

The Return of Industrial Policy and the No-Longer Hidden Developmental State in the United States

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Abstract

After decades of market fundamentalism, the resurgence of industrial policy worldwide marks a major shift in economic governance. In the United States, this turn accelerated under the Biden administration, which enacted a series of landmark laws that put industrial policy squarely back at the center of national economic strategy. But to what extent did this wave of state activism mark a true departure? Skeptics have argued that “Bidenomics” marked a *continuation* of pro-business policies that merely “derisked” private investment. A second camp contends that US industrial policy never disappeared but persisted in “hidden” forms. This article advances a different interpretation. It contends that Bidenomics represented a fundamental reconfiguration of state-market relations and signaled the emergence of a twenty-first-century American developmental state. Three features distinguished this shift: *directionality*, targeting strategic sectors, regions, and communities; *conditionality*, linking corporate support to broad social objectives enforced by state discipline; and *politicization*, as industrial policy became a “visible” site of political contestation. Using policy analysis, expert interviews, and media sources, the article traces how this strategy has reshaped the architecture of state-market relations in the post-neoliberal era.

Keywords

industrial policy, developmental state, United States, innovation, economic development

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After four decades of market fundamentalism, the global resurgence of industrial policy has marked a significant shift in economic governance.¹ It is emphatically no longer “a policy that should not be named,” or a “phrase that one did not utter in polite company.”² Recent initiatives across the United Kingdom, Germany, France, and South Korea reflect ambitious, multiyear strategies aimed at bolstering national competitiveness, reducing reliance on critical imports, and fostering the development of emerging technologies.³ In Brussels, the European Commission has reversed the EU’s prohibitions of state aid, advancing major industrial policy programs, including the European CHIPS Act, the European Green Deal, and the Net-Zero Industry Act of 2023.⁴ The United States has followed a similar trajectory. Under the Biden administration, four landmark legislations—the American Rescue Plan, the CHIPS and Science Act (CHIPS), the Infrastructure Investment and Jobs Act (IIJA), and the Inflation Reduction Act (IRA)—have put industrial policy squarely back at the center of national economic strategy.

But to what extent did this wave of activism mark a new departure? Skeptics have suggested that recent industrial policies, especially in the case of the United States—often referred to as Bidenomics—did not signal a dramatic shift from previous regimes. One group of studies argues that Bidenomics marked a *continuation* of pro-business policies that merely “derisked” private investment and accelerated the kind of “upward redistribution” that was a staple of the neoliberal era.⁵ A second camp contends that Bidenomics represents a *deepening* of longstanding US industrial policy efforts, which never vanished yet remained “hidden” and depoliticized.⁶ In this article, I propose an alternative perspective. I argue that Bidenomics announced a fundamental reconfiguration of the state’s relationship with private industry, setting the stage for the emergence of a twenty-first-century American developmental state.

I begin by outlining the two frameworks mentioned above—the derisking state and the hidden developmental state—that have been used to make sense of industrial policy developments in the United States. I then explain why I find both accounts to be incomplete. By contrast to these accounts, I argue that three key features distinguished Bidenomics from preceding economic regimes: *directionality*, *conditionality*, and *politicization*. Unlike in earlier decades, recent policies have (a) targeted strategic industries that go beyond the defense sector, first and foremost green energy and chip manufacturing, as well as directed investment to specific regions and populations (*directionality*); (b) they provided government assistance that is conditional on meeting predefined targets or goals enforced by the state’s capacity to discipline private actors (*conditionality*); and (c) they were the outcome of highly visible political contestation and coalition building (*politicization*). These three interconnected elements, I propose, differentiate the recent revival of state activism from its earlier iterations in the 1990s, 2000s, and early 2010s. They illuminate both continuities and breaks with previous administrations, demonstrating how and why Bidenomics departs from the neoliberal paradigm. I rely on expert interviews (see Table A1), textual analysis of policy documents, and media coverage to support my claims. In the conclusion, I assess the legacy

of Bidenomics under the second Trump administration. I find that this new trajectory taken under Biden has largely persisted under Trump 2.0.

Making Sense of Bidenomics: Derisking, a Hidden Developmental State, or Something More?

Bidenomics as the Derisking State

The leading proponent of the “derisking” framework is heterodox economist Daniela Gabor.⁷ According to Gabor, derisking describes a relatively new approach to public policy that entails state actors providing public subsidies that are intended to shift risks from the private sector to public balance sheets, thereby making socially desirable activities more profitable for private interests.⁸ These include the provision of social policy, the construction of infrastructure, and, most recently, the development of green industries. In her work, Gabor draws a sharp contrast between the East Asian “disciplinary developmental state” and the contemporary “derisking state.” Whereas the developmental state relied on stringent performance conditions to ensure that public subsidies were invested in accordance with the state’s strategic vision, Gabor argues, the derisking state is structurally constrained to prioritize the interests of the business class. The derisking state, therefore, lacks the disciplinary tools that guarantee state assistance is used in accordance with government priorities. The result is failure to accomplish the public goals, while enriching private actors.⁹

While the derisking framework originated in studies of the Global South, particularly African countries such as Ghana, Kenya, or Namibia,¹⁰ Gabor and others have more recently applied it to analyses of developed economies in the Global North.¹¹ In her assessment of Bidenomics, Gabor argues that the absence of robust disciplinary capacity meant that contemporary US industrial policy, particularly the IRA, amounted to little more than a derisking regime.¹² In another article, Gabor and coauthor Benjamin Braun acknowledge that the Biden administration used its fiscal and regulatory capacity to channel private resources toward strategic manufacturing sectors. They recognize that the CHIPS Act and the IRA produced a significant increase in private investment in manufacturing. They nevertheless contend that Bidenomics lacked the capacity to discipline private firms and was thus heavily stacked in favor of business interests. According to Gabor and Braun, the American state under Bidenomics, unlike the disciplinary developmental state, was hampered by its structural commitment “to prioritize profitability.”¹³ In other words, rather than a departure from previous regimes, Gabor’s approach casts Bidenomics as a continuation of the neoliberal status quo, where the state prioritizes the interests of business and capital is in the driver’s seat.

Bidenomics as a Hidden Developmental State

The work of Fred Block and his colleagues represents a second approach to Bidenomics.¹⁴ Unlike Gabor, Block and Keller recognize that CHIPS and the IRA,

as well as additional industrial policies passed under the Biden administration, did attach conditionalities to government assistance programs that, although “modest,” could be used to begin “disciplining capital” to produce more inclusive innovation than the current system.¹⁵ In this regard, they identify meaningful variation from the industrial policies of previous administrations, which lacked an element of “gainsharing,” and created a system that socialized the risks while privatizing the rewards. This absence, they emphasize, was one of the most significant weaknesses in the US innovation system and was responsible for making it easier for those on the right to delegitimize industrial policy as a form of corporate welfare.¹⁶

Nevertheless, Block and his collaborators remain skeptical about this change representing a meaningful departure from previous regimes. This is primarily because they view the industrial policies legislated under Biden as ones that aimed to “build on and elaborate institutional networks” of an *already existing* American “hidden developmental state.”¹⁷ Fred Block first coined this concept in a seminal paper from 2008, where he argued that, although the United States had officially rejected the use of industrial policy, it had, in practice, adopted an extraordinarily sophisticated and decentralized set of innovation policies.¹⁸ According to Block, two elements distinguish the American developmental state from its counterparts elsewhere. First, it is “highly decentralized” and spread across dozens of government agencies. Second, it is largely invisible to the electorate, “with its existence not recognized in political debate or in the media.”¹⁹ This invisibility made the United States a *hidden* developmental state, yet it remained a developmental state nonetheless.²⁰ Block maintains that US industrial and innovation policies remain “networked” and “hidden” because of the dominance of market fundamentalism, which made it impossible to explicitly acknowledge the state’s role in promoting new industries and markets.²¹ As he concluded in 2008, “partisan conflict during both Republican and Democratic administrations has worked to keep the US developmental state hidden and the ideology of market fundamentalism in place.”²² Since 2008, this framework has been deepened and expanded in many follow-up studies by Block and his collaborators and adopted by other leading scholars of US industrial policy.²³

Block and his collaborators acknowledge that Biden made meaningful strides toward incorporating gainsharing and state discipline into his policies. They nevertheless stop short of announcing Bidenomics as a significant break from previous trends. Indeed, they argue that recent industrial policies only worked to deepen and advance what remains a hidden developmental state. As they conclude, CHIPS and the IRA “contain the hallmarks of federal science and innovation strategies for the last generation: rooted in decentralized governance approaches that implicitly seek to bolster network construction . . . and designed in ways that tend to obscure the federal role in the program implementation process.”²⁴ In this sense, they argue, “the developmental state in the United States remains hidden.”²⁵ To explain why, they point, once again, to the persistence of “market fundamentalist ideology” which “makes the developmental state invisible.”²⁶ So while Block and coauthors’ view of Bidenomics is mixed, their analysis tends to downplay any notion of a dramatic departure from the past.

To summarize, while the two leading accounts of recent US industrial policy diverge regarding the nature of Bidenomics, particularly the existence or lack thereof of discipline, neither views it as a significant turning point from previous regimes. Which of these two frameworks more accurately reflects recent US industrial policy? The assessment presented in this article aligns more closely with the view advanced by Block and colleagues. However, in contrast to their approach, I argue that the recent iteration of industrial policy goes well beyond the hidden developmental state in ways that question whether this qualifier is still warranted. To substantiate this claim, I begin by providing a three-pronged definition of what developmental states in fact are, pointing to their most substantive and essential features: *directionality*, *conditionality*, and *politicization*. I then use these concepts to analyze recent US industrial policies, demonstrating that all three elements were key features of Biden's signature industrial policies. Therefore, I argue, they not only contradict the view of Bidenomics as derisking but also make the American developmental state less hidden than ever before and much more in line with the classic East Asian developmental state.

Directionality

The foremost feature of the developmental state is directionality, also known as targeting. Directionality can be defined as the state "influencing the allocation of resources to designated economic activities," promoting strategic sectors with future prosperity in mind.²⁷ For scholars such as Chalmers Johnson, it is precisely this directionality that distinguishes the developmental state from the "regulatory state," where state leaders allow markets to shape the fundamental contours of their nation's industrial structure.²⁸ Famously, policymakers in Japan, South Korea, and Taiwan all targeted specific industrial sectors for promotion.²⁹ Woo's analysis of Korea's Heavy and Chemical Industry Plan of the 1970s, which targeted the development of six heavy industries (steel, chemical, metal, machine-building, shipbuilding, and electronics),³⁰ or Amsden's account of Taiwan's state-guided transition from traditional to advanced manufacturing of microprocessors, liquid crystal displays, and other advanced technologies in the 1990s, are classic examples.³¹

The importance of directionality has not waned in the age of innovation and digitalization. Studies on Taiwan, Ireland, and Israel have identified a shift from vertical to more horizontal or open-ended industrial policies, with policymakers being agnostic about which high-tech sectors to target, thereby leaving more space for private entrepreneurs.³² Directionality, however, remained important. Mariana Mazzucato, for example, has shown that "entrepreneurial states" such as the United States have continuously set the direction of technological change by "tilting (rather than leveling) the playing field," prioritizing investment in research and development and allowing American Innovation agencies such as the Defense Advanced Research Projects Agency, the National Institutes of Health, and the National Science Foundation to spawn technological breakthroughs, including the Information Technology revolution, the internet, biotech, and nanotechnology.³³ Other recent examples include targeting

green technologies in South Korea, China, the United States, and elsewhere, where targeted public sector investment and initiatives have played a crucial role in the development of electric vehicle (EV) technologies, batteries, solar panels, and offshore wind turbines. As we will see below, directionality has remained a prominent feature of contemporary American industrial policy, going well beyond the previously narrow focus on the defense sector.

Conditionality

Intimately linked to directionality, the second key feature of the developmental state is conditionality via state discipline. To target investment in specific industrial sectors, policymakers provide significant public resources to individual firms. These incentives can take many forms, including grants, cheap loans, tax breaks or credits, export incentives, R&D subsidies, land concessions, trade protection, and more.³⁴ Yet, as scholars of industrial policy have demonstrated time and time again, the mere provision of public subsidies is far from sufficient to obtain the desired public goals, as government assistance can often become a form of rent-seeking or corporate welfare.³⁵ This is why it is equally important to guarantee that firms treat assistance not as a blank check, but as a binding contract.³⁶ According to this principle, public support must be accompanied by monitorable conditions that are enforced through discipline.³⁷

Conditionality via state discipline was the hallmark of the postwar developmental state. Some scholars have questioned whether the globalization of production and financial circuits in recent decades has undermined the capacity of states to enforce conditionality via discipline.³⁸ While globalization has made enforcement more challenging, given the ability of corporations to play one regulatory environment against another, conditionality remains indispensable. Therefore, it is not a coincidence that the reappearance of industrial policy worldwide has also brought about renewed emphasis on the crucial importance of conditionality and discipline, or what scholars have recently begun to call “corporate guardrails.”³⁹

Politicization

One of the well-known yet often neglected insights of the developmental state literature is that industrial policies are inherently political.⁴⁰ A large corpus of studies has highlighted the importance of political (or “upgrading”) coalitions—what Mushtaq Khan calls a “political settlement”—that anchor and sustain support for industrial policy in the face of the inevitable pushback that these policies generate.⁴¹ Political alliances can vary along several dimensions: their durability, the breadth of their social base, and their relationship with the state.⁴² Regardless of their specific structure and variation, these arrangements facilitate the formation of the institutions and capacities outlined above.

The East Asian Developmental State famously rested on “embedded” relations between the state and local industrial elites.⁴³ In other developmental contexts,

however, policymakers have often had to advance industrial policies by constructing broader political coalitions in support of industrial policy. This has involved accommodating the interests of organized interests, including industrial unions, as was the case in the Scandinavian countries, Israel, Ireland, and, more recently, Brazil and Bolivia.⁴⁴ In this regard, at least in the last decades of the twentieth century, US policies toward industry were depoliticized and advanced through “quiet politics,” where state activism is determined outside the “noisy” realm of elections and electoral politics.⁴⁵ As Fred Block has noted, while other developmental states were open and explicit about their developmental agendas, and political parties competed over which of them would be more effective in pursuing such initiatives, in the United States, “the developmental state is hidden; its existence is not recognized in political debate or in the media.”⁴⁶

Other studies focus on how international political dynamics, or geopolitics, shape the space for directionality and conditionality. Particularly important in this regard is how states assume a leading position in domestic economic activities to overcome their subordinate position in the global division of labor or counter military or economic competition through geopolitical or economic rivalries. Historically, geopolitical tensions in the form of (perceived or actual) external threats to sovereignty have increased the scope for the implementation of conditionality measures and industrial policy strategies. In the postwar period, security concerns influenced and sustained the ambitions of East Asian nations to achieve catch-up growth, aiming to close the gap with advanced economies and attain technological and economic independence.⁴⁷ More recently, the rise of China as an economic and military power has “ushered in a new era of strategic activism” in places like Korea and Taiwan.⁴⁸ Similar considerations influenced American industrial policy throughout the twentieth century, as the context of the Cold War provided much support for a more activist state.⁴⁹ Recent events corroborate this view, as the growing economic and geopolitical threat posed by China’s rise has been a primary catalyst in the politicization of industrial policy worldwide.⁵⁰ This point will be discussed in more detail in the empirical analysis.

Summary of the Argument

In the following empirical sections, I demonstrate that, unlike previous eras, where US policies toward industry tended to be horizontal, lacked conditionalities, and remained “hidden,” contemporary policymaking, since the election of Biden, is characterized by directionality, conditionality, and visibility. Rather than continuing or deepening previous trends, these three interrelated factors represent a break from the past. Indeed, as we will see below, under Biden, the administration was open and explicit about its intention to implement an ambitious industrial policy program. As a result, the issue became highly politicized within both political parties. Passing CHIPS, the IJIA, and the IRA required crafting a broad social coalition that went beyond the “quiet politics” of state-business relations and incorporated the support of organized labor and the environmental movement. This growing consensus provided support for targeted industrial policies that incorporate the kind of conditionality described above.

Bidenomics

The departure from market fundamentalism and the reemergence of US industrial policy occurred during the Biden administration but had roots in both the Obama and the first Trump administrations. Following the Great Financial Crisis, the Obama administration passed the American Recovery and Reinvestment Act. This Act significantly increased public spending on R&D and, more importantly, for the first time, crafted targeted investments in the green energy sector through the Department of Energy's (DoE) guaranteed loan program. This policy famously provided the critical funding that enabled the emergence of Tesla, as well as the highly controversial funding for the failed solar panel manufacturing firm Solyndra.⁵¹ The Obama administration also leveraged the auto sector bailout to advance the transition to electric vehicles (EVs), offering a variety of subsidies for both consumers (purchase incentives) and producers (R&D subsidies and loans) in return for more stringent environmental regulations.⁵² Other ambitious industrial policy efforts, for example, Obama's attempt to create a National Network for Manufacturing Innovation (NNMI), failed to pass a divided Congress. In the absence of dedicated appropriations, the Obama administration began establishing advanced manufacturing institutes in a piecemeal fashion. Relying on existing agency authorities and appropriations, the administration formed fourteen advanced manufacturing institutes, each aligned with a specific advanced manufacturing technology. Yet because these agencies relied on existing authorities and general appropriations, the administration's ability to use the NNMI to steer investments toward specific technological directions or geographic areas, as well as to establish performance goals, remained limited.⁵³

Therefore, despite these efforts, it is clear in retrospect that most of the industrial policies advanced during the Obama presidency were more of an emergency response—a one-time exception—than a strategic pivot.⁵⁴ During his tenure, Obama never articulated a coherent industrial policy agenda. And as Robert Wade has argued, efforts to do so by members of his administration, for example, a 2012 speech by Gene Sperling, the director of the White House's National Economic Council, that emphasized the need for industrial policies to spur a manufacturing “renaissance,” were ignored and “disappeared without a trace.”⁵⁵

Unlike Obama, Trump entered the White House with a far more transformative economic policy agenda. After campaigning as an opponent of free trade, speaking critically about the North American Free Trade Agreement (NAFTA), the World Trade Organization, and the harms of deindustrialization, the Trump White House pivoted in the realm of trade policy by embracing a protectionist trade agenda and placing tariffs on the import of steel and strategic technologies from China, including aerospace components, information and communications technologies, robotics, new materials, and automobiles.⁵⁶ Trump also targeted Huawei Technologies, banning China's leading telecom firm from purchasing vital US inputs without government approval.⁵⁷ Although Trump spoke openly about restoring American manufacturing, his trade

policies were never conjoined with a strategic industrial policy, and even his campaign promises to rebuild America's infrastructure never materialized.

The only exception occurred toward the end of his presidency, when Trump approved "Operation Warp Speed" (OWS), a state-led "moonshot" to develop and manufacture a vaccine for the coronavirus. OWS went far beyond federal support for the promotion of innovation and R&D. It provided government subsidies for the scaling-up of manufacturing (in the case of Moderna), offered strategic government procurement (in the case of Pfizer), and delivered various forms of government assistance to industry across multiple sectors and regions.⁵⁸ However, like Obama's American Recovery Act and auto bailout, OWS was a one-off emergency response rather than a sustained shift in the government's relationship with industry. And while existing programs, such as the Small Business Innovation Research (SBIR) Program, or the Manufacturing Extension Partnerships, were expanded under both Obama and Trump, these programs lacked conditionalities and operated largely within the logic of the "hidden" developmental state framework.⁵⁹ These programs were therefore in line with conventional practice and thus cannot be viewed as meaningful departures.

Unlike his predecessors, under Biden industrial policy was neither an emergency measure nor "hidden" from the electorate. Rather, industrial strategy was at the heart of Biden's economic policy agenda. In 2020, Biden ran on a promise to "Build Back Better" and, in 2021, released the "American Jobs Plan," a program that included several large-scale industrial policy proposals and called for an unprecedented \$2 trillion in new spending over eight years—approximately 1 percent of GDP per year.⁶⁰ Upon entering the White House, Brian Deese, the director of Biden's National Economic Council, laid out the administration's vision for a "twenty-first-century American industrial strategy," which was built on five core pillars: "supply-chain resilience, targeted public investment, public procurement, climate resilience, and equity."⁶¹ The administration then proceeded to implement this ambitious agenda in its first two years.

The cornerstones of this industrial strategy were the CHIPS and Science Act and the Inflation Reduction Act (IRA). CHIPS provided over \$280 billion in spending, including \$52.7 billion in grants to subsidize the construction of new domestic semiconductor fabrication facilities and equipment, \$200 billion for scientific research and development, commercialization, and workforce development, along with an additional uncapped 25 percent investment tax credit.⁶² The IRA was expected to allocate between \$500 billion and \$1.2 trillion in new climate spending to support the production of green energy and the development of innovative technologies and products that can reduce carbon emissions. The reason the final price tag of the IRA remains unclear is that many of the production and investment tax credits contained in the program were uncapped—a feature Tim Sahay has labeled as "bottomless mimosas"—with total public expenditure limited only by future demand for public subsidies. The same was true for some of the Department of Energy's climate programs, such as the Greenhouse Gas Reduction Fund, which provided debt financing for high-impact,

large-scale energy infrastructure projects and also had no upper limit on its official budget allocation.⁶³

These programs marked a shift in the American developmental state, not merely because of their unprecedented size and scale. More importantly, these policies aimed to shape new markets and industries (*directionality*), conditioned government assistance on meeting predefined goals and incorporated mechanisms to ensure these targets were met via discipline (*conditionality*), and politicized industrial policy, making it highly visible (*politicization*). In the next section, I will unpack these in order.

Four overlapping factors were responsible for this resurgence of industrial policy. The first was the rise of China as both an economic and geopolitical rival to the United States.⁶⁴ Although this development had already been acknowledged during the Obama administration, the idea of addressing the Chinese threat with industrial policy instruments such as tariffs and subsidies was adopted by both Democrats and Republicans only after Donald Trump's 2016 election.⁶⁵ The second factor was the exposure of supply-chain vulnerabilities. This came into sharp relief during the COVID-19 pandemic, when US policymakers discovered that, mainly because of hyperglobalization and offshoring, the United States "can't even produce the things it invented."⁶⁶ The third was the widening of economic and regional inequalities,⁶⁷ growing economic insecurity, and their associated social and political consequences.⁶⁸ The fourth and final factor was growing concern over climate change, which underscored the urgency of advancing an energy transition. A key turning point in this regard was 2009, when the Democrats failed to pass climate legislation that aimed to decarbonize through a federal cap-and-trade system. This failure prompted a strategic shift toward an industrial policy-based approach to the energy transition.⁶⁹ Taken together, these dynamics contributed to the reemergence of a more "visible" industrial policy. Aside from climate change, all these factors broadly reflect bipartisan concerns. This helps explain why, as will be demonstrated below, from all of Biden's industrial policy initiatives, the IRA was scaled back the most following Trump's return to the White House.

Directionality

A prominent feature of Bidenomics was its directionality. This element was expressed in two ways. First, the flagship industrial policy programs were geared toward supporting particular technological and industrial sectors, mainly semiconductors and green technologies. While this was not the first time a recent US administration has made targeted investments, the scale of those investments outside the defense sector represented a clear change. Second, Bidenomics targeted specific geographical regions and populations, representing what is often referred to as "place-based" policies, which scholars have defined as "initiatives intended to create jobs, raise productivity and wages, foster new industries and otherwise upgrade the economic structure of specific regions."⁷⁰

Specifically, the CHIPS and Science Act aimed to reestablish the United States' leadership in advanced semiconductor manufacturing by shoring up global supply

chains and revitalizing semiconductor manufacturing on American soil. The legislation included a specific target of producing 30 percent of the global supply of leading-edge chips by 2032, up from zero percent when the bill was passed. Its industrial policy tools included substantial grants, loans, and loan guarantees for semiconductor fabrication, assembly, testing, and packaging facilities located in the United States. It also provided a generous investment tax credit for semiconductor manufacturing and equipment.⁷¹

One difference that set CHIPS apart from the policies enacted by previous administrations was the targeting of a specific advanced manufacturing sector. This was different from the advanced manufacturing institutes set up by the Obama administration, where the technological focus for each institute was determined by its sponsoring agency based on its immediate and near-term needs, rather than by the White House and Congress.⁷² Another key difference was this policy's explicit "place-based" logic, as it purposely used CHIPS funding to embed technological clusters in noncoastal regions, thereby promoting regional economic development. One example was the Regional Technology and Innovation Hubs ("Tech Hubs") and Workforce Hubs programs.⁷³ These programs provided CHIPS funding to establish twenty new regional innovation and training hubs in noncoastal regions by bringing together public, private, and academic partners in collaborative consortia.⁷⁴ Although these programs were not explicitly aimed at distressed areas, they included a federal requirement that a third of the commissioned "Hubs" were to be located in smaller US cities or rural regions.⁷⁵ This requirement aimed to address the issue that most technology investments and jobs have become increasingly concentrated in a few select locations, thereby excluding entire parts of the country from the economic prosperity that such technological clusters produce.

The IRA sought to advance the energy transition, strengthen the United States' energy independence, and counter China's growing dominance in green energy. Like CHIPS, the legislation had a specific sectoral target: the rapid build-out of domestic clean-energy industries. In this case, however, because alternative energy technologies are at the technological frontier, with uncertainties about which solutions will work efficiently and reliably, the administration did not dictate which specific technologies would be funded.⁷⁶ Instead, the program was open-ended, offering generous, long-term, performance-based tax credits for electricity generation and the production of renewable energy sources, including solar, wind, nuclear, and battery technologies, consumer and producer incentives for electric vehicles, as well as funding for emerging technologies such as green hydrogen and carbon capture and storage, and for the production of various components relevant to wind, solar, battery, and rare earth mineral production.⁷⁷

Similar to CHIPS, the IRA also targeted advanced manufacturing beyond the defense sector. Also similar to CHIPS, the IRA incorporated numerous place-based mechanisms to steer investment toward regions affected by industrial decline. Both the production and investment tax credits provided in the IRA increased by 10 percent if said project was located in an energy community.⁷⁸ Another example was the Energy Infrastructure Reinvestment Program, which provided up to \$250 billion in subsidized

loans to “retool, repower, repurpose, or replace” retired fossil fuel plants, as well as to upgrade and replace energy infrastructure that has ceased operations.⁷⁹ Place-based policies were also present in other industrial policy packages passed by the Biden administration. For example, the American Rescue Plan funded the Build Back Better Regional Challenge, which targeted historically excluded communities and provided \$1 billion to regional coalitions of employers, labor unions and worker organizations, state and local governments, institutions of higher education, and community-based organizations who crafted five-year investment strategies geared toward the development of advanced industry clusters.⁸⁰

The administration’s deliberate directionality was most clearly articulated by Heather Boushey, a member of Biden’s Council of Economic Advisers and the chief economist for the president’s newly created Invest in America Cabinet. In a speech at the Peterson Institute, Boushey stressed the administration’s “modern American industrial strategy takes a sector-based approach to investing in our national and economic security. . . . That means we invest in specific, essential areas of the economy.” She then outlined the administration’s primary areas of concern, specifically highlighting their targeted investment in “infrastructure,” “chips manufacturing,” and “clean energy.”⁸¹ Speaking at the Brookings Institution, Jake Sullivan, Biden’s national security advisor, stressed that, in addition to direct financial assistance, the administration also provided strategic sectors with the necessary protectionist measures. Using the metaphor of a “small yard and high fence,” he described the “carefully tailored restrictions,” including the screening of both foreign and outbound investments, provided to the most “sensitive technologies.”⁸² One example was Executive Order 14105, which established the “Outbound Investment Security Program” (OISP) and granted the Treasury the authority to prohibit or require notification of certain types of outbound investments by Americans into strategic technologies, such as quantum computing, advanced chips, and AI.⁸³ While this approach marked a continuation of the previous Trump administration’s trade policy, this time the use of protective tariffs was part and parcel of a broader industrial strategy, notably absent under Trump 1.0.

In addition to targeting specific sectors, the administration also emphasized its intentional focus on particular geographical regions and communities, adopting a “place-based” approach to economic development.⁸⁴ This became one of Biden’s main talking points when outlining his economic agenda. For example, in a speech given in Chicago, Illinois, he contrasted “Bidenomics” with “trickle-down economics.” In the latter, he explained, “It didn’t matter where you made things, as long as you helped the company’s bottom line, even if that meant seeing jobs and industries go overseas for cheaper labor. [As a result] entire towns and communities . . . were shut down, hollowed out. . . . [With] Bidenomics, we’re turning this around. We’re supporting targeted investments.”⁸⁵

Rather than private capital being in the driver’s seat, as described in the derisking account, a bird’s-eye view of the aggregate data shows that these programs were effective in steering private investment toward the government’s preferred sectors. According to recent data, private sector spending on factory construction more than

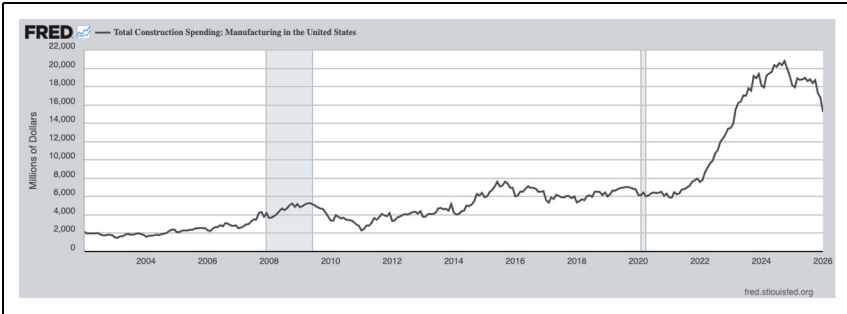


Figure 1. Total construction spending: manufacturing in the United States.

Source: US Census Bureau via Federal Reserve Economic Data.

*Shaded areas indicate US recessions.

doubled in real terms starting at the end of 2021, continuing to rise until June 2024, when it leveled off (see Figure 1). The decomposition of this data reveals that investments in computers, electrical components, and electronics manufacturing—a category that encompasses semiconductors and electric vehicle batteries—have driven nearly the entire surge in manufacturing construction spending (see Figure 2).⁸⁶ Together, CHIPS and the IRA, along with IIJA and the American Rescue Plan, committed to making \$756 billion in semiconductor, clean energy, and public infrastructure investments. These, in turn, leveraged (i.e., crowded-in) \$1 trillion in private commitments to invest in semiconductors and electronics (\$449 billion), EVs and batteries (\$184 billion), clean energy manufacturing and infrastructure (\$93 billion), bio-manufacturing (\$63 billion), heavy industry (\$51 billion), and clean power (\$215 billion).⁸⁷

In addition to targeting these specific sectors, the administration successfully directed investments to regions and localities that were deemed in need of investment. In the case of semiconductors, grants provided by the newly created CHIPS Office demonstrate the regional diversity, with finalized agreements to subsidize large-scale projects in Arizona, New Mexico, Ohio, and Oregon for Intel, Arizona for TSMC, Texas for Samsung, New York and Vermont for GlobalFoundries, and Idaho and New York for Micron.⁸⁸ The aforementioned “Tech Hubs” program supported grants of up to \$51 million each for consortia in fourteen states, including Colorado, Florida, Georgia, Illinois, Indiana, Montana, Oklahoma, South Carolina, and Wisconsin.⁸⁹ Finally, the “Build Back Better” Regional Challenge program supported twenty-one local coalitions in states such as North Carolina, Alaska, Virginia, Louisiana, Nebraska, and South Dakota, which were all awarded \$25–65 million to fund 123 strategic development projects. This federal funding was matched by more than \$2.2 billion in private investment.⁹⁰

The geographic distribution of clean energy investments was similarly oriented toward underdeveloped regions. A US Treasury report from November 2023 comparing pre- and post-IRA data showed that not only have clean investments grown more meaningfully after the IRA passed, but that these investments were concentrated in

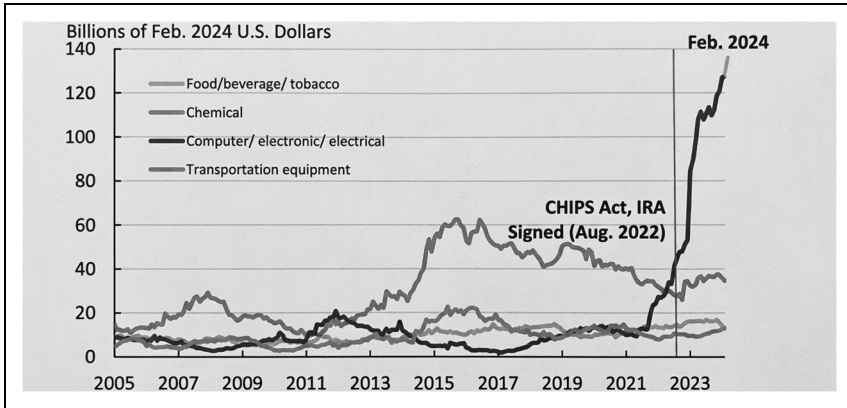


Figure 2. Computer, electronics, and electrical real manufacturing construction investing drives overall investment increase.

Source: US Census Bureau, Construction spending by sector, monthly at seasonally adjusted, annualized rate using FRED Price Index of Materials and Components for Construction. Chart made by US Congress Joint Economic Committee (April 2024).

“communities at the forefront of fossil fuel energy production,” and which have benefited least from the economic growth of the past few decades. More specifically, they find that post-IRA investments in green energy were larger than pre-IRA in both “Energy Communities” (i.e., areas with a history of fossil fuel production) and “Economically Disadvantaged” counties (i.e., those with below-average wages, incomes, employment rates, and college graduation rates). The report also found that over 80 percent of post-IRA clean investments went to counties with below-average wages, and more than 85 percent have gone to counties with below-average college graduation rates. Moreover, post-IRA data show that these investment trends occurred across all technologies supported by IRA funding, including zero-emission vehicles, carbon management, and sustainable aviation fuel, among others, without a concentration in just one or two types.⁹¹ Jay Turner and his students at Wellesley College have tracked similar investments and have found analogous trends.⁹² Another of their key observations is that the geographical diversity of these investments also aligns with political boundaries. They find that post-IRA investments are concentrated in red congressional districts at a ratio of 4 to 1 (\$93.2 billion in Republican districts compared to \$22.4 billion in Democratic ones). In contrast, prior to the IRA, this ratio was only 2 to 1 in favor of Republican districts (\$68.9 billion to \$38.7 billion, respectively).⁹³

These data demonstrated that industrial policies in the Biden era incorporated clear directionality that went beyond the defense sector. In this regard, they resemble classic industrial policy efforts in which the government is not sector-neutral but targets specific industries and regions over others, and private investment follows public investment rather than vice versa. Yet were these investments merely derisking efforts,

providing public funding to prop up private gains, or were they structured to achieve a broader public benefit? The following section tackles that question by turning to questions around conditionalities.

Conditionality

In contrast to the “directionality” of Bidenomics, which deepened and expanded existing trends, the Biden administration’s emphasis on conditionality represented more of a clear break from previous policies. As highlighted above, a core feature of industrial policy is that state assistance is conditional and upheld via the state’s capacity to discipline private firms. Recall that other studies, particularly work by Daniela Gabor, have identified Bidenomics as a derisking state precisely because it lacked meaningful conditionality and disciplinary capacity. Gabor argues that Bidenomics lacked these capacities because, unlike the disciplinary developmental state, the scale and sectoral distribution of public spending were “left to the profit calculations of private capital.”⁹⁴

There are, however, two problems with this account of Bidenomics. The first issue is theoretical and concerns Gabor’s definition of discipline, as well as an understanding of the structural power of capital in the context of the developmental state. In their coauthored paper, Gabor and Braun argue that what made Biden’s industrial policies a form of derisking was the fact that private investors could simply “opt out” of accepting subsidies that incorporated more onerous conditionalities.⁹⁵ This outcome, these authors argue, was the result of the derisking regime being highly dependent on private-sector profits.⁹⁶ This is undoubtedly true. The structural power of capital, because of its unilateral control over final investment decisions, could indeed undermine the goals of industrial policy. However, this is not unique to Bidenomics, or indeed to all recent industrial policy efforts elsewhere. It has also been true historically in all cases of industrial policy, including the flagship case of South Korea. As sociologist Vivek Chibber once pointed out, while South Korea’s control over the financial sector considerably increased its power vis-à-vis capital, it was never “immune to the countervailing power that capitalists exercise through their control over final investment,” nor was this power ever sufficient to “render state managers indifferent to the latter’s reactions to policy changes.”⁹⁷ As research on Korea has shown, even during the heyday of its developmental drive in the 1970s and 1980s, the Korean business class was able to exercise considerable power due to its position in the economy. Indeed, in the 1960s and 1970s, Korea’s Chaebol often used the threat of economic collapse or disorder to prevent the implementation of unfavorable policies, for example, when the state tried to advance a fair-trade bill.⁹⁸ In other words, even in the most robust developmental states, capitalists could *always* “opt out” and disinvest if they are so inclined.

In another paper, Gabor argues that, whereas the derisking state prioritizes the profitability of private actors, the disciplinary state “forces capital into pursuing the strategic objectives of the state even where these may be at odds with changing market conditions or profit calculations.”⁹⁹ But this situation has never been the case. The

whole practice of developmentalism has only been possible as long as business confidence persists, that is, so long as a sufficient number of firms continue to profit. Indeed, even the Korean developmental state at its pinnacle could not *force* capitalists to pursue the state's developmental agenda if it was inconsistent with their interests. The mark of a developmental state has never been its ability to *coerce* or *force* capitalists to make the socially desired investments. It has rather been the capacity to *compel* them to do so.¹⁰⁰ As Chibber has shown, what made Korea's developmental experience unique was not the state's capacity to override the interests of business but rather the capitalist class's own interest in a state with the capacity to "effectively coordinate and monitor investment."¹⁰¹ Discipline in this context never included obliging firms to make or continue making unprofitable investments. Instead, in Korea, it involved losing out on future licenses to expand into more lucrative sectors, or having applications for future credit refused.¹⁰² In other developmental states, like Israel, discipline included withholding, canceling, or demanding repayment of previously approved subsidies.¹⁰³ Taiwan has disciplined firms by revoking the intellectual property rights of state-sponsored technologies, requiring uncooperative firms to repay government subsidies,¹⁰⁴ or imposing heavy fines on corporations or executives caught exporting sensitive technologies without government approval.¹⁰⁵ Even in contemporary China, possibly the most powerful developmental state in history, discipline is primarily practiced through targeted regulatory measures, such as inspections and penalties for offenders, or sanctions and production halts.¹⁰⁶ In other words, the notion of a developmental state forcing capital to make losing investments against its interest creates an arbitrary and ahistorical threshold that no developmental state has ever met. It pulls the rug from under the whole concept of industrial policy as distinct from centralized state planning.

The second issue with the derisking account of Bidenomics is empirical. According to Gabor and Braun, recent US industrial policy represents a derisking regime in which the state's capacity to "discipline subsidy-receiving firms is weak."¹⁰⁷ Yet a closer analysis of the industrial policies legislated under the Biden administration, including both the IRA and the CHIPS Act, finds the incorporation of significant conditionalities that ensure public funding not only improves the bottom line of private corporations but also advances public priorities such as the reshoring of manufacturing and the creation of good jobs. These policies included clear examples not only of *ex ante* but also *ex post* conditionalities that could be monitored as part of an ongoing contractual relationship and enforced via government discipline.¹⁰⁸ Indeed, Biden and his team viewed these conditionalities as a crucial element of their industrial policy agenda and fought hard to incorporate them in meaningful and often innovative ways.

One of the central goals of the Biden administration was to promote domestic manufacturing and strengthen local supply chains. To achieve this goal, the administration incorporated domestic content and sourcing requirements into nearly all relevant industrial policy packages. For example, to qualify for the consumer tax credits provided under the IRA, legislation required that a significant portion of the minerals used in EV batteries would come from the US or its trade partners, and that final assembly

would occur in North America.¹⁰⁹ The law also offered developers an additional 10 percent tax credit for a range of clean energy projects that meet domestic content standards.¹¹⁰ These include, among others, the use of domestically produced steel, iron, and manufactured products, as well as a minimum percentage of US-manufactured components.¹¹¹ To ensure funding provided through the CHIPS program did not fund R&D that would later leak to China, the legislation contained intellectual property regulation that required chipmakers to refrain from engaging in “joint research or technology licensing effort . . . that involves sensitive technologies or products [with] foreign countries of concern (read: China) for ten years after receiving federal funding.”¹¹² Additionally, upon entering the White House, Biden signed Executive Order 14005—“Ensuring the Future Is Made in All of America by All of America’s Workers”—which significantly strengthened existing Buy American legislation by, among other things, increasing the domestic content threshold from 55 percent to 75 percent by 2029.¹¹³ Local content requirements were also incorporated in the IIA by applying the “Build America, Buy America Act,” which prohibits the award of federal financial assistance for infrastructure projects unless all the iron, steel, and manufactured products and construction materials used are produced in the United States.¹¹⁴ To compel firms to meet these conditions, the administration established the “Made in America Office,” tasked with reviewing waivers to “Made in America” laws.¹¹⁵

Another primary goal for the Biden administration was fostering well-paying, high-quality jobs. To advance this goal, the Biden administration worked diligently to include a “prevailing wage” clause in all of its legislation, stipulating that wage and benefit rates for projects supported by the federal government must reflect existing market levels.¹¹⁶ This regulation ensures that contractors cannot win government contracts by undercutting competitors through low wages, thereby forcing them to compete on the basis of efficiency and quality, rather than wage suppression.

Such prevailing wage conditionalities were included in the overwhelming majority of IIA funds, including all energy infrastructure provisions, as well as in the construction of manufacturing facilities under the CHIPS Act.¹¹⁷ Policymakers also incorporated prevailing wage clauses into the IRA. For example, both the Clean Electricity Investment Tax Credit (ITC) and the Clean Electricity Production Tax Credit (PTC)—two of the most significant funding schemes in the IRA—increased sixfold (from 5 to 30 percent) conditional on developers paying prevailing wages and meeting apprenticeship requirements.¹¹⁸

To allow the prevailing wage clause to indeed produce good-paying jobs, Biden’s Department of Labor (DoL) restored the DoL’s more encompassing definition of prevailing wage used for nearly fifty years before the Reagan administration upended it. The IRA also expanded the use of prevailing wages, applying them to all employers rather than only federal contractors, as was the case in the past.¹¹⁹ Finally, the IRA strengthened DoL enforcement by adding a new antiretaliation provision that allowed it to discipline contractors by withholding funds to pay employees their lost wages.¹²⁰

To ensure significant oversight of the IRA, it was decided that all tax credits provided under the legislation would be administered and audited by the IRS. This meant that firms seeking to benefit from the subsidies provided by the legislation had to do so through their tax returns, with firms falsifying their compliance at risk of being disciplined via meaningful penalties.¹²¹ To provide the IRS with the necessary enforcement capacity, the IRA injected the agency with almost \$60 billion in new funding, which it used to hire twenty thousand new employees, one-third of whom were targeted for enforcement, and to integrate new technologies aimed at “boosting enforcement.”¹²² This investment paid immediate dividends as the agency tripled its audit rates on large corporations, allowing the IRA to collect more than \$1.1 billion in the 2024 fiscal year, up from just \$38 million the previous year.¹²³

Other conditionalities aimed to ensure an inclusive distribution of the future benefits of industrial policy. While many of the labor-friendly requirements that existed in the original “Build Back Better” proposals did not make it into the IRA (more on this later), the program managers at the DoE’s Loan Program Office (LPO) and the Environmental Protection Agency’s (EPA) Greenhouse Gas Reduction Fund had a lot of discretion in allocating competitive funding. For example, as part of its application process, the LPO encouraged firms to submit a Community Benefits Plan (CBP) where they were requested to detail how their proposal supports “meaningful community and labor engagement,” “quality jobs,” “diversity, equity, inclusion, and accessibility in the workplace,” and “President Biden’s Justice40 goal,” according to which “40% of the overall benefits of clean energy investment flow to disadvantaged communities.” CBPs were also required to include “specific, actionable, and measurable ways” that the applicant intends to address these four key pillars.¹²⁴ In this manner, the LPO could use these applications to prioritize firms more likely to advance the administration’s agenda. This was the case when the EV start-up Rivian’s loan request was rebuffed until the company showed a more favorable stance toward the United Auto Workers union (UAW).¹²⁵ Six months later, the car manufacturer reached an agreement with the UAW stipulating that it would adopt a neutral stance toward efforts to organize workers at its Illinois factory, contingent upon the EV maker achieving profitability. This, in turn, paved the way for a conditional loan of \$6.6 billion from the LPO to help fund the construction of a new EV plant in Georgia.¹²⁶ A similar approach was taken by the EPA, which required all recipients of federal subsidies to detail the health insurance, paid leave, retirement, and other benefits they offered their workers and commit to remaining neutral in any organizing campaign. Workers at electric school bus maker Blue Bird’s plant in the “right-to-work” state of Georgia used these conditions to their advantage, utilizing the fact that their employer received funding from the Clean School Bus Program to unionize their 1,400 workers with the United Steelworkers’ Union.¹²⁷

To increase future “gainsharing,” Bidenomics also introduced several novel conditionalities that had not been used before. For example, in addition to prevailing wages and domestic content requirements outlined above, CHIPS prohibited the use of government funding for stock buybacks or dividends—standard corporate practices

notorious for enriching shareholders and executives—for a specific period (typically five years), and also favored applicants who commit to refraining from stock buybacks altogether.¹²⁸ CHIPS also incorporated “upside sharing,” whereby subsidy recipients were required to “share with the US government a portion of any cash flows or returns that exceed the applicant’s projections above an established threshold,” with proceeds going to support the purposes of the CHIPS Act and the US semiconductor ecosystem.¹²⁹ According to a recent US Government Accountability Office report, Commerce negotiated such upside-sharing agreements for twenty-seven of its forty funded projects.¹³⁰ Finally, the program also included an original child care provision requiring corporate recipients to guarantee affordable, high-quality child care for construction and production workers.¹³¹

To enforce these conditions, policymakers introduced numerous *ex post* monitoring mechanisms. For example, the newly created CHIPS Program Office was tasked with monitoring compliance, which it did by requiring award recipients to file regular financial and programmatic reports. Firms were also held to construction and operational milestones, as funding was disbursed in “tranches tied to project milestones in connection with capital expenditures, workforce development, and operational costs.”¹³² As detailed by Todd Fisher, the CHIPS Program Office’s former chief investment officer,

In practice, milestones became our most effective tool for enforcing accountability and shaping outcomes. We defined customized, enforceable commitments tied to the results we actually cared about—not just fabs built, but output, technology readiness, customer acceptance, financial viability, national security commitments, and supply-chain resilience. For us, milestones were policy instruments for shaping industrial outcomes rather than mere safeguards for appropriations.¹³³

According to the US Government Accountability Office report cited above, Commerce set 161 milestones related to the construction of facilities, the installation and qualification of equipment, and the achievement of minimum production levels across its forty funded projects. Commerce officials stated that, as of July 2025, grant recipients have complied with this condition, submitting twenty-four milestone completion reports.¹³⁴

There have also been cases in which signed preliminary agreements did not materialize and funding was not distributed because firms did not meet one of the preconditions set out in the agreement. One notable example was Wolfspeed, a US semiconductor manufacturer that the CHIPS Office decided not to fund because it did not meet its obligation to raise an aggregate of \$750 million in debt financing and raise up to \$300 million in additional capital. In this case, structured milestones ensured no federal funding was disbursed before Wolfspeed resolved its financial situation, which it never did.¹³⁵

CHIPS legislation also supplied program managers with the necessary disciplinary mechanisms. For example, they could temporarily withhold, suspend, or terminate awards previously made available. In addition, if a project did not commence, was

not completed by specified dates, or if firms engaged in stock buybacks or similar financial maneuvers that are deemed to violate existing provisions, the Program Office was authorized to progressively claw back government funds up to the full amount of the award or disqualify firms from future CHIPS funding.¹³⁶ Biden himself emphasized these principles during a live-streamed meeting with CEOs and union leaders, where the importance of passing the CHIPS Act was discussed: “This bill is not about handing out a blank check to companies. . . . Secretary Raimondo will have the power that if companies don’t meet the commitments . . . in this bill, she can take back the money.”¹³⁷

Clawback mechanisms and milestones were not limited to CHIPS but were also prominently featured in the IRA. While the derisking critique often condemns the IRA for its narrow use of tax credits (“green carrots”), it fails to mention that receiving many of these tax credits was conditional on making the required investments and could be clawed back if necessary. For example, to receive the IRA’s Production Tax Credit, firms or developers were required first to demonstrate that their proposed project had been installed and was fully operational.¹³⁸ Meanwhile, while firms were eligible for the Investment Tax Credit before the proposed facility was completed, these credits were subject to recapture if the qualifying energy property ceases to be operational within five years of being placed in service, or if recipients failed to satisfy the prevailing wage requirements.¹³⁹ In other words, rather than a subsidy, IRA tax credits function like a conditional loan, or what legal scholar Jeff Gordon has called “statutory contracts.” These, argued Gordon, “enforce discipline in the manner of contracts generally, i.e., by imposing benefits and burdens on those who opt in. Payment is only available upon delivering some outcome . . . [a]nd penalties can be assessed if the recipient’s subsequent behavior undermines the activity for which they were paid.”¹⁴⁰ In this regard, IRA tax credits did not function any differently from export subsidies provided in developmental states like South Korea, where only firms that opted to receive them were obligated to meet government targets and could thus be disciplined for failing to do so.

As the examples above demonstrate, the Biden administration made conscious efforts to ensure subsidies did not become corporate giveaways. The derisking critique of Bidenomics, which portrays contemporary US industrial policy as all carrots with no sticks, cannot be sustained. As was demonstrated above, the industrial policies enacted by the Biden administration incorporated a variety of “sticks,” including both *ex ante* and *ex post* conditionalities that could be monitored and enforced via state discipline. The findings regarding conditionalities presented above align more closely with the interpretation of Keller and Block, who recognized that Bidenomics incorporated conditionalities that could be used to discipline capital and produce a broader distribution of gains relative to previous forms of the US developmental state.¹⁴¹

Politicization

The third prominent feature of Bidenomics was an embrace of a new set of political and economic ideas that some have called “post-neoliberal.”¹⁴² As summarized above, the

scholarship on the American developmental state has long maintained that, throughout the neoliberal era, US industrial policies have remained “hidden” from the electorate and rarely discussed in national media. It is argued that this is due to the dominance of market fundamentalism, which is inconsistent with acknowledging the state’s central role in promoting new industries and markets. However, in recent decades, the prominence of market fundamentalism began to wane, leading members of both political parties to retreat from key tenets of neoliberal economic policy. This, in turn, has opened the door to more *visible* government policies that resemble those of developmental states elsewhere.

Whereas Obama attempted to downplay the proactive role of government in shaping markets and maintained the “hidden” nature of US policymaking, the election of Trump shattered that consensus. During the first Trump administration, long-held beliefs in an ideology advocating for free markets, free trade, and a hands-off role for governments began to be upended. Biden, instead of reverting to the previous norm, fully embraced this as an opening to enact his own agenda. Indeed, Biden and his staff very visibly embraced a new set of political and economic ideas. While far from fully formed, at the core of this emerging paradigm was a view of government as the designer and manager of markets, rather than as the corrector of market failure.¹⁴³

How did this new paradigm emerge? In the wake of Trump’s victory in 2016, a diverse array of organizations began to explore a path beyond neoliberalism. One illustrative example is the William and Flora Hewlett Foundation, which produced a network of philanthropists, academics, and think-tank researchers that explicitly sought to develop an alternative framework to neoliberal policymaking. In 2018, the president of the Hewlett Foundation at the time, Larry Kramer, launched the “Beyond Neoliberalism: Rethinking Political Economy” initiative (later renamed “Economy and Society Initiative”). Since then, Hewlett has committed more than \$140 million to fund economic and policy research in universities, think tanks, and media outlets focused on “examining potential successors to neoliberalism” and developing a new “commonsense about how the economy works.”¹⁴⁴ The initiative has since funded new research initiatives in universities (Harvard, Yale, Johns Hopkins, Howard, UC Berkeley, and MIT), progressive think tanks (Roosevelt Institute, Washington Center on Equitable Growth, Economic Policy Institute, and the Center for Economic and Policy Research), conservative groups that challenged the right’s free-market ideology (American Compass and American Affairs), and other media outlets.¹⁴⁵ A key pillar of this emerging post-neoliberal economic paradigm was industrial policy with “conditionality” or “corporate guardrails.” These ideas were emphasized in several policy papers released by the Hewlett-sponsored Roosevelt Institute, written by the likes of Todd Tucker and Isabel Estevez, who studied the experiences of developmental states elsewhere and fed those insights to policymakers in Washington.¹⁴⁶

The emerging ideas of this post-neoliberal paradigm were channeled into the Biden White House by numerous grantees or partners from the Hewlett initiative who took on prominent roles in the administration. Jennifer Harris, the founding director of

Hewlett's Economy and Society Initiative, became a special assistant to the president and a senior member of Biden's National Security and National Economic Councils; Heather Boushey, co-founder and president of the Hewlett-sponsored Washington Center for Equitable Growth, joined the Council of Economic Advisers. To build the political support and legitimization for a post-neoliberal industrial strategy, during the legislative period, Harris and Boushey, as well other senior policy-makers such as Brian Deese and Jake Sullivan, all made key speeches¹⁴⁷ and gave extended interviews in leading national media outlets including the *New York Times* and the *Financial Times*, as well as popular podcasts such as *Bloomberg's Odd Lots*, and *Freakonomics Radio*.¹⁴⁸

While post-neoliberal ideas were embraced by leading members of the Biden White House, they would not have become law without the administration's ability to construct a broad political coalition in their support, both in and outside Congress. Within the House and Senate, numerous Democrats sharply broke from Clinton- and Obama-era economic orientations and showed newfound enthusiasm for industrial policy.¹⁴⁹ Some of the original industrial policy ideas that the Biden administration eventually legislated can be traced back to the "Unity Task Force" put together during the 2020 Democratic primaries by the Joe Biden and Bernie Sanders campaigns, and which included input from the progressive wing of the Democratic Party, including Senator Warren, and Representative Alexandria Ocasio-Cortez. Prominent within the 110-page document produced by the Task Force was the embrace of industrial policy as the central policy lever to support job creation and advance the green energy agenda. In many ways, these task force documents became a blueprint for the Democrats' economic agenda under Biden.¹⁵⁰

Importantly, the growing embrace of industrial policy was not limited to the Democratic Party but was also considerable among some leading Republicans, including Senators Marco Rubio and Josh Hawley.¹⁵¹ The primary reason many Republicans were willing to accept the application of the forceful conditionalities outlined above was geopolitical. Indeed, most of the twenty-four House Republicans and seventeen Republican senators who voted for the CHIPS Act cited the United States' economic and geopolitical rivalry with China, as well as the goal of reshoring manufacturing jobs, as the main reasons for their support.¹⁵² The bipartisan consensus around the need for robust industrial policy to counter China also paved the way for the enactment of the IIJA.¹⁵³ Needless to say, this meant some of the Biden administration's original, more ambitious legislative proposals were considerably softened by Republican opposition. One example was the attempt to include "union neutrality" clauses, where firms agree not to contest a union vote as a condition for receiving federal funding, which was stripped from CHIPS and the IIJA.¹⁵⁴ Still, the fact that both legislative packages passed with considerable, bipartisan support—a rare occurrence, particularly under a Democratic president—speaks to the growing political support of industrial policy with considerable conditionalities.

Unlike CHIPS or the IIJA, the Democrats' climate agenda did not receive Republican support. Therefore, to pass what became the IRA, Democrats were forced

to use the budget reconciliation mechanism. While this allowed the Democratic majority to bypass a Republican filibuster and pass the IRA with a simple majority of fifty-one votes, it forced Democrats to negotiate against a conservative opposition within their own party, particularly with Senator Joe Manchin of West Virginia. Manchin vetoed numerous measures of the American Jobs Plan, including a pro-labor clause that would have provided consumers of union-built cars with greater subsidies than those offered to consumers acquiring EVs made by non-unionized workers, as well as the same union neutrality guideline that did not survive the other policy packages.¹⁵⁵ Nevertheless, negotiations between Manchin and leaders within the Democratic Party, led by Senator Chuck Schumer, eventually secured an agreement with Manchin and his team on the IRA.¹⁵⁶ Because the IRA was passed via budget reconciliation, a procedural process that can only be used for budgetary provisions directly related to taxing and spending but excludes broader regulatory reforms, Democrats had to be very creative in coding conditionalities into the legislation.¹⁵⁷ As Gerry Petrella, Schumer's senior aide, explained,

[Our thinking was] if we're going to do something significant that costs money—because we have to make investments—the tax code and grants were really your two main tools, and you can use the reconciliation process to effectuate both of those things. But there are really stringent rules. . . . It is so onerous. . . . You go over every line of the proposed legislation to figure out is it triggering or hitting a tripwire with any of the rules and guidelines. . . . It's really hard to create, for example, domestic manufacturing bonus credits that are tied to certain conditions that you have to meet in order to get them.¹⁵⁸

As can be seen from this quote, the incorporation of conditionalities was politicized and deliberately pursued by Democrats in the negotiations over the IRA.

Implementing a robust industrial policy that incorporated directionality and conditionalities required far more than just congressional support in the House and Senate. It demanded the assembly of a broad social coalition spanning diverse economic and political interests. In the case of Bidenomics, this involved building an alliance between organized labor, environmental groups, NGOs, and industrial sectors and firms that stood to benefit from targeted government assistance. This coalition was crucial in ensuring that the conditionalities advancing publicly desired goals were incorporated into the final legislation. Such a coalition was important not only for the legislative stage but also during the “trench wars” surrounding the crafting of the specific guidelines and regulations,¹⁵⁹ a process that took several years to complete.¹⁶⁰

Organized labor played a central role in the social coalition that propelled Biden's industrial strategy forward. President Biden famously proclaimed himself “the most pro-union president in history.” While perhaps an exaggeration, Biden's installation of the most pro-labor National Labor Relations Board in decades and his open championing of striking autoworkers did represent a profound break from the anti-union agenda of previous Democratic administrations.¹⁶¹ On numerous occasions, Biden drew a straight line between the labor provisions incorporated in his industrial policies,

such as “prevailing wage laws,” and his administration’s goal to address “the 40-year decline in unionization.”¹⁶² Not only that, but some of the administration’s industrial policy ideas originated in the labor movement. For example, many of the conditionalities that ultimately ended up in the IRA, such as local content requirements for batteries and other critical components, as well as job quality standards, originated in a 2018 UAW policy paper advocating for a green industrial policy.¹⁶³

Labor enthusiastically supported Biden’s industrial policy agenda and, during legislative bargaining, mobilized to lobby Congress to ensure the relevant legislation passed. For example, North America’s Building Trades Unions (NABTU) played a crucial role in the IJA legislation, actively recruiting labor-friendly Republicans to support the bill.¹⁶⁴ In the case of the IRA, the United Mine Workers of America, representing West Virginia coal miners, pressured Joe Manchin to reconsider his opposition to the legislation.¹⁶⁵ Labor interests, including the Communications Workers of America (CWA), mobilized to support the CHIPS Act. CWA President Chris Shelton even joined President Joe Biden for a live broadcast roundtable discussion on the importance of passing the CHIPS Act.¹⁶⁶ While union efforts to incorporate more robust labor-friendly conditionalities, including labor rights, environmental protections, workers’ safety, and union-neutrality clauses, were vetoed by industry interests, labor played a role in ensuring that the prevailing wage, a prohibition on stock buybacks, and the child care provisions made it into the final legislation.¹⁶⁷

Labor interests also exerted influence through key positions within the Biden administration. Marty Walsh, a former union leader, was Biden’s first Labor secretary and became the first union member to serve in this role in nearly half a century.¹⁶⁸ Biden’s Energy Secretary Jennifer Granholm held close ties to organized labor. Katherine Tai, Biden’s US trade representative, previously helped negotiate stricter worker protections in the revision of the NAFTA trade agreement that passed during the first Trump administration. Stef Feldman and Jared Bernstein, two White House officials who helped shape the campaign’s economic proposals, held close contacts with unions during their period working for Biden when he was vice president.¹⁶⁹

Environmental groups and progressive think tanks were equally essential parts of this coalition, drafting significant portions of the IRA and advising various members of Congress and the administration. This includes environmental groups such as the BlueGreen Alliance, the Sierra Club, and the Rocky Mountain Institute, as well as think tanks like the Roosevelt Institute, the Washington Center for Equitable Growth, Employ America, and other social justice NGOs, including Public Citizen. Leading members of these organizations took on key positions within the White House. For example, Ben Beachy, formerly of the Sierra Club and the BlueGreen Alliance, became the special assistant to the president for climate policy, focusing on the industrial sector and community investment.¹⁷⁰ Felicia Wong, the president and CEO of the Roosevelt Institute, served on the Biden-Harris administration transition advisory board.¹⁷¹

Finally, it is unlikely that Biden’s industrial policies would have passed without some backing from industry. To be sure, a mobilized campaign by business interests

removed many of the more progressive elements initially proposed by the Biden administration, including more significant corporate tax reform, a range of social policies, and the labor-friendly conditionalities mentioned above.¹⁷² Nevertheless, some factions in the corporate community remained committed to Biden's industrial policy agenda and were willing to accept certain conditions to see it implemented. Semiconductor manufacturers were the prominent supporters of CHIPS, spending more than \$20 million on lobbying for the bill in the first half of 2021, and even threatening to cancel planned manufacturing facilities in the United States if Congress did not pass the bill before the August recess of 2022.¹⁷³ Of course, this did not mean that industry interests did not try to pressure lawmakers to weaken restrictions, and their rejection of union neutrality provisions included in the proposed bill led to their removal from the final legislation. Nevertheless, mainly because of the involvement of unions and the administration's maintained commitment to an inclusive industrial policy agenda, significant conditionalities remained.¹⁷⁴

Industry interests also played a key role in the context of the IRA. Crucial was the collaboration from what Kupzok and Nahm have called the "decarbonizable sector," defined as "industries that have a technological pathway to decarbonize . . . if they can finance the upfront capital investments to make the switch."¹⁷⁵ In the case of the IRA, the decarbonizable sector included US steelmakers, utilities, and the auto sector. Representatives of these sectors all engaged in intense lobbying in support of the IRA and worked side by side with organized labor to pressure Senator Manchin to sign off on the bill.¹⁷⁶ As we will see in the next section, representatives from these business segments proved crucial in preserving some of the IRA's core features during the Trump administration's attempts to repeal the act.

To summarize this point, industrial policy under Joe Biden did not remain "hidden"; instead, it became highly visible and politicized. One clear indication was its growing prominence in national media discourse following Biden's election. In a recent article, Block and colleagues argued that American "developmental state policies" were "still rarely acknowledged in public debates or in journalism," noting that as of October 2022, the *New York Times* had used the phrase "advanced manufacturing institute" only once.¹⁷⁷ In a related publication, Block and Keller similarly contended that while neoliberal rhetoric did not prevent politicians from adopting innovation and industrial policies, "most programs were rarely discussed in national political debates and rarely covered in the press unless they generated high-profile failures."¹⁷⁸

This pattern of media neglect shifted dramatically after Biden's election. During the eight years of the Barack Obama administration, the *New York Times* used the phrase "industrial policy" only 186 times, an average of 23.5 mentions per year. By contrast, during the four years of the Biden presidency, the phrase appeared 483 times, or roughly 161 times annually. Notably, this heightened visibility has continued under Donald Trump's second term, with 287 appearances since his re-election in November 2024.¹⁷⁹ Moreover, unlike in earlier periods, a substantial share of this coverage portrayed Biden's industrial policies favorably and in great detail. At the *New York Times*, this included supportive opinion pieces by liberal columnists such

as Paul Krugman, and Farah Stockman, alongside more conservative voices like David Brooks.¹⁸⁰ Positive framing of industrial policy also appeared in other mainstream outlets. A prominent example was Rana Foroohar's extensive coverage at the *Financial Times*. Across numerous columns, Foroohar characterized Bidenomics as a "great rebalancing" away from neoliberalism and toward a worker-centered, resilient, and post-globalization economy.¹⁸¹ She also defended conditionalities such as "buy American" provisions not as outdated protectionism but rather as a necessary response to global trade arrangements that have failed to deliver broad-based prosperity.¹⁸² To be sure, media coverage of Biden's industrial policies was not uniformly positive.¹⁸³ The key point, however, is that for the first time in decades, industrial policy was no longer hidden from public discourse. Instead, it became an openly contested subject in national media debates, with many influential voices endorsing Biden's new policy agenda.

Conclusion: Bidenomics After Biden?

Biden's eventual withdrawal from the 2024 election and Trump's return to the White House following his defeat of Kamala Harris begs the question: What remains of Biden's industrial policy? Was Bidenomics simply a short-lived deviation from the norm of a "hidden" developmental state with limited "gainsharing," or does the trajectory toward a more "visible" developmentalist agenda incorporating directionality and conditionality, which began under Biden, reflect a broader trend that can endure under Trump 2.0?

Providing a complete and compelling answer to this question would require a more detailed investigation that is beyond the scope of this article. Nevertheless, a brief evaluation of the status of the central industrial policy packages legislated under the Biden administration suggests that, perhaps surprisingly, much has persisted thus far. Aside from Trump's attempts to freeze or cancel investments in "green" projects, particularly wind and solar, his administration has mainly preserved the infrastructure bill. As for CHIPS, while Trump initially called for its repeal,¹⁸⁴ Republicans have shown little desire to eliminate the program, which continues to operate under the newly established "United States Investment Accelerator Office." In some respects, Trump's maneuvers have even expanded the original legislation. A case in point is the administration's surprising agreement with Intel in August 2025, which converted previously awarded CHIPS Act grants into a 10 percent equity stake in the firm.¹⁸⁵ This move made the US government the company's largest shareholder and was praised by progressives such as Senator Bernie Sanders.¹⁸⁶ While the conversion of CHIPS grants into equity has, so far, been a one-time occurrence, a recent CHIPS Act funding call incorporated a "return on investment" criteria that states that "as a condition of receiving an award, applicants may be required to issue to the Department equity, warrants, licenses to intellectual property, royalties or revenue sharing, or other such instruments to ensure a return on investment to the Government," leading to the likely possibility that equity will be requested in future policies.¹⁸⁷

Far more contested was the IRA. Recall that, in contrast to Infrastructure and CHIPS, IRA passed with zero Republican support. Trump himself was outspoken about his wish to dismantle the IRA, both during and after the 2024 campaign, repeatedly referring to the program as “the Green New Scam.” Nevertheless, not all Republicans agreed. Even before the election, eighteen House Republicans sent a public memo to the Speaker of the House, Mike Johnson, urging him to reconsider future efforts to repeal the IRA. As they explain in their letter,

Today, many US companies are already using sector-wide energy tax credits . . . to make major investments in new US energy infrastructure. We hear from industry and our constituents who fear the energy tax regime will once again be turned on its head due to Republican repeal efforts. Prematurely repealing energy tax credits . . . would undermine private investments and stop development that is already ongoing. A full repeal would create a worst-case scenario where we would have spent billions of taxpayer dollars and received next to nothing in return. Energy tax credits have spurred innovation, incentivized investment, and created good jobs in many parts of the country—including many districts represented by members of our conference. . . . As Republicans, we support an all-of-the-above approach to energy development and tax credits that incentivize domestic production, innovation, and delivery from all sources.¹⁸⁸

A similar letter publicly calling for a softer touch on IRA repeal, this time signed by twenty-one Republican representatives, was sent following Trump’s return to the White House.¹⁸⁹ These two letters foreshadowed future debates within the Republican Party during the House and Senate’s negotiations over Trump’s “One Big Beautiful Bill” (OB BB). After political negotiating in both the House and the Senate, including significant lobbying from both “green” and “brown” interests, the final OB BB represented a meaningful downsizing of the IRA, but far from a complete repeal.

In essence, the bill bifurcated the previously technology-neutral tax credits for clean electricity into two categories with entirely different rules and timelines: While subsidies for wind and solar were phased-out immediately (aside from “safe harbor” for projects already under construction), support for investment in or production of all other sources of zero-emissions electricity, including batteries, advanced nuclear, geothermal, and hydropower, has remained in place for nearly a decade. Also canceled were consumer tax credits for purchases of EVs or rooftop solar panels that were responsible for generating local demand for the supply of US-produced green technologies.¹⁹⁰ While Republicans removed subsidies for solar, wind, and EVs, they supported a bill that maintains massive state subsidies for numerous other carbon-neutral technologies. As recapped by Jane Flegal, the executive director of Blue Horizons Foundation, and a former member of the Biden administration’s climate policy team: “I’ve devoted my entire life to climate, and that would have been an unthinkable outcome to me . . . if you had told me: Democrats passed a Dem-only climate bill, Trump tells everyone to repeal the full thing, and a significant chunk

survives. . . . Basically, Republicans just endorsed a decade-long tax credit for carbon-free electricity.”¹⁹¹ In other words, rather than a return to the sector-neutral approach characteristic of the neo-liberal era, what the Republican Congress did was change the specific technologies targeted by the government. Similar targeting has persisted in other sectors, such as rare earths, steel, shipbuilding, and artificial intelligence.

It is also worth mentioning that Republicans have yet to strip away any of the major conditionalities incorporated in CHIPS, Infrastructure, and the IRA. Not only did Republicans maintain the conditionalities that were folded into the IRA, but they also significantly expanded local content requirements. Specifically, the OBBB expanded existing “foreign entities of concern” guidelines, which disqualify firms that incorporate components from Chinese-owned businesses, to apply to all carbon-neutral technologies. The bill phases in these supply chain restrictions, requiring project developers and manufacturers to use fewer and fewer Chinese-sourced inputs over time according to a preset benchmark for each specific tax credit.¹⁹² Some environmentalists warn that such harsh sourcing conditionalities are so administratively and logistically challenging to comply with that they may discourage firms from pursuing carbon-neutral investments altogether.¹⁹³ This concern notwithstanding, what remains clear is that, rather than watering them down, Republicans have maintained the commitment to IRA conditionalities and have even enhanced them.

Whether the Trump administration will ultimately uphold these conditions remains uncertain. One early indication of the political constraints this administration may face is the observable shift of Silicon Valley elites away from the Democratic Party and toward Donald Trump, a realignment symbolically captured by the widely circulated image of tech billionaires and corporate executives prominently featured at Trump’s inauguration. This shift suggests that the Biden administration’s post-neoliberal agenda—including its emphasis on industrial policy with substantive conditionalities, as well as strengthened antitrust enforcement directed at the technology sector—was perceived as a credible threat by segments of the capitalist class. In this sense, somewhat ironically, while Bidenomics may have contributed to the reorientation of elite political allegiances toward Trump, this development further underscores the extent to which Biden’s economic policies represented a meaningful break from the neoliberal status quo.

Trump’s first year in office provided more signs that he may not be willing to discipline private actors to enforce Biden-era conditionalities. Some examples include the administration’s undoing of Biden’s efforts to enhance the state’s enforcement capacity by reversing Biden’s expansion of the IRS, and downsizing the staff of the CHIPS Act Office by two-fifths.¹⁹⁴ Trump also reversed some labor-friendly policies enacted under the Biden administration,¹⁹⁵ while firing both the NLRB’s chair and general counsel, leaving the agency without a quorum and rendering it unable to issue decisions on cases.¹⁹⁶ These actions undoubtedly diminish the American state’s capacity to promote an effective, broad-based industrial policy. Yet despite Trump’s aggressive efforts to block, delay, and repeal some of Biden’s signature acts, the general shift toward industrial policy taken by the Biden administration, including the incorporation

of directionality, conditionality, and politicization, seems to have nonetheless persisted. What accounts for this somewhat surprising result?

For one, this outcome can be attributed to the political logic of Bidenomics, which assumed that creating a broad coalition of industrial policy “winners” would make these policies more difficult to overturn. This reasoning played out in practice as some of the key beneficiaries of Biden’s industrial policies, including both industry and labor interests,¹⁹⁷ lobbied to preserve key parts of the legislation. As illuminated by Ted Fertik from the BlueGreen Alliance:

More investment capital and jobs are connected to these provisions of the tax code than there were in 2022. . . . What does that mean politically? It means there are more actors in the system that want to see these measures preserved—companies with capital invested, labor unions with members in these industries, mayors, local chambers of commerce in towns and counties where capital is flowing, who don’t want to see that economic revitalization reversed.¹⁹⁸

A second factor is the Trump administration’s own growing embrace of “post-neoliberal” policies. The clearest example of this is Trump’s disdain for “free trade” and his enthusiasm for tariffs and trade barriers. This goes back to Trump’s first term, but has been supercharged under Trump 2.0, as exemplified by the “Liberation Day” tariff announcement.¹⁹⁹ However, trade protections have been just one of numerous other “post-neoliberal” policies executed by the Trump White House. In addition to the partial nationalization of Intel mentioned above, these have also included negotiating a permanent “golden share” in US Steel, which grants the government an extraordinary amount of influence over the company, including veto power over the transfer of production or jobs outside the United States, the closing or idling of plants, or making certain changes to how it sources raw materials.²⁰⁰ It has also made numerous public investments in companies specializing in rare earths, including a multibillion-dollar contract with MP Materials, which essentially nationalizes the rare-earth mining company.²⁰¹ Alongside these deals, the administration has made efforts to revitalize the US shipbuilding industry and establish a sovereign wealth fund.²⁰² Thus, while Biden and Trump’s approach to industrial policy has been undoubtedly very different, what is common to both is that interventionist measures have targeted specific sectors and regions, incorporated conditionalities, and have been highly politicized and “visible.”

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Table A1. List of interviews

Code	Title	Affiliation	Date	Duration
INT#1	Senior director	Roosevelt Institute	July 23, 2024	57
INT#2	Senior director	BlueGreen Alliance	July 25, 2024	54
INT#3	Senior policy manager	Green New Deal Network	Sep. 30, 2024	57
INT#4	Senior manager	Rocky Mountain Institute	Oct. 10, 2024	50
INT#5	Senior associate	Rocky Mountain Institute	Oct. 21, 2024	30
INT#6	Former senior adviser	US Department of Energy	Oct. 22, 2024	52
INT#7	Deputy director, senior policy adviser	Roosevelt Institute / Sierra Club	Nov. 25, 2024	56
INT#8	Former labor organizer and strategic adviser	CHIPS Communities United	June 28, 2025	65
INT#9	Former policy director, senior strategic adviser, and special counsel to President Biden	AFL-CIO	Aug. 8, 2025	87

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