

Submitted Via Email

June 17, 2020

Aida Camacho-Welch,  
Secretary New Jersey Board of Public Utilities  
Post Office Box 350  
Trenton, New Jersey 08625

**RE: Straw Proposal on Electric Vehicle Infrastructure Build Out Docket No. QO20050357**

Dear Secretary Camacho-Welch:

Please find enclosed the comments of the undersigned organizations submitted in response to the Board of Public Utilities' Straw Proposal on Electric Vehicle Infrastructure Build Out. We appreciate the opportunity to provide input on this important topic, and look forward to continuing the conversation as the Board further develops its Straw Proposal

Sincerely,

Kathy Harris,  
Clean Vehicles and Fuels Advocate  
NRDC

Eric Miller  
New Jersey Energy Policy Directory  
NRDC

On behalf of:

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

## I. Introduction

The undersigned organizations (“Commenters”) appreciate the opportunity to provide input on the Board of Public Utilities’ (“BPU, or Board”) New Jersey Electric Vehicles Infrastructure Ecosystem 2020 Straw Proposal (*hereinafter*, “Straw Proposal”). The Straw Proposal is an important step to support the growing electric vehicle (“EV”) market by increasing infrastructure investment in the Garden State, particularly the “make ready” or “charger ready” aspect of the EV Ecosystem. However, we believe there is an opportunity to strengthen the Straw Proposal to ensure that it provides clean transportation opportunities to all residents, helps to optimally integrate EVs onto the electric grid, and develops this infrastructure in a deliberate and flexible manner that will allow New Jersey to achieve its transportation electrification goals.

The transportation sector accounts for 42% of greenhouse gas emissions in New Jersey, and to achieve the state's climate goals under the Global Warming Response Act (“GWRA”)<sup>1</sup> and Zero Emission Vehicle (“ZEV”) program, electrifying the state's light-duty vehicles is an important first step.<sup>2</sup> New Jersey has already begun to set itself up as a transportation electrification leader on the East Coast. In early 2020, Governor Murphy signed N.J.S.A. 48:25-3 into law (“PIV Act”) which, in part, directed the BPU to develop one of the most robust EV rebate programs in the country, as well as set goals for infrastructure to support these vehicles.

Moreover, New Jersey’s 2019 Energy Master Plan (“EMP”) states that “the transportation sector should be almost entirely decarbonized by 2050.”<sup>3</sup> It also recommends that the state take “concrete steps to start to phase out motor gasoline and convention diesel consumption as *quickly as possible*.”<sup>4</sup> One of the largest barriers to widespread and rapid EV adoption is range anxiety<sup>5</sup>, and the “chicken-and-egg problem”—where the private sector has not made a business case to install a robust network of charging infrastructure absent a critical mass of EV’s on the road, and there will not be a critical mass of EV’s on the road until there is sufficient charging infrastructure available. If properly designed, the Straw Proposal can serve as the first step to solve this dilemma.

We applaud the BPU for advancing the goal transportation electrification in New Jersey. Our ensuing comments provide suggestions for modifications to strengthen the Straw Proposal and set New Jersey up to be an EV and transportation electrification leader throughout the country.

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<sup>1</sup> N.J.S.A. 26:2C-37 et seq.

<sup>2</sup> <https://www.nj.gov/dep/aqes/oce-ghgei.html>

<sup>3</sup> EMP at 59.

<sup>4</sup> *Id.*

<sup>5</sup> Range Anxiety is the fear of running out of charge before a driver reaches their destination due to a perceived lack of charging infrastructure.

## **II. Comments**

### **1. The BPU Should Clarify the Scope and Purpose of the Straw Proposal**

Commenters urge the Board to clarify whether the Straw Proposal is intended to be a comprehensive document aimed at setting the policy guidelines for EV goals in the state, or whether it is a more narrowly tailored document aimed squarely at achieving the state's ambitious charging infrastructure goals. The Plug-In Vehicle Act (“PIV Act”) includes ten specific EV related goals for the state:

1. At least 330,000 of the total number of registered light duty vehicles in the State shall be plug-in electric vehicles by December 31, 2025;
2. At least 2 million of the total number of registered light duty vehicles in the State shall be plug-in electric vehicles by December 31, 2035;
3. At least 85 percent of all new light duty vehicles sold or leased in the State shall be plug-in electric vehicles by December 31, 2040;
4. At least 400 Direct Current Fast Chargers shall be available for public use at no fewer than 200 charging locations in the State;
5. At least 1,000 Level Two chargers shall be available for public use across the State by December 31, 2025, and after initial installation, those EVSE may be upgraded to higher power or DC Fast Chargers as appropriate by the owner or operator of the EVSE;
6. Aggressive goals for charging infrastructure build-out at multi-family residential properties;
7. Aggressive goals for charging infrastructure build-out at franchised overnight lodging establishments;
8. The electrification of state-owned non-emergency light duty vehicles, with the electrification of 25 percent of the state fleet by 2025 and full electrification by 2035.
9. A rapid transition to electrify NJ Transit buses with all purchases being full electric in 2032 and a mandate that 10 percent of bus purchases made by the NJ Transit Corporation are electric by 2024, 50 percent by 2026 and 100 percent by 2032, with an initial priority for routes in low-income, urban or environmental justice communities.
10. Other goals for medium-and heavy-duty vehicle electrification and infrastructure adopted by the NJDEP by December 31, 2020.

N.J.S.A. 48:25-3 (a)(1)-(10).

Based on the foregoing, there are four near-term goals the state needs to achieve by the end of 2025: (1) 330,000 registered light duty vehicles; (2) 1,000 Level Two chargers; (3) electrification of 25 percent of the state fleet; and, (4) 10 percent of bus purchases made by the

NJ Transit Corporation are electric by 2024. Importantly, the pace of change does not slow down after 2025, with goals becoming more ambitious into the 2030s and beyond.

Given the ambitious nature of the goals, and the short timeline in which to achieve them, the Commenters recommend that the Straw Proposal provide further guidance on programs and policies that will support the other goals enumerated in the PIV ACT through a flexible approach that will prioritize the rapid achievement of these goals, rather than a rigid framework designed only to meet one or two of the goals.

## **2. The BPU Should Further Iterate that its Straw Proposal Would Not Delay Current Utility Filings in front of the Board**

In 2018, both Atlantic City Electric (“ACE”) and Public Service Electric and Gas (“PSEG”) filed petitions for approval of electric vehicle programs.<sup>6</sup> Both filings contain a number of incentives, rebates, and other utility activities to support EVs and transportation electrification. Some of those activities are discussed in the Straw Proposal; however, others are not. For example, both utility filings provide customer incentives for charging equipment at the residential, multi-unit dwellings (“MUDs”), and commercial sectors.

While Commenters agree that both utilities and the Board should endeavor to avoid duplicative incentive offerings, we do not believe that means the door should be shut for utility incentives at this time. Instead, the Commenters urge the Board to clarify that both active filings will not be delayed by the Straw Proposal or any changes to the Minimum Filing Requirements (“MFRs”). 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.

The utility filings contain many additional program offerings not currently provided by the Board or other entities. For example, PSEG proposes incentives for 2,200 Level 2 mixed used chargers, 450 DC Fast Chargers, and incentives for electric school buses, charging equipment, and open solicitation for customized electrification processes. ACE proposes similar programs that would speed up the deployment of this infrastructure while providing the basis for other programs related to clean transit *via* school buses, NJ Transit, and other potential medium-, and heavy-duty fleet electrification.

Given that many of the active parties in this proceeding are also active parties in the PSEG and ACE proceeding, the Commenters recommend that the BPU further clarify that the

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<sup>6</sup> See In The Matter of Atlantic City Electric Company for Approval of a Voluntary Program for Plug-In Vehicle Charging. BPU Docket No. EO18020190, *and* 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.

ongoing straw proposal will not impact the already-set procedural schedule of the utility filings given their importance to New Jersey's achievement of the PIV Act goals. The Commenters discuss the potential impacts and design of MFRs in greater detail in Section 3 of these Comments.

### **3. The BPU Should be Flexible in its Approach to the Role of Regulated Utilities in the EV Space**

There 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. First, their specific and expert knowledge of the distribution system and the potential impact of vehicle charging on load shape and shifting. It is critical that New Jersey's investment in the distribution system happen in close coordination with its build out of EV charging infrastructure ("EVSE") given the potential load impacts of widespread EV adoption. Moreover, utilities are able to optimize the electric grid and ensure that most electric vehicle charging occurs during off-peak hours, if granted regulatory approval for demand response, education programs, programs and tariffs that allow for managed charging or rate design.

While the Commenters support the Straw Proposal's identification of the key role that utilities play in make-ready—or "charger-ready" as defined in the Straw Proposal—activities, we strongly encourage the BPU to not discount EDC ownership of EV charging stations at this time, as EDC ownership is a valuable tool to expand initial deployment of charging stations both in certain sectors such as environmental justice, underserved communities and public, affordable housing MUDs, as well as more broadly statewide. While the Straw Proposal proposes an avenue for utility ownership of charging stations, that role is narrowly defined and includes a waiting period that would likely prevent New Jersey from meeting its ambitious targets contained in the EMP and PIV Act.

We also urge the BPU to consider avoiding specific MFRs, but instead focus on goals and objectives of the individual programs. Program design should not be litigated in the abstract or hypothetical, but rather in the context of actual programmatic proposals supported by robust applications. The determination of whether the utilities' proposals satisfy the statutory criteria

cannot be made in the abstract but must be evaluated with full information and in the context of a complete portfolio of transportation electrification investments. Utility transportation electrification applications should be assessed on their ability to: 1) increase charging station deployment; 2) maximize fuel cost savings (relative to a fixed forecast of gasoline prices); and 3) optimize EV load, for instance by shifting it to off-peak hours.

Additionally, given that rapidly approaching deadline of the PIV Act goals, as well as the Board's stated preference for utility programs to begin in April of 2021, the Commenters recommend that to the extent the Board modify or adopt MFRs, it not apply to active filings that are already in front of the Board. Instead, the Commenters recommend adopting principles that could, if needed, be propounded in discovery so as not to delay the proceedings.

Furthermore, the Board should provide additional flexibility on "duplicative" program offerings. The Board identifies it has an intention to provide residential charging incentive programs. However, in areas where the Board is currently silent on its intention, or other programs do not already provide incentives, utilities should be permitted to propose programs or incentives. Additionally, even if there is an existing state program, utilities should be free to propose additional incentives so long as the proposal includes an explanation of how the program will create synergies or complimentary incentives.

For example, the PIV Act provides that the BPU may establish a residential charging program incentive of \$500.00. An EDC should be permitted to make a showing as to whether a \$500.00 incentive level is sufficient to induce action, and whether it should provide additional incentives to customers to leverage capital from multiple sources of funding. Such a structure would foster more innovation in EDC plan filings, as well as a more rapid build-out of charging infrastructure.

While the private market providers ("EVSE Companies") have a key role to play in the build out of infrastructure across the state, utilities' expertise and status as regulated entities make them uniquely well-positioned to play a central role in EV infrastructure build-out both statewide as well as in the MUD space in particular. Landlords at MUDs are not generally in the business of procuring, operating, and maintaining charging stations, and therefore without utility involvement, may be deterred from participating in programs. This has been clearly evidenced by previous pilots implemented by Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E). In SCE's Charge Ready pilot, which included no ownership option and provided a rebate to cover 100% of the make-ready costs for participating sites, only three percent of all deployments were in MUDs. In the SDG&E Power Your Drive pilot which included utility ownership of charging stations, over forty percent of all deployments were in MUDs—suggesting landlords would rather have the utility procure, operate, and maintain charging stations. Incorporating the lessons learned in those pilots and building upon the success

of SDG&E’s pilot, SCE redesigned its successor Charge Ready 2 Program to include a turnkey utility-ownership solution, providing MUDs with both the make-ready infrastructure and the electric vehicle charging station.<sup>7</sup> The BPU should use the lessons learned and best practices from other utilities as guidelines when designing their programs to improve participation at MUDs and support more equitable and widespread transportation electrification.

#### **4. BPU Should Ensure the Straw Proposal Provides a Pathway for all Residents to have Access to Clean Transportation**

The state should take a multi-sector, multi-technological approach to ensure that all NJ residents have access to clean transportation. This includes, but is certainly not limited to, equitable access to charging infrastructure, light-duty vehicles, medium- and heavy-duty (“M&HD”) vehicles, identification of low- and moderate- income (“LMI”) and Environmental Justice (“EJ”) communities, transit, rates that reduce fueling costs, and multi-modal transportation options. As discussed elsewhere in these comments, it’s important that investments are made in these communities in the near term, and not after a waiting period to determine who should be able to enter this space.

Utility ownership of charging stations may be particularly valuable in certain segments, such as MUDs. Therefore, we recommend utility turn-key solutions for charging infrastructure located at MUDs in LMI and EJ communities. Low- and moderate-income communities still face significant barriers to EV adoption. In addition to the upfront cost of purchasing an EV, access to charging infrastructure and lack of awareness have inhibited EV adoption in these communities. In many cases low-income drivers face heightened barriers relative to other drivers, with diminished access to financing, less access to information on EVs, and a lack of public charging infrastructure in their neighborhoods. When considering investments in electric vehicle charging infrastructure, especially in LMI and EJ communities, it’s important to look at examples and lessons learned from other utilities, such as Pacific Gas and Electric’s (“PG&E”) widely supported, approved LMI program.<sup>8</sup> PG&E’s *Empower Electric Vehicle Charger Incentive and Education Program* was designed to address all of these barriers and could serve as a model program for expanding the benefits of transportation electrification to historically underserved households in New Jersey.

It’s also important that the BPU consider how to get investments in underserved communities, including rural communities, whose charging needs have not been met by the competitive market. We don’t need to wait and see where these communities are—charging station maps already show where the major gaps are, and where investment is needed.<sup>9</sup>

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<sup>7</sup> <http://docs.cpuc.ca.gov/PublishedDocs/SupDoc/A1806015/1826/247318458.pdf>

<sup>8</sup> Miles Muller, *California Approves Novel Low-Income EV Charger Program*, NRDC, September 2019; <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M314/K145/314145047.PDF>

<sup>9</sup> E.g. Plugshare.com; <https://afdc.energy.gov/stations/>

### **a. Ensure benefits of Clean Transportation for All**

In February 2020, the Edison Electric Institute, Illinois Citizens Utility Board, National Consumer Law Center, NRDC, and Sierra Club issued a joint statement highlighting a shared recognition that electrifying cars, trucks, and buses can benefit everyone—especially those in disadvantaged communities.<sup>10</sup> This statement underscores the importance of thoughtful utility investments and programs to ensure equitable access to clean transportation. The Straw Proposal takes a step in the right direction towards this equitable access by considering how to make MUD charging accessible to customers, but we offer some recommendations to increase transportation electrification in LMI and EJ communities.

Since these communities are often disproportionately burdened by transportation emissions—as a result of more polluting and health-harming vehicles and heavy traffic—it is important that clean transportation solutions are made available within these communities and to residents of these disadvantaged areas. Accordingly, the Board should direct utilities to:

- Lower household expenditures by increasing access to the use of clean and affordable electricity as a transportation fuel, support the electrification of buses, medium and heavy-duty trucks, and other vehicles and equipment to improve local air quality;
- Improve the utilization of the electric grid through intelligent rate design and accelerated EV adoption, putting downward pressure on rates to the benefit of all customers;
- Take advantage of the flexibility and energy storage inherent in electric vehicles to facilitate the integration of renewable generation; and
- Install charging infrastructure in LMI and EJ communities, with increased incentives for multi-unit dwellings to ensure those residents can also charge at home.

Utilities should also consider and develop additional programs that bring the benefits of transportation electrification to all citizens, regardless if they own or have access to a personal vehicle. This could include innovative programs such as electric vanpools or carshares for drivers or electric transit and other clean transportation options. One model for such a program is the Trenton E-Mobility project that is being spearheaded by Isles, Inc., ChargeEVC, Environment New Jersey, and NJ Clean Cities Coalition. The project consists of an electric vehicle car- and rideshare program that will work to improve residents' mobility in and out the city with the goal of increasing access to jobs, healthcare, and other resources. The program plans to partner with community-based organizations whose clientele are challenged with transportation to ensure that

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<sup>10</sup> Joint Statement Supporting Electric Transportation (February 2020) *available at* [https://www.nrdc.org/sites/default/files/media-uploads/joint\\_statement\\_supporting\\_electric\\_transportation\\_0.pdf](https://www.nrdc.org/sites/default/files/media-uploads/joint_statement_supporting_electric_transportation_0.pdf)



it serves residents in need. A similar community-driven approach can be developed in other underserved communities in the state.

#### **b. Set guidance on fleet and medium- and heavy- duty vehicle electrification**

Fleet electrification is a way to ensure LMI and EJ communities are able to realize the benefits of clean air and transportation options. Electrifying transit buses would provide a clean alternative for those who do not own a personal vehicle; electric school buses clean up the air while driving through communities and transporting children to school; electric delivery and heavy-duty vehicles reduce pollution on New Jersey’s roads, especially those around the ports, industrial sites, and in urban areas. This can lead to ancillary savings for communities that are burdened by the worst of pollution, as an Electric Bus Analysis by Columbia University suggests one-electric bus can save \$150,000 in healthcare costs for communities due to reductions in air pollution and resulting emergency room visits.<sup>11</sup>

While light-duty vehicles are the largest source of pollution on the roads, M&HD vehicles are significant sources of criteria air pollutants including NO<sub>x</sub>, SO<sub>x</sub> and PM 2.5, therefore the electrification of these vehicle types provide vital opportunities for clean transportation of goods and people, especially for those who may not have access to a personal vehicle. The board should release guidance on fleet electrification as soon as possible, especially for M&HD vehicles. M&HD electrification is a triple-win: it is good for the environment, good for fleets’ bottom lines, and can provide jobs and economic growth.<sup>12</sup> In addition to the environmental and health benefits, supporting the electrification of M&HD vehicles provides economic benefits to New Jersey businesses. According to a recent analysis conducted by CalETC, electric trucks and buses will have the lowest total cost of ownership in 2030, even without purchase incentives in California. We expect a similar total cost of ownership nationwide, including in New Jersey.<sup>13</sup>

Many fleet vehicles “return home” to charge overnight. Therefore, it’s important that fleets have the necessary infrastructure available. As this can be expensive, the BPU should provide similar make-ready programs to support fleet electrification. Other M&HD vehicles—such as long-distance delivery trucks and transit buses—may need to charge throughout the day or along their routes. Therefore, it’s important that infrastructure for these vehicles is available across major thoroughfares and delivery routes. For transit buses, charging should be available en-route or at bus stations to ensure vehicles are able to complete their routes without fear of running out of charge.

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<sup>11</sup> Judah Aber, *Electric Bus Analysis for NYC Transit* (May 2016) available at, <http://www.columbia.edu/~ja3041/Electric%20Bus%20Analysis%20for%20NYC%20Transit%20by%20J%20Aber%20Columbia%20University%20-%20May%202016.pdf>

<sup>12</sup> ICF, Comparison of Medium- and Heavy- Duty Technologies in California, December 2019.

<sup>13</sup> *Id.*

**c. The BPU should develop criteria to identify EJ and LMI communities**

As disadvantaged communities are often subject to the brunt of transportation emissions, it is important for clean transportation investments in these communities. For the sake of this question, the term “disadvantaged communities” is assumed to encompass both EJ and LMI communities. Therefore, when determining locations of disadvantaged communities, BPU must consider both LMI and EJ components and metrics. We encourage the Board to also consider programs that can support supplementary clean transportation opportunities, such as transit and delivery trucks, that will allow for LMI and EJ communities to realize the benefits of transportation electrification.

Unfortunately, there is no consensus in the literature on the definition of a disadvantaged community. However, we encourage the board to convene with environmental justice organizations in New Jersey to most accurately define “disadvantaged” or other synonymous language. Additionally, the Board can consider other state and federal examples and tools to identify these communities. For example, California’s “Greenhouse Gas Reduction Fund Investment Plan and Communities Revitalization Act” directs the California Environmental Protection Agency to identify disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria, and may include, but are not limited to, either of the following:

(1) Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.

(2) Areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.<sup>14</sup>

The American Public Health Association provides additional guidance and defines environmental justice communities as: “...[C]ommunities [that] are composed of marginalized racial/ethnic, low-income/poor, rural, immigrant/refugee, and indigenous populations that live in areas disproportionately burdened by environmental hazards, unhealthy land uses, psychosocial stressors, and historical traumas, all of which drive environmental health disparities. EJ communities are underserved by public and private entities that create and enforce environmental hazards and are underrepresented in decision-making processes.”<sup>15</sup>

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<sup>14</sup> California Health and Safety Code § 39711.

<sup>15</sup> American Public Health Association, Addressing Environmental Justice to Achieve Health Equity, Policy Number 20197, November 2019.

The US Environmental Protection Agency has a publicly available tool, EPA EJ Screen, that the BPU and utilities may use to locate disadvantaged communities.<sup>16</sup> This tool allows users to map environmental justice criteria, such as ozone levels, traffic proximity, Superfund proximity, amongst others. Additionally, NRDC has developed a method to develop cumulative scores that can be used to identify overburdened communities—those areas that appear to be disproportionately affected by pollution burdens and well as social vulnerabilities that can make them more susceptible to the impacts of pollution—in other cities and states, such as Chicago, which may be replicated in New Jersey.<sup>17</sup> It is important that consistent definitions of “burdened communities” or “environmental justice communities” be used in all comprehensive statewide policy.

However, it’s important to note that designating and identifying priority communities (e.g. LMI, EJ, and underserved communities) is just the first step—the BPU and utilities also need to have a dialogue with community members about their specific transportation needs.

#### **5. A Well-Designed EV Program Will Provide Benefits to All NJ Customers, Regardless of Whether They Themselves Own an Electric Vehicle**

EV investments, including those by utilities, can put downward pressure on rates for all utility customers-- regardless of whether they own an EV. A recent analysis by Synapse Energy Economics entitled Electric Vehicles are Driving Electric Rates Down analyzed real world data from the two utility service territories with the highest number of EVs in the country (PG&E and SCE) and found that EVs are already putting downward pressure on rates—with EV drivers in PG&E and SCE territory contributing nearly \$600 million more than associated costs to serve them. Accordingly, the benefits of EVs are not just environmental; as that study appropriately concluded: “EVs offer a key opportunity to reduce harmful emissions and save customers money at the same time.”<sup>18</sup>

Synapse evaluated the revenues and costs associated with EVs from 2012 through 2018 in PG&E and SCE service territories. They compared the new revenue the utilities collected from EV drivers to the cost of the energy required to charge those vehicles, plus the costs of any associated upgrades to the distribution and transmission grid and the costs of utility EV programs that are deploying charging stations for all types of EVs. In total, EV drivers contributed an estimated \$584 million more than the associated costs. And this finding is not merely a result of

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<sup>16</sup> United States Environmental Protection Agency Environmental Justice Screening and Mapping Tool, Version 2019, available at <https://ejscreen.epa.gov/mapper/>

<sup>17</sup> Meleah Geertsma, New Map Shows Chicago Needs Environmental Justice Reforms, NRDC, October 2018, available at <https://www.nrdc.org/experts/meleah-geertsma/new-map-shows-chicago-needs-environmental-justice-reforms>

<sup>18</sup> Frost *et al.* Synapse Energy Economics, Electric Vehicles are Driving Electric Rates Down, at 1 (June 2019), available at <https://www.synapse-energy.com/sites/default/files/EV-Impacts-June-2019-18-122.pdf>.

the fact most EV drivers in PG&E and SCE territory remain on default rates and pay high upper-tier prices as a result. Even if three in four were on time-of-use rates designed for EVs, those drivers would still have provided approximately \$450 million in net-revenues.

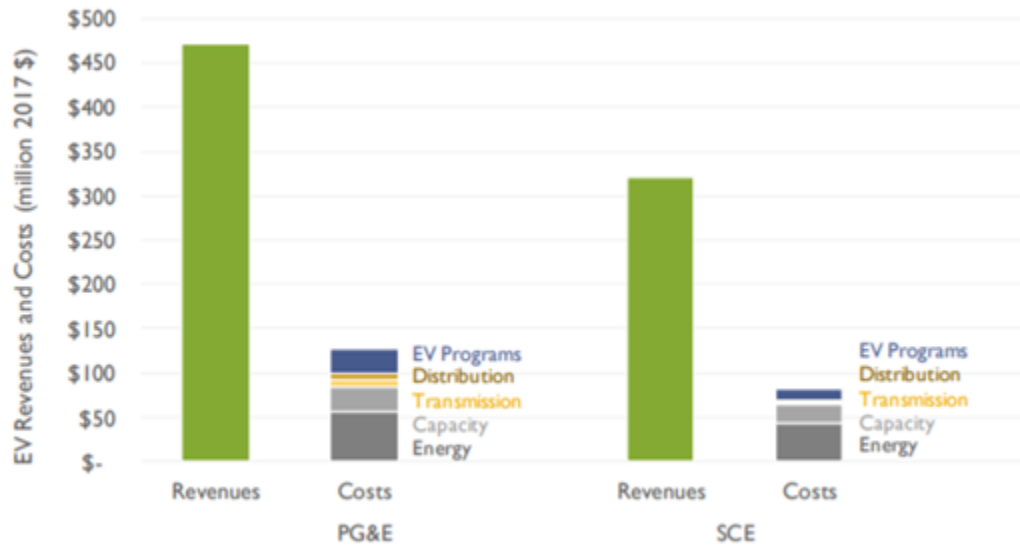


Figure 1: PG&E and SCE Revenues and Costs of EV Charging, 2012-2018

Were comparable analysis done in New Jersey, the results would almost certainly be similar, though the net revenue would be smaller given the lower number of EVs in New Jersey. EV drivers in New Jersey are likely already putting downward pressure on utility rates to the benefit of all customers. And those benefits will continue to grow in the future as additional vehicles are added to the grid.

Another study completed by M.J. Bradley & Associates demonstrates similar benefits on the East Coast. The study found that the EV adoption levels needed to meet New York’s climate goals would provide more than \$75 billion in net benefits, including \$24 billion in reduced utility bills for all utility customers stemming from the same effect already observed in the real world by the Synapse study.<sup>19</sup> The New York analysis also estimates that drivers in the state could realize \$34 billion in reduced fuel and maintenance costs. Utility customers in New Jersey deserve to realize the same cost savings.

The Energy Information Agency tracks “household energy insecurity” and documents that “nearly a third of U.S. households reported facing a challenge in paying energy bills or sustaining adequate heating and cooling in their home in 2015.”<sup>20</sup> That number will likely only

<sup>19</sup> Electric Vehicle CostBenefit Analysis, MJ Bradley & Associates, available at [https://mjbradley.com/sites/default/files/NY\\_PEV\\_CB\\_Analysis\\_FINAL.pdf](https://mjbradley.com/sites/default/files/NY_PEV_CB_Analysis_FINAL.pdf)

<sup>20</sup> <https://www.eia.gov/consumption/residential/reports/2015/energybills/>

increase as a result of the current economic crisis. Utility regulators, consumer advocates, and environmentalists have a robust history of working together to reduce utility bills, especially for low-income households. But it's time for utility policy to target the total household energy bill. It would be a mistake to focus solely on the average American household's \$1,300 annual electric bill while ignoring the \$2,000 to \$3,000 that the average household spends every year on gasoline. For the last 40 years, driving on electricity has been the cost equivalent of driving on dollar-a-gallon gasoline, and it is projected to stay that way for the next 30 years.<sup>21</sup> In contrast, while gasoline prices are low now, they tend to fluctuate significantly more than the price of electricity. Because electricity is generated from a diverse set of domestic fuels and because it is carefully regulated by state agencies, its price is inherently more stable, delivering energy cost savings households can bank on for the long-term.

## **6. The Board Should Ensure Public Charging Stations Funded Under this Program are Truly Open to All EV Drivers**

Currently, the proposal requires that the sites be “available to the public on either a subscription or per-use basis, at the customer’s election.” However, this is not sufficient to ensure equitable public access to charging stations funded under utility programs. While the Board has appropriately recognized the importance of ensuring that drivers—rather than the EVSPs—are given a choice of payment options at these stations, more specificity regarding minimum payment standards for “per-use” access is necessary. As currently drafted, only requiring that sites be available to the public on a “per-use” basis could still allow payment by proprietary phone apps, 1-800 numbers, or contactless cards—all of which many drivers pulling up to those stations may lack. To not specify minimum consistent payment standards would be to risk leaving drivers stranded at these sites simply because they lack the right proprietary key fob or mobile payment app, and to leave them guessing about what payment options will be available at each new location they pull up to.

For stations that are deployed with the help of state and utility customer funds, it is imperative that drivers have consistent and equitable payment options that allow them to access these stations as easily as they can access gas pumps. Accordingly, we strongly encourage the Board to instead require that all utility funded charging stations comply with minimum payment standards—mirroring those recently adopted by the California Air Resources Board—ensuring that drivers can pay for charging at these stations as easily as they pay for gasoline.<sup>22</sup> Further, only non-proprietary charging stations should be eligible for make-ready incentives or utility owned stations. This will ensure that all EV drivers, no matter what type of vehicle they drive, will be able to use a utility supported or owned charging station when driving in New Jersey.

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<sup>21</sup> Max Baumhefner, Go Electric to Avoid the Holiday Gas Price Roller Coaster, NRDC, 2018.

<sup>22</sup> [https://ww2.arb.ca.gov/sites/default/files/2020-06/evse\\_fro\\_ac.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-06/evse_fro_ac.pdf). See also <https://www.nrdc.org/experts/miles-muller/california-moves-make-paying-charging-easier>

## **7. The Straw Proposal Should Ensure EV's and Associated Infrastructure are Integrated into the Grid**

New Jersey's goal of getting 330,000 EVs on the road by 2025 will cause an increase in load on the electric grid. However, if EVs are integrated onto the grid properly, EVs can actually provide benefits to the grid and put downward pressure on rates for all customers, as previously discussed. Real world data shows, however, that unless drivers see price signals to shift charging to off-peak hours when there is more space on the grid, they will continue to charge when they get home, regardless of the time-of day.

Rate design is one of the most important components that the Board should address to ensure the rapid and equitable adoption of EV's within the state. Broadly speaking, rate design refers to the price that customers experience on their energy bills based on their energy usage. Rate design includes both the \$/kWh (volumetric), any fixed charges (such as demand charges or distribution charges) as well as non-avoidable surcharges that do not vary with the amount of energy consumed. Taken together, these comprise a customer's bill and send price signals to customers about how and when to consume energy. Therefore, smart rate design is one of the strongest tools regulators have to influence customer behavior by sending clear price signals and providing either incentives or disincentives for certain types of consumption patterns. There are two primary functions of rate design as it relates to EVs: (1) helping to effectively manage EV load to maximize benefits to customers, drivers, and the grid; and (2) developing rate structures that reflect the unique characteristics of EV load in order to support the sustainable development of a robust EV charging ecosystem and to ensure that assets developed under this program are used and useful.

We appreciate the BPU's efforts to address rate design in this straw proposal, however, we offer modifications to the proposal, based on real-world best practices, that will help to strengthen the rate design efforts and provide long-term, sustainable solutions.

First, to maximize the benefits of proper EV integration and minimize upgrades required to support EV deployment (e.g. additional transformers and capacity), effective management of new EV load will be needed.<sup>23</sup> We urge the BPU to require utilities to develop and submit for approval strategic plans to integrate EV load in a manner that facilitates the use of renewable generation, improves the utilization of the grid, and provides drivers and fleet operators who charge in a manner consistent with grid conditions the opportunity to realize significant fuel cost savings relative to gasoline or diesel.

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<sup>23</sup> Pamela MacDougall, *Steering EV Integration Forward*, NRDC, June 2019, *available at* <https://www.nrdc.org/experts/pamela-macdougall/steering-ev-integration-forward>.

Further, EV owners should have the option to sell electricity to the utility during high peak demand events, through vehicle-grid-integration (VGI). When the utility buys energy from distributed energy storage owners at a lower price than the marginal price in the PJM market, all ratepayers save money. While VGI currently has a more prominent role in the M&HD vehicle electrification, especially for electric school buses, in 2016, San Diego Gas and Electric Company (SDG&E) developed a VGI pilot program, “Power Your Drive,” which a goal of installing 3,500 EV charging stations at MUDs and workplaces. As part of this program, a VGI rate was developed and has shown success in influencing pricing behavior to optimize the grid.<sup>24</sup>

There are a variety of ways for utilities to manage EV load and ensure charging benefits the grid, including time-of-use (“TOU”) rates. In addition to optimizing EV charging, whole-house TOU rates can support energy efficiency initiatives and shift an even larger portion of the load to load to off-peak hours. Whole house TOU rates should be proposed by utilities to support these energy efficiency programs, which the Board should address in a separate proceeding to help to achieve additional goals outlined in the EMP. When the Board evaluates with whole-home TOU rates or EV-specific TOU rates, it should ensure that both rate structures work together to maximize load-shifting

The Straw Proposal recommends EV-only TOU rates, which we support as they can “limit the risk of having a larger bill due to TOU rates’ not aligning with their non-EV base load,” and therefore can provide significant benefits to customers.<sup>25</sup> Although EV load currently represents a small fraction of total system load, this has the potential to change rapidly with the large number of charging stations slated to be installed under the EV Law. Consequently, it is prudent for utilities to develop and test plans now for managing EV load, and we urge the BPU to require the utilities to submit plans that describe what strategies they intend to employ to ensure New Jersey realizes the benefits of transportation electrification. Expanding advanced metering infrastructure (“AMI”) in tandem with EV charging infrastructure can help inform grid load shifts and monitor and evaluate any demand response programs employed due to increased data sharing.

For ratepayer-supported stations in these settings (i.e., those receiving incentives through a utility make-ready program), it may be appropriate to require that price signals intended to incentivize load management be passed through from site hosts to drivers utilizing those stations. Data collection and reporting requirements on site host rates to drivers will be critical in evaluating whether rates to drivers at stations supported by utilities are encouraging effective load management and fuel cost savings. To facilitate load management, all charging stations supported under utility programs should be “smart” charging stations that allow for the utility to

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<sup>24</sup><https://www.sdge.com/sites/default/files/regulatory/Corrected%20Seventh%20Semi-annual%20%20PYD%20Report.pdf>

<sup>25</sup> <http://www.synapse-energy.com/sites/default/files/PA-EV-Rates-Report-18-021.pdf>



actively manage load and collect data on customer charging behaviors. While rate design is a valuable tool to manage load and keep rates down, smart charging technology can significantly increase those benefits. Smart charging stations should be required as part of any utility incentive program, and further should be encouraged for any utility owned and operated programs.

a. Residential Customers

There are two types of residential customers that the Board should consider in putting forward its own, or evaluating utility, rate design proposals: residential single-family homes, and MUDs that contain residential customers but are classified as C&I at the building level.

With regard to customer-owned residential chargers, the Straw Proposal provides important guidance directing each EDC to develop EV-TOU rates. We agree that utilities should consider EV-only TOU rates, which will allow for customers to shift their charging to off-peak hours, without affecting those customers who are unable to shift all of their charging to off-peak times.

Alternatively, the residential customers who reside in MUDs face a different set of considerations, as the BPU notes. Currently, MUDs are placed on C&I rates, which can drastically increase charging costs for residents. As one of the major benefits of transportation electrification is reduced fueling costs, utilities need to consider ways in which to secure these reduced fueling costs, regardless of their home type. However, we caution the Board and utilities from subscribing to the notion that MUD customers must be at perfect “price parity” to single-family home customers, which would be complicated and nearly impossible to implement without violating core rate design principles. Instead, we encourage the Board to look at the recent examples of long-term, sustainable C&I EV rate reform put forth by PG&E and SDG&E, which both proposed new cost-based rates designed to improve the economics of public charging, multi-unit-dwelling charging, and M&HD vehicle charging.<sup>26</sup> The Board should follow the lead of PG&E and SDG&E to put similarly sustainable solutions in place through new cost-based rates that reflect the unique characteristics of EV load, improve the economics of transportation electrification, and encourage charging behavior that supports the operation of the electric grid.

b. C&I rates

The Straw Proposal rightly notes concerns with demand charges, especially at public charging stations. As was noted during the technical conference, demand charges can be extremely costly, and make charging stations economically infeasible, especially during the nascent EV market when stations may be underutilized. While we agree with the notion that demand charges need to be addressed as they relate to charging stations, we differ as to the

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<sup>26</sup> <https://www.nrdc.org/experts/miles-muller/reforming-rates-electric-trucks-buses-fast-chargers>;  
<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M318/K552/318552527.PDF>



appropriate approach. The Straw Proposal recommends that EDCs should “either waive demand charges associated with EV charging or develop a rebate methodology that ensures that the effective \$/kW-hour rate... remains below a specified ‘set-point.’”<sup>27</sup> However, this is a blunt and short-term solution that does not address the larger issues concerned with demand charges and placing charging stations in the same rate class as commercial and industrial buildings. The Board should look to implement long-term, sustainable solutions in lieu of open-ended subsidies and band-aid approaches.

It is important to note that even with high EV penetration, some societally beneficial charging locations will never experience the high levels of utilization that would enable the site host or fleet operator to assimilate current demand charges and build a viable business model. Consequently, time-limited demand charge relief is not a viable long-term solution to overcoming the issues demand charges pose to site-hosts and fleet operators.

It is critical to develop rates that more accurately reflect the unique characteristics and costs of EV charging, rather than forcing stations to take service on commercial and industrial rates designed for large buildings and factories. Rate designs for high-powered transportation electrification use cases should impose demand charges only to the extent absolutely necessary, and instead recover costs through more predictable rates where possible.

Synapse Energy Economics recently released a report on best practices for C&I EV rate reform. In its report, Synapse notes that “[t]raditional C&I rates were generally designed for large buildings, rather than for public fast charging of passenger vehicles or for depot charging of truck and bus fleets” and those rates “do not reflect the unique costs or flexibility of EV charging and can charge commercial EV customers much more than their true cost of service.” Time-limited discounts are not a sustainable solution, and utilities and regulators should develop new C&I rates designed with EV use cases in mind that are both cost-reflective and take advantage of the unique characteristics and flexibilities of EV load. Synapse offers the following principles for C&I rates:

- Rates should promote efficient use of fixed system resources, which will reduce rates for all utility customers;
- Rates should be easy to understand and predictable;
- Rates should be designed with end users in mind;
- Time-varying volumetric rates are generally preferable to demand charges;
- Non-coincident peak demand charges should generally be avoided;
- It may be appropriate to set rates to recover marginal costs rather than embedded costs; and

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<sup>27</sup> Straw Proposal at 12-13.

- Programs that rely on price signals inherent in rate design to deliver grid and user benefits should ensure users actually see those price signals.

Synapse recommends time-of-use energy charges or critical peak pricing over coincident demand charges for recovering the costs of shared infrastructure, since energy charges better capture the duration of time that a customer is using that infrastructure. And Synapse cautions that, while limited non-coincident demand charges may be appropriate for recovering distribution infrastructure costs sized to meet the maximum demand of a single customer, “non-coincident demand charges are often set too high and recover costs that are not truly driven by individual customer peaks.” We urge the Board to consider Synapse’s recommendations in moving forward with new C&I rate design, including the prioritization of time-varying volumetric rates over demand charges and to avoid non-coincident peak demand charges altogether.

## 8. Interoperability

To prevent against stranded assets and ensure the Make-Ready Program stays up to date on standards and technology, the BPU should require that “*qualifying EVSEs actively utilize open access standards for communication of data between the EVSE and the back-end network.*”<sup>28</sup>[1] This would align with language and requirements recently adopted by the California Public Utilities.<sup>29</sup>

This is essential because EV charging companies could potentially install EVSEs with software that technically has or uses (i.e. is compatible with) open communications protocols such as the Open Charge Point Protocol (OCPP), but which still require proprietary extensions that close these EVSEs off from other networks. Alternatively, they could install EVSEs with these capabilities, but have this functionality turned off or disabled. In such cases, a charging company could potentially leave the market and abandon the EVSE without activating the open standards, and other companies would not be able to assume operation of the station. Accordingly, the Board should require that the EVSEs not merely be compatible with open access standards for communication of data between the EVSE and the back-end network, but that they have those open access standards installed and utilized on the EVSE at the time of deployment.

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<sup>28</sup> California A. 18-07-020

<sup>29</sup> *Id.*

### III. Conclusion

The Commenters appreciated the opportunity to provide input on the Straw Proposal and applaud the Board for moving forward on a program to rapidly expand New Jersey's EVSE infrastructure. The state, EDCs, and EVSE companies all have critical roles to play for New Jersey to meet the ambitious targets contained in the EMP, GWRA and PIV Law. As the Board further develops its Straw Proposal, the Commenters urge the Board to act with an open-mind and prioritize the principle of flexibility that will allow New Jersey to electrify its transportation sector rapidly and equitably.

Sincerely,

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