

**BEFORE THE  
MARYLAND PUBLIC SERVICE COMMISSION**

BALTIMORE GAS AND ELECTRIC  
COMPANY’S APPLICATION FOR AN  
ELECTRIC SCHOOL BUS PILOT  
PROGRAM

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Case No. 9696

\* \* \* \* \*

DIRECT TESTIMONY

OF

COURTNEY LANE

ON BEHALF OF THE OFFICE OF PEOPLE’S COUNSEL

July 25, 2023

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1                                   **DIRECT TESTIMONY OF**  
2                                   **COURTNEY LANE**

3  
4                                   **INTRODUCTION**

5  
6   **Q.    Please state your name and business address.**

7    A.    My name is Courtney Lane. I am a principal associate at Synapse Energy  
8           Economics, Inc. (Synapse) located at 485 Massachusetts Avenue, Suite 3,  
9           Cambridge, MA 02139.

10 **Q.    Please describe Synapse Energy Economics, Inc.**

11 A.    Synapse is a research and consulting firm specializing in electricity and gas  
12       industry regulation, planning, and analysis. Our work covers a range of  
13       issues, including economic and technical assessments of demand-side and  
14       supply-side energy resources; energy efficiency policies and programs;  
15       integrated resource planning; electricity market modeling and assessment;  
16       renewable resource technologies and policies; and climate change strategies.  
17       Synapse works for a wide range of clients, including attorneys general,  
18       offices of consumer advocates, public utility commissions, environmental  
19       advocates, the U.S. Environmental Protection Agency, the U.S. Department  
20       of Energy, the U.S. Department of Justice, the Federal Trade Commission,  
21       and the National Association of Regulatory Utility Commissioners. Synapse  
22       has over 40 professional staff with extensive experience in the energy  
23       industry.

1 **Q. Please describe your professional and educational experience.**

2 A. I have 19 years of experience in energy policy and regulation. At Synapse, I  
3 work on issues related to performance-based regulation, grid modernization,  
4 benefit-cost analysis, rate and bill impacts, and review of distributed energy  
5 resource and electric vehicle utility filings. Prior to working at Synapse, I  
6 was employed by National Grid as the Growth Management Lead for New  
7 England where I oversaw the development of customer products, services,  
8 and business models for Massachusetts and Rhode Island. In previous roles  
9 at National Grid, I led the development of the Rhode Island Annual and  
10 Three-Year Energy Efficiency Plans and oversaw the associated benefit-cost  
11 models. Prior to joining National Grid, I worked on regulatory and state  
12 policy issues pertaining to demand side management, retail competition, net  
13 metering, and the Alternative Energy Portfolio Standard for Citizens for  
14 Pennsylvania's Future. Before that, I worked for Northeast Energy  
15 Efficiency Partnerships, Inc. where I promoted energy efficiency throughout  
16 the Northeast.

17 I hold a Master of Arts in Environmental Policy and Planning from Tufts  
18 University and a Bachelor of Arts in Environmental Geography from  
19 Colgate University. My resume is attached as Exhibit A.

1 **Q. Have you previously submitted testimony to the Maryland Public**  
2 **Service Commission?**

3 A. Yes. I submitted testimony on behalf of the Office of People's Counsel on  
4 matters related to utility electric vehicle (EV) programs in Case No. 9645,  
5 Baltimore Gas and Electric Company's (BGE or the Company) application  
6 for an electric and gas multi-year plan; Case No. 9655, Potomac Electric  
7 Power Company's application for an electric multi-year plan; Case No.  
8 9681, Delmarva Power & Light Company's application for an electric  
9 multi-year plan; Case No. 9695, Potomac Edison Company's application for  
10 adjustments to its retail electric rates; and Case No. 9692, BGE's application  
11 for a second electric and gas multi-year plan.

12 **Q. Have you previously submitted testimony in proceedings before other**  
13 **state commissions or agencies?**

14 A. Yes. I have testified and participated in regulatory proceedings before the  
15 Rhode Island Public Utilities Commission, the Pennsylvania Public Utility  
16 Commission, the Public Service Commission of the District of Columbia,  
17 the New Hampshire Public Utilities Commission, and the New Mexico  
18 Public Regulation Commission.

19 **Q. On whose behalf are you appearing in this proceeding?**

20 A. I am presenting testimony on behalf of the Office of People's Counsel.

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. The purpose of my testimony is to review and assess BGE's application for  
3 an electric school bus (EVSB) pilot program and to provide  
4 recommendations for improvement.

5 **Q. What materials did you rely on to develop your testimony?**

6 A. The sources for my testimony are BGE's initial proposal,<sup>1</sup> the direct  
7 testimony of BGE witnesses Kristy F. Groncki and John C. Frain,<sup>2</sup>  
8 responses to discovery requests, public documents, and my personal  
9 knowledge and experience.

10 **Q. Was this testimony prepared by you or under your direction?**

11 A. Yes. My testimony was prepared by me or under my direct supervision and  
12 control.

13 **I. Summary and Recommendations**

14 **Q. Please summarize your primary conclusions regarding BGE's EVSB**  
15 **pilot program proposal.**

16 A. My primary conclusions are that BGE's proposal for an EVSB pilot program  
17 is not sufficiently developed, does not meet the funding requirement of the

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<sup>1</sup> *Electric School Bus Pilot Program Proposal of Baltimore Gas and Electric Company*, ML No. 301632 (CN 9696, Mar. 3, 2023).

<sup>2</sup> Direct Testimony of Kristy F. Groncki on Behalf of Baltimore Gas and Electric Company, ML No. 302615 (CN 9696, April 27, 2023); Prepared Direct Testimony of John C. Frain on Behalf of Baltimore Gas and Electric Company, ML No. 302615 (CN 9696, April 27, 2023).

1 state’s *Climate Solutions Now Act* (CSNA),<sup>3</sup> and does not meet the criteria  
2 for a pilot.

3 Specifically, the Company appears to have built its proposal around its  
4 interpretation of the maximum amount of funding allowed under the CSNA  
5 rather than assessing the current distribution of EVSBs and customer  
6 willingness to apply for funding. In addition, the proposal fails to meet the  
7 criteria of a pilot because it does not identify how the Company will test  
8 different approaches to funding and deploying EVSBs and does not propose  
9 any demonstration projects for vehicle-to-everything (V2X) use cases.

10 Furthermore, the Company does not propose evaluation metrics that  
11 sufficiently relate to the goals of the EVSB pilot program.

12 I also conclude that the Company’s proposed cost recovery method is flawed  
13 as it seeks to earn a return on non-capital pilot program expenses related to  
14 assets that it will not own or operate, which will result in a higher cost to  
15 customers.

16 While the CSNA authorizes investor-owned electric companies to “apply to  
17 the Commission to implement an electric school bus pilot program,”<sup>4</sup> and  
18 the electrification of Maryland’s school buses is an important policy for

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<sup>3</sup> Climate Solutions Now Act of 2022 (CSNA), 2022 Md Laws Ch. 38 (codified in relevant part at Md. Code Ann., Pub. Util. Art. (PUA) § 7-217).

<sup>4</sup> PUA § 7-217(c).

1 reducing carbon emissions, improving children's health, lowering operating  
2 costs to school systems, and providing equitable access to the benefits of  
3 transportation electrification, the Company fails to justify the size of its  
4 proposed investments or provide a detailed plan for what the pilot seeks to  
5 test.

6 **Q. Please summarize your recommendations.**

7 A. My primary recommendation is that the Commission reject BGE's proposal  
8 in its current form and require the Company to refile its proposal with the  
9 following modifications and additions:

- 10 • A revised program budget where the combined funding request  
11 associated with EVSB rebates, chargers, charger installation, and  
12 general and administrative (G&A) funding are within the \$50 million  
13 dollar rebate limit as defined in the CSNA;<sup>5</sup>
- 14 • At least one proposal for an initial demonstration project to test a  
15 V2X use case;
- 16 • An EVSB baseline assessment that provides the number of existing  
17 fossil-fuel-powered buses and EVSBs utilized by school districts in  
18 the BGE service territory;
- 19 • Additional evaluation metrics as described within this direct  
20 testimony;

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<sup>5</sup> PUA § 7-217(c)(4).



- 1           • A larger allocation of pilot funding for underserved communities;
- 2           and,
- 3           • A detailed education and outreach plan.

4           Although the CSNA requires school districts to begin electrifying their bus  
5           fleets,<sup>6</sup> the Company has time to revise and improve its EVSB pilot program  
6           because the CSNA deadline for a utility-implemented pilot program to be  
7           structured to “commence” is not until October 1, 2024.<sup>7</sup> Since this  
8           application is the first under the CSNA, it is important that the Commission  
9           set sound precedent for what should be included in an EVSB pilot program  
10          proposal. This will help to ensure that future utility proposals include the  
11          necessary level of detail to allow for parties to adequately assess the merits  
12          of the proposal.

13          Lastly, I offer two recommendations related to the Company’s cost-recovery  
14          proposal given the ongoing proceeding for BGE’s Application for an  
15          Electric and Gas Multi-Year Plan (MYP 2) in Case No. 9692:

- 16          • If the Commission approves a second multi-year plan for the  
17          Company and approves the recovery of the EVSB pilot program costs  
18          in that plan, then non-capital costs of the EVSB pilot should be

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<sup>6</sup> CSNA (codified in relevant part at Md. Code Ann., Envir. Art. § 2-1501(b)) (providing that beginning in fiscal year 2025, a county board of education may not enter into a new contract for the purchase or use of a school bus that is not a zero-emissions vehicle).

<sup>7</sup> PUA § 7-217(c)(1).

1 expensed in the year they occur, and capital costs related to line side  
2 make-ready work should be treated the same as other capital costs.

- 3 • If the Commission denies approval of a second multi-year plan or  
4 rejects the Company's request to include EVSB pilot program costs  
5 in that case, the Company should be permitted to track its EVSB pilot  
6 program costs as a regulatory asset to be considered for cost-recovery  
7 in a future proceeding; however, BGE should not be permitted to earn  
8 a rate of return on non-capital costs. The Commission should make  
9 clear that the regulatory asset is to be used for tracking purposes and  
10 that its creation does not address BGE cost recovery. The  
11 Commission need not determine now whether it is appropriate for the  
12 Company to adopt an amortization schedule or make a ruling on the  
13 rate of return and should, instead, defer these decisions about cost  
14 recovery until the Company seeks recovery of the costs in its next  
15 rate case.

## 16 II. Regulatory Context

17 **Q. What is the regulatory context for BGE's EVSB pilot program?**

18 A. The CSNA authorizes investor-owned electric utilities to apply for  
19 Commission approval of an EVSB pilot program. The CSNA requires that a  
20 utility's EVSB pilot program be structured to:

- 21 • Commence on or before October 1, 2024;

- 1           • Provide for the deployment of not fewer than 25 electric school  
2           buses;
- 3           • Provide for electric school bus rebates to participating school  
4           systems;
- 5           • Limit total rebates to \$50 million;
- 6           • Allow the utility to use the EVSB storage batteries to access the  
7           stored electricity through V2X technology without additional  
8           compensation to the school system and at times when the school  
9           system determines the EVSBs are not needed to transport students;
- 10          • Recharge EVSB batteries to the state in which they were prior to the  
11          V2X event at no cost to the participating school system;
- 12          • Select school system participants based on appropriate factors  
13          including the locational benefits that the EVSB storage batteries may  
14          bring to the utility and the health and economic effects on  
15          low-income and minority communities;
- 16          • Provide and install the interconnection equipment and  
17          interconnection facilities for electric vehicle charging stations;
- 18          • Ensure each electric school bus is equipped with lap and shoulder  
19          belts in accordance with recommendations from the National  
20          Transportation Safety Board; and,

- 1           • Ensure the school board is provided with adequate training and  
2           expertise to operate electric school buses, electric vehicle charging  
3           stations, and associated infrastructure.<sup>8</sup>

4 **Q. Does the CSNA require BGE to spend \$50 million?**

5 A. No, it does not. The CSNA sets \$50 million as the maximum amount that  
6 can be spent on rebates. There is no minimum level of spending required;  
7 however, the CSNA does require that the EVSB pilot program provide for at  
8 least 25 EVSBs.<sup>9</sup>

9 **Q. Does the CSNA indicate a timeline for the EVSB pilot program?**

10 A. Yes. The initial EVSB pilot program should be structured to “commence on  
11 or before October 1, 2024,” and have a duration of between three and five  
12 years.<sup>10</sup>

13 **Q. Does the CSNA contain any reporting requirements?**

14 A. Yes. A utility that establishes an EVSB pilot program is required to submit,  
15 in consultation with each participating school system, an annual report to the  
16 Governor, the Commission, the House Economic Matters Committee, and  
17 the Senate Finance Committee by February 1, 2025, and each year thereafter  
18 for the duration of the pilot. This report is required to include an evaluation  
19 of the environmental and health benefits of the pilot program and the

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<sup>8</sup> PUA § 7-217(c).

<sup>9</sup> PUA §7-217(c)(2).

<sup>10</sup> PUA § 7-217(c)(1), (f).

1 financial cost and benefits to the participating school system and the utility  
2 of implementing the pilot program, including the deployment, operation and  
3 maintenance (O&M) of the EVSB, and the use of V2X technology.<sup>11</sup>

4 **III. Summary of BGE's EVSB Pilot Program**

5 **Q. Please summarize BGE's EVSB pilot program.**

6 A. The Company proposes a four-year, \$79.6 million EVSB pilot program  
7 consisting of \$75.5 million in financial incentives for the purchase of  
8 EVSBs, electric vehicle supply equipment (EVSE or chargers), make-ready  
9 and installation costs, and general and administrative (G&A) transition costs  
10 for school districts, as well as \$4.1 million in program implementation costs,  
11 which includes administrative, education, and outreach expenses. Table 1  
12 below provides a summary of the proposed budget for each year of the pilot  
13 program.

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<sup>11</sup> PUA § 7-217(i).

1 **Table 1. BGE EVSB Pilot Program Budget (\$ Millions)**

<b>Pilot Program Component</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>Total</b>
EVSB Rebates	\$7.4	\$12.7	\$12.7	\$17.2	<b>\$50.0</b>
EVSE and Make-Ready Infrastructure					
EVSE	\$1.8	\$3.1	\$3.1	\$3.9	<b>\$11.9</b>
EVSE Installation	\$0.9	\$1.6	\$1.6	\$2.0	<b>\$6.0</b>
Line-Side Make Ready	\$0.6	\$1.0	\$1.0	\$1.3	<b>\$4.0</b>
G&A Transition	\$0.5	\$0.9	\$0.9	\$1.2	<b>\$3.6</b>
BGE Admin	\$0.5	\$0.6	\$0.6	\$0.6	<b>\$2.3</b>
BGE Marketing, Education, Outreach	\$0.3	\$0.5	\$0.5	\$0.6	<b>\$1.9</b>
<b>Total</b>	<b>\$12.0</b>	<b>\$20.4</b>	<b>\$20.4</b>	<b>\$26.8</b>	<b>\$79.6</b>

2 *Source: Direct Testimony of Kristy F. Groncki at 21.*3 **Q. Please describe the Company's proposed EVSB rebate offering.**

4 A. The Company proposes to provide rebates to school systems and school  
5 system contractors partnering with a school system to cover 100 percent of  
6 the incremental cost of an EVSB compared to a fossil-fuel-powered school  
7 bus. To be eligible for the rebate, BGE will require that the EVSB have  
8 bidirectional power-flow capability and have a full suite of telematics  
9 systems to enable the management of EVSB batteries to serve as available  
10 distributed energy resource (DER) assets in order to facilitate future  
11 participation in V2X programs.<sup>12</sup> The Company estimates that at an average  
12 cost of \$245,000 per rebate, it will be able to provide rebates for 204 EVSBs  
13 over the four-year period before reaching the \$50 million.<sup>13</sup>

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<sup>12</sup> Groncki Direct Testimony at 15.

<sup>13</sup> *Id.* at 21. As is further explained below, BGE interprets the \$50 million limit on rebates in the CSNA to apply only to rebates for EVSBs (not all rebates provided under a utility program).

1 **Q. Please summarize BGE's proposed incentives for EVSB charging**  
2 **equipment.**

3 A. The Company proposes to provide a second category of rebates<sup>14</sup> to cover  
4 up to 100 percent of the cost of Level 2 AC and Level 3 DC Fast Chargers  
5 (DCFC) to support EVSBs. The Company would fund less than 100 percent  
6 of the cost of the charging equipment if an applicant receives partial funding  
7 from another entity for the same equipment.<sup>15</sup> To be eligible for the rebate,  
8 the charger must support a bidirectional power flow system between the  
9 EVSB, charger, and the grid. The Company indicates it will not own or  
10 operate these charging systems; rather, the EVSB operators will be required  
11 to provide for the O&M of the charging equipment.<sup>16</sup>

12 The Company did not develop a fixed rebate per charger for this offer.  
13 Instead, BGE will review the total amount of invoices submitted by the  
14 customer for the purchase of supporting charging equipment and then  
15 determine the level of funding.<sup>17</sup> The Company estimates it will provide  
16 incentives for 199 chargers at a cost of \$60,000 per DCFC over the  
17 four-year period, resulting in a total cost of \$11.9 million.<sup>18</sup>

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<sup>14</sup> BGE's initial EVSB pilot program proposal classifies incentives for buses, EVSE, make-ready infrastructure, and G&A as "rebates" (See ML No. 301632 at 10-12). It is only in subsequent direct testimony that BGE began referring to incentives for EVSE, make-ready, and G&A as "incentives" or "funding sources" rather than "rebates." Groncki Direct Testimony at 16-19.

<sup>15</sup> BGE Response to OPC 01-10.

<sup>16</sup> Groncki Direct Testimony at 16.

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* at 21.

1 **Q. Please summarize BGE's proposed make-ready and installation**  
2 **incentives.**

3 A. The Company proposes to provide a third category of rebates to cover up to  
4 100 percent of the customer share of the line-side and load-side make-ready  
5 infrastructure to support the EVSBs.<sup>19</sup> The Company defines "line side  
6 make-ready" as all the necessary utility infrastructure up to the meter and  
7 "load side make-ready" as the necessary infrastructure on the customer's  
8 side of the meter.<sup>20</sup> The Company also refers to "load side make-ready"  
9 costs as "installation" costs.<sup>21</sup>

10 The Company does not propose a fixed rebate for make-ready and  
11 installation work. Instead, as in the case of the EVSE rebates, it will assess  
12 the invoices submitted by the customer to support the installation of  
13 charging infrastructure to determine the funding package.<sup>22</sup> The Company  
14 indicates there is no specific funding cap for these costs and the funding  
15 package will be based on the customer's invoices from delivered equipment  
16 and/or completed work related to make-ready and charger installation.<sup>23</sup> The  
17 Company budgets \$20,000 per year for line side make-ready funding for a

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<sup>19</sup> *Id.* at 17.

<sup>20</sup> BGE Response to Staff 02-07.

<sup>21</sup> Groncki Direct Testimony at 21.

<sup>22</sup> *Id.* at 17.

<sup>23</sup> BGE Response to OPC 2-08(a) and (d).



1 total of \$4.0 million. For charger installation, the Company estimates a cost  
2 of \$30,000 per charger for a total cost of \$6.0 million over the pilot period.<sup>24</sup>

3 **Q. Please summarize BGE's proposed incentives for G&A transition costs.**

4 A. The Company proposes to provide a fourth category of rebates to cover  
5 increased G&A costs that customers experience in the transition to EVSBs.

6 The Company describes G&A costs as those pertaining to additional  
7 staffing, charging station maintenance, fleet operator training, technical  
8 assistance or additional staff to apply for BGE's pilot program, or other  
9 projects or initiatives that directly enable or support bus electrification.<sup>25</sup>

10 The Company indicates that funding for G&A costs will be limited to no  
11 more than 5 percent of the customer's overall funding package (i.e., funding  
12 related to EVSB rebates, chargers, installation, and make-ready).<sup>26</sup> Prior to  
13 issuing funding, BGE will require customers to demonstrate the need for  
14 G&A funding through an application and a detailed plan for how the  
15 funding would be, or has been, used, including itemized cost estimates.<sup>27</sup> It  
16 estimates the average funding package per EVSB to be \$355,000, making  
17 the average G&A funds per EVSB approximately \$17,750,<sup>28</sup> resulting in a

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<sup>24</sup> Groncki Direct Testimony at 21.

<sup>25</sup> *Id.* at 18.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> BGE Response to OPC 01-16(b).

1 total budget of \$3.6 million for G&A funding over the four-year pilot  
2 period.<sup>29</sup>

3 **Q. Does BGE indicate how it will prioritize the deployment of its proposed**  
4 **rebates to support adoption of EVSBs?**

5 A. Yes. The Company describes several ways in which it will allocate funding  
6 resources to school systems. Specifically, BGE intends to:

- 7 • prioritize funding to underserved communities;
- 8 • target funding to high-pollution areas and/or environmental justice  
9 communities;
- 10 • promote program participation from across its service territory;
- 11 • consider siting “criteria prioritization metrics”<sup>30</sup> for charging hubs;
- 12 • design and implement a method by which the public can provide  
13 feedback;
- 14 • assess resource allocation by reviewing locations and bus routes  
15 serving “Title 1” schools; and,
- 16 • consult with the Maryland Department of Health to evaluate areas  
17 where EVSBs can provide the most air quality benefits.<sup>31</sup>

18 At the same time, BGE indicates it will allocate funds to support school  
19 districts that are ready to pursue electrification.<sup>32</sup>

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<sup>29</sup> Groncki Direct Testimony at 21.

<sup>30</sup> According to the Company, “criteria prioritization metrics” means the Company will consider charging equipment installation costs associated with siting bus depots. BGE Response to OPC 1-03.

<sup>31</sup> Groncki Direct Testimony at 19-20.

<sup>32</sup> *Id.* at 19.

1 **Q. How will the Company prioritize funding for underserved**  
2 **communities?**

3 A. The Company will allocate at least 20 percent of resources from the EVSB  
4 pilot program to “underserved or health-impacted communities.”<sup>33</sup> The  
5 Company defines these communities as those meeting one or more of the  
6 following criteria:

- 7 • Locations of Title 1 schools;
- 8 • Locations of bus depots and bus routes serving Title 1 schools;
- 9 • Locations of schools with highest concentrations of Free-  
10 Reduced-Price meal recipients;
- 11 • Locations of bus depots and bus routes serving those schools with  
12 highest concentrations of Free-Reduced-Price meal recipients; and,
- 13 • Census tracts that are majority low-to-moderate income.<sup>34</sup>

14 The Company indicates it will also use the Maryland EJScreen tool, the  
15 Environmental and Health Data Portal, and the Federal Justice40 tool to  
16 prioritize resources to underserved communities.<sup>35</sup>

17 **Q. What is BGE’s proposal for testing EVSB V2X technology?**

18 A. The Company does not propose any specific demonstration projects to test  
19 the capabilities of V2X. The Company indicates that EVSBs could be used  
20 for facility resiliency support, such as providing backup power for a

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<sup>33</sup> *Id.* at 20.

<sup>34</sup> BGE Response to OPC 1-06(a); *see also* Groncki Direct Testimony at 6 (asserting that the Company will use the same factors to “better consider health and economic effects on low-income and minority communities.”).

<sup>35</sup> Groncki Direct Testimony at 6.

1 community center or shelter during an outage, mobile power support and/or  
2 a backup power option for a school or a community, and could enhance  
3 distribution grid reliability.<sup>36</sup> The Company also indicates that EVSB V2X  
4 capabilities could include facility resiliency support, distribution grid  
5 reliability support, or wholesale market participation.<sup>37</sup> However, BGE does  
6 not indicate when or how it will determine which of these potential use cases  
7 it will test or whether there will be an additional cost associated with such  
8 demonstration projects.

9 **Q. What is BGE's proposal for bidding resources into PJM?**

10 A. The Company does not have a specific proposal. Though it does not provide  
11 a specific timeline, the Company states it will assess the program to  
12 determine if there is an opportunity to optimize the program's value in the  
13 PJM wholesale markets, which may include the energy and ancillary  
14 markets or some combination of PJM market opportunities.<sup>38</sup> Once BGE is  
15 able to assess the ability to participate in PJM markets, it will propose a  
16 structure to the Commission.<sup>39</sup> The Company does not indicate by when it  
17 will make this proposal, but states that the recent Federal Energy Regulatory

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<sup>36</sup> *Id.* at 11.

<sup>37</sup> BGE Response to OPC 01-02(c).

<sup>38</sup> Groncki Direct Testimony at 12.

<sup>39</sup> BGE Response to OPC 01-23(b).

1 Commission Order 2222 looks to enable this type of market participation in  
2 the coming years.<sup>40</sup>

3 **Q. How did BGE account for federal and state funding in determining the**  
4 **rebate amounts?**

5 A. The Company states that if an applicant receives full funding from the  
6 Environmental Protection Agency (EPA) for a bus unit, any BGE funding  
7 will be applied to an additional bus unit so there is no overlap.<sup>41</sup> The  
8 Company also indicates that it will ensure that any funding an applicant  
9 receives from other parties will be factored into the amount BGE pays to the  
10 applicant.<sup>42</sup>

11 **IV. EVSB Pilot Program Budgets Do Not Adhere to the CSNA**

12 **Q. How does the CSNA differentiate between a “rebate” and “program**  
13 **costs”?**

14 A. The CSNA defines a “rebate” to be “an incentive provided by an  
15 investor-owned electric company to a participating school system that is  
16 equal to:  
17 (i) the demonstrable incremental costs of purchasing and deploying electric  
18 school buses to participating school systems; and

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<sup>40</sup> BGE Response to OPC 01-24(e).

<sup>41</sup> BGE Response to OPC 01-01(f).

<sup>42</sup> BGE Response to Staff 01-11.

1 (ii) the incremental administrative and operating costs incurred by a  
2 participating school system in implementing its electric school bus pilot  
3 program.”<sup>43</sup>

4 The definition of “program costs” includes rebates paid to a participating  
5 school system as defined above and “any costs to deploy appropriate electric  
6 school bus charging infrastructure that are incurred by an investor-owned  
7 electric company in implementing an electric school bus pilot program.”<sup>44</sup>

8 **Q. What kinds of proposed program expenditures does BGE interpret as**  
9 **falling within the definition of a “rebate”?**

10 A. The Company is inconsistent in its interpretation. In its initial EVSB pilot  
11 program proposal filed with the Commission, the Company referred to  
12 incentives covering (1) the incremental costs of acquiring an EVSB, (2)  
13 EVSE (charger) costs; (3) make-ready & installation costs; and (4) G&A  
14 transition costs—as “rebates.”<sup>45</sup> However, in its subsequently filed direct  
15 testimony, BGE began referring to all but the first category—incremental  
16 costs of acquiring an EVSB—as “incentives” or “funding sources” rather

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<sup>43</sup> PUA § 7-217(a)(10).

<sup>44</sup> PUA § 7-217(a)(9).

<sup>45</sup> See ML No. 301632 at 8-11.

1 than “rebates.”<sup>46</sup> In addition, at times, the Company continues to refer to the  
2 incentives for equipment and training as “rebates.”<sup>47</sup>

3 Despite having characterized all of its EVSB pilot program incentives as  
4 “rebates” at various times, BGE now argues that only the “Electric School  
5 Bus Incremental Cost Rebate” is subject to the CSNA’s \$50 million limit on  
6 “total rebates,”<sup>48</sup> and that the CSNA considers these rebates areas separate  
7 and distinct from the funds for charging infrastructure and equipment.<sup>49</sup>

8 The Company built its budget around this interpretation, indicating that it  
9 started with allocating the \$50 million rebate limit to EVSB units.<sup>50</sup> BGE  
10 then estimated budget for associated EVSE (chargers), charger installation,  
11 line side make-ready work, G&A, and EVSB pilot program implementation,  
12 resulting in \$75.5 million in incentives to school districts and \$4.1 million in  
13 implementation costs.

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<sup>46</sup> See Groncki Direct Testimony at 16-19.

<sup>47</sup> See BGE Response to Staff 1-06 (“Based on BGE’s reading, the legislation limits rebates for **school buses** to \$50 million. However, the legislation also authorizes a utility to provide additional rebates for equipment and training.”).

<sup>48</sup> *Id.*; see also BGE Response to OPC 1-27(c).

<sup>49</sup> BGE Response to OPC 01-27(d).

<sup>50</sup> BGE Response to OPC 01-18.

1 **Q. Based on your reading of the CSNA, do you agree that funding for**  
2 **chargers, make-ready, and G&A should be separated out from the**  
3 **definition of “rebate”?**

4 A. No, I do not. While I am not an attorney, I read the relevant provisions of the  
5 CSNA to impose a \$50 million limit on all program rebates and I understand  
6 that BGE’s proposed financial incentives for EVSBs, EVSE (chargers),  
7 EVSE installation (load side make-ready), and G&A should all be included  
8 within the definition of a “rebate” and subject to the \$50 million funding  
9 limit on “total rebates.”

10 This determination is based on the definition of the non-rebate component of  
11 “program costs,” which is “any costs to deploy appropriate electric school  
12 bus charging infrastructure that are incurred by an investor-owned electric  
13 company in implementing an electric school bus pilot program.”<sup>51</sup> I read this  
14 definition to only include the costs to the Company associated with the  
15 Company’s administration of the EVSB pilot program and the necessary  
16 utility infrastructure up to the customer meter (i.e., line side make-ready  
17 work).

18 The additional EVSB pilot program components all pertain to costs incurred  
19 by customers related to the deployment of EVSBs that the Company  
20 proposes to cover through financial incentives. In other words, whether or

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<sup>51</sup> PUA § 7-217(a)(9)(i).



1 not BGE refers to the various funds available to applicants as “rebates” or  
2 something else, the Company is proposing to provide financial incentives to  
3 customers to cover the costs that would otherwise be incurred by the  
4 customer for the purchase and deployment of electric school buses,  
5 including the purchase of the EVSB, the purchase and installation of  
6 charging equipment, load side (i.e., customer-side) of the meter make-ready  
7 work, and G&A.

8 **Q. Can you elaborate on why G&A funding specifically should be included**  
9 **within the definition of “rebate” according to the CSNA?**

10 A. The CSNA defines “rebate” to include utility incentives equal to “the  
11 incremental administrative and operating costs incurred by a participating  
12 school system in implementing its electric school bus pilot program.”<sup>52</sup> The  
13 Company’s proposed G&A funding provides incentives in line with this  
14 definition. For example, the Company describes the G&A funding to be  
15 used for “1) training for bus operators, drivers, and other school system or  
16 contractor staff; and/or 2) retention or addition of IT, maintenance, repair,  
17 and/or technical staff to support the transition to EV school buses.”<sup>53</sup> These  
18 are “administrative and operating” actions associated with a school system  
19 “implementing its electric school bus pilot program.” Therefore, BGE’s

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<sup>52</sup> PUA § 7-217(a)(10)(ii).

<sup>53</sup> BGE Response to OPC 01-16(a).

1 proposed G&A funding should be considered a rebate and subject to the \$50  
2 million limit on “total rebates.”

3 **Q. Please summarize how you recommend BGE’s EVSB pilot program**  
4 **should be allocated between “rebates” and “program costs.”**

5 A. The following table provides a summary of my recommendations for the  
6 classification of BGE’s EVSB pilot program budget components according  
7 to the CSNA.

8 **Table 2. Recommended Classification of BGE EVSB Pilot Program**  
9 **Budget**

	2024	2025	2026	2027	Total
<b>CSNA Rebates</b>					
EVSB	\$7.4	\$12.7	\$12.7	\$17.2	\$50.0
EVSE	\$1.8	\$3.1	\$3.1	\$3.9	\$11.9
EVSE Installation	\$0.9	\$1.6	\$1.6	\$2.0	\$6.0
General and Administrative Transition	\$0.5	\$0.9	\$0.9	\$1.2	\$3.6
<b>Total Rebate Costs</b>	<b>\$10.6</b>	<b>\$18.3</b>	<b>\$18.3</b>	<b>\$24.2</b>	<b>\$71.5</b>
<b>CSNA Program Costs</b>					
Line-Side Make-Ready	\$0.6	\$1.0	\$1.0	\$1.3	\$4.0
BGE Admin	\$0.5	\$0.6	\$0.6	\$0.6	\$2.3
BGE Marketing, Education, Outreach	\$0.3	\$0.5	\$0.5	\$0.6	\$1.9
<b>Total Program Costs</b>	<b>\$1.4</b>	<b>\$2.1</b>	<b>\$2.1</b>	<b>\$2.5</b>	<b>\$8.1</b>
<b>EVSB Pilot Program Total Costs</b>	<b>\$12.0</b>	<b>\$20.4</b>	<b>\$20.4</b>	<b>\$26.8</b>	<b>\$79.6</b>

10 **Q. What is your recommendation for the treatment of financial incentives**  
11 **for an EVSB pilot program?**

12 A. I recommend that the Commission require BGE to propose a revised EVSB  
13 pilot program budget where the combined funding request associated with  
14 EVSB, EVSE, EVSE installation (also referred to as “load-side

1 make-ready”), and G&A rebates falls within the \$50 million limit on “total  
2 rebates” as defined in the CSNA.

3 **V. BGE’s EVSB Application Does Not Meet Criteria for a Pilot**

4 **A. Failure To Propose Demonstration Projects**

5 **Q. What is your understanding of the purpose of a utility pilot?**

6 A. A pilot allows a utility to test an idea and determine whether it should be  
7 pursued as a full-scale program. Utilities can also use pilots to test different  
8 approaches and design an optimal program based on the results. The goal of  
9 a pilot is learning—some pilots develop into full-scale programs, some  
10 require modifications before they can be scaled, and others reveal that an  
11 idea should be removed from the pipeline. As Lawrence Berkley National  
12 Laboratory’s 2020 manual, *A Handbook for Designing, Implementing, and*  
13 *Evaluating Successful Electric Utility Pilots* states, “[i]t is best to know that  
14 something does not comport with one’s *a priori* expectations when  
15 implemented on a small scale, rather than implementing something on a  
16 much larger scale where the stakes are considerably higher, and then finding  
17 out that expectations are not met.”<sup>54</sup>

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<sup>54</sup> Peter Cappers & Anna C. Spurlock, *A Handbook for Designing, Implementing, and Evaluating Successful Electric Utility Pilots* (2020), Lawrence Berkeley Nat’l Lab., <https://www.osti.gov/biblio/1656540>.

1 **Q. How does the scale of BGE's proposal compare to other utility EVSB**  
2 **pilot programs?**

3 A. The Company's proposed EVSB pilot program is significantly larger than  
4 that of other utilities. Table 3 below compares BGE's proposal to the eight  
5 utilities BGE reviewed in the process of preparing its application<sup>55</sup> as well as  
6 San Diego Gas & Electric in terms of the length of the pilot program and the  
7 number of EVSBs supported. The average length of the pilots across utilities  
8 in other jurisdictions is two years and the average number of EVSBs  
9 included is 28.

10 **Table 3. Comparison of Utility EVSB Programs**

<b>Utility</b>	<b>State</b>	<b>Length of Pilot (Years)</b>	<b>Number of EVSBs</b>
BGE's EVSB Proposal	MD	4	204
Duke Energy Carolinas	NC	3	55
Duke Energy Progress	NC	3	30
Duke Energy Carolinas	SC	3	20
NV Energy	NV	1	50
Dominion Energy	VA	1	50
Consolidated Edison	NY	3.5	5
Portland General Electric	OR	1	Unknown <sup>56</sup>
National Grid	MA	1	1
San Diego Gas & Electric	CA	1	10
Non-BGE Utility Average		2	28

<sup>55</sup> BGE Response to OPC 01-02(a).

<sup>56</sup> The number of EVSBs incentivized by the program could not be located within docketed materials or the utility's website.

1 **Q. Does BGE's proposal comport to your understanding of a utility pilot?**

2 A. No, it does not. In addition to the overall size of the program compared to  
3 other pilots, I base this determination on the fact that BGE's proposed EVSB  
4 pilot program was developed according to the maximum amount of funding  
5 BGE perceives is allowed under the CSNA rather than to test different  
6 approaches to promote the adoption of EVSBs and the utilization of V2X  
7 technology.

8 For example, BGE states that EVSBs could be used for facility resiliency  
9 support, such as providing back-up power for resiliency hubs, mobile power  
10 support for underserved communities during adverse weather events, a  
11 backup power option for a school, and to enhance distribution grid  
12 reliability.<sup>57</sup> However, the Company doesn't specify which of these V2X use  
13 cases it will examine and does not appear to know how it will utilize the  
14 technology.

15 For instance, BGE states that when it determines when and how it might use  
16 EVSB battery capacity to support resiliency, it will be able to detail how the  
17 use of that battery capacity will be tracked.<sup>58</sup> Similarly, when asked about  
18 the potential applications of V2X, the Company indicates that it "will



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<sup>57</sup> BGE Response to OPC 01-15(b).

<sup>58</sup> BGE Response to OPC 02-04(b).

1 evaluate how best to utilize the bus based on its location and the applicable  
2 of V2X.”<sup>59</sup> It is clear that BGE does not yet have a plan for how it will test  
3 V2X, how many buses it will test, what it will measure, how it will decide  
4 which applications to test, and how it will track and measure progress.

5 **Q. Why is the omission of a V2X evaluation plan for demonstration**  
6 **projects problematic?**

7 A. The Company is incentivizing EVSBs with bi-directional V2X charging  
8 capability and should be required to have a plan for how it will utilize that  
9 technology. This is particularly important given the results of the  
10 Company’s benefit-cost analysis (BCA). Table 4 below summarizes the  
11 benefit-cost ratios (BCR) for each of the EVSB vehicle miles traveled  
12 (VMT) scenarios as included in the Company’s BCA. A BCR above 1.0  
13 indicates that the scenario is cost-effective. **\*\* BEGIN CONFIDENTIAL \*\***  
14   
15  **\*\* END CONFIDENTIAL \*\*** In  
16 addition, given the fact the Company does not yet know how it will use  
17 EVSB battery capacity to support resiliency,<sup>60</sup> I also show the changes to the

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<sup>59</sup> BGE Response to OPC 01-23(a).

<sup>60</sup> BGE Response to OPC 02-04(b).





1 **Q. Does BGE indicate why it did not propose a structure to test V2X in its**  
2 **application?**

3 A. Yes. In response to discovery, the Company states it cannot provide an  
4 estimated time when it will propose a V2X structure because it is dependent  
5 on the following information, which it does not currently have:

- 6 • How many buses are deployed in a particular area;
- 7 • Where the buses are parked when not in service on a route;
- 8 • When the buses will be delivered and entered into service;
- 9 • Bus routes and charging schedules;
- 10 • Local distribution system conditions in the area where the buses are  
11 parked when not in service on a route; and,
- 12 • Bus and charger specifications.<sup>62</sup>

13 **Q. Do you find this to be a sufficient explanation?**

14 A. No, I do not. There are several examples of utilities that propose V2X  
15 demonstration projects without this information. For example, National Grid  
16 in Massachusetts worked alongside a school district to propose and  
17 implement a pilot to test the use of an EVSB to deliver stored electricity grid  
18 to help meet peak energy demand.<sup>63</sup> In addition, San Diego Gas & Electric  
19 (SDG&E) provides an example of a utility V2X pilot where the school

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<sup>62</sup> BGE Response to OPC 02-21.

<sup>63</sup> Proterra Press Release (Oct. 13, 2021; last accessed on July 18, 2023),  
<https://www.proterra.com/press-release/massachusetts-electric-school-bus/>.



1 system was not known at the time of the proposal to the commission.  
2 SDG&E developed a V2X proposal to provide financial incentives for 10  
3 EVSBs at one school location to test participation in the California  
4 Independent System Operator (CAISO) markets.<sup>64</sup> The proposal did not  
5 identify a school district; instead, it sought to obtain a participant through  
6 outreach and education. Even without knowing which school district would  
7 participate, SDG&E was able to determine the scope of the pilot, its  
8 objectives, evaluation metrics, and cost. I do not find anything in the CSNA  
9 that would prevent BGE from following a similar path to these utilities and  
10 providing a specific proposal for at least one V2X demonstration project  
11 within its EVSB pilot program application.

12 In addition, it seems reasonable that BGE could proactively reach out to  
13 school systems and school bus contractors to determine whether any of these  
14 entities would be willing to partner for a V2X demonstration. The Company  
15 indicates that it spoke to representatives from six counties and consulted  
16 members of the underserved/environmental justice advocacy community in  
17 preparation for filing its application.<sup>65</sup> The Company also states that during  
18 the normal course of business it interacts with EVSB stakeholders including

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<sup>64</sup> Pub. Util. Comm'n of the State of Cal., Decision 19-08-026 in Application 18-01-012 (Aug. 15, 2019).

<sup>65</sup> BGE Response to OPC 02-01(a) and OPC 02-10(c).

1 schools and bus operators on a regular basis.<sup>66</sup> Given these connections  
2 between BGE and stakeholders, it is reasonable to assume that BGE could  
3 solicit school districts that are already looking to move forward with  
4 electrification to develop a V2X demonstration project proposal.

5 **Q. Does the CSNA afford the Company with time to further develop a V2X**  
6 **structure and use cases to test?**

7 A. Yes. The CSNA requires that an EVSB pilot program be structured to  
8 “commence on or before October 1, 2024.”<sup>67</sup> Given the fact that synonyms  
9 for “commence” include words such as “begin,” “launch,” and “initiate,” I  
10 interpret the CSNA to require that an EVSB pilot program is available to  
11 begin accepting applications from customers on or before October 1, 2024,  
12 rather than to require that “the initial set of EVSBs are on the road by  
13 October 1, 2024,” as BGE appears to believe is required.<sup>68</sup> This is a full year  
14 later than the timeline proposed by BGE, which seeks to begin accepting  
15 applications on October 1, 2023.<sup>69</sup>

16 **Q. Can you provide an example of a utility V2X pilot program with an**  
17 **optimal pilot design and criteria?**

18 A. Yes, an example of a sound approach to pilot design can be found in  
19 Consolidated Edison Company of New York’s (Con Edison) Electric School

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<sup>66</sup> BGE Response to OPC 02-07(a).

<sup>67</sup> PUA § 7-217(c)(1).

<sup>68</sup> Groncki Direct Testimony at 3.

<sup>69</sup> *Id.*

1 Bus Vehicle-to-Grid (V2G) Reforming the Energy Vision (REV)  
2 Demonstration Project, which is one of the pilots BGE reviewed in the  
3 preparation of its proposal. Con Edison's demonstration project sought to  
4 test a "shared asset" business model between the utility and a V2G provider  
5 (First Priority Green-Fleet) to test the technical and operational viability of  
6 using a school bus as a distribution grid asset.<sup>70</sup>

7 As part of its implementation plan, Con Edison clearly defined the questions  
8 the project sought to answer, concepts to test, hypotheses, the test  
9 population, and test scenarios. For example, one test was whether V2G  
10 technology can provide reliable grid-connected energy storage with  
11 acceptable levels of battery degradation. To answer this question, Con  
12 Edison developed the following three treatment groups for the planned five  
13 ESVBs in the demonstration project:

- 14 • Three EVSBs were used for V2G discharge analysis to discharge  
15 every summer day to simulate a lifetime of seasonal battery  
16 discharge;

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<sup>70</sup> Consolidated Edison Company of New York, Inc. (Con Edison), *Rev Demonstration Project Implementation Plan Electric School Bus V2G* (Nov. 12, 2018), N.Y. Pub. Serv. Comm' Case 14-M-0101, at 3.

- 1           • One EVSB to discharge 30 hours of export a season to simulate an
- 2           operator attempting to discharge for demand response or distribution
- 3           grid values; and,
- 4           • One EVSB to not discharge at all.<sup>71</sup>

5 **Q. What type of reporting structure did Con Edison propose as part of its**  
6 **V2G demonstration project?**

7 A. Con Edison provides quarterly reports on implementation progress and  
8 budget, summary of deviations, and key performance metrics.<sup>72</sup>

9 **Q. What type of performance metrics did Con Edison track?**

10 A. Con Edison tracked the following:

- 11           • For summer months when the EVSB battery is used performance is
- 12           tracked for the following:
  - 13               ○ Charging events to EVSBs including time, load, and transfer
  - 14               rate; and
  - 15               ○ Discharge to grid events including time, load, and transfer
  - 16               rate.<sup>73</sup>
- 17           • For non-summer months EVSB performance is tracked for the
- 18           following: miles driven, average kWh/mile, kWh consumption,
- 19           vehicle maintenance and uptime.<sup>74</sup>

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<sup>71</sup> *Id.* at 5.

<sup>72</sup> *Id.* at 20.

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*

1 Con Edison then used this information to help inform the development of a  
2 total cost of ownership (TCO) to provide an understanding of the difference  
3 in the purchase and O&M costs associated with diesel school buses, EVSBs  
4 with unmanaged charging, EVSBs with managed charging, and EVSBs with  
5 managed charging and V2G.<sup>75</sup>

6 **Q. What is your recommendation regarding the development of a V2X**  
7 **demonstration project?**

8 A. I recommend that the Commission require BGE to modify its EVSB pilot  
9 program proposal to include at least one proposal for a V2X demonstration  
10 project to test a specific use case. BGE should provide detailed information  
11 on the objective of the V2X demonstration, data collection, evaluation  
12 metrics, the required number of EVSBs needed to conduct the  
13 demonstration, whether the location of the school buses impacts the ability  
14 to conduct the pilot, an education and outreach plan for how it will recruit  
15 participants, and indication of whether additional funding is required.

16 **B. Insufficient Reporting Metrics and Evaluation Plan**

17 **Q. Did the Commission previously establish requirements for utility pilot**  
18 **programs?**

19 A. Yes. In its order in Case No. 9453, the Commission established the  
20 following guidelines for developing and evaluating pilot programs:

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<sup>75</sup> *Id.* at 12.

- 1           • Clear goal(s) established at the beginning of pilot program
- 2           development;
- 3           • Evaluation metrics linked to those goal(s) that will inform whether
- 4           the goal(s) are achieved;
- 5           • An evaluation plan developed before final pilot approval;
- 6           • An estimate of pilot program implementation costs;
- 7           • Public sharing of key pilot program data after pilot is complete, and
- 8           at regular intervals during the pilot if appropriate;
- 9           • Public review of pilot results by the Commission;
- 10          • A clear transition plan for current customers; and,
- 11          • A firm sunset date.<sup>76</sup>

12 **Q. Did the Commission direct BGE to comply with these requirements in**  
13 **the instant proceeding?**

14 A. Yes. In its March 29, 2023, Notice Initiating an Evidentiary Proceeding in  
15 this case, the Commission directed BGE to include all of the pilot  
16 requirements established in Order No. 88438 in Case No. 9453.<sup>77</sup>

17 **Q. Does BGE’s EVSB Application address the pilot requirements?**

18 A. Only in part. I find that BGE’s proposal doesn’t adequately meet the  
19 requirements related to evaluation metrics.

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<sup>76</sup> Order No. 88438 (CN 9453, Oct. 25, 2017), at 20.

<sup>77</sup> Notice Initiating an Evidentiary Proceeding (CN 9696, Mar. 29, 2023), at 1.

1 **Q. Please explain your concerns with BGE’s proposed evaluation metrics.**

2 A. The Commission order in Case No. 9453 requires that pilot goals and  
3 evaluation metrics are “linked” such that the metrics “will inform whether  
4 the goal(s) are achieved.”<sup>78</sup> While BGE provides a list of goals, it does not  
5 provide sufficient evaluation metrics linked to those goals specified by the  
6 Company.<sup>79</sup>

7 The Company proposes a limited set of evaluation metrics and does not  
8 include metrics for all of its proposed pilot goals. Table 5 below provides a  
9 summary of the Company’s EVSB pilot program goals as listed in the direct  
10 testimony of witness Groncki. I then map the proposed evaluation metrics to  
11 each goal.

12 As shown in Table 5, the Company does not provide metrics to evaluate  
13 PJM markets or related to the goals of the CSNA; nor does it specify the  
14 goals of the CSNA that it seeks to achieve. I also find that many of the  
15 proposed evaluation metrics lack detail for how the Company will obtain  
16 and track data. For example, in response to discovery, the Company  
17 indicates it will use bus telematics data to calculate avoided pollution, but  
18 this level of detail is not provided in the application.<sup>80</sup> Furthermore, BGE

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<sup>78</sup> Order No. 88438 at 20.

<sup>79</sup> Groncki Direct Testimony at 13.

<sup>80</sup> BGE Response to Staff 01-21.

1 does not specify which pollutants it will measure. In addition, I find the  
2 proposed evaluation metrics for demonstrating V2X capacity insufficient.  
3 As indicated earlier in my testimony, the Company does not propose  
4 specific V2X demonstration projects or potential tracking metrics for  
5 planned future demonstrations.

6 **Table 5. BGE's Proposed EVSB Pilot Program Goals and Evaluation**  
7 **Metrics**

<b>EVSB Pilot Program Goals</b>	<b>Evaluation Metrics</b>
Incentivize EVSB adoption	Number of EVSBs deployed through pilot
Deploy at least 20% of project resources to underserved areas	Percentage deployed to underserved areas
Evaluate EVSB performance	kWh/mile efficiency
	kWh/hour charging performance
	Number of miles on road
	Number of hours on road
	KWh consumed in charging
	Demonstration of reduced emissions when compared to fossil-powered bus
Demonstrate V2X capability of hardware and software	List of V2X events conducted during the reporting period and the results
Evaluate market value of latent battery capacity to the PJM markets	None
Support the State in meeting the directives and goals under the CSNA	None

8 *Source: Groncki Direct Testimony, at 13.*



1 **Q. What additional evaluation metrics do you recommend?**

2 A. First, at a minimum the Company should include the metrics it agrees to  
3 track in response to discovery. This includes the following:

- 4 • The average cost of make-ready, charger, and infrastructure  
5 installation costs;
- 6 • The federal funding for EVSBs that participants received; and,
- 7 • Number of diesel buses that participants estimate would be retired  
8 due to receiving EVSB rebates.<sup>81</sup>

9 Second, I recommend that BGE commit to tracking the following additional  
10 metrics, which I summarize by pilot goal:

- 11 • Incentivize EVSB adoption
  - 12 ○ Number of EVSBs by school system
  - 13 ○ Number of EVSBs as a percentage of total school buses in  
14 service territory
  - 15 ○ Required distribution system upgrade costs by school system
  - 16 ○ Total cost of EVSB ownership by participating school systems
  - 17 ○ School system and bus contractor staff enrollment in EVSB  
18 training programs
- 19 • Evaluate EVSB performance
  - 20 ○ Participant EVSB O&M costs

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<sup>81</sup> BGE Response to OPC 02-04(c), (d), (f).

- 1           ○ Time of day and duration of EVSB charging
- 2           ○ Other performance data as needed to support participation in
- 3           PJM's capacity and energy markets<sup>82</sup>
- 4           • Deploy at least 20 percent of project resources to underserved areas
- 5           ○ Number of EVSBs deployed to high-pollution and/or
- 6           environmental justice communities
- 7           ○ Number EVSBs serving Title 1 schools
- 8           ○ Number of EVSBs by zip code
- 9           ○ Number of EVSBs by census tract
- 10          ○ Net-reduction in metric tons carbon (CO<sub>2</sub>)
- 11          ○ Net-reduction in nitrogen oxides (NO<sub>x</sub>) and sulfur oxides
- 12          (SO<sub>x</sub>)
- 13          ○ Net reduction in particulate matter (PM)

14          Finally, in discovery, the Company also indicates it will track several

15          non-quantitative outcomes. The Company states it will engage with those

16          jurisdictions who have chosen not to apply for pilot program funds and

17          assess barriers that prevented them from applying to the EVSB program.<sup>83</sup>

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<sup>82</sup> See BGE Response to Staff 03-13, which indicates that under current PJM capacity market rules, BGE would need actual performance data to understand the behavior of the EVSB to consider whether this type of resource is appropriate to participate in PJM's capacity and energy markets.

<sup>83</sup> BGE Response to OPC 02-05(b).

1           These findings should be summarized and reported along with BGE’s other  
2           metrics.

3           **VI. Additional Deficiencies in BGE’s EVSB Pilot Program Proposal**

4           **Q. Do you recommend any other improvements to BGE’s EVSB pilot**  
5           **program proposal?**

6           A. Yes. In addition to correcting the deficiencies described earlier related to  
7           compliance with the CSNA, lack of V2X demonstration projects, and  
8           insufficient evaluation criteria, I recommend several additional  
9           improvements to BGE’s EVSB pilot program proposal. These include an  
10          assessment of baseline data related to the current penetration of EVSBs,  
11          additional funding reserved for underserved and health impacted  
12          communities, and an education and outreach plan.

13          **A. EVSB Baseline**

14          **Q. Does BGE provide any information related to the total number of**  
15          **school buses in its service territory?**

16          A. No, it does not. The Company did not provide any information on the  
17          number of fossil-fuel-powered buses or EVSBs currently in service by  
18          school systems in its service territory.<sup>84</sup> The Company also does not have

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<sup>84</sup> See e.g., BGE Response to Staff 2-16 (stating in response to the request for “a breakdown of current fleet size for all school districts and schools in BGE’s service area,” that “BGE does not have the requested information.”); see also BGE Response to OPC 2-23 (stating in response to the question, “What percentage of the total school buses in BGE’s service territory does 204 EVSBs represent?” that “The information requested is not within BGE’s custody, possession or control.”).

1 information pertaining to the annual turnover of new bus purchases for  
2 school systems in its service territory.<sup>85</sup> It is therefore not possible to assess  
3 whether BGE's request to incentivize 204 EVSBs is reasonable.

4 In addition, while the Company states that the Baltimore City Public School  
5 system (Baltimore City PSS) has a small school bus fleet relative to the  
6 student population and is already a recipient of EPA grant funds to deploy a  
7 fleet of 25 school buses,<sup>86</sup> it does not know how many school buses are in  
8 that school system or the percentage of buses the 25 EVSBs represents.<sup>87</sup>

9 The Company relies on these assertions to justify its proposal to allocate at  
10 least 20 percent of project resources;<sup>88</sup> however, without baseline data it is  
11 not possible to assess the validity of this determination.

12 **Q. Why is baseline data for buses important to the design of the EVSB**  
13 **pilot program?**

14 A. Baseline data related to the existing fleet of fossil-fuel-powered buses and  
15 EVSBs is critical to the design of a pilot. This information is needed to  
16 develop an estimate of the potential annual demand for EVSBs in BGE's  
17 service territory to support the scope of the pilot and to determine allocation  
18 of program funds in an equitable manner.

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<sup>85</sup> BGE Response to OPC 01-17.

<sup>86</sup> BGE Response to OPC 02-16(a).

<sup>87</sup> BGE Response to OPC 2-15(a)(b).

<sup>88</sup> BGE Response to Staff 01-01.

1 **Q. Please explain how baseline data can inform the scope of the pilot.**

2 A. Baseline data can be used to conduct a quantitative assessment to determine  
3 the estimated number of school buses that could be electrified in a given  
4 year to inform the development of the scope and budget for the pilot.

5 **Q. Did BGE conduct any quantitative assessment or rely on EVSB**  
6 **penetration data to develop its pilot scope?**

7 A. No, it did not. Instead of conducting an analysis based on potential annual  
8 demand for EVSBs, the Company predetermines that the correct amount of  
9 funding is the maximum amount it perceives it can spend under the CSNA  
10 and distributes it across a four-year period. While it is true that the CSNA  
11 indicates BGE can propose to spend up to \$50 million on rebates, it does not  
12 predetermine this to be the optimal amount; nor does it require BGE to  
13 spend this amount. The CSNA only requires BGE's pilot program to provide  
14 for the deployment of no less than 25 EVSBs.

15 There is a significant cost difference between BGE's proposal to rebate 204  
16 EVSBs compared to the CSNA minimum of 25 EVSBs. Applying BGE's  
17 estimated cost of \$245,000 per EVSB, the difference in costs for a 25 EVSB  
18 pilot (CSNA minimum) and a 204 EVSB pilot (BGE's proposal) totals \$6.1  
19 million in bus rebates alone. It is therefore reasonable that BGE should be  
20 required to support its request to rebate 204 buses with baseline data.

1 **Q. Please explain how baseline data can support the equitable distribution**  
2 **of pilot funds.**

3 A. To provide equitable distribution of pilot funds, one needs to know the  
4 current distribution of EVSBs across school systems in BGE's service  
5 territory. For example, the Company provides a hypothetical example of a  
6 county that is farther along in its electrification plan and applies for funding  
7 for 100 EVSBs. In this example, BGE notes that because it is not proposing  
8 to deploy rebates on a "first come, first serve" basis, it will have the  
9 discretion to reduce the number of buses funded through the program.<sup>89</sup>  
10 However, it is unclear how BGE will determine what is the appropriate  
11 number of EVSBs to rebate per school system if it is not aware of the  
12 current baseline distribution across its service territory.

13 **Q. What information should BGE obtain to develop a baseline for its**  
14 **EVSB pilot program?**

15 A. The Company should obtain the following information:

- 16 • Number of fossil-fuel-powered school buses and EVSBs by school  
17 system in BGE service territory
- 18 • Number of fossil-fuel-powered school buses and EVSBs in  
19 underserved communities and health-impacted communities
- 20 • Average number of school buses purchased per year
- 21 • Number of school buses retired per year
- 22 • School systems that received U.S. EPA grant funds for EVSBs

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<sup>89</sup> BGE Response to OPC 02-11(a).

- 1 • Number of school systems interested in or ready to electrify school  
2 bus fleet and associated number of buses

3 This information would better inform the potential demand for rebates and  
4 determine the funding requirements to meet that demand. It would also  
5 contribute to the development of quantitative pilot goals related to achieving  
6 a specific penetration of EVSBs as a percentage of total buses.

7 **B. Support for Underserved and Health-Impacted Communities**

8 **Q. Do you have any concerns with the Company’s proposal to distribute**  
9 **pilot program funds to underserved and health-impacted communities?**

10 A. Yes. I am concerned that more financial support and guidance is needed to  
11 ensure that school systems in underserved and health-impacted communities  
12 have an equitable opportunity to participate in the EVSB pilot program.

13 The Company acknowledges that underserved or health-impacted  
14 communities may not be ready to use more than 20 percent of pilot program  
15 funds.<sup>90</sup> The Company also notes potential barriers that could prohibit these  
16 communities from being able to apply to the EVSB pilot program—  
17 including the “lack of staff resources to develop an electrification plan, lack  
18 of resources to work with BGE to apply to this program, lack of funding to

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<sup>90</sup> BGE Response to OPC 02-16(a).

1 afford the cost share for an EVSB under this program (i.e., the cost of a  
2 fossil-powered unit), or other logistical challenges.”<sup>91</sup>

3 While BGE indicates that its proposed G&A funding will help address these  
4 barriers, it is possible that underserved and health-impacted communities  
5 will require more than the limit of 5 percent.

6 **Q. What is your recommendation to improve support for underserved and**  
7 **health-impacted communities?**

8 A. I recommend that BGE create a separate budget line item with funds  
9 reserved to support underserved and health-impacted communities in the  
10 development of electrification plans and applications for funding. I also  
11 recommend that BGE increase the G&A funding award for these  
12 communities. The current G&A funding proposal of up to 5 percent of the  
13 applicant’s funding award may be insufficient to overcome the barriers  
14 facing these communities.

15 **C. Education and Outreach Plan**

16 **Q. Does BGE include an education and outreach plan as part of its EVSB**  
17 **pilot program proposal?**

18 A. No, it does not. The Company does not provide sufficient information  
19 regarding how it will conduct education and outreach to school systems and  
20 school bus contractors. For example, BGE indicates that school bus

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<sup>91</sup> BGE Response to OPC 02-16(c).



1 contractors are concerned with the reliability of charging infrastructure and  
2 the driving range of EVSBs;<sup>92</sup> however, the Company does not indicate how  
3 it will address this barrier to EVSB adoption and what education and  
4 outreach tools it will use in its proposal.

5 In addition, the majority of information related to BGE’s plans for education  
6 and outreach had to be obtained through discovery questions. For example,  
7 in response to discovery, BGE indicates it will include guidance on where to  
8 find information on other EVSB government funding opportunities in any  
9 digital or written marketing material and on the program’s website landing  
10 page.”<sup>93</sup> In addition, when asked how it will support school systems that do  
11 not yet have an electrification plan, BGE states it “will continue to: 1)  
12 remain current on evolution of jurisdiction plans to adopt EVSBs; 2) advise  
13 jurisdictions on infrastructure and EVSE market developments and technical  
14 capabilities, where applicable; 3) connect school officials to industry leaders  
15 for purposes of information sharing and program development; 4) be a  
16 conduit for general information on transportation electrification and share  
17 best practices, where applicable; and 5) where appropriate, offer fleet  
18 electrification assessments through BGE’s Fleet Program to help schools

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<sup>92</sup> BGE Response to OPC 02-06(a).

<sup>93</sup> BGE Response to OPC 02-07(b)(c).

1 identify and prioritize electrification opportunities.”<sup>94</sup> This information  
2 should not need to be obtained through discovery, and instead should be  
3 included as part of a comprehensive education and outreach plan within the  
4 EVSB pilot program proposal. This omission demonstrates that BGE’s  
5 proposal for an EVSB pilot program is insufficiently developed.

## 6 VII. BGE’s Cost-Recovery Proposal

7 **Q. Please summarize BGE’s proposed cost-recovery approach for the**  
8 **EVSB pilot program.**

9 A. The Company proposes to establish a regulatory asset for all EVSB pilot  
10 program costs, except for those associated with line-side make-ready  
11 infrastructure, which represent capital costs. The Company requests to  
12 amortize the regulatory asset over a five-year period, include it in rate base,  
13 and earn a return at BGE’s most recently approved authorized rate of  
14 return.<sup>95</sup> Effectively, this means 100 percent of the EVSB pilot program  
15 costs will be treated as capital investment.

16 The Company included an initial estimate of EVSB pilot program regulatory  
17 asset and capital budgets in its Application for an Electric and Gas  
18 Multi-Year Plan (MYP 2) in Case No. 9692.<sup>96</sup>

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<sup>94</sup> BGE Response to OPC 02-11(b).

<sup>95</sup> Direct Testimony of John C. Frain at 2, lines 3-21.

<sup>96</sup> *Id.* at 2, lines 1-3.

1 **Q. What is BGE's rationale for this approach?**

2 A. The Company states this approach is consistent with the current EV  
3 regulatory asset approved by the Commission in Case No. 9478.<sup>97</sup> In  
4 addition, BGE indicates that it initially considered the EVSB pilot program  
5 costs to be capital costs, but upon consideration of the fact that it does not  
6 intend to own the EVSBs or charging equipment, it determined it is more  
7 appropriate to categorize these items as costs for inclusion in a regulatory  
8 asset.<sup>98</sup>

9 **Q. Did the cost-recovery framework approved by the Commission in Case**  
10 **No. 9478 apply to all future EV filings?**

11 A. No, it did not. Commission Order No. 88997 in Case No. 9478 pertained to  
12 the Phase I EV programs. The Commission has not yet made a  
13 determination on the cost-recovery mechanism for additional EV programs.

14 **Q. Does the CSNA prescribe a cost-recovery mechanism?**

15 A. No, it does not. The CSNA only indicates that the utility "may recover all  
16 reasonable and prudent program costs incurred under an [EVSB] pilot  
17 program through a mechanism that is reviewed and approved by the  
18 Commission."<sup>99</sup>

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<sup>97</sup> *Id.* at 2, lines 20-21.

<sup>98</sup> Groncki Direct Testimony at 22.

<sup>99</sup> PUA § 7-217(e).

1 **Q. Are you testifying on behalf of OPC in Case No. 9692 on matters related**  
2 **to EV programs and cost-recovery of those programs?**

3 A. Yes. I submitted direct testimony on behalf of OPC in Case No. 9692.

4 **Q. What did you recommend in Case No. 9692 regarding the cost-recovery**  
5 **of EVSB pilot program?**

6 A. My direct testimony in Case No. 9692, which is an ongoing proceeding,  
7 recommends that BGE's proposed EV program budget, including the EVSB  
8 pilot program budget, should be removed from the MYP 2. Instead, I  
9 recommend that the consideration of EV program budgets, program design,  
10 and associated cost-recovery mechanisms should occur in the same  
11 proceeding in which the program proposal is filed.<sup>100</sup>

12 Regarding the regulatory assets, I recommend that if the Commission  
13 decides to approve EV program costs in the MYP 2, that it reject BGE's  
14 proposal to classify non-capital EV program expenses as a regulatory asset  
15 upon which it earns a return. If the Commission approves regulatory asset  
16 treatment of EV program costs, I recommend BGE not earn its authorized  
17 rate of return on that asset.<sup>101</sup>

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<sup>100</sup> Direct Testimony of Courtney Lane at 9, lines 6-21 (CN 9692, June 20, 2023).

<sup>101</sup> *Id.* at 10, lines 12-19.

1 **Q. What is your assessment of BGE's proposal for cost recovery of EVSB**  
2 **pilot program costs in this instant application?**

3 A. I do not support the Company's proposal to treat non-capital expenses as if  
4 they were capital assets and earn at its authorized rate of return on that asset.  
5 The Company's proposal would cost customers \$12.1 million more over the  
6 amortization period due to the additional costs associated with including  
7 these programs in rate base. This represents a 16 percent increase to  
8 ratepayers over the amortization period.<sup>102</sup>

9 BGE's current proposal essentially treats the costs associated with rebates  
10 and implementation costs the same as a capital cost to the utility. Yet, the  
11 Company itself notes it is not appropriate to classify these EVSB pilot  
12 program costs as capital costs, because it does not intend to own the EVSBs  
13 or charging equipment.<sup>103</sup>

14 **Q. Do you oppose regulatory asset treatment of all non-capital**  
15 **expenditures?**

16 A. No, I do not. Non-recurring expenses and those outside of the control of the  
17 utility may be appropriate to classify as a regulatory asset. This aligns with  
18 the Commission's policy determination related to the recovery of  
19 COVID-19 related incremental costs in Order No. 89542.<sup>104</sup>

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<sup>102</sup> Calculated from BGE Response to OPC 01-25 – Attachment 1 and Attachment 2.

<sup>103</sup> Groncki Direct Testimony at 22.

<sup>104</sup> Order No. 89542, *Authorizing Establishment of a Regulatory Asset for Covid-19 Related Incremental Costs* (CN 9639, Apr. 9, 2020).

1           However, the creation of a regulatory asset for non-capital expenses should  
2           not qualify the expenses for amortization and recovery of the utility's  
3           authorized rate of return on those assets. For example, in Order No. 89542,  
4           the Commission approved the creation of a regulatory asset for  
5           COVID-19-related expenses as a tracking mechanism to facilitate the  
6           recovery of those costs. However, the Commission stated that it would  
7           review a utility's request for recovery in future proceedings, where it would  
8           consider issues such as the appropriate period of recovery, any amount of  
9           carrying costs, and other related matters.<sup>105</sup>

10 **Q.    What is your recommendation for the cost-recovery of BGE's EVSB**  
11 **pilot program costs?**

12 **A.**Given the ongoing MYP 2 proceeding in Case No. 9692, I provide separate  
13        recommendations for two scenarios: (1) the Commission approves the MYP  
14        2 and supports the inclusion of the EVSB pilot program costs in that case,  
15        and (2) the Commission rejects the MYP 2 or rejects the inclusion of the  
16        EVSB pilot program costs in that case.

17 **Q.    What is your recommendation if the Commission approves BGE's MYP**  
18 **2?**

19 **A.**If the Commission approves the Company's MYP 2 application and  
20        supports the inclusion of the EVSB pilot program costs in that case, the  
21        following non-capital costs should be expensed in the year they occur:

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<sup>105</sup> *Id.* at 3, para. 3.

- 1           • Bus rebate costs
- 2           • EVSE costs
- 3           • EVSE installation costs (including load side make-ready)
- 4           • Incremental G&A funding
- 5           • BGE admin program expenses
- 6           • BGE marketing, education, and outreach expenses

7           It is appropriate for the Company to treat line side make-ready costs as a  
8           capital cost.

9   **Q.   What is your recommendation if the Commission rejects BGE's MYP**  
10 **2?**

11 **A.**   If the Commission rejects the Company's MYP 2, the Company should be  
12 permitted to track its EVSB pilot program costs as a regulatory asset for  
13 which cost recovery is considered in a future proceeding. BGE should not be  
14 permitted to earn a rate of return on non-capital costs. The Commission  
15 should make clear that use of a regulatory asset is for tracking purposes only  
16 and does not entitle BGE to earn at its authorized rate of return on  
17 non-capital expenses.

18           The Commission need not determine now the appropriate cost recovery  
19 treatment but should defer its decision until the Company seeks recovery of  
20 the costs in its next rate case.

1 Q. Does this conclude your direct testimony at this time?

2 A. Yes, it does.



**Courtney Lane, Principal Associate**

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**PROFESSIONAL EXPERIENCE**

**Synapse Energy Economics, Inc.**, Cambridge, MA. *Principal Associate*, September 2022 – Present, *Senior Associate*, November 2019 – September 2022.

Provides consulting and researching services on a wide range of issues related to the electric industry including performance-based regulation, benefit-cost assessment, rate and bill impacts, and assessment of distributed energy resource policies and programs. Develops expert witness testimony in public utility commission proceedings.

**National Grid**, Waltham, MA. *Growth Management Lead, New England*, May 2019 – November 2019, *Lead Analyst for Rhode Island Policy and Evaluation*, June 2013 – April 2019.

- Portfolio management of product verticals including energy efficiency, demand response, solar, storage, distributed gas resources, and electric transportation, to optimize growth and customer offerings.
- Strategy lead for the Performance Incentive Mechanisms (PIMs) working group.
- Worked with internal and external stakeholders and led the development of National Grid's Annual and Three-Year Energy Efficiency Plans and System Reliability Procurement Plans for the state of Rhode Island.
- Represented energy efficiency and demand response within the company at various Rhode Island grid modernization proceedings.
- Led the Rhode Island Energy Efficiency Collaborative; a group focused on reaching consensus regarding energy efficiency plans and policy issues for demand-side resources in Rhode Island.
- Managed evaluations of National Grid's residential energy efficiency programs in Rhode Island, and benefit-cost models to screen energy efficiency measures.

**Citizens for Pennsylvania's Future**, Philadelphia, PA. *Senior Energy Policy Analyst*, 2005–2013.

- Played a vital role in several legislative victories in Pennsylvania, including passage of energy conservation legislation that requires utilities to reduce overall and peak demand for electricity (2009); passage of the \$650 million Alternative Energy Investment Act (2008); and important amendments to the Alternative Energy Portfolio Standards law vital to the development of solar energy in Pennsylvania (2007).
- Performed market research and industry investigation on emerging energy resources including wind, solar, energy efficiency and demand response.
- Planned, facilitated and participated in wind energy advocates training meetings, annual partners retreat with members of wind and solar companies, and the PennFuture annual clean energy conference.

**Northeast Energy Efficiency Partnerships, Inc.**, Lexington, MA. *Research and Policy Analyst*, 2004–2005.

- Drafted comments and testimony on various state regulatory and legislative actions pertaining to energy efficiency.
- Tracked energy efficiency initiatives set forth in various state climate change action plans, and federal and state energy regulatory developments and requirements.
- Participated in Regional Greenhouse Gas Initiative (RGGI) stakeholder meetings.
- Analyzed cost-effectiveness of various initiatives within the organization.

**EnviroBusiness, Inc.**, Cambridge, MA. *Environmental Scientist*, July 2000 – May 2001

- Conducted pre-acquisition assessments/due diligence assignments for properties throughout New England. Environmental assessments included an analysis of historic properties, wetlands, endangered species habitat, floodplains, and other areas of environmental concern and the possible impacts of cellular installations on these sensitive areas.

## EDUCATION

**Tufts University**, Medford, MA

Master of Arts; Environmental Policy and Planning, 2004.

**Colgate University**, Hamilton, NY

Bachelor of Arts; Environmental Geography, 2000, *cum laude*.

## PUBLICATIONS

Fortman, N., J. Michals, T. Woolf, C. Lane. 2022. *Benefit-Cost Analysis: What it Can and Cannot Tell us About Distributional Equity of DERs*. E4TheFuture, Synapse Energy Economics. Presented at the 2022 ACEEE Summer Study of Energy Efficiency in Buildings.

National Energy Screening Project. 2022. *Methods, Tools and Resources: A Handbook for Quantifying Distributed Energy Resource Impacts for Benefit-Cost Analysis*. E4TheFuture, Synapse Energy Economics, Parmenter Consulting, Apex Analytics, Energy Futures Group.

Woolf, T., D Bhandari, C. Lane, J. Frost, B. Havumaki, S. Letendre, C. Odom. 2021. *Benefit-Cost Analysis of the Rhode Island Community Remote Net Metering Program*. Synapse Energy Economics for the Rhode Island Division of Public Utilities and Carriers.

Lane, C., S. Kwok, J. Hall, I. Addleton. 2021. *Macroeconomic Analysis of Clean Vehicle Policy Scenarios for Illinois*. Synapse Energy for the Natural Resources Defense Council.

National Energy Screening Project. 2020. *National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources*. E4TheFuture, Synapse Energy Economics, Energy Futures Group, ICF, Pace Energy and Climate Center, Schiller Consulting, Smart Electric Power Alliance.

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Lane, C., K. Takahashi. 2020. *Rate and Bill Impact Analysis of Rhode Island Natural Gas Energy Efficiency Programs*. Synapse Energy Economics for National Grid.

Chang, M., J. Frost, C. Lane, S. Letendre, PhD. 2020. *The Fixed Resource Requirement Alternative to PJM's Capacity Market: A Guide for State Decision-Making*. Synapse Energy Economics for the State Energy & Environmental Impact Center at the NYU School of Law.

## TESTIMONY

**New Mexico Public Regulation Commission (Case No. 22-00058-UT):** Direct Testimony of Courtney Lane regarding the application of Public Service Company of New Mexico's for authorization to implement grid modernization. On behalf of the New Mexico Office of Attorney General. January 27, 2023.

**Illinois Commerce Commission (Dockets 22-0432/22-0442 (Consol.)):** Direct and Rebuttal Testimony of Courtney Lane and Eric Borden regarding the petition of Commonwealth Edison Company for Approval of Beneficial Electrification Plan Under the Electric Vehicle Act. On behalf of the People of the State of Illinois. September 22, 2022 and November 16, 2022.

**Illinois Commerce Commission (Docket No. 22-0431/22-0443):** Direct and Rebuttal Testimony of Courtney Lane and Eric Borden regarding the petition of Ameren Illinois Company for Approval of Beneficial Electrification Pursuant to Section 45 of the Electric Vehicle Act. On behalf of the People of the State of Illinois. September 15, 2022 and November 7, 2022.

**New Mexico Public Regulation Commission (Case No. 21-00178-UT):** Direct Testimony of Courtney Lane regarding the application of Southwestern Public Service Company's for authorization to implement grid modernization. On behalf of the New Mexico Office of Attorney General. October 11, 2022.

**Public Service Commission of Wisconsin (Docket 5-UR-110):** Direct and Surrebuttal Testimony of Courtney Lane regarding the Joint Application of Wisconsin Electric Power Company and Wisconsin Gas, LLC for Authority to Adjust Electric, Natural Gas, and Steam Rates. On behalf of Clean Wisconsin. September 9, 2022 and October 3, 2022.

**Maryland Public Service Commission (Docket No. 9681):** Direct Testimony of Courtney Lane regarding the application of Delmarva Power & Light Company for an Electric Multi-Year Plan. On behalf of the Maryland Office of People's Counsel. August 19, 2022.

**New Mexico Public Regulation Commission (Case No. 21-00269-UT):** Testimony of Courtney Lane in Support of Unopposed Comprehensive Stipulation regarding the Application of El Paso Electric Company for Approval of a Grid Modernization Project to Implement an Advanced Metering System. On behalf of the New Mexico Office of Attorney General. May 11, 2022.

**Public Utilities Commission of New Hampshire (Docket No. DG 21-104):** Direct Testimony of Courtney Lane and Ben Havumaki regarding Northern Utilities, Inc.'s request for change in rates. On behalf of the Office of Consumer Advocate. April 1, 2022.

**Public Utilities Commission of New Hampshire (Docket No. DE 20-092):** Direct Testimony of Courtney Lane and Danielle Goldberg regarding the 2021-2023 Triennial Energy Efficiency Plan. On behalf of the Office of Consumer Advocate. April 19, 2022.

**Maryland Public Service Commission (Docket No. 9655):** Direct and Surrebuttal Testimony of Courtney Lane regarding the application of Potomac Electric Company for a Multi-Year Plan and Performance Incentive Mechanisms. On behalf of the Maryland Office of People's Counsel. March 3, 2021 and April 20, 2021.

**Pennsylvania Public Utility Commission (Docket No. M-2020-3020830):** Direct testimony of Alice Napoleon and Courtney Lane regarding PECO Energy Company's proposed Act 129 Phase IV Energy Efficiency and Conservation Plan. On behalf of the Natural Resources Defense Council. January 14, 2021.

**Maryland Public Service Commission (Case No. 9645):** Direct and Surrebuttal Testimony of Courtney Lane regarding the Application of Baltimore Gas and Electric Company for an Electric and Gas Multi-Year Plan. On behalf of the Maryland Office of People's Counsel. August 14, 2020 and October 7, 2020.

**Maryland Public Service Commission (Case No. 9619):** Comments of Maryland Office of People's Counsel Regarding Energy Storage Pilot Program Applications, attached Synapse Energy Economics Report. June 23, 2020.

**Public Service Commission of the District of Columbia (Formal Case No. 1156):** Direct, Rebuttal, Surrebuttal, and Supplemental Testimony of Courtney Lane regarding the Application of Potomac Electric Power Company for Authority to Implement a Multiyear Rate Plan for Electric Distribution Service in the District of Columbia. On behalf of the District of Columbia Government. March 6, 2020, April 8, 2020, June 1, 2020, and July 27, 2020.

**Rhode Island Public Utilities Commission (Docket No. 4888):** Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2019 Energy Efficiency Program (EEP). On behalf of National Grid. December 11, 2018.

**Rhode Island Public Utilities Commission (Docket No. 4889):** Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2019 System Reliability Procurement Report (SRP). On behalf of National Grid. December 10, 2018.

**Rhode Island Public Utilities Commission (Docket No. 4755):** Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2018 Energy Efficiency Program (EEP). On behalf of National Grid. December 13, 2017.

**Rhode Island Public Utilities Commission (Docket No. 4684):** Oral testimony of Courtney Lane regarding the RI Energy Efficiency and Resource Management Council (EERMC) Proposed Energy Efficiency Savings Targets for National Grid's Energy Efficiency and System Reliability Procurement for the Period 2018-2020 Pursuant to §39-1-27.7. On behalf of National Grid. March 7, 2017.

**Rhode Island Public Utilities Commission (Docket No. 4684):** Oral testimony of Courtney Lane regarding National Grid's 2018-2020 Energy Efficiency and System Reliability Procurement Plan. On behalf of National Grid. October 25, 2017.

**Rhode Island Public Utilities Commission (Docket No. 4654):** Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2017 Energy Efficiency Program Plan (EPPP) for Electric & Gas. On behalf of National Grid. December 8, 2016.

**Rhode Island Public Utilities Commission (Docket No. 4580):** Oral testimony of Courtney Lane regarding the Narragansett Electric Co. d/b/a National Grid - 2016 Energy Efficiency Program Plan (EPPP) for Electric & Gas. On behalf of National Grid. December 2, 2015.

**Pennsylvania Public Utility Commission (Docket No. P-2012-2320369):** Direct testimony of Courtney Lane regarding the Petition of PPL Electric Utilities Corporation for an Evidentiary Hearing on the Energy Efficiency Benchmarks Established for the Period June 1, 2013 through May 31, 2016. On behalf of PennFuture. October 19, 2012.

**Pennsylvania Public Utility Commission (Docket No. P-2012-2320334):** Direct testimony of Courtney Lane regarding the Petition of PECO Energy for an Evidentiary Hearing on the Energy Efficiency Benchmarks Established for the Period June 1, 2013 through May 31, 2016. On behalf of PennFuture. September 20, 2012.

**Pennsylvania Public Utility Commission (Docket No. I-2011-2237952):** Oral testimony of Courtney Lane regarding the Commission's Investigation of Pennsylvania's Retail Electricity Markets. On behalf of PennFuture. March 21, 2012.

**Committee on the Environment Council of the City of Philadelphia (Bill No. 110829):** Oral testimony of Courtney Lane regarding building permitting fees for solar energy projects. On behalf of PennFuture. December 5, 2011.

**Pennsylvania Public Utility Commission (Docket No. M-00061984):** Oral testimony of Courtney Lane regarding the En Banc Hearing on Alternative Energy, Energy Conservation, and Demand Side Response. On behalf of PennFuture. November 19, 2008.

## PRESENTATIONS

Lane, C. 2021. "Accounting for Interactive Effects: Assessing the Cost-Effectiveness of Integrated Distributed Energy Resources." Presentation at the 2021 American Council for an Energy-Efficient Economy (ACEEE) National Conference on Energy Efficiency as a Resource, October 27, 2021.

Lane, C. 2019. "The RI Test." Presentation for AESP Webinar: Emerging Valuation Approaches in Cost-Effectiveness and IRPs, October 31, 2019.

Lane, C., A. Flanders. 2017. "National Grid Rhode Island: Piloting Wireless Alternatives: Forging a Successful Program in Difficult Circumstances." Presentation at the 35th Annual Peak Load Management Association (PLMA) Conference, Nashville, TN, April 4, 2017.

Lane, C. 2013. "Regional Renewable Energy Policy Update." Presentation at the Globalcon Conference, Philadelphia, PA, March 6, 2013.

Lane, C. 2012. "Act 129 and Beyond." Presentation at the ACI Mid-Atlantic Home Performance Conference, October 1, 2012.

Lane, C. 2012. "Act 129: Taking Energy Efficiency to the Next Level." Presentation at the Energypath Conference, June 28, 2012.

Lane, C. 2011. "Pennsylvania's Model Wind Ordinance." Presentation at Harvesting Wind Energy on the Delmarva Peninsula, September 14, 2011.

Lane, C. 2011. "Electric Retail Competition and the AEPS." Presentation at the Villanova Law Forum, November 4, 2011.

Lane, C. 2009. "Act 129: Growing the Energy Conservation Market." Presentation at the Western Chester County Chamber of Commerce, March 25, 2009.

*Resume updated June 2023*

**Baltimore Gas and Electric Company's Application for an Electric  
School Bus Pilot Program**

**Case No. 9696**

**Data Responses Referenced in the Direct Testimony of  
Courtney Lane**

BGE Response to OPC 01-01

BGE Response to OPC 01-02

BGE Response to OPC 01-03

BGE Response to OPC 01-06

BGE Response to OPC 01-10

BGE Response to OPC 01-15

BGE Response to OPC 01-16

BGE Response to OPC 01-17

BGE Response to OPC 01-18

BGE Response to OPC 01-23

BGE Response to OPC 01-24

BGE Response to OPC 01-25

BGE Response to OPC 01-27

BGE Response to OPC 01-29

\* The confidential attachment to this response is too voluminous to attach here but is incorporated by reference. \*

BGE Response to OPC 02-01

BGE Response to OPC 02-04

BGE Response to OPC 02-05

BGE Response to OPC 02-06

BGE Response to OPC 02-07

BGE Response to OPC 02-08

BGE Response to OPC 02-10

BGE Response to OPC 02-11

BGE Response to OPC 02-15

BGE Response to OPC 02-16

BGE Response to OPC 02-21

BGE Response to OPC 02-23

BGE Response to Staff 01-01

BGE Response to Staff 01-06

BGE Response to Staff 01-11

BGE Response to Staff 01-21

BGE Response to Staff 02-07

BGE Response to Staff 02-16

BGE Response to Staff 03-13



**Item No. OPCDR01-01:**

Refer to the Environmental Protection Agency (EPA) EVSB funding discussed on page 5 of the EVSB March Proposal.

- a. Please provide a list of all EPA EVSB funding opportunities available to the Maryland Department of the Environment (MDE).
- b. How does BGE anticipate EPA funds complementing BGE's proposed EVSB Pilot Program?
- c. Do any of these opportunities provide funding for the same categories as included in Table 2 of BGE's EVSB March Proposal? If yes, please list the EPA funding opportunity and associated funding level for each BGE category.
- d. Is BGE eligible to apply for EPA EVSB funds? If yes, please provide a list of those funding opportunities and indicate whether BGE has applied or is planning to apply for funding.
- e. Would EPA EVSB funding be able to offset the costs of BGE's EVSB Pilot Program? If yes, please explain how. If no, please explain why not.

**RESPONSE:**

- a. Currently, BGE is aware of the EPA funding found at the link below. BGE is not aware whether this funding is available to MDE.
- b. <https://www.epa.gov/cleanschoolbus/clean-school-bus-program-grants>
- c. BGE will continue to review federal and state funding available to schools and bus operators and encourage their participation in those offerings. BGE will ensure that any funding received from other entities is factored into the amount BGE pays to the school or bus operator. BGE will not rebate individual bus units or equipment units if those units are being fully covered by another funding source or grant/rebate program.
- d. Yes, the Federal EPA program funding covers up to \$395,000 per bus and charging infrastructure for buses serving one or more of the prioritization criteria. For buses serving schools outside of the prioritization criteria, recipients receive up to \$250,000 per bus and charging infrastructure.
- e. No, BGE is not eligible to apply for these current funding opportunities.
- f. No, EPA EVSB funding would not offset the costs of BGE's EVSB Pilot Program. As a preliminary matter, BGE is not eligible to apply for EPA funding to offset the cost of BGE's EVSB Pilot Program. To the extent that an applicant receives full funding from the

EPA for a bus unit, any BGE funding would be applied to an additional bus unit. Therefore, there will be no overlap in funding from BGE and the EPA.

**Item No. OPCDR01-02:**

Refer to page 6 of BGE’s EVSB March Proposal, which states “BGE reviewed the specifics of relevant existing EVSB programs.”

- a. Please provide a list of all existing EVSB programs reviewed by BGE including associated commission docket numbers and links to program websites.
- b. For each EVSB program listed in response to (a), please indicate whether the program utilized federal or state funding.
- c. Please describe all ways in which BGE’s proposed EVSB Pilot Program differs from each EVSB program listed in response to (a).

**RESPONSE:**

The following are existing EVSB programs reviewed by BGE:  
a&b.

Program	Docket	Website	Funding
Duke Energy	NC: DOCKET NO. E-2, SUB 1197 DOCKET NO. E-7, SUB 1195 SC: 2018-321-E	<a href="https://www.duke-energy.com/business/products/park-and-plug/electric-school-buses">https://www.duke-energy.com/business/products/park-and-plug/electric-school-buses</a>	Funded by Rate payers
NV Energy	Docket No. 21-09004	<a href="https://www.nvenergy.com/cleanenergy/electric-vehicles/school-buses">https://www.nvenergy.com/cleanenergy/electric-vehicles/school-buses</a>	Funded by Rate payers
Dominion Energy (VA)	Case PUR-2020-00035	<a href="https://www.dominionenergy.com/virginia/save-energy/electric-school-buses">https://www.dominionenergy.com/virginia/save-energy/electric-school-buses</a>	Funded by Rate payers
ConEdison	Case 14-M-0101	<a href="https://www.coned.com/en/about-us/media-center/news/2022/04-12/con-edison-and-partners-go-to-school-with-findings-from-e-school-bus-project">https://www.coned.com/en/about-us/media-center/news/2022/04-12/con-edison-and-partners-go-to-school-with-findings-from-e-school-bus-project</a>	Funded by Rate payers
Portland General Electric	Docket No: UM 1811	<a href="https://portlandgeneral.com/energy-choices/electric-vehicles-charging/funding-your-ev-or-charging-project/pg-e-electric-school-bus-fund">https://portlandgeneral.com/energy-choices/electric-vehicles-charging/funding-your-ev-or-charging-project/pg-e-electric-school-bus-fund</a>	Funded by Rate payers

National Grid (MA)	Unknown	<a href="https://www.nationalgridus.com/MA-Business/Energy-Saving-Programs/ConnectedSolutions">https://www.nationalgridus.com/MA-Business/Energy-Saving-Programs/ConnectedSolutions</a>	Funded by Rate payers
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c. BGE’s Pilot Program proposal was specifically designed to comply with the requirement of the CSNA. Thus, BGE’s program is unique in many ways. The following is a list of some of the ways in which BGE’s pilot program differs from those offered by other utilities:

- Per the CSNA, BGE is required to cover incremental increase in cost of acquiring EVSBs instead of fossil-fuel-powered school buses. Some utilities use a different methodology of calculating the EVSB incentive amounts.
- The number of EVSB rebates provided in each program is different. BGE started with the \$50 million in funds per the CSNA and allocated it year over year with the expectation that the number of program applications will increase year to year based on school system readiness.
- BGE is required to demonstrate vehicle-to-grid technology with the rebated EVSBs per the guidance in the CSNA. Not all programs require the rebated buses to participate in vehicle-to-grid demonstrations.
- BGE’s use of the EVSB’s for vehicle-to-grid demonstrations may differ from that of other utilities. BGE is committed to supporting EVSB adoption in ways that will facilitate the Company’s ability to harness the power of latent vehicle battery capacity for the benefit of all customers. This could include facility resiliency support, distribution grid reliability support, or wholesale market participation. Speaking with National Grid in Massachusetts and Dominion in Virginia, BGE learned about the active Vehicle-to-Grid demonstrations with EVSBs. BGE confirmed through these pilots that the needs of the grid can vary geographically and EVSBs across the country will be used in different ways depending on the grid needs. This information helped inform the number of use cases BGE could pursue with EVSBs for V2G benefits.
- BGE is not required to and does not propose to own the battery after the useful life of the school bus. Both Duke and Dominion plan to retain rights to the battery after use.

**Item No. OPCDR01-03:**

Please explain what is meant by “considering sizing criteria prioritization metrics for charging hubs” on page 6 of BGE’s EVSB March Proposal.

**RESPONSE:**

When reviewing applications for BGE’s pilot program, BGE will consider charging equipment installation costs associated with siting bus depots. For example, BGE will evaluate the service extension costs for each application as a factor for determining which projects move forward. If one applicant’s installation cost is much higher than another due to location, the applicant with the lower installation cost may receive greater preference.

**Item No. OPCDR01-06:**

Refer to BGE’s proposal to allocate at least 20% of program resources to “underserved or health-impacted communities” on page 8 of the EVSB March Proposal.

- a. Please provide BGE’s specific definitions for “underserved communities” and “health-impacted communities.”
- b. Please describe the basis for this allocation and provide all supporting documents used to inform the 20% allocation level.
- c. Did BGE consider a higher allocation? If yes, please explain why BGE chose not to propose a higher allocation. If no, please explain why BGE did not consider a higher allocation.

**RESPONSE:**

- a. BGE defines underserved areas and/or health-impacted communities as applicants that meet one or more of the criteria below:
  - Locations of Title 1 schools
  - Locations of bus depots and bus routes serving Title 1 schools
  - Locations of schools with highest concentrations of Free-Reduced-Price meal recipients
  - Locations of bus depots and bus routes serving those schools with highest concentrations of Free-Reduced-Price meal recipients
  - Census tracts that are majority LMI
- b. In setting the minimum requirement for resources to be designated to underserved or health-impacted communities, BGE sought to balance the need of these communities with their ability to actually use the resources. Based on Census Tract data, 20% of the tracts in BGE’s service territory are greater than 60% low-income residents. The largest concentration of underserved communities in the BGE service territory is in Baltimore City. However, the Baltimore City Public School system (Baltimore City PSS) has a small school bus fleet relative to the student population, because many students either walk or take public transit to school. Furthermore, Baltimore City PSS is already a recipient of United States Environmental Protection Agency grant funds to deploy a fleet of 25 school buses in 2023-2024. Nonetheless, Baltimore City PSS is, and will continue to be, a target and key participant for BGE’s program. Finally, BGE leveraged the fact that a 20% allocation of funds to underserved communities is used for other EVsmart offerings.
- c. BGE believes that requiring more than 20% of buses to be allocated to underserved or health-impacted communities would be too restrictive and would slow down the process of getting electric school buses on the road.

**Item No. OPCDR01-10:**

Please explain what is meant by “up to 100%” of the cost of electric vehicle supply equipment (EVSE) on page 10 of the EVSB March Proposal and when BGE would rebate less than 100% of the cost.

**RESPONSE:**

BGE would fund less than 100% of the cost of electric vehicle supply equipment if an applicant received partial funding from another entity for the same equipment.

**Item No. OPCDR01-15:**

Refer to page 11 of the EVSB March Proposal, which states that “BGE will work with the applicants to assess existing EVSB depot locations for electrification to attain maximum benefit to the grid and therefore the applicant.”

- a. How many existing EVSB depot locations exist in Maryland?
- b. What is meant by “maximum benefit to the grid”?

**RESPONSE:**

- a. The information requested is not within BGE’s custody, possession, or control.
- b. “Maximum benefit to the grid” means harnessing the power of latent vehicle battery capacity for the benefit of all customers. EVSBs could be used for facility resiliency support, such as providing back up power for resiliency hubs, mobile power support for underserved communities during adverse weather events, and/or a backup power option for a school. EVSBs could also be used to enhance distribution grid reliability. Finally, BGE will pursue available wholesale market options to harness value from the bus batteries. The location of the bus depot in the application may make one of these options more advantageous than another depot location.



**Item No. OPCDR01-16:**

Refer to BGE's proposed General and Administrative Transition Cost Rebate described on pages 11-12 of the EVSB March Proposal.

- a. How did the BGE determine the 5% rebate limit? Please provide all supporting workpapers.
- b. What did BGE assume to be the average dollar value of an applicant's overall rebate package?
- c. Has BGE estimated the amount of gross general and administrative transition costs that school districts transitioning to EVSBs will incur? If so, please describe the basis of that estimate and provide all supporting workpapers.
- d. Has BGE estimated the amount of general and administrative transition savings that school districts transitioning to EVSBs will incur? If so, please describe the basis of that estimate and provide all supporting workpapers.
- e. Do bus dealers and Original-Equipment-Manufacturers (OEMs) currently offer training for bus operators? If yes, is the training provided free of charge to school systems that purchase EVSBs? If no, how will BGE support the development of this training?
- f. Please explain the IT systems school districts will need to support, whether school districts will need to purchase those systems, and whether school districts will need additional full-time employees to support the systems.

**RESPONSE:**

- a. BGE considered the most likely uses of this funding, which could be: 1) training for bus operators, drivers, and other school system or contractor staff; and/or 2) retention or addition of IT, maintenance, repair, and/or technical staff to support the transition to EV school buses. When considering the amount of funding for these types of activities, BGE considered similar General and Administrative (G&A) rebates found in other school bus rebate programs across the country. For example, NV Energy's school bus rebate program provided rebates up to 5% of total requested incentives for costs related to technical training on bus operations and maintenance to school district staff. Each customer will be required to demonstrate to BGE their specific plan including itemized cost estimates to use G&A rebate funding over the term of the pilot agreement to receive this funding.

- b. BGE estimates the average funding package per bus would be \$355,000, therefore the average G&A funds per bus unit will be approximately \$17,750.
- c. BGE does not have this information. These costs can vary by school district.
- d. BGE has not estimated the potential savings a school district may see when transitioning to EVSB.
- e. In talking with other utilities about their EVSB programs, BGE learned that in some cases OEMs will provide safety training on their technology. Additional training may be provided by OEMs upon request by the school district; however, BGE is not aware of the cost of this training. Speaking with OEMs during the development of this proposal, they shed light on the importance of training for all personnel related to operating and servicing the end-to-end EVSB system. BGE believes that supporting a robust training and education program is critical to the successful and timely adoption of EVSBs.
- f. School districts must have an IT system in order to receive telematics or charging data necessary for this pilot program. BGE is not aware whether this would require additional personnel to support this software per school district. Applicants have the ability to procure the EVSB from a variety of suppliers, BGE is not aware whether this IT system will be included in the purchase price of the bus.

**Item No. OPCDR01-17:**

What is the annual turnover of new bus purchases per year, per school system in Maryland? If the annual turnover is not known, please provide the average turnover or answer to the best of your ability.

**RESPONSE:**

BGE does not possess the information requested. Pursuant to House Bill 492, school buses operating in Maryland have a 15 year life span. BGE would imagine, that the number of school buses that reach this life or are retired for reasons other than reaching the end of their useful life varies from county to county each year and is therefore unknown.

**Item No. OPCDR01-18:**

How did BGE determine the appropriate number of new EVSB purchases to rebate in each year of the EVSB March Proposal?

**RESPONSE:**

BGE started with the \$50 million in funds and allocated it year over year with the expectation that the number of program applications will increase year to year based on school system readiness. Given the current market cost differential between an electric school bus and conventional fossil fuel-powered school bus, BGE estimates that the \$50 million could be used to purchase approximately 200 school buses over the 5-year pilot period.

**Item No. OPCDR01-23:**

Regarding the potential applications of Vehicle-2-Everything (V2X) for BGE's grid and customers as discussed on pages 12 to 14 of the EVSB March Proposal, please answer the following:

- a. Is it possible for a V2X-capable EVSB to be used for all the following applications: resiliency, grid regulation and feeder support, and provide PJM wholesale energy and ancillary service markets? If not, how will BGE prioritize which application to use?
- b. How will BGE balance whether to utilize V2X to provide grid regulation and feeder support with allowing school systems to utilize V2X for community needs such as mobile power support and resiliency?
- c. Who has first rights over the use of the V2X-capable EVSB, the school system or BGE? Please explain your response.
- d. Are there additional costs to the school system to utilize a V2X-capable EVSB for back-up power at a school? For example, are there needed electrical upgrades or other infrastructure required. If yes, please explain whether BGE's proposed EVSB Pilot Program covers these costs.

**RESPONSE:**

- a. It is potentially possible to use the buses for all of these use cases at different times. BGE will evaluate how best to utilize the bus based on its location and the applicable application of V2X.
- b. After BGE is able to assess the ability to participate in PJM markets, BGE will propose a V2X structure to the Commission.
- c. BGE has first rights to use the bus as V2X based on the conditions of the rebate. BGE will have to work with the school districts to ensure any V2X applications do not impact scheduled bus routes.
- d. Yes, additional infrastructure would be required to utilize V2X-capable EVSB for backup power at a school. BGE does plan to cover these costs within the charger and infrastructure budget.

**Item No. OPCDR01-24:**

Refer to the discussion of available PJM wholesale market options on pages 13 and 14 of the EVSB March Proposal and answer the following:

- a. Does BGE plan to bid V2X resources into the PJM markets itself or contract with a third-party aggregator?
- b. Are there additional costs associated with participation in these PJM markets that are not included in the proposal? If yes, please provide an estimate of those costs and how they will be recovered.
- c. Does BGE plan to use any resulting PJM market revenues from V2X to offset the cost of the program? If yes, please explain how cost reductions will be passed on to ratepayers or school districts. If no, please explain why not.
- d. What are the minimum size requirements for V2X for direct market participation?
- e. Please provide examples of other utilities that have successfully bid in V2X into PJM or other wholesale markets.

**RESPONSE:**

- a. BGE is not sure whether we will bid this resource into the PJM market ourselves or utilize a third-party aggregator. BGE will assess the program to determine if there is an opportunity to optimize the program's value in the PJM wholesale markets, which may include the energy and ancillary markets or in some combination.
- b. At this time, BGE does not know whether there are additional costs associated with participation in PJM markets.
- c. Program costs will be offset by revenues received from the PJM wholesale markets.
- d. PJM's minimum size requirement for direct market participation is 0.10 MW.
- e. BGE is not aware of any other utilities that have successfully bid V2X into wholesale markets. In the past, the federal regulatory environment did not allow for this kind of market participation. However, recently issued FERC Order 2222 looks to enable this type of market participation in the coming years. For now, demonstrations in places such as New York, Massachusetts, and Virginia are looking at distribution level benefits of EVSBs.

**Item No. OPCDR01-25:**

Please refer to BGE's proposal for program funds to be accounted for as regulatory assets, except for \$600,000 within the 'Make-Ready-Rebate' category on page 14 of the EVSB March Proposal and provide the following information:

- a. Please explain how BGE determined five years to be the appropriate amortization period.
- b. Did BGE consider alternative forms of cost recovery other than regulatory asset treatment? If yes, please explain why BGE determined to propose regulatory asset treatment. If no, please explain why BGE did not consider alternatives.
- c. In Microsoft Excel, please provide the annual revenue requirement for the program funds that BGE proposes to be accounted for as regulatory assets. This should be provided for the entire proposed five-year amortization period of the proposal on an annual basis. Please include in the response all supporting workpapers, calculations, and assumptions in Excel with formulas intact.
- d. In Microsoft Excel, please provide the annual revenue requirement for BGE's proposal, assuming these program funds are treated as an expense and not a regulatory asset. Please include in the response all supporting workpapers, calculations, and assumptions in Excel with formulas intact.
- e. In Microsoft Excel with formulas intact, please provide BGE's current Weighted Average Cost of Capital (WACC). Please provide all sub-components for how this is calculated, including, but not limited to, return on equity percentage, cost of debt percentage, and capital structure (equity versus debt percent).

**RESPONSE:**

- a. As discussed in the Direct Testimony of Company Witness Frain in BGE's Case No. 9692 MYP filing, BGE is requesting to amortize the regulatory asset over a 5-year period consistent with the amortization period granted by the Commission for the EV Pilot program in accordance with Order No. 88997 in Case No. 9478, and Order No. 89678 in Case No. 9645.
- b. BGE considered regulatory asset treatment for the recovery of the EVSB Program costs to be consistent with the regulatory asset treatment provided for other EV programs in Case

No. 9478. In proposing a regulatory asset for the EVSB program, the Company considered that deferring the costs in a regulatory asset and amortizing the regulatory asset over 5 years would also better align the recovery of costs with the period over which the pilot would be completed, rather than building the costs of the program into customer rates all at one time.

- c. Please refer to *OPCDR01-25-Attachment 1* for the annual revenue requirement for the program funds as presented in the Direct Testimonies of Company Witnesses Fleischmann Groncki and Frain, which BGE proposes to be accounted for as a regulatory asset over the entire proposed five-year amortization period of the proposal.
- d. Please refer to *OPCDR01-25-Attachment 2* for the annual revenue requirement for BGE's proposal, assuming these program funds presented in subpart c above are treated as a one-time expense and not a regulatory asset.
- e. Please refer to *OPCDR01-25-Attachment 1* page 2 of 2 for BGE's current Weighted Average Cost of Capital.



**EVSB Program Regulatory Asset Treatment Revenue Requirement**

	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>
EVSB Program Regulatory Asset Spend Deferred*	\$ 11,387,063	\$ 19,377,575	\$ 19,402,575	\$ 25,452,875				
Amortization - 2024 EVSB Regulatory Asset Spend	(1,138,706)	(2,277,413)	(2,277,413)	(2,277,413)	(2,277,413)	(1,138,706)		
Amortization - 2025 EVSB Regulatory Asset Spend	-	(1,937,758)	(3,875,515)	(3,875,515)	(3,875,515)	(3,875,515)	(1,937,758)	
Amortization - 2026 EVSB Regulatory Asset Spend	-	-	(1,940,258)	(3,880,515)	(3,880,515)	(3,880,515)	(3,880,515)	(1,940,258)
Amortization - 2027 EVSB Regulatory Asset Spend	-	-	-	(2,545,288)	(5,090,575)	(5,090,575)	(5,090,575)	(5,090,575)
Reg Asset Balance as of 12/31	\$10,248,357	\$25,410,762	\$ 36,720,152	\$ 49,594,296	\$ 34,470,279	\$ 20,484,968	\$ 9,576,120	\$ 2,545,288
ADIT	(2,820,092)	(6,992,406)	(10,104,468)	(13,647,111)	(9,485,359)	(5,636,951)	(2,635,109)	(700,399)
Terminal Rate Base as of 12/31	\$ 7,428,265	\$ 18,418,355	\$ 26,615,684	\$ 35,947,186	\$ 24,984,920	\$ 14,848,017	\$ 6,941,011	\$ 1,844,888
Average Rate Base as of 12/31	\$ 3,714,133	\$ 12,923,310	\$ 22,517,020	\$ 31,281,435	\$ 30,466,053	\$ 19,916,468	\$ 10,894,514	\$ 4,392,950
Proposed ROR - CN9692, Grossed Up	8.86%	8.86%	8.86%	8.86%	8.86%	8.86%	8.86%	8.86%
Return	\$ 328,989	\$ 1,144,715	\$ 1,994,502	\$ 2,770,832	\$ 2,698,608	\$ 1,764,152	\$ 965,009	\$ 389,117
Amortization Expense	1,138,706	4,215,170	8,093,185	12,578,730	15,124,018	13,985,311	10,908,848	7,030,833
Tax Effect	(313,344)	(1,159,909)	(2,227,042)	(3,461,352)	(4,161,752)	(3,848,408)	(3,001,842)	(1,934,709)
Amortization Expense, Net of Tax	825,363	3,055,261	5,866,143	9,117,378	10,962,266	10,136,903	7,907,005	5,096,123
EVSB Regulatory Asset Revenue Requirement	\$ 1,497,768	\$ 5,471,209	\$ 10,301,430	\$ 15,681,769	\$ 18,222,054	\$ 16,118,818	\$ 12,161,961	\$ 7,605,635

\* Per the Regulatory Asset spend included in the EVSB Program costs as outlined on page 21 of Company Witness Fleishman Groncki's Direct Testimony.

**BALTIMORE GAS AND ELECTRIC**

Rate of Return Summary

CN9645 Currently Authorized Electric ROR	%	Cost	Wgtd	Net of Tax
Debt	48.0%	3.78%	1.81%	1.32%
Equity	52.0%	9.5%	4.94%	4.94%
Total			6.75%	6.26%
Conversion Factor				1.41608
Grossed Up ROR				8.86%

### EVSBS Program Spend - Expense Treatment Revenue Requirement

	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	
EVSBS Program Spend *	\$ 11,387,063	\$ 19,377,575	\$ 19,402,575	\$ 25,452,875	\$ 75,620,088
Amount Expensed	11,387,063	19,377,575	19,402,575	25,452,875	
Tax Effect	(3,133,435)	(5,332,224)	(5,339,104)	(7,003,995)	
Net of Tax	<u>8,253,628</u>	<u>14,045,351</u>	<u>14,063,471</u>	<u>18,448,880</u>	
EVSBS - Expense Treatment Revenue Requirement	<u>\$ 11,687,797</u>	<u>\$ 19,889,340</u>	<u>\$ 19,915,001</u>	<u>\$ 26,125,090</u>	

\* Per the Regulatory Asset spend included in the EVSBS Program costs as outlined on page 21 of Company Witness Fleishman Groncki's Direct Testimony.

**Item No. OPCDR01-27:**

Refer to the Program Budget in Table 2 on page 14 of the EVSB March Proposal.

- a. Please provide a breakout of the budget by year.
- b. Please explain the discrepancies between the Program Budget in Table 2 of the EVSB March Proposal and the program budget described in BGE's direct testimony in Case No. 9692. Specifically, please refer to Table 4, "EV Programs Regulatory Asset Spend," in the direct testimony of John C. Frain and the table for Project 84383, "BGE Electric Vehicle (EV) School Bus Program – Capital" in Exhibit DMV-6E to the direct testimony of David M. Vahos.
- c. Please explain which of the rebates listed in Table 2 BGE are subject to the \$50,000,000 limit in PUA § 7-217(c)(4).
- d. Did BGE's interpretation of the costs subject to this limit change between the filing of the rate case and the EVSB March proposal?

**RESPONSE:**

- a. Please see OPCDR01-27 *Attachment 1*.
- b. Since filing its proposed EVSB Program with the Commission, BGE has made updates to the program budget. First, BGE initially considered the costs for the program to be capital costs, but because BGE does not intend to own the EVSBs or the charging equipment the costs for these items are more appropriately categorized as costs to be included in a regulatory asset. Second, BGE used the average price for a 50kW DCFC at \$30,000, but after conversations with EVSB dealers, the average cost for a bi-directional 60kW charger, which most EVSBs use, is \$60,000. The change in the average DCFC price increased BGE's proposal budget from what was included in the Case 9692 filing.
- c. The first line in Table 2, titled "Electric School Bus Incremental Cost Rebate" is subject to the \$50 million limit.
- d. No, BGE has always believed that the CSNA considers the school bus rebates and the funds for charging infrastructure and equipment as separate and distinct.

**BGE Electric School Bus Pilot Program**

<b>Customer Rebates</b>					
<b>Bus Rebates</b>	2024	2025	2026	2027	Total
# Bus units	30	52	52	70	204
\$ Rebate/Bus	\$245,000	\$245,000	\$245,000	\$245,000	\$245,000
<i>Bus Rebates (Reg Asset)</i>	<i>\$7,350,000</i>	<i>\$12,740,000</i>	<i>\$12,740,000</i>	<i>\$17,150,000</i>	<i>\$49,980,000</i>
<b>EVSE and Make Ready Infrastructure</b>	30	52	52	65	199
\$/EVSE (DCFC bidirect cost)	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	
<b>EVSE Total (Reg Asset)</b>	<b>\$ 1,800,000</b>	<b>\$ 3,120,000</b>	<b>\$ 3,120,000</b>	<b>\$ 3,900,000</b>	<b>\$ 11,940,000</b>
\$/EVSE (installation)	\$30,000	\$30,000	\$30,000	\$30,000	
<b>EVSE Installation total (Reg Asset)</b>	<b>\$900,000</b>	<b>\$1,560,000</b>	<b>\$1,560,000</b>	<b>\$1,950,000</b>	<b>\$ 5,970,000</b>
Line side Make Ready	\$20,000	\$20,000	\$20,000	\$20,000	
<b>Line Side Make Ready Total (Capital)</b>	<b>\$600,000</b>	<b>\$1,040,000</b>	<b>\$1,040,000</b>	<b>\$1,300,000</b>	<b>\$ 3,980,000</b>
<i>Total EVSE and Make Ready Rebates</i>	<i>\$ 3,300,000</i>	<i>\$ 5,720,000</i>	<i>\$ 5,720,000</i>	<i>\$ 7,150,000</i>	<i>\$21,890,000</i>
<b>BGE Electric School Bus Pilot Program</b>	2024	2025	2026	2027	Total
<b>Incremental G&amp;A Rebates (Reg Asset)</b>	5%				
Up to 5% of Applicant Award	\$ 532,500	\$ 923,000	\$ 923,000	\$ 1,215,000	<b>\$3,593,500</b>
<i>Program Rebates Subtotal</i>	<i>\$11,182,500</i>	<i>\$19,383,000</i>	<i>\$19,383,000</i>	<i>\$25,515,000</i>	<i>\$75,463,500</i>
<b>EVSB Pilot Program Implementation Costs</b>					
<b>BGE Admin Program Expenses</b>					
Utility Admin	\$300,000	\$300,000	\$300,000	\$300,000	\$1,200,000
Program Implementation Support	\$200,000	\$200,000	\$200,000	\$200,000	\$800,000
Maintenance & Network	\$25,000	\$50,000	\$75,000	\$100,000	\$250,000
<b>Admin Expenses (Reg Asset)</b>	<b>\$525,000</b>	<b>\$550,000</b>	<b>\$575,000</b>	<b>\$600,000</b>	<b>\$2,250,000</b>
<b>BGE Marketing, Ed, Outreach Expenses</b>					
2.5% of program costs (Reg Asset)	0.025				
	\$279,563	\$484,575	\$484,575	\$637,875	<b>\$1,886,588</b>
<b>Total Implementation Costs</b>	<b>\$804,563</b>	<b>\$1,034,575</b>	<b>\$1,059,575</b>	<b>\$1,237,875</b>	<b>\$4,136,588</b>
Cost Recovery Categories					
Capital	\$ 600,000	\$ 1,040,000	\$ 1,040,000	\$ 1,300,000	\$ 3,980,000
Reg Asset	\$11,387,063	\$19,377,575	\$19,402,575	\$25,452,875	\$75,620,088
<b>Total Program Cost</b>	<b>\$11,987,063</b>	<b>\$20,417,575</b>	<b>\$20,442,575</b>	<b>\$26,752,875</b>	<b>\$79,600,088</b>

**Item No. OPCDR01-29:**

Refer to the Benefit Cost Analysis on page 15 of the March EVSB Proposal.

- a. Please provide a copy of the BCA conducted. Please provide the BCA in Excel readable format with all formulae intact and all associated workpapers.
- b. BGE's list of benefits does not include any public health benefits. Please explain why BGE chose not to include those benefits in its analysis.

**RESPONSE:**

- a. Please see OPCDR01-29 *Attachment 1* and Confidential OPCDR01-29 *Attachment 2*.
- b. BGE did include public health benefits of avoided pollutants.

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**Item No. OPCDR02-01:**

Refer to the Direct Testimony of Kristy F. Groncki on page 10, line 23 and page 11, lines 1-2 regarding BGE's local school system transportation partners.

- a. Which school systems did BGE speak with to inform the development of the Electric School Bus ("EVSB") Pilot Program ("EVSB Program")?
- b. How many of these school systems include underserved communities, high pollution-, or environmental justice communities?
- c. Has BGE identified the school systems with the largest number of "Title 1" schools? If no, please explain why not.

**RESPONSE:**

- a. BGE spoke with representatives in the following counties while developing the Electric School Bus Pilot Proposal:
  - Anne Arundel County
  - Harford County
  - Prince George's County
  - Carroll County
  - Baltimore County
  - Baltimore City
- b. Per BGE's response to OPCDR01-06(a), all of the school systems mentioned in subpart(a), above, include underserved communities.
- c. The list of 2022-2023 Title 1 Schools in Maryland can be found publicly available at the following URL:  
<https://marylandpublicschools.org/about/Pages/DSFSS/TitleI/Schools.aspx>

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**Item No. OPCDR02-04:**

Refer to the evaluation metrics listed on page 13 of the Direct Testimony of Kristy F. Groncki:

- a. How does BGE plan to track and report on the use of battery capacity in the PJM markets?
- b. How will BGE track and report on the use of batteries for resiliency support and enhancement of distribution reliability?
- c. Will BGE track the number of participants that also received federal funding? Please explain why or why not.
- d. Will BGE track and report on the average cost of make-ready and installation costs? Please explain why or why not.
- e. Will BGE provide a summary that details why customer applications were rejected? Please explain why or why not.
- f. Will BGE track and report on the number of diesel buses retired by school districts due to participation in the EVSB Program? Please explain why or why not.
- g. Will BGE provide a summary of its outreach and education activities to school districts and list of school districts engaged with as part of its mid-course and final report to the Commission? Please explain why or why not.

**RESPONSE:**

- a. When BGE determines specifically when and how we might bid battery capacity into the PJM markets for EVSBs under this program, we will be able to detail how the use of that battery capacity will be tracked.
- b. When BGE determines specifically when and how we might use EVSB battery capacity to support resiliency and reliability, it will be able to detail how the use of that battery capacity will be tracked.
- c. Yes. BGE will require applicants to this program to disclose federal funding for EVSBs that the applicant has received.
- d. Yes. BGE will track and report on average cost of make-ready and EVSE and infrastructure installation costs.
- e. No, BGE will not supply a summary that details why customer applications were rejected.
- f. BGE will ask that rebate recipients estimate in their application the number of diesel buses that would be retired due to receiving EVSB rebates. However, BGE will not require program participants to retire (a) diesel bus(es) as a precondition to receive funding for EVSBs.



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- g. Yes, BGE will provide a summary of outreach and educational activities as a part of its reports to the Commission on this program.

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**Item No. OPCDR02-05:**

Regarding the final report described on page 14 of the Direct Testimony of Kristy F. Groncki, please explain if BGE plans to provide the following information and explain why or why not:

- a. Summary of learnings from program participants based on a survey or other form of outreach.
- b. An assessment of non-participants including what barriers prevented school systems from applying to the EVSB program.

**RESPONSE:**

- a. Yes, BGE intends to summarize learnings from program participants in the final report.
- b. To the extent customers are willing to participate, BGE will engage with those jurisdictions who have chosen not to apply for pilot program funds and assess barriers that prevented them from applying to the EVSB program. BGE can report on those barriers to the Commission.

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**Item No. OPCDR02-06:**

Regarding the proposal to provide rebates to school system contractors, please answer the following:

- a. Did BGE speak with school bus contractors to understand how to overcome barriers to electrifying their fleets? If yes, please provide a summary of the key barriers. If no, please explain why not.
- b. Would the school system own and operate the charger to be used by the school bus contractor? Please explain.
- c. What would occur if the school bus contractor no longer served the school system? Would the EVSB remain with that contractor? Please explain your response.
- d. How will BGE ensure that the school bus contractor uses the EVSB within the BGE service territory?

**RESPONSE:**

- a. Yes, BGE has spoken to school bus contractors about EVSB adoption. This is a diverse business community; there are small, medium, and large businesses with widely varying fleet sizes, operating in very different types of environments. There are a diverse set of questions, concerns, and barriers.

The barriers BGE hears most consistently are:

- Bus Cost
  - Access to charging infrastructure
  - Reliability of charging infrastructure
  - Driving range of EVSBs
- b. If a school system is the applicant to the program, it would own all equipment funded under the program. If a contractor is the applicant to the program, it would own all equipment funded under the program.
  - c. A participating County/City School System would be responsible for ensuring that any EVSB rebated under this program is operated in that specific jurisdiction for the entire service life of the vehicle.
  - d. Contract terms would require that the applicant operate the buses rebated under this program to service students within BGE's service territory.

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**Item No. OPCDR02-07:**

Refer to page 16 of the Direct Testimony of Kristy F. Groncki and BGE response to Staff DR 1-11, which state “BGE will also continue to review federal and state funding available to schools and bus operators and encourage their participation in those offerings.”

- a. Please define the actions BGE will take to “encourage” participation.
- b. Will BGE provide outreach and education regarding federal and state funding opportunities along with its marketing related to the EVSB Program? Please explain.
- c. Will BGE provide links and information related to federal and state funding opportunities on the website landing page for the EVSB Program? Please explain why or why not?
- d. Did BGE consider making funding to school districts contingent on whether they have applied for Federal EPA program funding? Please explain why or why not.

**RESPONSE:**

- a. During the normal course of business, BGE interacts with EVSB stakeholders including schools and bus operators on a regular basis and, when appropriate, communicates information about other EVSB funding sources to those stakeholders. BGE will not restrict participation in this Utility EVSB program if an applicant has also participated in another funding program. To the extent that an applicant to the BGE EVSB program receives full funding for a bus unit from another government funding source, any BGE funding would be applied to an additional and separate bus unit. BGE would not restrict a participant in this program from seeking other government funding for the portion of a bus unit that BGE's program does not support.
- b. BGE will include guidance on where to find information on other EVSB government funding opportunities in any digital or written marketing material on the Utility EVSB program.
- c. Yes, BGE will link other government funding opportunities of which it is aware on the EVSB program landing page website.
- d. BGE did not consider making EVSB funding through this pilot program contingent on an applicant seeking or receiving government EVSB funding. Such a requirement would hinder rather than encourage participation in BGE’s EVSB program. Given the expense of bus electrification, BGE believes there is both a role for this Utility program as well as other funding opportunities given that the goal is to encourage EVSB adoption. Furthermore, the authorizing legislation does not require receipt of pilot funds to be contingent upon an applicant's attempt to obtain federal funds.

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**Item No. OPCDR02-08:**

Refer to page 17 of the Direct Testimony of Kristy F. Groncki, which states “the amount of funds provided to participants for make-ready and installation will be determined by the total amount of invoices submitted for the installation of the supporting EVSE.”

- a. Please explain this process in more detail.
- b. How will BGE determine the amount of funds?
- c. How does the total amount of invoices factor into the determination of funds?
- d. Will BGE not provide 100% of the funding needs should the total amount of invoices be too high? If yes, please explain if there is a cap on how much BGE will fund per participant? If no, please explain.

**RESPONSE:**

- a. BGE will assess a customer’s application, create an estimated funding package for the customer based on quotes, and then issue funding to the customer based on invoices from equipment delivered and/or work completed.
- b. BGE will determine use invoices received for the work completed and equipment purchased to determine the final funding amount.
- c. BGE would provide funding for the total amount of the invoices submitted provided the invoices only include work performed and equipment purchased compliant with the terms of this EVSB Utility program.
- d. There is no specific funding cap for make ready and EVSE installation costs. During the application process, BGE will develop an estimated funding package based on estimates to install the infrastructure to ensure that project costs align with the available funding.

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**Item No. OPCDR02-10:**

Refer to page 19 of the Direct Testimony of Kristy F. Groncki, which states “these deployment priorities will enable BGE to evaluate community and customer satisfaction and respond to any feedback received.”

- a. Please explain what type of feedback BGE seeks to obtain from customers.
- b. Will evaluation of community and customer satisfaction only pertain to participants? How will BGE evaluate communities that did not participate?
- c. Did BGE conduct any outreach to underserved communities and environmental justice communities to inform this application for an EVSB Program? If yes, please explain what BGE found from this outreach. If no, please explain why not.

**RESPONSE:**

- a. BGE would like to obtain feedback from customers (e.g., school transport department employees, teachers, other school staff, students, parents, bus contractors, and bus drivers) who make up the communities most involved in school system activities, especially in jurisdictions that have pursued EVSB adoption through this program.

BGE would like input on topics such as, but not limited to:

- Bus performance
  - Charging performance
  - User (student & driver) experience
- b. Please see BGE’s response to OPCDR02-05(b).
  - c. Yes, BGE consulted members of the underserved/environmental justice advocacy community in preparation for filing this program application both as a part of the PSC EV work group meetings and outside of work group meetings. Additionally, Baltimore City Public Schools was the only Maryland recipient of 2022 EPA EVSB funds targeted to disadvantaged communities, and BGE has held several conversations with relevant officials within Baltimore City Public Schools over the course of developing this program.

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**Item No. OPCDR02-11:**

Refer to page 19 of the Direct Testimony of Kristy F. Groncki, which states “BGE can better allow funds to remain available to those jurisdictions who have had fewer resources to develop an electrification plan, or for any reason are still in the conception or early program design stages of their electrification plans.”

- a. Does this statement indicate that BGE will reserve funds for a school system that has yet to develop an electrification plan? Please explain.
- b. What actions will BGE take to support school systems that do not yet have an electrification plan?

**RESPONSE:**

- a. No, this statement is simply meant to explain the benefit of not having a “first come, first served” application review process. That is, BGE maintains the ability to better ensure that the EVSB funds are distributed throughout its service territory. For example, if a county that is farther along in its electrification plan applies for funding for 100 buses, BGE would have the discretion to reduce the number of buses funded through the program because that county would not be entitled to funds to support 100 buses simply because it applied for funding before other jurisdictions.
- b. BGE will continue to conduct partnership outreach – as we have in the development of this proposal – to school systems in our service territory. For those jurisdictions that do not yet have an electrification plan, BGE will continue to: 1) remain current on evolution of jurisdiction plans to adopt EVSBs; 2) advise jurisdictions on infrastructure and EVSE market developments and technical capabilities, where applicable; 3) connect school officials to industry leaders for purposes of information sharing and program development; 4) be a conduit for general information on transportation electrification and share best practices, where applicable; and 5) where appropriate, offer fleet electrification assessments through BGE’s Fleet Program to help schools identify and prioritize electrification opportunities.

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**Item No. OPCDR02-15:**

Refer to BGE's response to OPC DR 01-06(b).

- a. How many school buses are in the Baltimore City Public School system (Baltimore City PSS)?
- b. What percent of the Baltimore City PSS does the 25 school buses represent?
- c. Does BGE know how many school systems in its service territory are already recipients of EPA grant funds to deploy EVSBs? If yes, please provide the number of EVSBs awarded by school system.

**RESPONSE:**

- a. The information requested is not within BGE's custody, possession, or control.
- b. The information requested is not within BGE's custody, possession, or control.
- c. BGE has consulted the U.S. Environmental Protection Agency's (EPA) Clean School Bus program website to assess 2022 funding recipients. The awards are listed here: [Awarded Clean School Bus Program Rebates | US EPA](#).<sup>1</sup>
- d. Based on the information provided by the EPA, Baltimore City Public Schools received EPA funding in 2022. Also please note that the rebate wait list as developed by EPA in response to 2022 applications is linked on the same landing page.

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<sup>1</sup> <https://www.epa.gov/cleanschoolbus/awarded-clean-school-bus-program-rebates>



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**Item No. OPCDR02-16:**

Refer to BGE's response to OPC DR 01-06(c).

- a. Please explain why requiring more than 20% of buses to be allocated to underserved or health-impacted communities would be "too restrictive."
- b. Are these communities less likely to pursue electrification?
- c. What are the key barriers that would prohibit these communities from being able to apply to the EVSB program? How is BGE proposing to address these barriers to participation?

**RESPONSE:**

- a. Requiring more than 20% of buses to be allocated to underserved or health-impacted communities increases the risk of resources from this program going unused because underserved or health-impacted communities in BGE's service territory may not be ready to use more than 20% of the buses. Based on Census Tract data, 20% of the tracts in BGE's service territory have a population comprised of at least 60% low-income residents. The largest concentration of low-income residents in the BGE service territory is in Baltimore City. However, the Baltimore City Public School system (Baltimore City PSS) has a small school bus fleet relative to the student population, because many students either walk or take public transit to school. Furthermore, Baltimore City PSS is already a recipient of United States Environmental Protection Agency grant funds to deploy a fleet of 25 school buses in 2023-2024. By allocating more than 20% to underserved or health-impacted communities, BGE may limit the ability or extent to which it is able to serve all school districts within its service territory and therefore limit the benefit to all ratepayers.
- b. BGE does not know whether underserved and health-impacted communities are more or less likely to pursue electrification.
- c. Barriers could include lack of staff resources to develop an electrification plan, lack of resources to work with BGE to apply to this program, lack of funding to afford the cost share for an EVSB under this program (i.e., the cost of a fossil-powered unit), or other logistical challenges. BGE will work to streamline the application process to alleviate the potential administrative burden required to apply. Further, BGE has proposed a General and Administrative (G&A) funding that could cover some, or all, of an applicant's upfront cost.

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**Item No. OPCDR02-21:**

Refer to BGE's response to OPC DR 01-23(b). When does the Company anticipate proposing the V2X structure to the Commission? Please provide the estimated month and year.

**RESPONSE:**

BGE cannot provide an estimated time when we would propose a V2X structure because BGE's ability to propose a V2X structure is dependent upon information that BGE does not currently have. To propose a V2X structure, BGE needs the following information:

- How many buses are deployed in a particular area
- Where the buses are parked when not in service on a route
- When the buses will be delivered and entered into service
- Bus routes and charging schedules
- Local distribution system conditions in the area where the buses are parked when not in service on a route
- Bus and charger specifications

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**Item No. OPCDR02-23:**

Refer to BGE's response to OPC 01-28. What percentage of the total school buses in BGE's service territory does 204 EVSBs represent?

**RESPONSE:**

The information requested is not within BGE's custody, possession, or control.

**Item No.: STAFFDR01-01**

Page 8 states that BGE will allocate at least 20% of resources from this program to underserved or health-impacted communities. How was the 20% figure determined?

**RESPONSE:**

In setting the minimum requirement for resources to be designated to underserved or health-impacted communities, BGE sought to balance the need of these communities with their ability to actually use the resources. Based on Census Tract data, 20% of the tracts in BGE's service territory are greater than 60% low-income residents. The largest concentration of underserved communities in the BGE service territory is in Baltimore City. However, the Baltimore City Public School system (Baltimore City PSS) has a small school bus fleet relative to the student population, because many students either walk or take public transit to school. Furthermore, Baltimore City PSS is already a recipient of United States Environmental Protection Agency grant funds to deploy a fleet of 25 school buses in 2023-2024. Nonetheless, Baltimore City PSS is, and will continue to be, a target and key participant for BGE's program.

BGE leveraged the fact that a 20% allocation of funds to underserved communities is used for other EVsmart offerings. Additionally, the largest concentration of underserved communities in the BGE service territory falls in Baltimore City. The Baltimore City Public School system (Baltimore City PSS) has a small school bus fleet relative to the student population, because many students either walk or take public transit to school. Additionally, Baltimore City PSS is already a recipient of US EPA grant dollars to deploy a fleet of 25 school buses in 2023-2024. Baltimore City PSS is and will continue to be a target and key participant for BGE's program. Finally, BGE believes that requiring more than 20% of buses to be allocated to underserved or health-impacted communities would be too restrictive and would slow down the process of getting electric school buses on the road.

**Item No.: STAFFDR01-06**

CSNA section 7-217(C)(4) states “An investor-owned electric company may apply to the commission to implement an electric school bus pilot program if the pilot program is structured to: ... Limit total rebates to \$50,000,000. What is the reasoning behind the approximately \$80 million proposed program cost and the approximately \$75 million of proposed rebates?”

**RESPONSE:**

Based on BGE’s reading, the legislation limits rebates for school buses to \$50 million.

However, the legislation also authorizes a utility to provide additional rebates for equipment and training. For example, section 7-217(C)(9) requires a utility to “provide and install the interconnection equipment and interconnection facilities for electric vehicle charging stations”.

1. And, section 7-217(C)(11) requires a utility to “ensure the school board is provided with adequate training and expertise to operate ably electric school buses, electric vehicle charging stations, and associated infrastructure”.

**Item No.: STAFFDR01-11**

Will BGE adjust and of it rebates for school districts who receive other funding sources to support EVSB adoption, such as from the federal or state government.

**RESPONSE:**

BGE will continue to review federal and state funding available to schools and bus operators and encourage their participation in those offerings. BGE will ensure that any funding received from other parties is factored into the amount BGE pays to the school or bus operator.

**Item No.: STAFFDR01-21**

Please explain how BGE plans to evaluate the environmental and health benefits of the program as required in the CSNA. What data does BGE expect to use to support this requirement.

**RESPONSE:**

BGE will use the telematics data from buses to measure the miles driven by the EVSBs and therefore calculate the avoided pollution, which is the primary environmental and health benefit. BGE will use the EPA Diesel Emission Quantifier tool to calculate this measurement as it is a federal and state standard.

**Item No.: STAFFDR02-07**

**Page 10:** Define “line side” and “load side” make-ready infrastructure.

**RESPONSE:**

BGE defines “line side make-ready” as all the necessary utility infrastructure up to the meter. BGE defines “load side make-ready” as the necessary infrastructure on the customer’s side of the meter.



**Item No.: STAFFDR02-16**

**Page 14:** There is a proposed \$50mn for buses, which assuming the \$250,000 upgrade, is only about 200 buses for this pilot program. Please provide a breakdown of current fleet size for all school districts and schools in BGE's service area.

**RESPONSE:**

BGE does not have the requested information.

**Item No.: STAFFDR03-13**

Has BGE evaluated the potential for EVSBs to participate in PJM Market Economic Demand Response programs? If so, please identify any findings from this evaluation. If not, please identify reasons why this opportunity was not assessed.

**RESPONSE:**

Please see BGE response to Staff DR01-18. Under current PJM capacity market rules, BGE would need actual performance data to understand the behavior of the EVSB to consider whether this type of resource is appropriate to participate in PJM's capacity and energy markets.