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Via On-Line Submission:

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Re: Southern Alliance for Clean Energy Comments on draft North Carolina Zero Emission Vehicle (ZEV) Plan

Dear Heather and Colin,

On behalf of the Southern Alliance for Clean Energy (SACE), we thank you for considering these comments and recommendations regarding North Carolina's draft Zero Emission Vehicle (ZEV) Plan. We see this plan as a critical step in successful implementation of Governor Cooper's Executive Order 80 in order to boost the state's commitment to clean energy, grow the state's economy, and protect North Carolinians' public health and environment by taking action on climate change.

We organized our comments to align with the draft ZEV Plan's sections. We included feedback on existing initiatives we felt needed additional consideration and recommendations for new initiatives we believe are important to consider.

We applaud the draft ZEV Plan as a good first step. We also believe that to successfully implement Executive Order 80, including accelerating the adoption of ZEVs in North Carolina, the ZEV plan should consider enhancing initiatives to reflect a bolder, more comprehensive and more impactful strategy.

Draft ZEV Plan Initiatives Comments and Recommendations

EDUCATION

- **Coordinate Ride & Drive Events**
  - This initiative should focus on getting the highest number of people to experience ZEVs as possible and to ensure that Ride and Drive events are accessible to all North Carolinians.
  - The benefit of getting someone in a ZEV for a week is showing them how driving electric can integrate into their daily routine and enhance their driving experience. The suggestion that "consumers could observe firsthand the convenience of existing charging stations" contradicts the stated fact that NC lacks adequate chargers.
  - The events should not just focus on the "newest and most popular electric vehicles." All events should also include a focus on the used vehicle market, with an emphasis on affordability, ease of maintenance, and consumer education on installing home chargers. Such events should be done in partnership with finance providers, used car dealers and electricians who have a demonstrated commitment to the used electric vehicle market.
  - Why limit the key stakeholders to dealers? We are doing this same work as a non-profit with a campaign called Driving on Sunshine in Florida. Based on our focus-groups, consumers have limited trust with dealers. It would make more sense to partner with "trusted" organizations that do not exclusively have a vested financial interest in the outcome.
- **Fleet Education and Outreach**
  - For municipal and state fleets, the NC Division of Purchase & Contract needs to more frequently update the state contract to keep up with the speed of ZEV and charging infrastructure technology developments.
  - For municipal and state fleets it is not just about understanding the total cost of ownership (TCO). They need new budget models that allow for TCO to be weighted heavily enough to overcome the initial increased cost of ZEVs + chargers as compared to the purchase price internal combustion vehicles, or accessing programs that will cover the capital expense delta and allow for repayment from future fuel and maintenance savings.
  - With respect to public authorities, such as municipal governments, school districts, and transit authorities, existing accounting rules may inhibit investment in electric vehicles. For example, accounting rules for school bus transportation

programs might include fuel costs as allowed charges, but exclude power bills from some or all charging stations, which would create problems during budget and audit processes. Identifying the specific operational practices that need to be changed for public fleet operators to adopt ZEVs would assist those agencies with achieving cost-effective fleet transformations.

- ZEV benefits increase based on how much work the ZEV does, not how long it is in service. The more miles it operates, the more significant the savings and the sooner it acquires those miles, the quicker the payback.
- Transit system operations may change: the availability of charging infrastructure options may result in changes to the way in which bus systems manage their vehicles in order to optimize the number of charging stations with respect to service needs. Furthermore, utility partnerships with school and transit bus systems could generate case studies to answer questions that other bus systems may have, and thus encourage more rapid expansion of such systems by fiscally constrained bus system operators.
- Key stakeholders should also include the Clean Cities organizations (Triangle J, Centralina, Land of Sky Councils of Government) who are already putting on programs to educate fleet directors.

CONVENIENCE

- **Facilitate Fast Charging Collaboration**
  - This initiative should be rated a short-term priority given Volkswagen (VW) Settlement and proposed Duke Energy Electric Transportation Pilot efforts underway.
  - Include collaboration with Councils of Governments, Transportation Planning Organizations, and NC advocacy groups focused on equitable and inclusive ZEV market growth.
  - "Targets for fast charging collaboration efforts include retail centers, rest areas, grocery stores, public parking lots, and gas stations," should also include downtown commercial districts and access to travel destinations (e.g. routes to Fort Macon State Park, Blue Ridge Parkway NP, NC Zoo, etc.).
  - "It is important to build fast charging networks for travel between cities before expanding to other corridors." Given that the goal of the ZEV Plan is to get 80K ZEVs registered in NC, the focus should be to build fast charging networks that connect all NC communities from the mountains to the sea. The risk of focusing exclusively on city connectivity is the alienation of NC's rural communities and their state representatives whose support is needed to reach EO 80's goals.

Therefore, the ZEV Plan should support and leverage existing major corridor investments to expand connectivity to all NC communities. Due to transportation patterns and demographics, *more* fast chargers are needed between and around cities, but communities from Boone to Pinehurst to Morehead City should not be left behind.

- **Develop Workplace Charging Programs**
    - Encourage and support all NC employers in developing workplace charging programs rather than focus solely on municipal employees.

- **RECOMMENDATION: Establish Interoperability and Open Standards requirements**
    - Enable consumers to move seamlessly among charging providers. As the network grows it will be imperative that there is interoperability among charging networks, stations, and payment is made simpler through an interconnected system.

- **RECOMMENDATION: Put Workplace Chargers at All State-Owned Facilities and Make Any New Facilities ZEV-Ready**
    - Support NC state employees adopting ZEVs.

AFFORDABILITY

- **Rebates and/or Credits**
    - From an equity standpoint, rebates are a better incentive because they are immediate and are not dependent on tax liability. Tax credits are only valuable to consumers with enough income or capital gains to make use of the credits.
- **Green Vehicle Loans with Credit Unions**
    - This initiative should extend to loans on used EVs where the APR is higher and where there is no federal tax credit incentive. Doing so will support the goal "Encouraging Secondary Electric Vehicle Markets".
- **Create Dealership Incentives**
    - Incentivizing dealerships is important since ZEVs low maintenance requirements negatively impact the traditional dealership business model, which relies on recurring revenue from maintenance and repairs. But the related issue is that NC consumers lack access to the full breadth of ZEV models available in the United States as well as a significant quantity of ZEVs on the dealership lot to choose from because NC is not yet a ZEV Memorandum of Understanding (MOU) state and thus not prioritized by auto manufacturers. ZEV MOU states are those in which the governor has signed a memorandum of understanding (MOU)

committing to coordinated action to ensure the successful implementation of their state's zero-emission vehicle programs.

- **Incentivizing Networked or "Smart" Charging Infrastructure**
    - Charging station data from any state-funded network charging initiative should be cleaned of personal driver information and then made publicly available so that industry, advocacy, and government groups can all benefit from and make use of the data.
- **Encouraging Secondary Electric Vehicle Markets**
    - See comments on "Green Vehicle Loans" initiative, Ride and Drive Events, and "On-Bill Program" recommendations.

- **RECOMMENDATION: Charging Infrastructure in LMI and Historic Neighborhoods**
    - Investigate the private and public obstacles to installing EV charging infrastructure in low and moderate-income communities. Multifamily properties may have different legal and financial challenges depending on income level, ownership type, property density, and adjacent property uses. For example, state statutes may need to be revised to prohibit rules that inhibit installation of EV charging infrastructure in common parking areas for multi-family housing.
    - Address the problem of single-family properties that lack off-street parking, and require changes to local policies such as zoning, right-of-way requirements, street and public utility maintenance practices, tree ordinances, etc. For example, one solution to the lack of off-street parking might be for cities to retrofit light posts to include Level-2 EV charging stations (perhaps as part of an LED conversion program). Since light posts are often financed by multiple parties, such as improvement districts, there may be policies or practices that need to be developed to address these opportunities. Another solution might be for cities to partner with utilities and charging station companies to create fast charging hubs near neighborhoods that lack off-street parking. Fast charging hubs provide residents access to needed charging, concentrate utility upgrade needs, and create density of use that supports private sector investment. Simply making rebates available will tend to encourage EV participation by a more limited cross-section of the public, and would not achieve broader equity goals.

POLICY

- **RECOMMENDATION: Include Plug-In Hybrid and Full Battery Electric Vehicles in Planning and Encourage Full Battery Electric Deployment**
    - SACE appreciates NC DOT expanding the definition of ZEVs to include both full battery-electric and plug-in hybrid electric vehicles. This is appropriate because:

    - 50% of NC's registered electric vehicles are plug-in hybrids,
    - a significant number of plug-in hybrid models will come to market between now and 2025, and
    - automakers are limiting the availability of ZEVs at NC auto dealerships because they have a financial interest in prioritizing the allocation of ZEVs for sale in compliance states.

  By including all plug-in vehicles in the NC ZEV Plan, plug-in hybrid adopters will not be disenfranchised and more consumers will have greater access to experiencing the benefits of electrifying their transportation.
- Nonetheless, North Carolina should also strongly encourage full battery electric vehicles through the policy, regulation, and funding aspects of its plan, especially for fleets. In this way, North Carolina will address two desired outcomes: 1) getting as many consumers driving ZEVs as possible and 2) maximizing the number of electric vehicle miles traveled in NC. Together, these outcomes will create the momentum needed to surpass the 80K ZEV goal and towards the ZEV market penetration needed to meaningfully reduce NC's greenhouse gas emissions.

- **RECOMMENDATION: State and Local Permitting**
  - Investigate whether there is a need for simplified state or local permitting for installation of ZEV charging infrastructure. Most distribution system or power delivery infrastructure upgrades are either (a) exclusively the utility's responsibility, (b) part of a substantial property redevelopment project, or (c) merely major maintenance for existing systems. ZEV charging infrastructure projects are unusual in that they may require permits due to the scale of the project, but are not associated with any other activity on the property. As such, there may be an opportunity to reduce costs by working with the appropriate authorities to simplify permitting requirements.

- **RECOMMENDATION: ZEV Make-Ready State Building Code**
  - Update state building code to require new builds be prepared to support ZEV charging infrastructure This code update can look to Atlanta, GA's recent ordinance (17-0-1654) that requires 20 percent of the spaces in all new commercial and multifamily parking structures be ZEV ready; it also requires that all new development of residential homes be equipped with the infrastructure needed to install EV charging stations, such as conduit, wiring and electrical capacity.

- **RECOMMENDATION**: **Electrify the State of North Carolina's Fleet**
  - Mandate that all state-owned vehicles for which there is a ZEV model that can do the required work should be replaced by a ZEV as the replacement schedule dictates.
  - Enhance the traditional replacement schedule for fleet vehicles to allow for continuous updates based on continuously improving cost-effectiveness of switching to ZEV models, and the continuously growing availability of new types of ZEVs (SUVs, pickup trucks, heavy equipment, etc.).

- **RECOMMENDATION: ZEV State Memorandum of Understanding (MOU)**
  - Convene relevant stakeholders to access the consumer, economic and environmental benefits derived from signing onto the ZEV State MOU as a core strategy to get 80K registered ZEVs in NC by 2025 and position NC as a leader in the Southeast.

- **RECOMMENDATION: Utility and State-Supported On-Bill Financing and On-Bill Repayment Programs**
  - Convene relevant stakeholders to perform a cost/benefit analysis, identify the regulatory and policy barriers, and if the analysis determines that this strategy would increase registered ZEVs and improve ownership equitability, propose the necessary regulatory and policy reforms to allow ZEV on-bill programs in NC.

- **RECOMMENDATION: Reform Rate Design for ZEV Chargers**
  - Initiate a ZEV infrastructure cost of service analysis and develop an electric vehicle infrastructure benefit-cost analysis methodology. The analysis and methodology should be designed to support cost recovery and rate design for NC Utilities Commission approval of ZEV charging infrastructure investments and expenditures.
  - The resulting electric rate changes, including rate designs for EV charging stations, should fairly address utility revenue requirements and provide clear and consistent billing requirements. The goal should be to ensure that rates collect sufficient revenues to encourage ZEV charger deployment, and that the rate designs do not impede ZEV charger deployment. This is a complicated but important endeavor because achieving substantial investment in electric vehicle charging infrastructure will require significant investment in utility distribution systems. The key question is: Who will pay for it, and on what basis? The answer to this question will likely be as complicated as who pays for transportation projects - many different entities, and in many different partnership arrangements. Accepting that it will be complicated, and engaging that complexity, is the first step towards the substantial buildout of infrastructure.

- If the costs are to be recovered from the beneficiaries of electric vehicles, the ZEV infrastructure benefit-cost analysis methodology is necessary to establish funding or cost recovery mechanisms that establishes rates that are aligned with benefits. The benefits of specific charging infrastructure investments will vary, and may include:
  - Homeowners - home charging of personal vehicles
  - Individual businesses - on-site charging of business, customer, or employee vehicles
  - Business districts - charging of business, customer, or employee vehicles associated with multiple businesses such as a retail center, office building, or office park
  - EV drivers - access to public charging stations
  - Electric ratepayers - addition of EV load to utility demand is generally found to put downward pressure on rates for all ratepayers
  - Taxpayers - reduced lifetime costs of government-owned electric vehicles
  - State residents - increased investment leads to greater local jobs and wealth retention as compared to the import of fossil fuels

  The design of state, local, and utility funding mechanisms for EV infrastructure should explicitly identify the connection between the types of projects being funded and the beneficiaries of the projects in order to develop reasonable funding mechanisms.
- Accordingly, the plan should include a recommendation for the Governor's office to work with stakeholders, leveraging information emerging from Duke Energy's Electric Transportation Pilot program, to develop proposed rules and practices for Duke Energy and other utilities to employ in making these investments beyond the pilot program. Many of these rules and practices will require the approval of the NC Utility Commission.

- **RECOMMENDATION: Update NC's dealership licensing law**
  - Address the limitations on the consumer electric vehicle marketplace due to NC dealership licensing laws by advocating for reconsideration of HB617 to update NC's dealership licensing law.

<u>Overarching Edit Suggestions</u>

Section 1:

- Since the plan is now defining Zero Emission Vehicles as both BEVs ("battery electric vehicle") and PHEVs ("plug-in hybrid vehicle"), the total number of registered BEVs + PHEVs at the time of EO80 signing was closer to 14K, not 6K.
- Define "Charging Station" (Level 1 vs. Level 2 vs. fast charger).
- Define "Charging Port or Outlet" (note that 'port' and 'outlet' are both used in the document).

- Define Public, Workplace, and Residential charging.

Section 2:

- Figure 10 says the source is Bloomberg New Energy Finance but the most recent 2019 report has the parity point sooner than the graph shows at 2028: https://about.bnef.com/electric-vehicle-outlook/#toc-viewreport
- Clarify that ZEV charging infrastructure VW investments will be 15% of total $92M or approx. $14M.
- Put 20K ports/outlets needed in the context of the 1,440 deployed. Are those 1,440 all public? What is the current rate of growth absent of ZEV Plan investments? How many of these are Level 2 vs DCFC?

Section 3:

- Page 10: flip flops from “80K zero emission vehicles” to “80K electric vehicles”, which is defined earlier as battery electric only.