

Mobility and Energy Future Insight

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US EV tax credit in the Inflation Reduction Act bill: Same \$7,500 maximum, different restrictions

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Key implications

On 7 August 2022, the US Senate passed a landmark climate and energy bill, which includes a revamped electric vehicle (EV) tax credit. Under the bill, known as the Inflation Reduction Act of 2022 (IRA), the maximum tax credit a consumer can receive for buying an EV would remain at \$7,500. Yet the proposed revamped EV tax credit removes a key restriction while adding new ones. There would be no phaseout mechanism for tax credits once automakers sell 200,000 EVs. However, vehicles would become subject to critical minerals and battery component sourcing requirements—based on country of origin—that become more stringent over time, as well as a requirement that final assembly be in North America. The US House of Representatives could pass the legislation as soon as tomorrow, paving the way for US President Joe Biden to sign the bill into law.

- **Unlike under the current law, the IRA would allow light EVs produced by all automakers to have the potential to qualify for a tax credit of up to \$7,500.** Currently, owing to a per-automaker vehicle cap, Tesla and General Motors (GM) vehicles no longer qualify for an EV tax credit, while such an incentive will soon begin phasing out for Toyota vehicles. If the current EV tax credit policy were left unchanged, vehicles from more automakers would become ineligible in the coming years.
- **Proposed critical mineral and battery component country of origin requirements could limit the number of EV models eligible for a tax credit.** Notably, the processing of key battery minerals is heavily concentrated in mainland China today and it would take time for such capacity to be built in the United States or close trading partners. Yet, in line with an apparent intent of such provisions, the IRA would likely accelerate efforts to build out a domestic EV battery supply chain. The bill's battery-related content provisions are a key source of uncertainty in assessing its potential impact on US battery electric vehicle (BEV), plug-in hybrid electric vehicle (PHEV), and fuel-cell electric vehicle (FCEV) sales through the end of the decade.

("Key implications" is continued on the next page.)

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Key implications (continued)

- **The latest Mobility and Energy Future US EV sales outlook assumes the current EV tax credit policy will be “refreshed” in a way that maintains a similar monetary value and either raises or removes the per-automaker vehicle cap.** Notably, impacts of the aforementioned country of origin requirements in the IRA bill, if passed into law, would be an area of future research. In any event, increasingly stringent regulations—mainly federal light vehicle (LV) greenhouse gas (GHG) performance standards and California’s zero-emission vehicle (ZEV) sales mandate—will be a key driver of US EV adoption. We currently project that the US BEV, PHEV, and FCEV share of total LV sales will rise from 4% in 2021 to 41% in 2030.
- **Should the IRA become law, the United States would be going against the grain of scaling back EV subsidies in some other key markets.** Mainland China has said it will end subsidies for new energy vehicles (NEVs) at the end of 2022, while Germany recently announced cuts to its EV incentives from 2023.* The United Kingdom ended its plug-in car grant program altogether earlier this year. These three markets—mainland China, Germany, and the United Kingdom—are further along the EV adoption curve than the United States.

*NEVs include BEVs, PHEVs, and FCEVs.

Proposed revamped US EV tax credit lifts per-automaker vehicle cap, though imposes new limits

On 7 August 2022, the US Senate passed a landmark climate and energy bill, which includes a revamped EV tax credit. Under the bill, known as the IRA, the maximum tax credit a consumer can receive for buying an EV would remain at \$7,500.¹ Yet the proposed revamped EV tax credit removes a key restriction while adding new ones. There would be no phaseout mechanism for tax credits once automakers sell 200,000 EVs. However, vehicles would become subject to critical minerals and battery component sourcing requirements—based on country of origin—that become more stringent over time, as well as a requirement that final assembly be in North America. The US House of Representatives could pass the legislation as soon as tomorrow, paving the way for US President Joe Biden to sign the bill into law.

Unlike under the current law, the IRA, as currently written, would allow EVs produced by all automakers to have the potential to qualify for a tax credit of up to \$7,500. Currently, owing to the per-automaker vehicle cap mentioned above, Tesla and GM vehicles no longer qualify for an EV tax credit, while such an incentive will soon begin phasing out for Toyota vehicles. If the current EV tax credit policy were left unchanged, vehicles from more automakers would become ineligible in the coming years.²

In addition to the removal of the per-automaker EV sales cap, other key elements to the proposed revamped EV tax credit policy, in general terms, include

- **Final assembly location requirement.** Final assembly of EVs must be in North America.
- **Critical mineral and battery component sourcing requirements.** To qualify for the full \$7,500 tax credit, EVs must meet minimum country of origin requirements for both critical minerals and battery components. For critical minerals, at least 40% of their value must come from materials extracted or

1. See Inflation Reduction Act of 2022, H.R. 5376, 117th Congress (2021–22), <https://www.congress.gov/bill/117th-congress/house-bill/5376/text>, retrieved 9 August 2022.

2. Of note, for now, there is no lack of demand for BEVs or PHEVs in the United States; the market for BEVs and PHEVs, like the LV market more broadly, is supply constrained rather than demand constrained owing in part to supply chain bottlenecks, including a shortage of automotive microchips.

processed in the United States or a country that the United States has a free-trade agreement with or recycled in North America before 2024, ramping up to 80% after 2026. For battery components, at least 50% of their value must be manufactured or assembled in North America before 2024, ramping up to 100% after 2028. Further, the bill stipulates that vehicles with any battery component or battery critical mineral content from a “foreign entity of concern” purchased after 2023 and 2024, respectively, would not qualify for a tax credit. A foreign entity of concern, in general terms, includes entities owned, controlled by, or subject to the jurisdiction/direction of a handful of markets, including mainland China.

- **Vehicle price limits.** The manufacturer’s suggested retail price (MSRP) of light EVs besides sport utility vehicles (SUVs), pickup trucks, and vans must be no more than \$55,000; for SUVs, pickup trucks, and vans, the MSRP price must be no more than \$80,000.
- **Vehicle buyer income limits.** The income of a light EV buyer must be no more than \$150,000 for an individual tax filer and no more than \$300,000 for joint tax filers.
- **Potential availability of funds from tax credits to vehicle buyers when purchasing a vehicle.**
- **Eligibility of FCEVs for tax credits.**³

Of note, in at least one respect, some PHEVs appear to be treated relatively favorably under the proposed revamped EV tax credit policy, with EVs with a battery capacity of as little as 7 kWh having the potential to qualify for the full \$7,500 tax credit; currently plug-in vehicles with relatively modest battery sizes earn only a portion of the maximum \$7,500.

Among other EV and battery-related provisions, the IRA also includes a tax credit for used light EVs of up to \$4,000, and a tax credit of up to \$40,000 for heavier new commercial EVs—incentives that do not currently exist in the US tax code.

Critical mineral and battery component country of origin requirements could limit number of eligible EV models

An initial review of the bill suggests that geographic content requirements for battery components and critical minerals could be challenging for the automotive industry to meet.⁴ Notably, the processing of key battery minerals such as lithium and cobalt is heavily concentrated in mainland China today, and it would take time for new processing capacity to be built in the United States or close trading partners.⁵ Yet, in line with an apparent intent of such provisions, the IRA bill, if passed in its current form, would likely accelerate the build-out of a domestic EV battery supply chain.⁶ The bill’s battery-related content provisions are a key source of uncertainty in assessing its potential impact on US BEV, PHEV, and FCEV sales through the end of the decade.

3. The effective dates of some of these provisions differ. Under the current EV tax credit policy, there are no limits on vehicle price and buyer income, and there are no battery material sourcing requirements. Likewise, under the current policy, buyers of qualifying EVs need to wait until after they file their taxes for a given year to receive a tax credit, and FCEVs are not eligible for a tax credit.

4. John Bozzella, president and CEO of the Alliance for Automotive Innovation, an automotive industry trade association, said “...there are 72 EV models currently available for purchase in the United States including battery, plug-in hybrid, and fuel-cell electric vehicles. Seventy percent of those EVs would immediately become ineligible when the bill passes, and none would qualify for the full credit when additional sourcing requirements go into effect.” See John Bozzella, “What If No EVs Qualify for the EV Tax Credit? It Could Happen,” Alliance for Automotive Innovation, 5 August 2022, <https://www.autosinnovate.org/posts/blog/what-if-no-evs-qualify-for-the-ev-tax-credit>, retrieved 10 August 2022.

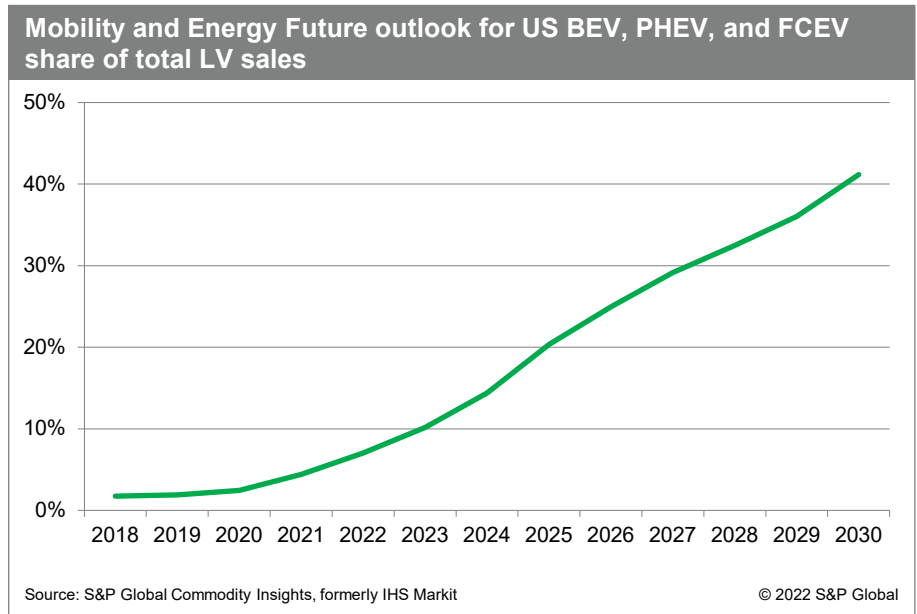
5. See the IHS Markit Strategic Report *Big Shovels: Can battery raw material supply keep pace with demand?*.

6. US Senator Joe Manchin, who was fundamental in bringing about the IRA bill recently said, “Tell [automakers] to get aggressive and make sure that we’re extracting in North America, we’re processing in North America and we put a line on China.” He said, “I don’t believe that we should be building a transportation mode on the backs of foreign supply chains. I’m not going to do it.” See David Shepardson, “Automakers press U.S. Senator Manchin for changes to EV tax credit proposal,” Reuters, 2 August 2022, <https://www.reuters.com/business/autos-transportation/automakers-press-us-senator-manchin-changes-ev-tax-credit-proposal-2022-08-02/>, retrieved 8 August 2022.

Mobility and Energy Future US EV outlook assumes a “refresh” of the EV tax credit policy

The latest US EV sales outlook by Mobility and Energy Future assumes that the current US EV tax credit policy will be “refreshed” in a way that maintains a similar monetary value and either raises or removes the per-automaker vehicle cap. Notably, impacts of the aforementioned country of origin requirements of a revised EV tax credit policy, if passed into law, would be an area of future research. In any event, increasingly stringent regulations—mainly federal LV GHG performance standards and California’s ZEV sales mandate—will be a key driver of US EV adoption. We currently project the US BEV, PHEV, and FCEV share of LV sales will rise from 4% in 2021 to 41% in 2030 (see Figure 1).⁷

Figure 1



More broadly, should the IRA become law, the United States would be going against the grain of scaling back EV subsidies in some other key markets. Mainland China has said it will end subsidies for NEVs at the end of 2022, while Germany has announced cuts to its “environmental bonus” for BEVs—and an end to such an incentive for PHEVs altogether—from 2023. The United Kingdom ended its plug-in car grant program earlier this year. Notably, the three aforementioned markets—mainland China, Germany, and the United Kingdom—are further along the EV adoption curve than the United States. For governments, scaling back EV subsidies as EV sales rise is a way to help keep spending on such incentives in check.

7. See the IHS Markit Scheduled Update [ZEV Watch: Mainland China’s EV market comes of age](#).

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