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November 12, 2023

Submitted electronically at: https://nmed.commentinput.com/?id=TuMmsArBj and pamela.jones@env.nm.gov

New Mexico Environmental Improvement Board
Harold Runnels Building
1190 St. Francis Dr. Suite N4050
Santa Fe, NM 87505

Re: Comments on docket number EIB 23-56 (R), Advanced Clean Cars II (ACCII), Advanced Clean Truck (ACT) and Heavy-duty NOx Omnibus Regulations.

Dear Members of the New Mexico Environmental Improvement Board (EIB) and Albuquerque-Bernalillo Air Quality Control Board,

Pursuant to the State of New Mexico's Environmental Department's (NMED) proposed amendments to docket EIB 23-56 (R), **Tesla respectfully submits the following comments in support of adopting the Advanced Clean Truck (ACT) Regulations, the Heavy-Duty Low NOx Omnibus rules and the Advanced Clean Cars II (ACCII) Regulations, the latter with minor modification. Additionally, in section III below, Tesla offers response comments to opposing party concerns.**

As an active participant in the California Air Resources Board (CARB) ACT and ACCII rulemakings, Tesla supports adoption of the regulations by the state of New Mexico.[1] Tesla believes the pace of electric vehicle innovation, cost-reduction, and deployment coupled with the public health and welfare imperatives to address criteria air pollution and accelerating impacts of climate change support adoption of each of the proposed policy amendments.

I. Introduction

A. Tesla's Approach to Emissions Mitigation

Tesla's mission is to accelerate the world's transition to sustainable energy. Moreover, Tesla believes the world will not be able to solve the climate change crisis without directly reducing air pollutant emissions—including carbon dioxide (CO2) and other greenhouse gases (GHGs)—from the transportation and power sectors.

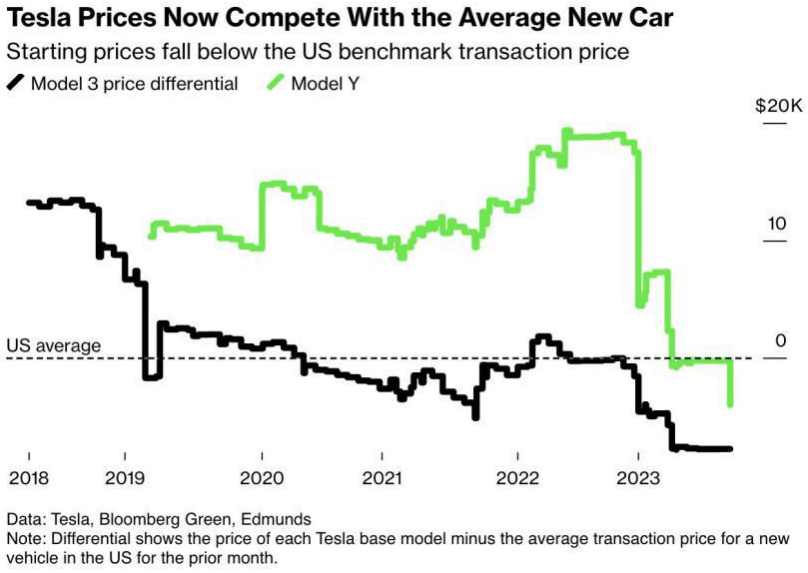
To accomplish its mission, Tesla designs, develops, manufactures, and sells high-performance fully electric vehicles and renewable energy generation and storage systems, installs and maintains such systems, and sells solar electricity. Tesla currently produces and sells four fully electric, zero emissions light duty vehicles (ZEVs): The Model S sedan, the Model X sport utility vehicle (SUV), the Model 3 sedan, and the Model Y mid-sized SUV. In addition, Tesla has announced plans to begin production of the Cybertruck (heavy duty pickup truck) this year and delivered the first Semis (Class 8 truck) to customers in December, 2022. As an EV-only manufacturer, EPA

[1] See e.g., Tesla Comments on the HDO regulation (Aug. 25, 2020) *available at* https://ww2.arb.ca.gov/applications/public-comments?p=comm&s=bccommlog&l=hdomnibus2020; Tesla Comments on the ACT regulation (Dec. 9, 2019) *available at* https://ww2.arb.ca.gov/applications/public-comments?p=comm&s=bccommlog&l=act2019; Tesla Comments on ZEP Certification regulations (Feb. 15, 2019) *available at*: https://ww2.arb.ca.gov/applications/public-comments?p=comm&s=bccommlog&l=zepcert2019; Tesla Comments on ACCII (May 31, 2022) *available at:* https://www.arb.ca.gov/lists/com-attach/364-accii2022-VjcGYMwNhBDYGm0d.pdf

recognized in its *2022 Automotive Trends Report* that Tesla had by far the lowest carbon dioxide emissions (0 g/mi) and highest fuel economy of all large vehicle manufacturers in MY 2021.[2]

Tesla is also deeply committed to ensuring the U.S. remains a leader in advanced manufacturing.[3] In 2023, the Tesla Model Y ranked as the most American-made car, based on overall contributions to the U.S. economy, the Model 3 ranked just below as the second, the Model X ranked 3rd and Model S 4th as the most American made cars on the market.[4] NHTSA similarly confirms that 100% of the vehicle, engine, and transmission assembly in each Tesla vehicle sold in the U.S. occurs in the U.S.[5] In addition, Tesla's U.S. supply chain continues to expand and spans across more than 40 states.[6] In doing so, Tesla has become a leader in advanced and efficient manufacturing that allows for sale of the Model 3 and Model Y at prices below the average new U.S. vehicle.[7] *See Figure 1: Tesla Prices Compared to the Average New Car Price*.

Figure 1: Tesla Prices Compared to the Average New Car Price



[2] EPA, The 2021 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology Since 1975 at https://www.epa.gov/system/files/documents/2022-12/420s22001.pdf (December 2022)
[3] See generally, Tesla, Impact Report 2022 (May 6, 2022).
[4] Cars.com, 2023 Cars.com American-Made Index: Which Cars Are the Most American? (June 21, 2023) *available at* https://www.cars.com/articles/2023-cars-com-american-made-index-which-cars-are-the-most-american-467465/; See also, Cars.com, Cars.com's American-Made Index Adds Tesla to Exclusive List of Multiyear Chart-Toppers, Model Y Nabs No. 1 (June 21, 2022) *available at* https://www.cars.com/articles/cars-coms-american-made-index-adds-tesla-to-exclusive-list-of-multiyear-chart-toppers-model-y-nabs-no-1-451081/; Cars.com, Tesla Model 3 Snags No. 1 Spot on Cars.com's 2021 American-Made Index®; First All-Electric Vehicle to Top the List in Its 16-Year History (June 23, 2021) *available at* https://www.multivu.com/players/English/8915151-cars-com-tesla-model-3-2021-american-made-index/; American University, Kogod School of Business, 2021 Made in America Index (Oct. 15, 2021) (Finding in 2021, each of Tesla's vehicles - the Model S, 3, X and Y - ranked in the top 10 and Tesla was the only manufacturers to have representation from its entire portfolio in the top 10.) *available at* https://kogod.american.edu/autoindex/2021
[5] NHTSA, Technical Support Document: Proposed Rulemaking for Model Years 2024-2026 Light Duty Vehicle Corporate Average Fuel Economy Standards (Aug. 2021) at 96, Table 2-6.
[6] See e.g., AutoNews, Suppliers Starting to Set Stage for Tesla in Texas (Sept. 5, 2021).
[7] Bloomberg, Tesla Drops Model Y Starting Price Below the Average US Vehicle (April 25, 2023) *available at* https://www.bloomberg.com/news/articles/2023-04-25/tesla-drops-model-y-starting-price-below-the-average-us-vehicle#xj4y7vzkg

Tesla has continued a remarkable period of growth and scale based on its advanced technology vehicle product offerings. In the U.S., Tesla conducts vehicle manufacturing and assembly operations at its factory in Fremont, CA, and produces electric drive trains and manufactures advanced battery packs, as well as Tesla's energy storage products, at its Gigafactory Nevada in Sparks, NV. Tesla also builds and services highly automated, high-volume manufacturing machinery at its facility in Brooklyn Park, MN, and operates a tool and die facility in Grand Rapids, MI.[8] Tesla produces solar energy and vehicle charging products, including manufacturing of its DC-fast charging equipment for light-duty and heavy-duty vehicles, at its Gigafactory New York in Buffalo, NY.

B. Leading the way in EV Charging

Importantly, Tesla is not only a manufacturer but is also continuing to grow its large network of retail stores, vehicle service centers, collision centers, and electric vehicle charging stations to accelerate and support the widespread adoption of electric vehicles.[9] Tesla operates the country's largest and most reliable public EV charging network. Since 2012, Tesla has invested heavily in siting, building, operating, and maintaining charging infrastructure. In 2013, Tesla had just eight Supercharger Stations in North America. Today, Tesla owns and operates the largest DCFC network in the world, known as the Tesla Supercharging network.[10]

The Tesla Supercharger network reliably serves quick charging needs for Battery Electric Vehicle (BEV) drivers on road trips with limited time to charge, and without access to charging at home or at the workplace.[11] As of September 2023, there are more than 4,900 Supercharger locations globally and more than 50,000 Supercharger stalls. In the U.S., there are over 2,100 Supercharger locations and more than 23,500 Supercharger stalls capable of charge rates up to 250 kW. Superchargers are located in all fifty States, the District of Columbia, and Puerto Rico, representing approximately 60% of the DCFC plugs operational today in the U.S. In February 2023, in conjunction with the White House, Tesla announced it will open at least 3,500 Superchargers in the U.S. to non-Tesla vehicles.[12] Further, recently Ford announced it will be adopting the North America Charging Standard (NACS) and will partner with Tesla to allow Ford vehicles – including BEV like Mach-E and the F-150

[8] See Tesla, Manufacturing: Build a Sustainable Future.
[9] See, 86 Fed. Reg 43726, 43799 (Aug. 10, 2021) ("Electrification of the vehicle fleet is likely to affect both the number and the nature of employment in the auto and parts sectors and related sectors, such as providers of charging infrastructure.").
[10] See, Tesla, Supercharger *available at* https://www.tesla.com/supercharger
[11] Tesla, Impact Report 2022 at 70 (showing Tesla Supercharger network 2022 uptime reliability at 99.95%).
[12] See, President Joe Biden (@POTUS) on Twitter (February 15, 2023) *available at* https://twitter.com/POTUS/status/1625983221279125504?s=20https://twitter.com/POTUS/status/1625983221279125504?s=20

Lightning – to utilize the Tesla Supercharger network.[13] Similarly, General Motors,[14] Kia,[15] Volvo,[16] Polestar,[17] Rivian,[18] Mercedes Benz,[19] Nissan,[20] Honda,[21] Acura,[22] Hyundai[23] and other manufacturers have announced that they will also be adopting the NACS standard and several electric vehicle charging manufacturers, including ABB,[24] Flo,[25] and BTC Power[26] also announced that they would be supplying NACS capable chargers moving forward. Numerous charging providers have also followed suit.[27] These manufacturers represent more than 90% of the new electric vehicle market.

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[13] Ford, Ford EV Customers to Gain Access To 12,000 Tesla Superchargers; Company to Add North American Charging Standard Port in Future EVs (May 25, 2023) *available at* https://media.ford.com/content/fordmedia/fna/us/en/news/2023/05/25/ford-ev-customers-to-gain-access-to-12-000-tesla-superchargers--.html

[14] GM, General Motors Doubles Down on Commitment to a Unified Charging Standard and Expands Charging Access to Tesla Supercharger Network (June 8, 2023) *available at* https://www.prnewswire.com/news-releases/general-motors-doubles-down-on-commitment-to-a-unified-charging-standard-and-expands-charging-access-to-tesla-supercharger-network-301846599.html

[15] Kia America, KIA To Adopt North American Charging Standard in the Fourth Quarter of 2024 (Oct. 5, 2023) *available at* https://www.prnewswire.com/news-releases/kia-to-adopt-north-american-charging-standard-in-the-fourth-quarter-of-2024-301947928.html

[16] Car & Driver, Volvo Is Latest Automaker to Agree to Adopt Tesla's Charge Port (June 27, 2023) *available at* https://www.caranddriver.com/news/a44350518/volvo-electric-vehicles-tesla-charging-2025/

[17] Businesswire, Polestar will adopt North American Charging Standard to enable access to Tesla Supercharger network in USA and Canada (June 29, 2023) *available at* https://www.businesswire.com/news/home/20230629093526/en/Polestar-will-adopt-North-American-Charging-Standard-to-enable-access-to-Tesla-Supercharger-network-in-USA-and-Canada

[18] Rivian, Rivian Accelerates Electrification through Adoption of North American Charging Standard and Access to Tesla's Supercharger Network for Rivian Drivers (June 20, 2023) *available at* https://www.businesswire.com/news/home/20230620267452/en/Rivian-Accelerates-Electrification-through-Adoption-of-North-American-Charging-Standard-and-Access-to-Tesla%E2%80%99s-Supercharger-Network-for-Rivian-Drivers

[19] Businesswire, Mercedes-Benz Expands Charging Options for Customers: Access to Tesla Supercharger Network in North America While Building Its Own High-Power Charging Network (July 7, 2023) *available at* https://www.businesswire.com/news/home/20230706787814/en/

[20] Businesswire, Nissan to Adopt North American Charging Standard (NACS) for Ariya and Future EV Models (July 19, 2023) *available at* https://www.businesswire.com/news/home/20230719032556/en/Nissan-to-Adopt-North-American-Charging-Standard-NACS-for-Ariya-and-Future-EV-Models

[21] Autoblog, Honda, Acura EVs will adopt Tesla's NACS charging port (August 18, 2023) *available at* https://www.autoblog.com/2023/08/18/honda-acura-evs-will-adopt-teslas-nacs-charging-port/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ3JlZW5jYXJyZXBvcnRzLmNvbS8&guce_referrer_sig=AQAAAAWouRRKG1uotcWgJO3UQQu6UP3jc1AAb9cSqbVyuVwHjivKkjPKRdPy4KYEWB6kPysRf5pOWDL_7A6UsAfDAjEOsE0jDvbkeQrayLAWQhQ7VwrUDwrJNntHrX4xIcIU1gv1cOptiZzkTUk9iStEQl2MV6_I00WLL5crnis6wmIi

[22] Id.

[23] PRNewswire, Hyundai Electric Vehicles to Add North American Charging Standard (October 5, 2023) *available at* https://www.prnewswire.com/news-releases/hyundai-electric-vehicles-to-add-north-american-charging-standard-301948002.html

[24] ABB, ABB E-Mobility is Adding North American Charging Standard (NACS) as an Option to Our Products (June 9, 2023) *available at* https://twitter.com/ABBNorthAmerica/status/1667139962830041091https://twitter.com/ABBNorthAmerica/status/1667139962830041091

[25] FLO, FLO Stations to Offer North American Charging Standard (NACS); Supports Broader Use (June 8, 2023) *available at* https://www.flo.com/news/flo-stations-to-offer-north-american-charging-standard-nacs-supports-broader-use/ /

[26] BTC Power, BTC POWER To Introduce North American Charging Standard (NACS) Compatibility For Enhanced EV Charger Accessibility (June 20, 2023) *available at* https://btcpower.com/blog/btc-power-to-introduce-north-american-charging-standard-nacs-compatibility-for-enhanced-ev-charger-accessibility/

[27] See, EV Station, Tesla NACS Charger Adoption Tracker *available at* https://evstation.com/tesla-nacs-charger-adoption-tracker/

C. Tesla in New Mexico

Tesla's investments in New Mexico range from two sales, service and vehicle delivery (SSD) centers to an extensive and growing range of charging options. Each SSD location is established in partnership with federally recognized tribal organizations, the Nambe in Santa Fe[28] and the Santa Ana in Albuquerque[29]. Our tribal partnerships include training and employment opportunities to qualified tribal members. For example, tribal members have successfully completed Tesla's START Program,[30] an intensive training program that provides individuals with the skills necessary for a successful career at Tesla and beyond. During the program, individuals develop technical expertise and earn certifications through in-class theory, hands-on labs and self-paced learning. Tesla is proud to be partners in advancing the use of EVs in New Mexico. Further, Tesla's Supercharger network includes 14 locations with 115 connectors in New Mexico[31] and 26 level-2 charging locations with 61 connectors.[32]

D. Heavy Duty Trucking: Tesla's Full Electric Class 8 Truck – the Tesla Semi[33]

In 2017, Tesla introduced the Tesla Semi to the world, a Class 8 truck designed from the ground up to be the most efficient and safest truck on the market. The Tesla Semi represents an opportunity to have an outsized impact on reducing NOx and GHG emissions from goods movement and transportation. The Semi comes in two models, with ranges of 300 and 500 miles respectively, and demonstrates that an all-electric truck can meet virtually any duty cycle when paired with the Semi Charging system that Tesla is developing. The Semi accomplishes these ranges through aerodynamics and highly efficient motors, which allows the Semi to reach an efficiency of less than 2 kWh/mile.[34] In 2022, Tesla began deliveries of the long-range Semi.[35]

As of September 1, 2023, PepsiCo., Tesla's first customer, has traveled nearly 680,000 zero emissions miles in their Tesla Semi Trucks. According to PepsiCo, "The Tesla Semis being deployed out of Sacramento run two different types of routes: long-haul routes that transport between 250 and 520 miles per run and with a gross vehicle weight plus load of up to 82,000 lbs.; and 18 different delivery routes where the trucks cover less than 75 miles per day, hauling a diminishing load that leaves nearly full and lightens throughout the day as deliveries are made."[36] These numbers are conclusive evidence that zero emission class 8 semi-trucks with the right charging infrastructure can handle the real world duty cycles of regional goods movement operations. In fact, while

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[28] https://www.tesla.com/findus/location/store/santafe17730
[29] https://www.tesla.com/findus/location/store/albuquerque
[30] See Tesla Start Program *available here* https://www.tesla.com/careers/tesla-start
[31] See Alternative Fuels Data Center, EV Charging Station Locations, https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC&location=New%20Mexico&ev_connectors=TESLA
[32] See Alternative Fuels Data Center, EV Charging Station Locations, https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC&location=New%20Mexico&ev_connectors=TESLA&ev_levels=2&page=1
[33] See Tesla, Semi.
[34] See, Seeking Alpha, Elon Musk tweets Tesla Semi 500-range variant starts shipping this year, (Aug. 10, 2022). See also, NACFE Run on Less PepsiCo Sacramento Profile, *available at* https://runonless.com/roled-profiles/pepsico/
[35] See, https://www.youtube.com/watch?v=LtOqU2o81iI
[36] See, PepsiCo, PepsiCo Beverage's Sacramento-Based Electric Fleet is Driving Progress Toward PepsiCo's Net Zero Emissions Goal in NACFE 'Run on Less' Trucking Event (Sep. 27, 2023)

participating in the North American Council on Freight Efficiency's (NACFE) "Run On Less: Electric Depot" event, Pepsi demonstrated that a Semi could cover nearly 1100 miles in a single day.[37]

Combination trucks – of which the vast majority are semi-trucks – in the U.S. account for just 1.1% of the total fleet of vehicles on the road. That said, because combination trucks have high fuel consumption due to their weight and heavy utilization, they account for approximately 18% of all U.S. vehicle emissions. Electrifying the heavy-duty truck segment is an essential part of transitioning the world to sustainable energy.

Since unveiling the Semi, a significant number of fleets with substantial freight needs have placed reservations for the truck, indicating broad industry demand for heavy-duty electric vehicles.[38] These fleets will be deploying the Semi in a wide range of applications, including but not limited to, manufacturing, retail, grocery and food distribution, package delivery, dedicated trucking, rental services, intermodal, drayage, and other applications. Companies with operations throughout North America representing every major trucking sector and category of the economy have reserved the Tesla Semi, ranging from food service to logistics to retail.

The reason for this strong interest is clear – the economics of electrified heavy-duty vehicles are incredibly compelling for end-users, particularly sophisticated and economically rational operators. Tesla estimates that the time to recoup the investment in a Tesla Semi, given the operational savings it provides customers, will be faster compared to a conventional diesel truck. With the per mile operational costs being so much cheaper than diesel trucks, economic minded operators will maximize the use of their electric trucks and quickly expand the number of electric trucks in their fleets.

Tesla has set an annual Semi North American production goal of 50,000.[39] This production ramp is supported by a new $3.6B investment in Gigafactory Nevada.[40] This production rate would represent a level of approximately 20% of 2022 Class 8 domestic sales.[41]

Furthermore, by removing diesel from the heavy-duty equation altogether, battery electric trucks like the Semi represent a superior solution relative to other approaches that seek to reduce NOx emissions by increasing the efficiency of diesel trucks or via post-combustion treatment. As one recent analysis recognized, fully addressing harmful air pollution from trucks used in urban and community areas by 2035 and eliminating pollution from all new trucks and buses by 2040, can provide tremendous public health and welfare benefits, including preventing 57,000 premature deaths by 2050, reducing NOx emission by more than 10M tons, eliminating almost 200,000 tons of PM by 2050, and avoiding 4.7B tons of GHG emissions.[42]

II. Tesla Supports New Mexico's Adoption of ACT, ACCII, and Heavy-Duty Low NOx Omnibus Regulations, collectively referred to as the "Clean Vehicle Standards" with Modification

[37] See, NACFE Run on Less, Day 17, Semi 3, https://results-2023.runonless.com/truck/?day=17&depot=pepsico&truck=pepsi_tesla3&units=imperial

[38] See e.g., Yahoo Finance, Tesla Gets Order For 150 Semi Trucks from Canadian Company As It Prepares For 'Volume Production' (Nov. 5, 2020); The Street, Walmart Triples-Down on Tesla Semi Reservations (Sept. 29, 2020); Business Insider, Tesla has a new customer for its electric Semi — here are all the companies that have ordered the big rig (Apr. 25, 2018).

[39] See Canary Media, Elon Musk finally delivers on the long-awaited Tesla Semi truck (Dec. 1, 2022) *available at* https://www.canarymedia.com/articles/electric-vehicles/elon-musk-finally-delivers-on-the-long-awaited-tesla-semi-truck

[40] Tesla, Continuing Our Investment in Nevada (Jan. 24, 2023) *available at* https://www.tesla.com/blog/continuing-our-investment-nevada

[41] See Transport Topics, December Class 8 Sales Reach All-Time High (Jan. 13, 2023) (2022 Class 8 sales at 254,206 vehicles) *available at* https://www.ttnews.com/articles/december-class-8-truck-sales-reach-all-time-high#:~:text=They%20also%20were%20the%20highest,compared%20with%20221%2C889%20in%202021.

[42] Environmental Defense Fund, Clean Trucks, Clean Air, American Jobs (Mar. 4, 2021) at 1.

A. Tesla Supports New Mexico's Proposed ACT and Heavy-Duty Low NOx Omnibus Regulations as Drafted

Tesla supports the development and adoption of strong state vehicle NOx, GHG emissions performance standards for heavy duty vehicles. For many years, these standards have helped drive investment in electric vehicle manufacturing and technology because those performance standards incentivize manufacturing vehicles with zero tailpipe emissions and provide a mechanism by which vehicle manufacturers that deploy innovative technologies and out-perform the standards, are rewarded as they can earn and sell tradeable compliance credits.[43]

To that end, the ACT rules provide new additions to New Mexico's comprehensive air pollution mitigation strategy that ensure pollution reduction, increased deployment of emission reduction technology, and facilitation of increased investment for the portion of the motor vehicle sector that needs it most, by fostering technological innovation in ZEV manufacturing.

Indeed, the public health, climate, and economic benefits from reducing heavy-duty NOx and GHG emissions cannot be overstated. Air pollution is estimated to cause over 200,000 premature deaths in the U.S. each year; with more than half caused by transportation emissions.[44] Recent findings indicate that the U.S. health care costs from air pollution and climate change exceed $800 billion per year.[20] Air pollution impacts from pollutants like PM2.5 that are associated with the medium- and heavy-duty sector not only cause premature mortality, cardiovascular disease and respiratory disease but also can affect neurological disorders.[21] Other studies suggest that exacerbation of air pollution and heat exposure related to climate change may be significantly associated with risk to pregnancy outcomes in the U.S.[22]

These negative effects of air pollution disproportionately harm the most vulnerable populations, including children, the elderly, and residents in low-income and disadvantaged communities.[23] Two-thirds of Americans who live near high-volume roads are people of color and the median household income in these communities is roughly 20% below the national average.[24] Emissions from heavy-duty diesel trucks are roughly the equivalent to those of 20 to 55 light-duty vehicles on the road. Repeatedly, peer reviewed, government and inter-governmental studies point toward electrification as key to addressing criteria air pollutants, improving air quality, and lowering the risk of respiratory illness.[25]

The American Lung Association (ALA) recently estimated that wide-spread transportation electrification across the United States translates into $72 billion in avoided adverse health effects. Electrification would save approximately 6,300 lives per year and avoid more than 93,000 asthma attacks, and 416,000 lost workdays annually due to significant reductions in transportation-related pollution.[26] Other studies have found dramatic localized air quality and public health benefits will result for electrifying the heavy-duty fleet.[27]

B. Tesla Supports New Mexico's Adoption of Advanced Clean Cars II with Minor Modification

Similarly, Tesla supports New Mexico's adoption of ACCII regulations through Model Year (MY) 2032 and, like the Climate Advocates, encourage the Boards to strengthen the ACCII regulations to extend through MY 2035 and beyond. Further and potentially more importantly, Tesla encourages Board members to adopt rules before the end of November in order to apply these rules to vehicles beginning in MY 2027 and to adopt language requiring NMED to bring a future proposal forward, by July 1, 2029, so that the Boards at that time can consider

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[43] *See, e.g.*, Virginia McConnell, Benjamin Leard & Fred Kardos, Resources for the Future, California's Evolving Zero Emission Vehicle Program: Pulling New Technology into the Market at 22-31 (Nov. 2019). (California state Zero Emissions Vehicle credit banking and trading).

[44] Atmospheric Environment, Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005 (Nov. 2013); See also, PNAS, Fine-scale damage estimates of particulate matter air pollution reveal opportunities for location-specific mitigation of emissions (April 8, 2019) (Over 100,000 premature death just from PM 2.5).

adoption of MY's 2033 and beyond. The Draft Proposal only reaches an 82% new zero-emission vehicle ("ZEV") sales requirement by MY 2032 and risks a reduction below 82% new ZEV sales in subsequent model years when New Mexico would revert to federal standards. Tesla urges the Boards to ensure that New Mexicans have a future opportunity to consider increasing public health, economic and air quality benefits based upon the circumstances at that time.

C. Adoption of ACCII and ACT Will Assist New Mexico in Maintaining Compliance with U.S. EPA Requirements

Adoption of ACCII will assist New Mexico in maintaining compliance with U.S. EPA requirements of Sections 110 (a) (1) and (2) of the Clean Air Act for the 2015 National Ambient Air Quality Standards for ozone. Importantly, the current 2015 NAAQS standard set at .70 ppb was scientifically controversial with public health advocates. As a result, the 2020 decision is under reconsideration by the Biden Administration.[45] In fact, in August, the EPA announced a new review of the Ozone NAAQS to ensure the standards "reflect the most current, relevant science and protect people's health from these harmful pollutants."[46] Based upon scientific evidence indicating a more stringent standard will provide significant public health and welfare benefits, New Mexico should anticipate the Ozone NAAQS levels to be lowered. Thus, planning to reduce transportation emissions now is critical to ensure that New Mexico is on the path to attainment under future, more stringent NAAQS standards.[47]

In the new light duty GHG and multi-pollutant standards EPA states, "[w]hile tailpipe emissions controls for criteria pollutants from conventional ICE-based vehicles can have effectiveness values greater than 90 percent under certain circumstances, electrification provides 100 percent effectiveness under all operating and environmental conditions. This is nearly two orders of magnitude more effective than the historical improvements in GHG emission reductions."[48] This shows that EVs are the most effective vehicle technology for reducing GHG and criteria pollutants that lead to ozone non-attainment.

III. Addressing Opposition Concerns

Clean Vehicle Standards and resulting health and associated economic benefits when reducing emissions from the transportation sector are broadly recognized and largely undisputable.[49] Tesla suggests the Boards keep this top of mind, first and foremost, when considering adopting this package of regulations. While parties appear largely aligned that emissions reductions are a climate imperative, opposing parties appear to be misplacing their opposition, focusing on a lack of complimentary policies supporting ZEV adoption in New Mexico and questioning consumer acceptance of EV technology among other arguments. While Tesla agrees that state level complimentary policies can assist in consumer EV adoption, the Boards should consider EIB 23-56 (R) regulations a backbone policy measure to addressing transportation emissions reductions. Further, complimentary policies

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[45] https://www.epa.gov/ground-level-ozone-pollution/epa-reconsider-previous-administrations-decision-retain-2015-ozone
[46] https://www.epa.gov/newsreleases/epa-initiates-new-review-ozone-national-ambient-air-quality-standards-reflect-latest-0
[47] See EPA Green Book, New Mexico Nonattainment/Maintenance Status for Each Count by Year for All Criteria Pollutants, https://www3.epa.gov/airquality/greenbook/anayo_nm.html
[48] See page 161, https://www.epa.gov/system/files/documents/2023-04/lmdv-multi-pollutant-emissions-my-2027-nprm-2023-04.pdf
[49] See the following articles *available at* https://calstart.org/auto-supplier-survey-201027/, https://www.epa.gov/greenvehicles/electric-vehicle-myths, https://www.bloomberg.com/news/articles/2020-09-18/banning-diesel-petrol-cars-by-2030-would-meet-u-k-climate-goal#xj4y7vzkg, https://www.unep.org/resources/emissions-gap-report-2022, https://www.energy.gov/eere/vehicles/articles/fotw-1303-august-14-2023-cradle-grave-electric-vehicles-have-fewer?utm_medium=email&utm_source=govdelivery

are available at the federal level and are gaining traction within New Mexico. Tesla provides the following responses to party concerns.

A. Opposition Claim: NM Lacks Complimentary Policies

To start, New Mexicans are eligible for consumer incentives today. The Inflation Reduction Act of 2022 (IRA) changed the rules and provides income qualifying participants with opportunity to receive EV tax credits (Up to $7,500 on qualifying vehicles) from 2023-2032.[50] Importantly, the US Treasury Department has issued new rules that will convert the tax credit into an optional point-of-sale rebate on January 1, 2024. These new regulations, [51] published October 6, 2023, state, "Under the Inflation Reduction Act, consumers can choose to transfer their new clean vehicle credit of up to $7,500 and their previously owned clean vehicle credit of up to $4,000 to a car dealer starting January 1, 2024. This will effectively lower the vehicle's purchase price by providing consumers with an upfront down payment on their clean vehicle at the point of sale, rather, without having to wait to claim their credit on their tax return the next year. Only vehicles purchased under the consumer clean vehicle credits are eligible for this benefit." This option will provide auto dealers a proven tool to introduce potential customers to EVs. In addition, in Section 45W of the IRA, the federal government introduced a new commercial electric vehicle tax credit. The tax credit applies to businesses and tax-exempt organization that buy a qualified commercial clean vehicle. The credit is up to $40,000 and equals the lesser of (1) 15% of the basis of a qualified clean commercial vehicle (30% if the vehicle is not also powered by gas or diesel) or (2) the incremental cost of the vehicle (the excess of the purchase price of a qualified vehicle over the purchase price of a vehicle powered solely by gas or diesel and comparable in size and use). The maximum credit is $7,500 for vehicles under 14,000 gross vehicle weight rating and $40,000 for all other qualified vehicles.[52] This will provide operators purchasing a class 8 electric truck in New Mexico with a $40,000 incentive today.

Further, the Bipartisan Infrastructure Law[53] (BIL) established the Carbon Reduction Program (CRP), which provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources.[54] The CRP provides formula funding to each state, 35% of which can be used by the state for any eligible project that reduces transportation emissions. This is one of many opportunities of which New Mexico can avail itself to create further incentive programs to support to the adoption of zero emission trucks.

Additionally, the New Mexico legislature appears increasingly interested in adopting complimentary policies like a Clean Fuel Standard to support electricity as a transportation fuel. Expectations are that environmentally focused bills like SB22-14[55] and HB23-426[56], both Clean Fuel Standards, continue to gain traction in New Mexico's 2024 legislative session. Further, state EV tax credit and charging tax credit bills have been introduced in conjunction with roadway funding mechanisms (HB22-11[57] and SB23-22[58]). If parties are concerned that consumers require additional incentives to bridge a perceived gap in affordability between the average EV cost

[50] See US Department of Treasury Press Release, https://home.treasury.gov/news/press-releases/jy1783
[51] See US Department of Treasury, IRS Release Guidance to Expand Access to Clean Vehicle Tax Credits, Help Dealers Grow Business. https://home.treasury.gov/news/press-releases/jy1783
[52] See Internal Revenue Service, Commercial Clean Vehicle Credits. https://www.irs.gov/credits-deductions/commercial-clean-vehicle-credit
[53] The Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act, Pub. L. 117-58 (Nov. 15, 2021).
[54] See U.S. Department of Transportation, Federal Highway Administration, Carbon Reduction Program Fact Sheet. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/crp_fact_sheet.cfm
[55] See SB22-14, https://www.nmlegis.gov/Legislation/Legislation?Chamber=S&LegType=B&LegNo=14&year=22
[56] See HB23-426, https://www.nmlegis.gov/Legislation/Legislation?Chamber=H&LegType=B&LegNo=426&year=23
[57] See HB22-11, https://www.nmlegis.gov/Legislation/Legislation?Chamber=H&LegType=B&LegNo=11&year=22
[58] See SB23-22, https://www.nmlegis.gov/Sessions/23%20Regular/bills/senate/SB0022.pdf

today and ICE vehicles, the backbone Clean Vehicle Standards provides opportunity to prioritize positive legislative outcomes supporting economic benefits, health benefits, and emissions reductions through consumer-friendly complimentary policies. This is seemingly why Governor Lujan Grisham recognized when she announced prioritization of a state EV tax credit during this upcoming legislative session.[59]

B. Opposition Claim: New Mexico's Charging Needs Cannot Be Met

Congressionally enacted policies will facilitate greater and rapid deployment of charging infrastructure sufficient to support EV adoption. The IRA included robust incentives for charging infrastructure under section 30C. The Alternative Fuel Vehicle Refueling Property Credit provides up to a 30% tax credit with a maximum of $100,000 per charger.[60] This represents a significant increase over the prior tax credit regime which was capped at $30,000 per location (as opposed to charger). On individual basis, the 30C tax credit provides up to a $1,000 tax credit to deploy EV charging at home.[61] In addition, the Bipartisan Infrastructure Law created the Charging and Fueling Infrastructure Discretionary Grant Program to deploy publicly accessible charging and fueling infrastructure that provides $2.5 billion over five years for the program.[30] At the end of March 2023, the Federal Highway Administration (FHWA) issued a notice of funding opportunity to solicit applications for grants totaling up to $700 million to deploy charging and alternative fueling infrastructure projects. Half of the $700 million is allocated for electric vehicle and other infrastructure located on public roads or in other publicly accessible locations, while the other half is allocated for charging and alternative fueling infrastructure located along designated alternative fuel corridors. New Mexico has also been allocated ~$38M through the National Electric Vehicle Infrastructure (NEVI) program.[62] While not limited to NEVI opportunities, in concert with our network opening announcements, Tesla has announced plans to triple the size of our direct-current fast charging network, the Supercharging Network.[63]

It should also be well understood, based upon historic EV adoption levels throughout the US that EV charging availability grows as EV deployment increases. Like cellular technology which expanded seemingly rapidly over time[64] to provide access to a growing customer base, charging availability does as well. As an example, while increasing EV production between 2013 and 2019 and at the same time operating a then proprietary charging network, Tesla's EV charging deployment curve largely mirrored vehicle adoption (See Figure 2 below). While this may not potentially provide comfort to opposing parties, it demonstrates that EV charging availability does not, in absolute terms, need to pre-date EV adoption. In fact, as EV charging providers consider future investment opportunities, EV model availability and adoption of Clean Vehicle Standards, and the potential for a solvent charging business where charging will more likely be utilized, will spur additional investment in New Mexico, well beyond NEVI funding by private companies. Tesla and our competitors will continue to invest in EV charging to serve New Mexico's EV drivers.

Figure 2:

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[59] See "New Mexico Governor to pursue EV tax credits to achieve zero emission goals, https://www.reuters.com/business/autos-transportation/new-mexico-governor-pursue-ev-tax-credits-achieve-zero-emission-goals-2023-10-17/

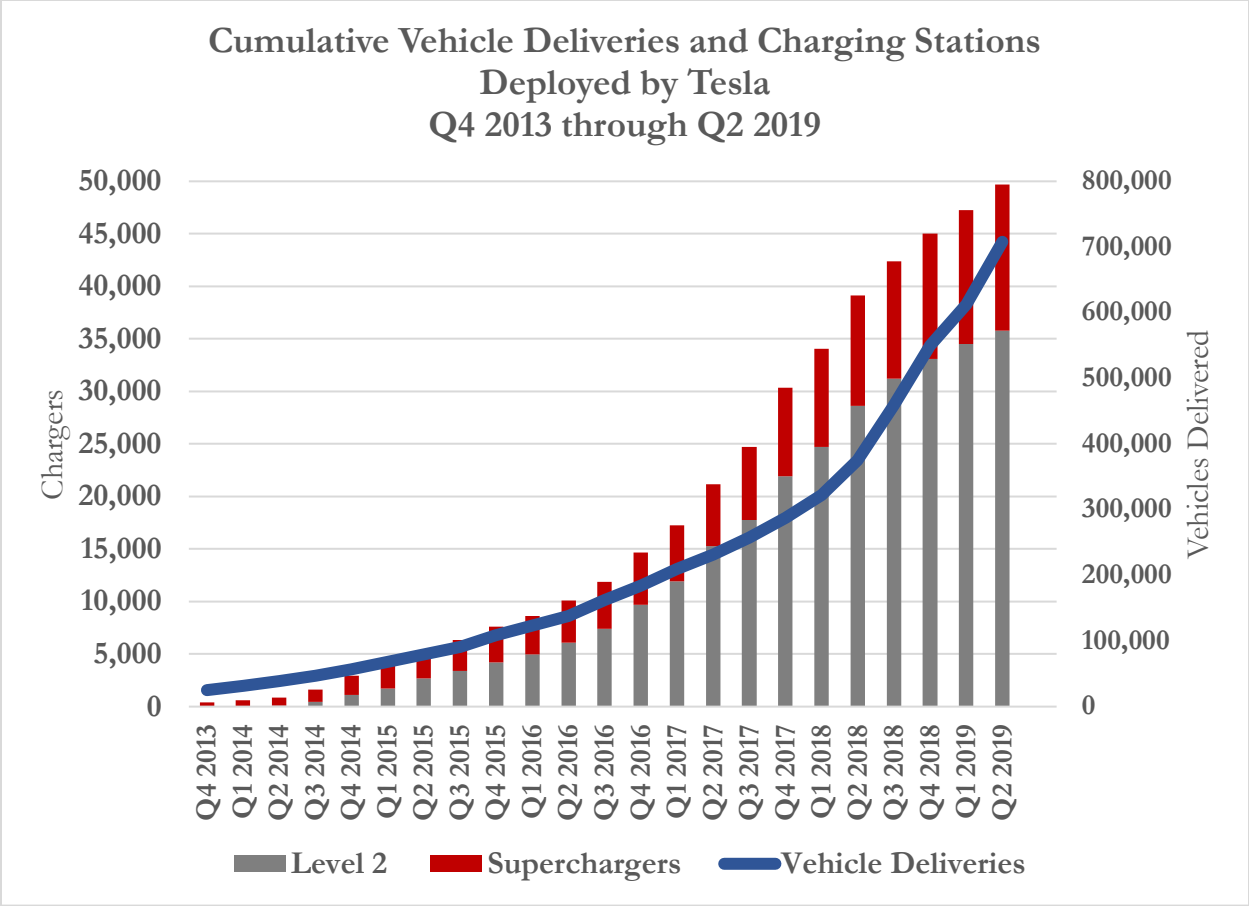
[60] See Internal Revenue Service, Alternative Fuel Vehicle Refueling Property Credit. https://www.irs.gov/credits-deductions/alternative-fuel-vehicle-refueling-property-credit

[61] 26 U.S.C. §30C (b)(2).

[62] https://www.dot.nm.gov/nevi/

[63] https://electrek.co/2021/10/21/tesla-plans-triple-supercharger-network/

[64] https://www.cengn.ca/information-centre/innovation/timeline-from-1g-to-5g-a-brief-history-on-cell-phones/



C. Opposition Claim: EV's are Unaffordable

Estimates as to when EV's reach price parity with equivalent internal combustion engine (ICE) vehicles has been a focus of many analysts over time. As shown in Figure 1 above, Tesla currently offers 2 models below the current average US vehicle price. Today, before incentives, EV's range in price from $26,500[65] and up, up to $20,000 less than the average new vehicle price today. Even if the average cost of an EV today is higher than the average cost of an equivalent ICE vehicle, in a 2022 analysis, ICCT, found "that price parity with convention vehicles will occur between 2024 and 2026 for 150- to 200-mile range BEVs, between 2027 and 2029 for 250- to 300-mile range BEVs, and between 2029 and 2033 for 350- to 400-mile range BEVs. Pack-level battery costs, which have a key impact on price parity timing, are expected to decline to about $105/kWh by 2025 and $74/kWh by 2030 due to technological advancements and increased production volumes. Increasing the annual battery cost reduction from 7% to 9% typically accelerates the timing for parity by about 1 to 2 years, while decreasing the annual battery cost reduction from 7% to 3% typically delays parity by about 1 to 4 years."[66]

While many focus on initial price parity as a reasonable comparison, it is the total cost of ownership (TCO) that should be considered.[67] Total cost of ownership of EV's versus ICE equivalents already demonstrates long term

[65] See U.S. News, How Much Do Electric Vehicle Cars Cost?, https://cars.usnews.com/cars-trucks/advice/electric-car-prices
[66] See Summary, ICCT Assessment of Light-Duty Electric Vehicle Costs and Consumer Benefits in the United States in the 2022-2035 Time Frame. https://theicct.org/publication/ev-cost-benefits-2035-oct22/
[67] See McKinsey recommendations to auto dealers to address sales training for potential EV customers, https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/a-turning-point-for-us-auto-dealers-the-

savings due to reduced operations and maintenance requirements for EV's and lower fuel costs. AN ICCT report "finds that, by 2025, BEVs with up to 300 miles of range have a six-year cost of ownership that is less than comparable gasoline models in every light-duty vehicle class."[68] Consumer Reports also concluded similar findings, "Many EVs today are already saving consumers money overall, thanks in part to 50% savings on maintenance and 60% savings on fuel."[69] In other words, despite the average cost comparison to EVs today, in 2025, the TCO is expected to be lower for all EVs with significant range and is for some today. With the average US vehicle ownership around 12 years, the Boards should anticipate that EVs will lower consumer costs two-years prior to the initial compliance year of the proposed rules.

Important to suitability, the regulations include consumer assurance measures designed to not only educate and protect consumers but also to result in technology improvements beyond where the industry is today. For example, rules require that by 2030, BEVs must maintain at least 80% of electric range for 10 years of 150,000 miles. Further, plug-in hybrid electric vehicles (PHEVs) must currently have a 25-mile all electric range however MY 2026 and beyond, PHEVs must have a fully electric range of at least 50-miles under real world driving conditions.[70]

The story is similar on the heavy-duty side where truck operators will see significant operational and maintenance savings when they convert to electric trucks.[71] There is a documented and projected rapid decline in battery cell and pack costs that will reduce the costs of electric trucks. As US DOE has recently documented, the energy density of lithium-ion batteries Increased by more than eight times between 2008 and 2020, allowing for BEVs to travel the same distance with a smaller battery pack, thus saving space, weight, and manufacturing costs.[72] Similarly, DOE has found that BEV battery pack cost dropped 90% since 2008.[73] To the extent reductions have been profound in the light duty sector, the similarity in battery chemistries will carry over to the medium- and heavy-duty sectors. For example, UBS reports that leading manufacturers are estimated to reach battery pack costs as low as $67/kWh between 2022 and 2024.[74] Recently, others have also projected costs significantly lower than EPA's past projections. BNEF's recent estimate is that pack prices go below $100/kWh on a volume-

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unstoppable-electric-car?cid=other-eml-alt-mip-mck&hdpid=ebd76186-d65c-41b0-b117-ead9b5e5a0b7&hctky=10204926&hlkid=1ad5642af3dc4c30b39a9e8dd6d9187f

[68] Id.

[69] See Roadmap to 2030, Meeting Emissions Goals will Save Consumers a lot of Money, found here https://advocacy.consumerreports.org/wp-content/uploads/2021/03/Consumer-Reports-Vehicle-Emissions-Standards-Fact-Sheet-3.22.21-FINAL.pdf

[70] See CARB Approves first-in-nation ZEV regulation what will clean the air, slash climate pollution and save consumers money, https://ww2.arb.ca.gov/news/california-moves-accelerate-100-new-zero-emission-vehicle-sales-2035#:~:text=PHEVs%20must%20have%20an%20all,overall%20ZEV%20requirement%20with%20PHEVs.

[71] See e.g, ICCT, Total Cost of Ownership of Alternative Powertrain Technologies for Class 8 Long-Haul Trucks In The United States- (Apr. 27, 2023) available at https://theicct.org/publication/tco-alt-powertrain-long-haul-trucks-us-apr23/; McKinsey, Why the economics of electrification make this decarbonization transition different (Jan. 30, 2023) available at https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/why-the-economics-of-electrification-make-this-decarbonization-transition-different?stcr=F2E91F7E3B364985951002C7AEE3335D&cid=other-eml-alt-mip-mck&hlkid=5029d8f5ce4c43abb7c63ff53e942ad0&hctky=10204926&hdpid=4eb1e872-7192-48d7-b6cb-0642d205d4c5 (finding total cost of ownership parity by the middle of this decade).

[72] DOE VTO, FOTW #1234, April 18, 2022: Volumetric Energy Density of Lithium-ion Batteries Increased by More than Eight Times Between 2008 and 2020 (Apr. 18, 2022). *available at* https://www.energy.gov/eere/vehicles/articles/fotw-1234-april-18-2022-volumetric-energy-density-lithium-ion-batteries

[73] DOE, FOTW #1272, January 9, 2023: Electric Vehicle Battery Pack Costs in 2022 Are Nearly 90% Lower than in 2008, according to DOE Estimates (Jan. 9, 2023) *available at* https://www.energy.gov/eere/vehicles/articles/fotw-1272-january-9-2023-electric-vehicle-battery-pack-costs-2022-are-nearly

[74] UBS, EVs Shifting into Overdrive: VW ID.3 teardown – How will electric cars re-shape the auto industry? (March 2, 2021) at 60 *available at* https://www.ubs.com/global/en/investment-bank/in-focus/2021/electric-vehicle-revolution.html

weighted average basis by 2024, hit $58/kWh in 2030,[75] and could achieve a volume-weighted average price of $45/kWh in 2035.[76] The National Academies of Sciences found high-volume battery pack production would be at costs of $65-80/kWh by 2030[77] and DNV-GL has predicted costs declining to $80/kWh in 2025.[78] The IPCC recently concluded similarly.[79]

These cost estimates all were projected before the IRA passed Congress. IRA adds a significant new element to battery cost reduction as Section 45X provides domestically manufactured cells and finished batteries a production tax credit of $45/kWh.[80] This production tax credit is predicted to cut one-third to one-half off the total cost of any BEV battery with both cells and pack built in the U.S.[81]

Reductions in battery costs are projected to lead to cost parity in many vehicle segments by 2025.[82] Some analysts have suggested that parity will occur even earlier.[83] Continued and expansive research and development in this sector can be expected to further drive down costs.[84] Consistent with these declines, other key subsystems of BEV technology will continue to see cost reductions as manufacturers scale production.[85]

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[75] BNEF, Electric Vehicle Outlook 2021 (June 9, 2021) *available at* https://bnef.turtl.co/story/evo-2021/

[76] BNEF, Hitting the Inflection Point: Electric Vehicle Price Parity and Phasing Out Combustion Vehicle Sales in Europe (May 5, 2021) *available at* https://www.transportenvironment.org/sites/te/files/publications/2021_05_05_Electric_vehicle_price_parity_and_adoption_in_Europe_Final.pdf

[77] NAS, Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy – 2025-2035 (March 31, 2021) *available at* https://www.nap.edu/resource/26092/Briefing Slides Public Release Final 20210331.pdf

[78] DNV-GL, Tesla's Battery Day and the Energy Transition (Oct. 26, 2020) *available at* https://www.dnvgl.com/feature/tesla-battery-day-energy-transition.html?utm_campaign=GR_GLOB_20Q4_PROM_ETO_2020_Tesla_Battery_Article&utm_medium=email&utm_source=Eloqua

[79] IPCC, AR 6, Working Group III, Climate Change 2022: Mitigation of Climate Change (date) at 10-32 *available at* https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf (For example, according to IEA, battery pack costs could be as low as 80 USD per kWh by 2030 (IEA 2019a). In addition, there are clear trends that now vehicle manufacturers are offering vehicles with bigger batteries, greater driving ranges, higher top speeds, faster acceleration, and all size categories (Nykvist et al. 2019). In 2020 there were over 600,000 11 battery-electric buses and over 31,000 battery-electric trucks operating globally (IEA 2021a).)

[80] Inflation Reduction Act, P.L. 117-169 (Aug. 16, 2022) at Section 13502.

[81] Car and Driver, U.S.-Made EVs Could Get Massively Cheaper, Thanks to Battery Provisions in New Law (Feb. 3, 2023*) available at* https://www.caranddriver.com/news/a42749754/us-electric-cars-could-get-cheaper-inflation-reduction-act-section-45x/

[82] MJ Bradley, Medium- & Heavy-Duty Vehicles: Market Structure, Environmental Impact, and EV Readiness (Aug. 11, 2022) at 7. *available at* https://www.mjbradley.com/reports/medium-heavy-duty-vehicles-market-structure-environmental-impact-and-ev-readiness (EVs in most market segments have the potential to achieve life-cycle cost parity with internal combustion engine vehicles by model year 2025 or earlier if M/HD battery costs follow a similar trajectory as battery costs for light-duty EVs).

[83] UC Berkeley, 2035 Report: Transportation: Plummeting Costs and Dramatic Improvements in Batteries Can Accelerate Our Clean Transportation Future (April 2021) *available at* https://www.2035report.com/transportation/transportation-new/wp-content/uploads/2020/05/2035_Transportation_Report.pdf?hsCtaTracking=544e8e73-752a-40ee-b3a5-90e28d5f2e18%7C81c0077a-d01d-45b9-a338-fcaef78a20e7

[84] See generally, Energy & Environment Sciences, Determinants of lithium-ion battery technology cost decline (Jan. 3, 2022) *available at* https://pubs.rsc.org/en/content/articlelanding/2021/ee/d1ee01313k

[85] See generally, ICCT, A Meta-Study of Purchase Costs for Zero-Emission Trucks (Feb. 17, 2022) *available at* https://theicct.org/publication/purchase-cost-ze-trucks-feb22/ (Finding, inter alia, by 2030 key subsystems can achieve up to 40% to 60% cost reduction driven by technology and manufacturing scalability).

A recent ICCT analysis found that battery costs for zero-emission trucks are expected to halve by 2030 compared to 2022, reaching $120/kWh at the pack level with electric drive systems—including the transmission, motor, and inverter— forecasted to see cost reductions of over 60% by 2030, reaching $23/kW.[86] Such reductions find upfront cost parity between battery electric trucks and their diesel counterparts achieved in the late 2020s.[87]

A reduction down to $120kWh per pack plus drivetrain would likely reduce BEVs well below cost parity. Indeed, a recent LBNL study found that recent reductions in battery prices and improvement in energy density have made long haul electric trucking viable in the near term.[88] More directly, the study concluded: "At the current global average battery pack price of $135 per kilowatt-hour (kWh) (realizable when procured at scale), a Class 8 electric truck with 375-mile range and operated 300 miles per day when compared to a diesel truck offers about 13% lower total cost of ownership (TCO) per mile, about 3-year payback and net present savings of about US $200,000 over a 15-year lifetime. This is achieved with only a 3% reduction in payload capacity."[89]

Some OEMs predict BEV cost parity in 2025 well ahead of the proposed rule's MY2027 implementation timeframe. Further numerous studies have found that heavy-duty BEVs outperform conventional trucks on a total cost of ownership basis.[90] Tesla projects that its Semi will have energy costs that are half those of diesel, provide over $200,000 in fuel savings, and have as fast as a two-year payback period.[91] Another manufacturer has found that BEVs could save fleets up to 80% on energy costs and 60% on repair.[92] Yet another found that the benefits of electrifying heavy-duty truck fleets are significant with recent studies showing that operating costs for electric trucks can be between 14 and 52 percent lower and repair costs around 40 percent lower than their combustion-powered counterparts.[93] CARB has found that battery-electric vehicles appear cost competitive with

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[86] ICCT, Purchase Costs of Zero-Emission Trucks In The United States To Meet Future Phase 3 GHG Standards (March 2, 2023) *available at* https://theicct.org/publication/cost-zero-emission-trucks-us-phase-3-mar23/

[87] Id.

[88] LBNL, Why Regional and Long-Haul Trucks are Primed for Electrification Now (Mar. 15, 2021) *available at* https://eta-publications.lbl.gov/publications/why-regional-and-long-haul-trucks-are

[89] Id.

[90] See e.g., UC Berkley, 2035 Report: Transportation: Plummeting Costs and Dramatic Improvements in Batteries Can Accelerate Our Clean Transportation Future (April 2021) at 15 *available at* https://www.2035report.com/transportation/transportation-new/wp-content/uploads/2020/05/2035_Transportation_Report.pdf?hsCtaTracking=544e8e73-752a-40ee-b3a5-90e28d5f2e18%7C81c0077a-d01d-45b9-a338-fcaef78a20e7 (finding BEV heavy-duty trucks already hold a TCO advantage today and, for heavy-duty trucks, an EV advantage of $0.05/mi in 2020 that increases to $0.22/mi in 2030—magnified by the large number of miles traveled by this class of vehicles. In absolute terms, in 2020 this translates to a $42,800 TCO advantage of electric heavy-duty trucks, which increases to $200,000 in 2030. The TCO advantage of EVs continues to grow through 2050).

[91] See Tesla, Semi *available at* https://www.tesla.com/semihttps://www.tesla.com/semi

[92] Utility Dive, Lion Electric: EVs save transport firms 80% on energy, 60% on repair costs compared to diesel (Mar. 17, 2021) *available at* https://www.utilitydive.com/news/Lion-Electric-trucking-total-cost-of-ownership-diesel/596835/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202021-03-17%20Utility%20Dive%20Newsletter%20%5Bissue:33047%5D&utm_term=Utility%20Dive

[93] Argonne National Lab, Comprehensive Total Cost of Ownership Quantification for Vehicles with Different Size Classes and Powertrains (April 2021) *available at* https://publications.anl.gov/anlpubs/2021/05/167399.pdfhttps://publications.anl.gov/anlpubs/2021/05/167399.pdf

the established combustion technologies by 2025 in many use cases.[94] Real world demonstrations have also proven this out.[95]

Recently, the IEA has concluded, "In the regions where electric trucks are becoming commercially available, battery electric trucks can compete on a TCO basis with conventional diesel trucks for a growing range of operations, not only urban and regional, **but also in the heavy-duty tractor-trailer regional and long-haul segments."[96]** Similarly, new analysis looking at the IRA's incentive have medium-duty TCO parity expect in 2024 with the heavy-duty sector to follow in the middle of the decade.[97]

In short, dramatically decreasing battery costs and numerous TCO studies demonstrate that electric trucks will be affordable when the ACT regulation goes into effect.

D. Opposition Claim: EV's are Undesirable

Consumer sentiment towards EV's has been increasing over time. Like any education process, understanding the benefits of EV's take time, as noted in a June 2023 McKinsey Mobility Consumer Pulse Survey, "the proportion of consumers considering battery-electric vehicles (BEVs) rose by five percentage points to 20 percent between December 2021 and December 2022, while the proportion considering a plug-in hybrid (PHEV) rose by four percentage points to 22 percent. The survey also shows a four-percentage-point drop in EV skepticism by consumers, from 23 percent of consumers who categorically do not want to switch to EVs, to 19 percent."[98] Similarly, Ernst & Young, reported at a similar time, "US consumer interest in electric vehicles (EVs) is at an all-time high, with about half (48%) of US car buyers intending to purchase an EV in the next 24 months."[99] As Bloomberg recently pointed out, EVs are winning in the marketplace because of consumers.[100]

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[94] CARB, Draft Advanced Clean Fleets Total Cost of Ownership Discussion Document (Sept 9, 2021) *available at* https://ww2.arb.ca.gov/sites/default/files/2021-08/210909costdoc_ADA.pdfhttps://ww2.arb.ca.gov/sites/default/files/2021-08/210909costdoc_ADA.pdf; See also, Transport & Environment, Why the future of long-haul trucking is battery electric (Feb. 18, 2022) *available at* https://www.transportenvironment.org/wp-content/uploads/2022/02/2022_02_battery_electric_trucks_HDV_factsheet.pdf

[95] North American Council for Freight Efficiency, Electric Trucks Have Arrived: Documenting A Real-World Electric Trucking Demonstration (Feb. 2, 2022) *available at* https://nacfe.org/wp-content/uploads/edd/2022/01/RoL-Report-Executive-Summary-FINAL.pdf

[96] IEA, Global EV Outlook 2023, Trends in charging infrastructure *available at* https://www.iea.org/reports/global-ev-outlook-2023/trends-in-charging-infrastructure#abstract (emphasis added)

[97] McKinsey, Why the economics of electrification make this decarbonization transition different (Jan. 30, 2023) available at https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/why-the-economics-of-electrification-make-this-decarbonization-transition-different?stcr=F2E91F7E3B364985951002C7AEE3335D&cid=other-eml-alt-mip-mck&hlkid=5029d8f5ce4c43abb7c63ff53e942ad0&hctky=10204926&hdpid=4eb1e872-7192-48d7-b6cb-0642d205d4c5

[98] https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/electric-vehicle-buyers-demand-new-experiences

[99] https://www.ey.com/en_us/news/2023/06/ey-research-nearly-half-of-us-car-buyers-intend-to-purchase-an-ev

[100] Bloomberg, Electric Cars Are Winning Out Because of Consumers, Not Politicians (Sept. 6, 2023) available at https://www.bloomberg.com/news/newsletters/2023-09-06/electric-cars-are-winning-out-because-of-buyers-not-politicians?cmpid=BBD090623_hyperdrive&utm_medium=email&utm_source=newsletter&utm_term=230906&utm_campaign=hyperdrive

Claims that EV preference in New Mexico is somehow insurmountable, sacrificing the potential for $44B in health, economic and climate benefits over time[101], should be considered with skepticism. While rural drivers may take longer to adopt EVs and well as some other use cases, preferences across the population in the US should be expected to increase through education, exposure, and experience.

E. Opposition Claim: Dealers fear Job Loss, Lack of technical Training.

McKinsey & Company reports in "A Turning Point for US Auto Dealers: The Unstoppable Electric Car", that "The growth of electric mobility will have far-reaching consequences for auto dealers, touching virtually every aspect of business. From the redistribution of profit pools to the adoption of new operating procedures, there's a lot to consider. Maintenance workers will need training to service high-voltage powertrain systems safely and efficiently, while frontline sales staff will be expected to competently answer consumer questions and close the sale. Electric vehicles (EVs) also tend to have fewer mechanical parts that break down, which has significant implications for aftersales service. To help US dealerships prepare for the coming change, we assess the state of EV sales readiness along six key dimensions while offering an in-depth analysis of the US EV market."[102] The article[103] goes on to provide recommendations to auto dealers facing revenue declines from front-end sale margins and back-end service and parts sales declines due to the cost savings EV's offer consumers, reduced service and maintenance requirements and increasing EV adoption. While not without challenge, the article recommends adequately training salespeople on range, performance, service and day-to-day operations, reforming service, and reassessing dealership strategies among others. In other words, auto dealers should be preparing for the transition to electric vehicles and adjust their business models accordingly whether the state is adopting Clean Vehicle Regulations or not. Altering 100 year old business practices will take time, concerted effort and leadership by presumably reluctant auto dealers.[104] [105] Jobs may be lost, employee transition education and support opportunities should be considered in the planning process, however the transition to EV's is not going to happen overnight. With 2021 fleet turn in the US at an average 12 years for light-duty vehicles, up from 9.6 years in 2002, according to IHS Markit,[106] service needs for ICE vehicles will continue for many years to come. It is not lost on Tesla that support for transitioning employees and training and education will be necessary.[107] While empathizing with dealers and technicians facing the EV transition, this does not warrant opposition to policy that has the potential to provide so many significant benefits to the people of New Mexico. Tesla suggests that New Mexico Leaders consider ways to support employee training opportunities for EV technicians.

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[101] See NRDC report, https://www.nrdc.org/press-releases/report-strong-clean-vehicle-standards-can-deliver-44-billion-health-economic-and

[102] See article here, https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/a-turning-point-for-us-auto-dealers-the-unstoppable-electric-car?cid=other-eml-alt-mip-mck&hdpid=ebd76186-d65c-41b0-b117-ead9b5e5a0b7&hctky=10204926&hlkid=1ad5642af3dc4c30b39a9e8dd6d9187f

[103] https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/a-turning-point-for-us-auto-dealers-the-unstoppable-electric-car?cid=other-eml-alt-mip-mck&hdpid=ebd76186-d65c-41b0-b117-ead9b5e5a0b7&hctky=10204926&hlkid=1ad5642af3dc4c30b39a9e8dd6d9187f

[104] See US Consumers See Electric Cars as the Future. Dealers, Not So Much. https://www.bloomberg.com/news/articles/2023-07-13/us-consumers-see-electric-cars-as-the-future-dealers-not-so-much?cmpid=BBD071323_GREENDAILY&utm_medium=email&utm_source=newsletter&utm_term=230713&utm_campaign=greendaily

[105] The Washington Post, Electric Vehicles are hitting a road block: Car Dealers, https://finance.yahoo.com/news/electric-vehicles-hitting-road-block-201618345.html

[106] https://www.nytimes.com/interactive/2021/03/10/climate/electric-vehicle-fleet-turnover.html

[107] See Tesla START Service Training Program, here https://www.tesla.com/careers/tesla-start and Tesla Pathway to START Program here, https://www.tesla.com/careers/search/job/pathway-to-start-program-83805

Conclusion

Overarching, Tesla supports New Mexico's adoption of ACT, the Heavy-Duty Low NOx Omnibus rules and ACCII. Tesla urges the Boards to pass the Clean Vehicle Standards. With regards to ACCII ZZEV requirements, we urge the Boards to consider adopting a provision that requires NMED to bring a future proposal forward to consider adoption of MY's 2033 and subsequent years, thus further reducing criteria and greenhouse gas air pollutants, and protecting the public health and welfare of New Mexico's residents.

Respectfully,

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