

BEFORE THE NORTH CAROLINA
UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1197
DOCKET NO. E-7, SUB 1195

In the Matter of:)	
Application by Duke Energy Carolinas,)	JOINT REPLY COMMENTS OF
LLC and Duke Energy Progress, LLC for)	NORTH CAROLINA JUSTICE
Approval of Electric Vehicle Supply)	CENTER, SOUTHERN ALLIANCE
Equipment Program)	FOR CLEAN ENERGY, AND
)	SIERRA CLUB
)	

The North Carolina Justice Center (NCJC), the Southern Alliance for Clean Energy (SACE), and Sierra Club (together, Joint Commenters) appreciate the opportunity to submit the following joint reply comments on Duke Energy Carolinas, LLC (DEC) and Duke Energy Progress, LLC's (DEP) (together, the Companies) Joint Request for Approval of Electric Vehicle Supply Equipment Program filed in docket numbers E-2, Sub 1197 and E-7, Sub 1195 (EVSE Program). Duke's proposed EVSE Program include utility ownership of both residential Level 2 EVSE and non-residential Level 2 and DC fast charging (DCFC) EVSE. Joint Commenters urge the Commission to approve the Companies' current EVSE proposal, with the modifications set out below, and take additional steps to ensure the State creates an ongoing process to identify and meet EV charging needs of North Carolinians throughout the State in future years.¹

¹ Joint Commenters appreciate the work of the North Carolina Department of Transportation and other agencies to begin to address the state's charging gap, but to date there is currently no process in place in North Carolina to systematically assess charging needs and fund EVSE to meet those needs in a timely, equitable manner. Even the State's recent EV infrastructure plan does not provide this kind of charging gap analysis, nor a process to fill that gap. See, e.g., North Carolina

1. The private market and federal government are not meeting North Carolina’s EV charging needs and the State does not have a plan to fund the amount of EVSE needed to meet its EV adoption goals.

North Carolina, like other states, is well behind in developing the EV charging infrastructure that will be required to facilitate and support the exponential growth anticipated in EV adoption. Our organizations reiterate the call for North Carolina to develop a process to identify public EV charging needs—particularly in rural and low-income communities throughout the state that have not been adequately served by the EV charging marketplace—and develop a plan to fill that charging gap through all available funds: state and federal programs, utility-scale investments, and the private market.² As explained below, North Carolina needs additional EV charging infrastructure now, and neither the federal government nor private sector is adequately meeting that need. Given the current failure of the existing EV charging marketplace to provide sufficient EV charging infrastructure to meet the State’s need, the Commission should approve the Companies’ EVSE Program now and take steps to ensure the State creates a framework for equitably meeting the State’s charging needs in the future.

According to data from the North Carolina Department of Transportation, as of October 2022, there were approximately 50,000 registered zero emission vehicles in North Carolina.³ Governor Cooper’s Executive Order 246⁴ establishes

Department of Transportation, *Electric Vehicle Infrastructure Deployment Plan* (Aug. 2022), <https://www.ncdot.gov/initiatives-policies/environmental/climate-change/Documents/ncdot-electric-vehicle-deployment-plan.pdf>.

² Letter of Sierra Club, SACE, and North Carolina League of Conservation Voters, (June 27, 2022), <https://app.box.com/v/SC-NC-NEVI-Comments>.

³ <https://www.ncdot.gov/initiatives-policies/environmental/climate-change/Pages/zev-registration-data.aspx>.

⁴ Governor Cooper, Executive Order 246, North Carolina’s Transformation to a Clean, Equitable Economy (Jan. 7, 2022), <https://governor.nc.gov/media/2907/open>.

a state-wide goal of reaching 1.25 million zero-emission vehicles on North Carolina's roads by 2030, and for half of all sales of new vehicles in the state to be zero-emission by 2030. In order to meet the exponential growth called by EO 246, the Commission, DOT, charging service providers, and utilities in North Carolina must work together to build out a robust distribution network for high-speed DCFC and publicly-accessible Level 2 charging, and to ensure utility-scale investments are well coordinated with federal infrastructure dollars in order to maximize the benefits to North Carolina drivers.

Federal investment in DCFC will not fill North Carolina's DCFC charging needs. EVgo's initial comments note that the federal government has allocated North Carolina \$109 million in funding through the National Electric Vehicle Infrastructure (NEVI) program, and will provide an additional \$2.5 billion, divided among all the states based on discretionary grants.⁵ But EVgo does not explain the gap that this leaves in DCFC or public Level 2 charging throughout the State, nor does it assert that the NEVI funds (designed to provide funding for DCFC charging along highway corridors through 2026) actually meet the State's DCFC needs. Moreover, Public Staff is incorrect in its assertion that "the private market has been operating sufficiently to date to provide the EVSE necessary to meet state goals."⁶ In reality, the \$109 million in NEVI funds that North Carolina will receive for DCFC charging through 2026, while significant, pales in contrast to the \$1 billion needed to build out charging infrastructure in the state through 2030 in order to meet EO 246's EV adoption goals. In fact, none of the parties opposing

⁵ EVgo, Initial Comments at 7 (Nov. 21, 2022).

⁶ Public Staff, Initial Comments at 27 (Nov. 21, 2022).

the Companies' proposed investment in public Level 2 and DCFC charging (including Public Staff, ChargePoint, and EVGO) assess current and future charging needs throughout the State or provide any assessment as to how private and federal investments can meet this need absent robust utility-scale investments that include some utility ownership of publicly available EVSE.

In September 2022, Sierra Club, SACE, and North Carolina Justice Center, along with other conservation organizations, partnered with Synapse Energy Economics to release a report analyzing current EV charging infrastructure in North Carolina, the amount of public Level 2 and DCFC charging needed to meet EO 246's EV adoption goals, and federal funding opportunities to meet this need.⁷ In this report, utilizing the U.S. Department of Energy's EVI-Pro Lite modeling tool, Synapse concludes that North Carolina will need approximately 35,000 additional Level 2 chargers and 4,100 additional DC fast chargers located at workplaces or along highways by 2030 in order to meet EO 246 adoption targets. Given an average 10-year lifespan for EVSE, many of the existing charging stations in the state will need to be replaced by 2030 or soon after. As detailed in the report, as of 2022, there were only 1,978 public Level 2 chargers and 568 DC fast chargers in the state. See Table 1 below.⁸

Table 1. Number of chargers in North Carolina by type, today and projected for the future

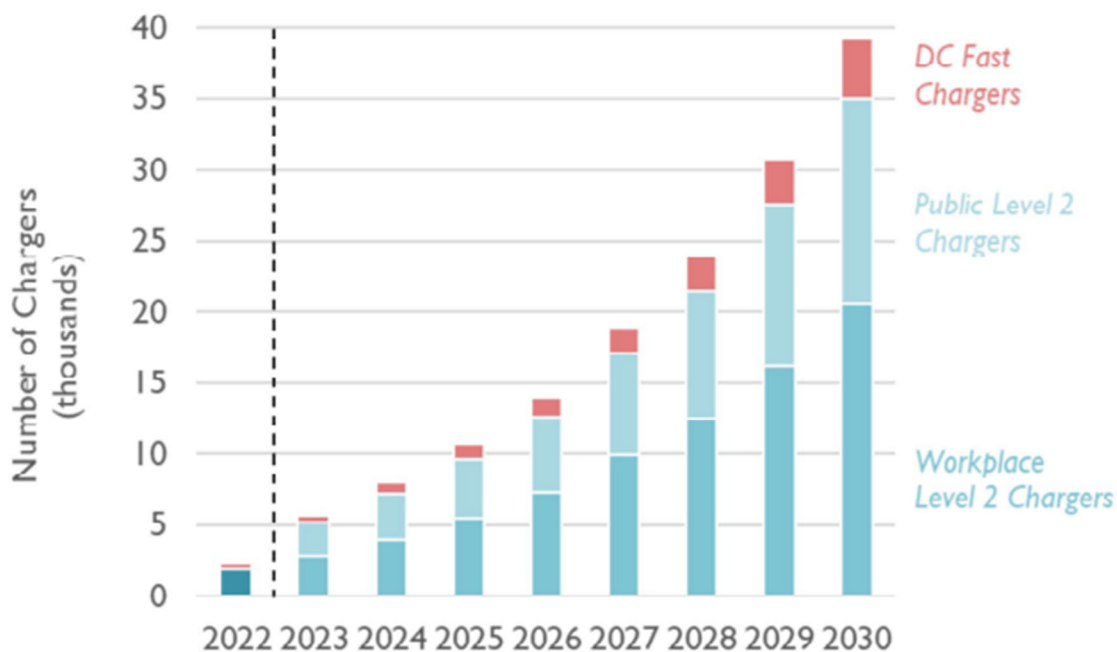
Charger Type	Historical Count (2022)	Projected EO 246 Count (2030)	Estimated Annual Build Needed to Reach EO 246 Goal
Level 2	1,978	35,000	4,100
DC Fast Chargers	568	4,100	440

⁷ Synapse Energy Economics, Inc., *Transforming Transportation in North Carolina* (Sept. 2022), <https://app.box.com/v/Transforming-Transportation-NC>.

⁸ *Id.* at 7-8.

The combined number of Level 2 and DC Fast Chargers in North Carolina must increase to more than 39,000 to meet this requirement, which is more than a 1,400 percent increase from today. With less than 2,000 public Level 2 chargers currently installed in North Carolina, the State will need to more than double the current amount of public Level 2 chargers each year to have enough chargers by 2030. This entails installing over 4,100 public Level 2 chargers every year through 2030, as shown in Figure 2, below.⁹

Figure 2. Total chargers needed in North Carolina to meet EO 246 EV goal



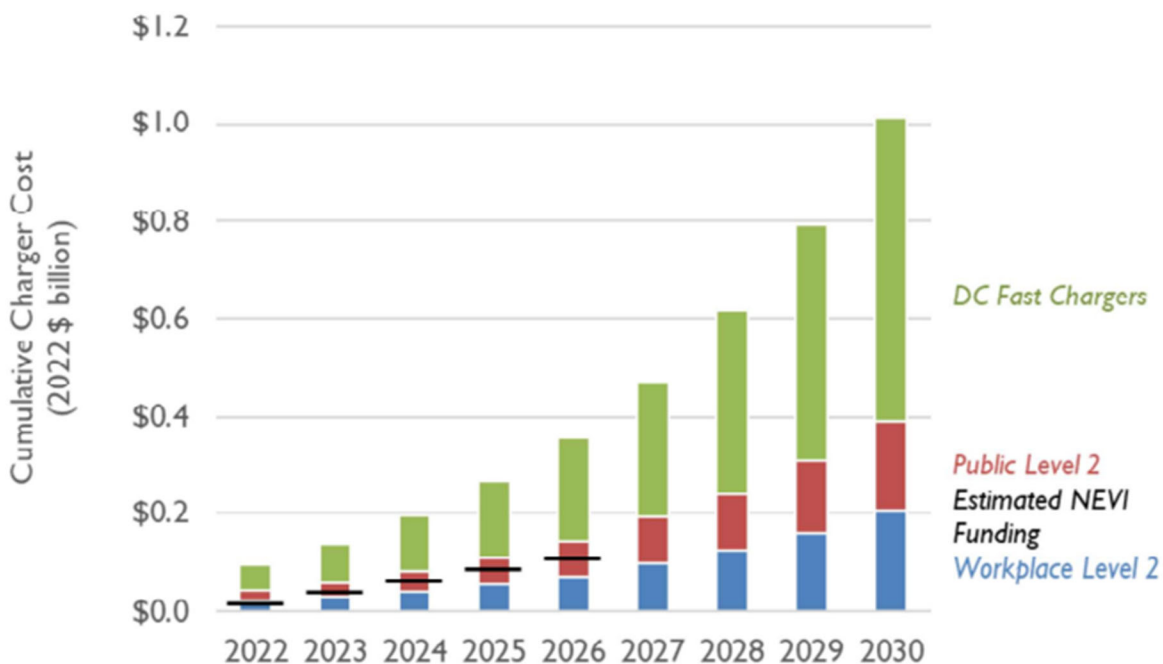
Securing adequate funding for this rapid expansion of public charging infrastructure is a daunting task, and must entail investments from the state and federal government, the private sector, and utilities. As show in Figure 3, below,¹⁰

⁹ *Id.* at 8.

¹⁰ *Id.* at 10.

the \$109 million in federal NEVI funds allocated to North Carolina for highway DCFC between 2022 and 2026 covers only a fraction of the State’s DFCF charging needs, and will not resolve the lack of public Level 2 charging.

Figure 3. Cumulative EV charger cost and NEVI Funding, North Carolina



If the State is going to meet EO 246’s EV adoption goals, it must invest in a robust and equitable public charging network that meets the needs of its residents and businesses. In order to do that, there must be a process in place to leverage federal and state grants with the private sector and investments from regulated utilities. Given the scale of the State’s charging gap, Joint Commenters urge the Commission to both approve the Companies’ proposed EVSE Program (with the modifications recommended below) and take steps to ensure that the State has a process to evaluate its charging needs and coordinate available investments from the federal government, the private sector, and regulated utilities.

2. Dynamic time-of-use rates or other managed charging rates should be the default rates for EVSE Tariff participants.

Consistent with our comments on the Phase II Pilots in 2021, Joint Commenters urge the Commission to approve the Companies' EVSE Programs with the following modifications. To encourage EV adoption and ensure that additional load from EVs does not exacerbate peak demand, it is important that the Companies send clear price signals to encourage charging to take place during less expensive, off-peak times of the day. The Companies acknowledge that that growth from increased vehicle charging "must be actively managed to assure the greatest benefits for all customers" Duke EVSE Application at 12. The Companies recognize that managed charging "encompasses more than the Companies' Managed Charging Pilots," but also includes TOU rates, demand-response programs, and off-peak charging credits. But the Companies have not taken the crucial step of linking the proposed EVSE Tariff with a managed charging or dynamic TOU rate design. Id.

Last year, the Commission approved dynamic time-of-use rate designs in Docket Nos. E-7, Sub 1253 and E-2, Sub 1294 that "were explicitly created with EV charging in mind and have the potential to offer the lowest total cost of charging EVs thus far available in DEC's territory given beneficial load shapes."¹¹ Such dynamic rate designs or alternative managed charging options should be incorporated into the EVSE Tariff as opt-out (or default) rates. The Companies say that the "EVSE Programs are foundational to managed charging," but without further action from the utilities, customers will not likely opt for alternative rates on

¹¹ Duke Energy Phase II ET Pilot Application at 7.

their own. Duke EVSE Application at 12. Incorporating TOU or managed charging rates as opt-out rates for customers who adopt the EVSE Tariff will likely increase the number of customers who take advantage of the dynamic rates. Doing so also satisfies the request of ChargePoint, which urges the Commission to “Direct the Companies to explicitly empower site hosts to establish pricing and pricing policies for EV charging services in the EVSE Tariff.”¹² At the very least, the Commission should direct the Companies to educate EVSE participants about the availability and benefits of these dynamic TOU rate designs or other alternative rates that would allow for managed EV charging.

3. The EVSE Tariff should only be available for networked EVSE.

As was true for Duke’s prior Pilot proposal, the EVSE Tariff allows residential and nonresidential customers the option to choose between a non-networked EVSE and a networked EVSE. For residential customers, the cost difference between a nonnetworked EVSE and a networked EVSE is relatively small (an additional \$2.33/month for DEC and \$2.30/month for DEP). For Level 2 chargers for non-residential customers, however, there is a significant price difference between the non-networked charger monthly rate of \$17.91 (DEP) and \$18.08 (DEC) and the lowest priced networked charger rate of \$74.57 (DEP) and \$75.11 (DEC). Thus, if presented with the two options, many customers would choose the non- networked charger simply because of its cheaper price. Unfortunately, non-networked chargers cannot provide the same depth of information as networked chargers. Networked chargers are connected to the

¹² ChargePoint Comments at 2 (Nov. 21, 2022).

internet and they can collect usage data, balance loads during peak demand (through managed charging), and provide functions such as billing and real time updates of charging. For a new program such as this, the data collected from customers participating in the program is vitally important. First, the data can help the Companies, the Commission and interested parties gain insight into usage patterns, monitor uptime (the percentage of time that EVSE is working and can provide charging), and monitor the percentage of time that it is online. The data can also be used to better understand the relationship between EV charging stations deployed through the EVSE Tariff and EV registrations in the state.

Second, this data can be used to help shape future load management techniques in the Companies' service territories. As more electric vehicles increase demand on the Companies' system, load management becomes increasingly necessary to ensure that additional electric vehicles do not exacerbate peak demand, require the installation of additional distribution grid resources, undermine utility conservation efforts, or otherwise drive-up costs on customers. The Companies note their interest in the potential for managing customers' load through the EVSE Tariff Pilot, stating that "[u]nder the proposed [EVSE Tariff] Schedules, the Companies may provide programs and/or services to help customers manage charging during off-peak hours."¹³ Duke should use the EVSE Tariff as an opportunity to gather data and use that data to help customers manage their charging. The only way to directly manage charging (i.e., through a mechanism other than a time-of-use or managed charging rate) is through

¹³ Application at p. 9 (emphasis supplied).

networked charging networks. For the above reasons, Joint Commenters urge the Commission to allow only networked EVSE options for those participating in the EVSE Tariff. However, Joint Commenters are concerned that the high cost of the non-residential networked charger available through the EVSE Tariff and question whether it aligns with the EVSE Tariff's goal to reduce the up-front costs of EVSE. Therefore, we also recommend that the Commission consider discounted monthly rates for non-residential customers meeting specific equity criteria, such as serving EV drivers in low to moderate income and rural communities.

4. The Commission should require the Companies to consider the effects of demand charges on DCFC customers.

The Companies should be required to consider the effects of demand charges on customers operating DCFC stations, including those who are participating in the EVSE Tariff. Commercial customer rates typically include a demand charge that is based on the customer's maximum peak demand during any given month. This demand charge is often measured based on a customer's peak demand regardless of when that demand occurs. Particularly when utilization of DCFC is low, as it tends to be due to the early stage of the market, these types of charges "pose a significant challenge to the economics of EV charging, particularly at commercial and public charging locations."¹⁴ In some instances, "[f]or charging sites dominated by relatively rare, yet very power-intensive, bouts of fast charging, demand charges can add up to 90 percent of total electricity costs,

¹⁴ Farnsworth, et al., Regulatory Assistance Project, Beneficial Electrification of Transportation (Jan. 2019), <https://www.raonline.org/wp-content/uploads/2019/01/rapfarnsworth-shipleysliger-lazarbeneficialelectrification-transportation-2019-january-final.pdf>.

leaving many sites deeply in the red.”¹⁵ Public utility commissions and utilities have taken steps to limit demand charges that may result from installing fast charging infrastructure because of the potential for low utilization of the DCFC stations at this stage of the market. For example, Florida Power & Light’s (FPL) five-year pilot program seeks to address the demand charge barrier by implementing a demand charge limiter.¹⁶ Similarly, the Maryland Public Service Commission approved a temporary demand charge credit for utilities that were implementing pilot programs.¹⁷ And in California, Southern California Edison was approved to provide a five-year demand charge holiday for new and existing EV customers.¹⁸ The Rocky Mountain Institute (RMI) has recommended specific characteristics for DCFC charging station tariffs, including limited or on demand charges. Where demand charges are found to be necessary, RMI stated that it is “essential that they be designed only to recover location-specific costs of connection to the grid, not upstream costs of distribution circuits, transmission, or generation.”¹⁹ Because demand charges may add significant costs to non-residential participants in the EVSE Tariff, Joint Commenters recommend that the Companies study the implications of current demand charges and rate structures on the DCFC

¹⁵ Jeff St. John, Getting the Rates Right for a Public EV Charging Build-Out, Greentech Media (Feb. 16, 2021), <https://www.greentechmedia.com/articles/read/getting-the-ratesright-for-a-public-electric-vehicle-charging-buildout>.

¹⁶ Florida Public Service Commission, Commission Conference Agenda, Dec. 1, 2020, https://pscfl.granicus.com/MediaPlayer.php?view_id=2&clip_id=3314&meta_id=3696136

¹⁷ 34 Order No. 88997 at 56, Petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio, Case No. 9478 (Md. P.S.C. Jan. 14, 2019).

¹⁸ Decision of the Transportation Electrification Standard Review Projects at 110–17, Application of San Diego Gas & Electric Company for Approval of SB 350 Transportation Electrification Proposals and Related Matters, Decision 18-05-040 (Cal. P.U.C. May 31, 2018).

¹⁹ Garrett Fitzgerald and Chris Nelder, Rocky Mountain Institute, EVgo Fleet and Tariff Analysis, Phase I: California (Mar. 2017), https://rmi.org/wpcontent/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf.

participants in the EVSE Tariff and submit the results of the study along with tariffs that will encourage EV adoption while reducing demand charges within one year of the date of this Order.

5. Conclusion

For the foregoing reasons, Joint Commenters respectfully request that the Commission approve the EVSE Program subject to the conditions and modifications set forth above.

Respectfully submitted this the 5th day of January 2023.

/s/ David Neal

David Neal
N.C. State Bar No. 27992
Southern Environmental Law Center
601 West Rosemary Street, Suite 220
Chapel Hill, NC 27516
Telephone: (919) 967-1450
Fax: (919) 929-9421
dneal@selcnc.org

*Attorney for North Carolina Justice Center
and Southern Alliance for Clean Energy*

/s/ Matthew D. Quinn

Matthew D. Quinn
N.C. State Bar No. 40004
LEWIS & ROBERTS, PLLC
3700 Glenwood Avenue, Suite 410 (27612)
P.O. Box 17529
Raleigh, NC 27619
Telephone: 919-981-0191
Fax: 919-981-0199
mdq@lewis-roberts.com

Attorney for Sierra Club

CERTIFICATE OF SERVICE

The undersigned certifies that on this day a copy of the foregoing REPLY COMMENTS OF NORTH CAROLINA JUSTICE CENTER, SOUTHERN ALLIANCE FOR CLEAN ENERGY, AND SIERRA CLUB was served upon each of the parties of record in this proceeding or their attorneys of record by electronic mail, hard delivery or depositing a copy of the same in the United States mail, postage prepaid.

This 5th day of January, 2023.

/s/ David L. Neal

David L. Neal

*Attorney for North Carolina Justice
Center and Southern Alliance for Clean
Energy*