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THE HIDDEN BUSINESS IMPACTS OF EV CREDITS

As futurists working with companies to understand the impact of climate change and climate change response on their businesses, we are analyzing the second- and third-order impacts of the components of the Inflation Reduction Act (IRA). Take one component of the IRA as an example: the electric vehicle (EV) credit. While the credit's intended consequence is reduced U.S. reliance on carbon-based fuels, what other unforeseen consequences could be on the horizon? To get smart on these next-level implications, we asked our fellow futurist Jennifer Karppinen to share her insights. Jennifer's thinking shows us that the EV credit creates new pathways for our nation and our industries. And, with those new pathways come uncertainty. Thinking through those consequences allows organizations to create strategies that harness the promise of EV while making decisions that enable the business to thrive.

FRICTION IS INEVITABLE IN THE TRANSITION TO EV

When the Inflation Reduction Act was signed into law, it became the largest climate investment in U.S. history. The bill allocates $369 billion to programs designed to accelerate the transition to clean energy and reduce greenhouse gas emissions by an estimated 40% by 2030. A major component of the Act, a $7,500 point-of-sale credit for new EVs and $4,000 for used EVs, is the obvious lever to generate EV demand at the consumer level to necessitate supply at the manufacturing level.

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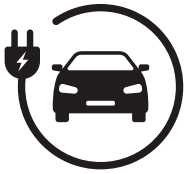
The second- and third-order consequences of the EV credit, some of which may unintentionally fly in the face of the spirit of the IRA, will cause friction as our nation transitions to EV. This friction comes from what Alvin and Heidi Toffler termed **forces** and **anti-forces**; these are conditions that either help (forces) a disruptive event occur or create limits (anti-forces) for its occurrence. Those forces and anti-forces include:



FORCE: STATE ACTION COULD AMPLIFY EV DEMAND AND PRODUCTION

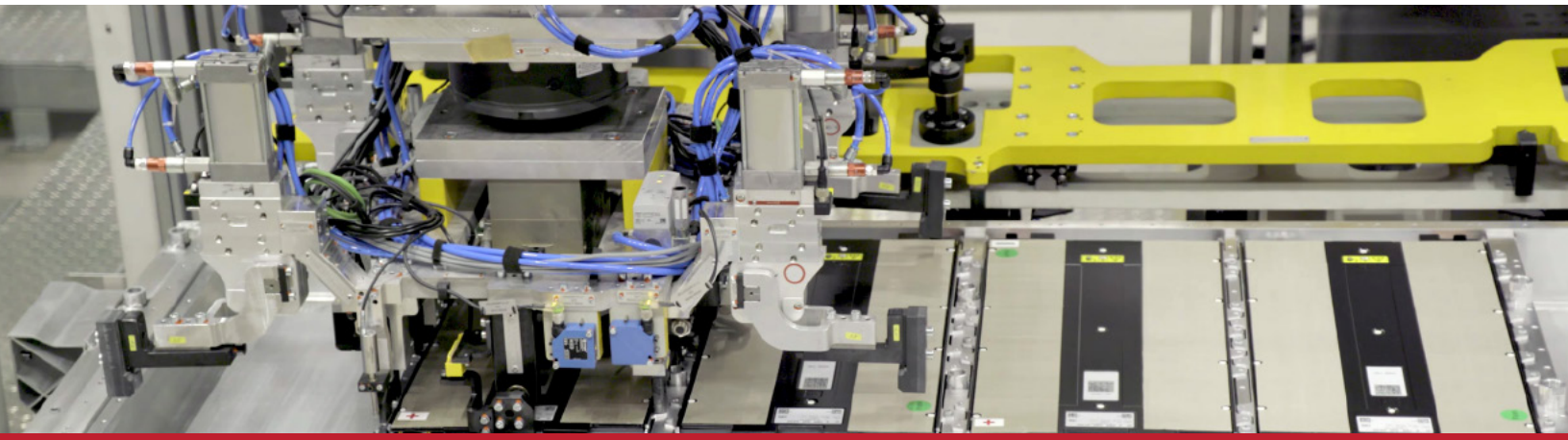
Given the magnitude of this bill, states may respond with their own tax incentives and programs to pull investment into local communities. California and then Washington already announced regulations that ban the sale of new gas-powered vehicles by 2035, further driving demand for EVs. Other states are anticipated to follow suit.

FORCE: STATE TRAINING CENTERS COULD INCREASE CREDIT ADOPTION…IN THOSE STATES

Over the past year, states including Michigan and Tennessee have invested in training centers to provide the high-tech skilled employees needed to support a manufacturing and assembly footprint that is shifting to EVs. These on-going investments in workforce development make these states more likely to benefit from the EV credit and other IRA initiatives.

FORCE: MANUFACTURERS' MODEL STRATEGIES COULD INCREASE CONSUMER DEMAND

The extent to which the IRA will increase demand for EVs remains uncertain. In a 2022 Morning Consult poll, 61% of the U.S. adults not interested in purchasing an EV reported price as a major factor. Many manufacturers have focused on higher-end models, effectively pricing segments of potential buyers out of the market. With the addition of restrictions around income level, vehicle price, and domestic content, matching income-qualified buyers with approved vehicles is not guaranteed; however, the IRA's price caps may be enough to nudge domestic manufacturers to revisit their model strategy.



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ANTI-FORCE: THOSE WHO QUALIFY FOR EV CREDIT MIGHT NOT HAVE OPTIMAL CHARGING ACCESS

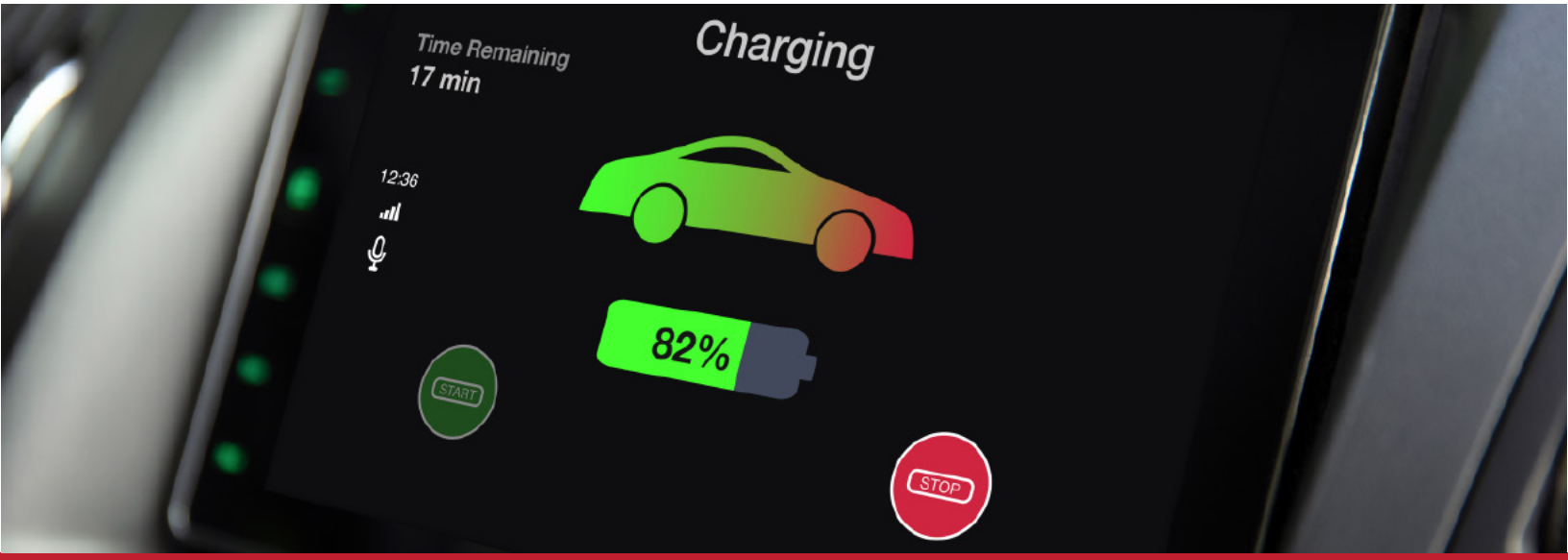
Even if we see a shift to lower MSRPs, the individuals that qualify for the credit may not be well-positioned to own an EV. While home charging is the cheapest option, it's not clear how many potential buyers own a home or have ready access to a charger in residential parking or at work. Convenience and cost of available charging options may limit the effectiveness of these EV credits in converting demand.

ANTI-FORCE: LIMITED DOMESTIC MINERAL AVAILABILITY COULD CONFOUND SUPPLY CHAINS

The IRA's EV tax credits, if they drive significant demand, will further expose gaps in supply chains. Benchmark Minerals estimates that China refines and processes 75% of lithium today, an essential element in EV batteries, while refining capacity in the U.S. and Canada combined accounts for only 3%.

ANTI-FORCE: MINING PUSHBACK COULD REQUIRE INCREASED RELIANCE ON OUR FREE TRADE PARTNERS

Canada has been investing to accelerate its own production and processing, but greenfield refineries and processing plants in the U.S. will likely face pushback from local communities and environmental activists given current challenges to mining operations. Framed as an environmental justice issue, expanding domestic mining and processing operations will not be an easy path, even with the Administration's invocation of the Defense Production Act. This may mean that the critical mineral supply chain will need to heavily rely on U.S. free trade agreement partners.



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THE EV CREDIT: WHAT IT COULD MEAN ACROSS INDUSTRIES

The EV credit addresses both individual consumer and commercial vehicle purchasing decisions, so the impact on companies—their workers, suppliers, and customers—will be significant and increase uncertainty. The sections below focus on considerations for three industries: consumer goods and retail, financial services and insurance, and manufacturing.

EV CREDIT CONSIDERATIONS FOR THE CONSUMER GOODS AND RETAIL SECTOR

Warehouse + Distribution Center Workforce: Consumer goods businesses may find it more difficult to staff warehouses and distribution centers as next-generation workforce training programs ramp up. With funding from federal and state governments combined with investment from manufacturers, the EV market is likely to pull workers from adjacent fields with offers like a direct path to employment, scholarships, and even stipends.

Shipping Constraints: As domestic manufacturing increases, so will demand for domestic trucking. With the industry already under strain to meet demand, moving goods between facilities may become cost-prohibitive, and companies may continue to experience delays throughout the supply chain.

Fleet Management: Organizations will have an incentive to shift away from diesel trucks and adopt electric trucks through the Qualified Commercial Clean Vehicle tax credit. This may create an expanded secondary market for used diesel trucks or could make offloading these vehicles more expensive if total cost of ownership for electric trucks falls below diesel, as expected. Supply of electric trucks may lag demand as the credit requires final assembly in North America. At the same time the Clean Heavy Duty Vehicles rebates for state, municipalities, Native American tribes, and school associations to convert fleets may drive additional demand. Insufficient vehicle supply may mean that higher purchase prices offset rebates over the next few years until supply stabilizes.

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Retail Store Workforce: In an industry already facing high turnover, retailers will need to find additional options to attract and retain employees. As EV ownership increases, the ability for employees to charge their vehicles while working may be one factor. An additional incentive may be the ability to earn charging credits for longer shifts.

Store Locations: Customers may increasingly own EVs, so retailers will also need to consider charging infrastructure when evaluating store locations. The availability of charging might be one way to drive in-store traffic. As ride-sharing fleets shift to EVs, availability of charging may attract drivers to those locations, reducing the friction for customers to confirm rides.

Loyalty Programs: Some loyalty programs today offer fuel discounts. These programs will also need to consider alternatives for EVs. Partnerships with charging networks could be one option as more customers shift away from gas-powered vehicles. It may also demonstrate a commitment to sustainability.

Smart(er) Vehicles: If the credit is a successful catalyst for EV adoption and causes consumers to buy new cars at a faster rate than what we've historically seen, this could create a significant growth in smarter vehicles: more connected and more autonomous. Creative retailers will innovate in ways to link the driving experience to the retail experience.

Internal Combustion Engine (ICE) Used Car Market: If EV incentives drive a shift away from ICE vehicles, we may see a surge of used ICE vehicles into the market. If prices for these used vehicles drop enough, it could offset incentives for purchasing EVs. Additionally, the U.S. exports millions of used vehicles across the globe today. If these vehicles remain in use anywhere, these tax credits may fail to achieve the broader goal of reducing the planet's greenhouse gases.

Convenience Stores: With 80% of U.S. gasoline sales happening at convenience stores and just over 60% of convenience store revenues coming from selling fuel, it is an industry that is uniquely poised for disruption from the EV transition. The ramifications of this disruption are not minor as the industry, with in-store and fuel sales, represented 3.1% of U.S. GDP in 2021. This could be especially impactful to the 60% of the nearly 150,000 convenience store that are owned by single-store operators.

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EV CREDIT CONSIDERATIONS FOR THE FINANCIAL SERVICES + INSURANCE INDUSTRY

Payment Methods: With the rise in EVs, we may also see more demand for machine-to-machine payments. This will mean authorizing machines like EVs to initiate and confirm payments to vendors like charging networks. Consumers will need to trust that these transactions are secure and be able to easily setup and manage authorized machines.

Rewards Partnerships: Financial institutions may want to develop partnerships with charging networks to support machine-to-machine payments and negotiate discounted rates or increased bonus points/dollars for members. As the number of these transactions increase with greater EV use, partnerships may offer incentives that encourage consumers to remain loyal to a particular card and reduce churn.

ESG Investments: With financial institutions facing greater scrutiny around ESG, the IRA should incentivize a growing portfolio of startups in alternative fuels and domestic expansion of existing players. This provides an opportunity to structure focused investment products for banking clients. There may also be an opportunity to develop specialized loan programs to support the wave of construction projects sparked by IRA tax incentives.

Cost of Claims: EVs are more expensive to repair, especially if an accident damages the battery pack. If overall EV ownership increases, insurance companies will have a higher probability of accidents involving EVs and may experience increased cost of claims. This increases the risk that higher premiums might not fully cover cost of claims without impacting customer churn.

Prohibitive Premiums: Higher insurance rates for EV owners may offset reduced maintenance costs and result in less disposable income. Some customers may opt for insurance minimums or essentially be underinsured given substantial deductibles. The result may be that a vehicle accident creates another source for debt that weighs on households.

Loans: In-home Level 2 chargers can easily run as much as $3,000 for a standard installation, barring needed electrical upgrades. The charging credits in the IRA cannot be taken as rebates, which means the full costs will be out-of-pocket for homeowners. New loan products built around timing of these credits could be created to simplify the process. Partnerships with installation firms could draw additional customers with convenient payment options. Of course, all this assumes the home infrastructure is upgradeable.

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EV CREDIT CONSIDERATIONS FOR THE MANUFACTURING INDUSTRY

Manufacturing Workforce: With tax incentives to grow domestic manufacturing, there will be increased competition for workers, both on manufacturing lines and in equipment maintenance. This is especially true in areas that have developed manufacturing hubs, as the existing pipeline of workers may attract new employers to the area.

Automation: Incentives to build new domestic production and retrofit existing facilities to increase efficiency may accelerate advancement of automation technologies. This could have a beneficial impact on all manufacturing by improving capabilities and lowering implementation costs.

Reliable Energy: The IRA contains incentives to upgrade grid technology. These investments could make some locations more attractive due to greater grid reliability and potentially lower energy costs from higher-efficiency distribution and new energy sources. This may influence site location for new facilities. However, if too much new demand is drawn in, it could shift existing load patterns and counter lowered costs for industrial customers, especially at night when renewable sources may not be available.

Supply Chain: The IRA indicates that the U.S. may start to play more in industrial policy, including more transparency in sourcing and incentives around domestic content. Even where the government doesn't require it, we are seeing a growing trend around provenance in supply chains as more companies report on sustainability efforts. Requiring more detail around origin and assembly may strain current sourcing and procurement departments. Many vendors, especially smaller niche providers, may not be positioned to provide this detail today. Current enterprise resource planning (ERP) configurations may not be set up to accept and track this data.

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CLIMATE SCENARIO ANALYSIS: A SOLUTION FOR ANY INDUSTRY

The Inflation Reduction Act and the EV credit, while expected to drive positive climate initiatives, will likely have unexpected implications for many organizations and industries. As futurists, we are experts at making sense of change and how it could impact your business. Our climate scenario analysis considers your unique organization amid the confluence of rapidly changing forces. Together, we can help you identify and mitigate the risks and capitalize on the opportunities your business will encounter in the transition to a greener future.

As a futures-focused advisory firm, Toffler Associates, guides organizations through climate scenario analysis using tools such as:

Alternate Futures® Scenario Planning

In-depth scenario planning that starts with a holistic, societal view of the future to understand broad, contextual drivers of change and allows organizations to immerse themselves in a future state to explore strategic options.

Flash Futures

Targeted assessments of specific areas of interest for an organization (e.g., "The Future of Hydrogen-Powered Fleets") to provide creative, out-of-the-box perspectives on the future that informs strategic planning.

Table Top Exercises

Facilitated group exercises that develop and test strategies against a variety of future states to identify opportunities and vulnerabilities.

Schedule your 45-Minute Intro Session Today