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May 23, 2023

Theresa Newman, Hearing Officer
c/o DNREC Office of the Secretary
89 Kings Highway, Dover, DE 19901

RE: Potential adoption of Advanced Clean Car II (ACC II) regulations. The proposed regulations include requirements for automobile manufacturers to deliver an increasing percentage zero-emission vehicles (ZEV) to dealerships in Delaware, providing more choices to those who want to buy a new battery-electric, plug-in hybrid electric or fuel cell electric car.

Hearing Officer,

As a Legislator, I have participated in many informative events, met with many stakeholders as well as conducted personal research to better understand the proposed regulations as well as the consequences, intended and unintended, to the proposed rules for Delaware.

The following is to be considered as my comments to the proposed adoption of the Advanced Clean Car act II also known as the California standards. There are many issues and unresolved concerns that leave more questions than solutions and place great reliance on opinion not fact.

I was fortunate to ask a University to Delaware fellow to do fact finding and provide a report of her findings for my consideration. The following is her report:

March 1st, 2023

Introduction

In March of 2022, Governor John Carney announced that the state of Delaware would adopt California's new standards for the increased sale of zero-emission vehicles (ZEV), which are more commonly referred to as electric vehicles. Subsequently after, the Delaware Department of Natural Resources and Environmental Control (DNREC)'s Division of Air Quality proposed to amend their regulations in order to follow California's Advanced Clean Car II Act (the draft of the proposed amendment can be found [here](#)). Although, this action has not been finalized. Delaware is now faced with the decision of moving forward with the adoption of California's Advanced Clean Car II or following less stringent standards under the Environmental Protection Agency (EPA)'s Clean Air Act.

If the state were to adopt California's Advance Clean Car II standards, they would have to be identical under Section 177 of the Clean Air Act. Unlike California, Delaware is not able to create their own standards. California is the only state to be able to apply and be issued waivers from the EPA under the Clean Air Act, a privilege carved out by congress, due to California's public health crisis caused by extreme smog in the 1960s. The focus of the California Standards is to have a ban on the sale of new gas vehicles by the year 2035. This is a stark contrast to that of the EPA which has a goal of having only fifty percent of new vehicle

sales being electric vehicles by the year 2030. Will these goals be achievable for Delaware, and even if they are achieved is it in the best interest of the state's citizens?

Infrastructure

The argument that the electrical grid of the United States could not support the demand that electric cars would have has been widely disproven. This however does not mean that there are no other infrastructural issues that electric cars present. Delaware currently has 147 public electric charging locations available with a total of 351 EVSE charging ports. When broken down by charging capabilities there are 2 level one ports, 242 level two ports (ideal for home charging), and 107 DC fast charging ports (ideal for commercial charging). This is low in comparison to the number of electric cars registered in Delaware, which according to the U.S. Department of Energy, is 3,010 vehicles. As of right now, it is apparent that the infrastructure in Delaware is not supporting the current demand for electric vehicle charging needs, which presents a problem if the State of Delaware were to adopt the California Standards to increase the ownership of EVs. On January 25th, 2023, the DNREC announced that they would be funding the installation of 14 new DC fast-charging locations across New Castle, Kent, and Sussex counties. This project, although important, is still too small to support the likely growth in demand for electric charging that adopting the California Standards would create. Before Delaware can push for an increase in sales of electric vehicles it needs to increase the number of DC fast chargers that are accessible to the public, which would inherently mean a large investment by the state as the current NEVI (National Electric Vehicles Infrastructure) funding of fifteen million will not cover all expenses. This prediction is due to the cost of a single DC Fast charging port EVSE unit being \$10,00-\$40,000 and the installation of that port ranging from \$4,000-\$51,000. This infrastructure issue needs to be resolved before the adoption of the California Standard in order to prevent major inconveniences for citizens due to a lack of available charging locations and even a charging shortage crisis in the future. It is especially important that Delaware expands its infrastructure because as of right now the lack of charging stations disproportionately affects people of lower socioeconomic status. This is due to the inability to afford to install a charger in their home as well as the electrical costs of charging at home. Those who live in apartment complexes or don't own their property would also not be able to have a home charger unless the landlord were to install it, which emphasizes the necessity of greater infrastructural changes before the adoption of California's Advanced Clean Car II.

Delaware's Automotive Industry

As Governor Carney made the announcement about implementing California's Advanced Clean Car II, he claimed that "our dealerships will benefit by keeping Delaware customers in Delaware." Contrary to these claims, the Delaware Auto and Truck Dealers Association has requested to stop its implementation. They list reasons based on affordability, technology, and inventory. One of the initial claims made is that the cost burden of stocking electric vehicles falls on local dealerships rather than the manufacturers, which based on the popularity of the vehicles could either be bearable or lead to economic ruin due to the high-interest rates they pay for ownership of those vehicles. Another compelling reason is that Delaware is currently at only 4.9% adoption in electric vehicle sales, but the new California regulations would require adoption to reach 43% by the 2027 model year (which is the calendar year 2026). This association claims that technology and available components won't reach a suitable level in time to meet this goal. Due to supply chain and technological setbacks dealerships in Delaware currently maintain little to no stock of the vehicles required by the regulations. Their claims echo fears that if Delaware were to implement California's standards, they

would cripple the automotive industry with consumers sourcing vehicles from outside states such as Pennsylvania which has expressed its intention to ignore the prospect of implementing new regulations. These fears are likely heightened due to the death of Delaware's car manufacturing industry in 2009 which resulted in the loss of over a thousand jobs. The state cannot afford to fail its citizens working in the automotive industry again.

Battery Disposal

A large issue with the growth of the electric car industry is the batteries. The issue begins even before production as the raw materials for these batteries are not ethically sourced. These raw materials are mined in dangerous conditions in countries with poor human rights and when processed release poisonous waste. Once assembled electric vehicle batteries have an estimated 'life expectancy of 15 to 20 years within the car,' this presents the issue of disposing of the battery once they are spent. The dilemma is best explained by Science staff writer Ian Morse who states, "But when the battery comes to the end of its life, its green benefits fade." This is due to the complex process of recycling electric vehicle batteries. Electric vehicle batteries, if not disposed of properly, can be extremely dangerous for humans as well as have a negative impact on the environment. To make this even more difficult the design and chemical makeup of electric batteries are not standardized, which makes disassembly of them a dangerous guessing game for even the most skilled workers. Nearly every car manufacturer has a different way of building their batteries which is why two processes of breaking down batteries were created. These two processes are known as Pyrometallurgy and Hydrometallurgy, both of which can be used on their own or sometimes need to be used together to recycle a battery. Research has found that both processes produce extensive waste and emit greenhouse gases. Unfortunately, once the battery has been broken down there is very little material that can be truly recycled which creates the issue of who will be responsible for disposing of electric car batteries. Since the United States is relatively new to electric cars this issue has not been settled, but rather extensively debated with numerous options on the table. One option would be to have the car manufacturers be responsible for recycling their own products. A model country for this is China which has made manufacturers responsible for battery recycling since 2018. Another option is to let the private sector assume control of battery disposal as a host of start-ups such as Redwood Materials and Li-Cycle have begun investing in large-scale recycling operations that produce ready-for-use materials. Although due to the lack of salvageable materials in dead batteries, these companies are struggling with profitability as well as a low supply of batteries to deconstruct as electric vehicle popularity is relatively new. The final option is to leave it up to the state or the federal government to resolve by creating their own system of disposal. The U.S. National Renewable Energy Laboratory has created economic models that show direct recycling, which is a newer and still experimental form of recycling, being a viable option for the United States to use. This is not only due to the possible economic benefit, but also because it is believed to be more environmentally friendly. For direct recycling to work, the United States would have to require manufacturers to label their batteries as well as disclose their contents. There is also a question of whether the materials direct recycling produces will be valuable in the future as the battery market rapidly changes due to innovation. In conclusion, it would be dangerous for Delaware to increase electric vehicle sales without having a plan in place that safely disposes of electric vehicle batteries as they pose health and environmental risks.

Cost and Other Public Concerns

The economic implications of expanding electric vehicle ownership in Delaware do not just fall on the government and automotive industry, but also on the people. On average electric cars are at least ten

thousand dollars more than a new gas-powered car. Electric vehicle batteries also as mentioned previously expire within 15-20 years with a replacement depending on the vehicle costing around \$3,000 and up. Despite those two statistics though ownership of an electric vehicle is cheaper in the long term than that of a gas-powered vehicle. It is estimated that in Delaware ownership of an electric vehicle can save you up to \$1,154.96 in comparison to a gas vehicle. This is because the cost of charging an electric car is cheaper than purchasing gas and electric cars require less maintenance on average. Insurance on electric vehicles, however, tends to be more expensive than on traditional vehicles. The savings mentioned above are contingent on whether a prospective buyer can afford to make that initial investment to go electric, which many in lower economic brackets cannot which is a cause of large concern when analyzing the possible implications of adopting the California standards. Other public concerns include the safety of electric vehicles due to their newer technology and loss of battery charge in colder climates. Both concerns can be counterargued since electric vehicles must meet the same safety standards as conventional vehicles and with the knowledge that electric batteries lose charge in the cold owners need to plan better for those circumstances.

Other Approaches

It is important that before Delaware decides to move forward with the adoption of California's Advanced Clean Car II that it looks at what other states are doing to still bolster the growth of their electric car industry as well as protect the environment. A state doing just that is Alabama. Like Delaware, Alabama has received the federal government's NEVI grant to improve its charging infrastructure, but Alabama has taken it a step further by funding its own grants. These grants go towards the installation of public charging ports in rural, underserved, low to moderate-income, or multiple multi-family dwellings (for example apartment complexes) areas. The grants cover over eighty percent of the project costs as well, which closes the socio-economic gap in electric vehicle charging accessibility. Alabama funds this grant project by increasing its gas tax which also encourages people to switch to electric cars due to the higher price of gas. Alabama is also the home of the Alabama Mobility and Power Center created in collaboration with the University of Alabama, Alabama Power, and Mercedes with the purpose of "research and development on electric vehicles, charging infrastructure, and the delivery of power that will be needed to support large-scale growth in EVs." Delaware should pursue and facilitate partnerships within the state like the previously mentioned to advance its own goals. Alabama has been outspoken about its position of government support rather than government control when it comes to electric vehicles, a strategy that might be of interest to Delaware.

Delaware's Incentives

According to the NCSL, this is a list of current incentives that the state government of Delaware offers to promote Hybrid and Electric Vehicles:

- **AFV Rebates:** The state implements a clean vehicle rebate program for the purchase or lease of a new AFV. Rebate amounts vary depending on vehicle type and range between \$1,000 for a new PHEV up to \$2,500 for a new BEV. Note that to qualify for the rebate the purchase price of a BEV or PHEV cannot exceed \$60,000.
- **EVSE Rebates:** Delaware has an electric vehicle charging rebate program providing rebates for purchasing new Level 2 chargers. Qualifying chargers may provide charging services at commercial, government and nonprofit, or multifamily building locations. Rebates cover 75% of

the costs of commercial stations and 90% of the costs for government, nonprofit or multifamily buildings. The maximum rebate amount is \$3,500 for a single port and \$7,000 for a dual port.

- *Vehicle-to-Grid Energy Credit Vehicle-to-Grid Energy Credit Vehicle-to-Grid Energy Credit: Del. Code Ann. tit. 26 § 1014(g) provides for retail electricity customers with at least one grid-integrated EV to receive kilowatt-hour credit for energy discharged to the grid from the EV's battery at the same rate that the customer pays to charge the battery.*
- *Medium- and Heavy-Duty Emissions Reductions Funding: The state also offers a heavy-duty vehicle rebate program offering rebates of \$20,000 for qualifying heavy-duty AFVs.*

Here is the link in which this information was found which has extensive information on the incentives other state governments offer as well as those offered by private actors within that state.

Recommendations

After taking into account Delaware's current infrastructure, incentives, and industry for electric vehicles it cannot be recommended that the state adopt California's Advanced Clean Car II now. The state is not ready, nor will it be capable of reaching its goals. While one might argue that there is no penalty for setting these goals and not reaching them, there will be repercussions in trying to rush to reach goals when preparing for electric vehicle expansion takes planning and time so that it is done effectively. The state needs to wait for the publication of DelDOT and the DNREC's joint electric vehicle infrastructure plan and roadmap in order to ensure that Delaware has the capability to successfully pursue these regulations without negatively impacting its citizens. For the time being the state should focus on tackling the obstacles mentioned above before moving forward with the adoption of the California standards.

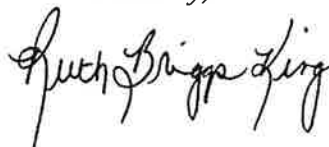
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In summary, let me iterate: After taking into account Delaware's current infrastructure, incentives, and industry for electric vehicles it cannot be recommended that the state adopt California's Advanced Clean Car II now. The state is not ready, nor will it be capable of reaching its goals. While one might argue that there is no penalty for setting these goals and not reaching them, there will be repercussions in trying to rush to reach goals when preparing for electric vehicle expansion takes planning and time so that it is done effectively. The state needs to wait for the publication of DelDOT and the DNREC's joint electric vehicle infrastructure plan and roadmap in order to ensure that Delaware has the capability to successfully pursue these regulations without negatively impacting its citizens. For the time being the state should focus on tackling the obstacles mentioned above before moving forward with the adoption of the California standards.

Sincerely,



Ruth Briggs King
State Representative
37th District