

APPENDIX

CHARGEVC

BETTER TRAVEL, STRONGER GRID.

Joint Meeting of Assembly Transportation and
Environment & Solid Waste Committees
Monday, December 10, 2018
Testimony of Pamela Frank, CEO, ChargeVC

Thank you to the Chairman and Chairwoman and to members of the committee.

My name is Pamela Frank and I serve as the CEO of ChargeVC

The coalition comprises auto dealers, tech companies, utilities, not for profits, consumer advocates, manufactures, local governments, power generators.....all advocating for the electrification of our transportation sector.

The bill which we are discussing today, does three major things to advance us towards this goal.

1. It puts goals in statute.
2. It calls for the building of an Essential Charging Public Network to ensure minimal charging coverage throughout the State of NJ.
3. It authorizes a program that will provide rebates for vehicles that "plug in" to our grid.

I want to jump right to the 800-pound gorilla in the room. That gorilla is COST to our ratepayers. And I'm here to slay that gorilla. It is a false. It is fake news. In the interest of time, I'm going to say just six things.

First, I remind our legislators of the commitments made, through passing of law, to reduce our global warming and toxic air emissions – the Global Warming Response Act of 2006 and the Clean Car Act of XXXX. These laws were passed in part, as recognition that we are vulnerable as a coastal state, and that the dirty air we all breath every day, this includes ratepayers, are to a large degree, a direct result from the petroleum fueled cars, trucks and buses we drive every day. They are literally choking us. I'll remind you - 1 in 13 of us in this state suffer from asthma.

Second, I want to compel you to act with courage, and demonstrate national leadership – pass this bill out of committee and let's begin the most significant action we can take to realize the goals that this body committed to as a matter of law. Laws matter.

Third, recognize that the birth of ChargeVC was based on the insight that by making bold policy moves to electrify our transportation segment, we can not only demonstrate our commitments

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to the law, and to future generations.....we can simultaneously grow our economy and save all of those people who ride in cars and buses, and all of our electric customers money.

Fourth, do not ignore our hard work. My colleague Mark Warner – a pretty bright guy – led a 1.5 year study to give you, our lawmakers, the ammunition – FACTS – that you would need, both for good policy and good politics, to make the BOLD MOVES embodied in this bill. Hundreds of thousands of dollars have been raised by all the members of our coalition in conjunction with philanthropic foundations, to do this work, partly in recognition that the public sector cannot do this all alone. So do not ignore or dismiss this work and the important facts it brings to light. Younger people in my office are crushed to consider that this could all be ignored. That it just doesn't matter. Demonstrate by voting yes on this bill, that such efforts are not in vain.

Fifth, let me attempt to disabuse you of some faulty facts and assumptions, highlight the good news and shed light on key motivations.

- a. No one says the utility should do it all. EDECA. We should all, however, acknowledge the unique role utilities play in the market.
- b. Private sector money is anxious to invest in this state and in this EV space. It's exciting. You'll hear from one such investment group today. To be smart, we need to figure out the proper balance of just enough public sector to attract the maximum amount of private capital needed. We call that leverage – a popular word, for good reason.
- c. There are two key reasons why utilities need to be involved:
 - a. -the private sector ain't doing the job. Range anxiety persists – this is based on perception grounded in fact that prevents consumers from getting into these cars. The fact is if you run out of charge on one of our roads in NJ, unless you own a TESLA, your options to charge up quickly and be on your way, like you do today with gas, are significantly limited.

I can regale you with my own close call stories – my plans to set up camp one night in a corn field – but I will not indulge. I am not normal, this I know. My husband is and he says he won't get one of these cars until he doesn't even have to think about what happens if.....and he doesn't want to open an app to find out the answer.

So we need the charging infrastructure out there and fast – and we need it to be publicly available. Elon Musk, another smart guy, knew that to sell his cars, he needed to solve that problem and he did. But his stations are not available for the rest of us.

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- b. we need to involve the utilities from the get-go to ensure no harm and to realize the biggest benefits for everyone. RESPONSIBLE GRID INTERGRATION. Charging a car at home is not like plugging in a refrigerator.
- c. we are choking on our air. The suffering is the worst in our urban areas. Public transit is in trouble. The ride sharing and car sharing services – fueled with electricity that we can unleash in the urban areas require particular infrastructure – that must be directed to those areas. And there is also the scooters, bikes, tiny cars that will move people around in a clean, affordable and reliable manner.

Sixth: The state economy. First, consider what happens when we have more disposable income available – because we spend 4 cents a mile to fuel versus 12 cents a mile to fuel – that unleashes billions of dollars into our economy.

Second, and while I cannot prove this one, it does not require too much of a leap to understand the place we are in history with respect to the growth of electric mobility. It didn't take off in the beginning of the 20th century, for reasons many of us know, but it is taking off as we speak. Driven by the decrease in energy storage prices – batteries, all of the major manufactures have already spent 100's of millions of dollars on production lines for these vehicles which will be flooding the market in the next several years. While California has been the center of this market over the last ten years, the many industries that make up this market are looking for the place to plant their East Coast flag.

Ask the folks over at EDA who study this – they understand that there are numerous factors that go into a decision about where a company should locate. **There is location** - we can remind ourselves that we are situated right in the middle of the east coast; **there is infrastructure:** we are in fact a port state and the linkage between two major markets; **There is market:** we drive a lot in this state, we like our new cars, and we sit in the middle of the largest transportation market on the east coast. **And, there is policy** – a leading EV manufacture, when I asked why they headquartered where they did, the answer was simple – they bought a lot of what we make.

Tim Sullivan just said in the press, relating to wind, that we have a once in generational opportunity to attract the wind industry to locate here in NJ. The same can be said about the electric mobility industry.

It is now my pleasure to introduce my colleague Mark Warner, who will spend some time talking about the details related to the findings our Study.

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Joint Meeting of Assembly Transportation and
Environment & Solid Waste Committees

Monday, December 10, 2018

Testimony of Mark Warner, VP Gabel Associates supporting ChargeVC

Thank you to the Chairman and Chairwoman and to members of the joint committee.

My name is Mark Warner and I am a VP at Gabel Associates. I work with Pam to support the efforts of ChargeVC, and I lead our research and policy development efforts. As Pam noted, we wanted to make sure we had a strong fact-based foundation for the policies embodied in this bill. We spent 18 months conducting the research, and we benefited from the collective input of our diverse membership and their wide-ranging real-world experience. We published a 75 page report in January of 2018 which inventoried current market conditions, benchmarked New Jersey with other leading EV-adoption states, quantified key benefits, estimated costs, and projected net-benefits associated with increased EV adoption. The study was developed in parallel with the ChargeVC roadmap, which was the basis for our input into S2252 and A4634.

The most important results from the study is related to net benefits, and I would like to briefly summarize those details for you this morning. I have reduced the key benefit conclusions to a single summary page, but I would be happy to review other details of the study in more detail for any committee-member that is interested. Please see the attached summary.

The study considered three sub-populations in New Jersey:

- **EV Owners;**
- **Utility Customers who are not EV Owners; and**
- **Society At Large.**

Each of these populations are impacted by EV adoption in different ways, and the study quantified impacts for each group. We considered three potential impacts for each population:

- **Vehicle Operating Cost Savings:** electric vehicles cost about half as much to fuel with electricity as traditional cars cost to fuel with gasoline. For reference, NJ residents spend \$7-10B a year on gasoline, so cutting that cost in half is significant. Maintenance costs for EVs are expected to be lower as well. Those two affects combine to unleash billions of dollars of new disposable income for NJ households. That impact is felt most strongly by the EV owner, and begins to deliver benefits from the first day of ownership.

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We also ascribe some impact to society at large as well, given the multiplier effect that is likely to result from NJ households having more disposable income. These benefits total about \$7.5B through 2035, and for a household with two EVs, would represent an average \$1,440 in annual savings in 2018. In addition to savings, EV owners are shielded from future gasoline price increases. By the way, when computing these savings, we assumed that EV owners continue to pay their fair share into the Transportation Trust Fund.

- **Lower Electricity Costs:** probably the most significant conclusion from the study was about how vehicle charging affects EV markets and infrastructure. **Electricity costs will go down as a result of increased EV adoption, and this benefit applies to all utility customers, not just EV owners.** The primary reason is simple dilution – by 2035, EV charging will account for 20-30% of electricity consumption. That means that relatively fixed utility costs are spread across more kWhrs, and everybody's per-kwhr unit costs go down. In addition, if we implement managed charging programs that encouraging vehicle charging at off-peak times overnight, average wholesale rates will go down as well. This conclusion is critical, since it means that any ratepayer funded programs will be offset by reductions in electricity costs. This benefit totals about \$1.9B through 2035, and if the vehicle adoption levels in the roadmap are achieved, would result in average electricity costs going down about 12% compared with what costs would otherwise be at that point in time. The most important aspect of this conclusion is the affect that EV adoption has for ALL rate payers through lower electricity costs, not just EV owners.
- **Benefits of Reduced Air Emissions:** Each electrically fueled mile is about 80% cleaner than an average gasoline fueled mile in NJ. Not only do CO2 emissions go down, but also other air pollution – such as NOx – which has a direct impact on public health, especially in communities in the urban core or along travel corridors. Using federal economic factors for these reduced air emissions, these benefits total about \$2.5B through 2035. Air emissions per two-EV household will drop by over 17 thousand pounds of CO2 each year. Vehicle electrification is therefore a primary strategy for reducing GHG emissions and improving public health, and applies to all three populations studied.

Those benefits total billions of dollars over the period, with real economic and environmental benefits at the household level. In addition to quantifying benefits, we also looked at likely costs associated with widespread vehicle electrification. We considered the costs of incentive programs contemplated by both the ChargeVC roadmap and A4634, including an assumed \$300M for the vehicle rebate program, and up to \$400M for utility programs related to charging infrastructure. In addition to this \$700M investment program, we also quantified potential long term costs for grid reinforcement, and the non-

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utility costs associated with charging infrastructure. We expect the proposed utility programs to stimulate the market, but not pay for all the infrastructure required – in fact, for every \$1 spent in the proposed programs, we expect approximately \$9 to be spent by the private sector. The proposed programs are therefore highly leveraged to induce significant private investment in the state long term. Taking these benefits, plus ALL the costs (the incentive programs, plug grid reinforcement, and costs by non-utility investors), yields a benefit cost ratio of 2.19 (on the broad societal cost test), with a NET Present Value (benefits minus costs) of \$11.3B. This means that total benefits are more than twice as large as projected costs.

This is an important outcome, since it means that even though the proposed incentive programs (\$300M in vehicle rebate, \$400M in utility infrastructure programs) and likely long term grid reinforcement are funded initially by rate-payers, EVs introduce significant savings so that the NET impact is an overall reduction in costs. The proposed programs can therefore be legitimately seen as cost reduction measures that benefit all utility customers.


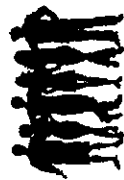
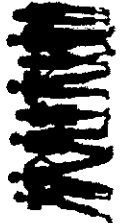

The study confirms the overall net benefit associated with the programs proposed in A4634, and that even when a broad accounting of likely costs are taken into consideration, New Jersey citizens – whether an EV owner, a utility customer, or society at large – come out ahead. Although we quantified many of these impacts economically, the strategic value of cleaner air, improved public health, reduced GHG emissions and attainment of Global Warming Response Act goals, and lower costs that deliver savings into the local economy should not be overlooked.

Thank you for the chance to summarize key study results, and I look forward to taking any questions.

[attachment: benefits summary]

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	EV Owner	Utility Customer	Society At Large	Total Benefits (statewide) (per household)
				
Vehicle "Fuel" Savings (fueling costs cut in half)	✓		✓	\$1,440 In Fuel Savings Per Year (Two Evs, 2018)
Lower Electricity Costs (dilution and other effects)	✓	✓	✓	12% Lower Electricity Costs (Average Usage, 2035)
Reduced Air Pollution (electric miles ~80% cleaner)	✓	✓	✓	17,611 Fewer Pounds Of CO2/Yr (2 Evs, 2018)
				<div style="display: flex; justify-content: space-around;"> <div>\$7.5B</div> <div>\$1.9B</div> <div>\$2.5B</div> </div> <p>(Present Value, Thru 2035)</p>

Benefit/Cost Ratio: 2.19
NET Benefits: \$11.3B

(Societal Cost Test, Thru 2035)

**Benefits Increase Strongly With Adoption,
Faster EV Growth Means Bigger/Faster Benefits**
(Goto www.chargevc.org to see full study report)

	EV Owner	Utility Customer	Society At Large	Total Benefits
Vehicle "Fuel" Savings (fueling costs cut in half)	 ✓	 ✓	 ✓	(statewide)  (per household) 
Lower Electricity Costs (dilution and other effects)	✓	✓	✓	\$7.5B \$1,440 In Fuel Savings Per Year (Two EVs, 2018)
Reduced Air Pollution (electric miles ~80% cleaner)	✓	✓	✓	12% Lower Electricity Costs (Average Usage, 2035)
				\$2.5B 17,611 Fewer Pounds Of CO ₂ /Yr (2 EVs, 2018)

(Present Value, Thru 2035)

Benefit/Cost Ratio: 2.19

NET Benefits: \$11.3B

Benefits Increase Strongly With Adoption, Faster EV Growth Means Bigger/Faster Benefits
(Goto www.chargevc.org to see full study report)

(Societal Cost Test, Thru 2035)

Testimony of Thomas Ashley
In Support of Assembly Bill 4634

Assembly Environment and Solid Waste Committee
Assembly Transportation and Independent Authorities Committee
Monday, December 10, 2018 - 9:30 AM
Meeting - Committee Room 11, 4th Floor, State House Annex, Trenton, NJ

Good morning Chairs Pinkin and Benson, and members of the Committees. My name is Thomas Ashley, and I am Vice President of Policy for Greenlots. Greenlots is a leading electric vehicle charging software and services company based in Los Angeles. Greenlots' East Coast office is located in Manhattan, and we maintain an office in Princeton that houses our Vice President of Market Development. Greenlots is actively installing charging stations at workplace and multi-family sites in Inglewood and Parsippany. Greenlots is committed to the accelerated and aggressive growth of the electric vehicle market in New Jersey.

I am here today in strong support of Assembly Bill 4634. Greenlots is a member of the Board of ChargeVC and 4634 represents a consensus position of the coalition. Indeed, through the convening process of ChargeVC, there has been consensus across a diverse group of organizations that electric vehicle adoption will provide benefits for all New Jersey residents, including ratepayers, as well as the environment, while supporting economic development and resulting in cost savings. The breadth of this cooperation across diverse organizations is unique to New Jersey, and is a testament to the consumer demand driving electric vehicle adoption. I would share that while I am responsible for policy and regulatory strategy across North America, Trenton has been a more frequent destination and focus for Greenlots in 2018 than has the California market.

New Jersey has significant opportunity and potential for growth of electric vehicles. This growth can yield savings for ratepayers and benefits to the electric grid, including the promise of significantly improving system efficiency if well managed.

Indeed, a deep and flexible utility role is essential to leverage its full involvement, assets and capabilities to accelerate transportation electrification and best position ratepayers to realize the full array of benefits this technology transformation can bring. This does not happen automatically and Greenlots draws a direct line between the deeper the role for the utility and the greater the benefit to ratepayers.

I would also note that while the bill before you represents consensus language for the ChargeVC coalition, there are ongoing attempts to weaken it and the ability of utilities to manage charging to the benefit of all ratepayers by removing the capability of the utilities to choose the best technology to manage the charging infrastructure network deployed as part of their programs. While we don't believe this to be in the best interests of the state, to the benefit of ratepayers or the market, we believe the appropriate venue for this topic to be decided is the BPU.

I would also note that the market needs utilities to play a robust role, as the economics of deploying charging stations has not yet yielded adequate private investment, and has not created a positive private market business case, despite significant investment in charging technology companies themselves.

In closing I would note that while there are costs associated with transportation electrification and this bill, there are greater economic benefits. And these are beyond the passenger vehicle segment. For example, research shows that while electric transit, shuttle, and school buses have higher up-front costs, they have reduced fuel and maintenance costs, a longer vehicle lifespan, greater potential to reduce criteria air pollutants and greenhouse gases, and provide health benefits for diverse communities, including port workers and schoolchildren.¹

Thank you.



¹ McKinsey. 2017. What's sparking electric-vehicle adoption in the truck industry?
<https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/whats-sparking-electric-vehicle-adoption-in-the-truck-industry>



December 10, 2018

Joint meeting of New Jersey State Assembly Transportation and Independent
Authorities & Assembly Environment and Solid Waste Committees

Tesla Comments on Assembly Bill 4634

Committee Members, thank you for the opportunity to provide this testimony today. Tesla supports Assembly Bill 4634 that will encourage electric vehicle adoption and allow New Jersey the ability to capitalize on the social, environmental, and economic opportunities associated with this fast-growing market.

Tesla's mission is to transition the world to a sustainable energy future. Our most critical focus is to design, manufacture, sell, and service compelling and increasingly affordable all electric cars. We've been selling our vehicles in New Jersey since 2012, when we opened our first locations in Northern New Jersey to promote our first premium sedan, the Model S. With a relentless focus on consumer education, New Jersey drivers have learned of the inherent benefits of owning an electric vehicle and how this new type of personal transport fits into their lifestyle. Since then, we've built a workforce of over three-hundred (300) sales, operations and service personnel dedicated to providing the best possible experience for prospective customers and the more than 8,500 in-service vehicle and 11,000 renewable energy customers we've amassed across the state so far. In addition to our current customer base, more than ten thousand (10,000) New Jersey drivers have placed deposits on our newest and most affordable EV, the Model 3. These delivery and demand figures illustrate what we at the leading edge of the market already know, that New Jersey is primed to be a top US state market for electric vehicles. This amount of demand requires a corresponding investment in infrastructure. As such, Tesla has planned rapid expansion of our DC fast charging "Supercharger" network in the State from twelve (12) active sites with over one-hundred (100) stalls to more than double that amount to be deployed in 2019. Each of these sites represent a roughly half million-dollar investment in local infrastructure supplied by local vendors and installed by local subcontractors. All this to say that these private investments are a gauge, indicating the scale of critical EV infrastructure will grow exponentially as more electric vehicle models are introduced into the market from other manufacturers.

In addition to the provisions in this legislation, we believe that for New Jersey to hit its target of 330,000 EVs and realize the inherent benefits of broader adoption of electric vehicles, it must consider Tesla's share of the market when theorizing how to get there. In North America this year Tesla has sold 77% of all battery electric vehicles. In New Jersey specifically, Tesla makes up more than 80% of battery electric vehicles on the road. All this while current law restricts Tesla to only four licensed locations in the State. For Tesla to adequately serve consumers and assist the State and industry partners, there should be consideration to allow Tesla, an American innovation company, to deepen its roots and increase its investment in the State. Enabling additional licensed sales, service, and delivery centers will naturally prompt more EVs on to New Jersey roads, all while creating employment and job training opportunities to equip a new workforce to sell and service these exciting new machines. Tesla hopes that this current reality can be remedied so we can more effectively support the state and industry partners ensure real progress towards these goals. For all these reasons and others, Tesla asks that you support this legislation and we thank you for the opportunity to provide this testimony.

Ryan Barnett
Tesla Policy & Business Development

TESLA

Tesla, Inc.
3500 Deer Creek Road, Palo Alto, CA 94304
p +650 681 5100 f +650 681 5101

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NEW JERSEY COALITION OF AUTOMOTIVE RETAILERS

856 River Road – P.O. Box 7510 – Trenton, NJ 08628 – Phone 609.883.5056 – Fax 609.883.1093

LEONARD R. DATELLO
CHAIRMAN

JAMES B. APPLETON
PRESIDENT

December 4, 2018

The Honorable Nancy J. Pinkin
Chairwoman of Environment &
Solid Waste Committee
3 Stephenville Parkway, Suite 2D
Edison, NJ 08820

The Honorable Daniel Benson
Chairman Transportation &
Independent Authorities Committee
3691A Nottingham Way
Hamilton Square, NJ 08690

Dear Chairwoman Pinkin and Chairman Benson:

I understand that the Assembly Environment and Solid Waste Committee and the Transportation and Independent Authorities Committee will be holding a joint hearing on electric vehicles Monday, December 10, 2018. I am reaching out to you on behalf New Jersey's 515 franchised new car and truck retailers to support A 4634 and to urge you to make additional amendments before reporting this bill for consideration by the General Assembly.

This is landmark legislation that finally, at long last, lays out a series of policy and funding directives that will help promote the sale and use of clean vehicle technology and bring about a cleaner, greener motor vehicle fleet operating on the roadways across the State of New Jersey. A 4634 is the product of years of careful study and analysis by all affected stakeholders about how best to energize the electric vehicle or EV marketplace.

We support the A 4634, but we do have serious concerns about certain sections of the revised legislation. Specifically:

1. The bill refers only to "Plug In Vehicles" and the definition would appear to limit incentives to BEVs, only. While BEVs may be the "gold standard" for clean car technology, hybrids and plug in hybrid electric vehicles or PHEVs are still more than half of the market in New Jersey (*and nationally*). Just as important, these PHEVs have almost as much beneficial impact on the environment as BEVs and, frankly, range anxiety discourages a large part of the consumer market from BEVs, while PHEVs are viewed with greater interest. We see the PHEV exclusion as a major flaw. There's just no way we reach the CaLEV ZEV mandates without PHEVs in the mix and incentives are needed to drive that part of the market, as well. We encourage the Committee to consider changing the definition of "Plug-In Electric Vehicles" to cover both BEVs and PHEVs, or at least to adjust incentive levels proportionately.
2. As currently drafted, the rebate program appears to apply only to purchased vehicles and does not explicitly include leased vehicles. This leaves out more than ½ of the new car marketplace in New Jersey and, for some brands, considerably more than that. We would urge the Committee to amend the "eligible vehicle" definition in Section 8 to include "... purchased or leased...". Moreover, we note that all references to "purchased" on Section 15 through 20 should be changed to "purchased or leased".

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3. Lastly, the language in Section 23 of the Senate Committee Substitute addresses, but does not go far enough to resolve, the issue that new car dealers have identified as the single-most serious obstacle to BEV sales, which is the fact that the New Jersey Clean Car law simply requires manufacturers to deliver clean cars for sale in the State. Believe it or not, there is no requirement that these new clean technology vehicles actually be "sold to consumers" or "placed in service" on New Jersey roads and highways.

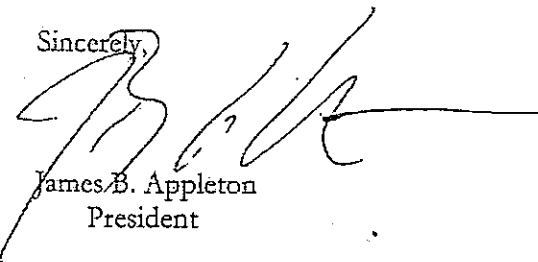
With respect to this last point, the automakers will claim—without any substantial legal analysis or authority—that the Federal Clean Air Act (CAA) Section 177 "identity rule" prohibits states from adopting a different ZEV credit counting system than the one established by CARB. NJ CAR has retained a top Washington, DC law firm that specializes in federal Clean Air Act matters to brief the issue. This firm's brief, which was summarized in the attached NJ CAR letter brief sent you on February 8, 2016, clearly established that the states are free to adopt their own individual enforcement mechanisms, so long as these enforcement mechanisms do not impose a "third car" or different standard on automakers. In other words, the method by which states count credits is an enforcement matter left to the states' discretion, while the type of vehicle that qualifies for credit is a standard setting function reserved to CARB.

The change we advocate is good public policy and the reasons advanced by the automakers NOT to make this change are self-serving, hyper-technical legal arguments that have no sound basis in law and certainly do not advance good environmental or clean air policies for New Jersey. We don't think there is any question that our State would be better served by a policy that prevents automakers from shifting the burden of clean car compliance from automakers to auto retailers and clean car consumers. After all, no environmental benefit is achieved when automakers deliver a car to a dealer. Environmental benefits only accrue once a qualified EV is sold or placed in service on our state highways.

Again, we urge you and your fellow committee members to consider amendments to A 4634 and the New Jersey Clean Car law that would withhold ZEV credits from automakers until EVs are sold or placed in service. At the end of the day, the automakers "identity rule" argument simply doesn't hold water. They have offered no persuasive legal theory or cited any legal precedent that would establish a sound basis for their claim that changing the law in New Jersey would bring the State "out of compliance" with the federal Clean Air Act. Moreover, if the change were made and a lawsuit filed (*presumably by the by the automakers*) a court of competent jurisdiction could make that determination.

Thanks, as always, for your consideration.

Sincerely,



James B. Appleton
President

JBA:md

cc: Members of the Assembly Environment and Solid Waste Committee
Members of the Assembly Transportation and Independent Authorities Committee

**Atlantic City Electric Testimony to a
Joint Hearing of the New Jersey Assembly Transportation and Environment
Committees**

December 10, 2018

Good Morning Chairwoman Pinkin and Chairman Benson and members of the Assembly Environment and Solid Waste and Transportation Committees. I am Robert Revelle, New Jersey Government Affairs Director for Atlantic City Electric, an Exelon Company. Thank you for the opportunity to testify on A4634. We are supportive of this bill as a positive step forward in realizing the goals of lower emissions while bringing more jobs to New Jersey.

We believe Atlantic City Electric has an essential role in reducing carbon emissions in our service territory by accelerating adoption of electric vehicles and investing in charging infrastructure while at the same time ensuring electric transportation is available to everyone. Electrification of transportation can benefit all communities in New Jersey, including those communities with lower incomes, by helping to reduce emissions state-wide. The transportation sector is one of the largest contributors to greenhouse gas emissions and electrifying the transportation sector, will enable all New Jerseyans to benefit from air quality improvements. We believe Atlantic City Electric is well- positioned to help ensure EV infrastructure build out meets the needs of diverse and low-and moderate-income customers.

The electrification of the transportation sector can also help ensure that all customers share in the benefits of easier and more accessible EV charging, cleaner air and water, less vehicle noise and more electric transportation options.

On February 22, 2018, ACE filed a Petition seeking BPU approval of a five-year, \$14.9 million program for plug-in vehicle ("PIV") charging initiatives in New Jersey. Through the proposed program, ACE will: provide special rates for

residential customers who charge their PIVs during off-peak hours; provide discounts off of the equipment and/or installation costs for Smart Level 2 Charging Stations for residential and commercial customers; install and operate Direct Current Fast Chargers and Smart Level 2 Charging Stations; and manage a program that encourages innovative projects (such as electric school buses) to facilitate the electrification of the transportation sector in New Jersey. ACE's program advances the goals and objectives of the Murphy Administration.

In closing, Atlantic City Electric is well poised to assist in the development and deployment of EV charging infrastructure which will support New Jersey's clean energy and transportation goals, expand customer options and help to ensure the availability of needed EV charging infrastructure to support the growing number of EV's on the roads in New Jersey. Market participants, government, and utilities can and must work in concert to build out the transportation electrification sector towards a more sustainable environment. The result will be economic growth and opportunity for both urban and suburban communities across all economic classes in New Jersey.

Thank you for your time today. I'm happy to answer any questions you may have.



State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL
P.O. Box 003
TRENTON, NEW JERSEY 08625

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

STEFANIE A. BRAND
Director

**Remarks of Stefanie A. Brand, Director, Division of Rate Counsel,
Regarding A4634 (Establishes goals, initiatives, and programs to
encourage and support use of plug-in electric vehicles)
Presented at the Assembly Environment and Solid Waste
Committee and the Assembly Transportation and Independent
Authorities Committee Meeting,
December 10, 2018**

Good morning. My name is Stefanie Brand, and I am the Director of the Division of Rate Counsel. I would like to thank Chairman Benson and Chairwoman Pinkin and members of the committee for the opportunity to testify today on A4634 (Establishes goals, initiatives, and programs to encourage and support use of plug-in electric vehicles).

The Division of Rate Counsel represents and protects the interest of all consumers -- residential customers, small business customers, small and large industrial customers, schools, libraries and other institutions in our communities. Rate Counsel is a party in cases where New Jersey utilities or businesses seek changes in their rates and/or services. Rate Counsel also gives consumers a voice in setting energy, water and telecommunications policy that will affect the rendering of utility services well into the future.

First, I would like to commend this committee for continuing to examine ways to meet our state's goals in terms of reducing of carbon emissions. Rate Counsel also

continues to seek the development of effective policies to combat climate change. We have been active participants in the stakeholder process sponsored by the Board of Public Utilities (BPU) to balance competing interests and develop a workable strategy to promote Electric Vehicles (EVs). That process has been ongoing for months and continues. This bill, however, supplants that entire process. Without including some of the key stakeholders that have been involved in the BPU process, most notably consumer representatives, this bill was crafted by industry representatives – all of whom will profit substantially by the provisions of this bill. But the fact is that this bill needs a lot of work and needs to be fixed.

The bill establishes a “working group” to develop a statewide vehicle charging infrastructure plan that will establish what charging infrastructure we need, strategies for creating market conditions to encourage EV adoption, policies, regulations and guidelines to protect the grid and meet the goals of the Legislation. The working group will also establish public education programs and consumer awareness campaigns to promote EVs, and other “advanced mobility solutions,” including Uber, self-driving vehicles and ride sharing platforms. Rate Counsel appreciates that it has been added to the members of the working group, but recommends several additional amendments as set forth below.

The bill establishes specific numbers (1300) of charging stations to be developed, even though the issue of what infrastructure is needed has not even been studied by the working group yet. Not only that, the bill *requires* utilities to submit plans for the construction and long-term operation of these charging stations and provides that they will get full contemporaneous recovery of their costs through a surcharge and

will get to incorporate this plant into their rate base and earn on it for the life of the asset. While the bill allows the utilities to contract out the ownership and operation of these charging facilities, we know that two of New Jersey's utilities – PSE&G and Atlantic City Electric – are already seeking permission to build charging infrastructure at a cost of approximately \$275 million. While not all of that is for public charging stations, all of it is to encourage EV adoption and the “goals” of this bill. All of it will also be charged to ratepayers at the utilities' full return.

These provisions are problematic on a number of levels. First, there is a competitive industry of privately owned and operated charging stations. Even with the bill's provision asking the regulated utilities to leverage private investment whenever possible, there is nothing in the bill that prevents them from supplanting these private providers. The competitive charging companies are not going to be able to compete with the guaranteed recovery promised to regulated utilities. And even if the utilities decide to contract with those providers to operate or construct the stations, that just means ratepayers will pay those costs plus the administrative costs and earnings for the utility. Why insert the utilities in this at all? The utilities will certainly have to do the upgrades necessary to ensure the charging stations are integrated appropriately into their grid, and they will also earn generously on the increased sales of electricity that will result from the electrification of transportation. They are also free to enter the competitive market through their unregulated subsidiaries. So why wouldn't we nurture the competitive market and see if the needed charging stations are built with private funds? If it turns out that specific places are severely underserved, we can then look at how to encourage the completion of the network. But why take a competitive industry

and turn it into a monopoly, only to then offer to let the utilities hire their competitors for a fee? This will be cumbersome, expensive and is simply unnecessary.

Consideration must also be given to having EV owners pay for some of the costs since they will surely benefit from these programs. In normal utility practice when a new customer seeks service, the utility will review the anticipated revenues from that new customer. If they are sufficient to justify the extension of service, then the utility will build the line and recover the cost over time through rates. If they are not, the utility will seek a contribution in aid of construction from the developer or new customer. A similar concept could be applied here since the additional load from EVs will bring significant future revenues to the utilities.

Second, these provisions are also at odds with the previously-enacted Electric Discount and Energy Competition Act ("EDECA"), codified at N.J.S.A. 48:3-49 et seq., which fosters competition in the State's electric energy market and establishes certain requirements for electric utilities seeking to provide competitive retail services, such as electric vehicle recharging. EDECA's requirements were designed to foster competition and provide safeguards to address the interests of captive utility ratepayers. Among EDECA's provisions are those that require a utility to seek Board approval to participate in competitive services, share revenues with ratepayers, and implement measures to ensure that the competitive services do not adversely affect a utility's ability to provide service to its public utility customers. EDECA also requires consideration of the impact of utility involvement on the market for competitive services, so as not to impede competition. See N.J.S.A. 48:3-55, -56. S2252 does not contain any such safeguards.

This highlights another important omission in this bill. To the extent the utilities own and operate their own stations, and use ratepayer funds to do so, all revenues from those stations must be credited to ratepayers. There is precedent for this in the appliance service programs run by at least one utility that was grandfathered in when EDECA prohibited utilities from participating in competitive services. Under those provisions, the utility must credit the ratepayers with all revenues from those activities since they are funded by the ratepayers through rates. This bill is silent on that issue and that omission must be corrected. No one would expect a bank to lend a company money to start a business but let that business keep all the profits. Ratepayers must be paid back for the venture capital they are being asked to provide.

Subsection (h) of Section 10 must also be deleted. It is an open-ended invitation to the utilities to propose just about anything and charge ratepayers in the process. As you are well aware, the State is currently undertaking a number of initiatives to meet our climate change goals and ensure a reliable grid. We are asking ratepayers to pay for offshore wind, solar, community solar, energy efficiency, gas main replacement, storm hardening, and of course, nuclear subsidies. Our office is currently working on utility filings asking for about \$10 billion of ratepayer money for what the utilities will surely argue are essential and worthy programs. It is unlikely we can do it all and still maintain affordable rates. But if we are to have a chance at all, we must spend our money wisely. We don't have extra money to pay the utilities to step in between the EV owners and the competitive charging station owners. We don't have extra money to ask ratepayers to fund R&D and "innovative market or technology trials." Rates are supposed to pay for used and useful utility property and for the prudent costs needed to provide safe,

adequate and proper service. The concept of just and reasonable rates is constitutionally based. If rates are too high or exceed what is needed to provide safe, adequate and proper service, they are confiscatory and unconstitutional. So there is no room for a “kitchen sink” provision and subsection 10(h) should be deleted.

In this regard, electric rates are also an inappropriate funding source for vehicle rebates. There is literally no connection between the provision of utility service and the purchase of vehicles. I have heard valid complaints for many years about how inappropriate it is to take SBC money and use it on other programs. That is exactly what is being done here. The bill takes SBC money and uses it to provide incentives to sell cars. It is compounding the problem and almost assuring that ratepayers will see their SBC charges go up – rather than the relief that has been promised from years of SBC money being used for other purposes. Another funding source for the car rebates needs to be found. The bill references a number of other funds including RGGI and the zero emission credit bank. If the Legislature desires to provide for rebates for electric vehicles, it should look to those sources and not captive electric utility ratepayers.

It is very important to remember that this bill essentially imposes a tax on utility ratepayers to subsidize the purchase of luxury vehicles. It is a significant transfer of wealth from low and moderate income consumers to more affluent ones. There has been a lot of discussion about inequities and the need to bring benefits to low and moderate income communities. This does the opposite. Today's EVs are very expensive, relative to the conventionally-fueled counterparts. They are costly beyond the reach of most car buyers. For example, the Chevrolet Bolt has an MSRP over two times the MSRP of a comparably-sized internal combustion vehicle, such as a Honda

Fit. The lowest priced EV, a subcompact Nissan Leaf, is priced comparable to a mid-sized automobile. And the best-selling EVs, the Tesla models, are clearly in luxury car price territory. A \$5000 rebate does not change that.

And the cost will not be spread over all ratepayers. Net metered solar customers will not pay for this since they don't pay the SBC. So if you can't afford solar panels or an electric vehicle – a condition many New Jerseyans find themselves in – you will get to pay but will not get to take advantage of these programs.

This bill needs to be pared down and affordability needs to take its place as a priority. The Charge EVC study that has been referenced by other witnesses found a positive impact for ratepayers but only assumed a \$700 million contribution over 17 years. That translates to about \$40 million per year. This bill will be much more expensive than that. It allots up to \$300 million over 10 years for vehicle rebates, calls for the construction of charging stations that could cost at least another \$50 million based on estimated costs in one of the utility filings. There will also be other costs that have not been calculated – the cost of rebates for trucks, the cost of utility work to upgrade the grid to meet the increased load from EVs, the cost of other utility programs, the cost of other “market initiatives” and consumer education programs. Not to mention the costs of whatever programs are proposed under the Section 10(h) “kitchen sink” provision. We don't have a specific price for those things yet but it's pretty clear that the \$40 million per year estimate will be exceeded. For this reason, the bill should be amended to include a cap. You can even use the \$40 million per year number or \$700 million over the 17 year period addressed in the Charge EV study. Otherwise, there will not be an overall benefit to ratepayers - just the enormous wealth transfer.

Rate Counsel recognizes that reducing the carbon footprint of the transportation sector of New Jersey's economy is an essential part of reducing our State's carbon footprint. However, New Jersey's public utility ratepayers should not be asked to shoulder the cost of reducing the carbon footprint of the transportation sector. Since 2012 shut offs of electricity have increased significantly, around 40%. Between 2016 and 2017 alone, they increased about 4%. With all of the initiatives we are looking to do in this state we cannot charge ratepayers for everything and still expect businesses to stay in this state or customers to be able to afford both their bills and their necessary daily expenses. With significant edits and reasoned choices, we can encourage robust EV adoption in this state. Let's not take the easy and expensive way out and put it all on utility bills.

So I reiterate with this committee that this bill needs a lot of work before it advances. There needs to be (1) a cap on ratepayer funding, (2) a limit on utility ownership and operation of competitive services, (3) the return of charging revenues to ratepayers, (4) the deletion of section 10(h) and its "kitchen sink" invitation to utilities, and (5) another source of funds for vehicle rebates. It is imperative that you consider affordability as a public policy goal that is as important as other goals. This bill does not do this and I strongly urge that these amendments be made. Thank you for the opportunity to testify today. I am available to answer any questions you may have.



State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL
P.O. BOX 003
TRENTON, NEW JERSEY 08625

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

STEFANIE A. BRAND
Director

November 9, 2018

Sponsors of Bill S2252 /A4634

Senator Bob Smith
Senator Linda Greenstein
Assemblyman Daniel Benson
Assemblywoman Nancy Pinkin
Assemblywoman Annette Quijano
Assemblyman Andrew Zwicker
Assemblyman James Kennedy

RE: S2252/A4634 (Establishes Goals and Programs to Encourage Use of Plug-in Electric Vehicles)

Dear Senator Smith & Senator Greenstein, Assemblyman Benson, Assemblywoman Pinkin, Assemblywoman Quijano, Assemblyman Zwicker and Assemblyman Kennedy:

I write on behalf of the Division of Rate Counsel regarding S2252/A4634 (Establishes goals, initiatives and programs to encourage and support use of plug-in electric vehicles). We have significant concerns about this bill and its impact on ratepayers. I testified on October 15, 2018, before the Senate Environment and Energy Committee regarding this bill and advised the committee that we are seeking amendments. In this letter we outline our concerns and propose some amendments aimed at alleviating them.

As you are aware, Rate Counsel represents and protects the interests of all utility customers – residential customers, small business customers, small and large industrial customers, schools, libraries, and other institutions in our communities. Rate Counsel is a party in cases where New Jersey utilities seek changes in their rates or services. Rate Counsel also gives consumers a voice in setting energy, water, and telecommunications policy that will affect the rendering of utility services well into the future.

We are at a pivotal juncture with respect to New Jersey's energy policy. We have an ambitious agenda aimed at achieving sustainable reductions in greenhouse gas emissions while retaining safe, adequate and proper utility service at just and reasonable rates. There are many important and positive policy initiatives being advanced to achieve these goals and many of them

will require contributions from utility consumers through their rates. At the same time, however, recent studies show that nearly 4 in 10 New Jersey households struggle to pay for basic necessities, making affordability a necessary priority when crafting energy policy.

We note that since the October 15 hearing, Rate Counsel was added to the Electric Vehicle Working Group in the bill. We greatly appreciate this addition and look forward to working with all stakeholders to advance the adoption of electric vehicles in the state. We hope you will also consider adding other representatives of the ratepayers who will ultimately pay for many of the costs of these programs.

However, additional amendments are needed to promote affordability and fairness for ratepayers. We ask that you consider the following additional amendments:

- **Ratepayers should not be asked to pay for over a thousand charging stations.** The bill establishes a specific number (1300) of charging stations to be developed (even before the working group determines what infrastructure is actually needed) and *requires* utilities to submit plans for the construction and long-term operation of these charging stations. The bill also provides in Section 10(g) that the utilities will get full contemporaneous recovery of their costs through a surcharge and will get to incorporate the stations as utility plant into their rate base and earn on it for the lives of the assets. While there may be a need at some point to have the utilities build a limited number of charging facilities that the competitive market does not provide, having the utilities become the gas station owners of the future may be the most expensive way to develop necessary charging infrastructure.

In addition to the cost, there are two major problems with this proposal. First, it will supplant the existing competitive industry of privately owned and operated charging stations. The competitive charging companies are not going to be able to compete with the guaranteed recovery promised to regulated utilities. And even if the utilities decide to contract with those providers to operate or construct the stations, that just means ratepayers will pay those costs plus the administrative costs and earnings for the utility. We should nurture the competitive market and see if the needed charging stations are built with private funds before resorting to building the stations through a regulated monopoly and its captive customers. Second, consideration must also be given to having EV owners pay for some of the costs since they will surely benefit from these programs. In normal utility practice when a new customer seeks service, the utility will review the anticipated revenues from that new customer. If they are sufficient to justify the extension of service, then the utility will build the line and recover the cost over time through rates. If it is not, they will seek a contribution in aid of construction from the

developer or new customer. A similar concept could be applied here since the additional load from EVs will bring significant future revenues to the utilities.

- **If ratepayers are asked to fund any charging stations, the safeguards in EDECA should apply and revenues from those charging stations should be returned to ratepayers.** The Electric Discount and Energy Competition Act ("EDECA"), codified at N.J.S.A. 48:3-49 et seq., was enacted to foster competition in the State's electric energy market and establishes certain requirements for electric utilities seeking to provide competitive retail services such as electric vehicle charging. EDECA's requirements provide safeguards to address the interests of captive utility ratepayers. Among EDECA's provisions are those that require a utility to seek Board approval to participate in competitive services, share revenues with ratepayers, and implement measures to ensure that the competitive services do not adversely affect a utility's ability to provide service to its public utility customers. EDECA also requires consideration of the impact of utility involvement on the market for competitive services, so as not to impede competition. See N.J.S.A. 48:3-55, -56. This bill does not contain any such safeguards. It should be amended to make any utility involvement in the construction or operation of EV charging stations subject to these protective provisions of EDECA.

In addition, to the extent the utilities decide to own and operate their own stations, and use ratepayer funds to do so, all revenues from those stations should be credited to ratepayers. There is precedent for this in the appliance service programs run by at least one utility that were grandfathered in when EDECA prohibited utilities from participating in competitive services. Under those provisions, the utility must credit the ratepayers with the revenues from those activities since they are funded by the ratepayers through rates. This is also the model that is being proposed right now for offshore wind, in that ratepayers will pay for the Offshore Renewable Energy Certificates (ORECs) but the wind developers will be required to return all revenues from the sale of the electricity generated to ratepayers. This bill is silent on this issue and that omission must be corrected. No one would expect a bank to lend a company money to start a business and then let that business keep all the profits. Ratepayers must be paid back for the venture capital they are being asked to provide.

- **Section 10(h) should be deleted.** Subsection (h) of Section 10 is an open-ended invitation to the utilities to propose just about anything and charge ratepayers in the process. As you are well aware, the State is currently undertaking a number of initiatives to meet our climate change goals and ensure a reliable grid. We are asking ratepayers to pay for offshore wind, solar, community solar, energy efficiency, gas main replacement, storm hardening, and of course, nuclear subsidies. Our office is currently working on utility filings asking for about \$10 billion of ratepayer money for what the utilities will surely argue are essential and worthy programs. It is unlikely we can do it all and still

maintain affordable rates. But if we are to have a chance at all, we must spend our money wisely. We do not have extra money to pay the utilities to step in between the EV owners and the competitive charging station owners. We do not have extra money to ask ratepayers to fund R&D and “innovative market or technology trials.” Rates are supposed to pay for used and useful utility property and for the prudent costs needed to provide safe, adequate and proper service. The concept of just and reasonable rates is constitutionally based. If rates are too high or exceed what is needed to provide safe, adequate and proper service, they are confiscatory and unconstitutional. So there is no room for a “kitchen sink” provision and subsection 10(h) should be deleted.

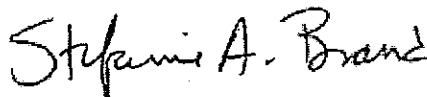
- **There should be a cap on ratepayer contributions and another source of funding needs to be found for vehicle rebates.** Electric rates are an inappropriate funding source for vehicle rebates. There is literally no connection between the provision of utility service and the purchase of private vehicles. We have heard valid complaints for many years about how inappropriate it is to take money collected from the Societal Benefits Charge (SBC) and use it on non-utility related programs. That is exactly what this bill does. The bill takes SBC money and uses it to provide incentives to sell cars. Another funding source for the car rebates needs to be found. The bill references a number of other funds including RGGI and the zero emission credit bank. If the Legislature desires to provide for rebates for electric vehicles, it should look to those sources and not captive electric utility ratepayers.

Total ratepayer contributions should also be capped. As mentioned earlier, there are many worthy energy related programs competing for limited ratepayer dollars. While the recent study published by Charge EVC found an overall benefit to ratepayers, that study only assumed a ratepayer contribution of \$700 million between now and 2035. This translates to about \$40 million per year. If that number is exceeded there will not be an overall net benefit to ratepayers. Without imposing a cap, that number will surely be exceeded with the way the bill is currently written. The bill allots up to \$300 million over 10 years alone for vehicle rebates. It also calls for the construction of charging stations that could cost at least another \$50 million based on estimated costs in one of the current utility filings. There are also costs that have not been calculated – the cost of rebates for trucks, the cost of utility work to upgrade the grid to meet the increased load from EVs, the cost of other utility programs approved under the bill, the cost of other “market initiatives” and consumer education programs. Not to mention the costs of whatever programs are proposed under the Section 10(h) “kitchen sink” provision. Thus, a cap on overall ratepayer funding at the level assumed in that study or lower should be imposed. Any remaining funds that are needed should come from those who will more directly benefit from EV infrastructure – the EV owners, the utilities and other EV industry participants.

Rate Counsel recognizes that reducing the carbon footprint of the transportation sector of New Jersey's economy is an essential part of reducing our State's carbon footprint. New Jersey's electric ratepayers are already doing their share by contributing funds generated by charges on their utility bills to support energy efficiency and renewable energy programs designed to reduce the carbon footprint of the utility sector. However, New Jersey's public utility ratepayers should not be asked to shoulder the cost of reducing the carbon footprint of the transportation sector. It is very important to remember that this bill essentially imposes a tax on utility ratepayers to subsidize the purchase of luxury vehicles. It is a significant transfer of wealth from low and moderate income consumers to more affluent ones. Today's EVs are very expensive, beyond the reach of most car buyers. The lowest priced EV, a subcompact Nissan Leaf, is priced comparable to a mid-sized automobile. And the best-selling EVs, the Tesla models, are clearly in luxury car price territory. With all of the initiatives we are looking to do in this state we cannot simply charge ratepayers for everything and still expect businesses to stay in this state or expect customers to be able to afford both their bills and their necessary daily expenses. With significant edits and reasoned choices, we can encourage robust EV adoption in New Jersey. Let's not take the easy and expensive way out and put it all on utility bills.

I hope you will consider these amendments. Please let us know if you have any questions. We very much appreciate the opportunity to share our comments on behalf of the State's ratepayers. Please feel free to contact our office if you have any questions. Thank you for your attention to these important matters.

Sincerely,



Stefanie A. Brand
Director, Division of Rate Counsel

- c: Kevil Duhon, Deputy Executive Director at New Jersey Senate Democratic Office
- Judith Horowitz, Office of Legislative Services, Senate Environment and Energy Committee
- Matthew Peterson, Office of Legislative Services, Senate Environment and Energy Committee
- Kate Millsaps, Aide, Senate Democratic Office
- Rebecca Panitch, Republican Aide, Senate Environment and Energy Committee
- Christine Mosier, Chief of Staff, Senator Bob Smith
- Assemblywoman Annette Quijano
- Assemblyman Daniel Benson
- Assemblywoman Nancy Pinkin
- Assemblyman James Kennedy
- Assemblyman Andrew Zwicker
- Luke Wolff, Senate Majority Office, Director of Budgets and Fiscal Analysis

Kellie Reyes, Legislative Director, Senator Paul Sarlo
Jennifer Ande, Chief of Staff, Senator Greenstein
Dana Jordan, Legislative Aide, Assemblywoman Pinkin
Rebecca Schwartz, Chief of Staff, Assemblyman Zwicker
Haley Nelson, Legislative Aide, Assemblyman Benson
Alex Rafat, Policy Director, Assemblywoman Quijano
Felicia Thomas-Friel, Managing Attorney for Gas, Rate Counsel
Kurt Lewandowski, Attorney for Electric and Gas, Rate Counsel
Robyn Roberts, Legislative Liaison, Rate Counsel

21 Commerce Drive, Suite 202, Cranford, NJ 07016
973-467-1400 www.fmanj.org



October 11, 2018

TO: New Jersey Board of Public Utilities
FROM: Eric DeGesero, Executive Vice President
RE: 2019 Energy Master Plan

The Fuel Merchants Association of New Jersey (FMA) represents motor fuel and heating fuel distributors in the state. Most of FMA's heating fuel distributors are also licensed HVACR contractors who install and service all types HVAC equipment.

Attached herewith please find a September 2018 report from the National Oilheat Research Alliance: *futurefuel - understanding the viability of advanced biofuels and combustion technologies to deliver zero net carbon combustion in the future and examining advanced biofuels as an alternative to electric heat pumps and other fossil fuel combustion in tomorrow's homes.*

The report highlights the transition that the oilheat industry is undergoing as we move to a net zero carbon fuel which would work in conjunction with thermal heat pumps.

FMA looks forward to working with the BPU as you begin the process of writing the draft 2019 Energy Master Plan.

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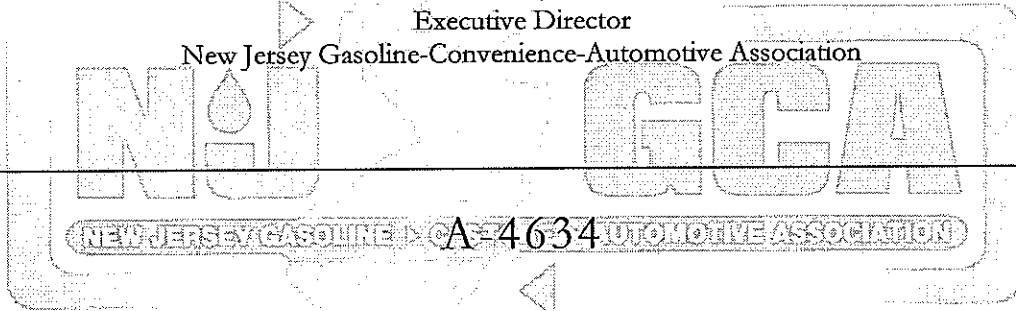
218TH NEW JERSEY LEGISLATURE
ASSEMBLY ENVIRONMENT & TRANSPORTATION
COMMITTEES
HON. NANCY PINKIN & DAN BENSON—CHAIRS

TESTIMONY

SAL RISALVATO

Executive Director

New Jersey Gasoline-Convenience-Automotive Association



December 10, 2018

COMMITTEE ROOM 4
TRENTON, NJ 08625

**Testimony of Sal Risalvato
A-4634 Support, with changes**

Chairs Pinkin and Benson, members of the Committee, my name is Sal Risalvato, Executive Director of the New Jersey Gasoline, Convenience Store, Automotive Association (NJGCA), here representing several hundred fuel retailers across this state, almost all independent small businesses.

As this Committee considers comprehensive legislation to create a new transportation fueling infrastructure for the state, I am pleased to be here on behalf of the members of the existing motor fuel retail community. I believe that my members can and in fact must be a part of the clean energy transportation revolution that this Committee, the Administration, and the State's new Energy Master Plan are focused on.

Over the last decade that I have been leading this association, I have consistently told my membership that they should not think of themselves as being in the gasoline or petroleum business; they are in the motor fuel business, and it just so happens that for right now (and for the last several decades) the only motor fuels demanded by the motoring public were petroleum products. I have instead asked my members to think of themselves as being in the "Transportation Energy Business".

One thing everyone should understand about the current motor fuel market is that oil companies play very little role anymore (for which small business owners are very grateful). With the exception of Speedway (all locations owned by refiner Marathon), the oil companies have divested themselves of virtually every fuel retailer in this and just about every other state. Every Shell, Exxon, BP, or other branded location you see is an independent operator, most often a small business owner who has signed up for a franchise agreement with one of the well-known oil company brands. Their desire is to sell products the consumer demands, and there is very little romantic attachment left for gasoline. Alternative fuels are safer, cleaner, more reliable, and easier to maintain than massive underground storage tanks filled with a potentially serious pollutant.

As I have followed this issue over the years, I have seen commentators from time to time say that if the country's passenger vehicles were all battery electric vehicles (BEV), it means no one would ever have to go to a gas station again. Contrary to these claims, I do fervently believe that there is a place for a business similar to the traditional gas station even in a hypothetical world of only battery-electric vehicles. It may not be as big a market as it is now, but it will be there.

The fact is, **a large portion of the population will not be able to or will not want to recharge their cars overnight in their garage** (even if the grid could fully handle that). What would happen to a household with more than one BEV? Would someone have to wake up at 3am to switch the

cars being charged overnight in order for both of them to be ready to go for the morning commute? What happens when that two-car household adds a third car when a child reaches driving age? What about motorists who have to park at least one car in the street, are we envisioning a world where every residential street is lined with EV chargers the way some city streets are lined with parking meters? Are homeowners going to run wiring all the way to the street for an extra charger, and if so how will they prevent someone else from parking in front of their house and blocking their extra charging station? What about people who live in apartments? Sometimes they are provided a dedicated parking spot, but can we expect the apartment building owner to install dozens or hundreds of charging stations for each unit? Will city streets be lined with Level I or II charging to meet the needs of local residents, and if so will those just looking for a spot to park be allowed to park in front of a charger they aren't using?

Corporate office buildings may start to offer EV charging more frequently than they do now, but how many can we realistically expect them to install and maintain? Certainly not enough for every single car parked there, for both employees and those visiting for meetings. How many charging stations can we reasonably expect any given hotel to install and maintain, even though their client base will be people driving long distances and sleeping over or attending a conference and then traveling a long distance? Go look at the crowded parking lot on a Saturday afternoon at a mall or grocery store or Walmart or movie theater and imagine if just *twenty* percent of those cars were BEVs, much less all of them. It's easy to imagine these locations installing a few chargers to meet a very small need, but not enough to cover dozens or hundreds of cars connecting at the same time, not to mention the cost to properly maintain them. The fact is these businesses have no more desire to install and maintain that many charging stations than they do to install an underground storage tank and offer gasoline for their customers.

There is, therefore, a **market that will exist for an easily accessible location where a motorist can pull their BEV into a space, plug it in, wait a few minutes, pay a reasonable fee, and be on their way.** Instead of the five minutes it currently takes to fill a car up with gasoline, it may take fifteen to twenty minutes, at least to get the vehicle up to a roughly sufficient 80%. Future stations offering this service would likely work to accommodate the motorist with more options to comfortably spend the extra time they are waiting; perhaps with amenities like free Wi-Fi, or a nice seating area inside their expanded and cleaned up convenience store where they offer for sale fresh coffee and other goods. These in-store sales would likely be where the owner makes his profits, as is the case currently.

Market forces have already determined where the best locations are for the transportation refueling infrastructure; it's the location fuel retailers already are and have survived at for decades now. Dedicated stations are not solely going to be needed as an emergency stop in the course of the rare 200+ mile trip; for some motorists it will be the most convenient, most plausible, or perhaps only

way for them to recharge their BEV. **I am confident the market will provide for it—if it is allowed to.**

So why haven't more stations gone out and made the investment? The immediate capital cost is probably the biggest reason. For the business model I've discussed, fast charging is a must, even Level II charging is too slow for these locations. That requires an immediate upfront cost of tens of thousands of dollars per charging station. Traditionally, a big startup investment like this is spread out and amortized over months or years. But the risk to the business owner isn't just that a new market of vehicles will fail to appear. The biggest risk is that a major multinational corporation, like a Starbucks or Walmart or Costco, will decide to install the same thing at their location, and use their massive market advantage to just absorb the initial cost of the installation and perhaps even the cost of the charge itself, undermining the small business owner who is now totally unable to compete.

One idea that should be considered is to follow the example of gasoline. It is illegal in this and many other states to sell gasoline for less than the business paid for it; without this law big chains would sell their fuel at a loss until they drove the competition out of business, and then charge motorists whatever they want. These types of laws protected small business owners from oil companies, and may be needed in similar circumstances to protect small businesses from other behemoth retailers for transportation energy. It is certainly something to be watchful of and consider.

This is an area where subsidies can play a big role in getting chargers to break through. Instead of only creating a costly rebate program to marginally lowering the cost of BEVs, the State and/or BPU should be targeting some rebates at small businesses specifically. This not only ensures that the money will only go to those who have a real need for them, and cannot afford them otherwise, but also keeps down the cost to the State.

I also must emphasize that while there is definitely a role for the State in providing some basic regulations in order to set up and maintain a competitive marketplace, it must avoid going too far in trying to oversee every aspect of how the market should work, or where charging sites should be located. There must remain enough freedom for the marketplace to react to consumer trends and behaviors as they start to become more apparent.

Businesses should have a good deal of freedom in pricing the charging services they are providing. They should be able to charge for the electricity that the motorist is consuming, and at a price that is determined by competitive market forces. Retail prices should be allowed to change frequently as the grid demands it. In the future we may see street signs advertising the current price for electricity, just as we currently drive by and see different prices for gasoline. Perhaps those prices

may even change on the digital sign by the hour, in reaction to various strains on the grid and as ways to incentivize commuters to power up at times that are more affordable.

Only allowing consumers to be charged for the time they are connected is backwards, given that the most expensive charging will by definition be the kind that is the quickest. **Fast charger owners should be able to choose to charge for the electricity they provide and for the time the charger is in use**, as a way to make sure consumers do not leave their vehicle unnecessarily plugged in for too long, preventing other vehicle owners from getting their vehicle charged.

One factor that could severely limit a free and functioning EV charging market is the growing threat of Big Electric moving in and suffocating everyone else who could ever be interested in this market, perhaps even with direct help from the government. When thinking about the future of EV charging, we need to look at Big Electric the way we looked in the past at Big Oil. The electric utilities, more than any other corporation, are able to look at the capital investments in public charging stations as a small cost that does not need to be extracted from the people using the charging stations, but from the millions of households and businesses who are ratepayers. No genuinely private company can ever compete with this state-sponsored market advantage, and **it could easily lead to an unnecessary monopoly that will ultimately hurt motorists through the higher prices and poorer services that monopolies always lead to.** It amounts to a massive wealth transfer away from independent small businesses and households and towards massive corporations. Not only that, but the increase in electric rates will be paid by all ratepayers, including those businesses who are being undercut because of that exact rate increase.

No matter what, a huge portion of BEV charging will be done at home. The utilities will have that market cornered no matter what. The least that can be done is for the State to keep them away from the smaller public charging marketplace that could sustain and benefit hundreds of independent businesses. Perhaps the utility companies should only act as wholesalers when it comes to public charging stations, or perhaps they should be banned from charging the motorist less than what they are selling the power to the owner of the charging station, plus some kind of minimum markup.

We learned over a century ago about the dangers to the general public and the free market from total vertical integration, we should take steps not to repeat those same mistakes in this new marketplace the legislation is trying to give birth to. The fact that this bill gives the BPU a “blank check” to write whatever regulations it and the utilities desire is of particular concern.

The primary change that needs to be made to this legislation is to amend the goals section to remove the qualification “plug-in” when setting goals for electric vehicles. A state goal of 90% of vehicles being plug-in electric by 2040 effectively asks the State to take action to snuff out hydrogen fuel cell vehicles, which would be a public policy mistake of horrific and historic proportions. Just a few days ago, the Assembly Commerce Committee and the Assembly Science,

Innovation and Technology Committee held a joint, four-hour long hearing dedicated exclusively to hydrogen fuel cell vehicles, which have the ability to meet all of our desires for a carbon-free transportation network in roughly the same period of time as plug-in electric vehicles can, at roughly the same overall cost (perhaps even lower), and do it all without the fundamental shifts in consumer behavior required by plug-ins. With the current language of this bill, not only is the State picking winners and losers, it is picking the wrong winner.

While I know that much of the buzz about alternative energy lately has been around battery electric cars, I cannot emphasize enough that you should not discount a **cornerstone role for hydrogen fuel cell vehicles**. The infrastructure model for hydrogen fueling is very similar to the one already widely used and accepted for transportation fuels. We cannot underestimate the role that consumer behavior and consumer desires play influencing purchasing decisions, especially for something as important as the everyday mode of transportation. Having to make a point of plugging your car in somewhere every day, and “refilling” twice as frequently because of the shorter range will prevent a lot of motorists from adopting an EV even if the car were the same price as a gasoline-powered one, and even if there were readily available chargers. With hydrogen fueling this problem evaporates, it takes as long to refill a car with hydrogen as it does to fill it with gasoline, the car can travel almost as far on one tank, and the cost equivalent is not too much higher.

While it's true that much of the hydrogen in industrial use now comes from natural gas, so does most of the electricity that will be going into a BEV from any charging device. Just as that natural gas can eventually be replaced with a cleaner source, so too can solar power be used to create hydrogen fuel. The global Hydrogen Council has already committed to having all hydrogen transportation fuel be carbon free in the next twelve years, at most. There are other concerns with BEVs that fuel cells do not have, such as what happens to the batteries when they can no longer be effectively used, or where the rare-earth minerals like cobalt and lithium needed to power these batteries will come from. So far many are concentrated in places like the war-torn Democratic Republic of Congo, and some mines there have recently been found to use child labor. Meanwhile the prices for these commodities have dramatically increased in the last two years.

The joke about hydrogen cars has always been that it is and always will be the fuel of the future; but it looks like we are finally at the point of it being commercially feasible, and major corporations are making large investments to create the market, so it is essentially a fuel of today. Frankly, the current market for pure BEVs is about as big as the current market for hydrogen fuel cell vehicles, it is very far from “too late” for HFC vehicles. I also suspect that if someone were to calculate the investment it would take to fully electrify the state's transportation infrastructure, compared to the cost to meet all demand with hydrogen, it may very well be more economical to go with hydrogen since while one station is far more expensive than one EV charger, you also only need a fraction as many of them as you do EV chargers. The nearly 3 million passenger vehicles registered in New Jersey are already fully serviced by just under 2,400 gas stations.

There are now about 35 hydrogen stations in California, nearly enough to service travel throughout that state (which is far larger than ours). 200 are planned to be open in CA within the next 6 years, as well as up to 25 in the northeast corridor. The first NJ station will open in Lodi in the near future, with another Whippany not long after. Every time a new station is constructed and opened, more expertise and experience and awareness is gained, and the cost to install the next one falls ever so slightly. In Japan a coalition of major businesses (including Honda, Toyota, Nissan, and a major Japanese oil company), have announced they will build and open 80 additional hydrogen stations in the next four years, for a total of 320 stations by 2025. Within twelve years analysts are saying Japan will have 800,000 HFC vehicles on their roads.

The last point I want to emphasize, because it seems to get lost in some of these debates, is that no one should imagine the fuel retailer of the future as only selling one type of fuel, with the only debate being whether it will be only electric charging, hydrogen, or still gasoline. **Just because our current transportation infrastructure is effectively entirely one type of fuel, does not mean it has to function only that way.** Just like how consumers are comfortable picking different cell phone models, with different operating systems, and different data carriers; the fueling station of the future may have a few BEV fast chargers, next to a few hydrogen pumps, next to one or two gasoline dispensers; next to a dispenser for highly efficient super-octane gas.

As the sponsors and supporters continue to work on this legislation, and on implementing it, I ask that you continue to involve this association. I am happy to work constructively to ensure the best fueling infrastructure possible. Our association's motto is that we serve the businesses that serve the motorist, and we look forward to continuing to serve them for a long time to come.

Thank you.

Michele N. Siekerka, Esq.
President and CEO

Christine Buteas
Chief Government
Affairs Officer

Frank Robinson
Vice President
Government Affairs

Andrew Musick
Vice President
Taxation & Economic Development

Michael Wallace
Vice President
Employment, Labor
& Federal Affairs

Nicole Sandelier
Policy analyst

TO: Members of the Assembly Transportation Committee
FR: Tony Bawidamann, Vice President Government Affairs
DATE: December 10, 2018
RE: S2252/A4634 – Electric Vehicle

On behalf of our member companies that provide more than 1 million jobs in the state and make the New Jersey Business & Industry Association (NJBIA) the largest statewide business association in the country, we understand the goals of S2252/A4634 and are concerned about the cost of the program to the rate payer.

Electric vehicles offer New Jersey an exciting opportunity to be a leader in developing this new technology. In addition to the potential environmental benefits, playing a vital role in bringing this new technology into the commercial mainstream could bring tremendous economic benefits to New Jersey's innovation-based economy.

We understand the laudable goal of the sponsors to help grow the market for electric vehicles in New Jersey. However, residents of New Jersey are continually challenged by affordability and the high cost of living here. In fact, New Jersey has one of the highest tax burdens in the country.

New Jersey is the most taxed state in the nation and our companies and residents are challenged by affordability and the overall cost of living here. For many businesses, the fees authorized in this bill would amount to double taxation, as many facilities already are required to obtain stormwater permits for their operations.

While we understand the Governor's and Legislature's vision of a clean-energy economy, we think there is a better cost-effective way to accomplish this objective. NJBIA feels that a market-based approach to creating, growing and sustaining an

electric vehicle market should be done by the private market rather than funded by the rate payer. The intersection between consumers and business should drive competition that will grow the market place. The risk or cost of creating this market should not be placed on the rate payers. This legislation is asking New Jersey's public utility ratepayer to pay for reducing the carbon footprint of the transportation sectors. Currently, the electric vehicles in the United States account for less than 2 percent of the total automobile market.

While estimates of \$700 million have been floated, we believe this is a conservative number as the costs of the rebates is \$300 million in nature

In addition, to the overall concern with the manner in which the bill is drafted, there are a few other issues that are of concern:

1. The Bill S2252/A4634 creates a "working group" to develop a statewide vehicle charging infrastructure plan that will establish what charging infrastructure is needed, strategies for creating market conditions to encourage EV adoption, and the policies, regulations and guidelines to protect the grid and meet the goals of the legislation. The working group will also establish public education programs and consumer awareness campaigns to promote EVs, and other "advanced mobility solutions. However, there is not a single representative of business or consumer interests on this working group.
2. The bill also establishes specific numbers (1,300) regarding charging stations to be developed, even though the issue of what infrastructure is needed has not even been studied by the working group yet. Furthermore, the bill cites the formation of the Energy Master Plan as a guiding document. The EMP is still being drafted and may have suggestions to grow this market counter to those proposed in this legislation.
3. The bill also, requires utilities to submit plans for the construction and long-term operation of charging stations and provides full contemporaneous recovery of their costs through a surcharge. Utilities are permitted to incorporate this into their rate base and earn profits for the life of the asset. As previously mentioned, we believe the market should drive the construction of the charging stations and should not be recovered in rate base. As you know, utilities do not operate current gas stations and they should not do so in this new market. This legislation also does not contain any protections offered in the Electric Discount and Energy Competition Act (EDECA), which if the utility sector would to be involved on some level should adhere to the provisions of EDECA.

Additionally, the private market will not be able to compete with the subsidized market of the utility sector.

4. The Division of Rate Counsel is currently evaluating utility filings seeking about \$10 billion of ratepayer money for what the utilities will surely argue are essential and worthy programs. New Jersey already has the 11th highest energy costs in the nation. As such, the ratepayer cannot pay bear all the costs, while New Jersey tries to maintain affordable electric rates.

Furthermore, section 10(h) allows “electric public utilities may propose other programs, incentives, tariffs, or iniatitives to support the development of vehicle charging infrastructure of all types, consistent with...” and lists may of those areas. NJBIA feels this section should be removed as it remains very open ended and the utilities can essentially recover costs in rate base for unneeded programs.

This bill currently takes money from the Societal Benefits Charge and uses it to pay for vehicle rebates. This is not an appropriate use of such funds, as it is a non-utility program. As such, we suggest other funding sources be used to fund the vehicles. NJBIA recognizes that reducing the carbon footprint of the transportation sector of New Jersey’s economy is an essential part of meeting the state’s ambitious clean energy goals. However, New Jersey’s public utility ratepayers should not be asked to shoulder the cost of reducing the carbon footprint of the transportation sector. We cannot continue to charge ratepayers for these extra costs and still expect businesses to stay in this state or expect their customers to be able to afford to live here.

It should not be government’s role to create a market for products; the market should be created by a concept of supply and demand, ultimately promoted by business. In current form, NJBIA cannot support Bill S2252/A4634 unless the businesses who will profit from the marketplace accept the risk for this venture not the ratepayer.

It is imperative that you consider New Jersey’s affordability as a public policy goal that is as important in its own right.



Bill: Senate Bill 2252 – “ Establishes Statewide public plug-in electric vehicle charging system”

To: Hon. Daniel Benson, Chair, and members of the Assembly Transportation and Independent Authorities Committee, and Hon. Nancy Pinkin, Chair, and members of the Assembly Environment and Solid Waste Committee

Position: SUPPORT

Date: December 10, 2018

Submitted by: Richard Lawton, Executive Director, New Jersey Sustainable Business Council

My name is Richard Lawton, and I am the Executive Director for the New Jersey Sustainable Business Council (NSBC). NJSBC is a coalition of businesses and business networks throughout the state committed to advancing policies that support a vibrant and sustainable economy. The Council brings together the perspective, experience, and political will of businesses to stimulate our economy, strengthen our communities, and preserve our environment. After forming in early 2017, the organizations and companies that have joined in this partnership represent over 2,000 businesses, and this number continues to grow each month.

We support the proposed bill, which we view as a significant and timely policy action aimed at moving New Jersey over the fulcrum point from risk to opportunity. Since nearly 50% of the state's greenhouse gas emissions come from the transportation sector, electrifying transportation systems will help to reduce the growing risk associated with climate change by decreasing our dependence on fossil fuels.

Since this bill is aimed at a high leverage area to drive systemic change, it will yield a wide range of economic, environmental and social benefits:

- New Jersey's air will be cleaner and healthier.
- Utility companies will produce and sell more electricity
- A \$2 billion increase in net economic benefits by 2035, including exponential growth in the charger/battery market and other related industries.
- Lower transportation costs for businesses since EV recharging costs are only one-third of refueling cost.

Since New Jersey is a transportation hub and a large transportation market, the state is well positioned to establish a first-mover advantage in creating a thriving EV supply chain that will result in thousands of EV infrastructure and maintenance jobs.

There are already many triple bottom line businesses that are at the vanguard of creating an economy in which profit, good paying jobs and a healthy environment go hand in hand. This bill will give a clear policy signal to them and to the rest of the business community that will help companies steer their investments and strategies in a direction that better serves both their shareholders and a wider circle of stakeholders.

We'd also like to encourage the committees to consider strengthening the bill by explicitly directing additional resources toward environmental justice communities who continue to be disproportionately impacted by pollution. This could include directing investment toward electrifying public transit and school bus fleets in these communities. Doing so will improve public health and will serve as a much-needed stimulus to these local economies.

I'd like to thank the Committee for considering this important legislation. We know that a sustainable business is good business, and a sustainable economy is a prosperous and resilient one. Senate Bill 2252 will make a demonstrable impact on creating an economy that is strong and sustainable now and into the future.

Thank you.

Richard Lawton
Executive Director
New Jersey Sustainable Business Council
646.234.9216
rlawton@njsbcouncil.org



11390 W. Olympic Blvd, Suite 250
Los Angeles, CA 90064

December 10, 2018

Written Testimony of Sara Rafalson on Behalf of EVgo
Before the Assembly Environment and Solid Waste Committee and the Assembly Transportation and Independent Authorities Committee in Support of A4634

Chairman Benson, members of the Assembly Transportation and Independent Authorities Committee and Chairwoman Pinkin, members of the Assembly Environment and Solid Waste Committee, thank you for the opportunity to provide written testimony today on A4634. EVgo commends the New Jersey legislature for its role in solidifying New Jersey as a national leader in the deployment of clean technologies in the areas of renewable energy, energy efficiency, smart grid technologies, and of course, the subject of today's hearing, clean transportation. The charging industry has made great progress in building out the first waves of electric vehicle (EV) charging infrastructure in the U.S., and companies like EVgo welcome the opportunity to work closely with the state and other partners to continue to expand that infrastructure to enable mass adoption of EVs.

EVgo operates America's largest public EV fast charging network, with approximately 1100 chargers in 66 metropolitan markets across the country. Primarily using Direct Current fast chargers (or DCFCs) – which typically charge at a rate of 50 kilowatts or more –EVgo fast charges more drivers for more miles than any public charging network in the nation.

While our firm is headquartered in California, we have a strong footprint on the East Coast and the Mid-Atlantic especially, both in chargers and personnel. In New Jersey, we have deployed nearly 30 fast chargers in the state and are partway through deployment of charging stations along the Turnpike and GSP through a contract that we were awarded with the New Jersey Turnpike. Several of those chargers will be cobranded under a partnership with PSE&G.

As an activate participant in the New Jersey electric vehicle charging market, EVgo would like to offer our support for A4634. The electric vehicle market is still nascent in New Jersey, which has about 16,000 battery electric and plug-in hybrid cars on the road – a fraction of that needed to achieve the state's goal for greenhouse gas emissions reductions. With this legislation, New Jersey is encouraging car sales via rebates, which will support Governor Murphy's zero emission vehicle (ZEV) goals. The legislation also sends an important signal to the market that a significant increase in charging infrastructure is needed, and it enables the sustainability of charging business models by pushing for much needed tariff reform.

It is also very important to stress the economic value of electric vehicles in helping to reduce electricity costs for New Jersey residents in spreading fixed utility costs over a far greater number of kWhs that will be sold through the existing utility distribution system. Not only will New Jersey ratepayers see reduced costs, EV drivers will save significantly as electric vehicles are far less costly to fuel than traditional petroleum-based vehicles.

The economic values also drive more deeply into the more efficient operation of our electric grid. Off peak EV charging will help to reduce and flatten the wide "peaks and valleys" that exist in our current use of electricity. For example, through our partnerships with rideshare companies, EVgo notes that much fast charging takes place during the hours of peak solar.

The cost of moving forward aggressively with our EV program in New Jersey is an investment and the opportunity to not only take a major step forward in reducing carbon emissions, but to create pathways to creating a far more efficient and less costly electric utility grid.



11390 W. Olympic Blvd, Suite 250
Los Angeles, CA 90064

The opportunities ahead of us for electrification are monumental. Two and a half million EVs are expected to be on the road by 2022, and automakers will roll out over 160 EV models by that same year. We expect that this boom in EV car sales will necessitate a national network of at least 24,500 fast chargers. With this legislation, New Jersey is once again showing its leadership in clean technologies to facilitate decarbonization.

On behalf of EVgo, I'd like to again thank both Chairman Benson and Chairwoman Pinkin, and both committees for their leadership in taking testimony today in advance of their further positive action on this measure. It is clear to us that both the legislature and Governor Murphy together embrace a new era of clean transportation in New Jersey's future. EVgo looks forward to continuing our collaboration to further support this important agenda. Please do not hesitate to reach out to EVgo as a resource moving forward.

Sincerely,

Sara Rafalson, EVgo
Director, Market Development
Phone: (312) 909-1415
sara.rafalson@evgo.com

John Milliken

NEW JERSEY FUEL CELL COALITION TESTIMONY:

**NEW JERSEY ASSEMBLY MEETING ON A4634 – PLUG-IN ELECTRIC
VEHICLES**

DECEMBER 10, 2018

Fuel cell electric vehicles provide the environmental benefits of zero-emission vehicles while also delivering the longer range and shorter refueling times that many drivers want. Fuel cells are also ideal for larger “difficult-to-electrify” mobile applications like buses and heavy-duty trucks, and for material handling equipment in areas where air quality is an issue and/or improved productivity can be achieved by eliminating the downtime associated with recharging or switching out batteries.

Zero-emission fuel cell powered forklifts have been operating in New Jersey warehouses for several years; more than 20,000 are operating across the country. More than 4,000 fuel cell vehicles are on the road in California supported by a network of 36 hydrogen stations. A collaborative effort involving Toyota and Air Liquide will bring the first fuel cell vehicles and 12 hydrogen stations to the Northeast, including two stations in New Jersey next year. The zero-emission fuel cell bus market is also growing – over 20 fuel cell transit buses are operating in California and 10 in Ohio.

Air Liquide recently announced plans to build the world’s first liquid hydrogen plant dedicated to hydrogen energy markets – a \$150 million investment. The plant, with the capacity to produce 30 tons of hydrogen per day, will support the expected deployment of 40,000 fuel cell vehicles in California by 2022 and 200 hydrogen stations by 2025. These targets are part of the State’s technology neutral approach to 5 million zero emission vehicles by 2030.

According to New Jersey’s Energy Master Plan, the State has set a target of 330,000 zero-emission vehicles on the road by 2025. Retaining this type of technology neutral approach in legislation and policy will create parity for all zero-emission vehicles and fueling infrastructure, including fuel cell electric vehicles and hydrogen infrastructure, battery electric vehicles and charging infrastructure, and any new zero-emission technologies. This will allow businesses and consumers to decide the vehicle attributes that best meet their needs, and increase the likelihood that New Jersey will achieve its clean transportation and environmental goals.