

**United States House of Representatives
Select Committee on the Climate Crisis**

**Hearing on September 29, 2022
“A Big Climate Deal: Lowering Costs, Creating Jobs,
and Reducing Pollution with the Inflation Reduction Act”**

Questions for the Record

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The Honorable Kathy Castor

1. Mr. Nassar, are there vehicles that will qualify for the new electric vehicle tax credit in the Inflation Reduction Act?

Yes, following the passage of the Inflation Reduction Act (IRA), the Department of Energy (DOE) published a list of plug-in vehicles with final assembly in North America, using data from National Highway Traffic Safety Administration (NHTSA) and the Environmental Protection Agency (EPA). Please see below for the DOE’s published list of electric vehicles (EVs) and plug-in electric vehicles (PHEVs) made in North America, as of October 6, 2022. (“X” symbol is used to indicate vehicle models that were ineligible for the credit before passage of the Inflation Reduction Act).

Model Year	Vehicle	Manufacturer Sales Cap to be Lifted
2022	Audi Q5	
2022	BMW 330e	
2022	BMW X5	
2022	Chevrolet Bolt EUV	X
2022	Chevrolet Bolt EV	X
2022	Chrysler Pacifica PHEV	
2022	Ford Escape PHEV	
2022	Ford F Series	
2022	Ford Mustang MACH E	
2022	Ford Transit Van	
2022	GMC Hummer Pickup	X
2022	GMC Hummer SUV	X
2022	Jeep Grand Cherokee PHEV	
2022	Jeep Wrangler PHEV	
2022	Lincoln Aviator PHEV	
2022	Lincoln Corsair Plug-in	
2022	Lucid Air	
2022	Nissan Leaf	

2022	Rivian EDV	
2022	Rivian R1S	
2022	Rivian R1T	
2022	Tesla Model 3	X
2022	Tesla Model S	X
2022	Tesla Model X	X
2022	Tesla Model Y	X
2022	Volvo S60	
2023	BMW 330e	
2023	Bolt EV	X
2023	Cadillac Lyriq	X
2023	Jeep Grand Cherokee PHEV	
2023	Jeep Wrangler PHEV	
2023	Lincoln Aviator PHEV	
2023	Mercedes EQS SUV	
2023	Nissan Leaf	

Source: Department of Energy¹

GM and Tesla reached the 200,000 mark before the pandemic and several other automakers were approaching or had recently crossed the threshold. Over time, fewer and fewer models would be eligible for the credit if Congress had not acted. IRA’s elimination of the cap enabled consumers to gain access to the EV tax credit therefore undoubtedly helping to strengthen the EV market. Clearly, the number of models that qualify for the credit under the North American final assembly requirement is extensive.

Bloomberg New Energy Finance estimates 76% of the EVs sold in the U.S. in the first half of 2022 would qualify for the North American assembly requirement.² In addition to the list above, nearly all major automakers have announced plans to produce additional electric vehicles in North America. IHS Markit forecasts significant increases in North American battery electric vehicle (BEV) and PHEV production over the next decade, reaching 3.6 million vehicles in 2025 and 6.5 million vehicles by 2029.³

2. Mr. Nassar, will the Inflation Reduction Act incentivize additional electric vehicle deployment beyond what would have happened without the law?

Yes, the IRA has several provisions, if properly implemented and enforced, that could help significantly boost U.S. EV and PHEV manufacturing. In addition to the EV tax credit, there are several other programs to note. Without this law, our domestic industry would fall further behind in the global EV auto market. According to Benchmark Mineral Intelligence, China continues to dominate these supply chains, including 78% of global cathode production and 91% of global anode production, as well as significant shares in all of the key minerals required for lithium-ion

¹ Department of Energy. “Electric Vehicles with Final Assembly in North America”: <https://afdc.energy.gov/laws/electric-vehicles-for-tax-credit>
² Bloomberg New Energy Finance. September 20, 2022. “US Climate Law Shifts EV Race to Warp Speed”, p.12
³ IHS Markit. “Light Vehicle Powertrain and Alternative Propulsion Forecast”

battery production.⁴ The European Union (EU) has established the European Battery Alliance to promote production of batteries and key components within the EU.⁵ South Korea is home to LG Chem, the world’s largest producer of lithium-ion batteries for electric vehicles, and plans to triple its battery production.⁶ If the U.S. does not also invest in the upstream battery supply chain, U.S. manufacturers will continue to be dependent on imports, even as we build up battery cell production capacity. Without proper planning, our dependence on imports will become greater over time as EV production increases.

- The Advanced Technology Vehicles Manufacturing (ATVM) loan program broadly expands the number of vehicles and other modes of transport eligible to receive grants and execute the full \$17 billion in remaining loan authority. Qualified sectors include ultra-efficient vehicles, light- and medium-duty vehicles (that meet standards), heavy-duty vehicles (that meet standards), trains and locomotives, maritime vessels, aircrafts, and hyperloop technology. There is a priority on projects most likely to create quality jobs (legacy facilities are prioritized for assistance). UAW has supported the ATVM program since its inception over a decade and a half ago. We fought several efforts in Congress to strip all funding from the program.
- An additional \$2 billion in funds are allocated for Domestic Manufacturing Conversion grants to support the conversion & retooling of existing auto manufacturing facilities to manufacture clean vehicles, including those at risk of closure, onshore and build batteries, and other advanced vehicle technologies.
- The Inflation Reduction Act provided \$10 billion for the 48C tax credit to support the establishment, retooling, and expansion of clean energy and technology manufacturing facilities in communities that have lost fossil fuel energy jobs and to partially counteract the impacts of the carbon footprint in the area from the previous industry. It is prioritized for communities that have not received prior funding under 48C. It included \$10B in tax credits to qualifying projects (\$4B earmarked for communities impacted by coal-related loss of work) and a \$30 billion investment in production tax credits to accelerate U.S. manufacturing of solar panels, wind turbines, batteries, and critical minerals processing are included. (Please see the list below of UAW-represented facilities that could be impacted by the expansion of electrified vehicles in the short, medium, and long term.)

Company	City	State	Product
Allison Transmission	Indianapolis	IN	Transmissions
American Axle	Fraser	MI	Transmission Components
American Axle	Royal Oak	MI	Transmission Components
American Axle	Troy	MI	Transmission Components
Amstead Means Industries	Saginaw	MI	Transmission Components

⁴ Benchmark Mineral Intelligence. “Infographic: China’s Lithium Ion Battery Supply Chain Dominance”: <https://www.benchmarkminerals.com/membership/chinas-lithium-ion-battery-supply-chain-dominance/>

⁵ EBA250. “About EBA250”: www.eba250.com/about-EBA250?/cn-reloaded=1

⁶ Autoblog. “LG Chem to triple its EV battery production capacity”: <https://www.autoblog.com/2020/10/21/lg-chem-to-triple-ev-battery-production/>

Company	City	State	Product
Anderson Cook	Chesterfield	MI	Transmission Components
Blue Ridge Pressure Casting	Leighton	PA	Engine & Transmission Components
Camshaft Machine	Jackson	MI	Engine Components
Dana	Lafayette	IN	Transmission Components
Dana	St. Clair	MI	Transmission Components
Detroit Diesel	Detroit	MI	Engines; Transmissions
Dura	Fremont	MI	Transmission Components
Eaton	Auburn	IN	Transmission Components
Ford	Livonia	MI	Transmissions
Ford	Woodhaven	MI	Engine Components
Ford	Romeo	MI	Engines
Ford	Dearborn	MI	Engines
Ford	Rawsonville	MI	Transmission Components
Ford	Sterling Heights	MI	Transmissions
Ford	Sharonville	OH	Transmissions
Ford	Lima	OH	Engines
Ford	Brook Park	OH	Engines
GKN	Gallipolis	OH	Transmission Components
GM	Bedford	IN	Engine Components
GM	Romulus	MI	Engines; Transmissions
GM	Saginaw	MI	Engine Components
GM	Grand Rapids	MI	Engine Components
GM	Bay City	MI	Engine & Transmission Components
GM	Flint	MI	Engines
GM	Buffalo	NY	Engines
GM	Rochester	NY	Engine Components
GM	Toledo	OH	Transmissions
GM	Defiance	OH	Engine Components
GM	Spring Hill	TN	Engines
GT Technologies	Toledo	OH	Engine Components
GT Technologies	Defiance	OH	Engine Components
Hastings Manufacturing	Hastings	MI	Engine Components
Huron Manufacturing	Lexington	MI	Engine & Transmission Components
Jones L. E. Company	Menominee	MI	Engine Components
Kellogg Crankshaft	Jackson	MI	Engine Components
Kelvion Inc	Burkesville	KY	Transmission Components
Maclean Curtis	Buffalo	NY	Transmission Components
Ohio Crankshaft	Cleveland	OH	Engine Components
Stellantis	Kokomo	IN	Engines & Transmissions
Stellantis	Tipton	IN	Transmissions
Stellantis	Trenton	MI	Engines
Stellantis	Dundee	MI	Engines
Tenneco	Burlington	IA	Engine Components
Tenneco	Sparta	MI	Engine Components
Tenneco	Greenville	MI	Engine Components

Company	City	State	Product
Tenneco	Cambridge	OH	Engine Components
Textron	Muskegon	MI	Engine Components
ThyssenKrupp AG	Danville	IL	Engine Components
Transtar – Dacco Browser	Cookeville	TN	Transmission Components
Volvo-Mack	Hagerstown	MD	Engines; Transmissions

The IRA’s significant investments sends a clear signal to the industry and investors of our national commitment to expand our EV and PHEV manufacturing footprint in the U.S.

3. Mr. Nassar, how will the Inflation Reduction Act help encourage automakers to invest in manufacturing vehicles that will meet the new standards in the Inflation Reduction Act?

Thank you for the question. There are numerous ways that the Inflation Reduction Act will encourage automakers to invest in manufacturing electric vehicles.

Thanks to the passage of the IRA, Chips and Science Act, and the Infrastructure Investment and Jobs Act (IIJA) the Biden Administration is now able to make a once-in-a-generation investment in domestic manufacturing. As the industry gradually transitions to electrified vehicles, automakers and battery manufacturers can take advantage of a wide range of subsidies, including:

- The IRA’s 30D Clean Vehicles Consumer Tax Credit extension (Sec. 13401), which provides up to \$7,500 per vehicle in savings on EVs and PHEVs with the new North America final assembly requirement.
- The BIL’s Battery Material Processing Grants (Sec. 40207(b)) and Battery Manufacturing and Recycling Grants (Sec. 40207(c)) provide \$6 billion in grants to invest in domestic battery production.
- The IRA expands the Department of Energy’s Advanced Technology Vehicle Manufacturing (ATVM) by lifting the loan program cap and appropriating \$3 billion fund direct loans (Sec. 50142). With these changes, the ATVM program now has \$55 billion in loan authority for low-interest loans for clean vehicle manufacturing investments.⁷
- The IRA appropriates \$2 billion for Domestic Manufacturing Conversion Grants (Sec. 50143) to support domestic production of EVs, PHEVs, and fuel cell vehicles.
- The IRA’s 45X Advanced Manufacturing Production Credit (Sec. 13502) provides battery manufacturers with tax credits of \$35 per kilowatt-hour for domestically produced battery cells and \$10 per kilowatt-hour for battery modules. These battery production tax credits are worth thousands of dollars per electric vehicle and covers approximately one-third the cost of producing an EV battery today. The program further reduces the cost of battery inputs through a 10% production tax credit on critical battery minerals and electrode active materials.

⁷ Department of Energy, Loan Program Office. “Inflation Reduction Act of 2022”: <https://www.energy.gov/lpo/inflation-reduction-act-2022>

- The IRA's Extension of the Advanced Energy Project Credit (Sec. 13501) allocates \$10 billion for the 48C investment tax credit for advanced energy projects, including electric vehicles, components, and materials.

4. On Sep. 27, 2022, the Biden-Harris Administration announced it approved Electric Vehicle Infrastructure Deployment Plans for all 50 States, the District of Columbia and Puerto Rico ahead of schedule under the National Electric Vehicle Infrastructure Formula Program, established and funded by the Bipartisan Infrastructure Law. This is a good example of how the Inflation Reduction Act incentives will build on the climate investments Congress recently passed. Mr. Nassar, could you please elaborate on how the Bipartisan Infrastructure Law electric vehicle charging investments and the electric vehicle incentives in the Inflation Reduction Act will work together to accelerate electric vehicle deployment?

The success of the electric vehicle transition in the U.S. will depend largely on three factors: strong consumer demand, robust infrastructure investments, and significant EV supply-side investments. The IIJA's infrastructure investments will be crucial to ensure that advanced vehicle technologies are built in the U.S. and create quality jobs for American autoworkers.

The IIJA makes significant investments in the nation's electric vehicle infrastructure. IIJA contains \$7.5 billion to build out a national network of EV chargers in the United States. A historic \$5 billion investment was included for the replacement of existing school buses with zero emission and clean school buses from 2022-2026.

It is essential to have the infrastructure in place to support the increasing numbers of EVs on the road. EV sales have grown steadily over the past decade, but they still represent a small percentage of all vehicle sales. EVs and PHEVs combined to represent 4% of U.S. auto sales in 2021. In most parts of the country, EV charging infrastructure is inadequate, and the electrical grid might have difficulty handling extreme temperatures and more electricity consumption. It has been noted that consumers shopping for an EV have often express concerns about battery range and charging speed as they have a limited selection of models and segments. Fortunately, the Inflation Reduction Act along with the IIJA contain investments in the infrastructure that are needed to support greater EV deployment.

Under IIJA, the \$5 billion investment in electric school buses through the clean school bus program will allow school districts around the country to upgrade school's aging public-school infrastructure and reduce emissions from older buses. These provisions work in tandem with the IRA, which incentivizes companies to invest in new technologies including electric school buses. UAW members proudly build electric school buses throughout the country. To give an example,

Maryland Montgomery County school system signed a \$169 million deal in 2021 to lease 326 buses that are proudly built by UAW members .⁸

5. Climate impacts are already underway in communities across the country. Electric power infrastructure is especially vulnerable to extreme weather, as we saw with the devastation from Hurricane Ian. Mr. Nassar, how would the electric vehicle incentives help families increase their resilience to climate impacts? Could some electric vehicles provide backup residential energy storage?

We are witnessing the expanding impacts of climate change in real time. We cannot ignore this reality and must act to better prepare communities for extreme weather events. Sadly, addressing climate change will likely become increasingly difficult as time goes on and air and water temperatures continue to rise.

To be clear, I am not suggesting that recent hurricanes were “caused” by climate change. At the same time, there is no denying that the number and strength of extreme weather and climate events, such as heat waves and droughts, have been on the rise and record temperatures continue to be shattered across the world. Higher water temperatures intensify hurricanes and other extreme weather events, such as the case with Hurricane Fiona. It hit Puerto Rico on September 18th, causing catastrophic damage and flooding across Puerto Rico, and leaving more than 1.4 million people without power in the immediate aftermath. Again, the effects of climate change did not cause Hurricane Fiona to occur, but it did increase its intensity. The realities of climate change demand action, such as reducing emissions, and preparing ourselves to address the consequences of climate change by increasing mitigation efforts. We have a responsibility to current and future generations to tackle obstacles and protect ourselves and the world around us from the harmful and dangerous impacts of climate change.

In terms of EVs providing back up residential energy storage, there is significant potential for EVs to provide back-up energy or contribute to grid resilience, but that technology is not yet widely deployed. EVs are essentially batteries on wheels. You can store energy in those batteries, and if EVs are equipped with something called vehicle-to-grid or vehicle-to-home technology, they can also be used to keep the lights on in emergencies.

By using efficient electric motors and plugging into a grid using more renewables, plug-in electric vehicles, including PHEVs and BEVs, can significantly reduce greenhouse gas emissions.

Additionally, the UAW is working with new companies to create union jobs, such as reaching a neutrality agreement with Forever Energy at its planned vanadium flow battery facility in Shreveport, LA.

⁸ Bloomberg, “Biggest Electric Bus Deal in U.S. Approved in Maryland”:
<https://www.bloomberg.com/news/articles/2021-02-24/biggest-electric-school-bus-deal-in-u-s-approved-in-maryland?leadSource=verify%20wall>

6. According to a study conducted by the BlueGreen Alliance and the University of Massachusetts Amherst Political Economy Research Institute, the Inflation Reduction Act would create more than 9 million good jobs during the next decade. Mr. Nassar, could you please elaborate on why is it important for the Federal government to invest to create jobs in clean energy and clean vehicle manufacturing in the United States where we have high road labor standards?

The IRA is a great law for working families and retirees. In addition to lowering the skyrocketing costs of prescription drugs, investing in the U.S. manufacturing base, and addressing climate change by investing in low-CO2 energy sources and mitigation strategies, the IRA puts our country on a strong footing by creating 9 million jobs over the next decade. The PERI study notes that of the 9 million jobs being created by the IRA during the next decade, more than 900,000 jobs will be part of building clean manufacturing supply chains and more than 400,000 jobs will be created in the electric vehicles and clean transportation sectors. Working families need them to be good union jobs.

As more funding and tax incentives become available to companies, high road labor standards must be built into the process. Key conditions or considerations should be met. Does the company support workers' right to collectively bargain? Are the full-time and part-time workers provided family-sustaining benefits that promote economic security and mobility? Do the workers have a safe, healthy, and accessible workplace built with input from workers and their representatives?

In addition, we must ensure that the investments to build vehicles and components are made in the communities where autoworkers are currently building traditional gas-powered vehicles and powertrains. We cannot wait for ICE jobs to be lost as we need to target new investments for auto manufacturing communities now. Auto manufacturing is central to the economy of many communities, creating community-sustaining manufacturing jobs and stimulating economic activity in other sectors. Government support for EV investments should prioritize investments that create jobs in communities currently producing ICE vehicles and powertrains, hire incumbent autoworkers, and provide wages and benefits on par with unionized auto industry standards.

The EV transition reinforces the continued importance of putting in place policies that facilitate vehicle and parts production in the United States and ease impediments to workers at non-union automakers to organize. As the nation invests in a transition to innovative technology, we must seize upon these opportunities to preserve and increase quality jobs.

The union advantage is noteworthy. Unionized workers are more likely to earn more, have paid sick days and health insurance, and participate in a retirement plan.⁹ Policies that strengthen labor standards and support workers' right to collectively bargain are the building blocks for creating a stronger middle class. The shift to electric vehicles cannot come at the expense of good

⁹ Economic Policy Institute. Unions Help Reduce Disparities and Strengthen Our Democracy, April 2021.

wages and benefits and it is critical that we do not leave workers behind as the industry transitions.

7. Mr. Nassar, you mentioned in your testimony that significant investments in motor vehicle and battery manufacturing have been announced in Tennessee, Georgia, Michigan, North Carolina, and Kentucky. Mr. Nassar, how can we ensure that many of these new jobs will be available in environmental justice and energy justice communities?

Implementation, strong oversight, and vigorous enforcement will largely determine the success of the Inflation Reduction Act. The law includes support for communities' long-standing fight for clean air, climate resilience, and environmental justice. These investments will create about 150,000 jobs over the next decade. That includes environmental justice grants focused on creating 30,000 jobs for community-led projects that address the disproportionate health and environmental impacts from pollution; and creating 5,000 jobs from investments to reduce air pollution in schools, particularly in environmental justice communities.

As battery and clean vehicle production ramp up in the U.S, workers' must have an ability to have a voice in the workplace and family-sustaining wages. There are deeply troubling signs for workers in the developing battery supply chain. Auto companies, including union automakers, are often creating joint ventures or strategic partnerships with foreign-based battery companies. This trend can be seen in battery cell production, material processing, and battery recycling. The White House report on critical supply chains found that the quality of new battery industry jobs is far below the automotive powertrain jobs they are replacing.¹⁰ We have significant concerns about whether companies in the battery supply chain will respect workers' rights to a free and fair choice to join a union. The EV transition must not result in increased outsourcing or an erosion of job quality in the auto industry.

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¹⁰ The White House. June 2021. "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth": <https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf>, p.120