



Industrial Policy Synergies:

Reflections from Biden
Administration Alumni

With essays by Sameera Fazili,
Jane Flegal, Jennifer Harris,
Janelle Jones, K. Sabeel Rahman,
and Tim Wu

Foreword by Todd N. Tucker



ABOUT THE ROOSEVELT INSTITUTE:

The **Roosevelt Institute** is a think tank, a student network, and the nonprofit partner to the Franklin D. Roosevelt Presidential Library and Museum that, together, are learning from the past and working to redefine the future of the American economy. Focusing on corporate and public power, labor and wages, and the economics of race and gender inequality, the Roosevelt Institute unifies experts, invests in young leaders, and advances progressive policies that bring the legacy of Franklin and Eleanor into the 21st century.

ROOSEVELTINSTITUTE.ORG

TABLE OF CONTENTS

ABOUT THE AUTHORS	2
ACKNOWLEDGMENTS	3
FOREWORD by Todd N. Tucker	5
INDUSTRIAL POLICY + MACROECONOMIC POLICY by Sameera Fazili	11
INDUSTRIAL POLICY + CLIMATE POLICY by Jane Flegal	19
The Case for Climate Industrial Strategy	20
Catalyzing a Green Spiral	21
Make Clean Technologies Cheap and Reduce the Costs of Energy	22
Deliver Concrete, Tangible Benefits to Communities Today	23
Strengthen—and Broaden—the Power of the Climate Coalition	24
Manage Trade-Offs in Implementation	24
INDUSTRIAL POLICY + TRADE POLICY by Jennifer Harris	29
We Need to Talk about Europe	31
Remake the Rest of Trade to Advance Green Industrial Policy	33
The Institutions and Arsenal of Industrial Policy	35
INDUSTRIAL POLICY + LABOR POLICY by Janelle Jones	37
Care and the Service Sector	38
Sectoral Bargaining as Industrial Policy	39
Sectoral Bargaining and Unions	41
INDUSTRIAL POLICY + INCLUSION POLICY by K. Sabeel Rahman	43
Targeting Equitable Outcomes	44
Prioritizing Upstream Community and Stakeholder Engagement	45
Building Capacity and Deepening a Community of Practice	47
INDUSTRIAL POLICY + COMPETITION POLICY by Tim Wu	49

ABOUT THE AUTHORS



Sameera Fazili is a fellow at the Roosevelt Institute, where she conducts research on supply chains, place-based economic strategies, and industrial policy. She was previously the deputy director of the National Economic Council for the Biden administration, where her portfolio included managing the administration's response to supply chain crises in industries as varied as microelectronics, shipping, baby formula, and clean energy. Fazili previously worked at the Federal Reserve Bank of Atlanta and in the NEC and Treasury Department in the Obama administration. She received her law degree from Yale Law School and her BA in social studies from Harvard College.



Jane Flegal currently works on the climate team at Stripe helping scale permanent and responsible carbon removal. Prior to Stripe, she served as senior director for industrial emissions at the White House Office of Domestic Climate Policy and the Council on Environmental Quality. Dr. Flegal was previously a program officer at the William and Flora Hewlett Foundation and the Bernard and Anne Spitzer Charitable Trust. She holds a doctorate in environmental science, policy, and management from the University of California at Berkeley and a bachelor's degree in environmental studies and politics from Mount Holyoke College.



Jennifer Harris served as the special assistant to the president and senior director of international economics at the White House under President Biden. Prior to joining the White House, she was the director of economy and society at the William and Flora Hewlett Foundation, a Roosevelt Institute fellow, and a senior fellow at both the Brookings Institution and Council on Foreign Relations. In the Bush and Obama administrations, Harris served as a member of the Department of State's Policy Planning Staff. She holds a bachelor's from Wake Forest University, master's from Oxford University, and JD from Yale Law School.



Janelle Jones is the chief economist and policy director of the Service Employees International Union, directing economic research. Prior to the SEIU, she served as the chief economist at the Department of Labor in the Biden administration, where she worked on addressing inequality and historic economic disparities. Jones was previously the managing director of policy and research at the Groundwork Collaborative, as well as an economic analyst at the Economic Policy Institute. She graduated with a BA in mathematics from Spelman College and an MA in applied economics from Illinois State University.

Note: The views expressed herein are solely those of the author of each essay, and should not be attributed to their employers—past or present. Nor should the views of any author of an essay herein be taken as endorsement of any other essay.



K. Sabeel Rahman is associate professor of law at Brooklyn Law School, where his research focuses on the themes of democracy, economic inequality, exclusion, and power. From 2021 to 2023, he served in the Biden administration in the Office of Information and Regulatory Affairs in the Office of Management and Budget as senior counselor and associate administrator (delegated the duties of the administrator). Dr. Rahman also served as president of the think tank Demos and as a fellow at the Roosevelt Institute. He received his bachelor's, JD, and PhD from Harvard University and a master's from the University of Oxford, where he was a Rhodes Scholar.



Tim Wu is a professor at Columbia Law School, where he focuses on antitrust, with a particular focus on the growing power of the big tech platforms. From 2021 to 2023, he served in the White House National Economic Council, where he worked on tech and competition policy. Wu has also worked in the Obama administration, the Federal Trade Commission, and the New York Attorney General's Office. He received his JD from Harvard Law School and his bachelor of science from McGill University.



Todd N. Tucker is director of industrial policy and trade at the Roosevelt Institute, where he writes on the role of governance and institutions (both national and international) in facilitating economic transformation. He served on the Biden-Harris Transition Team on agency review for the Department of Commerce and Office of the US Trade Representative. Dr. Tucker was previously a researcher at Public Citizen and the Center for Economic and Policy Research. He received his MPhil and PhD from the University of Cambridge and bachelor's degree from George Washington University.

ACKNOWLEDGMENTS

Isabel Estevez, Suzanne Kahn, Sunny Malhotra, and Steph Sterling provided helpful comments. Sonya Gurwitt and Matt Hughes provided editorial support. Claire Greilich provided additional publication support.



(L-R) Second Gentleman Doug Emhoff, First Lady Jill Biden, President Joe Biden, Vice President Kamala Harris, former Speaker of the House Nancy Pelosi (D-CA), and Senate Majority Leader Chuck Schumer (D-NY) stand onstage after the conclusion of an event celebrating the passage of the Inflation Reduction Act on the South Lawn of the White House on September 13, 2022, in Washington, DC. H.R. 5376, the Inflation Reduction Act of 2022 was passed by the House and Senate and later signed by Biden in August. (Photo by Anna Moneymaker/Getty Images)

FOREWORD

By Todd N. Tucker

Todd N. Tucker is director of industrial policy and trade at the Roosevelt Institute, where he writes on the role of governance and institutions (both national and international) in facilitating economic transformation. He served on the Biden-Harris Transition Team on agency review for the Department of Commerce and Office of the US Trade Representative. Dr. Tucker was previously a researcher at Public Citizen and the Center for Economic and Policy Research. He received his MPhil and PhD from the University of Cambridge and bachelor's degree from George Washington University.

We are in an industrial policy moment. Just a few years ago, the International Monetary Fund (IMF) described industrial policy as “the policy that shall not be named.”¹ Today, it is the explicit agenda of the Biden administration.

This is a big shift, driven by dramatic circumstances. The pandemic and supply chain, climate, and international security crises made clear that we were no longer in control of the critical industrial resources our economy needs. At the same time, it has become increasingly recognized that the old ways of policymaking drove (and sometimes were driven by) pollution and inequality—and that some communities, those with the least power, were getting the brunt of the pain.

The new thinking that has grown from this shift has been given a lot of different names—from Brian Deese’s “modern American industrial strategy”² to Dani Rodrik’s “new productivism”³ to Ezra Klein’s “supply-side progressivism.”⁴ But these perspectives share a common belief that leaving it to the market to decide which industries survive and thrive is a recipe for economic vulnerability. The public—through the state, workplace organizations, and communities—can and must shape markets to serve the greater interest.

Leaving it to the market to decide which industries survive and thrive is a recipe for economic vulnerability. The public—through the state, workplace organizations, and communities—can and must shape markets to serve the greater interest.

-
- 1 Reda Cherif and Fuad Hasanov, “The Return of the Policy That Shall Not Be Named: Principles of Industrial Policy,” IMF Working Paper (Washington, DC: International Monetary Fund, March 2019), <https://www.imf.org/en/Publications/WP/Issues/2019/03/26/The-Return-of-the-Policy-That-Shall-Not-Be-Named-Principles-of-Industrial-Policy-46710>.
 - 2 Brian Deese, “Remarks on a Modern American Industrial Strategy by NEC Director Brian Deese,” The White House, April 20, 2022, <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/04/20/remarks-on-a-modern-american-industrial-strategy-by-nec-director-brian-deese/>.
 - 3 Dani Rodrik, “The New Productivism Paradigm?” *Project Syndicate*, July 5, 2022, <https://www.project-syndicate.org/commentary/new-productivism-economic-policy-paradigm-by-dani-rodrik-2022-07>.
 - 4 Ezra Klein, “What America Needs Is a Liberalism That Builds,” *New York Times*, May 29, 2022, <https://www.nytimes.com/2022/05/29/opinion/biden-liberalism-infrastructure-building.html>.

Industrial policy doesn't—and shouldn't—exist in a vacuum . . . public shaping of the intra-industry composition of the economy works best when it is an all-of-government affair.

There are many opportunities and challenges for this project in the years ahead. As the wide variety of names given to this new approach hint at, many proponents have different answers for those challenges. But, we should recognize that those debates are taking place within a new, exciting, and suddenly broadly shared paradigm that offers a sharp break from neoliberal “free-market” ideology.⁵

Who better to share reflections at this key moment than those who have been at the forefront of this evolution in economic policy? This distinguished forum includes alumni from the Biden administration's first two years, including from the National Economic Council (Sameera Fazili and Tim Wu), National Security Council (Jennifer Harris), Office of Domestic Climate Policy (Jane Flegal), Office of Information and Regulatory Affairs (K. Sabeel Rahman), and Department of Labor (Janelle Jones). Like a contemporary version of Franklin D. Roosevelt's “brain trust,”⁶ these talented thinkers and doers are helping drive strategy both inside and outside of government. Much more so than in FDR's time, this cohort looks like and thinks on behalf of all of America.

Industrial policy doesn't—and shouldn't—exist in a vacuum. As we wrote at the Roosevelt Institute in 2019, public shaping of the intra-industry composition of the economy works best when it is an all-of-government affair.⁷ So we asked this impressive group of authors to reflect on what synergies are needed across policy domains for industrial policy to be successful. In particular, how can macroeconomic policy, climate policy, trade policy, labor policy, inclusion policy, and competition policy help make better industrial policy, and vice versa?⁸



President Joe Biden speaks during the groundbreaking of the new Intel semiconductor plant on September 9, 2022, in Johnstown, Ohio. With the help of the CHIPS and Science Act, Intel is beginning to move its chip and semiconductor manufacturing to the United States, with this being Phase One of its project. (Photo by Andrew Spear/Getty Images)

5 As the historian Quinn Slobodian has noted (among others), neoliberalism's rhetorical gestures toward the “free market” were belied by a fairly aggressive use of state power at the national and international level to protect the interests of business and elites, and shield them from democratic contestation. See Quinn Slobodian, *Globalists: The End of Empire and the Birth of Neoliberalism*, (Cambridge, MA: Harvard University Press, 2018).

6 Rexford G. Tugwell, *The Brains Trust*, Compass edition (Viking, 1968).

7 Todd N. Tucker, *Industrial Policy and Planning: What It Is and How to Do It Better*, (New York: Roosevelt Institute, July 30, 2019), <https://rooseveltinstitute.org/industrial-policy-and-planning/>.

8 These policy areas reflect the Roosevelt Institute's six current research areas.

As these piercing essays show, there are lots of ways these synergies can make for better policy and human outcomes. The insights can be grouped in a few categories: **better tools**, **better strategies and relationships**, **better values**, and **unfinished business**.

Among the **better tools**, Fazili recommends a reconceptualization of the macroeconomic policy menu to better define when shocks can be solved by demand-side measures like reducing demand and employment, and when measures like supply-side management in particular industries are a better way to reduce prices while keeping workers whole. She canvasses how different industries like trucking or semiconductors require different policy tools, while noting there is no “one size fits all” approach for all industries—a point Flegal also explores in contrasting cost structures of different clean energies.

Sometimes, “better tools” just means using old tools in better ways, which Wu explores in the antitrust context, Jones explores in noting how Hollywood labor practices can be transferred in promising directions for fast-food workers, Fazili explores through the Defense Production Act (with its conceptual roots in the Franklin D. Roosevelt administration), and Harris explores through mineral-specific trade agreements—a nod to the commodity clubs that played a role in internationally stabilizing prices and supplies for much of the 20th century.⁹

Rahman notes the subtle ways that Biden’s industrial policy is evolving beyond the normal strictures of 20th century administrative state rulemaking (with defined notice-and-comment periods for the public, for example). Rahman argues for new ways of engaging the public to ensure these efforts retain legitimacy, such as citizen juries. Indeed, it is unsurprising that a transformation on the scale of the green transition would require a remaking of the tools of the administrative state. When FDR attempted to effectuate new government functions, he first created numerous agencies, and then rationalized them following the recommendations of the so-called Brownlow committee.¹⁰

On **better strategies and relationships**, Flegal and Wu outline the need to craft policy that also accomplishes small-p political objectives. In the climate context, this involves moving beyond a narrow market failure lens and embracing energy transitions for the system change they are. This calls for building new coalitions of climate action enablers that can overcome climate action blockers, including through delivering concrete and visible benefits to both energy and environmental justice communities. In the competition context, this means infusing industrial policy with lessons from the anti-monopoly movement as a check against private domination over the democratic public interest—a shift that Wu notes is already well underway in the Biden administration. Both Jones and Rahman argue for targeting industrial policy resources and processes to further the interests of workers of color. Both note that this is not some new government undertaking, as past economic policies—whether on manufacturing, transportation infrastructure, or other matters—were not racially neutral either.¹¹ Wu also discusses how past development choices radically changed the very balance of power between industries and geographies in the United States.

9 See Kabir-ur-Rahman Khan, *The Law and Organization of International Commodity Agreements* (Amsterdam: Brill Nijhoff, 1982); Jamie Martin, “The Global Crisis of Commodity Glut During the Second World War,” *International History Review* 43, no. 6 (April 6, 2021): 1273–90, <https://doi.org/10.1080/07075332.2020.1871053>.

10 Donald R. Brand, “The [US] President as Chief Administrator: James Landis and the Brownlow Report,” *Political Science Quarterly* 123, no. 1 (March 1, 2008): 69–94; John A. Dearborn, *Power Shifts: Congress and Presidential Representation*, (University of Chicago Press, 2021), <https://www.jstor.org/stable/20202972>.

11 Targeting material benefits is also a form of reparative policy. See Kyle Strickland and Felicia Wong, *A New Paradigm for Justice and Democracy: Moving beyond the Twin Failures of Neoliberalism and Racial Liberalism*, (New York: Roosevelt Institute, November 2021), <https://rooseveltinstitute.org/publications/new-paradigm-for-justice-and-democracy-moving-beyond-the-twin-failures-of-neoliberalism-and-racial-liberalism/>.

Harris suggests that international policy cannot be treated as hermetically sealed from domestic policy in the 21st century, and lauds the Biden administration's success in launching the Global Arrangement on Sustainable Steel and Aluminum (GASSA) to simultaneously advance worker, environmental, and China competition goals (which she calls the "Biden three-fer"). She points out how simultaneously achieving multiple objectives also opens up new geometries of trans-partisan and international alliances. One might also point to the way that the White House offices where our authors worked—the National Economic Council, National Security Council, and Climate Policy Office—unlocked new ways of working together across the foreign-domestic divide. Fazili similarly notes that there is need for new and closer relationships between suppliers in supply chains and between suppliers and government. Integrations of these systems can make the resulting policy stickier—a goal Flegal identifies as central to US credibility on climate going forward.

What the administration is trying to do is not just maximize the number of a given widget in the economy, but unleash a self-reinforcing and inclusive growth dynamic.

These case studies also help illuminate why—to the puzzlement of some pundits—Biden's economic strategy tries to achieve multiple objectives at once. What the administration is trying to do is not just maximize the number of a given widget in the economy, but unleash a self-reinforcing and inclusive growth dynamic.¹² This multifaceted enterprise is more akin to an economy-wide economic development strategy than an individual firm's output maximization.¹³

In complex policy settings, the difference between sequential and conjoint problem solving can matter greatly. What does this mean? In some cases, two policies can come sequentially, and neither is worse off for not happening at the same time. This could be the case with the GASSA, which deals with standards for steel and aluminum in a way that does not detract (and indeed might help) further sectoral deals in plastics, cement, and other products. In other cases, two policies will work better if enacted conjointly, and indeed—one might be harder to solve if the other moves first. This could be thought of as the "Elon Musk problem," akin to when the Obama administration subsidized Tesla (Policy A) without requiring high-road, pro-union labor practices (Policy B). One could argue that it's preferable to get electric vehicle production up and running, and then figure out improving labor practices at a later date. The problem is, Policy A enriches and empowers the subsidy beneficiary to more effectively resist Policy B later on.

A more effective policy is one that bakes in the desired targets from the beginning, as Jones persuasively describes in her call to embed sectoral bargaining in industrial policy from the moment of inception. Unions can help shoulder workplace training responsibilities (helping subsidized firms) and serve as a whistleblower to make sure funds are spent well (helping taxpayers and government). Similarly, Rahman

12 These strategies are sometimes called "policy feedback loops" or "experimentalist governance." See Jacob S. Hacker and Paul Pierson, "Policy Feedback in an Age of Polarization," *The ANNALS of the American Academy of Political and Social Science* 685, no. 1 (September 1, 2019): 8–28, <https://doi.org/10.1177/0002716219871222>; Alexander Hertel-Fernandez, "How Policymakers Can Craft Measures That Endure and Build Political Power," (New York: Roosevelt Institute, June 2020), <https://rooseveltinstitute.org/publications/how-policymakers-can-craft-measures-that-endure-and-build-political-power/>; Charles F. Sabel and David G. Victor, *Fixing the Climate: Strategies for an Uncertain World*, (Princeton: Princeton University Press, 2022).

13 Arkebe Qubay, Christopher Cramer, Ha-Joon Chang, and Richard Kozul-Wright, eds. *The Oxford Handbook of Industrial Policy*, (Oxford University Press, 2020), <https://doi.org/10.1093/oxfordhb/9780198862420.001.0001>.

points to the benefits of community consultation early on to make clean energy projects move faster.¹⁴ Harris's exploration of the steel industry, and Fazili's recounting of bringing together stakeholders in the trucking industry, attest to the value of tripartite or corporatist policy processes, bringing together labor, capital, and government. Indeed, on-the-ground union and community partners can help solve the so-called Hayekian information problem, the notion that government lacks the knowledge that collectively resides in the private sector.¹⁵

Successful industrial policy will also require **better values**. Harris argues that trade prerogatives shaped other policy domains for too long, and now it's time for trade to advance more fundamental values. This is true across the areas covered in this collection. The values at the center of the new industrial policy must include environmental sustainability, racial equity, democracy, and economic liberty. Flegal argues for the existential necessity of prioritizing climate. Wu calls for a reclaiming of the virtues of economic liberty. Critically, Harris, Jones, and Rahman all point to the importance of using industrial policy to build and deepen an equitable, multiracial democracy.

Finally, each essay points to substantial **unfinished business**. Jones notes that only part of the Build Back Better agenda became law, and the supports for the care industry that were initially promised ended up on the cutting room floor. Likewise, Fazili notes that funds for ongoing supply chain monitoring did not make it through the CHIPS negotiations. Flegal notes that the Infrastructure Investment and Jobs Act and Inflation Reduction Act only get the US part of the way toward its climate commitments. Policymakers will have to do lots more on climate in the coming years, which is why we must unlock a politically supportive "green spiral." Harris notes a messaging gap, where the administration can be too timid in defending its (laudable) decisions. Rahman notes a need for philanthropy to step up its infusion of resources into building an inside and outside industrial policy ecosystem.

And all the essays point in various ways to the importance of greater public faith in government, and greater government faith in itself. One of the more corrosive effects of decades of neoliberal attack on government (including through so-called "public choice" scholarship) is that bureaucrats are seen as narrow, self-interested actors who cannot and will not further the general public interest. As the economist Ha-Joon Chang notes, this can become a self-fulfilling prophecy.¹⁶ Building government back better and bolder will be a generational challenge, and will require exceptional bureaucrats who can rebuild faith in the government. We as citizens are lucky these six voices gave of their own and their family's time to that highest calling of public service.

14 The loss of speed is not always due to "too much democracy," but can also be caused by state unwillingness to use all tools at its disposal or by corporate capture. See Arnab Datta et al., "Seven Ways the Executive Branch Can Turbocharge Green Industrial Policy," (New York: Roosevelt Institute, August 18, 2022), <https://rooseveltinstitute.org/publications/seven-ways-the-executive-branch-can-turbocharge-green-industrial-policy/>; Joel Dodge et al., "Progressive Preemption: How the Defense Production Act Can Override Corporate Extraction, Boost Worker Power, and Expedite the Clean Energy Transition," (New York: Roosevelt Institute, December 9, 2022), <https://rooseveltinstitute.org/publications/progressive-preemption-defense-production-act/>.

15 That doesn't mean that all information could or should ever reside in government, a reality nodded to by Fazili, Rahman, and Wu.

16 Ha-Joon Chang, "Breaking the Mould: An Institutionalist Political Economy Alternative to the Neo-Liberal Theory of the Market and the State," *Cambridge Journal of Economics* 26, no. 5 (2002): 539–59, <https://www.jstor.org/stable/23600312>.

Industrial Policy Synergies: Reflections from Biden Administration Alumni



Photo by Mario Tama/Getty Images

INDUSTRIAL POLICY

+

MACROECONOMIC POLICY

By Sameera Fazili

Sameera Fazili is a fellow at the Roosevelt Institute, where she conducts research on supply chains, place-based economic strategies, and industrial policy. She was previously the deputy director of the National Economic Council for the Biden administration, where her portfolio included managing the administration's response to supply chain crises in industries as varied as microelectronics, shipping, baby formula, and clean energy. Fazili previously worked at the Federal Reserve Bank of Atlanta and in the NEC and Treasury Department in the Obama administration. She received her law degree from Yale Law School and her BA in social studies from Harvard College.

The passage of the CHIPS and Science Act and the Inflation Reduction Act signals that policymakers on both sides of the aisle have acknowledged¹⁷ a role for a national industrial strategy to shore up our country's national and economic security.¹⁸ These first steps toward reviving industrial policy as a focus of economic policy allow macroeconomic policymakers to ask a new range of questions as they consider government's role in creating a stable macroeconomy, averting economic crises, and dampening economic downturns. If industrial policy is now an explicit and stated objective of economic policymaking, do policymakers need a new set of crisis response tools at the ready to stabilize critical industries at moments of acute disruption or systemic risk?

The Biden administration found itself having to answer that question in real time during the disruptions to key industrial supply chains that first occurred at the onset of the COVID-19 pandemic and then again due to Russia's invasion of Ukraine. The financial sector is one sector which has a set of macro stabilization tools. As the supply chain crisis recedes from headlines and shows some signs of improving,¹⁹ experts should now take more time to debate how future supply-side shocks could be handled.

17 While the CHIPS and Science Act signaled bipartisan support for digital industrial policy, the partisan Inflation Reduction Act signaled Democratic support for clean energy industrial policy.

18 Brian Deese, "Remarks on a Modern American Industrial Strategy by NEC Director Brian Deese," The White House, April 20, 2022, <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/04/20/remarks-on-a-modern-american-industrial-strategy-by-nec-director-brian-deese/>.

19 See, e.g., Justin Ho, "Business Inventories Are Finally Rebounding, a Sign of a Healing Supply Chain." *Marketplace*, February 8, 2023, <https://www.marketplace.org/2023/02/08/business-inventories-are-finally-rebounding-a-sign-of-a-healing-supply-chain/>.

Whether or not government should take action in response to an acute shock to a critical supply chain is open to debate. Supply chains are by and large run and controlled by the private sector: They are the systems by which companies make and move the goods they sell to businesses and consumers. Government intervention in private markets always raises important concerns about privatizing gains and socializing losses, often showcasing the “tails you lose, heads I win” dynamic that both distorts markets and breeds public mistrust in government and corporations.

That said, governments often face a difficult set of imperfect choices when macroeconomic stability is at stake—as was the case during the pandemic-induced recession. Getting employment, inflation, and/or aggregate demand under control after a systemic shock, like a financial panic, or an exogenous shock, like a war, has long been a recognized focus of economic policy in the US. Stabilizing output, however, like other supply-side interventions, has not been a central focus in recent decades. But in theory, stabilizing aggregate supply or expanding productive capacity can be a tool in reestablishing macroeconomic stability. In only one sector of the economy—the financial sector and money supply—do we have an agreed-upon set of policy tools to stabilize supply through the Fed’s monetary policy function.



Secretary of Commerce Gina Raimondo listens as President Joe Biden participates virtually in a meeting on the Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Act, in the South Court Auditorium at the White House on July 25, 2022, in Washington, DC. The meeting was held for President Biden to hear from CEOs and labor leaders on the way funding for production of computer chips would impact them. (Photo by Anna MoneyMaker/Getty Images)

During the post-2020 supply chain crises, it became clear that some supply chains have an outsized impact on the macroeconomy, whether through inflation, GDP, or employment. The chips shortage revealed a quintessential example of such a supply chain. In 2021, nearly one in five workers were employed in a sector that uses chips, and the shortage drove one-third of core inflation and knocked 1 percent off US GDP.²⁰

If certain supply chain vulnerabilities pose a systemic risk to the economy, should government take action to blunt the impacts of an acute disruption in a given supply chain? And if so, when should government intervene, *what* should be the goals of public intervention, and *how* should government act?

The administration’s first answer to these questions was to develop proactive supply chain analytic and response capabilities across government, and therefore the president issued Executive Order

20 It is important to recognize that both demand- and supply-side factors have contributed to inflation, but the demand-side shocks that contributed to the supply chain crisis are not the focus of this piece. In addition, evidence continues to emerge that a unique set of supply shocks did have an important role to play. For a recent Fed analysis see Julian di Giovanni, “How Much Did Supply Constraints Boost U.S. Inflation?” Liberty Street Economics, Federal Reserve Bank of New York, August 24, 2022, <https://libertystreeteconomics.newyorkfed.org/2022/08/how-much-did-supply-constraints-boost-u-s-inflation/> (estimating that 40 percent of inflation experienced in 2019-2021 was due to supply chain pressures).

14017 on America's supply chains in his first month in office.²¹ Within one year, seven agencies issued first-of-their-kind diagnoses and prescriptions on six key industrial bases, and new supply chain offices were established at the Department of Health and Human Services, the Department of Transportation, and the Department of Energy.²² This executive order, and the quadrennial review process it establishes for regular analysis and planning, can help us get ahead of potential vulnerabilities.²³

However, as that new longer-term capability was being built, the administration faced unique supply chain challenges posed by the post-pandemic and then post-war economy. A White House-led Supply Chain Disruptions Task Force was set up to build the capacity to diagnose and respond to acute disruptions. This Task Force paired sectoral experts with the macroforecasting teams at the Council of Economic Advisors and Treasury to share quantitative and qualitative data. This allowed economists across the interagency to develop a shared outlook for the semiconductor, transportation, and food and agriculture sectors and assess the variety of supply—and demand—side factors contributing to acute supply chain stresses. It also enabled interdisciplinary teams to leverage that data to develop potential policy responses.

The Task Force focused on the chip shortage first, driven in part by the percent of GDP at stake and the large numbers of workers being impacted by furloughs and shutdowns. The administration was effectively able to wield three tools to help stabilize this supply chain. First, it leveraged its convening power to bring together leaders of firms that produce chips, such as Intel and Taiwan Semiconductor Manufacturing Company (TSMC), with leaders of firms that use chips, like General Motors (GM) and Medtronic. This helped increase the quality and quantity of direct communication between senior executives in companies at opposite ends of the semiconductor supply chain, who were typically not in direct relationship with one another: GM did not work directly with TSMC to source chips—GM's first- and second-tier suppliers held that relationship. This convening power was used to drive private-sector problem-solving, with follow-up meetings held to encourage both accountability and action. By the fall of 2021, automakers and chip companies began to announce new strategic partnerships.²⁴

Second, building off this role as trusted convenor, the Commerce Department conducted a survey of chip producers and users to create a reliable data source that industry on either end of the supply chain could use to make forecasts.²⁵ Lack of credible and trustworthy information had led to hoarding and over-ordering behavior on the part of firms using chips, and made it difficult for chip companies to trust their customers' orders. Without reliable demand-side data, chip producers could not effectively plan their (long) production cycles. While some analysts argued that a structural shift elevating latent demand for chips was underway, executives feared that a cyclical downturn would soon lead to overcapacity and erode margins.²⁶

21 The White House, *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews under Executive Order 14017*, Washington, DC: June 2021).

22 The White House, *Executive Order on America's Supply Chains: A Year of Action and Progress*, (Washington, DC: February 24, 2022), <https://www.whitehouse.gov/wp-content/uploads/2022/02/Capstone-Report-Biden.pdf>.

23 In some respects, the administration's focus on industrial policy is also an effort to strengthen the resilience of the US economy, by getting ahead of future crises in critical sectors with known vulnerabilities—such as semiconductors and clean energy—through growing domestic production capacity and strengthening economic ties with close allies and partners.

24 Sameera Fazili and Peter Harrell, "When the Chips Are Down: Preventing and Addressing Supply Chain Disruptions," *White House Blog*, September 23, 2021, <https://www.whitehouse.gov/briefing-room/blog/2021/09/23/when-the-chips-are-down-preventing-and-addressing-supply-chain-disruptions/>.

25 Department of Commerce, "Results from Semiconductor Supply Chain Request for Information," January 25, 2022, <https://www.commerce.gov/news/blog/2022/01/results-semiconductor-supply-chain-request-information>.

26 For an example of concerns about overcapacity, see Akito Tanaka, Cheng Ting-Fang, and Lauly Li, "Chipmakers Nightmares: Will Shortages Give Way to a Supply Glut," *Financial Times*, December 19, 2021, <https://www.ft.com/content/9f6dcb43-fe9f-4880-a6b4-f6df5ece979e>. ("Industry organisation SEMI estimated in June that construction on close to 30 new fabs will start by the end of 2022 . . . This will mark a 'rare three consecutive years of growth that began in 2020, bucking the historical cyclical trend of a one or two-year expansion followed by a year or two of tepid growth or declines,' SEMI said.")

Third, the administration deployed diplomatic tools, and the Departments of State and Commerce worked with embassies across Southeast Asia to create a new early alert system to rapidly elevate information about acute disruptions in key plants in key countries. This allowed allies to work together to resolve the disruption more quickly, and companies in the US could be alerted so production cycles in the US could be adjusted to minimize furloughs and shutdowns. In this process, policymakers took steps to consult both management and labor on the appropriate course of action, recognizing that the source of the disruption was a surge in COVID cases that might put workers' health and safety at risk. To that end, policymakers urged US-based original equipment manufacturers (OEMs) to take steps to support their Asian-based suppliers' ability to protect the health and safety of workers. In the aftermath of the Delta wave of the COVID virus, auto industry leaders privately noted that the beta version of the early alert system averted weeks of layoffs and furloughs in their plants.²⁷

In the end, though, the government had very limited tools to address the chip shortage. No emergency funding was authorized to allow government to quickly expand domestic supply-side capacity. While there were calls for the Fed to use the Defense Production Act (DPA) to address the shortage, ultimately none of the DPA's various authorities—neither prioritizing chips for certain industries over others nor investments to expand supply—were invoked.

This contrasts with another supply chain shock that raised health and safety concerns rather than macroeconomic ones—the infant formula shortage. In this shortage, another highly consolidated industry faced a supply-side shock—a temporary shutdown of a major facility due to health and safety concerns—and the administration decided to invoke the Defense Production Act (in this case the DPA's Title I authority) to make sure certain inputs needed for formula production were being directed to formula manufacturers instead of other industries. The vulnerable nature of the affected population (infants) and the essential nature of the good (nutrition necessary for life) drove a swift response to shore up supply chain vulnerabilities in a supply chain that lacked macroeconomic significance but had severe health significance. In addition, the ability to mount a supply-side response was enabled by pre-existing government capacity: The Department of Health and Human Services had built internal expertise on using the DPA as part of its COVID-management response. The Office of the Assistant Secretary of Health for Preparedness and Response was well versed in how to evaluate the risks and benefits of intervention, and how to underwrite and monitor DPA actions. In this instance, the administration also moved to drive more competition into formula markets by removing trade barriers, thus increasing the longer-term resilience of the supply chain to mitigate against future shortages.²⁸

Capital investments are not the only option to boost supply-side capacity, however. Policymakers can also make interventions to expand labor supply and invest in workers.

27 Sameera Fazili and Peter Harrell, "When the Chips Are Down: Preventing and Addressing Supply Chain Disruptions," *White House Blog*, September 23, 2021, <https://www.whitehouse.gov/briefing-room/blog/2021/09/23/when-the-chips-are-down-preventing-and-addressing-supply-chain-disruptions/>.

28 Industry concentration, and the risk it poses to supply chain resilience, was seen repeatedly during the crisis, underscoring how the administration's competition agenda links to supply chain stability. In the meat processing industry, the administration took a similar approach of promoting competition in an essential supply chain where industry concentration introduced bottlenecks and vulnerabilities. When a cyber attack on JBS Foods shut down meat processing capacity for a few days in spring of 2021, the administration's response included new investments to support independent processing capacity expansions nationwide. See The White House, "Fact Sheet: The Biden-Harris Action Plan for a Fairer, More Competitive, More Resilient Meat and Poultry Supply Chain," The White House, January 3, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/fact-sheet-the-biden-harris-action-plan-for-a-fairer-more-competitive-and-more-resilient-meat-and-poultry-supply-chain>.

Capital investments are not the only option to boost supply-side capacity, however. Policymakers can also make interventions to expand labor supply and invest in workers. The Biden approach to the trucking shortage exemplifies this worker-centric approach to an acute supply chain challenge. Constraints in logistics supply chains were a key contributor to inflation in 2021, with ports and trucking being key bottlenecks. Trucks move over 70 percent of all goods in America, and costs had grown more than 20 percent in 2021. Again, government's first act was to leverage its convening authority to bring together trucking companies, labor leaders, and training providers to discuss opportunities to address the trucker shortage. All agreed that a major barrier to recruiting more drivers was job quality, and that high turnover and an aging workforce were key causes of the shortage. Based on this input, the secretaries of labor and transportation worked together to help industry leaders adopt registered apprenticeships—a high-quality training program supported by the Department of Labor. The result was the spread of a proven earn-and-learn model throughout the trucking industry, with companies and leading industry trade associations all signing up to promote and spread apprenticeships in the industry.²⁹ In just three months, the Department of Labor approved over 100 new apprentice programs at companies as diverse as Frito-Lay and Waste Management, which would create over 10,000 new apprentices to address the reported 80,000 driver shortage.

Active labor market policies like workforce development and unemployment insurance programs are designed to smooth labor supply across the business cycle. However, they are typically deployed in a place-based manner, with programs like unemployment insurance run at the local and regional levels to solve local labor supply challenges. In the case of the trucking shortage, the administration was successfully able

²⁹ Nikki Carvajal, Paul LeBlanc, and Meagan Vazquez, "Biden Highlights Trucking Industry Investments at White House Event," *CNN*, April 2, 2022, <https://www.cnn.com/2022/04/04/politics/trucking-industry-biden-administration-plan/index.html>.

President Joe Biden delivers remarks on his Trucking Action Plan with apprentice truck driver Maria Rodriguez and Transportation Secretary Pete Buttigieg on the South Lawn of the White House on April 4, 2022, in Washington, DC. (Photo by Chip Somodevilla/Getty Images)



to create a national sprint to quickly surge labor supply in an industry facing a national shortage. Moreover, the short-term actions to expand labor supply were paired with a longer-term effort to strengthen job quality through a new Driving Good Jobs initiative that paired the Department of Transportation's expertise on the trucking industry with the Department of Labor's expertise on job quality. Finally, the administration continued its emphasis on bringing labor and management together to advise on and co-create solutions to industry-wide shocks—demonstrating the power of government, labor, and business collaborations to solve pressing public challenges. This resulted in solutions that centered the needs and concerns of workers, and advanced their calls for improved job quality, to recruit and retain a diverse workforce.

Supply chain shocks will likely continue to hit our economy, and could disrupt our macroeconomic stability. Whether we as a nation are prepared to handle those disruptions deserves further consideration by policymakers. This essay provided a brief glimpse into the Biden supply chain crisis response toolkit, with the hopes of encouraging others to ask what sort of toolkit we need for the future. Before COVID, business leaders waved off the rising evidence that supply chain shocks were increasing in frequency and magnitude.³⁰ For many, Russia's war in Ukraine was a rude awakening that these vulnerabilities need to be taken seriously.

In addition to considering whether and how government should act, it is important for business leaders to also reflect on what actions they could take to minimize the frequency and duration of supply-side shocks. For too long, business leaders have focused on short-term efficiency over longer-term resiliency. Moreover, throughout the crisis, we encountered business leaders who lacked visibility into their supply chains, and had no plans in place to enable them to adapt to a disruption. More businesses should be stress testing their own supply chains.

Mounting an effective policy response requires good data and analytics. Much of the data necessary to understand these supply chains, however, is held by businesses, and therefore some methods of public/private coordination are likely necessary to gather actionable data. Should government play a role in encouraging, facilitating, or even mandating industry-led supply chain stress testing, the way systemically significant banks undergo stress tests? That would give policymakers access to data in advance of a crisis, rather than having to negotiate with industry to get access to data during a crisis. If so, which industries or supply chains should be stress tested, and is this something government should mandate, or that industry leaders and corporate boards should take on? What actions can government take to encourage this stress testing: Should it choose the “carrot” of incentives, the “stick” of regulation, or the persuasion of the bully pulpit to induce a behavior change? Given the national security and market-sensitive nature of the information, should the information in these stress tests remain classified or nonpublic? Stress testing would generate data that can help model the magnitude of shocks and transmission channels of those shocks, and enable ex ante conversations about what magnitude of shock warrants action and what magnitude of response is warranted. It can also help policymakers identify ex ante what tools government may need to be prepared to manage these shocks, and which impacts policy should be focused on solving for.

Government capability to create consistent, reliable, and longitudinal publicly available data on select supply chains should also be considered, so that business leaders, policymakers, and advocates alike can have the data they need to plan, understand, and respond. This data would allow policymakers, researchers, and advocates to model the impact disruptions have on the macroeconomy, on different industries, on

30 Before the pandemic, McKinsey estimated shocks of one month or more occur every 3.7 years on average, and over a decade, companies can on average expect losses of almost 50 percent of one year's profits due to supply chain disruptions. Susan Lund and et al., *Risk, Resilience, and Rebalancing in Global Value Chains*, (Washington, DC: McKinsey Global Institute, August 2020), <https://www.mckinsey.com/capabilities/operations/our-insights/risk-resilience-and-rebalancing-in-global-value-chains>.

families, and on workers and to create baseline measures to assess if resiliency has improved or weakened, or if an acute stress has emerged. Public data can also enable the development of private-sector solutions—from insurance products to stockpiling and other hedging techniques.

Should there be a central command center in the federal government to provide a unified view of supply chain weaknesses and to organize cross-agency responses to both acute and chronic stresses? Organizing responses with speed and agility is key. The Disruptions Task Force demonstrated that actions can be taken and have impact within weeks and months.³¹ In discussions around the CHIPS and Science Act, Congress debated establishing a supply chain office at the Department of Commerce to take on these responsibilities. While the House bill included a robust office with the capacity to conduct analysis and take action, the proposal ultimately dropped out of the final bill. While both chambers agreed that a monitoring and analysis function was warranted, differences emerged over whether Commerce should be given resources and authority to intervene proactively if a disruption occurs.

With a new era of industrial policy upon us, macroeconomics will need to develop new tools and techniques to advise policymakers on effective crisis response. Being able to think through the causes and consequences of various shocks can enable us to consider appropriate policy interventions in advance, rather than stumbling from crisis to crisis.

Finally, with a new era of industrial policy upon us, macroeconomics will need to develop new tools and techniques to advise policymakers on effective crisis response. Being able to think through the causes and consequences of various shocks can enable us to consider appropriate policy interventions in advance, rather than stumbling from crisis to crisis.³² Connecting the dots between supply chains and the macroeconomy is methodologically complex, as we learned through the economic forecasting work of the Supply Chain Disruptions Task Force. The deep, industry-specific expertise of our microeconomic teams helped our macroeconomic teams interpret their data and discover data points that could be leading indicators of improvements or declines. Therefore, as economists build new methods for incorporating supply chain analyses into their economic forecasting models, they will likely need to work closely with other disciplines to incorporate analyses of market structure and industry norms, to understand how a shock will impact output, prices, and employment. Indeed, collaboration between academics and the government could ultimately even yield new economic measurements that could help monitor the overall health of the economy.³³

31 The Task Force's successful work to reduce congestion at the ports was one of the best known examples of timely and effective response. "A Record Year for America's Ports and a Look to the Year Ahead," *White House Blog*, January 20, 2022. <https://www.whitehouse.gov/nec/briefing-room/2022/01/20/a-record-year-for-americas-ports-and-a-look-to-the-year-ahead/>.

32 Isabella Weber et al.'s recent paper examining the inflationary impact of different supply shocks provides an example of the type of ex ante analyses and stabilization proposals that could be generated if researchers had data to conduct stress tests. Isabella Weber, Jesus Jauregui, Lucas Teixeira, and Luiza Pires, "Inflation in Times of Overlapping Emergencies: Systemically Significant Prices from an Input-Output Perspective," Economics Department Working Paper Series 340 (University of Massachusetts Amherst, 2022), <https://doi.org/10.7275/0c5b-6a92>. (The authors write, "We need to be able to respond to shocks to systemically significant prices before they unleash a broader inflationary dynamic. This paper aims to introduce a method that can help target such micro policies that can complement macroeconomic stabilization.")

33 The measures we use to understand the health of the macroeconomy evolve over time. GDP, for example, is a product of the Great Depression, and became a leading indicator for economic health after World War II.



Photo via Getty Images

INDUSTRIAL POLICY

+

CLIMATE POLICY

By Jane Flegal

Jane Flegal currently works on the climate team at Stripe helping scale permanent and responsible carbon removal. Prior to Stripe, she served as senior director for industrial emissions at the White House Office of Domestic Climate Policy and the Council on Environmental Quality. Dr. Flegal was previously a program officer at the William and Flora Hewlett Foundation and the Bernard and Anne Spitzer Charitable Trust. She holds a doctorate in environmental science, policy, and management from the University of California at Berkeley and a bachelor's degree in environmental studies and politics from Mount Holyoke College.

The fundamental industrial and societal challenge of this century is to leave carbon behind while creating a better and more equitable world. This is an economic and geopolitical imperative as much as an environmental one: The costs of inaction are significant, the economic opportunities of the transition to a net-zero economy are enormous, and the importance of secure supply chains for energy—the lifeblood of the modern economy—has never been clearer.

The good news is that the global shift to clean energy is well underway. Costs have fallen precipitously in the last decade, support for climate action is growing, and countries around the world are increasing their climate ambition. These trends have been driven largely by strategic government investment and regulation in key clean energy industries across governments, rather than market fundamentalism.³⁴ The challenge in front of us is to accelerate and broaden these trends. Climate industrial strategy—or, deliberate interventions by the government to alter the structure of an economy, encouraging resources to move into particular sectors (including, but not limited to, manufacturing)—is up to the task of building the political and technological momentum to lock in climate action for decades.³⁵

³⁴ Gregory F. Nemet, *How Solar Energy Became Cheap: A Model for Low-Carbon Innovation*, (London: Routledge 2019).

³⁵ Tilman Altenburg and Dani Rodrik, *Green Industrial Policy: Accelerating Structural Change toward Wealthy Green Economies*, (Geneva, Bonn: UN Environment; German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE), 2017), <https://www.hks.harvard.edu/publications/green-industrial-policy-accelerating-structural-change-towards-wealthy-green-economies>.

THE CASE FOR CLIMATE INDUSTRIAL STRATEGY

The case for climate industrial strategy is strong as a theoretical and political matter. Climate change is more than a market failure; it is a complex systems challenge, entailing profound transformations in sociotechnical systems that relative shifts in prices alone will not solve, in part due to how entrenched carbon is in the functioning of our economy and society.³⁶ Pursuing climate industrial strategy is also a

growth opportunity and a critical mission for achieving our economic and national security objectives. Even if one *did* adopt the narrow market failure frame for climate, there is a long list of market failures that pricing alone is unable to address, including inefficient markets for innovation and spillovers from learning-by-doing. Moreover, research and practical experience repeatedly demonstrate the political difficulties of enacting an effective carbon price *and* the disappointing effects of carbon pricing in practice.³⁷ Finally, energy markets have never been free of government steering and subsidy. The unconventional gas revolution, often lauded by conservatives and proponents of a laissez-faire approach to climate, was itself a product of large-scale government investment and coordination with the private sector.³⁸

While there has been progress on climate mitigation, societies have a long way to go. We will have to build clean technologies and infrastructure at an unprecedented pace and scale in the next few decades: To achieve the emissions benefits of the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) in the US alone, wind and solar capacity additions through 2030 must average double the peak annual rates achieved to date, and then must accelerate to about 3.5 times peak rates from 2031 to 2035. Electricity transmission must expand at double the rate of the past decade. We must also drive



President Joe Biden speaks during a visit to Wolfspeed, a semiconductor manufacturer, as he kicks off his Investing in America Tour on March 28, 2023, in Durham, North Carolina. (Photo by Melissa Sue Gerrits/Getty Images)

a

³⁶ This is in contrast to some neoliberal approaches to climate change, which presume that a pricing lever can and will redirect capital efficiently across the economy, in spite of political-economic, technological (many technologies we need don't yet exist, and a pricing mechanism alone won't pull them into the market), and administrative obstacles.

³⁷ Danny Cullenward and David G Victor, *Making Climate Policy Work*, (Cambridge, UK; Medford, Massachusetts: Polity Press, 2020); Jessica F. Green, "Does Carbon Pricing Reduce Emissions? A Review of Ex-Post Analyses," *Environmental Research Letters* 16, no. 4 (2021), <https://doi.org/10.1088/1748-9326/abd9e9>; Jesse D. Jenkins, "Political Economy Constraints on Carbon Pricing Policies: What Are the Implications for Economic Efficiency, Environmental Efficacy, and Climate Policy Design?" *Energy Policy* 69, (June 2014): 467–77, <https://doi.org/10.1016/j.enpol.2014.02.003>.

³⁸ The federal government accelerated innovation in unconventional gas production in several ways: basic science and resource mapping, coordinating and complementing industry efforts, applied research and development, and tax credits for unconventional gas. Jason Burwen and Jane A. Flegal, *Unconventional Gas Exploration and Production: Case Studies on the Government's Role in Innovation*, (Washington, DC: American Energy Innovation Council, March 2013), <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2013/03/Case-Unconventional-Gas.pdf>.

decarbonization beyond the power sector, to include industry, transportation, and agriculture, and we need to enable rapid decarbonization globally. Achieving this will require the rapid build-out of infrastructure and supply chains, and the cultivation of a well-trained and well-compensated workforce. This will be a multi-decadal challenge requiring broad political support: Action today needs to enable more aggressive action tomorrow. Deliberate climate industrial strategy—investments that shift the material interests of key industries, reduce the costs of clean energy, and generate political buy-in—can lock in climate action, and ensure that the US captures an advantage in the market for new technologies while building resilient supply chains and reliable energy systems.



Photo by alvarez/Getty Images

The Biden administration has secured the most ambitious climate laws in history: The IIJA and IRA are estimated to reduce cumulative greenhouse gasses to roughly 37 to 41 percent below 2005 levels by 2030.³⁹ This estimate may even undercount the emissions reduction impact of the laws, because it does not include feedback loops that can increase ambition, but it could also overestimate emissions reductions if obstacles to deployment (e.g., permitting challenges, supply chain issues, political opposition to building) materialize and are not overcome swiftly. In either case, our work is not done. For sustained emissions reductions on the road to net zero by 2050, we need to pursue a holistic strategy that ensures these laws

have the greatest practical impact and build support for future, more aggressive, action.



Photo by Chip Somodevilla/Getty Images

CATALYZING A GREEN SPIRAL

The case for climate industrial strategy is strong on the merits, and critical for climate politics. Practical experience and academic research suggest that the key to ratcheting up climate ambition over time is to catalyze a “green spiral”: leveraging investment and standards to create a positive feedback loop that accelerates decarbonization.⁴⁰ Achieving

positive feedback loops in climate technology and policy requires a powerful, enduring, and cross-partisan political coalition, which in turn requires a strategy capable of: (1) making clean technologies cheap and reliable; (2) delivering concrete benefits to communities today, including a place-based focus on fossil fuel-dependent and overburdened communities; and (3) strengthening the power of a supportive climate coalition. None of these objectives can be achieved with conventional environmental pollution policy (e.g., regulations and/or pricing) alone, or by letting markets decide. For substantive and political reasons, there will be no effective, durable climate action without industrial strategy. Market fundamentalism is simply

39 REPEAT Project (2023, forthcoming), “Final Report: The Climate and Energy Impacts of the Inflation Reduction Act of 2022 and Infrastructure Investment and Jobs Act of 2021,” see repeatproject.org for publication in March 2023.

40 Nina Kelsey and John Zysman, *The Green Spiral Can Green Sustain Growth?* (Stanford University Press, 2014), 79–88, <https://doi.org/10.2307/j.ctvqr1czp.9>.

not up to the task of catalyzing the political and technological feedback loops necessary to sustain climate action over decades.

The Biden administration's efforts to weave climate, economic, and trade policy together in a coherent industrial strategy will go a long way toward accelerating this green spiral: If successful, its incentives and standards will cultivate strong domestic climate industries across geographies; support high-quality, family-sustaining jobs; and build bipartisan political demand for more decarbonization in the future—


For substantive and political reasons, there will be no effective, durable climate action without industrial strategy. Market fundamentalism is simply not up to the task of catalyzing the political and technological feedback loops necessary to sustain climate action over decades.

all while rapidly decreasing the costs of energy for individuals and businesses.

MAKE CLEAN TECHNOLOGIES CHEAP AND REDUCE THE COSTS OF ENERGY

Climate industrial strategy can and must make all clean technologies cheap. The cheaper climate action is, the smaller the amount of political will necessary to overcome barriers. The good news is that battery, solar, and wind costs have plummeted in the last 10 years, falling roughly 90 percent for solar and batteries and 70 percent for wind. The administration is building on this success, using a variety of incentives to accelerate cost declines even further and drive costs down across all the technologies we need to achieve net zero economy-wide by 2050—from advanced nuclear and geothermal, to clean hydrogen, to long-duration energy storage.

Furthermore, the IRA will reduce energy costs for households and businesses, demonstrating that climate action is in the economic



President Joe Biden, joined by Tritium's CEO Jane Hunter, stands next to a Tritium electric vehicle charger during an event on the Biden administration's efforts to increase manufacturing, in the South Court Auditorium at the Eisenhower Executive Office Building on February 8, 2022, in Washington, DC. Biden announced plans for Tritium to construct a new electric vehicle charging plant in Tennessee. (Photo by Anna Moneymaker/Getty Images)

self-interest of individuals and our country today. Analysis shows that as a result of the IRA, annual US energy expenditures will fall at least 4 percent in 2030, which will lower electricity costs by \$100-200 per household per year.⁴¹ The IRA will also lower oil and gas consumption by 13 percent and 8 percent, respectively, which will lower global oil and gas prices (5 percent reductions in global oil prices, and 10-20 percent in North American gas prices from 2030 to 2035).⁴² These policies will also lower upfront costs for individuals and businesses to purchase things that will lower their energy costs even further over time (e.g., heat pumps, electric vehicles, etc.).

DELIVER CONCRETE, TANGIBLE BENEFITS TO COMMUNITIES TODAY

Making clean energy cheap is a necessary but insufficient condition for climate policy that will endure. Industrial strategy has to deliver concrete and near-term benefits (e.g., economic investment and diversification, jobs, improvements to public health, decreases in energy costs) to communities across the country. That's one reason the administration's approach includes support for the development of American manufacturing of solar, wind, battery, and electric vehicle components and assembly, as well as critical minerals processing. We need these things to reach our climate goals: Brittle supply chains could imperil the transition (as evidenced by COVID's impact on supply chains, for example) and manufacturing capacity must expand rapidly to meet climate goals. But as importantly, we need to create high-quality jobs in clean energy industries to give communities a direct stake in the transition. As a result of the new climate industrial strategy, companies have committed over \$200 billion for clean energy, electric vehicle, and battery projects in the US, making the economic benefits of the clean energy transition real to communities across the country.⁴³ Within the decade, 1 million jobs could be supported in manufacturing solar photovoltaic (PV) and wind components, and hundreds of thousands more in battery and electric vehicle manufacturing. And this economic activity is happening across the country: A recent

41 Nicholas Roy, Dallas Burtraw, and Kevin Rennert, "Retail Electricity Rates under the Inflation Reduction Act of 2022," Issue Brief 22-07, (Washington, DC: Resources for the Future, August 3, 2022), <https://www.rff.org/publications/issue-briefs/retail-electricity-rates-under-the-inflation-reduction-act-of-2022/>.

42 Jesse D. Jenkins et al., Preliminary Report: The Climate and Energy Impacts of the Inflation Reduction Act of 2022, Princeton University Zero Lab, (Princeton, NJ: REPEAT Project, August 2022), https://repeatproject.org/docs/REPEAT_IRA_Preliminary_Report_2022-08-04.pdf.

43 *Ibid.*



Bill Ford, executive chairman of Ford Motor Company, announces at a press conference that Ford will be partnering with the world's largest battery company, a China-based company called Contemporary Amperex Technology, to create an electric-vehicle battery plant in Marshall, Michigan, on February 13, 2023, in Romulus, Michigan. Part of a multibillion dollar investment, the battery plant will provide approximately 2,500 jobs. (Photo by Bill Pugliano/Getty Images)

analysis shows that, as a result of the IRA, US states could secure as much as \$130 billion in investment per state cumulatively between now and 2030.⁴⁴ The administration's strategy also includes historic environmental justice provisions, such as providing at least \$60 billion to reduce harmful pollution in overburdened communities. These investments are both a clear moral imperative and wise political strategy, generating support for climate action among communities who have understandably been distrustful of the climate movement and industrial policy more generally. According to one estimate, the IRA and IJJA will prevent more than 35,000 premature deaths in the next decade alone.⁴⁵ These benefits will accrue to communities today, and can build public and political support for climate action.

STRENGTHEN—AND BROADEN—THE POWER OF THE CLIMATE COALITION

To sustain the climate transition over time, society needs a strong political coalition that will benefit from more aggressive action. The solar and wind industries have gone from small, niche, “alternative” technologies to multitrillion dollar industries in the last decade—with a corresponding increase in political clout and influence that played a key role in the passage of the IRA and IJJA. We need to accelerate this trend and drive growth in new climate-aligned industries. These coalitions can pressure governments to act more aggressively to mitigate climate change.

We also need to design policies that weaken existing and future opposition to ambitious climate action. In part for this reason, the IRA includes hundreds of billions of dollars of investment in fossil fuel-dependent communities, including support for regional economic diversification to ensure that no one gets left behind in the climate transition. The IJJA and IRA both include incentives related to the full host of climate-relevant technologies, including nuclear and carbon capture, which often have greater appeal in rural states. They also include non-energy investments in regional diversification strategies that can weaken the strength of climate opposition by reducing the power of fossil fuel interests. By attending to the distributional effects of climate policy and targeting investments in places that might lose in the transition to net zero, the administration's industrial strategy may help limit partisan pushback to climate action.

MANAGE TRADE-OFFS IN IMPLEMENTATION

The Biden administration's strategies will—if implemented well—drive a positive feedback loop that reduces emissions and builds American economic and political resilience. This should put climate action on stronger footing to endure in the face of future political and economic changes and/or shocks. Nevertheless, like all areas of policy, there will be tensions and challenges in the implementation of climate industrial strategy. Several criticisms have already been made by commentators across the political spectrum, all of which are worthy of deeper examination:

⁴⁴ Ashna Aggarwal, Jacob Covidae, and Wendy Jaglom-Kurt, “The Economic Tides Just Turned for States,” *RMI*, February 6, 2023, <https://rmi.org/economic-tides-just-turned-for-states/>.

⁴⁵ See *supra* note 42.

- “Industrial strategy for climate is all carrots and no sticks”:** It is widely asserted that limiting climate change in line with science will require regulations and/or carbon pricing, not just incentives. It is true that the IRA is heavily focused on incentives—but this is for good reason. First, practical experience and research demonstrate that climate policy mixes evolve over time, with green industrial policies often preceding sticks.⁴⁶ Second, the IRA *does* include standards, including a new methane fee. Third, through executive action, the administration is linking incentives and regulations in new and creative ways: for example, coupling industrial decarbonization investments with demand-pull mechanisms (like “buy clean”) to ensure that federal procurement of products like cement and steel value low-embodied emissions goods. Furthermore, incentives can increase the ambition of regulatory actions: Because regulations require an analysis of compliance costs, and because clean solutions are now subsidized, agencies can pursue more ambitious regulations. For example, the regulation of greenhouse gas emissions from existing power plants should be more ambitious, because carbon capture is economically viable as a result of incentives. Ultimately, industrial strategy can include standards *and* create the political conditions for more aggressive climate policies in the future.
- “Good industrial policy requires a focus on one clear goal; programs cannot and should not solve for multiple objectives”:** In recent months, commentators have been critical of the administration’s attempts to solve for multiple goals as it implements industrial strategy programs. But the history of industrial policy shows that not only is solving for multiple issues at once possible, it is a prerequisite. This is because good industrial policy is about economic development, not just maximizing the production of bits of technology.⁴⁷ While it’s important to be clear-eyed about tensions and trade-offs, it is entirely reasonable for a publicly supported subsidy program to use its leverage to steer the behavior of firms along multiple dimensions. Governments should invest in mechanisms to identify and transparently track performance of these programs over time, ensuring that governments can be held to account for whether they are succeeding.
- “There is an unavoidable conflict between making clean energy cheap and making it in America with strong labor standards”:** Relatedly, there has been no shortage of headlines about the incompatibility of “Made in America” with cheap, clean energy. However, analysis suggests that increased labor compensation and domestic manufacturing shares across wind and utility-scale solar PV supply chains result in relatively modest increases in total capital and operating costs, which are partially or fully offset by increases in labor productivity. Cost premiums associated with high-road labor policies have a minimal effect on the pace and scale of renewable energy deployment and the total cost of transitioning to a net-zero emissions economy.⁴⁸ There is a moral and political imperative to deliver some benefits of the energy transition to US workers and to sustain political will for future climate action, and a national security imperative to cultivate secure and resilient energy supply chains. Investing in the workers and supply chains that will be necessary to deliver a global net-zero economy is smart economic policy and good politics.

46 Jonas Meckling, Nina Kelsey, Eric Biber, and John Zysman, “Winning Coalitions for Climate Policy,” *Science* 349, no. 6253 (2015): 1170-1171, <https://www.science.org/doi/10.1126/science.aab1336>.

47 Lenore Palladino and Isabel Estevez, “The Need for Corporate Guardrails in US Industrial Policy,” (New York: Roosevelt Institute, August 18, 2022), <https://rooseveltinstitute.org/publications/the-need-for-corporate-guardrails-in-us-industrial-policy/>.

48 Erin Mayfield and Jesse Jenkins, “Influence of High Road Labor Policies and Practices on Renewable Energy Costs, Decarbonization Pathways, and Labor Outcomes,” *Environmental Research Letters* 16, no. 12 (2021), <https://iopscience.iop.org/article/10.1088/1748-9326/ac34ba/meta>.

- “Domestic industrial policy is inherently protectionist and threatens global cooperation on climate”:** There has been some criticism of national climate industrial policy as inherently protectionist. While one should not diminish the importance of global action to tackle climate, a uniform carbon price is not the only—or even most likely—way to accelerate global decarbonization.⁴⁹ Instead, we see highly uneven adoption of a wide range of climate policies that are responsive to unique national political and economic dynamics—this trend is reflected by and reinforced in the bottom-up framework of the Paris Agreement. Second, technology competition can be constructive, facilitating cross-national adoption of green industrial policies.⁵⁰ Third, industrial policy in one country can facilitate global environmental cooperation, by reducing the adjustment cost for other countries.⁵¹ Fourth, public investments can lead to cost reductions in low-carbon technologies.⁵² Beyond reducing the technology cost itself, sector-specific technology cooperation can lead to technical standards that accelerate global decarbonization. Scholars have argued for sector-specific “climate clubs,” or small groups of cooperating governments and firms that can develop and test solutions in each sector of the economy.⁵³ National climate industrial policy, if well designed, can enable these clubs. The US-EU agreement to negotiate the world’s first climate-based trade agreement for clean aluminum and steel (the Global Arrangement on Sustainable Steel and Aluminum [GASSA]) is an example of this approach.
- “A lack of administrative capacity means government will fail”:** Decades of intentional efforts to hollow out state capacity have resulted in skepticism about the government’s ability to execute climate industrial strategy. This is a self-fulfilling prophecy: If we agree that climate industrial strategy is important for achieving our climate, national security, and economic objectives, we should all be laser focused on how to do it well (not whether to do it at all). In recognition of this fact, Congress and the Biden administration have supported novel institutional arrangements to better coordinate across government and with the private sector. This includes a new Joint Office of Energy and Transportation to support the deployment of \$7.5 billion from the IJA to build out a national EV charging network, as well as a new Office of Clean Energy Demonstrations at the Department of Energy. The administration should continue to learn from examples of institutions that have done industrial policy well, including by implementing milestone-based approaches and ending projects quickly when they are not succeeding (e.g., Advanced Research Projects Agency-Energy [ARPA-E]).⁵⁴

49 Jonas Meckling, “Making Industrial Policy Work for Decarbonization,” *Global Environmental Politics* 21, no. 4 (November 28, 2021): 134–47, https://doi.org/10.1162/glep_a_00624.

50 Lauri Myllyvirta, “Sino-US Competition Is Good for Climate Change Efforts,” *Foreign Policy*, April 21, 2021, <https://foreignpolicy.com/2021/04/21/united-states-china-competition-climate-change/>.

51 Thomas Hale, and Johannes Urpelainen, “When and How Can Unilateral Policies Promote the International Diffusion of Environmental Policies and Clean Technology?” *Journal of Theoretical Politics* 27, no. 2 (2015): 177-205, <https://doi.org/10.1177/0951629813518128>.

52 Scott Barrett, “Climate Treaties and ‘Breakthrough’ Technologies,” *American Economic Review* 96, no. 2 (2006): 22-25, <https://www.aeaweb.org/articles?id=10.1257/000282806777212332>.

53 David G. Victor, Frank W. Geels, and Simon Sharpe, *Accelerating the Low Carbon Transition: The Case for Stronger, More Targeted and Coordinated International Action*, (Washington, DC: Brookings Institution, 2019), <https://www.brookings.edu/research/accelerating-the-low-carbon-transition/>.

54 For example, the director of ARPA-E is to establish and monitor milestones, initiate research projects quickly, and just as quickly terminate or restructure projects if such milestones are not achieved. National Academies of Sciences, Engineering, and Medicine, *An Assessment of ARPA-E*, (Washington, DC: The National Academies Press, 2017), <https://doi.org/10.17226/24778>.

For the first time, the full power of the US federal government is being marshaled to accelerate the clean energy transition. The challenge now is to take affirmative measures to overcome potential obstacles to implementation—from planning and permitting, to lack of administrative capacity, to workforce development, to supply chains—so that the US and world realize the promise of this historic investment.

Photo by Yaorusheng/Getty Images

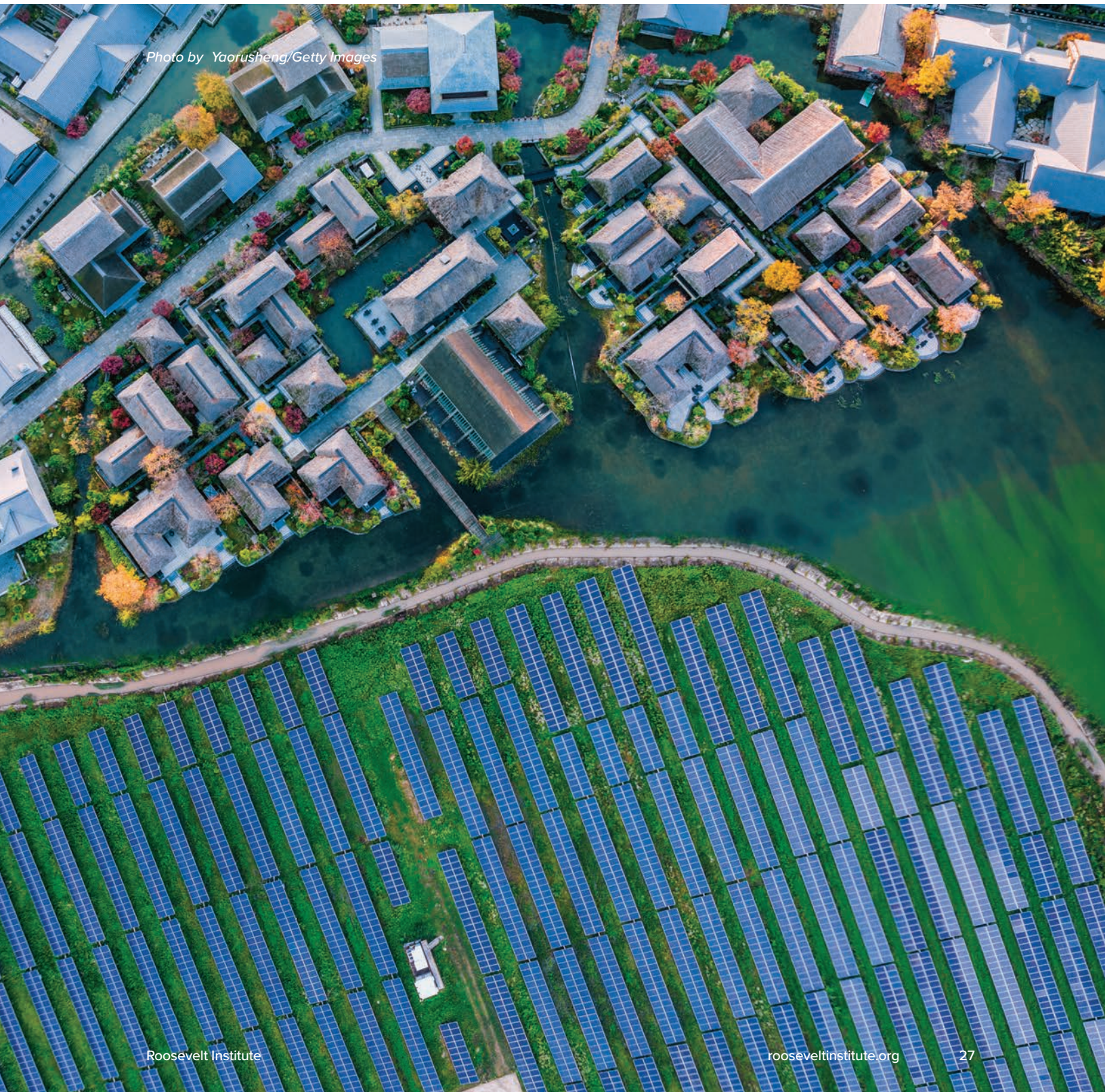




Photo by Patchareeporn Sakoolchai/Getty Images

INDUSTRIAL POLICY + TRADE POLICY

By Jennifer Harris

Jennifer Harris served as the special assistant to the president and senior director of international economics at the White House under President Biden. Prior to joining the White House, she was the director of economy and society at the William and Flora Hewlett Foundation, a Roosevelt Institute fellow, and a senior fellow at both the Brookings Institution and Council on Foreign Relations. In the Bush and Obama administrations, Harris served as a member of the Department of State's Policy Planning Staff. She holds a bachelor's from Wake Forest University, master's from Oxford University, and JD from Yale Law School.

As the Biden administration tells it, the country was facing not just a pandemic but four additional crises in January 2021: The first was a long-running erosion in the US's productive capacity (often termed secular stagnation), punctuated by near-term supply chain and pandemic-related inflation pressures. Second, US democracy was on its heels, due partly to decades of sharpening inequality, as well as a fraying of the basic economic bargain on which democracy depends. Third, our country faced a geopolitical and economic rivalry with China that lacked historical precedent (Cold War-era comparisons to the Soviet Union fall short, since the Soviets were never an economic match for the US). Finally, the climate crisis was worsening, and we had lost four years of progress during the Trump administration (and frankly, several years prior) on climate strategies that were neither economically nor politically sound.

In its first two years, the administration found a single answer to all four problems: The project of the next 10 years must be to rebuild the energy, physical, and technology infrastructure of the US economy through targeted public investments that crowd in private capital to deliver good jobs. This is the shortest, surest path to resurrecting a middle class (the country's first genuinely multiracial one); to growing political will for further climate action; to shoring up US competitiveness and securing critical supply chains vis-à-vis China; and, through all of the above, to restoring faith in democracy itself.

The administration delivered the load-bearing elements of this strategy in its three landmark laws—the Bipartisan Infrastructure Law, the CHIPS and Science Act, and the Inflation Reduction Act.

The project of the next 10 years must be to rebuild the energy, physical, and technology infrastructure of the US economy through targeted public investments that crowd in private capital to deliver good jobs.



National Economic Council Director Brian Deese speaks at the daily press briefing at the White House on February 6, 2023, in Washington, DC. (Photo by Anna Moneymaker/Getty Images)

The White House then followed up with a user’s manual for how this vision will work in practice—what then-National Economic Council Director Brian Deese coined a “modern American industrial strategy” across a triplet of speeches.⁵⁵

One underappreciated but essential feature of this blueprint is its genuine integration of foreign and domestic policy. However, making good on this integration in practice will take both foreign and domestic policymakers out of their comfort zone.

Other essays in this collection speak more directly to the needed shifts in domestic policy. In these, I would underscore the need to stoke the promising, if still fragile, trans-partisan⁵⁶ support underlying the country’s industrial policy reembrace. To sharpen the point to progressive audiences, one can debate fiercely with, for example, Oren Cass⁵⁷ or Sen. Todd Young (R-IN)⁵⁸ on whether new US semiconductor fabricators should come

with built-in childcare as a means of expanding the talent pool of workers, and still appreciate how such a debate is far preferable to arguing with conservatives over entitlement cuts or deficits. The growing stir around permitting reform will likely be the next testing ground for trans-partisan solutions, and it is vitally important that progressives in particular stay at the table until new solutions are reached.

How will foreign policy need to change for this return to industrial policy to succeed?

One telling starting point is the backlash, from foreign and domestic corners alike, to President Biden’s commitment to putting Americans first in line for the public investments and manufacturing jobs their tax dollars are creating—as do measures to enforce and tighten existing public procurement laws and the domestic content requirements of the IRA.

Such thinking turns 40-plus years of foreign economic policy on its head. In particular, it ends decades of unquestioning deference to trade rules that, even still, have not contended with either the realities of climate change or the crush of nonmarket practices from China—and opts instead to craft a policy that deals with both squarely on their own terms.

For a foreign policy apparatus unaccustomed to defending such choices, crafting a response has been challenging. It will need to come in two parts. First, there are powerful rejoinders to be had, and while the administration has mounted them reasonably well in private to foreign counterparts, more public-facing work could help, even simply as a means of educating its own foreign policy establishment. The rejoinder goes something like this:

55 Brian Deese, “Remarks on a Modern American Industrial Strategy by NEC Director Brian Deese,” The White House, April 20, 2022, <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/04/20/remarks-on-a-modern-american-industrial-strategy-by-nec-director-brian-deese/>.

56 I use the term “trans-partisan” rather than bipartisan to refer to the fact that many of the opportunities for coalition formation on industrial policy issues do not come from the political center of the country’s left-right spectrum (that is, a union of centrist Republicans and Democrats who agree on this and many other issues), but rather a cadre of more staunch conservatives who have come to support industrial policy for a variety of reasons and who, despite this issue-specific agreement with many (though not all) Democrats, still differ with Democrats on most other issues. A more aggressive use of antitrust policy enjoys the same “trans-partisan,” as opposed to bipartisan, support.

57 Oren Cass, “Pass the CHIPS, Please,” *American Compass*, July 20, 2022, <https://americancompass.org/pass-the-chips-please/>.

58 Josh Boak and Kevin Freking, “GOP Senators: Computer Chip Money Underwriting ‘Woke’ Agenda,” *AP News*, March 2, 2023, <https://apnews.com/article/woke-computer-chips-biden-child-care-unions-c4d8bd07eff7b14b027b6d54ef1b848a>.

First, offering limited domestic preferences in a few areas hardly makes these investments zero sum. Quite the opposite: The investments of the IRA alone, for example, will sharply lower clean technology cost curves for the entire world, much as Germany's early investments in solar in the 1990s proved to be game-changing for solar cost competitiveness and deployment globally. By some estimates, the IRA could lower the cost of clean energy technologies across the board by around 15 percent.⁵⁹

Second, in many cases, these measures are simply bringing the US in line with its peers: The IRA's clean energy investments add up to just half of Europe's clean energy subsidies, even prior to the EU's newest clean energy measures unveiled in early 2023. Likewise, even after the steps the administration has taken to tighten and enforce existing government procurement laws, the portion of US procurement open to trading partners vastly outstrips that of our closest trading partners.⁶⁰

Third, "more is more"—because the world is nowhere near the saturation point for needed public investment in either semiconductors or decarbonization technologies, partner countries should follow suit with IRA-like investments of their own. And, subject to basic guardrails to prevent dumping (i.e., selling below production cost to grow market share), ensure transparency, etc., the US should be cheering them on. And indeed, the White House has welcomed announcements from Brussels on an EU clean energy package billed as responding to the IRA.⁶¹

Taken together, these three points defang much of the criticism from the US's partners around the administration's green industrial policy efforts. But the kernel of truth running throughout these criticisms is a warranted anxiety that the US is breaking ranks with the old, without clearly outlining what should follow. US policymakers must be more ambitious and forthright in laying out a new set of rules that benefit both the US and its partners, and that are purpose-built to advance decarbonization, a technology ecosystem of trust, and more resilient supply chains.

To deliver on such a vision, there is plenty the US foreign policy apparatus will need to do differently, and plenty of tensions it will need to manage on a near-daily basis. Here are three:

1. WE NEED TO TALK ABOUT EUROPE

While many Americans think of Europe as politically left of the US, "Europe" and the EU are quite different political animals. Notwithstanding growing pockets of interest among Europeans for America's industrial policy re-embrace, one must distinguish between Europe and Brussels. The reality is that the EU began as a project of subjugating national borders and prerogatives to market liberalization and Washington Consensus-style economic ideas. Reasonable minds can differ over the extent to which these ideas were economically or geopolitically helpful in their day (I think they were helpful), and yet still agree that Brussels has clung to these neoliberal roots more fervently than most. Only now, with news of an EU clean energy package in response to the IRA, are there some green shoots that EU leaders may

59 Boston Consulting Group, *US Inflation Reduction Act: Global Implications*, Boston Consulting Group, (Boston: December 2022), <https://media-publications.bcg.com/BCG-Executive-Perspectives-US-IRA-Global-Implications.pdf>.

60 The White House, "Fact Sheet: Biden-Harris Administration Delivers on Made in America Commitments," March 4, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/03/04/fact-sheet-biden-harris-administration-delivers-on-made-in-america-commitments/>.

61 The White House, "Joint Statement by President Biden and President von der Leyen," The White House, March 10, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/10/joint-statement-by-president-biden-and-president-von-der-leyen-2/#:~:text=We%20are%20working%20together%20to,security%20of%20global%20supply%20chains>.



President Joe Biden (R) meets with President of the European Commission Ursula von der Leyen (L) during a bilateral meeting in the Oval Office of the White House on March 10, 2023, in Washington, DC. (Photo by Alex Wong/Getty Images)

practices, and support workers and good manufacturing jobs (not just for the US but for all members of the open-architecture club). Yet opposition in Brussels has been surprisingly stiff, much of it staked on alleged inconsistency with WTO rules.⁶²

There are plenty of grounds on which to doubt Brussels's contention. But let's suppose the optimal outcome on the Global Arrangement was indeed incompatible with WTO rules. What are multilateral institutions like the WTO, if not vessels to advance practical solutions to the problems of the day? If their rules hinder such solutions, *it is the institutions that need to change, not the solutions.*

The real problem here may be more in Washington than in Brussels or Geneva. There is often a double standard in US foreign policy: For the rough-and-tumble stuff of war or nuclear nonproliferation, the US spares no amount of diplomatic capital cajoling allies in our direction. But when it comes to an issue

be grudgingly coming around to the economic or political virtues of the green industrial policy revolution afoot in the United States.

Another manifestation of this is the absolutist stance in Brussels to all things related to the World Trade Organization (WTO). This trans-Atlantic disconnect touches down around the ongoing negotiations between the US and EU for the Global Arrangement on Sustainable Steel and Aluminum—once finalized, it will be the first trade agreement to condition market access on emissions intensity. US negotiators have a compelling vision that will benefit both EU and US producers. This effort is central to what might be called the “Biden three-fer”: pursuing policies that simultaneously incentivize decarbonization, offer real answers to Chinese nonmarket

What are multilateral institutions like the WTO, if not vessels to advance practical solutions to the problems of the day? If their rules hinder such solutions, *it is the institutions that need to change, not the solutions.*

62 Barbara Moens and Steven Overly, “Trump’s Tariff Time Bomb Threatens to Blow up Transatlantic Trade,” *POLITICO*, April 5, 2023, <https://www.politico.eu/article/donald-trump-steel-tariffs-europe-time-bomb-transatlantic-trade-united-states/>.

of economics or climate—the idea the US should spend the necessary energy and diplomatic leverage to bring its close friends aboard all too often remains an uphill sell.

The Biden administration beat the odds in uniting its allies, especially in Europe, into a coalition to defend Ukraine. The stakes surrounding a clean energy ecosystem that doesn't rely on China are just as high; US foreign policy needs to commit its full focus and leverage to do the same here. The upsides of having Europe with us embracing the economic and political logic of green industrial policy are difficult to overstate—as such, it is a project that should involve not just the executive branch but all those championing green industrial policy, from Congress, to climate and economic advocacy organizations, to philanthropy and more.

2. REMAKE THE REST OF TRADE TO ADVANCE GREEN INDUSTRIAL POLICY

The Global Arrangement is a great example of retrofitting trade to the “Biden three-fer”—again, policies that simultaneously support US workers, decarbonize our economy, and address Chinese nonmarket practices—and there are other such examples to be pursued. First, take the domestic debate around a “border carbon adjustment.” There is growing bipartisan support in Congress for a border carbon adjustment that assigns tariffs based purely on the greenhouse gas content of a covered good. As



Secretary of State Antony Blinken (L) and US Trade Representative Katherine Tai speak with media at a press conference during APEC at the Queen Sirikit National Convention Center on November 17, 2022, in Bangkok, Thailand. (Photo by Lauren DeCicca/Getty Images)



White House National Security Advisor Jake Sullivan talks to reporters about President Joe Biden's trip to Europe to attend the G-20 summit and other meetings in the Brady Press Briefing Room at the White House on October 26, 2021, in Washington, DC. (Photo by Chip Somodevilla/Getty Images)

opposed to other design schemes, this latest version has the virtue of rewarding further decarbonization progress by industry (since the size of the tariff would likely be a function of some industry average), while offering a buffer against Chinese goods (which skew high-greenhouse gas emitting) and other high-greenhouse gas content goods. The administration should work with Congress to pass a consensus measure—shaping it, for example, to ensure low-income country exceptions, and to ensure any sufficiently ambitious US-EU Global Arrangement deal is carved out.

The other example centers on critical minerals. Over the past two years, modest global supply shortages of lithium gave rise to 800 percent price increases—and these shortages pale in comparison to looming global supply deficits several-fold larger than those predicted by most analysts. The world needs some 60 new lithium mines globally within 10 years to avoid these supply crunches (for context, it currently has 11, only one of which is in the US).⁶³ We can and are expanding domestic mining. But geologically,

⁶³ Benchmark Source, "More than 300 New Mines Required to Meet Battery Demand by 2035," Benchmark Source, September 6, 2022, <https://source.benchmarkminerals.com/article/more-than-300-new-mines-required-to-meet-battery-demand-by-2035>.

there is no plausible scenario whereby the totality of US demand is mined domestically. And given that average permitting timelines are 10-plus years virtually everywhere (not just the US), the urgency is real.

Current US efforts are focused on forging minerals-specific “trade agreements” with Europe and Japan so as to afford them eligibility under the IRA’s EV battery tax credit provisions. The problem is—neither Europe nor Japan are meaningful producers or exporters of battery relevant minerals.⁶⁴ These bilateral deals could be helpful stepping stones to the sort of US-led clean energy supply chain ecosystem described above, but more inclusion of major mineral producers is needed.

3. THE INSTITUTIONS AND ARSENAL OF INDUSTRIAL POLICY

Finally comes the pedestrian and vital work of creating new tools and institutions capable of stewarding both the domestic and international facing dimensions of US industrial policy. This topic warrants more space than what remains here, but I will make two key points.

First, the administration’s industrial policy approach requires building whole supply chains at once—one cannot break China’s stranglehold on minerals processing, for example, without considering offtakers for any new domestic minerals processing plant. This, in turn, places a premium on working with Congress to create a new suite of “market-shaping” tools⁶⁵—from more creative applications of advanced market commitments, to direct government purchasing options, to forms of price insurance, to more user-friendly authorities (especially around equity investments) for the Development Finance Corporation in particular.

Second, the US interagency is an advocacy-based system. And personnel is policy—the Biden administration’s historic strides on reviving industrial policy for the most part trace back to the president’s own positions, and those of a handful of key White House and inter-agency officials. Should these people move on, many of the institutions under them could well revert to their long-held allergies to industrial policy. The White House should lead in asking all relevant agencies to undergo a process of self-reflection and reform to enable swifter progress implementing the administration’s industrial policy vision.

At heart, the Biden administration’s “modern American industrial strategy” is about reclaiming the ability to shape the economy we want—a vindication of the idea that democracy is as much about economic agency as political agency. Add in the climate and planetary stakes, and it is easily an undertaking larger than a single party, or even country. That is why our foreign policy must not lose sight of its role—and all the changes it entails—in getting this right.

64 One slight exception is Japanese processing of nickel.

65 I owe an intellectual debt to Tom Kalil for his pioneering work on market-shaping approaches generally. For more, see <https://marketshaping.uchicago.edu/#areas>.



Photo by Hispanolistic/Getty Images

INDUSTRIAL POLICY

+

LABOR POLICY

By Janelle Jones

Janelle Jones is the chief economist and policy director of the Service Employees International Union, directing economic research. Prior to the SEIU, she served as the chief economist at the Department of Labor in the Biden administration, where she worked on addressing inequality and historic economic disparities. Jones was previously the managing director of policy and research at the Groundwork Collaborative, as well as an economic analyst at the Economic Policy Institute. She graduated with a BA in mathematics from Spelman College and an MA in applied economics from Illinois State University.

Modern, forward-thinking industrial policy can help our economy be more inclusive and productive, and can increase good jobs and strengthen worker power. Now is the time to use the levers of policy to coordinate efforts of economic actors to increase the economy's productive capacity as efficiently as possible, using government to rebalance power between workers and employers. By focusing resources, regulations, and enforcement where workers have historically been mistreated and stripped of dignity, industrial policy can be a power-building tool for those workers. Of particular importance are workers who have traditionally been mistreated and left out—such as the Black, Latina, Asian, and immigrant women who dominate the care and service industries.

For too long, to the extent that our nation had an industrial policy, it was unspoken and primarily focused on the manufacturing sector and its largely white, male workforce—leaving behind critical sectors of our economy in which public investment has been lacking and we've fallen behind foreign competitors. Policymakers on both sides of the aisle have resisted government engagement in the economy and decried industrial policy as being a policy of “picking winners and

For too long, to the extent that our nation had an industrial policy, it was unspoken and primarily focused on the manufacturing sector and its largely white, male workforce—leaving behind critical sectors of our economy in which public investment has been lacking and we've fallen behind foreign competitors.

losers.” All the while, our country has routinely picked winners and losers by putting forward policies and regulations that specifically benefited corporations and certain sectors of the economy. In contrast, industries that are staffed largely by women and people of color have been ignored and skipped over for widespread investment.



SEIU Executive Vice President Leslie Frane speaks as health-care workers and members of the SEIU rally at West Hills Hospital on January 12, 2023, in West Hills, California. (Photo by Araya Doheny/Getty Images for SEIU)

of service sector jobs can't be outsourced or automated, and the need for in-home care has never been higher: Roughly 10,000 people turn 65 every day; by 2028,⁶⁷ the US will need to fill an estimated 4.7 million home care jobs,⁶⁸ including over 1 million new jobs. Almost one in five net new jobs created over the next decade are projected to be either home health aides or personal care aides. As of February 2023, more than 100 million people work in private service-providing industries, and 75 percent of the workforce

CARE AND THE SERVICE SECTOR

Renewed industrial policy efforts must call for public investment in the service and care sectors, two of the fastest-growing industries in our economy.⁶⁶ The COVID-19 recession made clear that our society cannot function without care and service workers, whose labor helped us through the darkest days of the pandemic and will continue to be a backbone of our communities moving forward. We need policies that support these growing sectors and their workers. Federal investment in the service sector would be a game changer, turning these often minimum wage jobs into family-sustaining careers and making it easier to recruit workers to fill open positions.

The care economy is changing rapidly, and we need industrial policy that accounts for and addresses these shifts. A large share

66 Bureau of Labor Statistics, "Employment Projections and Occupational Outlook Handbook News Release," Bureau of Labor Statistics, (Washington, DC, September 8, 2022), <https://www.bls.gov/news.release/ecopro.htm>.

67 Digital Communications Division HHS, "HHS Aging Services," US Department of Health & Human Services, (Washington DC, 2015), <https://www.hhs.gov/aging/index.html>.

68 Kezia Scales, *It's Time to Care: A Detailed Profile of America's Direct Care Workforce*, PHI, (New York, 2020), <https://www.phinational.org/caringforthefuture/itstimetocare/>. <https://www.phinational.org/resource/its-time-to-care-a-detailed-profile-of-americas-direct-care-workforce/>.

is in the service industry.⁶⁹ Investing in childcare and home care workers means investing in women of color,⁷⁰ and creating policy for these industries that supports workers and also helps the rest of the economy.

SECTORAL BARGAINING AS INDUSTRIAL POLICY

Sectoral bargaining comes in many forms,⁷¹ but at its core it sets agreements on pay and working conditions across an entire industry, rather than these standards being set at each individual firm. Sectoral bargaining has a long tradition in the US economy: While often described as a European way of work, sectoral bargaining and wage boards have been part of our economy since World War I, and continuing into the New Deal era.⁷² Similar to today, these types of policies were used to set minimum standards for workers across employers who lacked union representation. These agreements were widespread, spanning across the country.

The auto industry was one in which industry standards were quite strong. The big three car companies—Ford, General Motors, and Chrysler (now Stellantis)—were all organized under the United Auto Workers (UAW) and would often strike in order to secure a contract with one company that the other two would then accept. Unsurprisingly, this sectoral approach was strongest when working in concert with strong union membership, and examples of this type of policy remain in our economy today. Sectoral bargaining still exists in various ways in the entertainment industry and in major league sports, and Arizona, Colorado, California, and New Jersey have state authority to establish industry-wide wage boards.

Setting standards across a sector stops a race to the bottom in every industry and geography, and will raise the floor economy-wide, benefiting both workers and employers. Sectoral bargaining prevents low-road companies—those that do not offer good wages and benefits—from undermining high-road companies that treat their workers well. Studies also indicate that sectoral bargaining can help boost productivity: It incentivizes companies to compete based on greater productivity rather than lower pay because it sets higher compensation floors, and encourages employers to provide similar pay to workers who do similar jobs.⁷³ Broad-based bargaining can also reduce employee turnover, promote workplace collaboration, and incentivize worker training. Finally, researchers also find that sectoral bargaining achieves more inclusive economic outcomes for workers, including closing pay gaps and reducing economic inequality.

New legislation in California recently showed how a reimagined industrial policy and a sectoral

69 Bureau of Labor Statistics, “Employees on Nonfarm Payrolls by Industry Sector and Selected Industry Detail,” Bureau of Labor Statistics, (Washington DC, March 2023), <https://www.bls.gov/news.release/empsit.t17.htm>.

70 Asha Banerjee, Elise Gould, and Marokee Sawo, *Setting Higher Wages for Child Care and Home Health Care Workers Is Long Overdue*, Economic Policy Institute, (Washington, DC, November 2021), <https://www.epi.org/publication/higher-wages-for-child-care-and-home-health-care-workers/>.

71 Lynn Rhinehart and Celine McNicholas, *Collective Bargaining beyond the Worksite: How Workers and Their Unions Build Power and Set Standards for Their Industries*, Economic Policy Institute, (Washington, DC, May 2020), <https://www.epi.org/publication/collective-bargaining-beyond-the-worksite-how-workers-and-their-unions-build-power-and-set-standards-for-their-industries/>.

72 David Madland, *Re-Union: How Bold Labor Reforms Can Repair, Revitalize, and Reunite the United States*, (Cornell, New York: Cornell University Press, 2021).

73 David Madland and Malkie Wall. “What Is Sectoral Bargaining?” *Center for American Progress*, March 2020, <https://www.americanprogressaction.org/article/what-is-sectoral-bargaining/>.

approach can uplift working people. In 2022, the state's FAST Recovery Act, AB257, was signed, representing a gigantic step forward for workers in California and across the country. If enacted in 2024, as stated in the legislation, it would give half a million workers a seat at the table with their employers and government to address systemic, industry-wide issues like violence, low pay, sexual harassment, health and safety, and more.⁷⁴ The bill is the most significant advance in workers' ability to organize and bargain for a better future in a generation, and is a watershed moment in the history of the labor movement, building a new model for industrial policy in the service sector. Putting workers, fast-food employers, and government at a table together instantly creates a new model where working people can have a direct voice in raising standards across the entire industry. For workers in industries like fast food, who face systemic obstacles to joining together in a union, organizing by sector and pushing for industry-wide changes is an industrial policy with real potential to rebalance power between workers and employers.

⁷⁴ Rachel M. Cohen, "California Aims to Transform How Fast Food Workers Are Treated," Vox, September 2022, <https://www.vox.com/policy-and-politics/2022/8/15/23296481/fast-food-ab257-california-sectoral-labor-unions>.

Flags are flown at a car caravan and rally of fast food workers and supporters for passage of AB 257, a fast-food worker health and safety bill, on April 16, 2021, in the Boyle Heights neighborhood of Los Angeles, California. (Photo by Mario Tama/Getty Images)



SECTORAL BARGAINING AND UNIONS

Industrial policy that uses sectoral bargaining cannot work well without strong unions. Unions are key to sectoral bargaining in a few ways. First, they are a crucial part of any effective enforcement strategy. Government should be a regulator and enforcer, but federal and state enforcement agencies have been stripped of funds and understaffed as part of the broader disinvestment in government. Union partnership is therefore critical.⁷⁵ Unions have local entities spread across states and cities all over the country, and because they represent members already doing the work, they have firsthand knowledge of how to effectively and efficiently enforce it.

Second, there is power in the numbers that can come from gathering the members of, or at least being affiliated with, many local union shops. Unions are able to bring large numbers of workers to the table, giving an even stronger hand in negotiating for minimum standards.

And third, unions are a source of advice and expertise as workers come together to use their voice for the first time in negotiations with employers. Local labor leaders will have relevant experience to navigate negotiations and be practical about what is possible. Sectoral and enterprise bargaining can complement one another in building out an industrial policy that increases worker power.

In the US right now, worker power seems to be synonymous with labor unions. Unions are an effective and necessary check on corporate power and behavior, but strengthening unions is not the only way to build worker power. Wage boards, worker centers, and worker voice on corporate boards are among the myriad ways to ensure workers have more of a say with their employers and in how their workplaces function. Government has a crucial role to play as the third actor in the tripartite arrangement between workers and employers when it comes to setting wage and standard boards. It can set minimum requirements and guidelines so the floor is raised across industries and workplaces. Sectoral bargaining, in turn, can lead to higher union density because it lessens employer opposition and facilitates efficiency by setting a standard across employers in multiple locations.^{76 77}

The Biden administration is using a robust industrial policy framework to invest billions of dollars into our nation's vital industries and fundamentally transform our economy. This transformation should be worker-centered and should create good union jobs. One of the most exciting paths for industrial policy to increase worker power is through sectoral bargaining. By focusing on the care and service sectors, policy can better help workers and communities of color who have traditionally been left behind. As we use industrial policy to improve our nation's infrastructure and transition to clean energy, we must ensure that it is being implemented in ways that right historical wrongs and lift up generations of workers now and into the future.

⁷⁵ Daniel Costa, *Threatening Migrants and Shortchanging Workers*, Economic Policy Institute, (Washington, DC, December 2022), <https://www.epi.org/publication/immigration-labor-standards-enforcement/>.

⁷⁶ Akhil Saxena, "Strengthening the American Labor Movement: The Advantages of Sectoral Bargaining," *Brown Political Review*, April 5, 2021, <https://brownpoliticalreview.org/2021/04/strengthening-the-american-labor-movement-the-advantages-of-sectoral-bargaining/>.

⁷⁷ Sharon Block and Benjamin Sachs, *Clean Slate for Worker Power: Building a Just Economy and Democracy, Labor and Worklife Program*, Harvard Law School, (Cambridge, MA, June 2020), <https://lwp.law.harvard.edu/publications/clean-slate-worker-power-building-just-economy-and-democracy>.



A screen shows care providers listening in as Vice President Kamala Harris speaks at a virtual town hall with Sen. Tammy Duckworth (D-IL) from the South Court Auditorium in the Eisenhower Executive Office Building on October 14, 2021, in Washington, DC. The town hall was organized by Care Can't Wait and the National Domestic Workers Alliance. (Photo by Anna Moneymaker/Getty Images)

INDUSTRIAL POLICY + INCLUSION POLICY

By K. Sabeel Rahman

K. Sabeel Rahman is associate professor of law at Brooklyn Law School, where his research focuses on the themes of democracy, economic inequality, exclusion, and power. From 2021 to 2023, he served in the Biden administration in the Office of Information and Regulatory Affairs in the Office of Management and Budget as senior counselor and associate administrator (delegated the duties of the administrator). Dr. Rahman also served as president of the think tank Demos and as a fellow at the Roosevelt Institute. He received his bachelor's, JD, and PhD from Harvard University and a master's from the University of Oxford, where he was a Rhodes Scholar.

As the Biden administration begins its third year, it is entering a critical new phase: implementation of the set of major infrastructure and industrial investments passed into law in the last Congress.

Collectively, the funds from the American Rescue Plan (ARP), the Bipartisan Infrastructure Law (BIL), the

In addition to spurring economic transformation, these investments represent an important new policy paradigm: a reclaiming of government's proper role in constructing a dynamic and inclusive economy.

CHIPS and Science Act, and the Inflation Reduction Act (IRA) represent a potentially transformative set of investments in our economy. Together, they have the potential to not only create thousands of new jobs by jump-starting new clean energy industries and manufacturing capabilities but to lay the foundation for an inclusive economy by investing in underlying physical infrastructure—from roads and bridges to utilities and transit. In addition to spurring economic transformation, these investments represent an important new policy paradigm: a reclaiming of government's proper role in constructing a dynamic and inclusive economy.

But for this new experiment in industrial policy to be successful, it will be critical that policymakers, advocates, communities, and partners alike work together to channel these investments in ways that are both equitable and inclusive of the communities affected. At the same time, these commitments to equitable outcomes and inclusive processes must reckon with the imperative to move investments into action quickly

and efficiently. Indeed, commentators have already raised concerns⁷⁸ about the ways in which overly burdensome permitting and review processes might slow down and undermine their efficacy. Others have raised concerns that, absent robust accountability, these investments could easily end up funneled into the pockets of the most well-off without generating as much bottom-up prosperity or collective social value as they should. Successful implementation of these programs will require developing systems that not only move quickly and efficiently but also move in ways that help advance equitable outcomes and engage community groups and key stakeholders.

Historically, moments of significant public investment in infrastructure and industrial policy have also been key moments of institutionalizing inequities in our built environment and in the structure of jobs and economic opportunities. Many racial, geographic, gender, and other critical inequities have been exacerbated, and in a sense produced, by past disparities in patterns of investment. The Biden administration's commitment to equity,⁷⁹ to reducing barriers for disadvantaged communities, and to building an economy that works for everyone are therefore on display⁸⁰ and will be put to the test in the implementation of these new funding streams.

What would an equitable and inclusive approach to industrial policy look like? Three particular themes stand out: first, identifying and managing toward equitable outcomes; second, developing inclusive processes for engaging community stakeholders; and third, building capacity in both governmental and civil society organizations.

TARGETING EQUITABLE OUTCOMES

First, in implementing these new investment programs, policymakers need to continue to emphasize equity as a key aspect of success, including setting up benchmarks, data collection, and reporting systems. In 2020, then-candidate Joe Biden included among his ambitious campaign commitments a promise to channel a significant portion of climate funding streams into historically disadvantaged and distressed communities. This commitment has been operationalized in the Justice40 initiative, and agencies have started to put some initial practices in place to help identify communities suffering from critical inequities



EPA Administrator Michael Regan gives remarks at an event announcing new national clean air standards for heavy-duty trucks on December 20, 2022, in Washington, DC. (Photo by Anna Moneymaker/Getty Images)

⁷⁸ Ezra Klein, "What America Needs Is a Liberalism That Builds," *New York Times*, May 29, 2022, <https://www.nytimes.com/2022/05/29/opinion/biden-liberalism-infrastructure-building.html>.

⁷⁹ The White House, *Executive Order on Further Advancing Racial Equity and Support for Underserved Communities Through The Federal Government*, (Washington, DC, February 16, 2023), <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/02/16/executive-order-on-further-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>.

⁸⁰ Brian Deese, "Remarks on a Modern American Industrial Strategy by NEC Director Brian Deese," The White House, April 20, 2022, <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/04/20/remarks-on-a-modern-american-industrial-strategy-by-nec-director-brian-deese/>.

and to reshape grant-making processes to take those inequities into account. The general Justice40 guidelines were initially released in 2021, and the administration has consistently called on Justice40 to be a component of investments arising out of the IRA and BIL. In practice, agencies like the Department of Transportation have identified a range of systemic disadvantages to be addressed—for example, identifying not only communities facing high poverty or sustained economic distress but also those facing more subtle inequities, such as disproportionately long and burdensome transportation challenges or high vulnerability to climate shocks or pollution. Similarly, the Environmental Protection Agency’s implementation of the Justice40 commitments have informed a wide array of its programming, from Superfund site remediation to lead risk reduction.

These early efforts represent a good start. As the president’s executive orders on advancing equity make explicit, agencies are tasked with developing data collection methods and long-term policy strategies that are attentive to the ways in which different communities face barriers to opportunity and cumulative disadvantages. As IRA and BIL implementation continues, policymakers should be attentive to what kinds of outcome benchmarks might be ambitious and feasible, not just in terms of outputs like transmission lines and new bridges, but in terms of the ripple effects on regions and communities, where such investments can help spark more inclusive, dynamic, and equitable economies. At the same time, agencies will need to help develop metrics and data collection practices to track impacts on particular geographies and communities.

The challenge for these efforts is especially critical. Despite some passing references, the legislation as passed largely shied away from more explicit directives along these lines, leaving it up to the agencies to design programs either more or less equitably. As the first wave of infrastructure projects starts to come online, it will be important to see how equity commitments manifest. The Department of Transportation’s “Reconnecting Communities” program, for example, could be a transformative effort to redress the ways in which infrastructure of the past has physically and geographically segregated communities and imposed literal barriers to economic opportunity and inclusion. Similarly, as energy investments get off the ground, there will be huge opportunity to make real commitments to environmental justice.

PRIORITIZING UPSTREAM COMMUNITY AND STAKEHOLDER ENGAGEMENT

Second, in designing these funding programs, agencies should pilot new approaches to civic engagement and help facilitate ongoing engagement between communities, government, and firms. The executive orders on equity include a particular charge for agencies to invest in proactive, early engagement with communities to help inform policymaking. This is particularly true and essential when it comes to industrial policy.



Department of the Interior Secretary Deb Haaland delivers opening remarks at the 2022 White House Tribal Nations Summit at the Department of the Interior on November 30, 2022, in Washington, DC. (Photo by Pete Marovich/Getty Images)

Early and inclusive engagement with affected communities will be crucial, whether in the context of physical infrastructure investments in roads, bridges, or water systems, or in the context of investment in new manufacturing capabilities.

However since many of these funding programs take place outside of notice-and-comment rulemaking, much of the process and protocol for such consultation is underdeveloped. This presents the administration with an invaluable opportunity to pilot new approaches to civic engagement. From participatory budgeting to civic juries, there are a host of participatory and inclusive planning processes that have been extensively piloted in states and localities in the US and across the world, including on seemingly complex and high-stakes issues like land use and infrastructure planning, or attempts to engage workers and community members around new investments in neighborhoods or firms in the region. These experiments provide useful lessons that could inform how federal agencies might engage with stakeholders in a structured, meaningful process that can shape the design of these investment programs without unduly slowing down the process of awarding grants.

In engaging stakeholders, agencies should keep several critical design choices in mind when it comes to the design of the engagement process itself.

First, it is important to engage at the right scale. It can be easy to think of the range of affected stakeholders as only those in the immediate vicinity of a physical investment in a neighborhood or those most directly connected to the investment in a particular firm or manufacturing site. But wider engagement will be important, particularly given the aspirations for these investments to have broader regional and sectoral impacts. Concretely, this might mean seeking out platforms and building processes that gather input at the regional or sectoral level, as Jones suggests earlier.

Second, it is important that such engagement also come with real hooks and levers for communities to buy in and stay involved in the implementation of these projects in ways that provide meaningful opportunities to help shape the outcomes for the better. This means, for example, finding ways to engage communities on a sustained basis, translating some of the inputs into explicit benchmarks and tracking progress to outcomes transparently, and engaging stakeholders early enough in the process to help inform design choices.

At a moment when our broader system of electoral and legislative democracy faces severe threats and tests, a key piece of building a new and more inclusive democratic process is embedding democracy and participation in the process of implementing large-scale and high-impact initiatives. In part, this is essential because the administrative and bureaucratic implementation of such large efforts ought to engage impacted communities and stakeholders in a meaningful and productive way. But it is also an essential part of the administration's own commitment to shoring up democratic institutions and norms by showing concretely and tangibly that democracy can and should deliver for communities on the ground.



Photo by SDI Productions/Getty Images

BUILDING CAPACITY AND DEEPENING A COMMUNITY OF PRACTICE

Third, to operationalize all of this, both government and civil society actors will need to continue to invest in new capacity building and in developing personnel, practices, and know-how over time to make this approach to industrial policy a lasting one. This will require not just building capacity within agencies and organizations but also creating a larger, robust community of practice in which civil society organizations, advocates, workers, firms, and policymakers can work collaboratively and effectively.

Agencies will need to develop new practices for incorporating conditions or suggestions in notices of funding opportunities—and developing the data capacities to track progress to outcomes, in ways that also track impacts on underserved communities. Similarly, agencies will need to invest in the personnel and skill sets needed to both do this kind of program design and analysis and also to do meaningful and effective stakeholder engagement—which is itself a high-skill, highly complex task. Similarly, the Executive Office of the President, which has set up critical hub offices to coordinate the implementation of ARP, IRA, CHIPS, and BIL, will need to continue investing in new practices of coordination within the executive branch and with external stakeholders. At the same time, civil society actors will need to boost their capacity: Grassroots community groups need to be able to organize their communities effectively to engage with policymakers, and researchers at universities and think tanks and in state and local communities need to be able to collect data and help monitor outcomes.

This is also a charge for philanthropy: As funders seek to mobilize resources to help implement these policies and make the possibilities for transformative impact real, it will be essential that they invest in the broader infrastructure of civil society. Implementation of industrial policy and infrastructure investments is not only about creating new transmission lines, energy production, roads, or water systems—though these are of course key outcomes. It is also, more broadly, about creating the kind of governing capacity—in government, in civil society, and in the productive and sustained engagement between the two—that is needed to transform our political economy, and to do so inclusively and equitably.



President Joe Biden signs executive order on “promoting competition in the American economy” as (L-R) Secretary of Transportation Pete Buttigieg, FTC Chair Lina Khan, and Secretary of Health and Human Services Xavier Becerra look on during an event at the State Dining Room of the White House on July 9, 2021. (Photo by Alex Wong/Getty Images)

INDUSTRIAL POLICY

+

COMPETITION POLICY

By Tim Wu

Tim Wu is a professor at Columbia Law School, where he focuses on antitrust, with a particular focus on the growing power of the big tech platforms. From 2021 to 2023, he served in the White House National Economic Council, where he worked on tech and competition policy. Wu has also worked in the Obama administration, the Federal Trade Commission, and the New York Attorney General's Office. He received his JD from Harvard Law School and his bachelor of science from McGill University.

If industrial policy is understood broadly—as more than just throwing money at national champions or favored industries—it becomes obvious that both competition policy and controlling the structure of economic power form an integral part of American industrial policy. They are the levers that serve to either decentralize economic power (or fail to do so), and play a role in preventing any class or region of the country from becoming dominant over the rest, in such a manner as to threaten democracy and lead to unrest.

For the Biden administration, the twin goals of preserving democracy and rebalancing and rebuilding the economy “from the bottom up” made competition policy a natural fit, one of the “pillars” of the administration’s economic policy. It’s why Biden’s Executive Order on Competition of July 9, 2021—which declared an end to a 40-year experiment with weak competition policy—came so early on, and has had such an impact.

It is important to understand why and how competition policy and influence of economic structure form part of industrial policy. Here is a clear example from the tech industries and

Both competition policy and controlling the structure of economic power form an integral part of American industrial policy. They are the levers that serve to either decentralize economic power (or fail to do so), and play a role in preventing any class or region of the country from becoming dominant over the rest, in such a manner as to threaten democracy and lead to unrest.



the 1970s, when the United States faced a significant technology and economic rival in Japan. At the beginning of that decade, the United States high-tech industries were dominated by two monopolies—AT&T and IBM. Power and wealth were concentrated in those two firms, which were also important exporters and partners in national security.

Over the course of US history, it had been the industrial policy to support these firms for a number of reasons, including social goals, like universal telephony, the subsidization of computing research, and also national security goals (AT&T, for example, oversaw some of the nation’s nuclear laboratories). But in the 1970s and 1980s, the government pursued a different policy: trying to break these companies up, in an effort to decentralize economic power in the industries. The government’s efforts had significant effects on the companies and the underlying industries—AT&T was broken into eight pieces, and IBM was forced to allow software to become a separate industry, and create room for companies like Apple in the personal computing industry.

In the next two decades, the US telecom, internet, and computing industries boomed—spurred, in part, by the opening of the markets dominated by AT&T and IBM, and also by another key industrial policy: government funding of the development of the Internet. It is clear, in retrospect, that pursuing these antitrust cases represented an important form of industrial policy. Yes, the United States had helped build up AT&T and IBM—but once they got too big, and too dominant, it helped weaken and ultimately unseat them and make room for new growth and the opening of markets, including markets that had not previously existed.

The Biden administration has embraced this form of industrial policy through competition policy in many industries and markets. The Justice Department and Federal Trade Commission (FTC) have brought or fortified cases against major tech platforms, specifically Facebook and Google, and in that respect have followed the AT&T/IBM/Microsoft approach to stirring up the tech industries. Through agency rulemaking coming out of the Executive Order on Competition, the administration has directly helped open up markets for hearing aids, electric vehicle charging, 5G routers, consumer broadband, and many others. And it has influenced the structure of the

Photo by Hispanolistic/Getty Images

economy through the merger policies of appointees like Lina Khan at the FTC and Jonathan Kanter at the Department of Justice, who have changed the baseline of what mergers will be challenged as anticompetitive.

These policies have been undertaken with an eye on the known risks that gross inequality and unaccountable private power pose for a democracy. Louis Brandeis once said that “we can have democracy in this country, or we can have great wealth concentrated in the hands of a few, but we can’t have both.”⁸¹ Many countries have seen the rise of strongmen in reaction to economic grievance. President Biden, who announced his candidacy in the wake of the Charlottesville protests, has repeatedly made it clear that he believes that fashioning an economy that works for the whole country is key to democracy’s survival and success. And in this sense, the Biden administration has returned to an important American tradition, dating to our country’s founding. As Noah Webster wrote in 1790: “an equality of property is the very *soul of a republic*—While this continues, the people will inevitably possess both *power* and *freedom*; when this is lost, power departs, liberty expires, and a commonwealth will inevitably assume some other form.”⁸²

81 Irving Dilliard, ed. *Mr. Justice Brandeis, Great American: Press Opinion and Public Appraisal*, (Modern View Press, 1941): 42.

82 Noah Webster, *An Examination Into the Leading Principles of the Federal Constitution Proposed by the Late Convention Held at Philadelphia: With Answers to the Principal Objections that Have Been Raised Against the System*, (Prichard & Hall, in Market Street the second door above Lætitia Court, 1787).



FTC Chair Lina Khan listens as President Joe Biden delivers remarks on the economy in the Eisenhower Executive Office Building on October 26, 2022, in Washington, DC. Biden outlined his plan to target and end bank junk fees. (Photo by Anna Moneymaker/ Getty Images)

FOR MORE OF ROOSEVELT'S INDUSTRIAL POLICY RESEARCH AND PROGRESSIVE IDEAS, READ:

[“PROGRESSIVE PREEMPTION: HOW THE DEFENSE PRODUCTION ACT CAN OVERRIDE CORPORATE EXTRACTION, BOOST WORKER POWER, AND EXPEDITE THE CLEAN ENERGY TRANSITION”](#)

by Joel Dodge, Joel Michaels, Lenore Palladino, and Todd N. Tucker

[“SEVEN WAYS THE EXECUTIVE BRANCH CAN TURBOCHARGE GREEN INDUSTRIAL POLICY”](#)

by Arnab Datta, Ashley George, Joel Michaels, and Todd N. Tucker

[“THE NEED FOR CORPORATE GUARDRAILS IN US INDUSTRIAL POLICY”](#)

by Lenore Palladino and Isabel Estevez

[“A GREEN STEEL DEAL: TOWARD PRO-JOBS, PRO-CLIMATE TRANSATLANTIC COOPERATION ON CARBON BORDER MEASURES”](#)

by Todd N. Tucker and Timothy Meyer

[THE EMERGING WORLDVIEW: HOW NEW PROGRESSIVISM IS MOVING BEYOND NEOLIBERALISM](#)

by Felicia Wong

[INDUSTRIAL POLICY AND PLANNING: WHAT IT IS AND HOW TO DO IT BETTER](#)

by Todd N. Tucker



[ROOSEVELTINSTITUTE.ORG](https://www.rooseveltinstitute.org)