BEFORE THE

NEW JERSEY BOARD OF PUBLIC UTILITIES

In the Matter of Medium and Heavy Duty Electric)	
Vehicle Charging Ecosystem)	Docket No. QO21060946
)	

COMMENTS OF NRG ENERGY, INC. ON THE NEW JERSEY ELECTRIC VEHICLE INFRASTRUCTURE ECOSYSTEM 2021 - MEDIUM AND HEAVY DUTY STRAW PROPOSAL

NRG Energy, Inc. ("NRG") submits these comments in the above-captioned proceeding in response to the New Jersey Electric Vehicle Infrastructure Ecosystem 2021-Medium and Heavy Duty Straw Proposal issued on June 30, 2021 ("MHD Straw Proposal"). Enabling customer adoption of Electric Vehicles ("EVs") is a worthy and beneficial public policy objective and a way for New Jersey to meet its aggressive renewable goals. NRG appreciates the opportunity to provide comments on this topic.

Who We Are

NRG is a leading integrated energy and home services company in the U.S. A Fortune 500 company, NRG is at the forefront of changing how people use, buy, and think about energy. We strive to empower our residential, commercial, and industrial customers with reliable and cost-effective energy solutions. We draw on our deep industry experience to provide products and services that suit our customer's needs with the consistency and innovation expected from the nation's leading integrated energy and home services provider. Together, we are creating a sustainable energy future by fostering smarter energy choices and providing reliable, cleaner power. NRG's retail brands maintained one of the largest combined competitive retail energy portfolios in the U.S. with 152,000 GWh of electricity and 914

MMDth of natural gas sold in 2020 and approximately six million customers served. Our roughly 7,300 employees provide a range of products and services including demand response and energy efficiency, 100% renewable energy, energy plans bundled with energy efficiency technology, such as Nest thermostats, as well as loyalty rewards and charitable giving products through "Choose to Give" plans. NRG has numerous licensed Third Party Suppliers that are actively serving electricity and natural gas customers throughout New Jersey. NRG's state-of-the-art Platinum LEED office building in Princeton, NJ provides EV charging stations for employees and visitors. For the second year in a row, NRG proudly sponsored an "Electric EVening" with Sustainable Princeton. A ride and drive event that brings together EV dealers, EV owners, and the community to demonstrate the accessibility of Electric Vehicles. This year's event, on October 1, was a fantastic success showcasing dealer owned Audi e-Tron GT; Polestar 1 and Polestar 2, VW ID.4, Tesla Models 3 and X along with general public owned Ford Mach-e, Tesla Model S, and even e-motor cycles.

Like New Jersey, NRG is committed to sustainability and has set aggressive targets of our own. We have committed to reduce our company's emissions 50% by 2025 and to achieve net zero by 2050. We are also the first North American company in any sector to issue a sustainability-linked bond unifying our financing and sustainability strategies.² As part of that commitment to sustainability, in June 2021 NRG announced our intent to transition to a 100% all-electric light duty electric vehicle fleet by 2030. In our Princeton, New Jersey office, we offer 16 Level 2 chargers and 2 DC Fast chargers for employees. NRG believes that Electric Vehicles are on the cusp of mass adoption, and we are investing in our own

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¹ With the closing of its acquisition of Direct Energy on January 5, 2021, the NRG Energy Inc. retail companies operating in New Jersey now comprise Direct Energy Business, LLC ("DEB"), Direct Energy Business Marketing, LLC, Direct Energy Services, LLC, and Gateway Energy Services Company in addition to Green Mountain Energy Company, Reliant Energy Northeast LLC d/b/a NRG Home and d/b/a NRG Business Solutions, Energy Plus Holdings LLC, Energy Plus Natural Gas LLC, Independence Energy Group LLC d/b/a Cirro Energy, XOOM Energy New Jersey, LLC, and Stream Energy New Jersey, LLC.

² NRG 2020 Sustainability Report, https://www.nrg.com/sustainability/reporting.html

solutions to accelerate EV adoption. We are currently supplying electricity to many EV charging customers offering time varying prices and other options.

Executive Summary

New Jersey is off to a running start. The market has stepped up and is delivering.

NJ is in the enviable position of being ahead of schedule in meeting its established EV infrastructure targets. According to the U.S. Department of Energy, nearly 500 DC fast chargers and 1,100 Level 2 chargers have already been deployed in New Jersey³ by private investors – meaning the State's 2025 goal of having 400 DC fast chargers and 1,000 Level 2 chargers has not only been met, but it has been exceeded – 4 years ahead of schedule.⁴ In fact, NJ has enough DC fast charging capacity installed to support more than 200,000 EVs. Moreover, deployment of charging infrastructure is continuing to grow with an average of 15 DC fast charging stations and 38 Level 2 charging stations coming on-line each *month* in 2021.⁵ This is in comparison to 42,000 EVs registered in NJ as of December 2020.⁶

New Jersey has the opportunity to take stock of what's already happening and take its time to see what is needed. There is no rush/no need to panic.

Given the current consumer demand and the pace of deployment of EV charging infrastructure, there is ample time to plan, design, permit, and construct charging stations to meet projected needs in 2030, 2040 and beyond. The electric vehicle industry is emerging, and the growth numbers are impressive;

³ NRG analysis of data from Department of Energy, Alternative Fuels Data Center https://afdc.energy.gov/fuels/electricity_locations.html#/analyze?fuel=ELEC®ion=US-NJ

⁴ On January 17, 2020, Governor Murphy signed S-2252 into law (N.J.S.A. 48:25-1 et seq.)

⁵ NRG analysis of data from Department of Energy, Alternative Fuels Data Center https://afdc.energy.gov/fuels/electricity_locations.html#/analyze?fuel=ELEC®ion=US-NJ

 $^{^6}$ According to Drive Green NJ $^\sim$ 41,096 EVs sold through $\underline{12/31/2020}$, https://www.drivegreen.nj.gov/dg-electric-vehicles-basics.html

however, rushing to regulate and implement programs before even the most basic research is conducted and misconceptions corrected will result in undue cost borne by ratepayers.

The market is nascent - companies are competing to find their niche. Infrastructure is being built and the federal government is contemplating a huge infusion of investment dollars to the states.

Automakers are supporting the accessibility of electric charging infrastructure by building their own private networks and by supporting the build out of existing public networks by partnering with various EV charging companies. Other third parties are offering charging networks and a variety of charging equipment and apps to enable managed charging. With so much private capital already deployed to meet consumer needs, there is simply no need for ratepayer subsidies. Any requests for Electric Distribution Company ("EDC") investment in make-ready or charging infrastructure must include a gap analysis demonstrating that private investment has not (and will not) be able to fill that need.

With so few actual EV owners and drivers in New Jersey and the entire country, it is understandable that misconceptions persist across all electric vehicle duty classes. However, these misconceptions contribute to confusion and panic:

- 1. EV Charging occurs at public charging stations, just like fossil fueled vehicles.
 - Consumers mistakenly believe that EV charging needs mimic combustion engine vehicle refueling needs i.e., at public refueling stations. In reality, 80% of EV charging occurs at home or at work. Nearly 70% of NJ residents own a home.
- 2. EVs cannot get me to where I need to go.

⁷ U.S. DOE Office of Energy Efficiency & Renewable Energy, Electric Vehicles, see https://www.energy.gov/eere/electricvehicles/charging-home

- Consumers mistakenly believe that EV battery range is not large enough to meet their daily driving needs. In reality, EV battery range increasingly exceeds 200 miles nearly a week's worth of driving can occur on a single charge. Ongoing battery technology improvements continue to expand the range of EVs.
- The Volkswagen ID.4 and the Ford Mustang Mach-E are commercially available and offer batteries in the 250-mile range, while Tesla is rated to travel up to 400 miles on a single charge. The very first production version of an electric pick-up truck in the US is the Rivian R1T, with an EPA estimated range of 314 miles. The very first production version of an electric pick-up truck in the US is the Rivian R1T, with an EPA estimated range of 314 miles.
- As vehicle mile range increases, the need for DC fast charging declines.
- 3. We need just as many EV charging stations as we have gas stations
 - Consumers mistakenly believe that an extensive network of EV charging is necessary to support consumer transportation needs. In reality, the majority of a typical consumer's mileage needs can be met with overnight recharging using a 120V plug or using a level 2 charger in about 1.5 hours charging methods that are commonly deployed at work and home.¹¹
- 4. The need for EV infrastructure is urgent, as consumer demand for EVs is accelerating
 - Widespread EV adoption is not going to happen overnight or even within the next decade.
 In 2020, less than 15 million light duty vehicles in total were sold in the U.S.¹²

⁸ AAA Foundation for Traffic Safety, *American Driving Survey, 2014 – 2017*, see http://aaafoundation.org/wp-content/uploads/2019/02/18-0783 AAAFTS-ADS-Brief r8.pdf.

⁹ How Far Does a Tesla Go on One Charge? More Than 400 Miles, JD Power, Christian Wardla, June 16, 2020, see https://www.jdpower.com/automotive-news/how-far-does-a-tesla-go-on-one-charge-more-than-400-miles.

¹⁰ First Production of Rivian R1T rolls off production line, September 14, 2021.

https://insideevs.com/news/533085/first-rivian-r1t-assembly-line/

¹¹ Electric Vehicle Ownership Costs: Today's Electric Vehicles Offer Big Savings for Consumers, Harto, Chris, October 2020, https://advocacy.consumerreports.org/wp-content/uploads/2020/10/EV-Ownership-Cost-Final-Report-1.pdf.

¹² Hannah Elliot, The automakers that have won big or lost ground going into 2021, Pittsburgh Post-Gazette (Dec. 24, 2020), https://www.post-gazette.com/business/auto/2020/12/24/automakers-sales-plants-pandemic/stories/202012240134.

Approximately 270 million vehicles are registered in the U.S.¹³ Even if every light duty new vehicle purchased starting next year was electric, it would take over 15 years for the entire U.S. fleet to turn over.

- Only 0.3 million of the nearly 15 million light duty vehicles sold last year were electric.¹⁴
 While total light duty EV sales¹⁵ could double this year, making a year over year growth rate look exceptional, the fact is that the total number of EVs sold is small relative to combustion vehicles.
- While it is true that some automakers have announced a phase out of combustion vehicle sales, the reality is that combustion vehicles will continue to be the top-selling type of vehicle in all categories in the U.S. for at least the next decade.
- The misconception and fear that every car will be electric tomorrow and immediate action is warranted is at best overblown, and at worst not grounded in fact.
 - General Motors has announced that it will no longer sell combustion vehicles in the
 U.S. by 2035, nearly a decade and a half away.
 - Ford has announced that 40% of their global vehicles will be all-electric by 2030.

 However, most of Ford's electric sales will occur in Europe.

The Board of Public Utilities ("BPU") should play role in planning, incentives, and education.

The BPU should require the EDCs to produce heat maps for developers to use for planning purposes. The BPU should require the EDCs to offer direct to consumer incentives and direct to developer incentives.

¹³ State Motor-Vehicle Registrations – 2017, U.S. Dep't of Transp., Fed. Highway Admin., https://www.fhwa.dot.gov/policyinformation/statistics/2017/pdf/mv1.pdf (The total includes cars, trucks, buses, motorcycles, and other vehicles with the majority in the car and truck category.)

¹⁴ Driving to an all-electric future, NRG (Feb. 2, 2021), https://www.nrg.com/insights/energy-education/driving-to-an-all-electric-future.html

¹⁵ The number of medium duty vehicle, heavy duty vehicle, motorcycle, and transit bus sales will be even less than the total sales of light duty vehicles simply because they are less mature.

The BPU should require the EDCs to create a website to help consumers through this process. The website should include rebate and tax incentive information and other educational materials.

Below are some specific comments on certain sections of the MHD Straw Proposal.

The Modified "Shared Responsibility" Model

The BPU Staff recommends a modified "shared responsibility" model in which EDCs invest in (and earn a return on) the wiring and backbone infrastructure necessary to enable a robust MHD EV Ecosystem.

Private investors would then install, operate, and market the charging stations. The cost of the infrastructure would be borne by ratepayers in the state. The EDC would also perform last resort functionality if necessary, meaning that if private investors are not active in the market, the EDCs would operate the charging stations.

While we commend the Board for acknowledging the role of the private market in facilitating EV deployment, NRG urges the Board to reconsider its proposed model of "shared responsibility" with the regulated monopoly utilities. Instead, we urge the Board to put more reliance on the competitive market, and to utilize the regulated monopoly utilities only as a last resort where the market has failed to meet a demonstrated need. We urge the Board to refrain from saddling NJ ratepayers with any investment risk that is not demonstrably proven to be necessary. Fundamentally, the regulated utilities and the competitive market have separate and distinct roles and both should be relied upon to deliver on their strengths.

The following rules should be followed in evaluating the role of EDCs in EV deployment:

- Minimal involvement: To the extent there is any role for regulated electric utilities in the
 deployment of EV charging infrastructure, it should be minimal and focused entirely on where
 there are gaps for overburdened communities.
- <u>Gap analysis to identify need</u>: Just like competitive companies, regulated utilities should be required to demonstrate a need for such an investment by their captive ratepayers. The Gap analysis should clearly define not only the assumed EV adoption, but also the actual and assumed growth in infrastructure. Forecasted gap analysis should be compared to actuals over time to demonstrate forecasting acumen.
- RFPs for third party participation: If a need is identified, competitive entities should first be
 invited to fill this void. If such requests fail, then and only then, regulated utilities should be
 required to issue requests for proposals from EV charging companies to install and own the
 charging infrastructure procured to ensure that competition exists to obtain the best value for
 the investment.

EDCs are responsible for the provision of safe and adequate utility services to all customers in their service territories. Ratepayers in the state should not be required to fund any projects that are not related to the provision of safe and adequate utility service. As such, allowing the monopoly utility to interfere in the competitive market using ratepayer dollars has the potential to disincentivize private investment in this space. EDCs have the unique advantage of guaranteed cost recovery that private companies do not enjoy, thus creating an uneven playing field when regulated utilities are permitted to participate in the competitive market. Across the U.S. – including in New Jersey – competitive companies are responding to EV adoption and in many cases over-supplying DC fast charging capability by orders of magnitude over demonstrated need in anticipation of higher EV penetration rates.

Third parties should be relied upon to perform the make-ready work and fleet technical analysis. The utility should be limited to providing back end support like publishing heat maps of locations that are most conducive to adding MHD equipment based on peak and off peak charging usage and providing other necessary data necessary to determine the best sites for this infrastructure. The EDC should also act as a provider of last resort when private companies are not stepping up to provide these projects in communities where they are needed. Once a need is identified, the make ready infrastructure should be sought through an RFP process ensuring that the best suited company builds the project.

NRG would urge the Board to consider a longer time horizon for determining when the electric utilities should be allowed to step in as a provider of last resort. Specifically, 12 months for Over-Burdened Communities and 18 months for other locations that have not generated private investment interest.

Too short a time period could stifle the development and deployment of the state's private charging network.

Ample Private Investment is Already Driving EV Adoption

There are many well-established and well-capitalized businesses that build, own and/or operate electric vehicle infrastructure. ¹⁶ This list not only includes auto manufacturers, but private companies who focus on the business of charging networks and infrastructure. Blink¹⁷, Volta¹⁸, EVGo¹⁹, and Electrify America²⁰

¹⁶ Gail Herring notes that global auto makers are investing \$500 Billion to pivot towards electric and autonomous vehicles. "EV Impact: Electric vehicle surge resonates across global economy", S&P Global Market Intelligence, see https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/ev-impact-electric-vehicle-surge-resonates-across-global-economy-

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¹⁷ Electric Vehicle Charging Stations, Blink Charging Solutions, see https://blinkchargingdev.azurewebsites.net/wp-content/uploads/2020/04/1.3 BlinkOverview.pdf

¹⁸ Volta Investor Relations, see https://voltacharging.com/investor-relations/

¹⁹ EVGo Fast Charging, EVGo Investor Relations, see https://www.evgo.com/investors/

²⁰ Electrify America, Our Investment Plan, see https://www.electrifyamerica.com/our-plan/

are all companies that are deploying their own capital to build and often own electric charging infrastructure in the United States. Electrify America alone has a commitment to spend \$1.2 billion in states other than California to build charging infrastructure as part of the Volkswagen diesel emissions settlement. In addition, across the globe auto makers have committed \$500 Billion towards Electric and Autonomous vehicle transformation.²¹ These investments are visible in several examples below, including:

- Tesla has built an extensive private network to support their consumers and currently provides nearly 60% of all DC fast charging ports in the country.²²
- Rivian (a company providing Amazon with 100,000 commercial vans) has announced plans to build a network of 3,500 DC fast chargers at over 600 sites by 2023.²³
- Ford announced a network of 12,000 charging stations to support their growing electric vehicle
 line up.²⁴
- General Motors is investing in 2,700 new DC Fast Chargers on EVGo's network. EVGo's network is currently over 800 Fast Chargers.²⁵
- Jeep is partnering with Electrify America to put chargers at trail heads. 26

²¹ Gail Herring notes that global auto makers are investing \$500 Billion to pivot towards electric and autonomous vehicles. "EV Impact: Electric vehicle surge resonates across global economy", S&P Global Market Intelligence, see https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/ev-impact-electric-vehicle-surge-resonates-across-global-economy-

^{66518519?}utm_campaign=Thought_Leadership_Research&utm_medium=Social&utm_source=Twitter ²² Electrek, Tesla Owns 79% of the Electric Car Market in the US, and That Needs to Change, dated February16, 2021 see https://electrek.co/2021/02/16/tesla-owns-electric-car-

marketus/#:~:text=Tesla%20owns%20almost%2079%25%20of,the%20US'%20electric%20car%20market, and NREL, Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling Station Locator: Second Quarter 2020, dated January 2021, see https://www.nrel.gov/docs/fy21osti/78486.pdf

²³ Rivian – Charging Your Rivian, see https://stories.rivian.com/charging-your-rivian

²⁴ Electrek – Ford announces plans for EV charging, Partners with Amazon and Greenlots, dated Octobe2019, see https://electrek.co/2019/10/17/ford-charging-electric-cars-partners-amazon-greenlots/

²⁵ GM Will Help EVGo Triple Its Fast Charger Network in the US - The Verge, dated July 31, 2020, see https://www.theverge.com/2020/7/31/21349614/general-motors-evgo-fast-charging-network-investment ²⁶ Jeep and Electrify America to Put EV Chargers at 4WD Trailheads, Joe Lorio, dated March 26, 2021, see https://autos.yahoo.com/jeep-electrify-america-put-

ev185800511.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_

The amount of private investment into these programs clearly reiterates the fact that EDCs are not needed in this space.

Enabling Consumer Adoption of EVs

NRG believes that EVs are on the verge of mass consumer adoption. For this reason, NRG is investing in plans and programs to drive consumer adoption of EVs. NRG offers EV education and thought leadership, carbon offsets, renewable supply, product bundles that include a level 2 charger, and discount memberships with charging networks. For our large commercial and industrial customers, we offer our specialized advisory services such as our EV Road Mapping and Onsite Electrification services, in addition to our core renewable and resilient supply solutions. These types of offerings, with all of their inherent risks are ones that the competitive market can deliver most efficiently – particularly in light of the fact that both technology and consumer demands change very quickly.

As an integrated power company, NRG is uniquely qualified to encourage customers to manage their charging off-peak. Encouraging off-peak and managed charging of EVs is key to ensuring customers have the ability and incentive to charge their EVs when prices and demand on the system are the lowest.

Companies like NRG have the entrepreneurial drive to innovate and deliver the products and services consumers demand, and their shareholders bare the investment risk of those product offerings.

New Jersey is on the cusp of deploying AMI meters and is recognizing the importance of data, as the Board has either approved, or is now considering, AMI deployment plans from each of the electric utilities. Moreover, the Board's open proceeding on Advanced Metering Infrastructure Data

Transparency, Privacy & Billing is poised to enable the competitive market to access the interval usage

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data that will flow from these meters to offer innovative products and services to consumers – including dynamically priced electricity plans targeted to EV owners.

Emerging Technology

EV technologies are constantly changing and it is extremely risky for the EDCs to expend ratepayer dollars on technology that may be defunct in a short period of time. NRG experienced the same issues when building our EV infrastructure at our building in Princeton, NJ. We installed sixteen level 2 charging ports and 2 DC fast charging ports. We "made ready" the infrastructure for future charging by adding network capabilities, designed electrical panels, and laid conduit to double our EV charging space to meet an expected demand. Five years later, our charging equipment is obsolete and no longer supported by the manufacturer, replacement technology is wireless enabled and higher amperage deeming most of the make ready investment in infrastructure unnecessary, a global pandemic changed how and where our employees work, and the amount of EV owners we had anticipated never materialized.

Looking into the future, charging will likely be completely different than it is today. Wireless charging, mobile charging, electrified roads, and battery swap are some new technologies on the horizon. In addition, as battery range increases, the need for certain charging infrastructure declines. In a fast moving, emerging industry like EVs, deploying private capital minimizes ratepayer risk.

Equitable Access to the EV Ecosystem

NRG applauds the Board Staff's efforts to ensure that Over-Burdened communities are provided with an equitable share of EV infrastructure and charging stations. A key role for the EDCs in support of EV

infrastructure deployment is to make information about their distribution system available to EV infrastructure developers. The EDCs should be required to highlight these areas by providing heat map and other information to private investors who will build the infrastructure and charging stations.

Buses, delivery fleets, and other car sharing services will need access to charging in these communities and it will be critical to include them in the planning and building decisions.

How the BPU Can Help

The BPU has options as it considers the best way to facilitate the electrification of New Jersey's transportation sector. Rather than focusing on mandates for regulated utilities that force captive ratepayers to take on unnecessary investment risk, incentives should be offered directly to consumers and/or make-ready infrastructure developers to increase demand and spur development by the market. Direct to consumer incentives could include home charging, destination/workplace charging, vehicle cost reduction, access to existing charging networks, and ride and drive events to help customers get acquainted with EVs.

In addition, the BPU can require the EDCs to produce heat maps that show the best locations for EV infrastructure to be added and post these heat maps on their website, and also require the EDCs to post educational information on their websites which help consumers navigate things like rebates, tax incentives, and general EV information.

Conclusion

NRG applauds the Board for encouraging the development of EV charging infrastructure in order to increase deployment of MHD EVs. The EV industry is emerging and disrupting the energy, technology, and transportation industries. We encourage the Board to challenge misconceptions; demand facts, data, and evidence of need; and challenge the underlying assumption of role of EDC. Fortunately, we

have time to make these important decisions as there are already an abundance of chargers that exist in the State and an abundance of private investors already building the necessary infrastructure and networks. It is critical that private industry (not the EDCs) lead the charge by bringing innovation, cost effective consumer solutions, and private capital to meet consumer needs. NRG looks forward to providing the Board our expert knowledge and resources where possible.

Respectfully submitted,

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