

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

DANITA PARK

ON BEHALF OF THE
RETAIL ENERGY SUPPLY ASSOCIATION
AND NRG ENERGY, INC.

Docket No. R-2021-3024601

PECO Energy Company – Electric Division
2021 Base Rate Proceeding

TOPIC:

Electric Vehicle Charging Pilot Proposal
Electric Vehicle DCFC Pilot Rider

June 28, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME.**

3 A. Danita Park.

4 **Q. PLEASE STATE YOUR CURRENT EMPLOYER AND TITLE.**

5 A. I am employed by NRG Energy, Inc. (“NRG”) and serve as Director, Electric Vehicle
6 and Commercial Development.

7 **Q. WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES?**

8 A. I create new lines of business to support NRG’s commercial and industrial customers. In
9 this role, I supported the creation of a business to advise Virtual Power Purchase
10 Agreements. I also am spearheading an effort to set an Electric Vehicle fleet conversion
11 target for NRG Energy.

12 **Q. WHAT IS YOUR BUSINESS ADDRESS?**

13 A. 910 Louisiana Street, Houston, TX 77002.

14 **Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.**

15 A. I hold a Bachelor of Science in Biochemistry and a Masters in Business Administration,
16 Finance both from the University of Calgary in Calgary, Alberta, Canada. I began my
17 career in the energy industry in 1998 as an equity analyst with Arc Financial in Calgary,
18 Canada. In that role, I analyzed oil and gas service companies (horizontal drilling,
19 drilling tools, cementing companies, for example) and made recommendations for
20 investment.

21 I joined Dynegy Inc. in 2000 where I worked on the deployment of a front, mid
22 and back office natural gas trading systems. I held several roles in the wholesale power
23 organization including risk management, business management, and asset management,
24 and led the real-time power trading desk. My key roles involved analyzing portfolio risk,

1 modeling and budgeting the value of power generation assets, modeling and trading
2 capacity markets, and modeling and trading real time power.

3 I joined Calpine Corporation (“Calpine”) in 2006 where I worked in fundamental
4 analysis and portfolio analysis with similar responsibilities as at Dynegy. I managed the
5 due diligence process for Calpine’s acquisition of Conectiv Energy, a \$1.65 billion
6 acquisition, and led the wholesale asset integration.

7 In 2012, I joined NRG as Director Asset Management, East Region. My primary
8 responsibility in this role was to manage each power plant as a business. I was
9 responsible for the overall financial performance of the asset and worked cross
10 functionally with teams from tax, insurance, trading, plant operations, legal,
11 environmental, governmental affairs, and regulatory affairs to ensure the full value of
12 each asset was achieved.

13 In 2018, I joined NRG Business Solutions (now NRG Business) in the role of
14 Director, Commercial Development. In this role I participated as a panelist at the
15 Renewable Energy Markets Conference in Houston, Texas and spoke on the topic of
16 building resilient business operations. In 2019, I was appointed to our electric vehicle
17 task force. Today my role has been expanded to Director, Electric Vehicle and
18 Commercial Development.

19 **Q. HAVE YOU EVER PROVIDED TESTIMONY BEFORE THIS COMMISSION?**

20 A. Yes. I provided testimony in UGI Utilities, Inc. – Electric Division’s 2021 Base Rate
21 Proceeding at Docket No. R-2021-3023618.

22 **Q. HAVE YOU PROVIDED TESTIMONY IN UTILITY PROCEEDINGS IN OTHER**
23 **STATES?**

24 A. I have not.

1 **II. OVERVIEW AND SCOPE OF TESTIMONY**

2 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

3 A. I am testifying on behalf of the Retail Energy Supply Association (“RESA”) and NRG
4 Energy, Inc. (“NRG”).

5 **Q. PLEASE DESCRIBE THE RETAIL ENERGY SUPPLY ASSOCIATION.**

6 A. Retail Energy Supply Association (“RESA”) is a trade association of energy companies
7 including Pennsylvania licensed electric generation suppliers (“EGSs”), many of whom
8 either offer or have relationships with third party providers that develop and offer electric
9 vehicle charging infrastructure.¹

10 **Q. PLEASE DESCRIBE NRG ENERGY, INC.**

11 A. NRG is a leading integrated power company built on dynamic retail brands and diverse
12 generation assets. A Fortune 500 company, NRG brings the power of energy to
13 consumers by producing, selling and delivering electricity and related products and
14 services to consumers in competitive markets across the U.S. and Canada, as well as
15 23,000 MW of electric power generation including nuclear, coal, gas, oil and solar
16 nationwide. NRG’s retail brands serve more than six million customers across North
17 America, including a significant share in Pennsylvania – so significant, in fact, that
18 NRG’s northeast retail business is headquartered in Philadelphia. We have several
19 licensed retail electricity suppliers that are actively serving residential, commercial,

¹ The comments expressed in this filing represent the position of the Retail Energy Supply Association (“RESA”) as an organization but may not represent the views of any particular member of the Association. Founded in 1990, RESA is a broad and diverse group of retail energy suppliers dedicated to promoting efficient, sustainable and customer-oriented competitive retail energy markets. RESA members operate throughout the United States delivering value-added electricity and natural gas service at retail to residential, commercial and industrial energy customers. More information on RESA can be found at www.resausa.org.

1 industrial and institutional customers.² NRG’s retail companies offer customers a range
2 of products including demand response and energy efficiency, 100% renewable energy,
3 energy plans bundled with energy efficiency technology, such as Nest or Hive
4 thermostats, as well as loyalty rewards and our charitable giving products through our
5 “Choose to Give” plans.

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

7 A. The purpose of my testimony is to address PECO Energy Company – Electric Division’s
8 (“PECO” or “Company”) proposed Electric Vehicle Charging Pilot and its proposal to
9 expand the Electric Vehicle DCFC Pilot Rider (EV-FC) to include public transit. In
10 addressing the Company’s proposed EV Charging Pilot and proposal to expand the
11 Electric Vehicle DCFC Pilot Rider, I will discuss the Direct Testimony of PECO
12 witnesses Richard A. Schlesinger (Statement No. 8) and Jacqueline F. Golden (Statement
13 No. 9). In my testimony, I describe the positions of RESA and NRG with respect to
14 issues raised by PECO’s EV Charging Pilot proposal and its proposal to expand the
15 Electric Vehicle DCFC Pilot Rider.

16 RESA and NRG support the general policy objective of PECO to promote EV
17 charging infrastructure and customer education in the Company’s service territory.
18 However, we generally oppose the EV Charging Pilot through which PECO seeks to
19 offer significant incentives for: (1) EV charging stations dedicated primarily to battery
20 electric buses that are operated by a transit authority; and (2) make ready work for

² NRG’s license retail supply companies include: Reliant Energy Northeast LLC d/b/a NRG Home/NRG Business A-2010-2192350; Green Mountain Energy Company A-2011-2229050; Energy Plus Holdings LLC A-2009-2139745; XOOM Energy New Jersey, LLC A-2012-2283821; Stream Energy New Jersey, LLC A-2010-2181867; Direct Energy Services, LLC A-110164; Direct Energy Business, LLC A-110025; Direct Energy Business Marketing, LLC A-2013-2368464; and Gateway Energy Services Corporation A-2009-2137275.

1 commercial and industrial customers for applications such as public charging, fleet
2 charging, bus charging, multi-unit dwelling charging and workplace charging. RESA and
3 NRG also oppose PECO's proposal to expand the availability of its Electric Vehicle
4 DCFC Pilot Rider (EV-FC) to include public transit.

5 Beyond the aforementioned policy positions, I will demonstrate that PECO's EV
6 related proposals do not reflect the current competitive market for charging infrastructure
7 and the observed and reported factual need for public charging. I will demonstrate that
8 the forces of the competitive market are attracting both private stakeholders willing to
9 take on the risk and a wide range of competitive companies innovating to deliver the
10 required EV charging infrastructure ahead of EV adoption.

11 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

12 A. Yes. The exhibits enclosed with my testimony include an article I cite in my testimony
13 and various discovery responses served in this proceeding.

14 **Q. DO YOU HAVE ANY PERSONAL EXPERIENCE WITH ELECTRIC**
15 **VEHICLES?**

16 A. Yes. I bought my first electric vehicle in 2016.³ I have charged my vehicle at work, at
17 home, at private charging networks, and public charging. I own a Tesla with a maximum
18 range of 240 miles and an operating range of 210 miles.

19 **Q. DO YOU SUPPORT PECO'S PROPOSED EV CHARGING PILOT?**

20 A. No. As I discuss below, the market forces have clearly demonstrated – across all of the
21 States, including Pennsylvania – that competitive companies are anticipating and

³ NRG Energy, Inc., Insights - *When the car you want is a rainbow-colored unicorn*, published April 28, 2021 by Danita Park, available at <https://www.nrg.com/insights/energy-education/when-the-car-you-want-is-a-rainbow-colored-unicorn.html?sid=GSM-IG-2021April-DanitaParkEVBlog2Hybrids>

1 responding to Electric Vehicle adoption, and indeed even over-supply charging capability
2 by orders of magnitude over demonstrated need.

3 There is simply no need for utility intervention in this clearly competitive market.
4 PECO has failed in all regards to demonstrate any need for electric vehicle charging
5 infrastructure. As I discuss below, private entities ranging from EV charging companies
6 to automakers and traditional fossil fuel suppliers are using their own funds to build the
7 required infrastructure to meet customer demand.

8 **Q. SHOULD PECO SUBSIDIZE CHARGING INFRASTRUCTURE OR MAKE**
9 **READY WORK FOR CHARGING STATION SITES?**

10 A. No. As explained below, the market is already exceeding demand for fast charging.

11 PECO has failed to demonstrate any true need for the proposed EV Charging Pilot.

12 Authorizing PECO to spend ratepayer funds to subsidize the buildout of EV charging
13 stations and make ready equipment will contribute to the over build of electric vehicle
14 infrastructure, and waste ratepayer dollars.

15 **Q. WHAT ARE YOUR PRIMARY CONCERNS WITH PECO'S PROPOSED EV**
16 **CHARGING PILOT?**

17 A. Aside from the lack of demonstrated need for the pilot program, I have a few concerns.

18 PECO's EV Charging Pilot would provide PECO access to charging session transaction

19 data that would create an uneven playing field for private companies that do not have

20 access to that data to develop product offerings. The pilot program would allow PECO to

21 subsidize EV charging infrastructure, inappropriately placing investment risk on

22 ratepayers.

1 **Q. DO YOU HAVE RECOMMENDATIONS FOR THE COMMISSION TO**
2 **CONSIDER?**

3 A. Yes. I recommend that the Commission reject PECO’s request to subsidize EV chargers
4 for electric buses and make-ready infrastructure for commercial and industrial customers.
5 I also recommend that the customer education component of PECO’s EV Charging Pilot
6 proposal be rejected as outreach is unnecessary given PECO’s failure to demonstrate a
7 need to expand the EV programs.

8 **III. ELECTRIC VEHICLE MARKET**

9 **Q. DO YOU BASE YOUR POLICY RECOMMENDATIONS ON PECO’S EV**
10 **CHARGING PILOT PROPOSAL ON REAL WORLD EXPERIENCE AND**
11 **KNOWLEDGE ABOUT WHAT IS OCCURRING IN THE EV CHARGING**
12 **MARKET TODAY?**

13 A. Yes, and in the remainder of my testimony, I will elaborate on that experience and
14 knowledge. I will highlight the dynamic and rapidly growing market that is attracting
15 investment from energy, technology and automotive players all willing to risk their own
16 capital to meet the anticipated EV adoption growth.

17 **Q. HOW MANY BUSES ARE OWNED BY TRANSIT AGENCIES IN THE UNITED**
18 **STATES AND IN PENNSYLVANIA?**

19 A. Federal Transit Administration data for 2019 vehicles reflects 68,264 buses owned by
20 transit agencies in the entire United States and 3,248 buses owned by transit agencies in
21 Pennsylvania.⁴

22 **Q. WHAT TRANSIT AUTHORITY HAS THE MOST BUSES IN PENNSYLVANIA**
23 **AND HOW MANY BUSES DOES IT OWN?**

24 A. The Southeastern Pennsylvania Transportation Authority (“SEPTA”) owns 1,462 buses⁵
25 or 45% of the transit authority owned buses in the state.

⁴ Federal Transit Administration, 2019 Vehicles, <https://www.transit.dot.gov/ntd/data-product/2019-vehicles>

⁵ *Id.*

1 **Q. HAS SEPTA RELEASED ANY PLANS TO OR PROCURED ANY ELECTRIC**
2 **BUSES?**

3 A. Yes. SEPTA released the SEP-TAINABLE 2020 plan in 2017.⁶ The plan called for the
4 organization to procure 25 electric buses. SEPTA procured 25 electric buses from
5 Proterra, for a cost of \$24 million (or roughly \$1 MM per bus). The electric buses were
6 delivered in 2019 and subsequently removed from service in February 2020.⁷ To my
7 knowledge, the buses remain out of service with no known timeline for return to service.

8 **Q. IS THE PERFORMANCE FAILURE OF THE ELECTRIC BUSES**
9 **EXPERIENCED BY SEPTA⁸ UNIQUE?**

10 A. No. Quite the opposite. Other examples include the City of Albuquerque which
11 purchased, returned, and sued Build Your Dreams (“BYD”), the manufacturer of its
12 electric buses, citing poor battery performance along with key safety concerns. The
13 Minnesota Valley Transport Authority (“MVTA”) tested a Proterra-made bus and found
14 that the battery could not hold a charge in the cold weather. In addition, the City of
15 Duluth, Minnesota reported issues with 7 Proterra e-buses procured in 2018.⁹
16 Performance failures can be very costly for transit authorities.

⁶ SEPTA Sustainability, SEP-TAINABLE 2020,
https://www.septa.org/sustain/pdf/Sustainability2020_report.pdf

⁷ *Philly’s entire fleet of battery-powered buses has been MIA since February*, WHYY (September 17, 2020),
<https://whyy.org/articles/phillys-entire-fleet-of-battery-powered-buses-has-been-mia-since-february/>

⁸ *The Verdict’s Still Out on Battery-Electric Buses*, Bloomberg (January 16, 2019),
<https://www.bloomberg.com/news/articles/2019-01-17/battery-electric-buses-yield-mixed-results-for-cities>

⁹ *Waiting for Electric Buses: Competition and Complexity in the US Market*, Macro Polo (December 21,
2020), <https://macropolo.org/analysis/electric-buses-byd-proterra-competition-us-market/>

1 **Q. IN YOUR OPINION, ARE ELECTRIC BUSES A PROVEN, RELIABLE**
2 **TECHNOLOGY FOR TRANSIT DEPLOYMENT?**

3 A. No. Despite the exceptionally high price tag for electric buses, transit authorities in the
4 United States have faced significant challenges in utilizing electric buses as a reliable
5 transportation means.

6 **Q. IN YOUR OPINION, DO ELECTRIC VEHICLES PROVIDE GOOD VALUE TO**
7 **TRANSIT AUTHORITIES?**

8 A. No, not at this time. The high upfront (\$750,000 - \$1,000,000) per vehicle¹⁰ cost is a
9 heavy burden for cash-strapped transit authorities, especially when the actual
10 performance of the buses is factored into the decision-making. Unlike the light duty
11 electric vehicle segment, which is more mature and consistently delivering reliable
12 products, the electric-bus segment in the United States is small and nascent.

13 **Q. DOES PECO HAVE DATA ON THE NUMBER OF EV BUSES AND**
14 **COMMERCIAL VEHICLES REGISTERED IN ITS SERVICE TERRITORY?**

15 A. No, it does not have data on the number of EV buses or commercial EVs in its service
16 territory. (see Exhibit DP-1 - PECO Response to RESA/NRG Set II, No. 3).

17 **Q. HOW MANY ELECTRIC VEHICLES HAVE BEEN SOLD IN THE UNITED**
18 **STATES SINCE 2010?**

19 A. Between January 1, 2010 and May 31, 2021, the number of plug-in electric and all-
20 electric battery powered vehicles sold in the United States is 1,938,314.¹¹

¹⁰ *Waiting for Electric Buses: Competition and Complexity in the US Market*, Macro Polo (December 21, 2020), <https://macropolo.org/analysis/electric-buses-byd-proterra-competition-us-market/>

¹¹ *See Exhibit DP-2 - Argonne National Laboratory, Light Duty Electric Drive Vehicles Monthly Sales Updates*, <https://www.anl.gov/es/light-duty-electric-drive-vehicles-monthly-sales-updates>

1 **Q. WHAT IS THE CURRENT MARKET SHARE OF ELECTRIC VEHICLES IN**
2 **PENNSYLVANIA?**

3 A. According to The Alliance for Automotive Innovation, 33,255 electric vehicles have been
4 sold in Pennsylvania since 2010,¹² out of approximately 1,938,314¹³ sold in the entire US
5 over approximately the same time frame (or ~ 1.7%).

6 **Q. WHAT IS THE ESTIMATED NUMBER OF CHARGING PORTS NECESSARY**
7 **TO SUPPORT 1,000 ELECTRIC VEHICLES?**

8 A. The National Renewable Energy Laboratory (“NREL”) has estimated a need for 27,500
9 DC electric vehicle ports and 601,000 Level 2 ports, based on a scenario where there are
10 15 million light duty plug in vehicles on the roads.¹⁴ The implied rate of charging
11 required to support EV adoption is 1.8 DC fast charging ports per 1000 vehicles and 40.1
12 Level 2 ports per 1,000 vehicles.

13 **Q. HOW MANY ELECTRIC VEHICLES DOES THE EXISTING PENNSYLVANIA**
14 **ELECTRIC VEHICLE CHARGING INFRASTRUCTURE SUPPORT?**

15 A. According to the Alternative Fuels Data Center,¹⁵ the source of electric charging
16 infrastructure cited in the refreshed Pennsylvania Road Map for Electric Charging,¹⁶ there
17 are currently 415 DC Fast Chargers, enough to support 230,555 vehicles; and 1,869 Level
18 2 chargers – enough to support 46,608 vehicles.

¹² Alliance for Automotive Innovation, filtered for PA, as of 6/24/2021,
<https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard>

¹³ See Exhibit DP-2 - Argonne National Laboratory, *Light Duty Electric Drive Vehicles Monthly Sales Updates*, <https://www.anl.gov/es/light-duty-electric-drive-vehicles-monthly-sales-updates>

¹⁴ *National Plug-In Electric Vehicle Infrastructure Analysis*, U.S. DOE, Office of Energy Efficiency & Renewable Energy, September 2017, <https://www.nrel.gov/docs/fy17osti/69031.pdf>

¹⁵ *Electric Vehicle Charging Station Locations*, U.S. Department of Energy, Energy Efficiency & Renewable Energy, https://afdc.energy.gov/fuels/electricity_locations.html#/analyze?region=US-PA&fuel=ELEC, as of 6/24/2021

¹⁶ *Pennsylvania Electric Vehicle Roadmap: 2021 Update*, Pennsylvania Department of Environmental Protection, <https://files.dep.state.pa.us/Energy/OfficeofPollutionPrevention/StateEnergyProgram/PAElectricVehRoadmapBookletDEP5334.pdf>

1 **Q. BASED ON THE NUMBER OF REGISTERED VEHICLES IN PENNSYLVANIA**
2 **THAT ARE ELECTRIC VEHICLES, HOW MANY LEVEL 2 AND DC FAST**
3 **CHARGERS ARE NECESSARY TO SUPPORT THOSE VEHICLES?¹⁷**

4 A. Based on the guidance provided by NREL (noted above), Pennsylvania’s statewide
5 estimated Level 2 charging need is 1,333 units and the DC Fast charge need is 60 units.

6 **Q. BASED ON THE NREL ESTIMATE OF CHARGING NEED AND THE ACTUAL**
7 **REPORTED NUMBER OF CHARGING PORTS DISCLOSED IN THE**
8 **UPDATED ROADMAP, IS THERE AN OVERBUILD OF CHARGING**
9 **CAPACITY IN PENNSYLVANIA?**

10 A. Yes. There are approximately 535 more Level 2 charging ports and 355 more DC fast
11 charging units than are necessary to support the electric vehicles in Pennsylvania. Said
12 differently, Level 2 charging is 40% overbuilt and DC Fast charging is nearly 600% over
13 built.

14 **Q. IS THIS FINDING CONSISTENT WITH PUBLIC PERCEPTION OF THE NEED**
15 **FOR ADDITIONAL CHARGING INFRASTRUCTURE?**

16 A. No. The public has deep misconceptions regarding the state of electric vehicle charging
17 infrastructure. This is understandable given that less than 34,000 electric vehicles are
18 registered in Pennsylvania. Actual first-hand knowledge of how to charge and real-world
19 charging needs is lacking.

20 **Q. IS THE OVER BUILD OF CHARGING INFRASTRUCTURE IN**
21 **PENNSYLVANIA CONSISTENT WITH OTHER STUDIES?**

22 A. Yes. In the second quarter of 2020, NREL estimated that in the United States there are
23 more charging ports than required for the number of registered electric vehicles: 14,551
24 DC fast charge ports – enough to serve 8.1 million electric vehicles, and 74,238 Level 2
25 charge ports – enough to serve 1.8 million electric vehicles.¹⁸

¹⁷ Alliance for Automotive Innovation, filtered for PA, as of 6/24/2021,
<https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard>

¹⁸ NREL, *Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling Station Locator*:

1 **Q. HOW MANY EVS ARE CURRENTLY REGISTERED IN PECO'S SERVICE**
2 **TERRITORY?**

3 A. As of April 30, 2021, there were approximately 16,000 to 18,000 passenger EVs
4 registered in PECO's service territory. (Exhibit DP-1 – PECO Response to RESA/NRG
5 Set II, No. 3).

6 **Q. WHAT IS THE EV ADOPTION RATE IN PECO'S SERVICE TERRITORY?**

7 A. Approximately 2% of new vehicle sales were EVs in PECO's service territory in 2020
8 based on information provided by PECO in discovery. (Exhibit DP-3 - PECO Response
9 to RESA/NRG Set II, No. 2).

10 **Q. DOES THE LOW EV ADOPTION RATE IN PECO'S SERVICE TERRITORY**
11 **SUGGEST THAT INVESTMENT IS NEEDED BY PECO?**

12 A. It does not. Actual EV charging needs and the overall transportation infrastructure needs
13 cannot be viewed through the telescope of a single electric utility service territory.

14 **Q. BASED ON THE INFORMATION ABOVE AND AFTER EXAMINING THE**
15 **LIST OF CHARGING STATIONS PUBLISHED BY THE ALTERNATIVE**
16 **FUELS DATA CENTER, DO YOU HAVE ANY CONCERNS THAT THE**
17 **COMPETITIVE MARKET IS FAILING TO BUILD ENOUGH CHARGING**
18 **STATIONS?**

19 A. No. The competitive market is consistently demonstrating the ability to meet customer
20 needs.

21 **Q. ARE AUTOMAKERS SUPPORTING THE BUILD OUT OF ELECTRIC**
22 **CHARGING INFRASTRUCTURE?**

23 A. Yes. Automakers are directly supporting the build out of electric charging infrastructure.
24 They are doing this by building their own private networks and by supporting the build
25 out of existing public networks. The following are just a few examples of a subset of
26 automakers and their current and announced networks of electric charging infrastructure.

Second Quarter 2020, dated January 2021, see <https://www.nrel.gov/docs/fy21osti/78486.pdf>

- 1 • Tesla, with 79% market share of the electric vehicle market has built an extensive
2 private network to support their consumers and currently provides nearly 60% of
3 all DC fast charging ports in the country.¹⁹
- 4 • Rivian is a new automaker producing the R1T, R1S and supplying Amazon with
5 100,000 commercial vans. They have announced plans to build a network of
6 3,500 DC fast chargers at over 600 sites by 2023 including many sites in
7 Pennsylvania.²⁰
- 8 • Ford announced a network of 12,000 charging stations to support their growing
9 electric vehicle lineup.²¹
- 10 • General Motors (“GM”) is investing in 2,700 new DC Fast Chargers on EVgo’s
11 network. EVgo’s network is currently over 800 Fast Chargers.²²
- 12 • Jeep is partnering with Electrify America to put chargers at trail heads.²³
- 13 • Volkswagen in 2016 created Electrify America as part of the Volkswagen diesel
14 settlement with a commitment to invest \$2 billion in electric vehicle

¹⁹ *Tesla owns 79% of the electric car market in the US, and that needs to change*, Electrek (Feb. 16, 2021), [https://electrek.co/2021/02/16/tesla-owns-electric-car-market-us/#:~:text=Tesla%20owns%20almost%2079%25%20of,the%20US%20electric%20car%20market;see also Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling Station Locator: Second Quarter 2020, NREL \(Jan. 2021\), https://www.nrel.gov/docs/fy21osti/78486.pdf](https://electrek.co/2021/02/16/tesla-owns-electric-car-market-us/#:~:text=Tesla%20owns%20almost%2079%25%20of,the%20US%20electric%20car%20market;see%20also%20Electric%20Vehicle%20Charging%20Infrastructure%20Trends%20from%20the%20Alternative%20Fueling%20Station%20Locator%20Second%20Quarter%202020,NREL%20(Jan.%202021),https://www.nrel.gov/docs/fy21osti/78486.pdf)

²⁰ *Rivian Charging: Plug into Electric Adventure*, Rivian, <https://stories.rivian.com/charging-your-rivian> (last visited June 28, 2021).

²¹ *Ford announces plans for EV charging, partners with Amazon and Greenlots*, Electrek (Oct. 17, 2019), <https://electrek.co/2019/10/17/ford-charging-electric-cars-partners-amazon-greenlots/>

²² *GM will help EVgo triple its fast charger network in the US*, The Verge, (July 31, 2020), <https://www.theverge.com/2020/7/31/21349614/general-motors-evgo-fast-charging-network-investment>

²³ *Joe Lorio, Jeep and Electrify America to put EV chargers at 4WD trailheads*, Yahoo! (Mar. 26, 2021), https://autos.yahoo.com/jeep-electrify-america-put-ev-185800511.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAGb7j12f6sKS_Z9KoBt5ARlnrLkT6PpmKLCIGaeNMjt46BV8kc7PE5LVsUMeHtgLkP5PitwRvWTSudRJCoiDsCPJLn1IerRzQP61GE73qki02owcMkMOigWUaTZdEEDtagiyZtWukLEz_DUF2uZpEDbkVRfVT2A7zP67FkEYfQNG

1 infrastructure, including \$1.2 billion outside of California. Cycle 2 investment is
2 currently underway. Cycle 3 is in the planning phase. Public comment and
3 requests for siting is allowed and the most recent planning Cycle 3 accepted
4 comments through August 14, 2020.²⁴

5 **Q. HOW ARE THE TYPICAL SUPPLIERS OF FOSSIL FUEL RESPONDING TO**
6 **THE NASCENT ADOPTION OF ELECTRIC VEHICLES?**

7 A. Typical suppliers of gasoline and diesel are adapting to the anticipated EV charging
8 demand by deploying EV charging infrastructure, as well. Recent examples include:
9 Wawa, which hosts 35 Electric Charging stations to date and opened its first EV only
10 charging station in Virginia;²⁵ Royal Dutch Shell, which has announced plans to deploy
11 500,000 charging points globally by 2025;²⁶ Chevron, which announced investment in a
12 handful of retail charging sites and also holds investments in electric charging such as the
13 one in ChargePoint through its new venture technology fund;²⁷ and BP, which purchased
14 an electric vehicle charging station in the UK, and in the US has backed start up
15 FreeWire.²⁸

²⁴ *Electrify America, Our Investment Plan*, see <https://www.electrifyamerica.com/our-plan/>

²⁵ *Wawa Hosts Its First-Ever Electric Car Parade*, Convenience Store News (November 2, 2020), <https://csnews.com/wawa-hosts-its-first-ever-electric-car-parade>

²⁶ *Shell Plans to Deploy Around 500,000 Charging Points Globally by 2025*, InsideEVs (February 13, 2021), <https://insideevs.com/news/487881/shell-plans-500000-charging-points-globally-2025/>

²⁷ *ChargePoint raises \$127M as electric vehicle adoption grows among fleet operators*, TechCrunch (August 5, 2020), <https://techcrunch.com/2020/08/05/chargepoint-raises-127m-as-electric-vehicle-adoption-grows-among-fleet-operators/>

²⁸ *Super-charging the drive to electric*, bp p.l.c. (September 9, 2020), <https://www.bp.com/en/global/corporate/news-and-insights/reimagining-energy/world-ev-day.html>

1 **Q. IS THE FEDERAL GOVERNMENT CONTEMPLATING SUBSTANTIAL**
2 **SUBSIDIES FOR EV CHARGING STATION DEVELOPMENT?**

3 A. Yes. President Biden’s proposed infrastructure plan includes development of public EV
4 charging stations. The infrastructure plan proposes that \$15 billion be spent to build a
5 national network of 500,000 EV charging stations. The national network would be
6 developed through a combination of grant and incentive programs for state and local
7 governments and the private sector.²⁹

8 **Q. ARE THERE ANY OTHER SOURCES OF FUNDING AVAILABLE FOR**
9 **ELECTRIC VEHICLES AND EV INFRASTRUCTURE IN THE STATE OF**
10 **PENNSYLVANIA?**

11 A. Yes. A nonexhaustive list of funding available in Pennsylvania follows. First, the
12 Pennsylvania Department of Environmental Protection (“PA DEP”) offers rebates for
13 Medium and Heavy Duty Vehicles that are based on fleet size. Second, PA DEP offers
14 grants for the acquisition, installation, operation and maintenance of publicly available
15 direct current (DC) fast Electric Vehicle Supply Equipment.³⁰ Third, PA DEP offers a
16 Level 2 EV charging rebate program, with \$7.7 million being allocated over a 5-year
17 period to fund rebates for charging equipment for public use, multi-unit dwelling
18 charging and workplace charging.³¹ Fourth, the Federal Transit Administration offers a
19 Low or No Emission Vehicle Program that provides funding to state and local

²⁹ *FACT SHEET: Biden Administration Advances Electric Vehicle Charging Infrastructure*, The White House (Apr. 22, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-biden-administration-advances-electric-vehicle-charging-infrastructure/>.

³⁰ U.S. Dep’t of Energy, Energy Efficiency & Renewable Energy, *Pennsylvania Laws and Incentives*, <https://afdc.energy.gov/laws/all?state=PA>.

³¹ PA Dep’t of Env’l Prot., *Driving PA Forward*, <https://gis.dep.pa.gov/DrivingPAForward/>.

1 governmental authorities for the purchase or lease of zero-emission and low-emission
2 transit buses as well as the acquisition, construction and leasing of supporting facilities.³²

3 **Q. IS IT REASONABLE FOR PECO’S RATEPAYERS TO FUND THE**
4 **DEPLOYMENT OF EV INFRASTRUCTURE AT THIS TIME?**

5 A. No. PECO’s captive ratepayers should not bear the risk of utility investment in a market
6 that is benefiting from investment by numerous private companies. In addition, as the
7 federal government is contemplating significant federal funds to subsidize EV charging
8 station development, PECO’s proposal to require ratepayers to bear the burden of
9 additional subsidies is premature. Finally, given the recent failed investment in SEPTA’s
10 electric bus fleet, it is unreasonable to invest in transit infrastructure.

11 **IV. PECO’S PROGRAMS TO PROMOTE ELECTRIC VEHICLES AND THE**
12 **DEVELOPMENT OF ELECTRIC VEHICLE INFRASTRUCTURE**

13 **Q. PLEASE DESCRIBE THE COMPANY’S EXISTING ELECTRIC VEHICLE**
14 **DCFC PILOT RIDER (EV-FC).**

15 A. PECO currently has an Electric Vehicle DCFC Pilot Rider (EV-FC) that provides for a
16 temporary demand (kW) credit to encourage the build out of publicly available (or
17 workplace fleet) fast charging. (PECO Statement No. 9 at 4). The temporary demand
18 credit is initially equal to 50% of the combined nameplate capacity rating for all DCFCs
19 connected to the service and is applied to the customer’s billed distribution demand. The
20 Pilot Rider is set to expire on June 30, 2024. (PECO Tariff Electric Pa. P.U.C. No. 6 at
21 First Revised Page No. 84).

³² Fed. Transit Adm., *Low or No Emission Vehicle Program*, <https://www.transit.dot.gov/lowno>.

1 **Q. HOW DOES PECO PROPOSE TO EXPAND THE ELECTRIC VEHICLE DCFC**
2 **PILOT RIDER?**

3 A. The Company proposes to expand the availability of its Electric Vehicle DCFC Pilot
4 Rider (EV-FC) to include public transit. (PECO Proposed Tariff Electric Pa. P.U.C. No.
5 7 at Original Page Nos. 86-87; PECO Statement No. 8 at 13).

6 **Q. DO YOU HAVE ANY CONCERNS WITH PECO’S PROPOSAL TO EXPAND**
7 **THE ELECTRIC VEHICLE DCFC PILOT RIDER?**

8 A. Yes. PECO has not demonstrated a need to expand the Pilot Rider or that there is a need
9 to incentivize the build out of public transit EV charging infrastructure. In discovery,
10 PECO revealed that only two sites were taking service under the DCFC Pilot Rider as of
11 January 1, 2021. (Exhibit DP-4 - PECO Response to OCA Set VII, No. 2). This
12 indicates that there is not substantial interest in the Pilot Rider. In addition, PECO has
13 not provided adequate support or justification for expanding the program to include
14 public transit.

15 **Q. WILL PECO OFFER TIME-OF-USE RATES?**

16 A. Yes. PECO plans to launch a time-of-use (“TOU”) offering in September 2021 that will
17 reduce the cost of overnight EV charging and encourage customers to shift load from on-
18 peak to off-peak hours. The TOU offering was approved as part of PECO’s most recent
19 default service proceeding at Docket No. P-2020-3019290. (PECO Statement No. 9 at 4-
20 5).

21 **Q. WHAT OTHER ELECTRIC VEHICLE PROGRAMS DOES PECO**
22 **CURRENTLY HAVE IN PLACE?**

23 A. The Company offers customer incentives for registering an EV with PECO and for the
24 installation of qualifying EV chargers. PECO’s customer education efforts include

1 hosting and participating in public events and maintaining an EV Toolkit on PECO's
2 website. (PECO Statement No. 9 at 5).

3 **Q. DID PECO'S DIRECT TESTIMONY REFLECT THAT THOSE PROGRAMS**
4 **ARE FULLY SUBSCRIBED AND WARRANTING EXPANSION?**

5 A. No.

6 **V. PECO'S ELECTRIC VEHICLE CHARGING PILOT PROPOSAL**

7 **Q. PLEASE EXPLAIN PECO'S PROPOSED EV CHARGING PILOT IN THIS**
8 **PROCEEDING.**

9 A. PECO's proposed EV Charging Pilot has three components. First, PECO plans a Transit
10 Charging Program that will offer a significant incentive for charging stations dedicated
11 primarily to battery electric buses that are operated by a transit authority. (PECO
12 Statement No. 9 at 6). Second, PECO proposes a Commercial and Industrial Level 2
13 Charging Program ("L2 Program") that will offer significant make ready incentives for
14 commercial and industrial customers for applications such as public charging, fleet
15 charging, bus charging, multi-unit dwelling charging and workplace charging. (PECO
16 Statement No. 9 at 9). Third, PECO proposes an Electric Vehicle Education and
17 Outreach Program that would raise awareness regarding the Company's current EV
18 offerings and its proposed EV Charging Pilot. (PECO Statement No. 9 at 5, 11). PECO
19 indicates that the EV Charging Pilot is "designed to incentivize customers to construct
20 and deploy EV chargers, generate data regarding public and fleet charging, and expand
21 PECO's efforts to educate customers about TE." (PECO Statement No. 9 at 5). The EV
22 Charging Pilot is projected to cost \$1,625,000. (PECO Statement No. 9 at 11).

1 **Q. DO YOU HAVE ANY CONCERNS WITH THE DESIGN OF PECO’S EV**
2 **CHARGING PILOT?**

3 A. Yes. PECO has failed to demonstrate that there is any need for utility investment or that
4 there is any need for electric vehicle charging infrastructure that the competitive market
5 will not provide. In short, there is no need for the program.

6 **A. PECO’s Proposed Transit Charging Program**

7 **Q. PLEASE DESCRIBE PECO’S PROPOSED TRANSIT CHARGING PROGRAM**
8 **IN MORE DETAIL.**

9 A. PECO proposes to subsidize the purchase and installation of charging units dedicated
10 primarily to battery electric buses that are operated by a transit authority. PECO
11 proposes that each charging port have a capacity of at least 250 kW. PECO plans to pay
12 incentives in installments over a three-year period (2022-2024) as the customer meets
13 certain charging station development milestones. The Transit Charging Program budget
14 will be limited to a maximum of \$1,000,000. If a customer receives a government grant
15 toward the construction of the charging station and EV charging equipment, the subsidy
16 from PECO will not exceed the total cost of equipment, installation and make ready less
17 the governmental grant. (PECO Statement No. 9 at 6-7).

18 **Q. WHAT DOES PECO PROPOSE TO RECEIVE IN EXCHANGE FOR**
19 **SUBSIDIZING THE PURCHASE AND INSTALLATION OF CHARGING**
20 **UNITS?**

21 A. In exchange for the subsidy from PECO, a participating customer must provide the
22 Company with “detailed information for each participating charger over a three-year
23 period, including interval data (kW and kWh) covering charging event duration, site-
24 specific charging load management strategies, and equipment utilization rates.” (PECO
25 Statement No. 9 at 7).

1 **Q. WHAT IS THE ESTIMATED COST OF THE PROPOSED TRANSIT**
2 **CHARGING PROGRAM?**

3 A. The proposed Transit Charging Program is anticipated to cost \$1,000,000. PECO
4 proposes that the cost of the Transit Charging Program be recovered from all customer
5 classes. (PECO Statement No. 9 at 11).

6 **Q. PECO PROPOSES THAT EACH CHARGING PORT HAVE A CAPACITY OF**
7 **AT LEAST 250 KW. HAS PECO PROVIDED ADEQUATE SUPPORT FOR THIS**
8 **PROPOSED LIMITATION?**

9 A. No. To appropriately size charging infrastructure, a basic assessment of the vehicle and
10 use case are required. In the example of a transit bus, key factors include battery size,
11 route length, terrain (hilly v. flat), weather (extreme heat or cold). Without this key data,
12 it is impossible to assess the appropriate charging need. PECO has not included this level
13 of analysis or adequately supported its proposed minimum capacity of 250 kW for
14 charging ports.

15 **Q. WHAT CAN YOU SHARE ABOUT THE SIZE OF A 250 KW CHARGING**
16 **SYSTEM?**

17 A. Generally, without having specificity of the transit system, bus or route to consider, I can
18 share information from a bus manufacturer. Proterra offers several different charging
19 options starting with 75 kW.³³ The 75 kW system can charge a total of 4 buses (one at a
20 time). The 150 kW charger can charge 2 buses at a time. The 250 kW charger can
21 charge a total of 6 buses, up to 3 at a time.

³³ *Charging for Electric Fleets*, Proterra, <https://www.proterra.com/energy-services/charging-infrastructure/>
(last visited June 28, 2021).

1 **Q. IS PECOS' REQUEST TO HAVE A MINIMUM CHARGING CAPACITY OF 250**
2 **KW PER CHARGING PORT JUSTIFIED?**

3 A. No. As mentioned above, there are smaller charging systems available and PECO has not
4 demonstrated the actual charging needs of potentially eligible customers with the level of
5 specificity to declare operational parameters for the proposed Transit Charging Program.
6 Establishing a minimum charging capacity of 250 kW per charging port prematurely will,
7 in my opinion, lead to an over building of EV infrastructure.

8 **Q. DO YOU HAVE ANY CONCERNS WITH PECO'S PROPOSAL TO**
9 **INCENTIVIZE TRANSPORTATION ELECTRIFICATION THROUGH ITS**
10 **TRANSIT CHARGING PROGRAM?**

11 A. Yes. PECO's proposed Transit Charging Program would require ratepayers to fund EV
12 infrastructure that is not necessary for the provision of safe and adequate utility services.
13 In addition, the electric buses that would be incentivized by the Transit Charging program
14 are not yet reliable. Investment in transportation electrification should be discouraged
15 until electric bus providers can demonstrate a reliable fit-for purpose product.
16 Furthermore, if PECO's proposal is approved, the Transit Charging Program would
17 provide the Company an unfair advantage by way of access to charging station utilization
18 data that the Company could use to undercut participants in the competitive market. The
19 Company's status as a regulated utility also offers it access to customer data that is not
20 currently available to participants in the competitive market. Innovative energy
21 solutions, such as EV load management programs, are best delivered by the competitive
22 marketplace rather than through regulated electric distribution companies. Solution-
23 focused retailers are better positioned than utilities to encourage the adoption of EVs.

1 **B. PECO's Proposed L2 Program**

2 **Q. PLEASE DESCRIBE PECO'S PROPOSED L2 PROGRAM.**

3 A. PECO's proposed L2 Program would offer qualifying commercial and industrial
4 customers a make ready incentive for applications such as public charging, fleet charging,
5 bus charging, multi-unit dwelling charging and workplace charging. Qualifying
6 customers would receive the incentive in exchange for providing detailed information for
7 each participating charger over a two-year period, including interval data on charging
8 event duration, site-specific charging load management strategies and equipment
9 utilization rates. PECO intends to use data collected through the L2 Program to inform
10 future rate design and distribution system planning for the load impacts of transportation
11 electrification. (PECO Statement No. 9 at 8-9).

12 **Q. IF APPROVED BY THE COMMISSION, WHAT INCENTIVES WOULD THE**
13 **PROPOSED L2 PROGRAM PROVIDE?**

14 A. The L2 Program incentive level varies depending on the location of the charging site.
15 For sites in an Environmental Justice Area³⁴ (as designated by the Pennsylvania
16 Department of Environmental Protection), the L2 Program would provide the lesser of
17 \$3,000 per charging port or 75% of make ready costs incurred. For sites at any other
18 location in PECO's service territory, the L2 Program would provide the lesser of \$2,000
19 per charging port or 50% of make ready costs incurred. (PECO Statement No. 9 at 9).

³⁴ PA DEP defines an Environmental Justice Area as: "any census tract where 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identifies as a non-white minority, based on data from the U.S. Census Bureau and the federal guidelines for poverty." See PECO Statement No. 9 at 6; *see also* PA Dep't of Env't Prot., *PA Environmental Justice Areas: How does DEP identify Environmental Justice (EJ) areas?*, <https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/PA-Environmental-Justice-Areas.aspx> (last visited June 28, 2021).

1 **Q. IS THERE A MAXIMUM INCENTIVE PER CUSTOMER UNDER THE L2**
2 **PROGRAM?**

3 A. Yes. Each customer is eligible to receive the make-ready incentive for a maximum of 20
4 ports. (PECO Statement No. 9 at 9).

5 **Q. WHAT IS THE ESTIMATED COST OF THE L2 PROGRAM?**

6 A. The proposed L2 Program is expected to cost \$575,000, with incentives totaling
7 \$500,000 and administrative costs totaling \$75,000. PECO proposes that the L2 Program
8 costs be recovered from commercial and industrial customer classes only. (PECO
9 Statement No. 9 at 11).

10 **Q. WHAT HAPPENS IF A CUSTOMER RECEIVES A GOVERNMENTAL GRANT**
11 **TOWARD THE CONSTRUCTION OF AND EQUIPMENT PURCHASES FOR A**
12 **CHARGING STATION?**

13 A. If a customer receives a governmental grant toward the construction of and equipment
14 purchases for a charging station, the incentive from PECO will not exceed the total cost
15 of equipment, installation and make ready, less the value of the governmental grant.
16 (PECO Statement No. 9 at 9-10).

17 **Q. DO YOU HAVE ANY CONCERNS WITH PECO'S PROPOSAL TO PROVIDE**
18 **INCENTIVES FOR MAKE-READY INFRASTRUCTURE FOR LEVEL 2**
19 **CHARGING STATIONS?**

20 A. Yes. I am concerned that PECO's proposal to incentivize make-ready infrastructure for
21 Level 2 EV charging stations infrastructure is not based on demonstrated need. There is
22 no need for the utility (and its captive ratepayers) to bear this burden. As I noted above,
23 based on NREL estimates of need and the current status of EV infrastructure buildout in
24 Pennsylvania, the competitive market is not only meeting customer demand but has in
25 fact built more than what is required based on current EV ownership. The competitive
26 market has already demonstrated a willingness and expertise to build 1,869 Level 2

1 charging stations and another 415 DC fast charging stations in the Commonwealth.³⁵

2 There is no need for additional utility intervention.

3 **Q. IF PECO’S PROPOSED L2 PROGRAM IS APPROVED BY THE COMMISSION,**
4 **DO YOU RECOMMEND ANY CHANGES TO THE PROGRAM?**

5 A. If the Commission approves the L2 Program (which I oppose), it should ensure that the
6 incentive level is consistent, regardless of charging station site. Nearly all of
7 Philadelphia is designated by the Pennsylvania Department of Environmental Protection
8 as an Environmental Justice Area.³⁶ PECO’s proposal to provide greater incentives for
9 sites in an Environmental Justice Area is not adequately supported. PECO does not know
10 the number of commercial and industrial customers sited in Environmental Justice Areas
11 and did not evaluate whether residents of Environmental Justice Areas would experience
12 increased benefits from the L2 Program if incentives disbursed were required to be used
13 to support vehicles that are based in or that serve Environmental Justice Areas. (Exhibit
14 DP-5 – PECO Response to CEA Set II, No. 44 and Exhibit DP-6, PECO Response to
15 CEA Set II, No. 45).

16 **C. PECO’s Proposed EV Education and Outreach Program**

17 **Q. WHAT IS THE EV EDUCATION AND OUTREACH COMPONENT OF PECO’S**
18 **EV CHARGING PILOT?**

19 A. PECO proposes to provide customers education and information regarding the
20 Company’s EV offerings including the EV Toolkit, the EV-FC Rider, the EV registration
21 incentive, the L2 Program, and the Transit Charging Program. PECO anticipates that it

³⁵ U.S. Dep’t of Energy, Energy Efficiency & Renewable Energy, *Electric Vehicle Charging Station Locations*, https://afdc.energy.gov/fuels/electricity_locations.html#/analyze?region=US-PA&fuel=ELEC (last visited 6/24/2021).

³⁶ PA Dep’t of Env’l Prot., *DEP EJ Areas Viewer*, <https://padep-1.maps.arcgis.com/apps/webappviewer/index.html?id=f31a188de122467691cae93c3339469c>.

1 will utilize a variety of communication channels such as bill inserts, email, social media,
2 website updates and printed materials. (PECO Statement No. 9 at 11).

3 **Q. WHAT IS THE PROJECTED COST OF THE EV EDUCATION AND**
4 **OUTREACH PROGRAM?**

5 A. The proposed EV Education and Outreach Program is projected to cost \$50,000. PECO
6 proposes that the EV Education and Outreach Program costs be recovered from all
7 customer classes. (PECO Statement No. 9 at 11).

8 **Q. DO YOU HAVE ANY CONCERNS WITH PECO'S PROPOSED CUSTOMER**
9 **EDUCATION AND OUTREACH EFFORTS?**

10 A. My key concern is that the outreach is unnecessary given the failure to demonstrate a
11 need to expand the EV programs. In addition, PECO has not demonstrated an
12 understanding of the dynamics of the EV market and may not be a reliable educator.
13 There is already sufficient misinformation, what customers need is reliable facts.

14 **Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING PECO'S**
15 **PROPOSED CUSTOMER EDUCATION AND OUTREACH EFFORTS?**

16 A. Yes. I recommend that the Commission reject the proposal.

17 **D. Data Access Issues and Program Reporting**

18 **Q. PLEASE DESCRIBE PECO'S CLAIM THAT IT SHOULD IMPLEMENT THE**
19 **EV CHARGING PILOT TO GENERATE CUSTOMER USAGE DATA.**

20 A. PECO indicates that the charging session transaction data required from participants in
21 the Transit Charging Program will “enable the company to better understand load profiles
22 and charging patterns” and will “inform the design of potential future load management
23 programs.” PECO claims that its L2 Program is designed to “help the Company
24 understand the load profile and other implications of commercial and industrial L2 EV
25 charging” and that “the data on charging installations will inform future rate design and
26 distribution system planning for the load impacts of TE.” (PECO Statement No. 9 at 8).

1 **Q. DOES PECO NEED TO SUBSIDIZE EV CHARGERS AND ASSOCIATED**
2 **EQUIPMENT TO GAIN INFORMATION ABOUT THE DISTRIBUTION**
3 **SYSTEM IMPACT OF EV CHARGING STATIONS?**

4 A. No. PECO does not need to subsidize EV chargers and associated equipment to gain
5 information about the distribution system impact of EV charging stations. For planning
6 purposes, PECO can gain this information from reading technical charging specifications
7 available from companies that sell charging hardware and network or by requesting a
8 sample load shape. PECO assesses new service requests and estimates impact to the
9 system based on the intended use of service (PECO Electric Service Tariff – Pa. P.U.C.
10 No. 6 at Original Page No. 12). PECO can make the necessary plans for its system as the
11 competitive market for charging stations evolves and more charging facilities are
12 deployed by private investors within its service territory.

13 **Q. DOES PECO INTEND TO PARTNER WITH A THIRD PARTY TO COLLECT**
14 **DATA FROM PARTICIPANTS IN THE PROPOSED PROGRAM?**

15 A. Yes. PECO intends to select a third party to gather data from participants after the EV
16 Charging Pilot is approved (Exhibit DP-7 – PECO Response to RESA/NRG Set I, No.
17 13). If approved, PECO’s proposal would require participants in the Transit Charging
18 Program and L2 Program to pay network service fees and share detailed information for
19 each participating charger over a two or three-year period, including interval data (kW
20 and kWh) covering charging event duration, site-specific charging load management
21 strategies, and equipment utilization rates (PECO Statement No. 9 at 8, 10).

1 **Q. PECO CLAIMS THAT THE PILOT’S TRANSIT CHARGING PROGRAM AND**
2 **L2 PROGRAM ARE TECHNOLOGY-NEUTRAL. (PECO STATEMENT NO. 9**
3 **AT 5). IS THAT ACCURATE?**

4 A. No. The Transit Charging Program and L2 Program are not technology-neutral as
5 PECO’s proposal, if approved by the Commission, would require that the EV chargers
6 utilized by participating customers be network capable. (PECO Statement No. 9 at 5).

7 **Q. UNDER PECO’S PROPOSAL, WOULD PARTICIPANTS IN THE**
8 **COMPETITIVE MARKET FOR EV PRODUCTS AND INSTALLATIONS,**
9 **INCLUDING RETAIL ELECTRICITY SUPPLIERS, BE PROVIDED ACCESS**
10 **TO THE CUSTOMER USAGE DATA GENERATED FROM THE PILOT?**

11 A. No. Under PECO’s proposal, stakeholders operating in the competitive market for EV
12 products and installations would not be provided access to the EV charging data.
13 However, PECO indicated in discovery that to the extent that data could be appropriately
14 anonymized, PECO will consider the release of data collected from its proposed L2
15 Program. (Exhibit DP-8 – PECO Response to RESA/NRG Set I, No. 11). With regard to
16 the Transit Charging Program, PECO expressed that it was unwilling to provide the
17 charging session transactional data for customers participating in the Transit Charging
18 Program to the public in an anonymized fashion because anonymization is likely not
19 feasible due to the number of public transit agencies in its service territory. (Exhibit DP-
20 9 – PECO Response to RESA/NRG Set I, No. 3).

21 **Q. PLEASE DESCRIBE THE SIGNIFICANCE OF THIS DATA TO**
22 **PARTICIPANTS IN THE COMPETITIVE MARKET.**

23 A. Customer usage data is critically important to engaging and educating customers about
24 their electricity use. It is also critically important to developing individually tailored
25 products, including time-of-use rates, and services designed to help consumers take
26 control of their energy consumption.

1 **Q. WHAT DOES PECO PLAN TO UTILIZE THE DATA FOR IN THE FUTURE?**

2 A. PECO plans to use the charging session transactional data obtained from the Transit
3 Charging Pilot and L2 Charging Pilot to inform the design of potential future load
4 management programs. PECO is considering an EV-only TOU rider in which only the
5 electricity consumed by an on-premise EV charger is subject to the TOU pricing; and “a
6 managed charging program in which the customer allows the utility to control the timing
7 of EV charging, subject to constraints defined by the customer.” (Exhibit DP-10 – PECO
8 Response to OCA Set VII, No. 5).

9 **Q. DO YOU HAVE ANY CONCERNS WITH PECO’S POSITION REGARDING**
10 **ACCESS TO AND UTILIZATION OF CUSTOMER-OWNED DATA?**

11 A. Yes. PECO’s access to customer-owned data should be limited to fulfilling its core
12 functions in a regulated utility. An example of an appropriate use of the customer-owned
13 data would be PECO utilizing the data to analyze distribution circuit capacity so that if
14 customers on a particular circuit adopt and install EV charging infrastructure, PECO can
15 better predict when upgrades are necessary or respond to outages more quickly. As
16 PECO’s proposal does not provide third party entities that offer EV products and
17 installations with access to customer data, PECO would have an unfair advantage in
18 offering EV related products and installations.

19 **Q. WHAT RECOMMENDATIONS DO YOU HAVE AS IT PERTAINS TO ACCESS**
20 **TO DATA GENERATED FROM THE EV CHARGING PILOT?**

21 A. RESA and NRG recommend that PECO be required to establish, as part of this proceeding,
22 the form and frequency of data related to EV charging station utilization that it will make
23 publicly available so that access to charging data is available from the outset of any
24 Commission-approved aspect of the proposed EV Charging Pilot.

1 More specifically, RESA and NRG recommend that PECO be required to make
2 publicly available the EV charging station utilization, charging station metrics and analytic
3 data in an anonymized fashion and at the same level of granularity provided to PECO by the
4 network provider(s). At a minimum, the data should include: each charging event; total kWh
5 dispensed per event; average kWh per charging event; average duration of charging events;
6 rate per kWh; charging device operational status (uptime/downtime); time that vehicles are
7 parked but not charging in space; faults during a charging event; network uptime/downtime;
8 revenue charged per event; and aggregated customer demographic data. This information
9 should be made publicly available to third parties in as close to real-time as is practicable.

10 **Q. DO YOU HAVE ANY OTHER RECOMMENDATIONS RELATING TO PECO'S**
11 **EV CHARGING PILOT?**

12 A. Yes. If PECO's EV Charging Pilot (which I oppose) is approved, I recommend that
13 PECO be required to file a report with the Commission that details the requests received
14 for participation in the Charging Pilot, number of projects funded, number of projects not
15 funded and the reason why the projects were not funded, and costs PECO incurred for
16 each project funded under the EV Charging Pilot on an annual basis. I also recommend
17 that PECO be required to serve the parties to this proceeding with a copy of each annual
18 report.

19 **VI. CONCLUSION**

20 **Q. DOES THAT COMPLETE YOUR DIRECT TESTIMONY?**

21 A. Yes.

**RESA/NRG
EXHIBIT DP - 1**

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
Retail Energy Supply Association and NRG Energy, Inc.
RESA-NRG Set II

Response Date: 06/22/2021

RESA-NRG-II-3

How many EVs are currently registered in PECO's service territory?

- a. Please break down the figure by passenger vehicle, buses and commercial vehicles.
- b. Please indicate the sources relied upon for the figure(s).

RESPONSE:

As of April 30, 2021, there are approximately 16,000 to 18,000 passenger EVs registered in PECO's service territory. This includes battery electric vehicles and plug-in hybrids.

- a. PECO does not have data on buses and commercial electric vehicles.
- b. PECO received the passenger vehicle data from Electric Power Research Institute (EPRI).

Responsible Witness: Jacqueline F. Golden

RESA/NRG
EXHIBIT DP – 2

ENERGY SYSTEMS DIVISION

Light Duty Electric Drive Vehicles Monthly Sales Updates

SHARE



Monthly sales data for electric vehicles

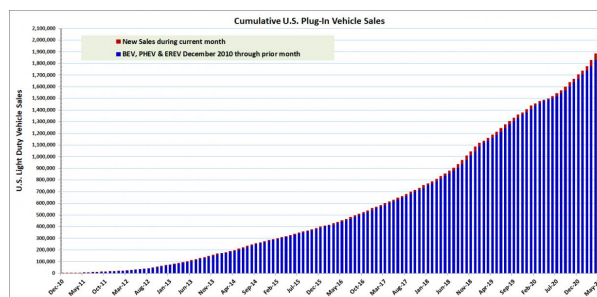


Figure 1 Cumulative U.S. Plug-In Vehicle Sales

As of November 2019, Argonne no longer reports the number of E-drive vehicles sold by make and model.

Currently available electric-drive vehicles (EDV) in the U.S market include hybrid electric vehicles (HEV), plug-in hybrid electric vehicles (PHEV), battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV). Plug-in Vehicles (PEV) include both PHEV and BEV. HEVs debuted in the U.S. market in December 1999 with 17 sales of the first-generation Honda Insight, while the first PHEV (Chevrolet Volt) and BEV (Nissan Leaf) most recently debuted in December 2010. Electric drive vehicles are offered in several car and SUV models, and a few pickup and van models.

Historical sales of HEV, PHEV, and AEV are compiled by Argonne’s Center for Transportation Research and reported to the U.S. Department of Energy’s Vehicle Technologies Office each month. These sales are shown in Figures 1-4. Figure 1 shows cumulative U.S. Plug-In Vehicle Sales. Figure 2 shows monthly new BEV and PHEV sales by model. Figure 3 shows annual PEV sales share of total light-duty vehicle (LDV) sales since 2011. Figure 4 show HEV and PEV sales change with gasoline price.

Latest Monthly Sales Data

During May 2021, 75,025 HEVs (27,085 cars and 47,940 LTs) were sold in the United States, up 170.5% from the sales in May 2020.

Toyota accounted for a 68.5% share of total HEV sales in this month.

The May 2021 HEV sales share of LDV ($\leq 10,000$ lbs. GVW) sales was 4.75%, while May 2021 HEV cars captured 7.08% share of total car sales.

Plug-In Vehicle Sales

A total of 53,779 plug-in vehicles (37,967 BEVs and 15,812 PHEVs) were sold during May 2021 in the United States, up 329.0% from the sales in May 2020. PEVs captured 3.41% of total LDV sales in this month.

Cumulatively, 230,687 PHEVs and BEVs have been sold in 2021. In total, 1,938,314 PHEVs and BEVs have been sold since 2010.

Hydrogen Fuel Cell Electric Vehicle Sales

There were 295 FCEVs sold in the United States in May 2021.

Cumulatively, 1,726 FCEVs have been sold in 2021. In total, 10,667 FCEVs have been sold since 2014.

Data Sources

Sales data are compiled from several sources at different points in time. Initially, the data were compiled from J.D. Power and associates' sales reports, and Electric Drive Transportation Association (EDTA) and HEV manufacturers' information. Later, the data were supplied by Green Car Congress and collected from Hybrid Market Dashboard. Civic hybrid sales are as reported by Honda in 2003 and 2004. Data from 2005 and later represent sales as reported by EDTA, Hybrid Dashboard, InsideEVs and Green Car Congress. The Escape, Highlander, RX 400h, Camry, and GS 450h hybrid sales represent registration information from EDTA through 2006. The 2007 Escape and GS450h sales data are from Green Car Congress. Accord hybrid sales data are from EDTA and Green Car Congress. The 2007 Vue hybrid sales data are from EDTA (January to May only), and later sales data are from Hybrid Dashboard and Green Car Congress. These numbers are by calendar year, not by model year as reported by the U.S. EPA in its "Light Duty Automotive Technology, Carbon Dioxide Emissions and Fuel Economy Trends Report." The HEV percent shares reported by U.S. EPA are for vehicles weighing $\leq 8,500$ lbs. while shares reported here are for vehicles weighing $\leq 10,000$ lbs. The Alternative Fuels and Advanced Vehicles Data Center (AFDC) at the Department of Energy website also provides annual HEV sales data.

Featured Report

D. Gohlke and Y. Zhou, "[Impacts of Electrification of Light-Duty Vehicles in the United States, 2010 – 2019](#)," Argonne National Laboratory, Lemont, IL USA, ANL/ESD-20/4, 2020.

PROJECT INFORMATION

Status: Active

RELATED TOOL

[VISION Model](#)

PROJECT CONTACT

[Yan \(Joann\) Zhou](#)

RELATED ORGANIZATIONS

[Systems Assessments](#)

**UChicago
Argonne, LLC**



RESA/NRG
EXHIBIT DP – 3

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
Retail Energy Supply Association and NRG Energy, Inc.
RESA-NRG Set II

Response Date: 06/22/2021

RESA-NRG-II-2

In PECO's service territory, what percentage of new vehicle sales were EVs in 2020?

RESPONSE:

Approximately 2% of new vehicle sales were EVs in PECO's service territory in 2020 based on information received by PECO from the Electric Power Research Institute (EPRI).

Responsible Witness: Jacqueline F. Golden

RESA/NRG
EXHIBIT DP – 4

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set VII

Response Date: 06/10/2021

OCA-VII-2

Reference Golden Direct page 4, lines 15-17, referring to the Electric Vehicle DCFC Pilot Rider in Docket No. R-2018-3000164. Explain how the learnings from this and other EV pilots informed the Company's current transportation electrification strategy and pilots.

RESPONSE:

PECO's Electric Vehicle DCFC Pilot Rider was implemented in July of 2019. The data from the Pilot was reviewed, but there were only two sites taking service under the Rider as of January 1, 2021. See PECO's Confidential Attachment OCA-II-2(a).

PECO utilized published learnings from several sources including Duquesne Light Company's EV ChargeUP Pilot approved by the Commission in 2018. See PECO's response to IE-III-44 and IE-III-45.

Responsible Witness: Jacqueline F. Golden

RESA/NRG
EXHIBIT DP – 5

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
The Clean Energy Advocates
CEA Set II

Response Date: 06/11/2021

CEA-II-44

Did PECO evaluate whether residents of Environmental Justice Areas would experience increased benefits from the L2 Program if incentives disbursed under the program were required to be used to support vehicles that are based in or that serve Environmental Justice Areas as defined by PA DEP? If so, please provide all supporting documents. If not, please explain why not.

RESPONSE:

No. PECO does not anticipate having the ability to monitor the operating locations of customer-owned vehicles.

Responsible Witness: Jacqueline F. Golden

**RESA/NRG
EXHIBIT DP – 6**

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
The Clean Energy Advocates
CEA Set II

Response Date: 06/11/2021

CEA-II-45

Please refer to Golden Direct at 9:3–5. Please provide the number and percentage of PECO’s commercial and industrial customers sited in Environmental Justice Areas as designated by the PA DEP.

RESPONSE:

PECO does not maintain a database of commercial and industrial customers sited in Environmental Justice Areas and therefore cannot provide this information

Responsible Witness: Jacqueline F. Golden

**RESA/NRG
EXHIBIT DP – 7**

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
Retail Energy Supply Association and NRG Energy, Inc.
RESA-NRG Set I

Response Date: 06/22/2021

RESA-NRG-I-13

Refer to PECO's response to BIE Set III, No. 45-D that indicates that the required data from participants in the L2 Program will be gathered through use of a third party.

- a. Has PECO selected a third party to gather data from participants in the L2 Program? If so, what company?
- b. Provide a copy of the contract between PECO and the third party that sets forth the terms for which the third party will collect data from participants in the L2 Program.
- c. Did PECO consider a competitive process for securing a third party to gather the data? If not, why not?

RESPONSE:

No, PECO has not selected a third party to gather data from participants in the L2 Program. The Company plans to develop any processes for the selection of a third-party vendor after the L2 Program is approved.

Responsible Witness: Jacqueline F. Golden

RESA/NRG
EXHIBIT DP – 8

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
Retail Energy Supply Association and NRG Energy, Inc.
RESA-NRG Set I

Response Date: 06/22/2021

RESA-NRG-I-11

Refer to PECO St. No. 9 at 8. Will the data collected by the Company pursuant to the proposed L2 Program be made available to the public in an anonymized fashion? If not, why not?

RESPONSE:

PECO's proposed L2 Program does not include making collected data available to the public in an anonymized fashion. To the extent that data could be appropriately anonymized, PECO will consider public release of such data.

Responsible Witness: Jacqueline F. Golden

**RESA/NRG
EXHIBIT DP – 9**

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
Retail Energy Supply Association and NRG Energy, Inc.
RESA-NRG Set I

Response Date: 06/22/2021

RESA-NRG-I-3

Refer to the chart on PECO St. No. 9 at 8. Will the charging session transactional data provided to PECO by customers participating in the Transit Charging Program be made available to the public in an anonymized fashion? If not, why not?

RESPONSE:

PECO will not be providing the charging session transactional data for customers participating in the Transit Charging Program to the public in an anonymized fashion. Due to the number of public transit agencies in PECO's service territory, anonymization of collected data is not likely to be feasible, see response to CEA-II-28 for the list of transit agencies operating in PECO's service territory.

Responsible Witness: Jacqueline F. Golden

RESA/NRG
EXHIBIT DP – 10

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Electric Division

Docket No. R-2021-3024601

Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set VII

Response Date: 06/10/2021

OCA-VII-5

Reference Golden Direct. Provide a detailed description of the Company's EV load management programs that are being considered or in the planning phase. Include in your response, but do not limit it to, a timeline of when these programs will be filed with the Commission and in what venue (e.g., a rate case or separate proceeding).

RESPONSE:

The Company has Commission approval to implement a Time-of-Use offering for default generation supply, which is scheduled to become available in September of 2021. One of the objectives of this rate is to encourage residential and small commercial EV owners to perform vehicle charging during off-peak periods. See PECO's response to OCA-VII-4 for details.

PECO is aware of utilities that offer passive and active EV load management programs in compliance with statutory requirements in their states. PECO is in the initial stages of considering one or more similar programs such as:

- an EV-only time of use rider in which only the electricity consumed by an on-premise EV charger is subject to the time of use pricing; and
- a managed charging program in which the customer allows the utility to control the timing of EV charging, subject to constraints defined by the customer.

Charging session transactional data obtained from the Transit Charging Pilot and L2 Charging Pilot will enable the Company to better understand load profiles and charging patterns and to inform the design of potential future load management programs.

The Company has not yet determined what, if any, program(s) may eventually be offered, what the details of the program(s) may be, or what the timing and venue of filing the program(s) with the Commission may be. Those factors may be influenced by passage of transportation electrification legislation in Pennsylvania and subsequent guidance from the Commission.

Responsible Witness: Jacqueline F. Golden

VERIFICATION

I, Danita Park, hereby state that: (1) I am the Director, Electric Vehicle and Commercial Development for NRG Energy, Inc.; (2) that I am authorized to submit this testimony on behalf of the Retail Energy Supply Association and NRG Energy, Inc.; (3) the facts set forth in this testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and (4) that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Dated: June 28, 2021

Danita Park

Danita Park
Director, Electric Vehicle and
Commercial Development
NRG Energy, Inc.