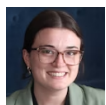


American Industrial Strategy: Unleashing the Power of the Private Sector through Targeted Industrial Policies

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Global clean energy investments are surging at an unprecedented rate as countries work to secure a foothold in this ever-expanding sector. In fact, the expected growth of just ten pivotal clean energy technologies is forecasted to drive global market opportunities of \$130 trillion through 2050.¹ The US is poised to create an unparalleled competitive advantage within this clean energy technology sector, but only through the investment of trillions of dollars – an amount our government alone simply can’t mobilize, despite recent historic funding packages. Rather, a comprehensive strategy catalyzing both the public and private sectors is required to pave the way for the industries of the future. This approach, led by the private sector and enabled by the federal government, promotes sustained growth in emerging clean energy industries and secures America’s competitive edge in global markets. This collaborative effort – collectively known as

industrial strategy – uses a “strategic allocation of resources” to accelerate economic growth and facilitate structural changes in the economy. ²

As we’ve written before, industrial strategy is the economic toolbox for the 21st century. One where each tool—*each industrial policy*—is tailored for specific jobs that fuel domestic growth and sharpen America’s competitive edge.

The Building Blocks of an American Industrial Strategy

Effective industrial strategy consists of multiple tools working in tandem to propel key industries in ways that advance economic, energy, and national security goals. These tools may be legislative (laws that give new authorities, set requirements, or provide financial incentives) or administrative (regulations, guidelines, or reports, for example). Step by step, each tool deployed helps bring the US closer to achieving our economic goals, fulfilling our climate commitments, and meeting rising competitiveness in the clean energy sector.

Underlining this strategic approach, the Biden Administration passed a trifecta of industrial policies designed to invigorate the clean power, industrial, and transportation sectors. These policies – the Bipartisan Infrastructure Law of 2021 (BIL), CHIPS and Science Act of 2022, and the Inflation Reduction Act of 2022 (IRA) – are injecting billions of federal funds into America’s clean energy industries to catalyze the deployment of critical energy technologies, marking a foundational step towards fulfilling US economic and global objectives. In fact, funding from the IRA alone is estimated to drive \$11 trillion of total infrastructure investments by 2050. ³

Below, we offer two examples of the US using a broad range of policies from the bills cited above to crowd-in massive private investment and deliver on a more comprehensive strategy for a durable US competitive advantage and sustained economic growth.

Enhancing the American Electric Vehicle Industry

The shift to electric vehicles is gaining considerable momentum across the world, with 26 million EVs on the road in 2022, representing a 60% relative increase from 2021. ⁴ This presents a tremendous economic opportunity for US automakers and suppliers to capture a significant portion of this emerging market valued at tens of trillions of dollars and create hundreds of thousands of jobs by 2050. ⁵ However, in 2022, nearly half of the EVs sold globally were from Chinese manufacturers. ⁶

To help American automakers thrive in this highly competitive market, the Biden Administration is employing a plethora of industrial policies to minimize the financial hurdles faced by private

companies when building new models, updating equipment, and retrofitting facilities to accommodate the EV boom.

The IRA, for instance, leverages tax incentives to reduce the cost of clean energy technologies and encourage private sector investment. In particular, the IRA modifies the 30D Clean Vehicle Credit to make electric vehicles more affordable while reducing US reliance on China. As of January 1st, the provision supplies consumers with a tax credit of up to \$7,500 towards a new EV and \$4,000 for used ones, available as an instant dealer rebate. To receive the full \$7,500 credit, vehicles must comply with specific battery and critical mineral guidance that excludes “foreign entities of concern” (i.e., China, North Korea, Russia, and Iran) from benefiting.

But the 30D Clean Vehicle Credit represents only one aspect of a wider industrial strategy that that the Biden Administration has deployed to drive growth in a domestic EV industry that secures a durable supply chain, drives domestic manufacturing, and ensures consumer accessibility. Other tools that stimulate the EV economy include:

- **Grants for Battery Components and Manufacturing:** Through BIL funding, initiatives like the \$3 billion Battery Materials Processing Grants, \$3 billion Battery Manufacturing and Recycling Grants, and the \$200 million Electric Drive Vehicle Battery Recycling and Second Life Applications Program are putting the US at the forefront of the EV battery industry.
- **National Electric Vehicle Infrastructure (NEVI) Formula Program:** A \$5 billion program under BIL, the NEVI Formula Program is a strategic move to outpace global competitors by building a comprehensive nationwide network of EV charging stations.
- **45X Advanced Manufacturing Production Tax Credit (PTC):** A strategic funding mechanism under the IRA, the 45X PTC strengthens US manufacturing by incentivizing domestic production of solar and wind energy components, inverters, battery components, and critical minerals.
- **Corporate Average Fuel Economy (CAFE) Standards:** By setting robust CAFE Standards to regulate the distance that light-, medium- and heavy-duty vehicles must be able to travel on a single gallon of gas, DOT is positioning the US as a leader in fuel efficient technologies and transportation innovation while decreasing overall consumer cost and minimizing the amount of fuel needed to fill a car.
- **US National Blueprint for Transportation Decarbonization:** Designed to coordinate the federal government’s approach to decarbonizing the transportation sector, this strategy will help formulate future policy decisions, guide public and private RDD&D projects, and steer the US towards a leading role in the evolving global transportation sector.

Taken together, these industrial policies form an industrial strategy that aims to grow and strengthen the burgeoning EV industry. And it's working; investment in the EV and battery industry surpassed \$213 billion since President Biden took office, eclipsing pre-Biden investment levels totaling approximately \$69 billion.⁷ These large-scale, long-term investments – supported by strong industrial policies – affirm the confidence of the private sector in the burgeoning domestic electric vehicle market, creating a competitive industry driving future US economic growth.

Creating an American-Led Clean Hydrogen Market

Production of hydrogen from natural gas has been a working industry for years, fueling industries such as agriculture, mineral production, and refining. However, the production of hydrogen from natural gas is emissions intensive. In response, the industry for low-carbon hydrogen (i.e., green hydrogen produced through electrolysis and blue hydrogen created through natural gas with carbon capture) has been on the rise. Projected to generate over \$3 trillion by 2050, this emerging industry offers significant opportunities for US producers.⁸ By turning its focus to low-carbon hydrogen, the Biden Administration is helping decarbonize hard-to-electrify sectors such as heavy-duty vehicles and historically fossil-dependent industries such as steel and cement. Doing so, will not only minimize emissions, but also ensures the US remains competitive in an industry China (and, to some extent, Europe) currently dominates. In fact, since President Biden took office, nearly \$45 billion of new domestic clean investment in the hydrogen economy have been announced, a massive increase compared to the \$1.7 billion of investment in previous years.⁹

Two major industrial policies from BIL and IRA received national attention over recent months. First off, BIL authorized \$8 billion in federal funding to stimulate a hydrogen economy through the development of Regional Clean Hydrogen Hubs (\$7 billion) and a demand-side initiative (\$1 billion). These hubs are intended to act as epicenters for the industry, scaling it up by establishing a network of producers, consumers, and infrastructure to connect supply centers to areas of demand and offtake.

Secondly, the IRA created the 45V Clean Hydrogen Production Tax Credit to minimize the cost of hydrogen production. The value of the credit is based on emissions intensity – the less carbon a producer emits, the larger tax credit they receive. This base amount can be increased by 5x if prevailing wage and apprenticeship requirements are met. These bonus credits are intended to drive workforce development efforts, supplying the emerging industry with a sustainable group of employees to render its success.

DOE has also released several goals and plans to ensure dedicated hydrogen resources are well-directed to meet industry needs and fill gaps that the private sector may not be able to address on

its own.

- **Hydrogen Shot**: DOE's Energy Earthshot Initiative aims to catalyze clean energy technologies by setting definitive goals that drive technological breakthroughs. The initiative began with the Hydrogen Shot, launched in 2021, which sets the goal of decreasing the cost of clean hydrogen to \$1/kg by 2030. Our [previous analysis](#) found that electrolyzer deployment could increase by 50% by 2050 if the hydrogen shot is achieved.
- **Clean Hydrogen Liftoff Report**: Through collaboration and coordination with the private sector, DOE developed this report to chart a practical three-phase path to commercialize low-carbon hydrogen, targeting near term expansion (2023-2026), industrial scaling (2027-2034), and long-term growth (2035+).
- **US National Clean Hydrogen Strategy and Roadmap**: This document provides a technologically and economically feasible all-of-government approach to the deployment of clean hydrogen, from production to transportation and storage.

By establishing and connecting areas of supply and demand, these industrial policies support a new American-led hydrogen ecosystem that prioritizes energy independence, economic growth, and decarbonization.

Conclusion

The Administration's clean energy industrial strategy is a game-changer for our economic, national security, and net-zero goals. The industrial policies laid out in this blog – whether financial, regulatory, or administrative in nature – represent only a small percentage of tools within the larger industrial strategy toolbox that bolsters the power of the private sector to crowd in investment and lock in a competitive advantage for critical US industries. The impact of these investments today will resonate for generations to come, catalyzing stronger economic growth and creating durable jobs in communities across the country.

TOPICS

ENDNOTES

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