

# Automotive News

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## OPINION

# Inflation Reduction Act poses big manufacturing challenge

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**T**he Inflation Reduction Act is the biggest overhaul of U.S. automotive policy in a generation. If all goes according to plan, it will transform what Americans drive on the streets — and create economic boomlets for the states that manufacture those new vehicles and components.

At least that's the plan. This new law is so ambitious — and the manufacturing deadlines are so tight — that it's hard to imagine every goal being met on time. The incentives for EV consumers are large, but so are the



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strings attached for manufacturers and suppliers.

By extending the \$7,500 tax credit

on new electric cars through 2032, adding a \$4,000 credit for used EV purchases and including up to \$40,000 of credits for commercial vehicles, the law should push ahead the moment of price parity between EVs and conventional internal combustion engine vehicles to 2025-26, years ahead of most previous projections.

Eliminating the 200,000-vehicle credit cap for automakers is a boon to the companies pumping out the most popular models, namely Tesla, General Motors and Ford Motor Co.

But all those sweeteners for EVs come with some very tough restrictions. In exchange for the consumer incentives, the government is effectively demanding that EV makers transform their sourcing and manufacturing operations to create a new U.S.-based supply chain for the industry. This side of the bargain comes with very aggressive targets that represent a major challenge for the industry and risk exacerbating supply problems.

## Sourcing

For starters, only EVs with batteries that are 50 percent manufactured in North America by 2024 will qualify for the \$7,500 consumer credit, a proportion that increases to 100 percent by 2029. Automakers also need to ensure that 40 percent of the critical minerals needed for batteries come from countries that have free trade agreements with the U.S. or that are recycled in the U.S., rising steadily to 80 percent by 2027.

The goal is to reduce dependence on China and create an independent domestic value chain of jobs and investment around EVs. Achieving it will demand a Herculean effort, though. To that end, the act included manufacturing production tax credits up to \$45 per kWh for battery and module manufacturers.

Manufacturing of the lithium ion batteries used in EVs is dominated by China, with other Asian countries accounting for much of the remainder. Battery cells for the

popular Chevy Bolt, for example, are made in South Korea by LG Electronics, and nearly all the materials and components come from Asia.

## Building self-sufficiency

The shift to more U.S.-based battery production is underway, with big players like Tesla and GM building out their domestic capacity. U.S. battery-making capacity is expected to rise sixfold to 383 gigawatt hours by 2030, but the question is whether that will be fast enough to keep up with demand.

GM is producing batteries through its Ultium joint venture with LG at a Lordstown, Ohio, plant and has over \$5 billion in investments for more plants in Tennessee and Michigan. But it will likely need another six or seven plants of that size to meet its goal of an all-electric fleet by 2035.

The challenge is even bigger for smaller startup EV makers like Rivian and Lucid Motors, which lack the resources for these huge investments and will need to rely heavily on partnerships with suppliers.

The bill's requirements on critical materials represent an even more formidable challenge to the EV industry. Again, China dominates the production of key materials such as lithium, cobalt and nickel. The U.S. and Canada combined refine only 3 and 3.5 percent of the world's lithium and cobalt compared with 59 and 75 percent for China, respectively.

Australia and Chile, two resource-rich countries that have free trade

deals with the U.S., can take up some of the slack. But automakers, foreign and domestic, will also have to reactivate skills and resources in the U.S. that have suffered from decades of underinvestment.

The demand for new domestic battery plants, steel factories and aluminum smelters will lead to intense competition among states looking to attract the jobs and tax revenues that these mammoth investments bring. States such as Nevada, Arizona, Washington and Michigan, with significant mineral deposits, should brace for mining booms as automakers race for domestic sources of the raw materials they need.

While we won't see the full impact of these changes for years, the starting gun has now been fired. Any player in the auto industry — from the biggest automaker to the smallest supplier — needs to get on board with an EV supply chain strategy or be left behind. Among big automakers, GM and Tesla already have a head start because of their strong sales, domestic production capacity and investments in downstream materials integration. For their part, suppliers need to figure out how to take advantage of the coming investment wave by positioning themselves with the right technology and partners.

The changeover to electric vehicles has been moving in recent years through much stop-and-go traffic. The big new law from Washington floors the accelerator for both consumers and manufacturers.