



MEMORANDUM

March 5, 2022

To: Subcommittee on Energy Members and Staff

Fr: Committee on Energy and Commerce Staff

Re: Hearing on “Charging Forward: Securing American Manufacturing and Our EV Future”

On Tuesday March 8, 2022, at 10:15 a.m. (EST), in the John D. Dingell Room, 2123 of the Rayburn House Office Building, and via Cisco WebEx online video conferencing, the Subcommittee on Energy will hold a hearing on “Charging Forward: Securing American Manufacturing and Our EV Future.”

I. BACKGROUND

In August 2021, President Biden signed an Executive Order that set a target to make half of all new vehicles sold in 2030 zero-emissions vehicles.¹ Along with the adoption of electric vehicles (EVs), the Biden Administration identified a target of deploying 500,000 EV chargers by 2030.²

The Department of Energy (DOE) reports that sales of new light-duty, all-electric vehicles and hybrid electric vehicles nearly doubled in the last year, from more than 300,000 in 2020, to more than 600,000 in 2021. Of these new sales, all-electric vehicles accounted for 73 percent of EV sales, and grew by 85 percent from 2020, while plug-in hybrids grew by 138 percent over 2020.³ By comparison, overall car sales only increased by three percent during the same period.⁴ International trends show that EV sales accounted for nearly nine percent of new cars sold in 2021, up from 2.5 percent in 2019.⁵

EVs reduce dependence on foreign oil and associated price spikes, and also help address the climate crisis by reducing greenhouse gas emissions. As of 2019, the transportation sector

¹ White House, *FACT SHEET: President Biden Announces Steps to Drive American Leadership Forward on Clean Cars and Trucks* (Aug. 25, 2021).

² *Biden admin has \$7.5B to spend on EV charging. How can it get it right?*, Canary Media (Jan. 27, 2022).

³ Department of Energy, Office of Energy Efficiency & Renewable Energy, *Light-Duty Plug-in Electric Vehicle Sales in the United States Nearly Doubled from 2020 to 2021* (Feb. 28, 2022).

⁴ *Id.*

⁵ *Why This Could Be a Critical Year for Electric Cars*, New York Times (Feb. 9, 2022).

accounted for 29 percent of total U.S. greenhouse gas emissions, the highest of any sector.⁶ The growing popularity of EVs requires significant support of domestic manufacturing capacity and infrastructure buildout. For example, while the Biden Administration has targeted 500,000 public chargers by 2030, there are currently fewer than 47,000 public charging locations in the United States.⁷

II. FEDERAL SUPPORT FOR EVS AND CHARGING INFRASTRUCTURE

In November 2021, Congress passed, and President Biden signed into law, H.R. 3684, the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law. The law provides \$7.5 billion for EV charging infrastructure, including \$5 billion over five years through the newly established National Electric Vehicle Infrastructure (NEVI) Formula Program. The NEVI program is designed to help states create a network of EV charging stations along Alternative Fuel Corridors, with a focus on interstate highways.⁸

The Bipartisan Infrastructure Law also includes a competitive grant program that provides \$2.5 billion for vehicle charging infrastructure, including designated funding for community EV charging in rural and underserved communities.⁹ Details about the administration of this program will be announced later in 2022.

The funding for the newly established EV charging programs will be administered with input from a new Joint Office of Energy and Transportation, a collaboration between DOE and the Department of Transportation. The Joint Office of Energy and Transportation is designed to help with implementation of the funding and with coordinating across sectors, agencies, and industries in the EV space.¹⁰

In addition to charging infrastructure funding, the Bipartisan Infrastructure Law also included significant investments into many of the domestic industries that support the manufacturing of EVs and charging infrastructure. The law includes \$7 billion targeted at the EV supply chain, including materials processing, and battery manufacturing and recycling.¹¹

⁶ Environmental Protection Agency, *Fast Facts on Transportation Greenhouse Gas Emissions* (Dec. 2021) (EPA-420-F-21-076).

⁷ See note 2.

⁸ Department of Transportation, Federal Highway Administration, *President Biden, USDOT and USDOE Announce \$5 Billion over Five Years for National EV Charging Network, Made Possible by Bipartisan Infrastructure Law* (Feb. 10, 2022).

⁹ Department of Energy, *President Biden, DOE and DOT Announce \$5 Billion over Five Years for National EV Charging Network* (Feb. 10, 2022).

¹⁰ Department of Energy, U.S. Department of Transportation, Joint Office of Energy and Transportation (www.driveelectric.gov) (accessed Feb. 27, 2022).

¹¹ White House, *FACT SHEET: Biden-Harris Administration Ensuring Future is Made in America* (Feb. 8, 2022).

III. U.S. INDUSTRY LEADERSHIP

The global automotive industry is currently projected to invest half a trillion dollars in the next five years to make the transition to EVs.¹²

As of October 2021, there were 30 active and planned domestic assembly plants slated to produce EVs and battery cells, and 21 additional EV suppliers making batteries, E-motors, inverters, and other EV components. Companies involved in the transition range from established U.S. auto manufacturers, like Ford Motors, General Motors (GM), and Stellantis, to newer leaders in the U.S. industry, like Rivian Automotive, Tesla, and Proterra.¹³

In recent months, there have been several announcements of new battery and vehicle plants designed to support the domestic manufacturing of EVs and EV charging equipment. Ford and SK Innovation recently announced a joint venture for the construction of two battery plants in Kentucky and one in Tennessee, and a Ford assembly plant in Tennessee for electric pickup trucks. Ford's investments total \$11.4 billion and are expected to create 11,000 jobs.¹⁴ GM also announced that it will invest about \$6.6 billion in Michigan through 2024 to build a new EV battery cell plant and to increase production of its electric pickup truck.¹⁵ Additionally, GM announced that it will spend more than \$35 billion through 2025 to speed up the launch of new EVs.¹⁶ Furthermore, Rivian Automotive announced in December 2021 that it plans to spend \$5 billion to build a factory in Georgia, which will have the capacity to build 400,000 vehicles a year and will employ 7,500 people.¹⁷

In the past year, domestic manufacturers have significantly increased investment in manufacturing of EV chargers and chargers that meet Buy America standards. Recent announcements include a Tritium EV charger manufacturing facility in Lebanon, Tennessee that will begin production in fall of 2022. The facility will have the capacity to build over 10,000 fast-charging units per year with room to expand, and plans to employ more than 500 people over the next five years.¹⁸ Additionally, companies like Siemens and ABB have committed to expanding EV charger production and increasing Buy American options.¹⁹

¹² See note 5.

¹³ Third Way, *Memorandum: Fall 2021 Update: Mapping Jobs and the Transition to Electric Vehicle Assembly in the US* (Oct. 15, 2021).

¹⁴ *Ford Will Build 4 Factories in a Big Electric Vehicle Push*, New York Times (Sept. 27, 2021).

¹⁵ *GM to spend \$6.6 billion on EV plant investments in bid to dethrone Tesla in electric car sales by 2025*, CNBC (January 25, 2022).

¹⁶ *GM prioritizes faster EV launches ahead of fatter profits*, Reuters (Feb. 1, 2022).

¹⁷ *Rivian, an E.V. maker with big ambitions but few sales, will build a new factory in Georgia*, New York Times (Dec. 16, 2021).

¹⁸ *Biden lauds EV charging plant in Tennessee as latest sign of 'manufacturing comeback'*, The Hill (Feb. 8, 2022).

¹⁹ See note 11.

Domestic production of EVs and EV components still falls short of international competition. For example, as of October 2021, the United States had 29 lithium-ion battery companies, compared to 389 in China.²⁰ This same trend is evident in the supply chain for other battery components.²¹ Battery manufacturing programs funded in the Bipartisan Infrastructure Law are designed to help address this shortcoming.

IV. STATE ACTIONS

Even prior to the passage of the Bipartisan Infrastructure Law, states and other stakeholders from across the United States began planning for the EV transition. The states involved in these planning processes represent diverse regions, populations, and economies. As of today, DOE data shows the top ten states for most EV charger locations are California, New York, Florida, Texas, Massachusetts, Washington, Colorado, Georgia, Maryland, and Pennsylvania.²²

REV West, an early example of interstate EV infrastructure coordination, formed in 2017 after the governors of eight western states recognized the need to provide a framework for EV charging in the region. REV West participants include Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.²³ In 2019, the Governors of the eight states recommitted and expanded the scope of the partnership.²⁴

Other examples of interstate EV planning include the Southeast Regional Electric Vehicle Information Exchange (SE REVI) and the Regional Electric Vehicle Midwest Coalition (REV Midwest). SE REVI is a collaboration across Energy Offices in Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, and the Virgin Islands. It is designed to facilitate information sharing and help with EV planning and coordination.²⁵ In September 2021, Illinois, Indiana, Michigan, Minnesota, and Wisconsin signed a Memorandum of Understanding that established REV Midwest to create a regional framework for vehicle electrification.²⁶

²⁰ See note 13.

²¹ *Id.*

²² Department of Energy, Office of Energy Efficiency & Renewable Energy, *Alternative Fueling Station Counts by State* (Mar. 1, 2022).

²³ National Association of State Energy Officials, *Press Release: Regional Electric Vehicle West States Partner with NASEO to Advance Electric Vehicles* (Mar. 30, 2018) (press release).

²⁴ National Association of State Energy Officials, *Report: Regional Electric Vehicle Plan for the West* (Dec. 2020).

²⁵ National Association of State Energy Officials, *Southeast Regional Electric Vehicle Information Exchange (SE REVI)* (www.naseo.org/issues/transportation/serevi) (accessed Mar. 3, 2022).

²⁶ State of Michigan, *Regional Electric Vehicle Midwest Coalition Memorandum of Understanding between Illinois, Indiana, Michigan, Minnesota, and Wisconsin* (Sept. 30, 2021).

In addition to state energy and transportation offices, electric utilities have formed similar groups to plan the infrastructure and charging coordination necessary for EV charging. The National Electric Highway Coalition (NEHC) is one such alliance that targets the build out of EV charging infrastructure. It consists of more than 50 investor-owned utilities, the Tennessee Valley Authority, and one electric cooperative that serve over 120 million customers across 47 states and Washington, D.C.²⁷

V. WITNESSES

The following witnesses have been invited to testify:

Bob Holycross

Vice President, Sustainability, Environment and Safety Engineering
Ford Motor Company

Natalie King

Chief Executive Officer
Dunamis Clean Energy Partners, LLC

Cassandra Powers

Senior Managing Director
National Association of State Energy Officials

Thomas Pyle

President
Institute for Energy Research

²⁷ Edison Electric Institute, *National Electric Highway Coalition* (www.eei.org/issuesandpolicy/Pages/NEHC.aspx) (accessed Mar. 3, 2022).