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Potential Impacts of Electric Vehicle Tax Credit Repeal on US Vehicle Market and Manufacturing

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Context

The re-election of President Donald J. Trump has created considerable uncertainty regarding the future of the U.S. automotive industry and the nation's transition to electrified vehicles. Through executive orders, President Trump has indicated intentions to eliminate federal regulations aimed at reducing greenhouse gas emissions from cars and trucks, repeal subsidies supporting electric vehicle (EV) purchases, and halt or redirect federal grant programs designed to expand EV charging infrastructure.

To facilitate analysis of the broader economic impacts of these potential changes to federal energy and climate policies, the REPEAT Project has developed updated scenarios assessing how these policies might influence the U.S. vehicle market, as well as their implications for domestic battery and EV manufacturing.

Additionally, President Trump has expressed plans to expand tariffs on a variety of imported goods, including materials (such as steel), automotive components, and finished vehicles. At the time of this report, proposed tariffs on imports of most products from Canada and Mexico have been temporarily suspended. While the administration has also indicated its intention to implement reciprocal tariffs broadly, no specific tariff changes have been formally proposed at this time. Therefore, this analysis *does not* explicitly account for potential new tariffs on automotive parts or vehicles, which could significantly impact the U.S. automotive sector. Any new tariffs would likely affect prices for both internal combustion engine vehicles and electric vehicles, altering baseline vehicle demand. It remains uncertain if such tariffs would have distinct implications specifically for electric vehicles.

Key methods and assumptions

Scenarios in this report are based on a variety of publicly available market forecasts and academic studies of U.S. electric vehicle sales under potential repeal of several tax credits, grants and regulations supportive of EV adoption. This report principally considers the potential effect of legislative repeal of the Section 30D and 45W clean vehicle tax credits (or equivalently severe new restrictions on eligibility for the tax credit) and the repeal and replacement of U.S. Environmental Protection Agency's multi-pollutant emissions standards for model years 2027 and later light-duty vehicles.

For 2025:

- The Policy Repeal scenario assumes 15% annual sales growth for electric vehicles based on the average of four post-election market forecasts from JD Power (3%), Rho Motion (16%), Bloomberg NEF (20%), and Cox Automotive (33%).
- The Current Policies scenario assumes 34% growth based on Bloomberg NEF's pre-election 2024 Long-term Electric Vehicle Outlook report.
- Total light-duty vehicle sales growth (2.8%) is based on the average of Cox Automotive (2.6%) and JD Power (3%) forecasts.

From 2026 to 2030:

- Under the Current Policies scenario, battery electric vehicle (BEV) and plug-in hybrid electric vehicle (PHEV) sales grow to meet EPA GHG emissions standards by 2030 (at ~55% and 4% market share, respectively). Hybrid electric vehicles grow linearly until reaching 40% of total internal combustion vehicle (ICE) sales (~22% total sales share in 2030). Conventional ICE vehicles make up the remainder of LDV sales.
- Under the Policy Repeal scenario, BEVs market share in 2026 declines by 3 percentage points (pp) relative to Current Policies as per Allcott et al. 2024 and 16 pp in 2030 (average of Bloomberg NEF (15 pp) & Cole et al. (2023) (17 pp)). Decline in PHEV sales assumed to be half of that for BEVs.
- Overall light-duty vehicle (LDV) sales increase by an average of 1.5% per year in both cases.

In all cases, we do not assume the 45X Advanced Manufacturing Production Tax Credit for battery components and packs is passed on to end prices for vehicles, but rather is necessary to bridge cost differences between imported and domestic batteries and components. We also assume the following jurisdictions continue to implement Advanced Clean Cars 2 standards for light duty vehicles: CA, OR, WA, CO, NM, MD, DC, DE, NJ, NY, RI, MA & VT.

Summary

If EPA tailpipe emissions regulations and federal clean vehicle tax credits are repealed:

- Sales of battery electric vehicles could drop about 30% in 2027 and 40% in 2030 relative to a scenario where current policies are continued.
- The share of battery electric vehicles in new light vehicle sales could drop from about 18% to 13% in 2026 and 40% to 24% in 2030.
- Cumulatively, 8.3 million less EVs and plug-in hybrids could be on U.S. roads in 2030.
- As much as 100% of planned construction and expansion of U.S. electric vehicle assembly and half of *existing* assembly capacity could be at risk of cancellation or closure.
- Between 29% and 72% of battery cell manufacturing capacity currently operating or online by the end of 2025 would also be unnecessary to meet automotive demand and could be at risk of closure, in addition to 100% of other planned facilities.
- There would be further (unquantified) impacts on U.S. materials, parts, and component suppliers upstream of EV and battery assembly.

Repeal slows electric vehicle sales

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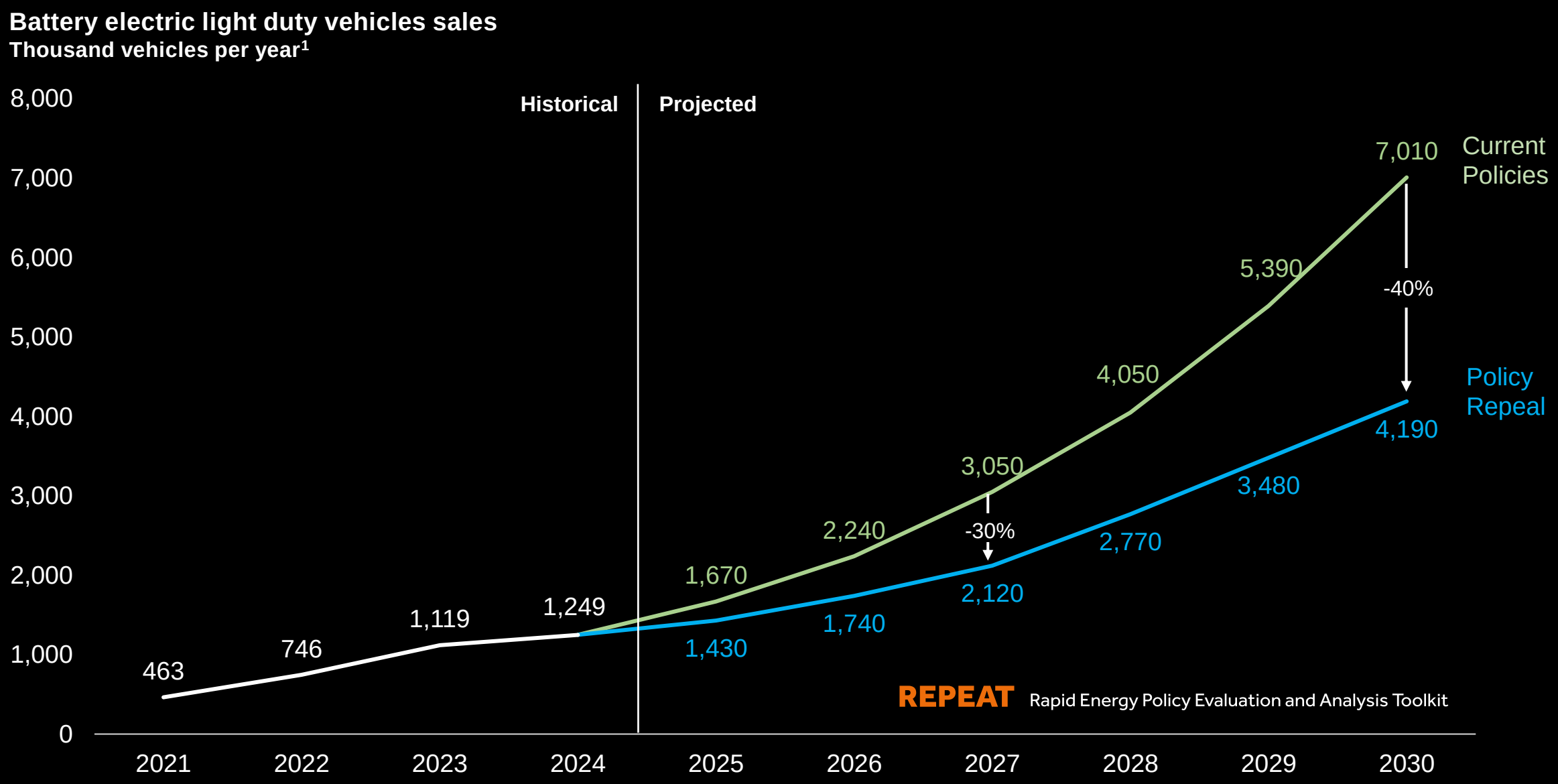

1. Values rounded to nearest 10,000 vehicles

Declining EV penetration under repeal

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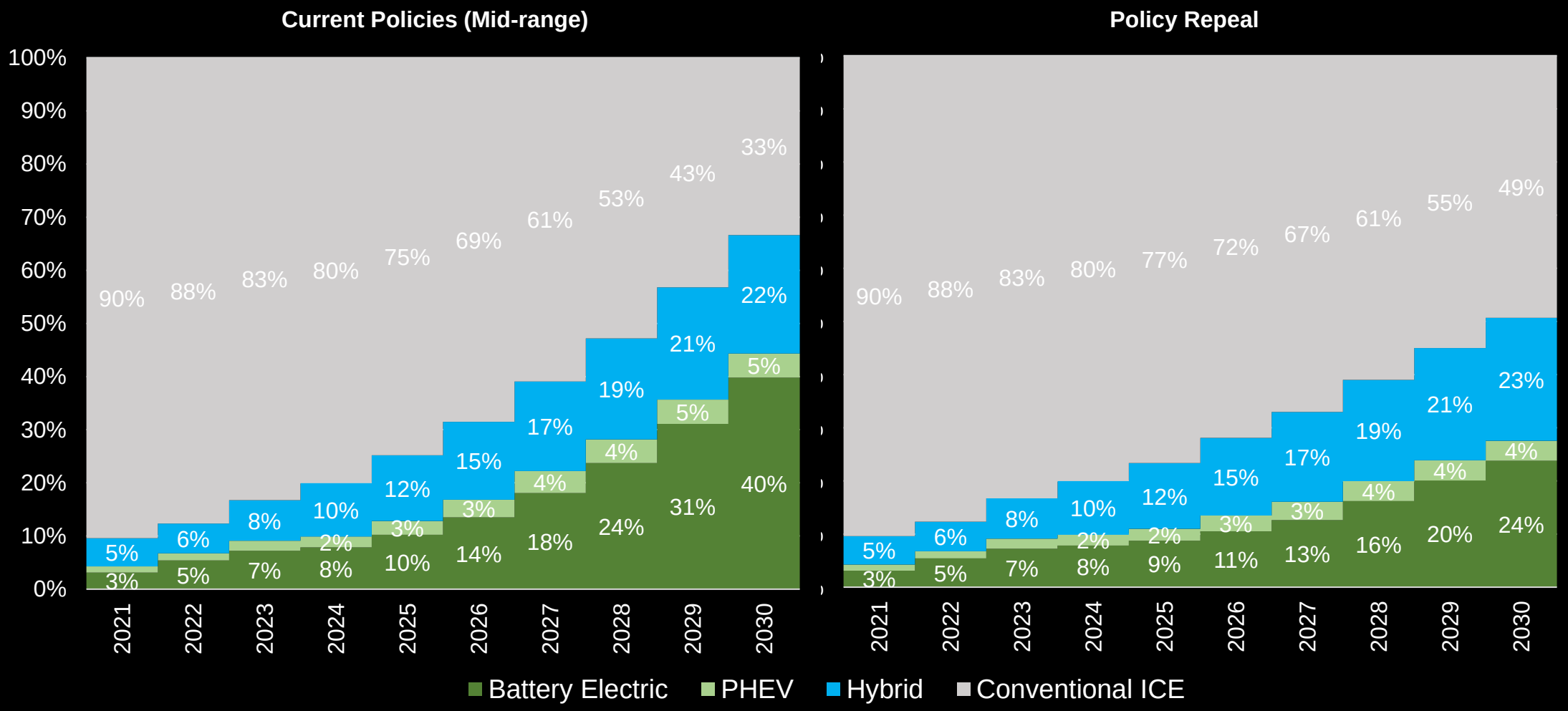
Light duty vehicle sales share by prime mover
Percent of annual sales



IRA tax credits help build a Made-in-USA manufacturing supply chain

The 30D New Clean Vehicle Tax Credit is a key component of a broader, pro-manufacturing industrial strategy implemented by the Inflation Reduction Act and Bipartisan Infrastructure Law to build a Made-In-USA electric vehicle assembly, battery manufacturing and critical minerals supply chain and to eliminate the influence of Chinese firms, the Chinese Communist Party, or other foreign entities of concern from U.S. supply chains.

To secure eligibility for the 30D tax credit, clean vehicles must: (1) be assembled in North America; (2) use battery components substantially sourced from North America; and (3) use critical minerals produced, processed or recycled in North America or free trade agreement countries allied with the United States. Additionally, new clean vehicles are disqualified from any portion of the 30D credit if they contain battery components manufactured by a Foreign Entity of Concern (FEOC) or critical minerals extracted, processed, or recycled by a FEOC. Foreign entities of concern are defined as individuals, businesses, or government entities either subject to the jurisdiction of the government of a covered nation (China, Iran, North Korea, and Russia) or owned by, controlled by, or subject to the direction of a covered nation's government.

Where 30D provides a strong 'demand pull' for vehicles and batteries manufactured in North America without Chinese influence, the 45X Advanced Manufacturing Production Tax Credit directly incentivizes investment in U.S. battery manufacturing and critical minerals mining, processing, and recycling.

Together, this pair of tax incentives have succeeded in supporting over $85 billion of capital investment in electric and plug-in hybrid vehicle assembly and battery manufacturing facilities currently operating or under construction across the United States. These facilities directly employ roughly 100,000 Americans today, a figure that could double as plants reach planned manufacturing volumes and complete ongoing construction.[1]

Summary of 30D New Clean Vehicle Tax Credit Requirements

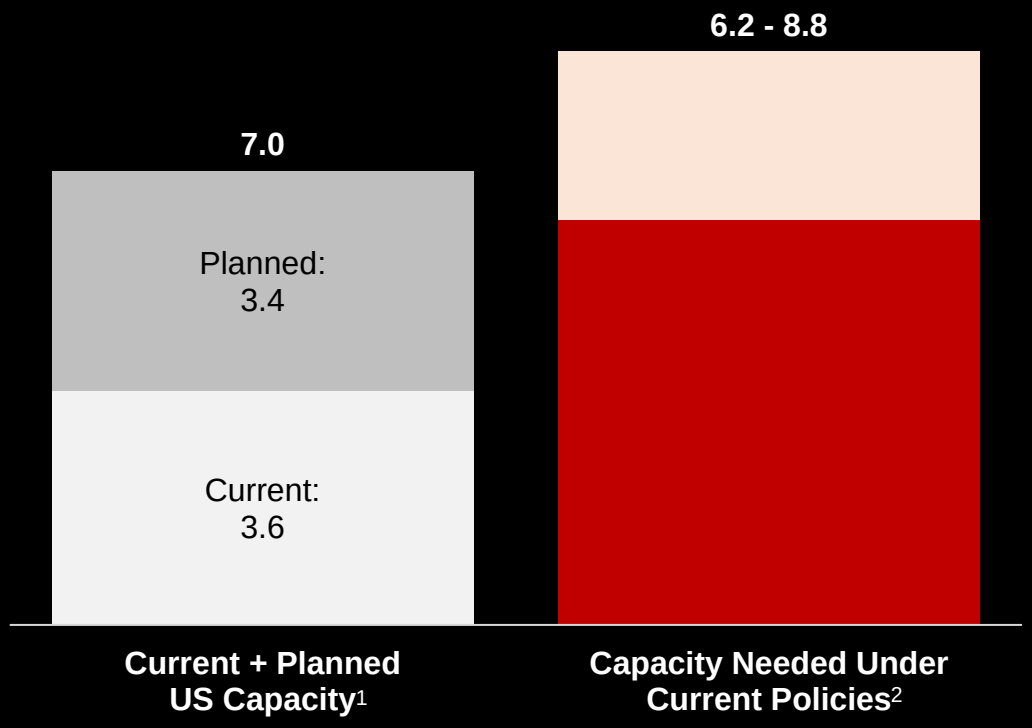
Year	Critical minerals requirement	Battery components requirement	50% Value Added Test for Critical Minerals	Impracticable-to-trace FEOC exemption
2023	40%	50%	Yes	Yes
2024	50%	60% (FEOC begins)	Yes	Yes
2025	60% (FEOC begins)	60%	Yes	Yes
2026	70%	70%	Yes	Yes
2027	80%	80%	No	No
2028	80%	90%	No	No
2029-2032	80%	100%	No	No

1. Data source: The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025

Source: Zero Emission Transportation Association (ZETA), "Overview of Final 30D New Clean Vehicle Tax Credit Requirements."

Planned investments in US EV manufacturing are sized to meet demand if current policies persist

US electric vehicle assembly capacity needed in 2030 vs current and planned capacity
Million vehicles per year manufacturing capacity

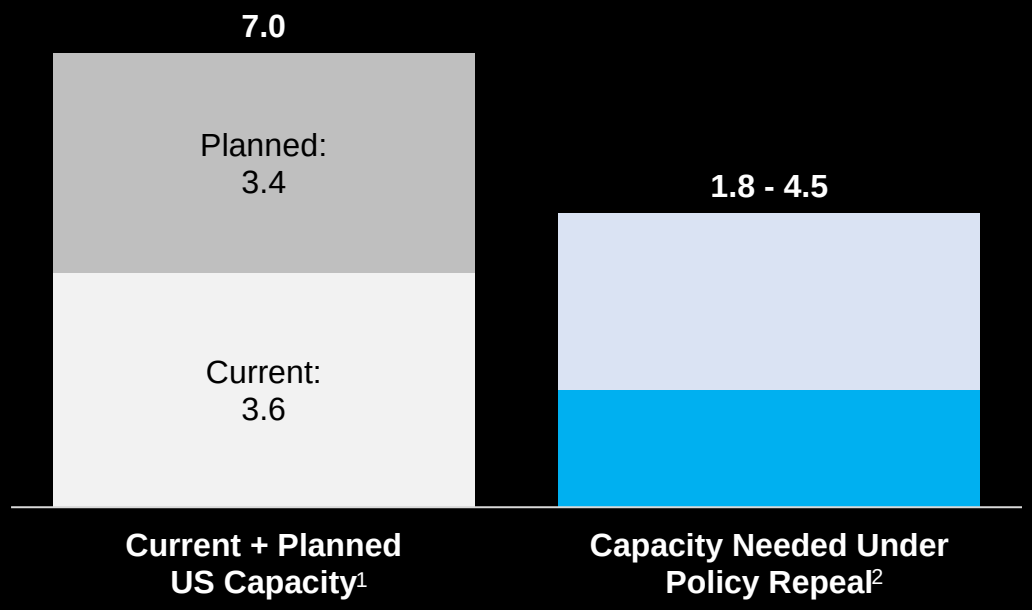


Announced manufacturing capacity additions and expansions would nearly double US capacity to produce electric vehicles by 2030 and are well sized to meet expected demand for Made-in-USA vehicles under a continuation of Current Policies.

1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025
2. Assumptions: 75% factory utilization rate for auto assembly facilities (as per US auto industry long-term average); US-assembled vehicles represent 60-85% of annual EV and PHEV sales in Current Policies scenarios (vs 70% share in 2024)

Repealing clean vehicle tax credits would destroy demand for new US EV manufacturing

US electric vehicle assembly capacity needed in 2030 vs current and planned capacity
Million vehicles per year manufacturing capacity



If federal policies supporting projected market demand for EVs could be met entirely with current assembly plant capacity. This calls into question the economic viability of all additional manufacturing plants that have been announced or are under construction across the US and would potentially result in the idling of some existing EV assembly plants and workers.

1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025
2. Assumptions: 75% factory utilization rate for auto assembly facilities (as per US auto industry long-term average); US-assembled vehicles represent 28-70% of annual EV and PHEV sales in IRA Repeal scenario, where 28% assumes no expansion in US production from 2024 levels and 70% assumes maintenance of 2024 market share

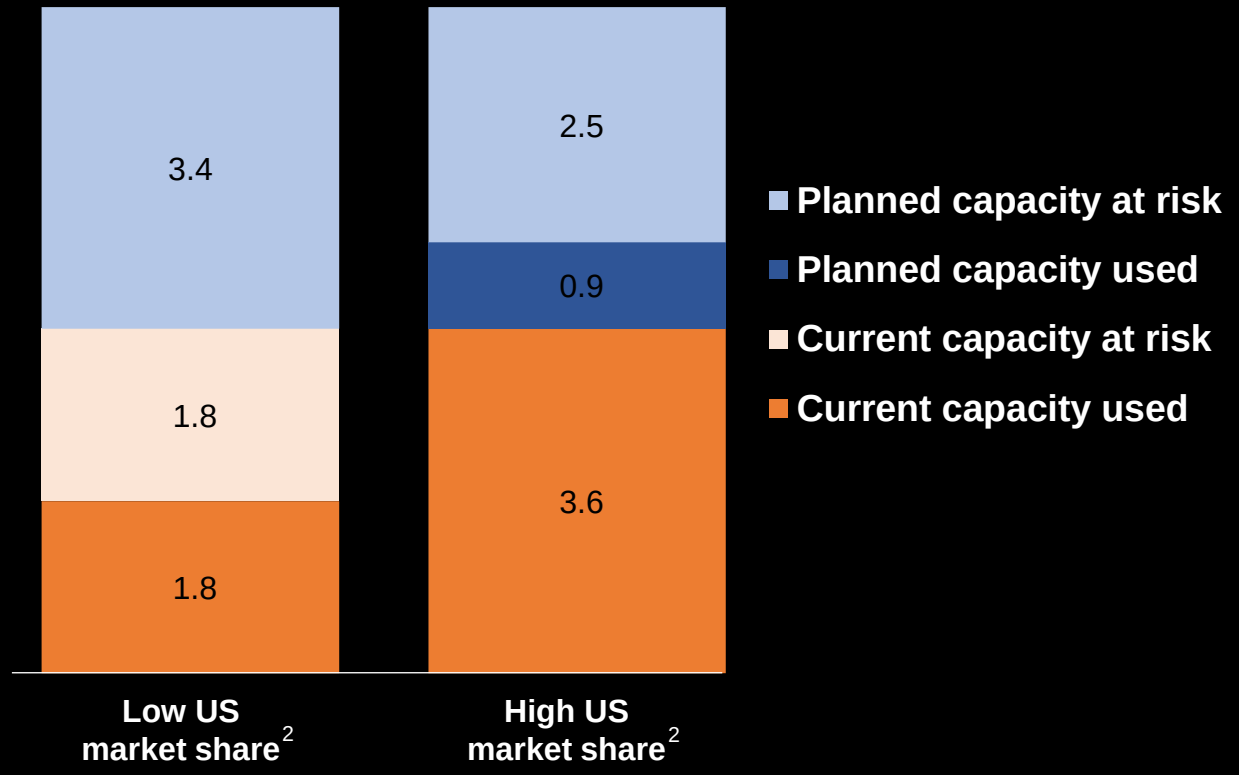
If clean vehicle credits are repealed, both planned and current vehicle assembly plants could be at risk

If clean vehicle tax credits are repealed, as much as 100% of planned construction and expansion of US EV assembly and half of *existing* capacity could be at risk of cancellation or closure.

If the share of EVs manufactured in the US remains at 2024 levels, nearly three-quarters of planned projects would be unnecessary.

Current and planned US electric vehicle assembly capacity utilized or at risk in 2030

Million vehicles per year manufacturing capacity[1]

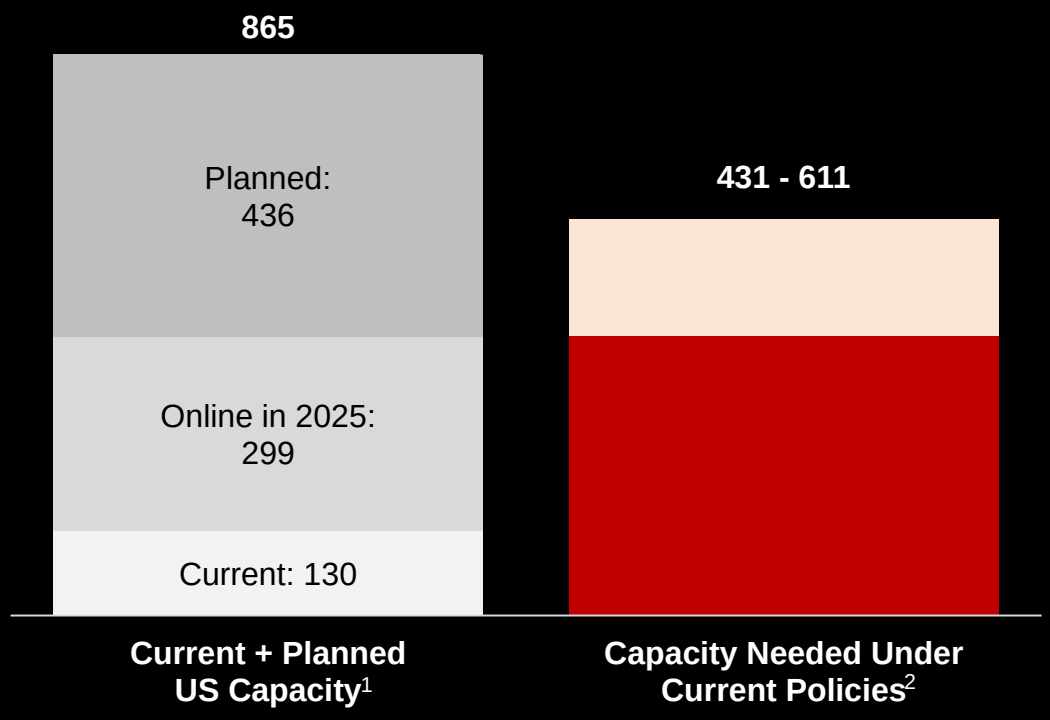


1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025
2. Low US market share: 28% consistent with continuation of 2024 US production volumes; high US market share: 70% consistent with continuation of 2024 US market share.

Planned expansion of US battery cell manufacturing exceeds demand under Current Policies

US battery cell manufacturing capacity needed in 2030 vs current and planned capacity

Gigawatt-hours (GWh) of battery cells per year manufacturing capacity



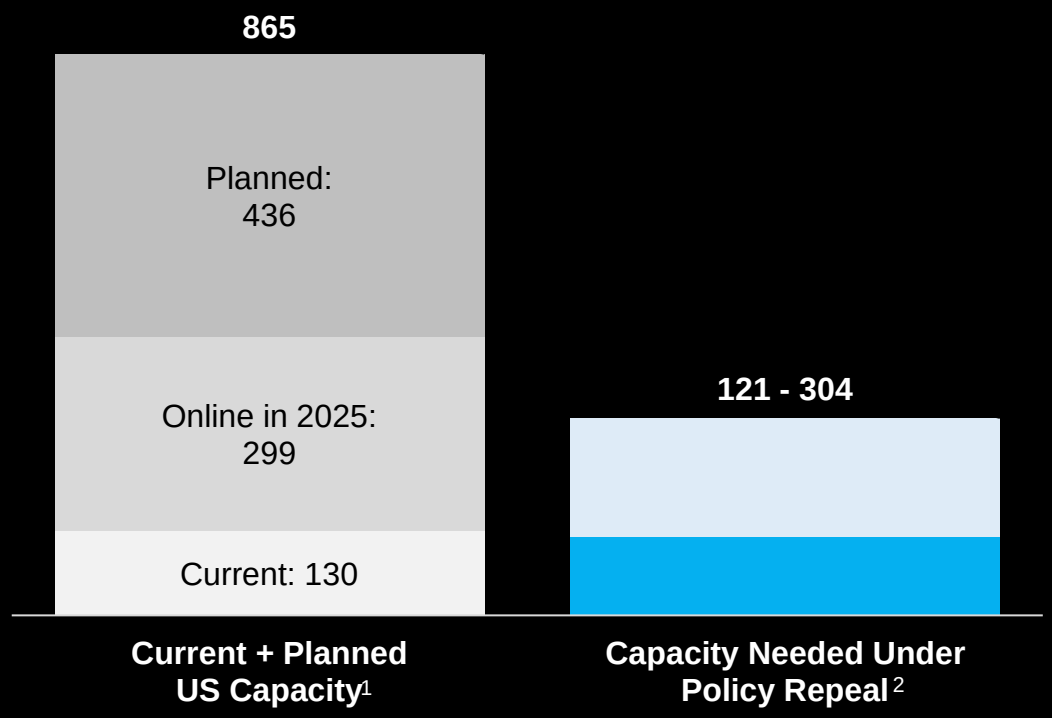
Currently planned construction of US battery cell manufacturing demand already exceeds requirements to supply electric vehicles assembled in the United States under a continuation of Current Policies.

1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025. Projects expected to be completed in 2025 from "EV Battery Manufacturing Capacity Will Rise When 10 New Plants Come Online This Year," *Inside Climate News,* 2/20/2025.
2. Assumptions: 75% factory utilization rate for battery cell assembly facilities (as per US auto industry long-term average); all vehicles assembled in USA source battery cells from the USA; US-assembled vehicles represent 60-85% of annual EV and PHEV sales in Current Policies scenarios (vs 70% share in 2024)

Without EV tax credits, planned battery cell manufacturing would result in large overcapacity

US battery cell manufacturing capacity needed in 2030 vs current and planned capacity

Gigawatt-hours (GWh) of battery cells per year manufacturing capacity



New battery cell manufacturing capacity expected to come online in 2025 will bring US production capacity to more than 400 GWh per year, well in excess of demand under Policy Repeal scenarios, making all other planned additions unnecessary.

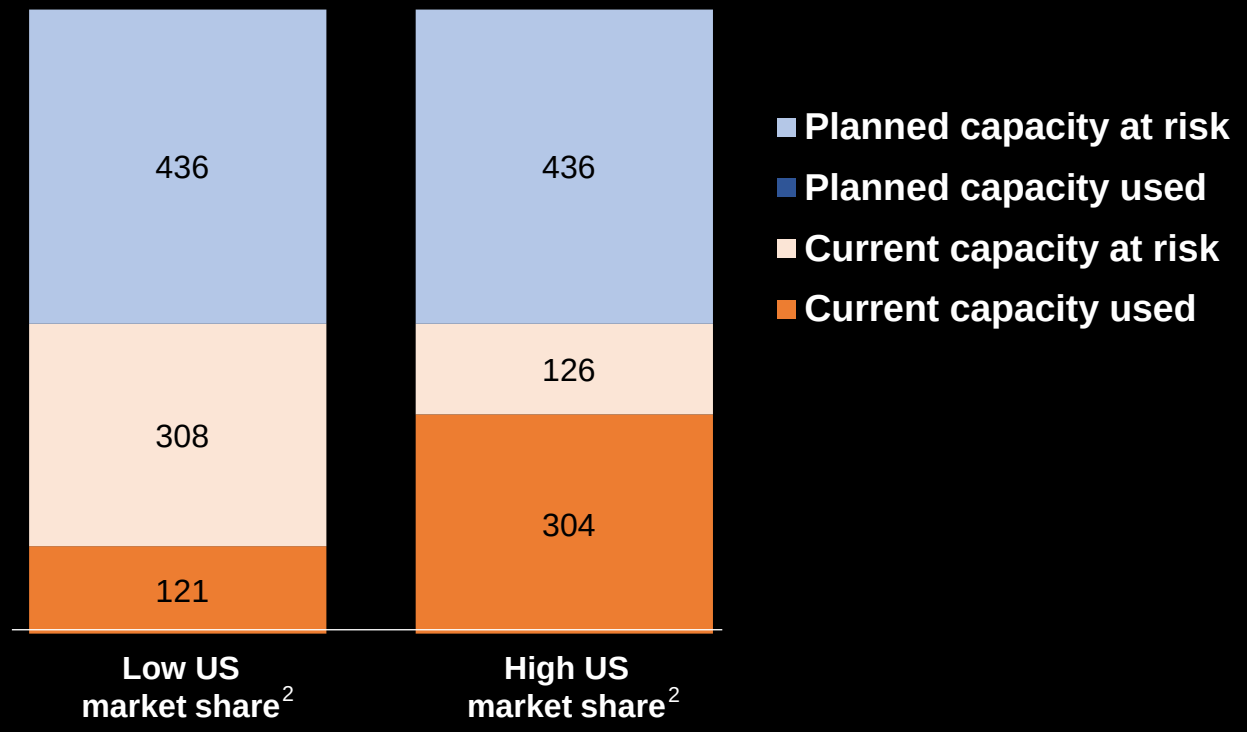
1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025. Projects expected to be completed in 2025 from "EV Battery Manufacturing Capacity Will Rise When 10 New Plants Come Online This Year," *Inside Climate News,* 2/20/2025.
2. Assumptions: 75% factory utilization rate for battery cell assembly facilities (as per US auto industry long-term average); all vehicles assembled in USA source battery cells from the USA; US-assembled vehicles represent 28-70% of annual EV and PHEV sales in IRA Repeal scenario, where 28% assumes no expansion in US production from 2024 levels and 70% assumes maintenance of 2024 market share

Repealing clean vehicle tax credits risks ending America's battery manufacturing boom

Without clean vehicle tax credits, between 29% and 72% of battery cell manufacturing capacity currently operating or online by the end of 2025 would be unnecessary to meet automotive demand and could be at risk of closure, in addition to 100% of other planned facilities.

Current and planned US electric vehicle assembly capacity utilized or at risk in 2030

Million vehicles per year manufacturing capacity[1]



1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025. Projects expected to be completed in 2025 from "EV Battery Manufacturing Capacity Will Rise When 10 New Plants Come Online This Year," *Inside Climate News,* 2/20/2025. Current capacity in this plot includes projects under construction and expected to be operation in 2025.
2. Low US market share: 28% consistent with continuation of 2024 US production volumes; high US market share: 70% consistent with continuation of 2024 US market share; all vehicles assembled in USA source battery cells from the USA

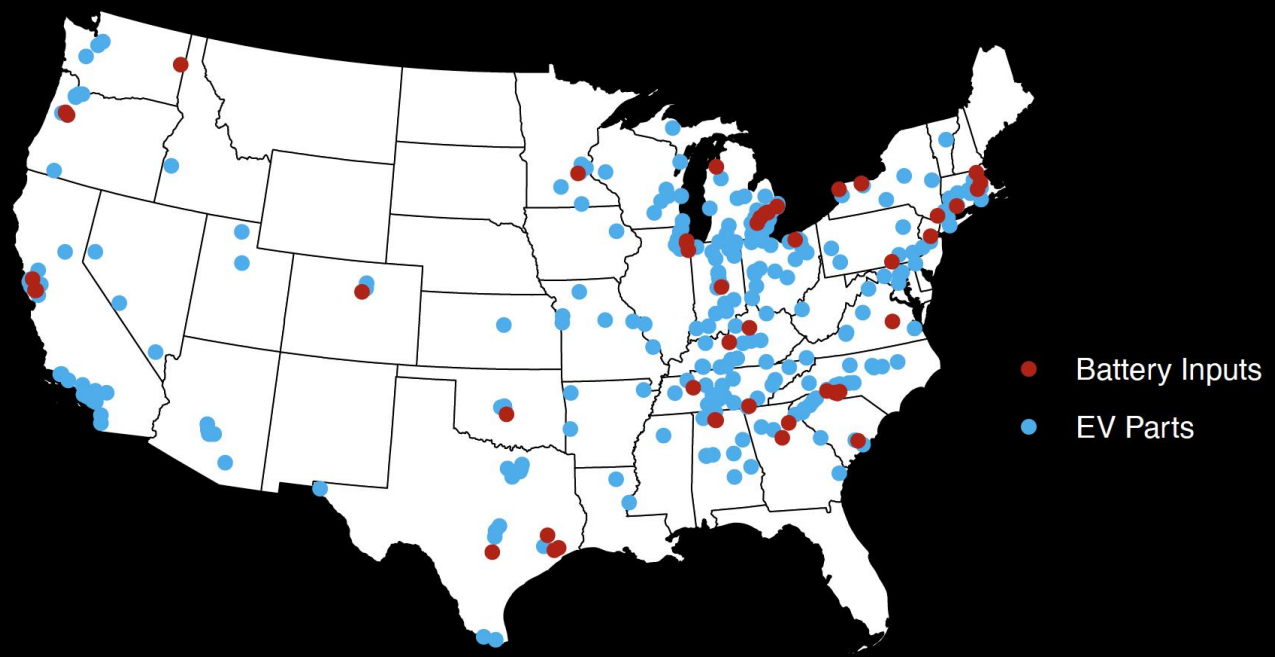
Impacts on EV and battery component suppliers and critical minerals production

A substantial reduction in demand for U.S.-produced electric vehicles and battery cells would also have broader implications for the U.S. EV and battery component supply chain as well as demand for critical minerals production, processing and recycling in the United States.

While quantifying these impacts is beyond the scope of this report, it is clear that repeal of tax incentives for electric vehicle adoption would have two damaging effects on this broader supply chain:

- First, overall demand for electric vehicle assembly and battery cell and pack manufacturing would decline significantly, as discussed above.
- Second, the loss of the battery component and critical minerals sourcing requirements enshrined in the 30D new clean vehicles tax credit would further reduce demand for battery inputs produced in the United States.

Operating US suppliers of inputs, components and parts for batteries and electric vehicles[1]



1. Source: Blue Green Alliance Foundation, accessed 2/24/2025. Battery Inputs facilities include operating facilities directly supplying 30D eligible materials and components for EV batteries, excluding cell and pack assembly. EV Parts facilities represent suppliers of non-battery components to electric vehicle assembly facilities. Data set is not exhaustive.

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