STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

In the Matter of the Petition of
Public Service Electric and Gas Company
for
Approval of its Clean Energy Future – Electric Vehicle and Energy Storage ("CEF-EVES") Program on a Regulated Basis

BPU Docket No. EO18101111

REBUTTAL TESTIMONY
OF
KAREN REIF
VICE PRESIDENT RENEWABLES & ENERGY SOLUTIONS

October 16, 2020

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PUBLIC SERVICE ELECTRIC AND GAS COMPANY
REBUTTAL TESTIMONY
OF KAREN REIF
VICE PRESIDENT RENEWABLES & ENERGY SOLUTIONS

Q. Please state your name, affiliation and business address.

A. My name is Karen Reif, Vice President Renewables & Energy Solutions for Public Service Electric and Gas Company ("PSE&G" or "Company"). My principal place of business is 80 Park Plaza, Newark, New Jersey 07102.

Q. Have you testified previously in this proceeding?

A. Yes, I submitted direct testimony on behalf of PSE&G in this proceeding on October 11, 2018. My credentials and experience are fully set forth in Schedule KR-CEF-EV-1 to my direct testimony.

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

A. The purpose of my rebuttal testimony is generally to address: (1) the Board's recent MFR Order[1] adopting certain of Board's staff's recommendations respecting the build out of infrastructure to support light-duty, public electric vehicle ("EV") charging as the order relates to the Company's EV proposals included in its petition ("CEF-EV" or "EV Proposals"), and (2) the testimony and recommendations of Rate Counsel and various Intervenors that was submitted on September 4, 2020 in this matter.

In summary, my responses to the MFR Order, Rate Counsel, and Intervenors' testimony are that:

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[1] *I/M/O Straw Proposal on Electric Vehicle Build Out*, Docket No. QO20050357, Order Adopting The Minimum Filing Requirements For Light-Duty, Publicly-Accessible Electric Vehicle Charging (Sept 23, 2020) ("MFR Order").

- Although the MFR Order does not directly apply to the Company's CEF-EV petition, the EV Proposals largely align with the substantive recommendations of the order. The MFR Order makes clear the urgency of utility support for EV infrastructure build-out, and consideration of the Company's proposals should not be further delayed.
- PSE&G's EV Proposals will provide broad benefits to all utility customers, in spite of Rate Counsel's narrow portrayal of the program to the contrary. The benefits of transportation electrification that the EV Proposals are designed to incentivize are broadly accepted.
- PSE&G's EV Proposals will play a vital role in fostering the EV charging market and achieving state goals and will not stifle competitive EV development.
- The timing for the Board to exercise its clear authority to consider and approve the Company's CEF-EV petition could not be more appropriate, especially considering the PIV Act's statutory targets and the MFR Order.

I. PSE&G's EV Proposal Reasonably Aligns With Board's Recent MFR Order And Helps Address State Goals

Q. Do you propose to update your filing in light of the MFR Order?

A. No. The Company's EV Proposal reasonably aligns with the MFR Order and supports the stated goals of the MFR Order toward achievement of State EV infrastructure targets.

Q. Please review PSE&G's proposed EV sub-programs.

A. As is set forth in the CEV-EV Petition and in my Direct Testimony, PSE&G's EV proposals is comprised of four subprograms designed to spur EV adoption across multiple customer segments and charger use cases:

1. Residential Smart Charging: Incentives towards Level 2 networked EV Chargers at residences;
2. Level 2 Mixed-Use Charging: Deployment of electrical infrastructure and incentives for Level 2 chargers;
3. Public Direct Current ("DC") Fast Charging: Deployment of electrical infrastructure and incentives or ownership of DC fast chargers;
4. Vehicle Innovation: Incentives for electric school buses and charging equipment; and open solicitation for customized electrification projects.[2]

Q. How do the Company's EV proposals Align with the MFR Order?

A. It is not clear that the MFRs apply to the CEF-EV filing. The MFR Order states that pending cases need not be refiled, that "these requirements provide the Board with flexibility to review the EV Proposals on a case-by-case basis", and that the MFRs "should *eventually* be codified . . . ."[3] Nevertheless, it is clear that the CEF-EV program largely satisfies the main substantive requirements stated in the MFR Order.

The scope of the MFR Order primarily addresses publicly accessible, light-duty charging, and residential rebates are also addressed. There are two main points of focus in the

[2] The Company's proposal also includes cross-program investment that is common to all subprograms and includes investment in IT and education and outreach.
[3] MFR Order at 26 (emphasis added).

MFR Order. The first is utility investment in public charging that "must be accessible to all mass-market EV users."[4] The MFR Order provides additional detail on defining areas of "last resort" whereby the utilities may serve as provider of last resort ("POLR") for publicly accessible charging. The second focus of the EV Framework is residential incentives to "targeted areas of need."[5] PSE&G's EV proposals include elements that meet these two main points of focus, and in some cases exceed the minimum requirements in a manner that supports the State's goals. Specifically, with regard to "publicly-accessible EV charging infrastructure" the program includes electric distribution company ("EDC") funding of make-ready investments for EV chargers, with private ownership and operation of those chargers and "last resort options for EDC ownership."[6] With regard to rate structure, PSE&G has proposed a rate structure to address demand charges, as well as residential and multi-family EV charging rates.[7] As required under the MFR Order, CEF-EV is designed to encourage networked, managed charging, and to provide equitable access to the EV Ecosystem in overburdened communities.[8]

I discuss specific elements of the sub-programs in more detail below, including where shifts in focus for implementation of the sub-programs could be considered in light of the MFR Order without need for major program design changes.

[4] MFR Order at 4.
[5] MFR Order at 8.
[6] See MFR Order at 26; Reif Direct Testimony at 19-26.
[7] See MFR Order at 26; Reif Direct Testimony at 22-23; Swetz Rebuttal Testimony at 8-13.
[8] See MFR Order at 26; Reif Direct Testimony at 12-13, 22, 27-32.

Q. Do other parties in the case agree that certain aspects of the Company's EV Proposal align with State goals?

A. Yes, several Invervenors that provided responsive testimony are generally supportive of the Company's EV Proposals, and though they individually recommend various adjustments to the sub-programs, they collectively do not oppose the concept of rebate incentives. ChargePoint, for example, is directly supportive of utility rebates as a means to foster market growth and notes that such rebates have been effective in other states where ChargePoint operates.[9] Even Rate Counsel acknowledges that *some* aspects of the Company's programs could "help alleviate obstacles, and might provide valuable information that will support future program design."[10]

a. Rebates

Q. Which of the Company's EV Proposal sub-programs include rebates?

A. All of the four proposed EV sub-programs include some form of rebates. The Residential Smart Charging program would provide rebates to residential customers toward purchase and installation cost of residential charging equipment; the Level 2 Mixed-Use Charging program would provide rebates to customers toward the purchase and installation cost of Level 2 charging equipment for applications such as multi-family units, workplaces, fleets, municipalities, or overnight loading; the DC Fast Charging Program includes rebates

[9] In identifying "the most effective roles for utilities" in "helping to shape and participate in the implementation of utility EV programs across the country," ChargePoint specifically cites the provision of customer rebates: "A utility provides rebate incentives to their customers to install and operate charging stations, which are used to offset the construction and installation and/or the purchase of qualifying electric vehicle charging stations . . . [i]n ChargePoint's experience, the most successful programs combine make-ready investments by the utility along with rebates toward the EV charging stations or rebates toward the EV charging stations or rebates toward both installation and construction costs in addition to the EV charging station." Intervenor ChargePoint's Direct Testimony, Direct Testimony of Kevin George Miller ("ChargePoint Testimony") at 10-11.

[10] Direct Testimony of Ezra D. Hausman, Ph.D. on Behalf of the State of New Jersey Division of Rate Counsel ("Rate Counsel (Hausman) Testimony") at 12-13.

toward purchase and installation costs for third party development of DC fast charging equipment; and the Vehicle Innovation program provides rebates to school districts for the purchase of EV school buses and related charging equipment as well as funding for other projects to support medium and heavy-duty vehicle electrification.

Q. Are there other states that have approved utility rebate incentives that encourage EV adoption and infrastructure development?

A. Yes, as indicated by the Electric Transportation Biannual State Regulatory Update (June 2020) from the Edison Electric Institute, 17 states have utility commission-approved charging station rebates/discounts to customers.[11] These include Arizona, California, Delaware, Georgia, Indiana, Massachusetts, Maryland, Minnesota, Missouri, Montana, Nevada, New York, Ohio, Oregon, Pennsylvania, Rhode Island, and Utah.

Q. How are rebates addressed in the MFR Order and what is your reaction?

A. The MFR Order focuses primarily on the utility's role in providing make ready infrastructure work for light-duty, publicly accessible charging and does not specifically address utility rebates, but does emphasize that utility incentives should be utilized to benefit all customers. To a limited extent, the MFR Order addresses residential and multi-family charging incentives, discouraging incentives that would duplicate state-provided incentives but stating that utilities may offer programs to address areas of need and promote managed charging.[12] The MFR Order defers consideration of incentives for school busing and medium-

[11] Available at https://www.eei.org/issuesandpolicy/electrictransportation/Documents/FINAL_ET%20Biannual%20State%20Regulatory%20Update_June%202020.pdf, at 3, figure 3.

[12] MFR Order at 8.

and heavy- duty vehicles for separate stakeholder proceedings to occur next year.[13] Importantly, the MFR Order makes clear that the Board intends to exercise its authority to consider utility programs that will help the State meet its environmental goals, including mandated EV infrastructure targets included in the PIV Act.[14]

In my opinion, the Company's proposed rebates largely align with the MFR Order in that they are targeted toward incentivizing EV infrastructure build-out that is beneficial to all customers. These rebates are needed now to spur the market. The average length of new-vehicle ownership in the U.S. is around six years. There are only five years remaining between now and the statutory deadline for reaching the PIV Act target of having 330,000 registered EVs in New Jersey by the end of 2025. In order to meet that goal we will need quickly accelerated EV adoption to extend beyond innovators and early adopters. This will require addressing the primary barriers to EV adoption, which include both range anxiety and the price barrier. To the extent that the MFR Order seems to express a preference at this time for focus on publicly accessible light duty charging and/or incentives that target areas of need in the residential and multi-family, I believe that these issues can be addressed through a more targeted implementation of the Company's proposed programs without having to change the proposed basic components of the sub-programs, and there is no reason why the Company's other proposals could not proceed in parallel with the Board's consideration of other issues. I will address each sub-program below.

[13] MFR Order at 7.
[14] MFR Order at 15, citing to the PIV Act and *N.J.S.A.* 48:2-23 (authority to require public utilities to provide "service in a manner that tends to conserve and preserve the quality of the environment and prevent the pollution of the waters, land and air of this State").

b. Residential Smart Charging Program

Q. With the vehicle purchase price gap shrinking between an EV and a comparable ICE car, why is it important to help subsidize the price of the in-home charger and installations?

A. While the price gap for an EV to a comparable internal combustion engine ("ICE") car continues to shrink, price remains a major factor that drives vehicle choice for middle-income buyers. As noted by Dr. Hausman, the BPU's Charge-Up New Jersey Program, implemented pursuant to the directive of the PIV Act "has attempted to address this issue by offering vehicle rebates of up to $5,000 per vehicle (scaled based on miles of range of a single charge.)"[15]

The price for charging equipment, including installation, will also factor into customer decisions, however, and the cost of an EV charger and its installation, are not currently addressed by any other credits or subsidies, which further drives the price gap between EV and ICE vehicles. The additional cost of transitioning to an EV includes the charger purchase, "generally between $400 and $1000"[16] , plus the cost of in-home installation that averages $1,200 but can range as high as $4,500 per residence.[17] While the PIV Act permits the Board to offer up to a $500 rebate for the purchase and installation of an in-home charger, the Board has not yet implemented a charger incentive program, and even if it does, the maximum incentive pursuant to the PIV Act will not cover both the charger purchase and installation costs.[18] Therefore, the residential charging rebates proposed by the Company would not duplicate any existing or future State charging incentive. Rather, PSE&G's proposed charging

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[15] Rate Counsel (Hausman) Testimony at 21; *see also*, PIV Act, Sections 4-5; *N.J.S.A.* 48:25-4, 5.
[16] Rate Counsel (Hausman) Testimony at 21.
[17] *Available at*: https://www.fixr.com/costs/home-electric-vehicle-charging-station
[18] PIV Act, Section 6; *N.J.S.A.* 48:25-6. A $500 rebate for costs of $2000 or more would amount to merely one-fourth of the cost, or less.

rebates would bridge a gap while there is no state incentive, and would complement and operate in conjunction with any future state-provided incentives through a secure source of funding that cannot be re-appropriated in any given year.[19]

Q. Are there other aspects of the Residential Smart Charging sub-program that align with the MFR Order?

A. Yes. The MFR Order recommends that residential incentive programs encourage managed use charging.[20] The Company's Residential Smart Charging Program includes a rebate incentive for off-peak charging.[21]

Q. What is your reaction to the statements in the MFR Order that residential incentives should be targeted to areas of need including multi-family residential applications and overburdened communities?

A. As filed, the Company's Residential Smart Charging program is generally geared toward single-family residences on a first-come-first-serve basis within certain criteria without specific targets in certain communities. The Company is considering the MFR Order and whether the implementation of the program could focus on targeted areas of need, such as low-income customers. It could also be possible, without major changes to the program benefits and funding levels, to include multi-family residential applications where there is no public access in the Residential Charging Program implementation rather than including them in the Level-2 Charging Program.

[19] The source of funding in the PIV Act is the societal benefits charge that utility customers pay, but that may be subject to appropriation for other purposes such as state budget balancing, whereas utility programs can reliably fund EV programs in years where there might be other pressing state budgetary needs.
[20] MFR Order at 23.
[21] Reif Direct Testimony at 13.

c. Level-2 Charging Program

Q. How does the Level-2 Charging Program align with the MFR Order?

A. This program as filed is intended to provide incentives for multi-family installations of Level-2 equipment as well as other applications such as local government units and other entities, public or private, where members of the public would have access, such as at shopping centers or other workplaces. In essence, aside from some of the multi-family residential applications that were included in this sub-program, the program addresses charging in locations that the public might access, which is a focus of the MFR Order, and seeks to remove barriers to EV adoption in these types of locations.[22] Like the Residential Charging Program, the Level-2 program also includes incentives that encourage managed charging.

As stated above, the focus of implementation could be adjusted so that this program targets publicly-accessible locations. Additionally, implementation could be targeted to underserved communities.

d. DC Fast Charger Program

Q. Does the Public DC Fast Charger sub-program align with the MFR Order?

A. Yes, this program is directly aligned with the scope of the MFR Order, as it addresses charging in public corridor locations. PSE&G's proposal includes two different ownership models, third-party ownership and utility ownership. As per my direct testimony , the utility-

[22] Notably, Intervenor, Burns & McDonnell, testified about their company's experience with the Southern California Edison (SCE) Charge Ready Phase I Pilot and the recently approved Charge Ready 2 Program. As per Mr. Pynn, Phase 1 showed that "two groups encountered significant barriers to adoption: multi-unit dwellings (MUDs) and governmental locations," and Mr. Pynn further opines that "[g]iven that MUDs are often part of disadvantaged communities (DACs), SCE developed the Own and Operate program to better serve DACs and government entities with Charge Ready 2." Testimony of Kyle Pynn on Behalf of Intervenor Burns & McDonnell, Inc. ("Burns & McDonnell Testimony") at 6-7.

ownership model is only to be utilized if the competitive market is unable to support DC Fast Charging station development using the Third-Party Ownership Model, and this is aligned with what the MFR Order envisions for utilities – to serve as POLRs in limited circumstances.

Moreover, the Company's DC Fast Charger sub-program supports fulfillment of the pubic DC fast charging goals mandated under the PIV Act. These goals included at least 400 DC fast chargers available for public use at no fewer than 200 charging locations by December of 2025. The PIV Act is specific in its requirements for DC fast charging to meet program goals, requiring "at least 75 shall be at travel corridor locations, equipped with at least two DCFCs per location, each capable of providing at least 150 kilowatts of charging power."[23] As shown on an October 15, 2020 site map prepared by the New Jersey Department of Environmental Protection, there were only five existing DC fast charging locations that meet this criteria.[24] Thus, the Company's DC Fast Charger sub-program is needed if the Board is to achieve these legislative requirements.

Q. What about the specific criteria set forth in the MFR Order for determining when utilities should serve as POLRs?

A. PSE&G's proposal did not include these specific criteria for making these determinations; however, the Company has developed a process for evaluating locations for POLR and has stated in discovery response S-PSEG-DCE-0041 in this proceeding that there are factors that the Company would consider, including identifying geographical areas with charging gaps or "charging deserts" before determining that PSE&G should become the

[23] PIV Act, Section 3; *N.J.S.A.* 48:25-3.
[24] *Available at:* https://www.nj.gov/dep/drivegreen/dg-partnership-to-plugin.html.

POLR.[25] The Company is currently considering how these factors might align with the criteria the MFR Order recommends and whether and how such criterion should be included in the Company's implementation of the utility-owned aspect of this sub-program. Again, I emphasize here that PSE&G's intention is not to own or operate DC fast chargers unless required to ensure equitable distribution of infrastructure.

e. School Buses and Vehicle Innovation

Q. Does PSE&G believe the CEF-EV program should continue to include the Vehicle Innovation subprogram?

A. Yes. The MFR Order states that there will be "a separate straw proposal, currently scheduled for Fiscal Year 2021, on medium- and heavy-duty electrification, which may address electric transit and school buses."[26] PSE&G believes that the Vehicle Innovation subprogram would provide pilot data that would help inform the medium and heavy-duty electrification stakeholder process. There are approximately 17,000 school buses currently operating in New Jersey. PSE&G's school bus program is perfectly sized as a pilot study of school bus electrification with 102 buses at 25 school districts. The lessons learned from the Company's program will enable greater and more efficient adoption of electric school buses throughout the state. More importantly, as noted by Blue Bird Body Company ("Blue Bird"), "[i]t is also through the addition of V2G technology that EV school buses will become a grid asset to utilities such as PSE&G and a benefit to rate payers."[27] Blue Bird further notes that with V2G technology, a school bus that is idle 85% of the hours of a year on average "can

[25] Schedule KR-CEF-EV-2.
[26] MFR Order at 7.
[27] Testimony of Paul Yousif on Behalf of Intervenor Blue Bird Body Company ("Blue Bird Testimony") at 2.

provide energy services that benefit the school bus owner/operator as well as utilities, other entities in the energy supply network and rate payers."[28] Additionally, the vehicle innovation aspect of the program whereby other public fleet projects could receive funding is also consistent with the New Jersey's 2019 Energy Master Plan ("EMP"), as ChargePoint points out.[29]

The PIV Act sets forth electrification deadlines for NJ Transit that begin with 10% of new bus purchases by 2024. PSE&G feels the project grant element of the Vehicle Innovation subprogram could help support NJ Transit in meeting those goals, and this program should not be delayed as the Board is conducting an additional stakeholder process, presumably with time for receiving and evaluating public comments, next year.

Q. Please summarize the Company's position with regard to the MFR Order.

A. The Company applauds the Board for taking action pursuant to its authority to accelerate EV adoption and acknowledge the important role of utilities in EV infrastructure development. As the Board has directed that there is no need for the re-filing of existing petitions, and because the Company's EV Proposals in large part already align with the MFR Order, the Company's proposals should be approved.

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[28] Blue Bird Testimony at 4.

[29] ChargePoint Testimony at 28. ChargePoint supports both the school busing and vehicle innovation aspects of this program, noting that all customers throughout PSE&G's service territory will directly or indirectly benefit including, but not limited to: (i) families with school children will benefit from the availability and use of electric school bus fleets; (ii) public transportation patrons will benefit from the availability and use of electric city bus fleets; (iii) fleet owners will benefit from lower total cost of ownership, and a healthier experience for drivers; and (iv) society will benefit from lower emissions and improved air quality. ChargePoint Testimony at 18.

II. PSE&G's EV Programs Provide Broad Benefits to All Customers

Q. Have you identified an overall theme underlying Dr. Hausman's arguments on behalf of Rate Counsel in opposing PSE&G's EV Proposals?

A. Yes. Several of Dr. Hausman's arguments rely on mischaracterization of the Company's EV Proposal as a "luxury" subsidy program targeted to high income customers lacking benefits to all customers that would justify recovery of program costs in rates. Dr. Hausman's narrow opinion of the nature of EV infrastructure development is both unsupported and ignores that electrification of the transportation sector in New Jersey will benefit all customers in multiple ways as discussed below. Additionally, Dr. Hausman's characterization of the economics and affordability of EVs is outdated and incorrect, and his laser focus on who is driving EVs misses the point entirely. The fact is that any significant increase in EV saturation in PSE&G's service territory, no matter who is driving, benefits all of PSE&G's customers, as recognized and accepted by the State Legislature in the Plug In Vehicles Act ("PIV Act")[30] and by the Board in its recent MFR Order regarding EV infrastructure build-out.

a. Rate Counsel mischaracterizes the EV Proposal as a luxury subsidy to present a narrow view of benefits.

Q. Do you agree with Dr. Hausman's suggestions that PSE&G's program amounts to merely a subsidy for a small subset of higher-income customers who can afford a luxury commercial product?

A. No. The purpose of the CEF-EV filing is to benefit all customers and further New Jersey's clean energy goals through launching the electric vehicle industry and making the

[30] *N.J.S.A.* 48:25-1, *et seq*.

electric grid more reliable, resilient and safe.[31] Indeed, PSE&G's EV Proposals are the types of programs both the State Legislature and the Board envision to deliver the benefits of transportation electrification to New Jersey's utility customers. For example, the PIV Act contemplates incentives for EVs and charging equipment and gives the Board broad discretion to "adopt policies and programs to accomplish the goals [of the PIV Act]".[32] Similarly, the Board's MFR order directs utilities that have not already done so to file EV proposals.[33] The 2019 EMP states, "[b]y transitioning to EVs, New Jersey would take a transformative step toward elimination of the dominant source of local air pollution, including black carbon, providing large, direct health savings, with outsize benefits to environmental justice communities currently burdened by poor air quality."[34]

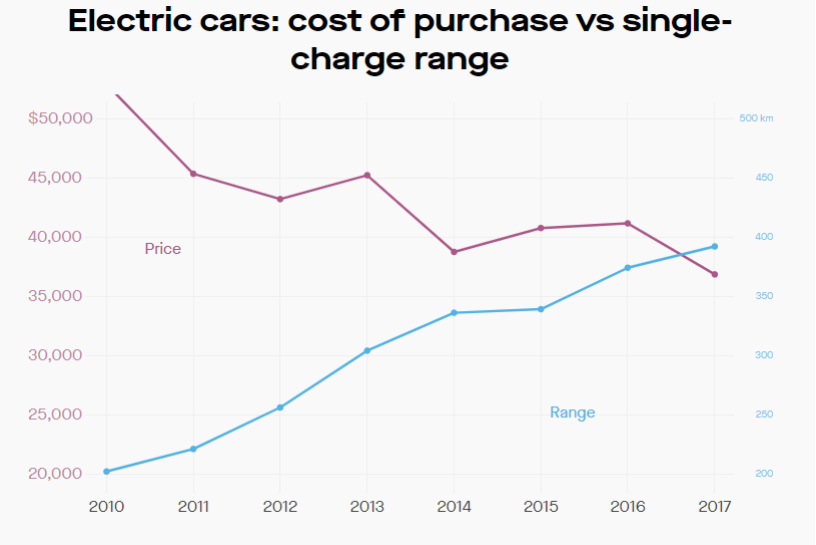
Q. Has Dr. Hausman provided any support for his characterization of EVs as a luxury-only product and is this characterization accurate?

A. No, Dr. Hausman has not supported this characterization, and it is not accurate because the EV market is evolving. As indicated in Rate Counsel's response to discovery request PS-RC-5.b, Dr. Hausman was using the term "luxury vehicle" as the term is generally understood, and not pursuant to any specific analysis he conducted.[35] The initial EV market was targeted to luxury car drivers and therefore, vehicles were at a higher price point than the average ICE vehicle. However, EVs are no longer limited to luxury vehicles simply because they are electric. The market is evolving, car manufacturers are offering more affordable EVs, the

[31] CEF-EVES Petition at 2-3.
[32] PIV Act, Section 3(b); *N.J.S.A.* 48:25-3(b).
[33] MFR Order at 26.
[34] EMP at 61.
[35] Schedule KR-CEF-EV-2.

average EV price continues to go down rapidly, and the price gap between EVs and ICE vehicles is shrinking. Indeed, the State Legislature has recognized this fact in its PIV Act, stating, "plug-in electric vehicles with longer ranges are now widely available at a lower cost and present a viable alternative to vehicles fueled by fossil fuels" and "more plug-in vehicle makes and models will be introduced in the State motor vehicle market over the next serval years."[36] Figure 1 below demonstrates the average cost of purchase decreasing as the charge range increases.

Figure 1: Electric Cars: Cost of Purchase vs Single-Charge Range [37]



Q. Can you provide data supporting those statements?

A. Yes. According to Kelley Blue Book ("KBB"), the average transaction price for a light duty vehicle in the United States in February 2020 was $37,876. There are eleven full-electric

[36] PIV Act, Section 1; *N.J.S.A.* 48:25-1.
[37] *Available at:* https://theatlas.com/charts/HyKWvLomm.

cars from the 2019 model year priced at less than $40,000, including the Model 3 from Tesla. Five of these models have a range in excess of 200 miles and would therefore qualify for the full $5,000 purchase rebate offered through the Board's Charge Up New Jersey program. The remainder would qualify for rebates between $1,450 and $3,750. That is before any other incentives, including the sales tax waiver and any remaining federal rebates.

A side-by-side comparison of the fair market value range also shows the shrinking price gap between EVs and ICE vehicles. For example, KBB shows the 2020 VW Golf fair market value ranges from $21,859 to $24,316. By comparison, the 2020 VW e-Golf ranges from $26,198 to $29,419, a difference of approximately $5,000, which equates to the Charge Up New Jersey purchase rebate. Moreover, the total cost of ownership ("TCO") of EVs is also relevant. KBB states that the average 5-Year TCO savings is significant for some EVs versus their gas-powered counterparts. For example the 5-Year TCO of the 2019 Volkswagen Golf ($34,481) is higher than the TCO of the 2019 Volkswagen e-Golf SE ($33,370). Finally, according to MyEV.com, there is a wide selection of used electric vehicles becoming available on the market for $20,000 or less.[38]

b. Benefits created by PSE&G's EV Proposal flow to all customers

Q. Notwithstanding the affordability of EVs, do you agree with Dr. Hausman's characterization that there are little or no net benefits to all customers derived from offering incentives to support EV charging infrastructure that only a limited number of customers might utilize?

A. No. The environmental benefits of EV adoption are well documented. All PSE&G customers, and indeed, all New Jersey residents, will benefit from improved air quality

[38] *Available at:* https://www.myev.com/cars-for-sale.

resulting from increased use of EVs, regardless of who is driving them. To quote the Board's MFR Order:

> [t]he Legislature and the Governor have made it clear that in order to combat the consequences of climate change, the electrification of the transportation sector is in the public interest. All of New Jersey — its residents, its businesses, its economy, its environment — will benefit from the widespread adoption of EVs.[39]

Moreover, The American Lung Association's 2020 "The Road to Clean Air" report finds that heavily traveled corridors "close to major population sectors inflict serious harms to human health, and often highlight disparities in the impacts of transportation pollution burdens."[40] According to the report, increased adoption of electric vehicles would help New Jersey avoid about 169 premature deaths, prevent more than 2,300 asthma attacks, prevent nearly 11,000 lost work days and save close to $2 billion in public health benefits annually.[41]

Q. Does the Company's EV Proposal provide other customer benefits in addition to health benefits?

A. Yes. As I stated in the direct testimony, the EV program will also "facilitate achievement of state goals set forth in the Global Warming Response Act ("GWRA"), the Energy Master Plan, California's ZEV Program, in which New Jersey participates, and the Clean Energy Law…will support the clean energy economy and create approximately 3,900 direct, indirect and induced job-years; …address critical barriers in the EV market, and provide

[39] MFR Order at 3.
[40] *Available at:* https://www.lung.org/clean-air/electric-vehicle-report.
[41] *Id.*

data to help optimize electric distribution system planning and operation, and support improvements to rate design to better align rates with cost causation."[42]

Q. Do other parties in this case agree that benefits of expanded EV charging infrastructure deliver benefits to utility customers beyond EV drivers?

A. Yes. Notably, Greenlots states that PSE&G's EV Proposal is "effectively designed to support customers in realizing the benefits of EVs, efficiently integrate EV load into the grid, and reduce persistent barriers to EV adoption."[43] Greenlots notes downward pressure on rates as a benefit of increased electric load from EV charging, highlighting transportation electrification as "the single greatest opportunity to increase and optimize the utilization of the electric grid for the benefit of all ratepayers."[44] Environmental Intervenors[45] also tout environmental benefits, job creation, and downward pressure on rates as benefits to all customers, not just owners of EVs.[46] Additionally, Intervenors, Blue Bird,[47] Burns &

[42] Reif Direct Testimony at 4-6. The value of job-years is based on the Rutgers report "Analysis for the 2011 Draft New Jersey Energy Master Plan Update" using the factor 7.91 direct jobs per one million dollars in program spend, *available at:* https://nj.gov/emp/docs/pdf/emp_creeep_report20110412.pdf, and the National Renewable Energy Laboratory Jobs and Economic Development Impact Model, *available at:* https://www.nrel.gov/analysis/jedi/.
[43] Direct Testimony of Joshua J. Cohen on Behalf of Zeco Systems, Inc. d/b/a Greenlots ("Greenlots Testimony at 7.
[44] Greenlots Testimony at 8.
[45] "Environmental Intervenors" includes Environment New Jersey, Environmental Defense Fund, Natural Resources Defense Council, and Sierra Club.
[46] Direct Testimony of Kathleen Harris on behalf of Environmental Intervenors ("Environmental Intervenors' Testimony") at 57-, 11-15.
[47] Blue Bird Testimony at 6 ("utility participation in the acquisition of EV school buses is in the interest of the utility and ratepayers").

McDonnell,[48] ChargePoint,[49] and EnelX[50] provide testimony regarding the broad benefits of the Company's EV Proposals.

Q. Does Dr. Hausman acknowledge in any way the benefits of transportation electrification?

A. Yes. In discussing the Company's Vehicle Innovation sub-program that would, in part, provide incentives for electric school buses and charging equipment, Dr. Hausman states, "I do not question the significant health benefits of reducing particulate pollution that harms low income children in New Jersey." Yet, Dr. Hausman's conclusion with regard to this, and the Company's entire EV Proposal, is that the costs of achieving these benefits should not be spread among utility customers. I agree with Dr. Hausman regarding the unquestioned health benefits of reducing particulate pollution that harms low-income children in New Jersey, but his conclusions not only ignore the fact that EV charging is dependent on, and an extension of, the electric grid, but also are directly contrary to the PIV Act, which is a public utility statute and directs the Board of Public Utilities, and not some other state agency, to adopt programs toward meeting aggressive EV and EV charging targets.

Q. Dr. Hausman claims (at 16-17) that PSE&G "fails to quantify" how its subprograms will contribute to increased adoption of EVs." Please comment.

A. As I made clear in my direct testimony and above, the EV Proposals are intended to deliver the broad benefits of electrification of transportation to all customers. First, it is self-

[48] Burns & McDonnell Testimony at 8-9 (highlighting benefits of PSE&G's proposals to address the "chicken and egg problem" and noting that PSE&G's proposal "offers great benefit, with a modest impact on customer bills").
[49] ChargePoint Testimony at 15 (opining that PSE&G's proposal "has the potential to create value for all customers in PSE&G's service territory, including those wo do not participate in the program").
[50] Testimony of Katie Guerry on Behalf of Intervenor Enel X North America ("EnelX Testimony") at 5-6 (highlighting multiple benefits from investments in residential EVSE including avoiding future costs that would otherwise be borne by utility customers).

evident that the types of programs and incentives the Company proposes toward expansion of the EV charging infrastructure will lead to increased adoption of EVs in New Jersey. The PIV Act's directives for similar incentive programs and broad directive to the Board to undertake programs to reach both charging infrastructure and EV deployment goals bolsters this point. Second, and even more importantly, Dr. Hausman's suggestion that the Company's EV Proposals will be used only by "free riders" – participants who would have participated in the market anyway – is shortsighted and again relies on the flawed premise that EVs are luxury-only products such that incentives are not needed to encourage broader EV adoption. ChargePoint, for example, a company that develops and operates EV chargers, has expressed strong support for PSE&G's proposal and, contrary to Dr. Hausman's belief that incentives will only produce "free riders," opines that incentives *are* needed to support development of charging infrastructure. ChargePoint states that PSE&G's EV Proposal "will appropriately lower market barriers, reduce costs, and increase benefits to ratepayers"[51] and that, "[b]y reducing the cost of Level 2 charging infrastructure for residential customers, PSE&G will be facilitating more widespread adoption of electric vehicles by ensuring residential customers have the ability to charge their EVs at home where they are parked for long periods of time."[52] PSE&G agrees with ChargePoint, a participant in this market, that incentives will increase adoption of EVs that would not otherwise occur.[53]

[51] ChargePoint Testimony at 14.. Moreover, ChargePoint recognizes the need for broad utility involvement, without artificial limitations; specifically, Mr. Miller notes, "[t]he [CEF-EV] program as proposed underscores the need to holistically support EV charging with efforts that encourage charging at home, at work, and in public while also providing education and raising awareness on transportation electrification." *Id.*

[52] Chargepoint testimony at 18.

[53] Indeed, if the possibility of "free ridership" outweighed the benefits of incentives to encourage EV adoption, the State Legislature through the PIV Act presumably would not have mandated the Board to rapidly develop the Charge Up incentive program toward the purchase or lease of EVs.

Q. Is Dr. Hausman's position on the limited benefits of the Company's EV Propoal aligned with the State Legislature's and the Board's views on the benefits of incentives for EV charging infrastructure development?

A. No. Dr. Hausman ignores the New Jersey Legislature's findings that incentives for EV charging infrastructure are a means to deliver these environmental benefits, and that the costs of such incentives are appropriately spread among utility customers. The Board's MFR Order also acknowledges the broad benefits EV adoption flow to all customers.[54] In line with these findings, and contrary to Dr. Hausman's overly narrow opinion, PSE&G's EV Proposals appropriately benefit PSE&G's customers, not just EV drivers, by encouraging both the private and public EV infrastructure development necessary for broader adoption of EVs.

III. PSE&G EV Proposal's Role In Fostering the Charging Market And Achieving State Goals

a. PSE&G's EV Program supports, and does not stifle, competitive EV development

Q. Are PSE&G's EV Proposals intended to interfere with the competitive EV charging market in New Jersey?

A. No, quite the opposite. PSE&G's EV Proposals provide incentives toward installation and development of residential, Level 2 mixed use, and public DC fast charging, as well as providing outreach and education to the Company's customers regarding EV adoption, that are intended to spur the market. The Company's program will result in increased near-term opportunities for all market participants because not only do incentives encourage customers to procure products and services offered in the marketplace, including charger and network providers and installation contractors, but also the utility, itself, will procure EV service equipment and the services provided by EV market participants. Moreover, PSE&G's program

[54] MFR Order at 3.

will spur the growth of the market over time thereby further increasing opportunity for third market participants.[55]

Q. What about Intervenors' concerns and recommendations regarding the Company's proposal to own and operate DC fast charging stations in locations where the market has not responded?

A. In my opinion, these concerns are overstated and are based on a misunderstanding of the Company's intentions with regard to potential ownership of EV charging stations, which is a minor aspect of the overall EV Proposal. In fact, the Company's proposal to own and operate DC fast chargers as a POLR aligns with the Board's MFR Order.

Q. Please explain.

A. There is a significant amount of Intervenor testimony addressing the pros and cons of utility ownership of public charging stations.[56] The Company's proposal, however, is to only own and operate DC fast charging stations as a POLR – where the third party investors have not responded – to ensure equitable availability of charging throughout the Company's service area. Specifically, the Company estimates investment in 150 locations with 450 charging plugs within PSE&G's territory. As I stated in my direct testimony, the utility-ownership model "will only be utilized if the competitive market is unable to support the DC Fast Charging station development using the Third-Party Ownership Model."[57]

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[55] *See*, response to DE-PSEG-0003 Part (b), Schedule KR-CEF-EV-2.
[56] *See*, ChargePoint Testimony at 24-26; Greenlots Testimony at 11-12, 29; Environmental Intervenor Testimony at 22, 43-44; Rate Counsel (Hausman) Testimony at 26; Prepared Direct Testimony and Schedules of Jigar J. Shah on Behalf of Electrify America ("Electrify America Testimony") at 27-28; Opening Testimony of William Ehrlich on Behalf of TESLA, Inc. in the Matter of the Petition of Public Service Electric and Gas Company for Approval of Its Clean Energy Future-Electric Vehicle and Energy Storage Program on a Regulated Basis ("Tesla Testimony") at 12; Direct Testimony of Carine Dumit on Behalf Of EVgo Services LLC ("EVgo (Dumit) Testimony") at 12-13; Direct Testimony of Brendan Donnelly on Behalf of the Market Participants ("Market Participants (Donnelly) Testimony") at 3-4.
[57] Reif Direct Testimony at 19.

Q. How did the company estimate this number of locations that would require PSE&G to own/operate as a POLR?

A. The Company estimated a percentage of the locations that were likely to be sub-economic for private investors due to lower initial utilization in the five year period following program launch. As stated in the Company's response to S-PSEG-REV-0019, PSE&G is projecting to support private investment in approximately two-thirds of those locations and serving as POLR in approximately one-third of those locations.[58] As stated in the Company's response to S-PSEG-DCE-0041, in the event the private market is interested in 150 locations through the Company's program, PSE&G will not own or operate any public DCFC stations.[59]

Q. Has the Company developed a process to evaluate whether a particular location should be owned/operated by PSE&G?

A. Yes. The evaluation process is described in the Company's response to S-PSEG-DCE-0041.[60] In summary, PSE&G will solicit private market interest in specific areas that the Company identifies as geographical areas with charging gaps or "charging deserts" before determining that PSE&G should become the POLR. As is stated above, the Company is currently considering the POLR assessment recommendations in the MFR Order.

Q. Please address concerns that approving PSE&G's potential POLR ownership and operation of DC fast charges is premature at this time?[61]

A. First, while I acknowledge that there is a market for charging infrastructure that is growing, this market is nascent and is not yet sufficient. If it were, there would have been no reason for the PIV Act, and New Jersey would not rank 45th in the nation for electric charging

[58] Schedule KR-CEF-EV-2.
[59] Schedule KR-CEF-EV-2.
[60] Schedule KR-CEF-EV-2.
[61] Rate Counsel (Hausman) Testimony at 26; Electrify America Testimony at 27-28; EVgo (Dumit) Testimony at 12-13.

stations per registered vehicle.[62] Second, time is clearly of the essence, considering the aggressive targets mandated by the PIV Act. The Company is not opposed to making reasonable efforts to ensure that there are no third party investors willing to serve a particular location prior to undertaking ownership/operation. Such efforts might include elements recommended by the MFR Order. These are implementation issues, however, that do not warrant denial, altogether, of the Company's proposal to operate as a POLR, which would only cause further delay and could render deployment of EV infrastructure inequitable in the communities that would benefit most from fewer fossil-fueled vehicles on the road.

Q. Intervenors also question the impact on price competition for fast charging pursuant to the EV Proposal.[63] Does PSE&G intend to set the price for charging at DC fast charging stations?

A. Not for the third-party ownership model,[64] which encompasses the majority of the Company's DC Fast Charging sub-program. As described in the Company's response to CP-PSEG-0004, for the third party-ownership model, pricing will be set by that third-party owner/operator. The utility will not be involved in that decision, and will not be responsible for enforcement of pricing offered by competitive providers.[65]

If PSE&G becomes the POLR and owns/operates public DC fast chargers, the utility is proposing that the charging price by PSE&G to the EV driver will be based on competitive market benchmarks, similar to the methodology currently being used in Maryland, where

[62] EMP at 65.
[63] Tesla Testimony at 13; EVgo (Dumit) Testimony at 13.
[64] As explained in my direct testimony, the third party ownership model involves a competitive entity developing, owning, and operates the charging station with help from the utility program for make-ready, charging financing, and a demand charge solution. Reif Direct Testimony at 19-26.
[65] Schedule KR-CEF-EV-2.

utility development, ownership, and operation of public chargers has been approved by the Maryland Public Service Commission (MD PSC).[66] There, rates being charged EV drivers at utility-owned charging stations are based on a periodic analysis and survey of all existing public chargers conducted by the EDCs so that utility pricing is commensurate with market-based rates and does not put undue pressure on other charging network market participants.[67]

Q. Intervenors also commented on "gas parity" for pricing at public chargers.[68] How does PSE&G consider gas parity issues in making pricing decisions?

A. PSE&G considers gas parity for pricing at public chargers to mean that the price charged the EV driver to "fuel with electricity" per mile is, on average, no more than the price to fuel with gasoline per mile. This factor is typically in the range of 30 - 35 cents/kWh, but in some cases can be as high as 40 cents/kWh. To further clarify, this is *not* the cost of electricity supplied to the charger station's owner/operator. This average will not be the same as the set-point in the demand charge solution. As an example, if the cost of gasoline is $2.15/gallon, an average traditional vehicle gets 22 mpg, and an EV averages 3.5 miles/kWh, gas parity is 34.2 cents/kWh ((2.15/22) * 3.5). Using the methodology set in the Maryland example, gas parity will not impact the price PSE&G charges EV drivers at utility-owned/operated charging stations, unless gas parity was an underlying factor *also* used by the competitive market in developing prices used for benchmarking.

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[66] *I/M/O the Petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio*, MD PSC Case No. 9478, Order No. 88997 (Jan. 14, 2019).
[67] *See, Proposal of Baltimore Gas and Electric Company, Delmarva Power & Light Company, and Potomac Electric Power Company for Revised Tariffs Regarding Implementation of Approved Electric Vehicle Charging Program Offerings* at 4, MD PSC Case No. 9478 (filed Nov. 18, 2019) (approved via Letter Order issued Feb. 5, 2020; *available at:* file:///C:/Users/a00126188/Downloads/181%20(1).pdf).
[68] EVgo (Beach) Testimony at 7-10.

Q. Why did PSE&G propose a competitive solicitation process for the Company to perform make ready work pursuant to the third-party model for DC fast chargers?

A. The reason for a competitive solicitation process is to ensure a process for resolving conflicts if/when different proposals would not be geographically diverse. A purely first-come-first-serve process may result in inequity of charging locations in the Company's service territory and could complicate the Company's ability to ensure grid reliability. The competitive solicitation will not be evaluated based on a financial cost estimate of the charging station installation. Rather, the Company will continually review the State's public charging goals in the PIV Act,[69] the proposed location's suitability score by NJDEP[70] and the NJDEP map "Strategic Mapping For Electric Vehicle DC Fast Charging Station Locations"[71] to review the spatial distance between the proposed location and pre-existing locations. For both DC fast charger and Mixed-Use L2 sites, the criteria will also include socioeconomic characteristics of the proposed location such as median household income, percentage of residents without dedicated parking, and diesel particulate concentration. In the event multiple third parties are interested in the same/similar location(s), PSE&G will discuss alternate locations available to seek resolution that improves the geographic distribution of third-party owned DC fast charger stations in the Company's service territory. If that resolution cannot be achieved, PSE&G may default to a first-come-first-served basis.

[69] PIV Act, Section 4; *N.J.S.A.* 48:25-4.
[70] *Available at*: https://www.nj.gov/dep/drivegreen/ChargingStationMappingCorridor.pdf
[71] Ibid.

Q. Another aspect of the Company's EV Proposal that most of the Intervenors addressed is the Company's proposal for demand charge relief. Please summarize how the Company's proposal for addressing demand charges supports the market for EV infrastructure development.

A. The Company chose the set point approach to address demand charges because it follows the cost-causation principle fundamental to rate design as discussed in Company witness Steve Swetz' direct and rebuttal testimony. In summary, the demand charge rebate provides a period of transition toward a standard tariff as utilization increases with increased EV adoption.

Q. Intervenor Tesla makes the recommendation that the eligibility for demand charge rebates should be extended to existing charging station accounts without limitation. What would be the estimated impact of that recommendation?

A. The Company considered extending the proposed EV charging rates to all existing and future EV charging stations, regardless of whether they utilize other aspects of the program. When developing the proposal, PSE&G sought to balance the benefit of supporting EV infrastructure build out with the program cost impact to its customers. Based on internet research, the current number of DC fast charger plugs in PSE&G's service territory is approximately 280.[72] As stated in response to S-PSEG-DCE-0061, applying the demand charge rebate as structured in the Company's proposal to existing facilities for the entire length of the six-year program would approximately triple the $39 million cost.[73] PSE&G decided to target the support to new DC fast charger stations to encourage additional build out.

[72] *Available at:* https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=e41aa50dd8cd45faba8641b6be6097b1
[73] Schedule KR-CEF-EV-2.

Q. If the short-term target rate mechanism for demand charge relief is approved as an interim EV rate substitute, should the rebate be provided as an 'on-bill' credit rather than an 'off-bill' rebate check as PSE&G has proposed?

A. Implementing an "on-bill" credit is not cost effective for a six-year program due to system changes that would have to be made. An on-bill option for rebates would require a longer cost recovery program to be beneficial than the six-year program PSE&G has proposed. Additionally, EVgo questions why the set-point rebate is proposed as an off-bill payment whereas an on-bill repayment ("OBR") is proposed for the in the Level 2 program incentives.[74] There are currently existing mechanisms to facilitate the OBR that decrease the implementation cost substantially, and these options do not currently exist for on-bill rebates.

Q. Brendan Donnelly on behalf of Market Participants has stated "PSE&G's ability to offer customers on-bill repayments would leave its competitors at a distinct disadvantage."[75] Do you agree?

A. No. PSE&G's ability to offer no interest OBR is modeled after its current Energy Efficiency program which today operates similar incentives for Direct Install, Multi-Family and Hospital customers, and was recently approved to offer OBR to all customer classes. In the private market, financing options offered by EVSE companies differ depending on business factors and promotional offers designed to generate more interest. Furthermore, some of these options are unique to the customer and project. These unique offerings are for commercial customers rather than residential.

Katie Guerry of Enel X North America provided testimony supporting the on-bill refinancing laid out in PSE&G's proposal but suggested extending the term from 2 years to 10

[74] EVgo (Beach) Testimony at 17-18.
[75] Market Participants (Donnelly) Testimony at 8.

years to better align with manufacturer warranties. There is no known comparable OBR option offered by other New Jersey utilities but within PSE&G, the current Energy Efficiency program offers 3-year repayment for direct install projects, and 5 or 10 year repayment depending on repayment value for multi-family and hospital projects. The Rebuttal Testimony of Company witness Terrance Moran addresses additional issues related to on-bill options.

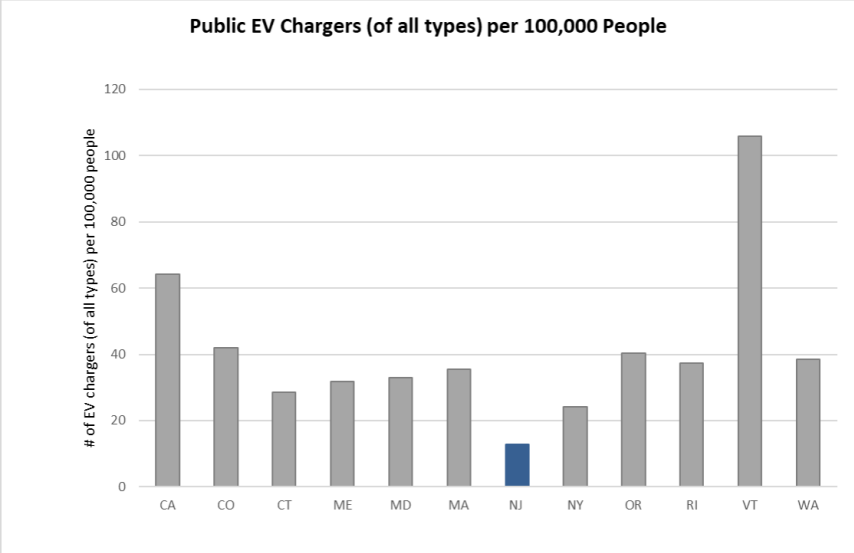
b. PSE&G's investment is needed to meet the PIV Act targets.

Q. If there is a growing market for EV charging in New Jersey, why is the Company's EV Proposal needed?

A. Despite a growing market, and signs that there is private investment interest, including interest expressed by Intervenors in this case, to date there has not been sufficient progress in the development of EV charging infrastructure in New Jersey. The MFR Order specifically finds that "the competitive market has not yet provided the investment necessary to spur the level of EV adoption required for the State to reach its goals."[76] Moreover, as demonstrated in Figure 2, below, New Jersey continues to rank lowest in the density of public chargers relative to population among states participating in California's ZEV partnership.[77]

[76] MFR Order at 25.
[77] The EMP also highlights that as of 2018, New Jersey ranked 45th in the nation in electric charging stations preregistered vehicles. EMP at 65.

Figure 2: Public EV Chargers per 100,000 People for each ZEV State[78]



ChargePoint cites data showing an approximately twenty-nine percent year-over-year growth rate for electric vehicle registrations in New Jersey,[79] which demonstrates progress, but does not resolve the "chicken and egg" problem whereby continued growth in EV purchases is not likely to continue if there is insufficient available charging infrastructure. Moreover, ChargePoint presented the growth of 2019 over 2018, which is actually a drop from the 2018 over 2017 period, demonstrating volatility in the year-to-year rates.[80] In the face of these challenges and the aggressive targets set by the PIV Act, it is unquestionable that utility investments, not limited to make-ready work, are essential to the equitable deployment and development of the EV ecosystem in New Jersey. It is also telling that private market

[78] Data obtained April 22, 2020 from United States Department of Energy, Alternative Fuels Data Center, *available at*: https://www.afdc.energy.gov/data_download and United States Census Bureau, State Population Totals and Components of Change: 2010-2019, *available at:* https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-total.html.
[79] ChargePoint Testimony at 5.
[80] Calculated with data obtained from https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=e41aa50dd8cd45faba8641b6be6097b1.

developers, themselves, agree that utility investments and incentives are necessary to ensure continued market growth,[81] one going so far as to state that the denial of PSE&G's petition would be the "worst-case commercial scenario" for their business.[82]

Q. Dr. Hausman questions the need for residential incentives and states that "many EV drivers often charge at no marginal cost to themselves at their workplace or through a charging network program."[83] Please address these comments?

A. Dr. Hausman seems to be downplaying the impacts of range anxiety as a barrier to EV adoption. Dr. Hausman does not provide support for his assumption that most EV drivers charge for free, and indeed, this assumption appears to be incorrect. As stated in the Company's response to DE-PSEG-0025, at the time PSE&G developed the CEF-EV program, the Company cited the 2017 ChargEVC Roadmap[84] on the impact of range anxiety as a barrier to EV adoption.[85] Since that time, updated studies have confirmed that range anxiety, or the fear of running out of charge on the road, continues to be a known barrier to widespread EV adoption, even for those EV drivers who have access to in-home or workplace charging.[86] Moreover, range anxiety and the chicken and egg problem that PSE&G's programs are designed to combat are very real, as recognized in the State's 2019 EMP, which describes range anxiety as "[a]mong the largest barriers to mass adoption of passenger EVs."[87]

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[81] *See*, Burns & McDonnell Testimony at 8-9; ChargePoint Testimony at 9-12; EnelX Testimony at 5; Greenlots Testimony at 7-8; *see also*, Schedule KR-CEF-EV-3.
[82] EnelX Testimony at 3.
[83] Rate Counsel (Hausman) Testimony at 20-22.
[84] ChargeEVC, A Roadmap for Vehicle Electrification in New Jersey: Market Development Strategy and High Impact Initiatives, (Sept. 13, 2017) ("2017 ChargEVC Roadmap") at 12, *available at:* http://www.chargevc.org/documents/chargevcroadmap/.
[85] Schedule KR-CEF-EV-2.
[86] *See* Company's response to DE-PSEG-0025, Schedule KR-CEF-EV-2.
[87] EMP at 65 ("[t]he EV industry to date has largely been described as a classic chicken-and-egg problem. The private sector has not made a business case to install charging infrastructure without a critical mass of EVs on the road, and consumers struggle to rationalize the purchase of a more expensive vehicle that has limited range").

Consistent with this concern, ChargePoint cites to publicly available data demonstrating that EV drivers tend to charge their vehicles at home over 80 percent of the time.[88]

c. PSE&G should use EV charging data to benefit customers

Q. Brendan Donnelly on behalf of Market Participants has stated that the Company's access to charging data should be limited. Additionally, Jigar J. Shah on behalf of Electrify America, LLC has stated that it provides charging data through its annual reporting and PSEG's access to data would provide administrative and technologies burdens. What is your response?

A. First, PSE&G should have access to charging data to enable the Company to ensure system reliability. Residential level 2 chargers have peak demands in the 7kW to 10kW range, which in many cases more than double the peak demand of residential customers. Current residential meters do not measure demand and customers are not required to inform PSE&G when they purchase one (or more) electric vehicle in-home chargers. Therefore, this demand can lead to overloads of services, secondary, transformers and fuses. When EV adoption begins to accelerate in New Jersey, these issues will be exacerbated.

Second, PSE&G should have access to charging data to enable development of additional customer benefits. The Board has expressed interest in both vehicle-to-grid technology and more complex demand-response programs. For these reasons it is essential to gather as much information as possible and to avoid limitations on the Company's access to charging data.

In the absence of demand meters, PSE&G has no current mechanism to measure residential demand at the pole or individual service level. Meeting increased EV load will be dependent on the existing facilities as well as charging frequency and timing. Without the

[88] ChargePoint Testimony at 19, *citing*, U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, available at: https://www.energy.gov/eere/electricvehicles/charging-home.

ability to measure and monitor this demand, PSE&G will be reacting to overloads after they occur, many with associate outages, rather than performing proactive management. Additionally, the more data PSE&G has about the system, the faster the Company can restore the system after extreme events. This data will be used in future Distributed Energy Management ("DERMs") systems to evaluate real-time reliability operations as well as planning.

Moreover, it is becoming industry standard to require access to the charging data. The file download requirements of NYSERDA's DC fast charger rebate program provide an example. As part of the operation of equipment, the equipment owner must provide all data requested to NYSERDA on a regular basis by providing NYSERDA with limited administrative access to the network data (preferred) or by establishing regular recurring data transfers to NYSERDA for the duration of the five (5) years, no less than quarterly.[89]

IV. Timing Of and Authority For The Petition

Q. Is this the proper time to consider PSE&G's CEF-EVES petition?

A. Yes, it is. Dr. Housman argues that it is premature to consider PSE&G's proposal, since at the time of his testimony the Board was "in the process of defining a role for utilities in supporting EV infrastructure in its consideration of Staff's EV Straw Proposal under Docket No. 11 QO20050357."[90] Notwithstanding his admission that "there are elements of the Company's proposals that may be beneficial for New Jersey," Dr. Hausman recommends that

[89] *Available at*: https://portal.nyserda.ny.gov/servlet/servlet.FileDownload?file=00Pt000000NgbUpEAJ at 13.
[90] Rate Counsel (Hausman) Testimony at 14.

the entire program be rejected.[91] However, considering that the MFR Order has now been issued, and considering the sense of urgency expressed in the MFR Order requiring the State's EDCs that have not already done so to file electric vehicle proposals within five months,[92] now is the ideal time for the Board's consideration of the Company's petition.

Q. But weren't Dr. Hausman's concerns about the stakeholder proceeding well-grounded?

A. Not at all. I would say they were baselessly pessimistic. More importantly, his blanket conclusion that the Board should simply reject the entire CEF-EV program despite its undisputed benefits reflects a failure to recognize, or a conscious disregard of, the State's express executive and legislative policy to electrify New Jersey's transportation sector.

Q. Why do you believe that Dr. Hausman's concerns about the pending stakeholder proceeding were baseless?

A. When it issued the Straw Proposal on May 18, 2020, the Board Staff was clear that "consideration of [the important] generic policy issues" identified in that proposal "will proceed in parallel with [the Board's] evaluation of EV-related filings from individual EDCs and ultimately result in a faster development of a successful EV Ecosystem."[93] The Staff unequivocally stated that all EDCs would file EV plans and proposed EV programs by December 31, 2020, with implementation dates commencing no later than April 1, 2021.[94]

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[91] Rate Counsel (Hausman) Testimony at 44. As discussed in the Rebuttal Testimony of Todd Hranicka, certain parties (Rate Counsel and Market Participants) argue that the Company's Energy Storage proposals are premature because Board has not yet followed directives of CEA including a meaningful stakeholder process. Rate Counsel (Hausman) Testimony at 32-34; Market Participants (Cavan) Testimony at 9-10.
[92] MFR Order at 26.
[93] *I/M/O Straw Proposal on Electric Vehicle Infrastructure Build Out*, Dkt. No. QO20050357, Notice, New Jersey Electric Vehicles Infrastructure Ecosystem 2020 Straw Proposal (May 18, 2020), at 3.
[94] *Id.*, at 13.

Q. And what happened next?

A. After a public hearing and the submission of over 300 pages of comments from a broad set of stakeholders, on September 23, 2020 the Board issued the EV Minimum Filing Requirements Order and stated that pending filings such as CEF-EVES "need not be refiled", rendering this pillar of Dr. Hausman's testimony moot two-and-a-half weeks after Rate Counsel filed it.[95]

Q. Was there support for a robust EDC role in EV infrastructure build-out during the stakeholder proceeding?

A. Yes. Schedule KR-CEF-EV-3 summarizes comments that were made during the stakeholder proceeding that supported a robust role for EDCs in the EV infrastructure buildout.

Q. Dr. Hausman spends a great deal of time arguing that the CEF-EV filing is legally impermissible. Can you respond?

A. Yes I can. First of all, like Dr. Hausman, I am not an attorney. Nevertheless, it is my understanding that in making the numerous legal assertions and drawing the numerous legal conclusions in his testimony regarding the Company's and the Board's legal authority, Dr. Hausman has essentially repeated the arguments stated in his client's motion to dismiss PSE&G's EV proposal.[96] I would note that the motion was dismissed.[97] Our attorneys have

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[95] MFR Order at 26.

[96] For example, Dr. Hausman: (1) asserts that PSE&G has cited no authority for the offerings that are part of CEF-EV (at 11); (2) opines that while utilities may appropriately provide make ready infrastructure, the provision of rebates is "not consistent with a utility's legal function or with any mandate under the PIV Act" (at 24-25); (3) states that CEF-EV does not qualify as an "energy efficiency" program under New Jersey law (at 30); (4) characterizes the utilities' and the Board's authority in respect of different types of technologies, including EVSE, as matter of New Jersey administrative law (at 13-14).

[97] *I/M/O the Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Electric Vehicle and Energy Storage ("CEFEVES") Program on a Regulated Basis*, Docket No. EO18101111, Order on Motion to Dismiss (N.J.B.P.U. July 1, 2020) ("July 2020 Order").

addressed these arguments in response to the motion and will continue to address these arguments in this case when appropriate.

Q. On what basis was the motion dismissed?

A. Again, I am not an attorney. However, I can state that the order denying Rate Counsel's motion accurately describes many of the positions taken by PSE&G in opposing that motion. I also note that one of the fundamental bases of PSE&G's opposition was that the various Intervenors with diverse knowledge and expertise in this case should have the opportunity to present their facts, opinion, and arguments that could be helpful in deciding this case, and that has proven to be the case considering the various parties that provided responsive testimony on September 4th. I attempt in this rebuttal testimony to make clear the ways in which the testimony not only of PSE&G and Rate Counsel but of the numerous intervening parties has helped create a robust record that enables the Board to exercise its broad jurisdiction over the activities of public utilities to evaluate the efficacy of the proposed CEF-EV petition in light of the EMP and the clear intent of the PIV Act.

Q. Please summarize your reactions to the testimony of Rate Counsel and other Intervenors.

A. My overall reaction is that there is no persuasive reason to reject altogether or to delay approval of the CEF-EV petition. PSE&G has proposed a program that reaches multiple sectors and incentivizes accelerated adoption of EVs in support of the aggressive State Goals set forth in the PIV Act. Board Staff and the Board through the MFR Order have clearly expressed an intent that the policy considerations set forth in the MFR Order, and those the Board is reserving for future consideration, should not be applied retroactively to existing petitions like PSE&G's and further delay puts at risk the delivery of the recognized and

significant benefits of transportation electrification. The Company's proposal largely aligns with important aspects of the MFR Order, in any event. Intervenors representing various sectors have made various recommendations that can be considered in implementing the program, but that do not call for rejection of the program, as Rate Counsel suggests. In short, now is the right time for the Board's consideration of PSE&G's CEF-EV Program, and the program should be approved.

Q. Does this conclude your testimony at this time?

A. Yes.

Public Service Electric and Gas Company
Case Name: CEF-EVES
Docket No(s): EO18101111

Response to Discovery Request: S-PSEG-DCE-0041
Date of Response: 8/12/2020
Witness: Reif, Karen
Provider of Last Resort Criteria

Question:
Please describe criteria for when utility ownership of public DCFC chargers would be allowed, referencing the Staff Straw Proposal on last-resort ownership of DCFC chargers by utilities.

Attachments Provided Herewith: 0

Response:
The Company's EV proposal conforms with the New Jersey Electric Vehicles Infrastructure Ecosystem 2020 Straw Proposal, most specifically with Section V, Part A, which states:

> Staff proposes that charging station infrastructure, or EVSE, costs will be generally borne by private investors, with no recourse to ratepayer funds, except where the EDC acts as the party of last resort, where investment in EVSE is not occurring, or is not occurring in specific geographic areas.[4]

The Company will continually review the updated NJDEP EV Strategic Mapping Effort[5] for proposed EV ecosystem investments. When PSE&G launches the DCFC subprogram, it will solicit interest in program participation from both customers and EVSE providers, using the NJDEP proposed locations as a guide. While continuing to solicit private market interest in program participation, as the Company's program begins the second year of implementation, PSE&G will also identify key locations based on the high priority NJDEP "complete list of suitability scores"[6] that have not garnered private market interest, and a geographical review of gaps or "charging deserts". Upon identifying such key locations, the Company will again solicit interest from the private market for these specific key locations before determining that PSE&G should become the provider of last resort. The Company will repeat this process annually during the program to ensure meeting the program goal of 150 installed stations and support the state goals of the PIV Act or identified on the published NJDEP map and spreadsheet. In the event the private market is interested in 150 locations through the Company's program, PSE&G will not own or operate any public DCFC stations.

[4] EV Straw Proposal, Page 7
[5] https://www.nj.gov/dep/drivegreen/dg-partnership-to-plugin.html
[6] https://www.nj.gov/dep/drivegreen/dg-partnership-to-plugin.html

PS-RC-5. Reference Dr. Hausman's testimony, page 19, lines 4-6. In that section of testimony:

a. How does Dr. Hausman define the terms "low income customer" and "moderate-income customer"?

b. Please define the term "luxury vehicle."

c. Provide all analysis, studies, reports, papers, presentations, published articles, or testimonies Dr. Hausman has performed and/or prepared that supports his conclusion that the CEF-EV program will not impact the likelihood that low or moderate-income customers will purchase an electric vehicle. Please also provide any data and calculations, with formulae intact, supporting any of the items produced in response to this question.

Response:

a. Dr. Hausman was using the terms as they are generally understood and did not intend a specific definition; nor did he intend to be specifically consistent with eligibility requirements for utility low-income programs.

b. Dr. Hausman was using this term as it is generally understood. Speaking generally, he means a vehicle that provides additional features and is more expensive than a baseline model or other vehicles of similar size and utility.

c. Dr. Hausman has performed or prepared no such analyses or studies, nor would it be possible to prove a negative as the question suggests. It is Dr. Hausman's understanding that the Company has the burden of proof that its programs will have the impact described, and the Company's filings have not provided such proof.

Public Service Electric and Gas Company
Case Name: CEF-EVES
Docket No(s): EO18101111

Response to Discovery Request: DE-PSEG-0003
Date of Response: 7/21/2020
Witness: Reif, Karen
Utility Monopolization of Market

Question:
Please refer to the Direct Testimony of Karen Reif, page 10, lines 6-13. Ms. Reif states that PSE&G is uniquely qualified to successfully implement the proposed EV subprograms because it has established customer relationships.
(a) Do you agree that third parties such as a retail energy suppliers may be more effective than PSE&G in offering the proposed subprograms in New Jersey because of their state-wide reach? If you do not agree, please explain.
(b) Do you agree that PSE&G is attempting to use its monopolistic public utility status to the exclusion of competitive third party market participants?

Attachments Provided Herewith: 0

Response:

a. PSE&G does not agree that third party suppliers may be more effective than PSE&G in offering the proposed subprograms. Third party suppliers have yet to make significant progress toward EV infrastructure deployment in New Jersey.
b. PSE&G objects to this request on the ground that it misrepresents the purpose and structure of the proposed public utility program, which is intended to support the competitive market and not to compete with or exclude any competitive market participants. Subject to and notwithstanding this objection, PSE&G states that to date the private market has not provided an adequate level of investment in charging infrastructure to meet New Jersey's transportation electrification and emissions goals. The Company's proposal to accelerate build out of EV charging infrastructure will fill a need that has not been met, and is not likely to be met, by the competitive market. Furthermore, PSE&G's program is small in relation to the overall market need to meet state-mandated goals, and utility investment as proposed by PSE&G results in increased near-term opportunities for all market participants because the utility itself will procure EV service equipment and the services provided by EV market participants, such as charger and network providers and installation contractors. Moreover, PSE&G's program will spur the growth of the market over time thereby further increasing opportunity for third market participants.

Public Service Electric and Gas Company
Case Name: CEF-EVES
Docket No(s): EO18101111

Response to Discovery Request: S-PSEG-REV-0019
Date of Response: 6/30/2020
Witness: Reif, Karen
Provider of Last Resort

Question:
Reference Karen Reif Direct Testimony on Page 19

The testimony states, "The second model will only be utilized if the competitive market is unable to support the DC Fast Charging Station development using the Third-Party Ownership." Please provide any analysis done by PSE&G regarding the anticipated level of this model.

Attachments Provided Herewith: 0

Response:
PSE&G reviewed its service territory for segments within the travel corridors of approximately 25 miles in length and community locations that, combined, would provide a minimum geographic coverage of charging stations to combat range anxiety, which is a barrier to EV adoption. Of that tally, the Company estimated a percentage of the locations that were likely to be sub-economic for private investors due to lower initial utilization in the five year period following program launch. Based on this analysis, PSE&G is projecting to support private investment in approximately 2/3 of those locations and serving as provider of last resort (POLR) in approximately 1/3 of those locations.

Public Service Electric and Gas Company
Case Name: CEF-EVES
Docket No(s): EO18101111

Response to Discovery Request: CP-PSEG-0004
Date of Response: 7/17/2020
Witness: Reif, Karen
DCFC Price Setting

Question:
Please confirm that if the Company moves forward with owning DC fast charging stations, participating commercial customers that host the stations will have the ability to access station usage data and have the ability to set pricing to drivers, whether it be a "flow through" DCFC rate similar to what the site host pays to the utility or some other variation. If not, please explain why.

Attachments Provided Herewith: 0

Response:
Commercial site hosts will have the ability to access station usage data through their utility bill. Additional data access will be available but is dependent on other factors including the software setup and the customer relationship between the site host and end user. Price setting for the sale of charging time and power level will be the responsibility of the site owner. PSE&G does not set standards for commercial site hosts on pricing they offer to the individual end users.

Public Service Electric and Gas Company
Case Name: CEF-EVES
Docket No(s): EO18101111

Response to Discovery Request: S-PSEG-DCE-0061
Date of Response: 10/5/2020
Witness: N/A
Extending EV Charging Rates

Question:
Has the Company considered extending the proposed EV charging rates to all existing and future EV charging stations, regardless of whether they utilize other aspects of the program?

Attachments Provided Herewith: 0

Response:
Yes, the Company considered extending the proposed EV charging rates to all existing and future EV charging stations, regardless of whether they utilize other aspects of the program. When developing the proposal, PSE&G sought to balance the benefit of supporting EV infrastructure build out with the program cost impact to its customers. Based on internet research, the current number of DCFC plugs in PSE&G's service territory is approximately 280. Applying the demand charge rebate as structured in the Company's proposal for the entire length of the six-year program would approximately triple the $39M cost. PSE&G decided to target the support to new DCFC charging stations to encourage additional build out.

Public Service Electric and Gas Company
Case Name: CEF-EVES
Docket No(s): EO18101111

Response to Discovery Request: DE-PSEG-0025
Date of Response: 7/21/2020
Witness: Reif, Karen
DCFC vs. In-Home Charging

Question:
Refer to the Direct Testimony of Karen Reif, pages 19-20. Provide justification for expenditures associated with the installation of DC fast chargers or superchargers along highways when the majority of charging is done at home or at the workplace.

Attachments Provided Herewith: 0

Response:
At the time PSE&G developed the Electric Vehicle (EV) program, the Company cited the 2017 ChargEVC Roadmap[3] on the impact of range anxiety as a barrier to EV adoption. Since that time, updated studies have confirmed that range anxiety, or the fear of running out of charge on the road, continues to be a known barrier to widespread EV adoption, even for those EV drivers who have access to in-home or workplace charging. These studies include, but are not limited to:

- Life in the fast lane, Global Automotive Disruption Speedometer 2019, by OC&C Strategy Consultants[4] that shows that 56% of U.S. respondents noted "access to charging points away from home" as their largest concern in considering an EV.
- Projections of Electric Vehicle Adoption in New Jersey by ChargEVC[5] in 2019 that asserts "[f]or most mainstream consumers, the ability to obtain a fast and convenient charge while "on the road" is a primary consideration in potential PEV adoption."

Moreover, many New Jersey residents may not have access to either in-home or workplace charging, and DC fast chargers and super chargers along highways are needed to achieve equitable distribution of the EV ecosystem. As recognized it the New Jersey Electric Vehicle Infrastructure Ecosystem 2020 Straw Proposal issued by the BPU on May 18, 2020, "New Jersey needs to create a comprehensive EV Ecosystem that provides consumers with easy access to electric vehicle charging infrastructure where they **work and play**."[6] PSE&G's investment in DC fast chargers is intended to combat range anxiety and support goals toward a comprehensive ecosystem.

[3] Page 12, ChargeEVC, A Roadmap for Vehicle Electrification in New Jersey: Market Development Strategy and High Impact Initiatives, (Sept. 13, 2017) ("2017 ChargEVC Roadmap"), available at http://www.chargevc.org/documents/chargevc-roadmap/
[4] Page 26, https://www.occstrategy.com/media/2462/the-occ-global-automotive-disruption-speedometer_us-online.pdf
[5] Page 15, http://www.chargevc.org/wp-content/uploads/2019/09/ChargEVC-Updated-PEV-Projection-Sept-18-2019.pdf
[6] *In the Matter of Straw Proposal on Electric Vehicle Infrastructure Build Out,* Docket No. QO20050357 (May 18, 2020), at page 1.

I/M/O Straw Proposal on Electric Vehicle Build Out, Docket No. QO20050357

June 17, 2020 Written Comments Supporting EDC Role

Party	**Quotation**	**Page(s)**
Alliance for Automotive Innovation	"[A]utomotive industry investments alone are not enough to ensure increased market penetration for electrified vehicles. Increasing customer demand for EVs is necessary, and time and time again studies have shown that purchase incentives and available charging/refueling . . . We appreciate the need for utility charger-ready infrastructure, as this reduces cost for future electric vehicle supply equipment (EVSE) installation. However, it is simply too early in market development to know with precision the exact and most efficient role for utilities. Investing in charger-ready infrastructure is certainly an important and foundational role for utilities, but there will be instances where a utility ownership model makes the most sense to overcome barriers. We urge BPU to be flexible in the role of utilities, evaluate ways to support a competitive market between public and private providers, and be willing to adapt as the EV market continues to evolve."	2-3
Alliance for Transportation Electrification	"[W]ithout dramatic action, including turnkey charging solutions from Electric Distribution Companies (EDCs), today's severe shortage of charging infrastructure in New Jersey will prevent the state from achieving its ambitious transportation electrification goals as well as its overall climate goals. We urge the Board to take an approach more aggressive than outlined in the Straw Proposal, and also to approve expeditiously the TE [transportation electrification] plans currently pending . . . ATE believes that, in these still early days of the electric vehicle industry, it is essential for EDCs to offer, alongside the private sector, creative and economic solutions."	1-2
Atlantic City Electric Co.	"[A] broader role for utilities will be necessary if New Jersey is to succeed in achieving its goals of a widespread deployment of EV charging infrastructure and subsequent EV adoption, as set forth in both the Energy Master Plan ("EMP") and as recently signed into law in the plug in vehicle legislation ("S2252") . . . Overall, ACE believes that enabling utilities to leverage all of the tools at their disposal, including all roles of utility investment in charging infrastructure and rate design initiatives, will be critical to attaining State goals and realizing the benefits of transportation electrification for New Jersey ratepayers."	2
CALSTART	"Significant utility investment in medium- and heavy-duty vehicle charging infrastructure and shrewd rate design will be necessary to increase the trajectory of EV adoption in New Jersey . . ."	1

ChargeEVC	"Most importantly, the most optimal role for the utility will depend on a combination of tools, such as providing make-ready, rate-design, and (in appropriate cases) owning and operating the infrastructure. If properly designed, this portfolio of market development programs will not displace private investment, it will attract and leverage private investment. The EVESP is incomplete in its consideration of the range of tools that can be offered in multiple segments, frequently in combination with each other, and in most cases in a form that complements private investment."	5-6
ChargePoint	"A cohesive partnership between regulated utilities and competitive market actors will be critical to meeting New Jersey's ambitious energy, environmental, and transportation goals . . . rebates toward EVSE purchase costs, combined with make-ready incentives, have been utilized by utilities across the country to successfully incentivize deployment of EV infrastructure while minimizing overall program costs.5 As discussed further below, the BPU has the authority to authorize rebates for EVSE."	4
Edison Electric Institute (EEI)	"Electric companies are well-positioned to make targeted and strategic investments in EV charging infrastructure that benefit the broader community and accelerate EV adoption."	1
Electrify America	"Support from the utility sector is critical to ensuring that New Jersey meets its ambitious targets for transportation electrification, including the goals of 330,000 plug-in vehicles registered and 400 DC fast chargers deployed in the state by 2025 . . . [a]s an EVSE Infrastructure Company with substantial investments in New Jersey, Electrify America appreciates the recognition that private companies have already made substantial investment in the state, and that utility support for make-ready infrastructure can encourage additional private sector investment in EV charging infrastructure in New Jersey."	1-2
EnelX	"[T]he Board should look to establish a shared responsibility model that provides solutions beyond a single market segment and business model, to consider the roles of EDCs, EVSPs, and ratepayer funding to catalyze Charger Ready deployment across a broad cross-section of light duty segments, including single- and multi-family residential, workplace, fleet, and public destination using multiple different business models, funding sources, and ownership structures . . . [w]e also recommend that the Board not close the door on the possibility of ratepayers funding EVSE incentives, especially following S 2252's allowance for the board to adopt rebates for EVSE purchase and installation for residential customers."	6
ENERVEE	"Utilities are critical partners in helping car buyers understand the benefits of EVs and make informed purchasing decisions – considering tariffs, solar and home charger options. According	3

	to Lisa Wood, VP of Customer Solutions for the Edison Electric Institute, the role of investor-owned utilities is 'to help to create a level playing field for EVs'. People already have a contractual relationship with their energy provider, and the overwhelming majority (69%) believe that their energy provider should do more to help them understand the benefits of EVs over conventional vehicles. And EV manufacturers agree. General Motors' former director of advanced commercialization policy, Britta Gross, said: 'It's critical that all utilities are fully involved and directly engaged in growing the EV market.'"	
Environmental Defense Fund	"U]tility involvement in EV development should be more extensive and flexible than the Straw Proposal describes . . . utility support for EV development is needed beyond areas of 'last resort,' including the MHDV sector and other more nascent EV market segments. We must allow EDCs to own and operate EVSE in a wider range of circumstances. There are clear advantages to expanding utility involvement in New Jersey's EV ecosystem given their general infrastructure experience and greater capital flexibility. Allowing utilities to install and operate their own EV infrastructure can help address issues of range anxiety and upfront cost that are currently preventing broader uptake of these vehicles. EDCs can ensure charging infrastructure is consistently available throughout the state. This includes but should not be limited to developing the EV ecosystem in locations considered uneconomical by non-utility market participants, creating a more equitable distribution of EVSE and its benefits."	5-6
Environmental Entities (Environment New Jersey, Isles Inc., The Natural Resource Defense Council, The Nature Conservancy – NJ Chapter, New Jersey Conservation Foundation, New Jersey League of Conservation Voters, New Jersey Sustainable Business Council, Sierra Club, Tri-State Transportation Campaign)	"The Board should look to utility programs to "gap fill" in areas where there are no currently existing programs, or where the state would like to increase available funding for existing programs . . . [t]here are three primary barriers to EV adoption: 1) incremental vehicle cost; 2) the lack of charging infrastructure; and 3) the lack of consumer awareness. EDCs are uniquely situated to help overcome these barriers and meaningfully accelerate the adoption of light-, medium-, and heavy-duty EVs. New Jersey's EDCs should develop programs and rate options that increase fuel cost savings, speed the deployment of EV charging infrastructure, increase consumer awareness of the benefits of EVs, and improve the utilization of the electric grid to the benefit of all customers. Regulated electric utilities have several characteristics that make them well-suited to play a central role in EV infrastructure buildout."	3-4
Fleet Infrastructure Vision for EV Charging	"Electric Utilities sought rate basing investment for EV Infrastructure but have recently been rebuffed in favor of market driven solutions. Utilities derive additional revenue from EV load growth and have rate basing paths with this . . . [the Board should] [i]mmediately engage a largely idled	3-4

	"remote" workforce of utilities, governments, and transit agencies into valuable planning activities that apply off the shelf technologies for shovel ready projects improving the operational competitiveness of multiple industry segments. [o]pen productive and fair paths for utility business model transformation that engages broader community risk and reward options, and reduces wealth extraction through shareholder profit draw."	
Greenlots	"Utilities are critically important to attain EV goals . . . [m]ake-ready investment is an important tool but should be one of serval utility investment approaches . . . [u]tility ownership is essential to overcome market barriers and accelerate electrification."	1
Jersey Central Power & Light Company	"Electric utilities solve this "chicken or the egg" problem. Where utilities develop and own public charging infrastructure, a baseline level of public charging infrastructure is established, which will, in turn, reduce range anxiety for residents and increase EV purchases. Once there are more in-state EV drivers, the competitive market for EV charging infrastructure will expand. This important role that electric utilities can play in jumpstarting EV adoption has been recognized by numerous commissions throughout the country."	2
Port Authority of NY & NJ	While make-ready is a natural fit for EDCs, the Port Authority also believes that, especially in a capital-constrained post-COVID environment, it also makes sense for EDCs to be providers-of-last resort for EV infrastructure to ensure NJ stays on track to meet its EV objectives, and to catalyze the market – bringing costs down for users and other providers . . . We hope the Board of Public Utilities will work swiftly to approve the related filings utilities have provided to begin implementation and piloting of their proposals. The Port Authority has made significant commitments to decarbonize its operations and vehicle electrification represents a keystone of that approach. While PSE&G is a critical partner, they currently lack the expeditious approval and flexibility to assist in the rapid decarbonization of transportation that we hope will result from this straw proposal."	2, 5