mitigating new demand pressures and improving system reliability. Managed charging programs can flatten peaks and improve resource adequacy if designed with consumer protections (*e.g.*, equitable rate structures, transparent price signals). However, OPC cautions that the success of these programs depends on the penetration of smart chargers and customer participation rates.³⁹ Until smart charging visibility improves at the feeder and transformer levels, the Company’s

³⁹ While D.C.’s EV adoption rate is #2 among U.S. States, programs are still dependent upon a panoply of individual consumer choices. *See*, Jeff Clabaugh, *Why DC ranks No. 2 for EVs (and why leasing one may be better)*, WTOP News, Aug. 4, 2025, <https://wtop.com/business-finance/2025/08/why-dc-ranks-no-2-for-evs-and-why-leasing-one-may-be-better/>.

projections for load shifting and grid benefits remain speculative. OPC recognizes its potential to improve system efficiency but urges careful design to ensure LMI households can participate and benefit.

- **DC Fast Charging (“DCFC”) rate reform** is necessary to reduce demand charge burdens on low-utilization sites, yet Pepco must demonstrate that any rate restructuring does not result in subsidization by residential ratepayers. This could take the form of graduated utilization-based demand charges, charging less during early years and scaling as annual throughput increases; aligning demand charges with coincidence peak demand to utilize fast-charging price signals for demand response purposes; and/or using subscription-based demand blocks, whereby customers subscribe to a specific capacity but pay additional fees when charging during peak times.
- **Early smart charging visibility**, data integration into load forecasting, and Integrated Distribution System Planning (“IDSP”) processes are positive proposals, but remain unclear until chargers, utilities, and aggregators are integrated and operable.

B. Engineering Benefits

The proposed near-term initiatives could deliver tangible system benefits if implemented effectively, reducing early bottlenecks in EV charger interconnections, providing predictable load-shifting capabilities through managed charging programs, supporting resource adequacy by flattening demand peaks during early adoption, and generating essential baseline data for EV load forecasting and future capacity planning. However, these benefits depend heavily on the program’s execution, real-time monitoring, and regulatory oversight to confirm that the anticipated outcomes materialize.

C. Key Engineering and Economic Challenges

OPC agrees with Pepco that several structural and economic barriers must be addressed. The District’s aging building stock increases the cost and complexity of EV charger installations, particularly in multi-unit dwellings. Limited feeder and transformer visibility restricts effective local load management until smart-charging systems reach scale. DCFC demand variability may cause high peaks and uncertain cost recovery for site operators, underscoring the need for prudent rate design and management. Given the ongoing Commission proceedings, rate design remains uncertain, creating planning risks that may delay implementation or increase project costs.

The trend toward EV adoption stagnation seen over the past few years, following the increasing availability of EVs on the market, is also worth considering.⁴⁰ Customers have seen a

⁴⁰ Patrick Hertzke, et al., *New twists in the electric-vehicle transition: A consumer perspective*, McKinsey & Company, April 22, 2025, <https://www.mckinsey.com/features/mckinsey-center-for-future-mobility/our-insights/new-twists-in-the-electric-vehicle-transition-a-consumer-perspective> (“[T]rends suggest that the overall

rapid depreciation of EVs after purchase and have experienced reliability issues that deter rapid adoption.⁴¹ This comes on top of the expiration of federal tax credits for EV adoption and the current administration’s proposal to forgo the increase in vehicle efficiency standards proposed by the Biden administration, excluding EVs from consideration in calculating fleet efficiency standards.⁴²

These challenges will likely require ongoing Commission oversight and coordination with the Department of Energy and Environment (“DOEE”) to ensure that costs are prudently incurred and fairly allocated. Rate reform to address DCFC demand charges should not place an undue burden on residential customers who do not directly benefit from commercial charging investments.

D. Consumer Advocate Perspective

OPC underscores that early electrification efforts must **protect ratepayer affordability**, ensuring that non-participating households are not burdened by program costs; **guarantee transparency through regular reporting** on charger deployment, participation rates, and realized grid impacts; and **incorporate performance-based accountability**, linking program approval and cost recovery to measurable GHG reductions, equitable outcomes, and system efficiency. Pepco’s Plan lacks detail on how the Company plans to address these core concerns.

4.2. 2031–2035: Grid-Interactive EVs and Bi-Directional Integration

During the second five-year planning horizon, Pepco’s focus transitions from enabling EV adoption to integrating EVs as active grid resources. This phase represents a pivotal evolution from managing EV load to leveraging EV storage and flexibility for system reliability and renewable integration. This period will determine whether the District’s electrification goals deliver broad public benefits or merely shift costs and complexity onto ratepayers without measurable returns; it will also show whether widespread EV adoption in the District is timely and sufficient to meet the Council’s transportation electrification goals.

EV transition in the United States will continue at a slow pace, and ICE and hybrid-electric-vehicle (HEV) technology will remain relevant over the longer term.”).

⁴¹ Lukas Schlater, *Empirical analysis of the depreciation of electric vehicles compared to gasoline vehicles*, Transport Policy, Vol. 126, Sept. 2022, pp 268-279, <https://doi.org/10.1016/j.tranpol.2022.07.021> (“[E]lectric vehicles have a substantially higher depreciation of 1.16% per month (13.9% per annum) compared to gasoline vehicles with 0.87% per month (10.4% per annum.”); Keith Barry, *Hybrids Are Still the Most Reliable Cars*, *CR Survey Shows*, Consumer Reports, Dec. 4, 2025, <https://www.consumerreports.org/cars/car-reliability-owner-satisfaction/electric-vehicles-are-less-reliable-than-conventional-cars-a1047214174/> (“Electric cars and plug-in hybrids still struggle with reliability compared with gas-only vehicles.”).

⁴² U.S. Internal Revenue Service, *Credits for new clean vehicles purchases in 2023 or after*, Sept. 30, 2025, <https://www.irs.gov/credits-deductions/credits-for-new-clean-vehicles-purchased-in-2023-or-after>; Nat’l Highway Traffic Safety Admin., *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks*, Dec. 5, 2025, <https://www.federalregister.gov/documents/2025/12/05/2025-22014/the-safer-affordable-fuel-efficient-safe-vehicles-rule-iii-for-model-years-2022-to-2031-passenger>.

A. Engineering Priorities

Pepco proposes several initiatives aimed at deepening grid-vehicle integration:

- **Vehicle-to-Grid (V2G) Compensation Pilots** allow EVs to export electricity during peak demand, supporting system reliability and potentially reducing peak generation costs. OPC supports V2G exploration but emphasizes that compensation structures must ensure participating customers receive fair value for energy exported while protecting non-participants from cost shifts.
- **Bi-Directional Charging and Smart Inverter Readiness** expands make-ready programs to accommodate V2G-capable hardware, which is necessary to future-proof infrastructure. However, Pepco should demonstrate that any upgrades are cost-effective and aligned with the District’s broader IDSP framework.
- **Fleet Integration** requires coordination of fleet hubs, depots, and ride-share charging through grid analytics for efficient load balancing. OPC encourages collaboration with the District Department of Transportation (“DDOT”), Washington Metropolitan Area Transit Authority (“WMATA”), and DOEE to ensure these facilities are strategically sited and equitably distributed with a rate structure sufficient to facilitate transit electrification.
- **Data-Driven Planning** relies upon maturation of smart charging datasets, which should improve forecasting and load modeling. By this stage, Pepco expects to have accumulated nearly a decade of smart charging data, enabling more sophisticated forecasting and planning. OPC emphasizes that these datasets must be made publicly accessible, or at the very least, available to regulators and consumer advocates, to promote transparency and accountability in the distribution of grid benefits and costs.
- **Continuation of Managed Charging and Rate Reform** maintains TOU rates, DCFC rate solutions, and workplace/destination charging programs that provide continuity, but they must evolve in an iterative manner to reflect real-world performance and consumer experience.

B. Engineering Benefits

If executed effectively, this phase could yield notable engineering and reliability benefits. A mature V2G program could allow EVs to provide peak shaving, frequency regulation, and voltage support, reducing the need for costly peaking generation. Enhanced forecasting accuracy would lower the risk of feeder overloads and transformer failures, while coordinated fleet charging could align with renewable generation profiles, further stabilizing the system. Yet, OPC notes that these benefits remain contingent upon widespread participation and the market availability of V2G-compatible vehicles—conditions that are unlikely to materialize until later in the 2030s, making them available only to higher-income households who can afford novel technology EVs and the subsequent heightened depreciation risk they entail.

C. Key Engineering Challenges

The challenges before Pepco are significant. V2G capability will require extensive service upgrades, new interconnection standards, and widespread deployment of smart inverters—not to mention sufficient EV designs from major automotive manufacturers that accommodate such measures. **Real-time scheduling of V2G dispatch introduces new operational complexities, including increasing cybersecurity risks and escalating telecommunications demands.** Large fleet charging depots will need substantial feeder reinforcement and thoughtful siting to avoid localized congestion. These technical challenges must be weighed against the impacts on ratepayers, particularly if costs are front-loaded before benefits are realized.

From a consumer advocacy standpoint, OPC’s position is that the 2031-2035 horizon must prioritize transparency, cost causation, and equitable distribution of benefits. Electrification investments during this period should be evaluated based on measurable grid value (*i.e.*, avoided capacity costs, reliability improvements, emissions reductions) and not merely on projected potential. Commercial and fleet users driving these new loads should bear an appropriate share of the costs, while LMI households must be protected from indirect rate impacts. Without these consumer protections, the promise of V2G integration could devolve into a costly experiment that benefits early technology adopters, who skew wealthier, while leaving District ratepayers at-large to absorb the long-term financial risks. **The Commission should therefore ensure that any program approvals under this phase are contingent upon clear performance metrics, verifiable system benefits, and consumer protection safeguards consistent with District law and policy.**

4.3. 2036–2040: *Vehicle-to-Grid (V2G) Scale-Up and Renewable Alignment*

In the final five-year planning cycle, Pepco envisions a fully interactive and decarbonized transportation-electricity ecosystem in which EVs function as distributed energy resources (“DERs”) that bolster system reliability, resilience, and renewable integration. This phase represents both the culmination of earlier infrastructure and policy investments and the point at which the most significant potential risk for ratepayers lies if program costs, performance, and equity outcomes are not tightly managed during the preceding decade.

A. Engineering Priorities

Pepco’s plan anticipates scaling its V2G compensation model from limited pilots to full deployment across residential, workplace, public, and fleet charging sites. This expansion would enable EVs to export power back to the grid during peak periods and absorb surplus renewable generation during off-peak times. Properly designed, such a program could transform EVs into a flexible resource that supports system balancing, reduces the need for expensive peaking plants, and mitigates renewable curtailment. However, the benefits of such integration will depend on sophisticated coordination among the utility, aggregators, and customers. OPC emphasizes that

Pepco must provide clear, data-supported demonstrations of cost-effectiveness before scaling these programs across the District.

The plan also introduces “Surplus Period Charging” programs, which would incentivize EV charging during periods of high renewable generation. Aligning charging behavior with renewable availability could reduce carbon intensity and help Pepco meet the District’s Clean Energy DC and Climate Commitment Act targets. Yet OPC cautions that successful implementation requires well-calibrated pricing signals and public education to ensure equitable participation. **Without ongoing consumer incentives and rate design oversight, these programs may primarily benefit higher-income EV owners who already possess advanced charging capabilities, while being subsidized by LMI households who do not prioritize owning a newer vehicle.**

Another notable feature of this horizon is the proposed expansion of Vehicle-to-Everything (“V2X”) applications, including Vehicle-to-Load (“V2L”) and Vehicle-to-Building (“V2B”) functionality. These applications promise localized resilience by allowing EVs to power homes, businesses, or community facilities during grid disruptions. From a consumer protection standpoint, OPC recognizes the potential public safety value of this technology, particularly in extreme weather events that disproportionately impact vulnerable residents. Nonetheless, Pepco must ensure that investments in resilience-oriented V2X infrastructure are cost-justified, transparent, and available to all communities, not just those with the means to adopt cutting-edge technology. Moreover, Pepco and the Commission must ensure that the technology employed is safe and does not pose undue safety risks to the public due to fire or explosive potential of experimental technologies.

Additionally, any V2X program analysis should integrate EV resources into broader distributed energy resource management system (“DERMS”) operations, resource adequacy strategies, and resilience planning. Failure to account for EVs as either a demand need or an available source of power distorts any program analysis.

B. Engineering Benefits

If implemented thoughtfully, the 2036–2040 phase could achieve legitimate synergies between transportation electrification and renewable energy integration. EVs could serve as a means of distributed storage, flattening load curves and enhancing system flexibility while reducing the need for costly peaking capacity. V2X also has the potential to enhance outage resilience by providing backup power during disruptions and resilience benefits across the District. Furthermore, shifting charging times to coincide with when renewable energy is most abundant prevents renewable curtailment and supports a low-carbon distribution system. While a fully interactive EV network supports reliability, affordability, and decarbonization objectives, these benefits must not come at the expense of affordability, reliability, or transparency.

C. Key Engineering Challenges

Pepco's Plan scales from foundational EV infrastructure and rate design during its first five years, to interactive grid-integrated EV programs during the fifth through tenth years, and to full two-way power flow and renewable-aligned charging by the end of the 15-year plan. While all three planning horizons aim to address resource adequacy, affordability, equity, and grid modernization with varying degrees of efficacy, each planning period brings increasing technical complexity and broader system impacts. The *Electrifying Transportation* section transitions from infrastructure build-out to interactive optimization and full bi-directional EV-grid integration, making EVs a cornerstone of resource adequacy, renewable integration, and grid resilience by 2040 and beyond. However, these proposals are *highly aspirational* with an unproven track record of improving reliability and resilience. Managing thousands of bi-directional EV charging endpoints would require real-time coordination across a highly complex network. **This introduces major cybersecurity and operational risks, as each charger effectively becomes a grid-connected device capable of two-way energy flow. The expansion of this “attack surface” increases the system’s vulnerability to potential breaches or disruptions**—an issue that demands a comprehensive cybersecurity framework, real-time monitoring capacity, and fail-safe operational protocols before large-scale deployment. Pepco's Plan does not acknowledge, let alone address, these concerns.

In addition, full V2X integration will depend on advanced hardware and communications infrastructure (*i.e.*, smart inverters, telemetry, metering systems) that must remain interoperable over decades of technological evolution. **Given the pace of innovation in EV and charging technology, ensuring interoperability across multiple generations of devices poses a long-term engineering and cost challenge.** Without consistent technical standards, early investments could quickly become obsolete, leaving ratepayers to bear the costs of stranded or incompatible assets.

Finally, the viability of V2X integration is contingent upon the successful and timely implementation of foundational upgrades planned in Pepco's first and second five-year phases (*e.g.*, make-ready infrastructure, smart charging programs, data visibility improvements). **If earlier stages encounter delays or cost overruns, large-scale V2X deployment could be compromised or require further costly retrofits. From OPC's perspective, these interdependencies underscore the need for the Commission to require phased performance metrics, rigorous cost-benefit validation, and robust cybersecurity and interoperability standards before Pepco advances toward systemwide V2X integration.** Again, these important considerations are not addressed in any detail in Pepco's Plan.

The consumer risks in this stage are significant. Large-scale V2X participation depends on vehicle compatibility, customer trust, and clear financial incentives. Without careful design, early adopters could reap disproportionate benefits, while LMI households would bear indirect costs. Moreover, given the cumulative investments across the 15-year period, the Commission

must ensure that Pepco’s capital expenditures for electrification remain prudent and consistent with cost-causation principles.

Ultimately, this final stage of Pepco’s 15-Year Climate Business Plan must demonstrate that vehicle-grid integration can deliver both technological innovation and public value. For the Commission, success should not be measured solely in megawatts of capacity or numbers of chargers installed—but in whether these programs tangibly advance affordability, equity, reliability, and emissions reduction for all District residents.

5. Analysis of Brattle Group’s Electrification Study

5.1. Overview and Key Findings

The basis for Pepco’s Plan, the Brattle study entitled “*An Assessment of Electrification Impacts on the Pepco D.C. Distribution System*,” addresses the distribution grid capacity expansion investments needed for Pepco to support full electrification in the District through 2040, consistent with the District’s 2030 and 2045 decarbonization goals.⁴³ The study examines (i) the costs of grid expansion with and without electrification, and (ii) the mitigating potential of grid flexibility (*i.e.*, DERs, energy efficiency, demand response, managed EV charging, batteries). The study employed three scenarios as summarized in the table below.

Table 2. Summary Scenario and Costs

Scenario	Electrification & Flexibility	Distribution Capex (2025–2040, \$2025M)	Annual Average	Cost Drivers	Incremental (\$) (% Change) from baseline
Baseline	No Electrification / No Flexibility	\$665M	\$44M	26% load growth (mostly residential)	—
Full Electrification / No Grid Flexibility	Full electrification	\$1.594B	\$106.3M	52% load growth (due to electrification of heating, water,	\$929M (+140%)

⁴³ Hledik, R., Ramakrishnan, A., Bigelow, A., Sergici, S., Hagerty, M., Grocott, O., and Zhang, T.. 2025. *An Assessment of Electrification Impacts on the Pepco D.C. Distribution System*. VOLUME I: SUMMARY REPORT

				and transportation)	
Full Electrification / High Flexibility	Electrification with 20–50% adoption of DERs and smart tech	\$726M–\$1.536B	\$48M–\$102.4	Load growth, rooftop solar, cold-climate heat pumps, weatherization, batteries, smart thermostats, EV managed charging	4–54% savings

The primary cost driver in the Brattle study is residential load growth, resulting in an annual average investment of approximately \$44 million in the no electrification scenario. The study asserts that grid flexibility and energy efficiency (e.g., rooftop solar, cold-climate heat pumps, weatherization, batteries, smart thermostats, EV managed charging) can defer or reduce the need for traditional grid upgrade costs; for low, mid, and high deployment levels these could result cost reductions of \$58 million (4% reduction), \$410 million (29% reduction), and \$868 million (54% reduction), respectively. This analysis demonstrates that, if done prudently, widespread adoption of grid flexibility technologies could significantly reduce infrastructure costs and mitigate rate increases—an objective that OPC supports.

The Brattle study assumes that 90% of District residential and commercial buildings will use heat pumps in fifteen years, leading to Pepco becoming winter-peaking by 2040, and that the number of residential customers will increase by 48%. The study also assumes a 70-90% adoption rate for EVs in light-duty, medium-duty, and bus fleets in just 15 years, an aspirational (if not unrealistic) expectation given relatively low adoption rates, and one that conveniently tracks District EV adoption goals without clear evidence of feasibility.⁴⁴ With this in mind, Pepco anticipates that, if grid flexibility technology is not deployed, twenty-six new feeders and two new substations will be required, resulting in an additional investment of \$929 million on top of the \$665 million baseline cost. This also assumes that secondary transformer upgrades could represent ~30% of total grid upgrade costs in a scenario where no grid flexibility technologies are deployed. However, unless the District and/or the Federal government provides external funding, OPC believes most of the costs would be borne by local consumers. **In the electrification scenarios, the net cost to consumers (additional to investments in grid**

⁴⁴ Patrick Hertzke, et al., *New twists in the electric-vehicle transition: A consumer perspective*, McKinsey & Company, April 22, 2025, <https://www.mckinsey.com/features/mckinsey-center-for-future-mobility/our-insights/new-twists-in-the-electric-vehicle-transition-a-consumer-perspective> (“[T]rends suggest that the overall EV transition in the United States will continue at a slow pace, and ICE and hybrid-electric-vehicle (HEV) technology will remain relevant over the longer term.”).

reliability and flexibility), including incentives for heating and appliance upgrades, is estimated to be \$1.2 billion, which amounts to approximately \$80 million annually. However, that figure is slightly distorts the scale of out-of-pocket electrification costs, as it reflects a *net* cost that subtracts avoided fossil fuel costs of \$3.1 billion from a total electric appliance cost of \$4.3 billion over 15 years – a tremendous investment by any definition.

Despite providing these cost figures, the study does not directly model rate impacts for customers. The highest investment trajectory (*i.e.*, \$1.594 billion for full electrification and no grid flexibility compared with the baseline “no electrification” cost of \$665 million) could lead to significant rate increases as the costs are recovered through electricity rates. The adoption of grid flexibility technologies may not materialize as anticipated, potentially increasing pressure on customer rates. Ultimately, consumers incur significant costs associated with appliance upgrades that are not factored into utility rates, which significantly affects affordability and equity.

5.2. *Methodological Weaknesses and Data Gaps*

The Brattle study depends on underlying load forecasts that establish baseline assumptions on which the analysis is built. Understanding Brattle’s (and Pepco’s) load forecasting methodology is critical, as it forms the foundation for the study’s subsequent analyses and conclusions. At its core, the Brattle study uses Pepco’s historical 2024 hourly load and customer count data at the substation and feeder level, along with Pepco’s *2025-2034 Ten-Year Plan* to establish baseline customer demand parameters—such as 2024 historical peak load, 2034 planned peak load, rated capacity, and other key metrics—and uses these data as the foundation for its electrification and non-electrification load growth forecasts.⁴⁵

The Brattle study’s load forecasting methodology first disaggregates Pepco’s 2024 load data into electrification loads (*i.e.*, space and water heating and transportation loads) and non-electrification loads, as well as by customer class (*i.e.*, residential and commercial).⁴⁶ With this, Brattle disaggregates the 2024 load into four primary components:

- Residential baseline load
- Residential electrification load
- Commercial baseline load
- Commercial electrification load

After isolating the baseline (*i.e.*, non-electrification) loads, Brattle projects residential and commercial baseline load components out to 2034 using the growth rates from Pepco’s feeder-

⁴⁵ The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. pp.14-15.

⁴⁶ The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. p.17.

specific load forecast in its *2025-2034 Ten-Year Plan*.⁴⁷ The load growth is then extrapolated out to 2040 using Pepco’s forecast of customer count growth rates from 2024 to 2040, which are 2.5% per year for residential customers and 0.2% per year for commercial customers.⁴⁸ Of particular concern is Pepco’s forecast for a 2.5% annual growth in residential customer counts from 2024 to 2040, resulting in approximately 9,500 new customers on average every year over the 16-year period. The assumptions underlying this forecast of rapid customer growth have not been made available. The District’s Office of Planning projects a 1.1% annual rate of growth in households over the same period.⁴⁹

Brattle forecasts electrification loads for each feeder by combining the number of electrified space and water heating units and vehicles in 2040 (based on the following electrification penetration assumptions: 90% residential heat pump penetration by 2040;⁵⁰ and 100% electric vehicle sales by 2035⁵¹ which is represented by 73% of light-duty vehicles by 2040, 80% of medium-duty, 10% of heavy-duty, and 90% of buses⁵²) with an assumed hourly load shape for each electrified load.⁵³ These assumptions appear to be consistent with the District’s clean energy and climate statutes.

Based on these assumptions, Brattle estimates two scenarios of DC load growth: (1) No Additional Electrification (1.5% annual growth); and (2) Full Electrification (2.3% annual growth) (*see* Figure 1).

⁴⁷ The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. p.17.

⁴⁸ The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. Table 1. p.3

⁴⁹ District of Columbia Office of Planning. June 2023. “DC Forecasts.” *DC Round 10 Forecasts Totals 2020-2050*. Available at: <https://planning.dc.gov/publication/dc-forecasts>

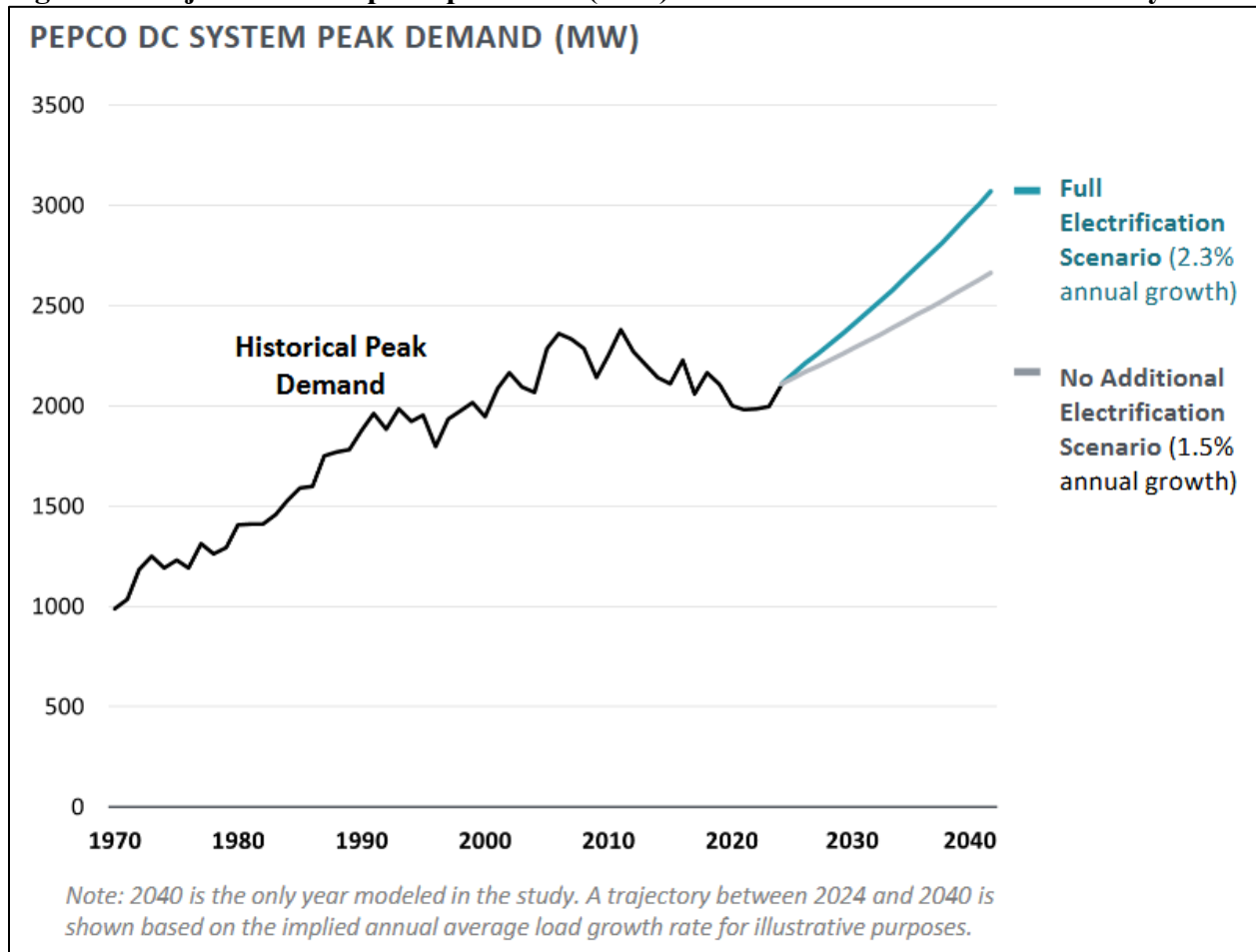
⁵⁰ The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. p.4.

⁵¹ The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. p.10.

⁵² The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. Table 6. p.11.

⁵³ The Brattle Group. October 2025. *An Assessment of Electrification Impacts on the Pepco DC Distribution System*. “Volume II: Technical Appendix.” Prepared for Pepco DC. p.18.

Figure 1. Projections of Pepco’s peak load (MW) from Brattle’s Electrification Study⁵⁴



Brattle’s findings rely heavily on underlying data and modeling assumptions that have not been made available for stakeholder review, greatly limiting third-party experts’ ability to assess the robustness of Brattle’s conclusions. Projections of load growth and related system impacts are highly sensitive to these inputs, and alternative assumptions could yield materially different growth rates and, consequently, different estimates of distribution system upgrade costs in all three scenarios.

To fully assess Brattle’s forecasts, three key pieces of information are required:

1. Pepco’s historical load and customer count data;
2. Pepco’s 2025-2034 Ten-Year Plan; and
3. Brattle’s calculations of load increases associated with heat pump and EV penetration rates.

⁵⁴ Reproduced from The Brattle Group, *An Assessment of Electrification Impacts on the Pepco DC Distribution System, “Volume I: Summary Report,”* Prepared for Pepco DC, October 2025, at p.18.

Although the Brattle study describes the historical data and the forecasting methodology, the underlying data and analyses were not provided, limiting OPC’s ability to independently review or verify the robustness of the study’s assumptions and conclusions.

5.3. *Consequences of Inaccurate Load Modeling*

Pepco’s planning documents must rely on the most accurate and up-to-date estimates of costs and other impacts to permit the selection and approval of the suite of climate- and emissions-related measures that meet the District’s policy objectives at the least cost to utility customers. Brattle’s study concludes that significant cost savings can be achieved through extensive investment in flexible programs and resources, such as demand response, smart meters, and dynamic battery storage systems. While Pepco’s specific use of Brattle’s findings in the development of the Plan is left opaque (*see* Section 5.4 below), the 10-year and 15-year plans both include extensive reference to flexible load management investments consistent with Brattle’s Scenario 3, an indication that Brattle’s study is the basis for that recommendation.

The conclusions of Brattle’s scenario analysis rely heavily on its largely unexplained load forecasts for the no electrification and electrification futures. If, for example, Brattle were to assume a 1.1% annual growth rate in customer counts (akin to the DC Office of Planning forecast) rather than Pepco’s 2.5% annual growth rate forecast, distribution investment costs would likely be far lower under the baseline (no electrification) analysis. Consequently, distribution expansion investments—both grid-based and flexibility—would be lower under the electrification scenarios. The impact of this adjustment to assumptions on the cost difference between the scenarios with and without flexibility investments cannot be determined without more fulsome access to Pepco’s data and Brattle’s methodology and calculations—access that is appropriate for stakeholders in a public utility docket.

5.4. *Relationship Between Electrification Study and Climate Plan*

Despite its obvious influence, Pepco’s proposed Plan makes scant reference to Brattle’s electrification study:

- Load growth (non-electrification and electrification): “Electricity consumption in both the residential and commercial sectors of the District has remained relatively stable over the past decade. However, spikes in electric demand have been observed at both the national and regional levels in the most recent years due to the rise in electrification, cloud computing, and regional data center hubs. **Non-electrification demand is estimated to increase by an average of about 1.7% annually through 2040 according to Pepco’s updated Electrification Study (filed concurrently with the 15-Year Plan). If the District achieves its ambitious electrification goals by 2040, the study**

estimates electric demand would grow even faster, at an average annual rate of about 3.1%.”⁵⁵

- Load growth (non-electrification and electrification): **“Consumption trends in commercial and residential markets and their impacts are further analyzed in the Company’s Electrification Study update, which is filed with this plan.** The 15-Year Plan accounts for these trends alongside external market factors, with select Guiding Principles prioritized in the 5-Year Plan to outline near-term programs that can meet the growing and immediate resource adequacy challenge, especially in the face of shifting District and Federal funding, priorities, and economic policy.”⁵⁶
- Residential TOU Rates: **“Pepco currently experiences peak electricity demand during the summer months. However, as shown in Pepco’s updated electrification study, as electrification increases, particularly from electric heating, peak demand may begin to shift into the winter, creating a need for greater system flexibility year-round.** TOU rates can address this by charging higher electricity prices during peak hours and lower prices during off-peak periods.”⁵⁷

Given these differences, OPC will need more detailed information regarding Pepco’s specific use of the Brattle study in Plan development. Based on what has been provided, it is impossible to assess the impact of the Brattle study on the Plan.

6. Analysis of Pepco’s Local Energy Ecosystem Plans

6.1. Years 1–5 (2025–2029): Early Deployment and Stakeholder Coordination

Pepco’s first five-year phase under its *Activating the Local Energy Ecosystem* (“ALEE”) initiative represents a critical period for aligning the District’s local grid infrastructure with the rapid growth in building and transportation electrification. During this initial stage, Pepco proposes to develop tools and processes designed to provide clearer information about feeder capacity, track the progress of projects through the interconnection process, establish foundational tools for local resilience, facilitate the development of virtual power plants (“VPP”), and promote customer participation in the adoption of DERs. While these measures

⁵⁵ Public Service Commission of the District of Columbia (DC PSC) Formal Case No. 1167. October 31, 2025. *Pepco DC Climate Solutions 15-Year Plan*. Submitted by Potomac Electric Power Company (Pepco). p.13. Emphasis added.

⁵⁶ Public Service Commission of the District of Columbia (DC PSC) Formal Case No. 1167. October 31, 2025. *Pepco DC Climate Solutions 15-Year Plan*. Submitted by Potomac Electric Power Company (Pepco). p.13. Emphasis added.

⁵⁷ Public Service Commission of the District of Columbia (DC PSC) Formal Case No. 1167. October 31, 2025. *Pepco DC Climate Solutions 15-Year Plan*. Submitted by Potomac Electric Power Company (Pepco). p.51. Emphasis added.

move in the right direction, OPC emphasizes that success depends on transparent implementation and ongoing evaluation of their effectiveness for District consumers.

Pepco's proposal includes creating hosting capacity maps, a public interconnection queue, and monthly project cost variance reports, each intended to reduce uncertainty and improve coordination among developers, customers, and planners. These initiatives, if properly executed, could shorten project timelines and minimize unnecessary system upgrades by helping customers identify areas of available grid capacity and constraints. However, OPC notes that without sufficient data granularity and real-time updates, such tools risk offering only limited practical value. **The Commission should therefore require that Pepco's maps and queue data be published on a meaningful scale and updated frequently enough to reflect actual system conditions.**

In parallel, Pepco introduces early-stage planning for microgrid siting and proposes a standby tariff to support multi-customer microgrids, alongside battery incentive programs to encourage customer adoption of distributed energy storage. These proposals signal an intent to localize resilience and prepare for community-scale energy systems. From a consumer protection perspective, OPC supports these efforts but cautions that microgrid development and battery incentives must be pursued in accordance with clear cost-causation principles. **In short, ratepayers must not bear disproportionate costs for localized projects that primarily benefit specific customers or developers.** Moreover, transparency in cost variance reporting is essential to prevent systematic underestimation of interconnection costs that can later drive-up rates.

The success of these initial initiatives will determine whether later phases (*i.e.*, advanced V2G integration, widespread building electrification) can occur without significant system constraints. Yet despite their obvious importance, OPC observes that many of these early/first-stage proposals remain conceptual, lacking firm implementation schedules, quantifiable metrics, concrete cost estimates, or integration pathways with other Commission proceedings (such as the IDSP at issue in FC1182) and other grid modernization dockets.

Ultimately, this first five-year phase will test whether Pepco's grid modernization strategy can move from aspiration to execution. The foundational investments proposed here, if deployed efficiently, can set the stage for a cleaner and more resilient electric system. If not, the District risks compounding interconnection backlogs, escalating costs, and uneven access to the benefits of electrification. OPC urges the Commission to treat this stage as a proving ground for measurable consumer benefit. To meet this objective, **OPC recommends that the Commission require Pepco to establish clear milestones, standardized data-sharing protocols, and performance benchmarks to ensure that the ALEE framework delivers tangible reliability and affordability benefits to District ratepayers.**

6.2. *Years 6–10 (2030–2034): DER Integration and Distributed Storage Expansion*

The second five-year phase of Pepco’s *Activating the Local Energy Ecosystem* initiative represents a pivotal transition from transparency, improved interconnection, and data gathering toward active system coordination. Between 2030 and 2034, Pepco proposes to begin integrating DERs, including behind-the-meter batteries and utility-scale storage, into its operational toolkit. Pepco proposes these initiatives alongside continued and improved hosting capacity maps and a public interconnection queue, ensuring that siting and process visibility remain current. This phase introduces new pricing mechanisms and system-level controls that aim to align customer behavior with grid needs, but it also raises key consumer protection and cost-allocation considerations that the Commission must carefully evaluate.

The centerpiece of this period is Pepco’s proposed “Battery Arbitrage Tariff,” designed to send price signals encouraging customers to charge their batteries during periods of surplus or low-cost generation and to discharge during peak demand windows. In principle, this approach supports system balance, reduces peak stress, and aligns distributed storage with broader grid management objectives. However, LMI households, renters, and multifamily dwellers may lack access to the capital or property control necessary to install battery systems and thus could be excluded from benefits while still bearing system costs. **The Commission should require Pepco to provide an equity analysis and consider targeted incentives to ensure all District residents with sufficient property control can participate in and benefit from distributed storage programs.**

Pepco’s plan also expands beyond customer-owned batteries to include utility-side storage investments, such as Utility-Scale Battery Grid Services and Grid-Facing Battery projects. These installations are designed to deliver system-level benefits, including reducing distribution peaks, enhancing reliability, and facilitating the integration of renewable energy sources. OPC acknowledges the value of such investments but again emphasizes the need for cost-benefit analysis under the Commission’s forthcoming BCA framework. Ratepayers must be protected from the risk of stranded or underutilized assets if load forecasts or technology performance assumptions prove overly optimistic.

Importantly, this phase assumes continued operation and enhancement of the hosting capacity maps and public interconnection queue first established in the prior phase. These transparency tools remain essential for efficient DER deployment, but their value depends on the accuracy, frequency, and accessibility of the underlying data. **OPC recommends that the Commission require regular validation of Pepco’s hosting capacity datasets and stakeholder engagement to ensure that the tools evolve in tandem with the growing adoption of electrification and distributed storage.**

In summary, the 2030-2034 phase marks a shift from establishing the informational groundwork to coordinating physical energy resources. OPC supports the overarching objective of utilizing distributed storage for grid flexibility, but stresses that successful implementation

depends on three key pillars: equitable program design, transparent and validated data tools, and strict cost accountability. Without these safeguards, well-intentioned programs risk creating new inequities, increasing ratepayer costs, or failing to deliver the reliability and affordability benefits that District law demands.

6.3. *Years 11–15 (2035–2040): Advanced Local Grid Optimization*

The final phase of Pepco’s *Activating the Local Energy Ecosystem* initiative marks a transition from system preparation to full-scale operational integration. Between 2035 and 2040, Pepco envisions a distribution grid capable of continuously managing high levels of DERs, battery systems, electric vehicles, and smart building technologies in real time. While the utility frames this period as a “steady state” of routine coordination, **OPC emphasizes that such a complex system will require sustained vigilance, transparent oversight, and ongoing consumer protection measures to maintain reliability and affordability** as the District approaches complete decarbonization.

Pepco’s plan describes this period as one of *operational maturity*, where the mapping tools, interconnection transparency measures, and data-sharing platforms developed in earlier years become permanent features of everyday grid management. From a ratepayer perspective, OPC views this continuity as essential: these tools (*i.e.*, feeder-level hosting capacity maps and public interconnection queues) allow customers, developers, and regulators to make informed decisions about where and when to invest in electrification and distributed generation. However, OPC cautions that these tools must evolve beyond static data repositories to serve as dynamic operational tools that reflect real-time grid conditions. If left under-maintained or poorly updated, they risk becoming outdated or misleading, undermining the reliability and equity goals of the ALEE framework.

Pepco also introduces plans for a Private LTE Network, a dedicated communications backbone that would connect and coordinate a growing fleet of smart grid devices. While this technology could provide faster and more secure system communications, OPC notes that it raises important questions regarding cost recovery, interoperability, and cybersecurity. Proprietary network architecture, if not guided by open standards, could lock consumers into vendor-dependent systems, creating long-term maintenance and security liabilities. Additionally, adversarial state actors and ransom groups have consistently targeted cybersecurity vulnerabilities in utility services.⁵⁸ **By implementing a private LTE network, Pepco introduces additional security vulnerabilities that could threaten system reliability.** The Commission should require that Pepco demonstrate the cost-effectiveness of such investments

⁵⁸ U.S. Cybersecurity & Infrastructure Security Agency, *Nation-State Threats*, <https://www.cisa.gov/topics/cyber-threats-and-advisories/nation-state-cyber-actors>; see also, Lynn Constantini, *Understanding Cybersecurity for the Smart Grid: Questions for Utilities*, National Assoc. of Regulatory Utility Commissioners, Dec. 2020, https://pubs.naruc.org/pub/73C0CA00-155D-0A36-31DB-ABA572C6A65F?_gl=1*106a8ty*_ga*MTEyNTE3MDU2MS4xNzY1OTkzNDI5*_ga_QLH1N3Q1NF*czE3NjU5OTM0MjgkbzEkZzAkdDE3NjU5OTM0MjgkajYwJGwwJGgw

under the forthcoming BCA framework, as well as outline clear cybersecurity protocols to safeguard consumer data and protect critical infrastructure.

In summary, the 2035-2040 period represents the culmination of Pepco's grid modernization vision: a system where distributed assets and utility infrastructure operate in concert. For OPC, this stage must also include a more rigorous accountability framework, one that ensures technological sophistication does not come at the expense of affordability, equity, or reliability.

7. Enhancing Infrastructure for Climate Solutions

Pepco's *Enhancing Infrastructure for Climate Solutions* portfolio represents the technical foundation of the utility's long-term decarbonization strategy, which overlaps extensively with its strategy on *Activating the Local Energy Ecosystem*. This portfolio, like the others, spans 5, 10, and 15-year planning horizons, outlines how Pepco intends to modernize the electric grid, expand hosting capacity for DERs, and upgrade communications and storage systems to support a more flexible, resilient, and electrified energy network. At its core, this component of the plan aims to integrate power service solutions (*i.e.*, renewable energy supply options) with infrastructure upgrades (*i.e.*, deployment of advanced grid-edge technologies), distribution automation, and system-wide data visibility.

7.1. 2025–2030: Grid Modernization and Bottleneck Removal

The first five years of Pepco's *Enhancing Infrastructure for Climate Solutions* portfolio represent a critical phase for aligning physical grid investments with the District's climate and electrification mandates. This period (2025-2030) establishes the technical groundwork necessary to support DER growth, renewable integration, VPPs, and increasing electric load from building and transportation electrification. Pepco's proposal identifies several core engineering priorities, including deployment of a DER Management System ("DERMS"), implementation of Radial Hosting Capacity Siting to target feeder upgrades, initiation of IDSP processes, billing automation, and expanded Green Rider programs. Together, these measures aim to enhance grid visibility, reduce interconnection backlogs, and prepare the system for a more dynamic and renewable-rich electricity mix.

From OPC's consumer advocacy perspective, the deployment of DERMS is one of the most consequential steps in this period. Real-time monitoring of DER output and inverter performance is crucial for maintaining reliability as rooftop solar, battery storage, and electrified loads increase. However, Pepco's plan acknowledges that early DERMS functionality will be limited primarily to data collection rather than real-time control. **OPC urges the Commission to ensure that Pepco's initial DERMS investments are modular and interoperable, preventing stranded costs as technology standards evolve over the next fifteen years.**

The proposal's Radial Hosting Capacity Siting initiative, aimed at identifying constrained feeders and prioritizing targeted upgrades, also marks a significant step toward reducing bottlenecks for distributed solar and EV charger interconnections. OPC supports this focus but cautions that hosting capacity data should be transparent, publicly accessible, and updated frequently enough to inform customer and developer decisions – particularly if cost causation principles are applied to new development. Without enforceable standards for data accuracy and publication, the benefits of hosting capacity mapping will remain limited.

Pepco's plan further introduces billing automation for DER-related fees and expands its Green Rider to offer customers access to 100% renewable energy prior to 2032. While these improvements streamline processes and expand customer options, OPC emphasizes that automation must be coupled with strong consumer safeguards to prevent billing errors and ensure equitable access, including adequate bill dispute timelines. Ratepayer-funded IT modernization should also be justified through quantifiable efficiency gains.

Finally, OPC notes that the success of these early infrastructure investments depends heavily on the ongoing development of the IDSP framework, which remains under active review by the Commission. Pepco's proposed investments must be explicitly aligned with forthcoming IDSP rules to avoid premature or duplicative spending within Pepco and across gas and electric spending. Likewise, persistent supply chain constraints for transformers, switchgear, and power electronics highlight the need for realistic scheduling and contingency planning to avoid cost overruns.

While Pepco's proposed 2025-2030 infrastructure initiatives represent an important foundation for long-term grid modernization, OPC notes that each investment should demonstrably support District law and emissions targets. It is also vital that technology choices remain flexible and interoperable, with transparency and data accuracy enforced through Commission oversight. The Commission must also ensure that measurable improvements in reliability, efficiency, or equity outcomes justify ratepayer costs. Without these safeguards, the initial phase of Pepco's grid modernization strategy risks entrenching technical and financial inefficiencies rather than delivering the adaptive, resilient, and equitable grid that the District's climate commitments require.

7.2. 2031–2035: Storage Integration and High-DER Operations

The second phase of Pepco's *Enhancing Infrastructure for Climate Solutions* portfolio (2031-2035) marks a critical transition from enabling DERs to fully integrating them into system operations. During this period, Pepco aims to transition from basic interconnection to active coordination of customer and utility-scale resources, expand energy storage, and develop the analytics required to manage a high-DER, high-electrification grid. While these efforts are essential to achieving the District's statutory renewable and decarbonization goals, OPC underscores the need for Commission oversight to ensure that speculative or poorly sequenced infrastructure investments do not unduly burden ratepayers.

Pepco proposes several key priorities for this period: designing and interconnecting utility-scale grid-facing battery energy storage systems (“BESS”); operating these assets under a Utility-Scale Battery Grid Services program to provide load balancing, voltage regulation, and peak shaving; completing hosting capacity upgrades identified in the initial 5-year phase; and enhancing the DERMS for coordinated inverter control. Pepco also commits to updating its IDSP process to reflect increased DER penetration and coordination with transmission system planning. OPC recognizes that these initiatives, if executed prudently, could deliver meaningful long-term benefits, including improved reliability during extreme weather conditions, greater load flexibility to reduce capacity costs, and reduced curtailment of renewable energy generation due to overgeneration. However, these same investments carry substantial risks to ratepayers. Specifically, **siting utility-scale BESS installations within the District’s limited urban footprint presents serious logistical, safety, and cost challenges, as land scarcity, zoning restrictions, and neighborhood opposition could delay or inflate the costs of storage projects.** The Commission should require Pepco to show that non-infrastructure alternatives and community-owned storage systems have been explored before pursuing large capital projects that ratepayers will finance over the course of decades.

Additionally, this phase introduces new cybersecurity and reliability vulnerabilities as the grid becomes increasingly digital and dependent on remote coordination of thousands of inverters, batteries, and controllable loads over a Private LTE Network. Bi-directional power flows complicate grid protection schemes and demand precise forecasting. Yet, Pepco’s filing provides little evidence that it can maintain sufficient operational visibility to prevent localized overloads or service interruptions. Because of these concerns, OPC urges the Commission to condition approval of these initiatives on the establishment of robust cybersecurity protocols, real-time data-sharing commitments, and independent auditing of DERMS functionality. Investments made to support private DER developers or high-income customer segments must be scrutinized to ensure that costs are equitably shared across the system and that LMI ratepayers do not subsidize projects from which they derive little direct benefit. In summary, the benefits of storage integration and advanced DER operations can only be realized if Pepco’s investments are equitable and technologically adaptive.

7.3. 2036–2040: Advanced Automation and System Optimization

The final phase of Pepco’s *Enhancing Infrastructure for Climate Solutions* portfolio (2036-2040) marks the culmination of the utility’s proposed grid modernization strategy. In this horizon, Pepco envisions a distribution network that is not merely electrified but actively optimized through automation, advanced communications, and real-time orchestration of distributed resources. Alongside continued hosting capacity, BESS, and IDSP upgrades, the Plan proposes physical infrastructure hardening (*e.g.*, substation flood protection, cable upgrades, enhanced conductor ratings) to ensure resilience under increasing heat and storm stress. The Company’s plan anticipates a shift from system enablement and integration to full-scale

automation and predictive control, with an emphasis on climate resilience, reliability, and operational efficiency.

Pepco's proposed Private LTE network and automation infrastructure will require significant upfront capital expenditures and ongoing maintenance, which risks burdening ratepayers with unnecessary long-term costs if improperly executed. As mentioned previously, system-wide automation introduces substantial cybersecurity vulnerabilities and interoperability challenges. **As such, OPC recommends periodic third-party cybersecurity audits, transparent reporting on communication system reliability, and safeguards against vendor lock-in.**

Equally concerning is the life-cycle management of technologies deployed during earlier phases (DERMS platforms, inverter controls, and BESS systems). By the late 2030s, many of these assets will approach obsolescence due to the short lifespan of emerging technologies. **OPC recommends that the Commission direct Pepco to submit a technology refresh plan that details equipment and software upgrading cycles, interoperability standards, and decommissioning strategies to ensure that ratepayer-funded assets remain functional, relevant, and secure throughout their expected service life as technological advances progress.**

Finally, OPC cautions that the ratepayer cost impacts of this phase will likely be the most significant of the entire 15-Year Plan. Advanced automation, private communications networks, and large-scale storage entail capital investments comparable to those of generation infrastructure; yet Pepco's filings provide little evidence of quantified ratepayer benefits or cost-benefit validation. **OPC therefore recommends that all automation-related investments be subject to BCA analysis, consistent with Commission-approved frameworks, and that performance metrics (e.g., avoided outage minutes, resilience benefits, emissions reductions) be clearly reported prior to specific program approval and tracked following implementation.**

While Pepco's 2036-2040 plan aspires to deliver a smart, flexible, and decarbonized grid, OPC stresses that modernization cannot come at the expense of affordability or equity. The Commission should require Pepco to demonstrate not only that these advanced systems are technically feasible, but that the anticipated benefits exceed associated costs, and that those costs are assigned consistent with cost causation and the public interest.

8. Cost and Transparency of the 15-Year Plan

From the perspective of OPC and the ratepayers it represents, the lack of cost transparency and methodological rigor is one of the most significant deficiencies in Pepco's 15-Year Plan. The filing fails to provide program-specific engineering data, detailed cost assumptions, or data supporting the derivation of projected savings estimates. Without this

information, neither the Commission nor District ratepayers can meaningfully assess whether the proposed investments are reasonable, cost-effective, or aligned with the District’s affordability and decarbonization goals.

Accurate cost impact estimates are not possible where Pepco has provided only broad cumulative projections that do not identify the engineering measures or consumer adoption rates necessary to achieve those outcomes. Moreover, total program costs remain contingent on outcomes in other open dockets, namely FC 1160 (Energy Efficiency and Demand Response programs), FC 1176 (Multiyear Rate Plan), and GD-2019-04-M (Benefit-Cost Framework). This interdependence effectively defers key financial accountability to other dockets and future proceedings, undermining the Commission’s ability to evaluate Pepco’s Plan on its own merits.

The Brattle Group’s supporting analysis estimates that Pepco’s five-year “Climate Solutions” portfolio (spanning over 60 different programs) would cost roughly \$225 million over 20 years while generating \$379 million in quantified benefits (net value: \$154 million). But OPC cautions that these estimates are necessarily highly uncertain. As detailed in these comments, the assumptions underlying participation rates, technology costs, and program timing have not been independently verified, nor has Pepco presented sensitivity analyses showing how costs vary under alternative adoption or inflation scenarios. The Commission’s forthcoming approval of a standardized BCA framework could significantly alter these valuations, further underscoring the need for clear cost disclosures before major ratepayer funding commitments are made.

The Commission recently approved a \$123.4 million distribution rate increase under FC 1176 to fund Pepco’s “Modified Multiyear Rate Plan Extended Pilot,” a component that overlaps substantially with the initiatives described in this 15-Year Plan.⁵⁹ That increase alone will raise residential customer bills by approximately \$7.54 per month in 2025 and \$3.80 per month in 2026, exclusive of recent wholesale market-driven increases averaging an additional \$20 per month for DC households.⁶⁰ **Layering additional capital-intensive climate and electrification investments on top of these rate adjustments raises serious affordability concerns for all ratepayers, but particularly for LMI consumers who already face disproportionate energy burdens.**

Furthermore, while Pepco acknowledges that climate solution costs will range from \$44 million to \$106 million *annually* between 2025 and 2040, the Company provides no detailed breakdown of these figures. The lack of transparency obscures whether these costs are tied to tangible reliability and emissions benefits or to broad administration and capital overheads (or to something else). Given the current economic climate and ongoing affordability challenges across the District, OPC finds this absence of granularity unacceptable.

⁵⁹ Formal Case No. 1176, *Application of Potomac Electric Power Company for Authority to Implement a Multiyear Rate Plan for Electric Distribution Service in the District of Columbia* (“Formal Case No. 1176”), Order No. 22328 ¶ 4, rel. November 26, 2025 (“Order 22328”).

⁶⁰ *Id.* ¶ 6.

Finally, OPC notes that Pepco’s supporting studies claim deferred grid investments through distributed energy flexibility but fail to include detailed costs of deploying these enabling technologies. This omission may overstate net benefits and mislead policymakers about the true cost of DER integration. **OPC therefore recommends that all future requests for program approval include cost-benefit analyses, implementation timelines, and ratepayer impact modeling consistent with the BCA framework.** Without these elements, the 15-Year Plan risks becoming a costly and opaque list of various potential avenues, the ratepayer benefits of which are at best uncertain, raising concerns that implementation will primarily enrich utility shareholders rather than provide value to District consumers.

In summary, **OPC urges the Commission to require Pepco to supplement its filing with a transparent and verifiable cost methodology before considering any approval or funding authorization.** Ratepayers deserve clear evidence that every dollar invested in “climate readiness” delivers measurable, equitable, and cost-justified benefits.

9. Integration with District Climate Law and Implementation

9.1 *Coordination between gas and electric planning processes*

Integrated planning refers to utility planning that jointly models operations, investments, and impacts “integrated” across multiple resources or entities. The triennial “integrated resource plans” commonly required of vertically integrated electric utilities (*i.e.*, utilities that own their own generation assets) provide an integrated assessment of the utility’s entire electric system, including customer demand, owned generation resources, and market purchases of power or capacity. Similarly, some states produce integrated resource plans that review combined impacts across multiple electric utilities. In the DC context, integrated planning refers both to separate integrated plans for its gas and electric utilities and to **a unified integration across the District’s two energy utilities: WGL and Pepco.**

Integrated and coordinated gas and electric planning is crucial to minimizing ratepayer costs associated with the District’s existing and anticipated future building decarbonization. Space and water heating electrification often represents a shift in customer heating methods from gas to electricity. That shift impacts both utilities’ operations, investments in distribution infrastructure, expectations of peak and annual usage, and ratepayer costs. An absence of unified integrated gas and electric planning—such that each utility plans its operations and investments without consideration of the other utilities’ plans or actions—will result in inefficient planning, uncertain outcomes, and greater costs to ratepayers. Integrated gas and electric planning allows for greater efficiencies in meeting customers’ needs and avoiding unnecessary expenditures by “right-sizing” infrastructure and preventing stranded costs.

Commission Order No. 22339 requires “integrated planning” through the establishment of utility planning proceedings for the District’s electric utility, and contemplates the feasibility of similar planning for its gas utility. For planning related to the electric sector, the Commission opened a new proceeding in Formal Case No. 1182 to investigate the implementation of IDSP for electric utilities. For the gas system, the Commission requested stakeholder comments on a potential new docket regarding thermal gas planning.⁶¹ These new dockets, however, do not provide for integration *between* WGL and Pepco’s planning. **Separate gas and electric planning dockets are necessary and important, but insufficient.** Whether in Formal Case No. 1167 or elsewhere, integration between gas and electric planning is essential to maximize efficiencies and minimize ratepayer costs.

Integrated gas and electric planning provides benefits that are not achievable if gas and electric planning is isolated in different processes, modeling, benefit-cost evaluation, or dockets:

- **Technology-neutral cost assessment:** Integration of gas and electric planning permits technology-neutral cost assessment such that new investments and/or operational decisions (whether gas or electric) can be compared and least-cost options can be identified. **Without integration, only siloed gas or electric least-cost options can be identified.**
- **Technology-neutral emissions reduction assessment:** Similarly, without integration between gas and electric planning, a full set of greenhouse gas emissions reduction investments and/or operational decisions across all technology types cannot be compared.
- **Efficiencies in operations and investment modeling:** Integrated gas and electric planning reduces time and money spent on planning by simplifying modeling iteration. Investments and/or operational decisions in gas-powered space and water heating impact electric planning and vice versa. If modeling in these two sectors is not integrated, the result is a slow back-and-forth iteration (passing modeling outcomes multiple times between siloed gas and electric planning) that will delay near-term climate actions.

Integrated distribution system planning for electric utilities refers to the kind of utility or state-wide planning done in many jurisdictions around the United States to assess a complete electric system: customer demand, owned generation resources, and market purchases of power or capacity. These types of integrated electric plans are commonly provided to a regulating agency for its review and approval. Integrated electric planning focuses near-term electric utility actions on least-cost options that are consistent with other requirements, such as planned retirements or emissions limits. In the case of the District, while Pepco does not own power plants or conduct generation operations or capacity investment planning, there is an unmet need for medium and long-term planning of renewable energy credit acquisition, power purchase

⁶¹ Public Service Commission of the District of Columbia (PSC). December 10, 2024. *Formal Case No. 1167, In the Matter of the Implementation of Electric and Natural Gas Climate Change Proposals*. Order No. 22339. p.8.

agreement contracting, and actions towards promoting and preparing for customers' heating and transportation electrification.

Thermal gas planning is an area of energy planning that is expanding, with new utility commission dockets and other decision-making processes in states around the nation. Historically, gas planning dockets are typically limited to reviewing and approving utility forecasts of changes to customer gas demand, new supply and transmission contracts, and investments in gas distribution expansion. New thermal gas planning dockets (often referred to as "future of gas" dockets) focus on least-cost solutions to space and water heating decarbonization and its effects on gas demand and the pool of fixed revenues available to pay for gas infrastructure repairs. Future of gas dockets often include topics such as electrification, networked geothermal systems, efforts to minimize gas ratepayer costs during decarbonization, and equity concerns for remaining gas.

In an era of building electrification, failure to perform integrated gas and electric planning has the following consequences:

- **Duplication of climate measures:** Without integrated planning, gas and electric utilities operating independently may duplicate efforts by offering the same or similar climate action measures. This duplication in program planning adds unnecessarily to utility (and therefore ratepayer) costs and prevents cross-utility collaboration that could result in improved efficiency.
- **Mis-investment in gas infrastructure:** Failure to correctly plan for expected or incentivized heating electrification will result in over-estimation of necessary gas supply and gas infrastructure.
- **Mis-investment in electric resources:** Failure to correctly plan for gas customers transition to electric heating will result in under-estimation of necessary electric supply and electric distribution infrastructure.

In its November 2024 Motion for Reconsideration of Order No. 22313, OPC highlighted the critical role of integrated gas and electric planning in meeting the District's climate and energy goals:

*A comprehensive and coordinated approach to energy system planning enables the PSC and regulated utilities to optimize resource allocation, ensuring that investments in infrastructure, technology, and energy programs are both complementary and effective. Both Pepco and WGL would benefit from having a level of coordinated guidance to plan for future energy needs. Doing so would avoid the pitfalls of fragmented or duplicated efforts, which can result in unnecessary ratepayer burdens and inefficient use of limited resources. It would also better allow for strategic planning of targeted decommissioning of gas infrastructure as electrification progresses.*⁶²

⁶² Office of the People's Counsel for the District of Columbia (OPC). November 12, 2024. *Formal Case No. 1167, In the Matter of the Implementation of Electric and Natural Gas Climate Change Proposals*. "Motion for

In that Motion, OPC provided case studies of other jurisdictions, such as Massachusetts, Maryland, New York, and Illinois, that have used “a structured, coordinated, and integrated planning framework to guide utilities toward decarbonization...”⁶³ **OPC maintains that Formal Case No. 1167 should be structured and employed to facilitate integrated gas and electric planning between WGL and Pepco, and suggests that the Commission should initiate separate dockets for key areas once a plan is established, including a “future of gas” docket.**

10. Conclusion

OPC urges the Commission to direct Pepco to provide supplemental filings that move this Plan beyond conceptual ambitions toward an enforceable, transparent, and equitable implementation roadmap. The revised plan must:

- Provide verifiable metrics and measurable milestones tied to District climate law;
- Include program-level cost, benefit, and ratepayer impact analyses using the forthcoming Benefit-Cost Framework; and
- Center equity and affordability as core outcomes rather than ancillary considerations.

Absent these improvements, the Plan risks becoming a costly aspirational exercise rather than a practical tool for achieving a just and accountable energy transition in the District of Columbia.

Respectfully submitted,

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Reconsideration of Public Service Commission Order No. 22313.” Available at:
<https://edocket.dcpsec.org/apis/api/Filing/download?attachId=213533&guidFileName=77fdc158-8e57-44a8-934f-ba323bf38ce5.pdf> p.6.

⁶³ Office of the People’s Counsel for the District of Columbia (OPC). November 12, 2024. *Formal Case No. 1167, In the Matter of the Implementation of Electric and Natural Gas Climate Change Proposals*. “Motion for Reconsideration of Public Service Commission Order No. 22313.” p.7.

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APPENDIX 1

OPC Recommendations per Section

2. Legal Mandates

- Pepco's Plan omits the following components specified by the Commission as 15-Year Plan requirements: (1) cost models and supporting workpapers; (2) analysis of changes to consumption in the residential and commercial markets; (3) forecasted greenhouse gas emissions reductions from plans; and (4) demonstration of how the Plan will meet emissions reduction mandates for the next 15 years.

3. Analysis of Pepco's Building Decarbonization Plan

- While initial proposals may be cost-effective solutions within Pepco's authority, OPC recommends further financial analysis prior to approval.
- OPC recommends an appliance saturation study to monitor progress in building electrification.
- The transition from a summer peak to a dual peak (*i.e.*, summer and winter peaks) requires analysis of local climate change patterns and discussions on how temperature trends are evolving

4. Analysis of Pepco's Transportation Electrification Plan

- OPC recommends that early electrification efforts protect ratepayer affordability, ensuring that program costs do not burden non-participating households; guarantee transparency through regular reporting on charger deployment, participation rates, and realized grid impacts; and incorporate performance-based accountability, linking program approval and cost recovery to measurable GHG reductions, equitable outcomes, and system efficiency
- Real-time scheduling of V2G dispatch introduces new operational complexities, including increasing cybersecurity risks and escalating telecommunications demands. Large fleet charging depots will need substantial feeder reinforcement and thoughtful siting to avoid localized congestion. OPC recommends that these technical challenges be weighed against the impacts on ratepayers, particularly if costs are front-loaded before benefits are realized.
- OPC recommends the Commission ensure that any program approvals under the 10-year phase of Pepco's vehicle electrification plan are contingent upon clear performance metrics, verifiable system benefits, and consumer protection safeguards consistent with District law and policy.

- Managing thousands of bi-directional EV charging endpoints would require real-time coordination across a highly complex network. This introduces major cybersecurity and operational risks, as each charger effectively becomes a grid-connected device capable of two-way energy flow. The expansion of this “attack surface” increases the system’s vulnerability to potential breaches or disruptions. OPC recommends that the Commission require a comprehensive cybersecurity framework, real-time monitoring, and fail-safe operational protocols before large-scale deployment.
- Given the pace of innovation in EV and charging technology, ensuring interoperability across multiple generations of devices poses a long-term engineering and cost challenge. OPC recommends adoption of consistent technical standards; early investments could quickly become obsolete, leaving ratepayers to bear the costs of stranded or incompatible assets.
- OPC recommends that the Commission require phased performance metrics, rigorous cost-benefit validation, and robust cybersecurity and interoperability standards before Pepco advances toward systemwide V2X integration.

5. **Analysis of Brattle Group’s Electrification Study**

- Despite providing cost figures, the study does not directly model rate impacts for customers. The highest investment trajectory (*i.e.*, \$1.594 billion compared with the baseline cost of \$665 million) could lead to significant rate increases as the costs are recovered through electricity rates.
- Brattle’s findings rely heavily on the underlying data and modeling assumptions that have not been made available for stakeholder review, greatly limiting third-party experts’ ability to assess the robustness of their conclusions.
- The conclusions of Brattle’s scenario analysis rely heavily on its largely unexplained load forecasts for the no-electrification and electrification futures.
- OPC recommends that the Commission grant OPC’s pending data request for materials underlying the Brattle study to enable stakeholder assessment of the bases for and soundness of Brattle’s findings.

6. **Analysis of Pepco’s Local Energy Ecosystem Plans**

- OPC recommends that the Commission require Pepco’s maps and queue data to be published on a meaningful scale and updated frequently enough to reflect actual system conditions.
- OPC recommends that the Commission require Pepco to establish clear milestones, standardized data-sharing protocols, and performance benchmarks to ensure that the

ALEE framework delivers tangible reliability and affordability benefits to District ratepayers.

- OPC recommends that the Commission require Pepco to provide an equity analysis and consider targeted incentives to ensure all District residents with sufficient property control can participate in and benefit from distributed storage programs.
- OPC recommends that the Commission require regular validation of Pepco’s hosting capacity datasets and stakeholder engagement to ensure that the tools evolve in tandem with the growing adoption of electrification and distributed storage.
- OPC recommends that the Commission require Pepco to demonstrate the cost-effectiveness of investment in a private LTE network, which introduces additional security vulnerabilities that could threaten system reliability. The analysis should be done in compliance with the forthcoming BCA framework, as well as outline cybersecurity protocols to safeguard consumer data and protect critical infrastructure.

7. Enhancing Infrastructure for Climate Solutions

- OPC recommends periodic third-party cybersecurity audits, transparent reporting on communication system reliability, and safeguards against vendor lock-in.
- OPC recommends that the Commission direct Pepco to submit a technology refresh plan that details equipment and software upgrading cycles, interoperability standards, and decommissioning strategies to ensure that ratepayer-funded assets remain functional, relevant, and secure throughout their expected service life as technological advances progress.
- OPC recommends that all automation-related investments be subject to BCA analysis, consistent with Commission-approved frameworks, and that performance metrics (*e.g.*, avoided outage minutes, resilience benefits, emissions reductions) be clearly reported prior to specific program approval.

8. Cost and Transparency of the 15-Year Plan

- OPC recommends that all future requests for program approval include cost-benefit analyses, implementation timelines, and ratepayer impact modeling consistent with the BCA framework

9. Integrated Planning

- OPC recommends that Formal Case No. 1167 be structured and employed to facilitate integrated gas and electric planning between WGL and Pepco, and suggests that the Commission should initiate separate dockets for key topic areas once a plan is established, including a “future of gas” docket.

CERTIFICATE OF SERVICE

Formal Case No. 1167, In the Matter of the Implementation of the Business Climate Plan

I certify that on January 30, 2026, a copy of the *Office of the People's Counsel for the District of Columbia's Comments in Response to Potomac Electric Power Company's Proposed 15-Year Plan and Electrification Study* was served on the following parties of record by hand delivery, first class mail, postage prepaid or electronic mail:

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