

THE INFLATION REDUCTION ACT'S

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# COSTLY NEW TAX CREDITS FOR ELECTRIC VEHICLE BATTERIES

By Vance Ginn, Ph.D.

April 5, 2023



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# AUTHOR'S BIOGRAPHY

Vance Ginn, Ph.D., is president of Ginn Economic Consulting, senior fellow of Americans for Tax Reform, and chief economist or senior fellow at several national and state think tanks. He earned his doctorate in economics at Texas Tech University and has an accomplished career as an economist and university lecturer with experience in public policy, academia, and government. From 2019 to 2020, Dr. Ginn served as the associate director for economic policy of the Office of Management and Budget (OMB) at the Executive Office of the President. He resides in Round Rock, Texas.

## ISSUE

The Inflation Reduction Act that was passed in August 2022 includes tax credits for battery production for electric vehicles (EV) to help lower the cost and boost domestic production. Due to the rapid expansion of the domestic EV market, the Congressional Budget Office's estimated costs for these tax credits are well below more realistic costs through 2032.

## MAIN POINTS

- The Inflation Reduction Act (IRA) passed in 2022 includes battery production tax credits to boost domestic production for Electric Vehicles.
- The Congressional Budget Office (CBO) estimates that these tax credits will cost \$30.6 billion over the next decade.
- New information for the growth of the EV market indicates that the CBO's estimates for these tax credits are well below more current and accurate projections, which show the cost could be nearly \$200 billion.
- This is just one of the underestimated costs of the IRA, and every initiative in the act should be scrutinized, including these costly tax credits that distort the market and hinder economic growth.

# RECOMMENDATION

Policymakers should advocate for less government spending and fewer distortions of markets like eliminating the tax credits for the domestic production of EV batteries. Nonpartisan agencies and committees responsible for providing Congress with accurate revenue estimates and sound economic analysis should reexamine their initial cost estimations.

## EXECUTIVE SUMMARY

The U.S. Congress passed and President Biden signed into law the so-called “Inflation Reduction Act” (IRA) in August 2022. The IRA includes many provisions which are now estimated to [cost \\$1.2 trillion](#) over a decade per Goldman Sachs’ more recent analysis compared with the Congressional Budget Office’s (CBO) initial estimate of \$391 billion.

Part of this substantially higher estimated cost is because of the new cost estimates for tax credits for electric vehicle (EV) battery cells and modules manufactured in the U.S. Instead of the initially estimated cost of \$30.6 billion by the CBO, new estimates based on more precise projections and growth in the EV market indicate that this could be as high as \$196.5 billion (540% higher than initially estimated) per the Mercatus Center and Goldman Sachs. This higher estimate appears more accurate than the original CBO estimate given the large increase in the EV market and the expanding use of these tax credits.

Given that the cost of these subsidies passed by Congress and communicated to the public appears to be substantially undervalued, the CBO and other nonpartisan agencies and committees responsible for providing Congress with accurate revenue estimates and sound economic analysis should reexamine their calculations.

# INTRODUCTION

In 2023, [60% of Americans](#) are living paycheck to paycheck and credit card debt is soaring to nearly [\\$1 trillion](#) partially due to persistently high inflation from Congress' over-spending and the Federal Reserve's over-printing of money over the last few years. Increased spending, and therefore taxes, [disincentivize work](#) as people keep less of what they earn, thereby reducing economic growth and subsequently resulting in [less tax revenue](#). Given these facts, a thorough cost-benefit analysis should be applied to every new government initiative.

In this brief, we consider a new government initiative in the so-called "Inflation Reduction Act" (IRA) to incentivize the production of battery cells and modules to boost the domestic production of electric vehicles. But we also note how this comes at a substantially higher cost than initially sold to the public, and these tax credits represent a rising cost to taxpayers and a growing burden on their futures.

## THE INFLATION REDUCTION ACT (IRA) AND HOW IT FUNDS EV BATTERIES

In August 2022, the IRA [was signed into law](#) with the reported purpose of fighting inflation by theoretically reducing the deficit through increased taxes and increased government outlays. Supposedly, the IRA will improve equity by reducing domestic ["greenhouse gas emissions in 2030 by about 40% from their 2005 peak"](#) and investing in domestic energy production, an estimated ["\\$369 billion in Energy Security and Climate Change programs over the next ten years."](#) The IRA was also created to target health care costs; however, its greatest expenses go toward spending more on domestic manufacturing on unreliable renewable energy.

In short, the IRA was a costly expenditure bill that raised taxes to implement much of the ["Build Back Better"](#) plan desired by the Biden administration, which implements a green energy agenda via increased spending, substantial taxpayer subsidies, and added regulations.

Section 13502 of the IRA titled “Advanced Manufacturing Production Credit” includes tax credits for domestically manufactured battery cells and modules. By making it more affordable for manufacturers to produce EVs, ideally, consumers will be able to purchase them at a lower cost, supporting more domestic battery production and consumption. EV producers are currently taking advantage of this new initiative. Driven by the new tax credits, Tesla is moving its battery production away from Germany to Texas, as doing so could “[offset more than a third of the cost of EV battery packs](#).” Additionally, in 2022, investments in U.S. EV manufacturing grew from [\\$24.3 billion in 2021 to \\$73.6 billion](#), indicating a much larger cost from these new tax credits than were initially estimated by the CBO.

## LATEST COSTS OF THE EV SUBSIDIES

These EV battery production tax credits artificially reduce the cost of producing these battery cells and modules through direct subsidies of taxpayer money to businesses. The amount of a tax credit to the producers of these batteries depends on kilowatt hours (kWh). Battery cells can receive a [\\$35 tax credit for every kWh](#) of energy the battery produces, while battery modules can receive \$10 per kWh, or “[\\$45 in the case of a battery module that does not use battery cells](#).”

The CBO estimates that funding these tax credits over the next decade (2022-31) could cost [\\$30.6 billion](#). Given that the market growth for domestic energy production cannot be fully forecast, the CBO’s projected costs for this initiative are hypothetical at best. New estimates based on the current growth of the EV market in the U.S. show that the actual cost could be substantially higher. For instance, a manufacturer utilizing the \$35 per kWh tax credit could accrue nearly \$2.5 billion in credits in one year just by producing 70-kWh batteries for one million vehicles. This calculation is consistent with recent EV sales.

Last year, Tesla’s Model Y was the most-sold EV in America, selling [234,834 units](#). The Model Y battery starts at 75-kWh. Given these figures, Tesla could have received over \$616 million in tax credits for its 2022 sales of the Model Y alone. This is based on a conservative estimate that each purchase was for a 75-kWh battery, as the [Model Y batteries can be up to 81 kWh](#). This was also before the IRA tax credits could be fully utilized, as the initiative was only passed in August 2022. In 2023, Tesla is estimated to produce close to [2 million EVs](#), with Model Y production alone anticipated to reach 1 million units

this year. These estimates track with [Tesla's first-quarter financial report for 2023](#), which shows that Tesla produced more than 440,000 EVs then. EV production at this level could amount to more than \$5 billion in annual tax credits for Tesla, a single auto manufacturer. Additionally, [Ford's Michigan plant](#) with Chinese battery maker CATL alone could cost \$1.5 billion annually in credits.

Given these calculations based on just one manufacturer, Tesla, and the potential tax credits in the billions for GM each year over the next decade, the CBO's cost estimate of \$30.6 billion to fund these tax credits is too low. This was recently noted in estimates by Christine McDaniel of the [Mercatus Center](#), who incorporated the full \$45 tax credit across the market over the next decade in her calculations which result in a top cost estimate of \$196.5 billion, which is 540% higher than the CBO's estimate. However, using the \$10 and \$35 production credits, "the value drops to \$43.7 billion and \$152.8 billion, respectively."

## Evaluating the cost

Estimates of the budget impact of electric vehicle battery production credits are soaring far beyond what Congress was told before passage in August.

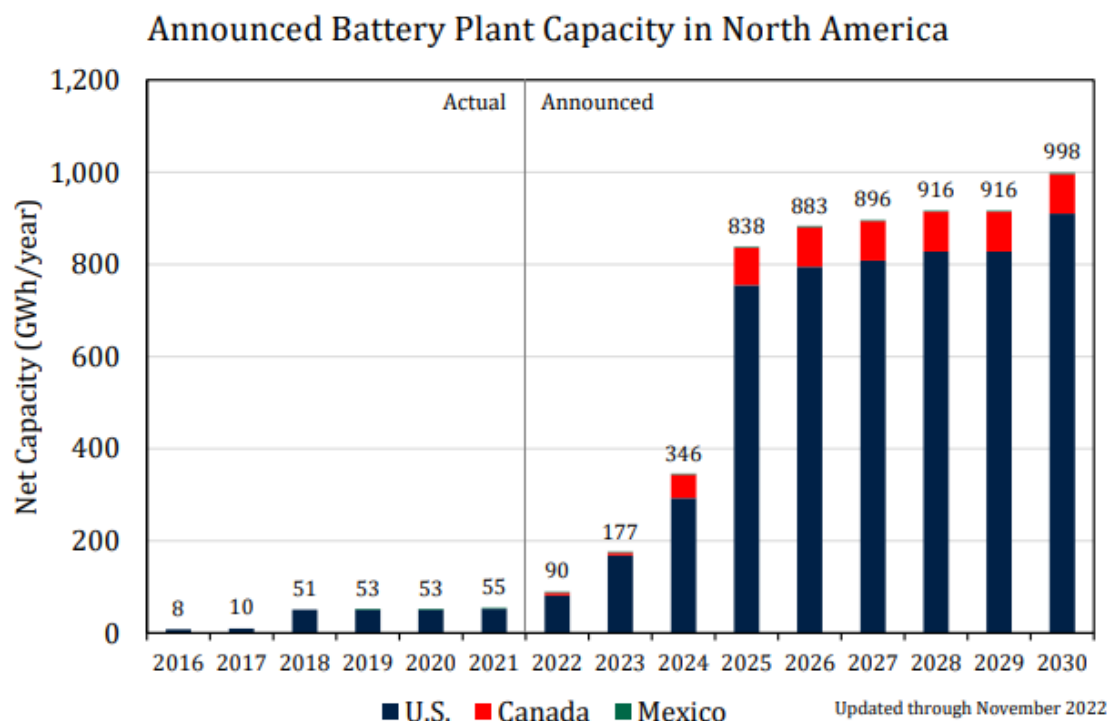


SOURCE: CBO ESTIMATE FROM CONGRESSIONAL BUDGET OFFICE. ESTIMATES BASED ON RECENT DATA FROM AUTHOR'S ESTIMATES BASED ON US SHARE OF NORTH AMERICA'S ANNOUNCED BATTERY PLANT CAPACITY AS REPORTED IN ARGONNE NATIONAL LABS REPORT. CHRISTINE MCDANIEL, MERCATUS CENTER, GEORGE MASON UNIVERSITY.

**MERCATUS CENTER**  
George Mason University

Source: Forbes article by Christine McDaniel at Mercatus Center.

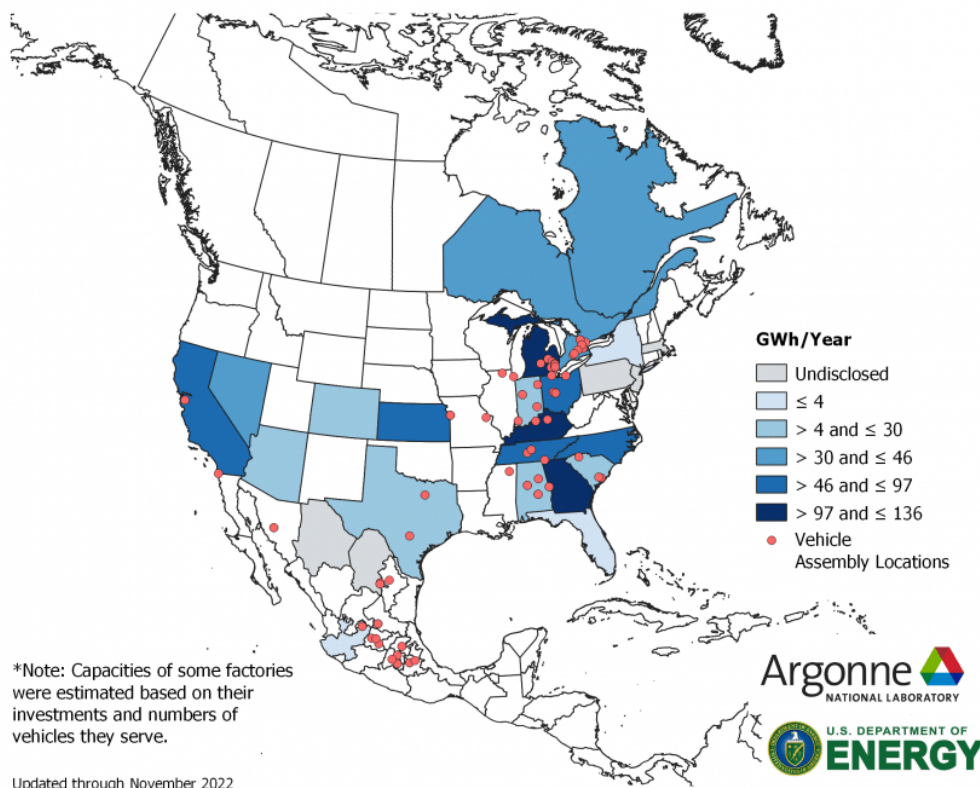
These calculations are based on 75% capacity utilization at battery plants according to announced plant capacity growth in a recent report by [Argonne National Labs](#) (ANL). Specifically, [ANL notes](#) that the announced capacity increases of “planned battery plants will increase the battery manufacturing capacity in North America from less than 100 GWh in 2021 to approximately 1,000 GWh by 2030.”



Source: [Argonne National Labs](#)

This ten-fold increase in capacity substantially increases the likelihood that there will be more tax credits provided than what was assumed by the CBO, even at the 75% capacity utilization rate. This rate is reasonable given projections by the Office of Energy Efficiency and Renewable Energy that by 2030 “[production capacity will be capable of supporting the manufacture of roughly 10 to 13 million all-electric vehicles per year,](#)” representing a [20-fold increase](#) from 2021.

## Planned Battery Plant Capacity in North America by 2030



Source: [Office of Energy Efficiency and Renewable Energy](#)

Additionally, the CBO's original cost estimate was conducted without the knowledge of important guidance from the Biden administration regarding the implementation of the IRA's EV provisions. In December, a few months after the IRA was signed into law, the Treasury Department [delayed plans](#) to issue guidance for sourcing requirements for EV battery incentives under the IRA. This delay increased the pool of EVs eligible for tax credits as models not expected to comply with IRA's sourcing standards continued to be eligible for the credits.

On March 31, 2023, the Treasury finally issued draft [guidance](#) on the IRA's EV provisions. This draft guidance [reportedly](#) weakens mineral sourcing requirements for EV battery production and could allow the Treasury to consider free trade agreements that could include mineral agreements with the European Union and Japan. This would greatly increase the pool of EVs eligible for the IRA tax incentives beyond what was understood during the passage of the IRA, increasing the demand for EVs and the cost of their



taxpayer subsidies. Even Democrat lawmakers who voted in support of the IRA, have criticized Treasury's guidance while warning of the increased cost to taxpayers. Sen. Joe Manchin (D-WV) issued a [press release](#) stating "the guidance released by the Department of the Treasury completely ignores the intent of the Inflation Reduction Act...It is a pathetic excuse to spend more taxpayer dollars as quickly as possible and further cedes control to the Chinese Communist Party in the process."

Guidance from the U.S. Treasury Department defining eligibility will play a significant role in understanding the cost of the IRA's EV tax provisions. The CBO's original estimate could not have foreseen the Treasury's proposed expansion of eligibility. New cost estimates should account for the Biden Administration's rule-making that will increase costs for taxpayers.

## CONCLUSION

While the growth of markets is generally beneficial for overall economic welfare, the expansion of the EV market could easily burden the economy more than it will support it due to these expensive tax credits provided in the IRA.

Although the EV industry in the U.S. is growing, it is still a relatively small player in the overall U.S. economy. Given the over \$31 trillion national debt, the potential costs of these subsidies must be properly understood, especially given the strained economy of high inflation and increasing likelihood of a deeper recession. Considering these concerns and the fact that it is difficult to define how big the EV market could be over the next decade, policymakers must carefully consider the true costs and benefits of EV tax credits.

For policymakers to assess the true costs and benefits of the IRA's EV tax credits, accurate cost estimates and economic information are required. Several estimates from respected economic forecasters, as outlined in this brief, are now warning that the true costs of the IRA's electric vehicle incentives hold a substantially higher price tag for taxpayers than was initially projected by the CBO prior to the IRA becoming law.

As such, it is in the public interest of the CBO, along with other nonpartisan agencies and committees responsible for providing Congress with revenue estimates and sound economic analysis, to reassess the original estimates conducted by the CBO.

The IRA was represented to the American public as legislation that would reduce the national debt and by doing so, help reduce inflation. New analyses raise substantially more doubt that this legislation will reduce deficits and the national debt. The ballooning costs of the “Advanced Manufacturing Production Credit” alone warrant concern, as the cost of this single provision may be well over \$100 billion more than the public understood at the time of the IRA’s passage.

Therefore, these costly tax credits should be scrutinized and possibly eliminated because of their excessive costs and distortions to the marketplace.