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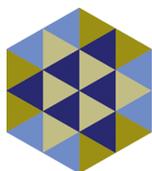
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THE POLITICAL ECONOMY OF US GREEN INDUSTRIAL PLANNING BUILDING STATE CAPACITY FOR DEEP DECARBONIZATION

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Summary

- > **(Green) Industrial planning has emerged as a strategic priority in key nodes of the US government. Most striking is the recent invocation of the Defense Production Act (DPA) for clean energy. This new context provides opportunities to institutionalize key capacities and deliver deep carbonization.**
- > Decarbonization at pace and scale necessitates state-led macroeconomic planning. The state role can include undertaking critical public projects, steering and coordinating private investment, and managing macroeconomic conditions. The Biden administration's deployment of the DPA indicates its growing openness to state intervention.
- > In the US the Executive has sought to make robust interventions to support green production to deliver climate, macroeconomic, and geopolitical aims within the limits of its institutional and political-economic powers.
- > Meanwhile, bipartisan Congressional interest in general industrial planning capacities is growing. Decisive Congressional votes likely will not support explicitly green directed or mandated developments. However, they may support institutions and tools that can be deployed towards decarbonization.
- > **This briefing outlines the opportunities this moment provides to embed deep decarbonization, as well as the risks. It concludes with recommendations for three priority capacities to build: public financing and asset management; supply chain and productive capacity monitoring; and formalized sectoral investment targeting and coordination.**



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Introduction

In early June 2022, the Biden administration invoked the Defense Production Act (DPA) to drive the domestic production of critical clean energy supply and energy demand reduction inputs. The DPA gives the Executive wartime or emergency economic planning powers. Its invocation is the most muscular use of Executive powers since its Korean War provenance. It is also the most striking articulation by the US government to date that clean electricity supply – and the various production projects and networks needed to deliver it – are within its mandate to deliver.

Decarbonization at pace and scale necessitates state-led macroeconomic planning. The state role can include undertaking critical public projects; steering and coordinating private investment; and managing macroeconomic conditions. The US historically wielded robust economic planning capacities, which have waxed and waned with changes to political economy over time. We are currently in a waxing period. Political projects are emerging to rebuild capacities (in modern and green forms) that have been institutionally and politically eroded since the 1970s. The DPA is one of the executive’s most vital economic planning tools, deployable without congressional approval (save for funding constraints), and without threat of judicial curtailment.

The Biden administration’s robust deployment of the DPA signifies its growing openness to state intervention – broadly, into private production for public benefit, and specifically, in support of decarbonization and energy resilience. Yet, use of the DPA also highlights the current limits of political acceptability (at least for green undertakings). This move came as federal clean energy investments was still stalled in the context of a fragile Democratic congressional majority, and as the Supreme Court was poised to curtail executive authority to govern emissions.

The administration’s resort to wartime or emergency economic planning powers for “green” production also suggests that US industrial planning institutions and tools lack an ability to act. More autonomous tools and institutions would better facilitate deep (green) industrial reorganization and capacity expansion.

The invocation of the DPA demonstrates that the politics of building further industrial planning institutions and tools are fragile. However, further action may be achievable. The executive is taking action to develop a green industrial base, though limited politically and institutionally – chiefly by funding constraints. At the same time, there is interest in Congress in developing an industrial base. While this is somewhat divorced from the decarbonization objective, it could



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provide the necessary funding and tools to put towards decarbonization in practice.

The return of US industrial strategy

Industrial planning has historically been a driving force of US economic development. It underpinned economic transformations from early industrialization under Alexander Hamilton’s national bank to the New Deal and wartime mobilizations. These programmes and institutions were of course shaped by their political and economic contexts, and had complicated social impacts. In the process, state institutions and tools have been built and eroded in waves as political and economic currents changed.

In the 1980s, the ascendancy of neoliberal policy norms¹ eroded New Deal and post-WWII era institutional arrangements and deployable tools. Industrial policy did not disappear – indeed key renewable energy technologies were developed through US innovation policy – but it became less robust and more ad hoc.³

The Trump administration deployed emergency planning powers such as the DPA in response to the COVID-19 health and economic crises, to support the development and deployment of medical supplies and vaccines. Now, both the Executive and the Legislature are moving to deploy and develop industrial planning capacities.

President Biden’s administration made developing a ‘twenty-first century American industrial strategy’ a top priority from its outset. Mitigating and building resilience to climate change was identified as a central component.⁴ Supply chain resilience and building domestic green manufacturing capacity have formed the cornerstone of the push on climate.

Key actions from the Biden administration

In early June, the Biden administration invoked the Defense Production Act (DPA) to drive the domestic production of critical clean energy supply and energy demand reduction inputs. The DPA in its current form bestows the Executive with several powers. Firstly, to unilaterally direct the prioritization of

¹ Definitions of ‘neoliberalism’ and ‘the neoliberal period’ abound. Of most salience here are the projects of restructuring state and market relations such that the state’s economic capacities were curtailed.

³ See Roosevelt Institute, August 2021, **Industrial Policy and Planning: A New (Old) Approach to Policymaking for a New Era.**

⁴ See speech by National Economic Director Brian Deese, “**Biden’s vision for ‘a twenty-first-century American industrial strategy’.**”



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private production orders. Secondly, to “allocate materials, services, and facilities,” which includes installing capital equipment and preventing hoarding. Finally, to coordinate among producers against potential antitrust violations. The DPA also gives the Executive power to provide loans or loan guarantees to private and government corporations to bolster production. However, this power is subject to congressional funding allocations, which are currently strained due to frequent use without replenishment in recent years.

Biden’s invocation of the DPA includes: “Solar panel parts like photovoltaic modules and module components; Building insulation; Heat pumps, which heat and cool buildings super efficiently; Equipment for making and using clean electricity-generated fuels, including electrolyzers, fuel cells, and related platinum group metals; and Critical power grid infrastructure like transformers.”⁵ In tandem, Biden announced heightened federal procurement powers to stimulate demand for domestic manufacturing.

This move is the most striking articulation by the US state that clean electricity supply, and production projects and networks needed to deliver it, are its prerogative to ensure. It also is the first time a G7 state has declared the supply of inputs for energy demand reduction like heat pumps to be a national security imperative.

Securing critical minerals: Biden also invoked the Defense Production Act in March 2022 “to secure American production of critical materials to bolster our clean energy economy.”⁶ This order centered on critical minerals production.

Supply chain review: Shortly after Biden’s inauguration, his administration issued Executive Order 14017, which established a Supply Chain Disruptions Task Force. It directed seven Cabinet agencies to publish reports identifying key weaknesses in critical supply chains and industrial bases (a broad concept) and to devise multi-year strategies to address those weaknesses. In February of this year, the review provided clear insight into the investment needed to grow green manufacturing capacities.

⁵ White House, June 2022, [President Biden Takes Bold Executive Action to Spur Domestic Clean Energy Manufacturing](#).

⁶ White House, June 2022, [Presidential Determination No. 2022-11](#)



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Industrial decarbonization strategy: Unveiled earlier in 2022, the administration’s industrial decarbonization strategy⁷ employs many classic industrial policy tools – procurement in particular – to drive decarbonization for the sector responsible for one-third of US emissions. The strategy rests on:

- > Building regional clean hydrogen hubs.
- > The establishment of a White House “Buy Clean Task Force.”
- > “Advancing carbon-based trade policies to reward American manufacturers of clean steel and aluminum.”⁸
- > Establishing industrial carbon capture guidelines.
- > Launching industrial decarbonization research and indicative planning initiatives.

It is notable that the Biden industrial decarbonisation strategy includes the use of green demand and supply management to induce investment along needed green supply chains, in order to stoke feedback loops. The strategy thus represents a significant development in domestic and global green political economy. Similarly, the Biden administration has, in partnership with Senator Joe Manchin, deployed investments to build green supply chains as a regional and coal-community development strategy.⁹

In practical terms, these invocations of the DPA are insufficient to catalyse or maintain a robust industrial base that will support expanded green energy and energy demand reduction, with the solar energy industry a particular case in point. Public funding and public undertakings will be necessary.¹⁰ This diagnosis also applies to broader supply chain greening and resilience-building, as well as to industrial decarbonization.

These state moves constitute politically significant intervention into private production in support of decarbonization and energy resilience. They brush up against the current limits of Executive authority and political–economic power in order to support green manufacturing without legislation and funding. In so

⁷ White House, February 2022, **Fact Sheet: Biden-Harris Administration Advances Cleaner Industrial Sector to Reduce Emissions and Reinvigorate American Manufacturing**

⁸ White House, February 2022, **Fact Sheet: Biden-Harris Administration Advances Cleaner Industrial Sector to Reduce Emissions and Reinvigorate American Manufacturing**

⁹ See Bloomberg UK, March 2022, **U.S. Unveils Battery Strategy in West Virginia to Ease Coal Loss**

¹⁰ Public investment can take many forms, even within the category of “direct public investment.” Here, we refer to “public undertakings” to differentiate between public funding of private activities and publicly undertaken projects or economic activities.



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doing, they highlight the absence of robust and deployable state industrial planning capacities beyond ad hoc legislation and funding rounds.

Despite the Congressional squeeze on federal climate policy and green industrial policy—not fully overcome with the recently announced Inflation Reduction Act proposal— bipartisan efforts have emerged in both the House and the Senate to institutionalize robust – at least relative to the status quo – industrial planning capacities. Those capacities could be deployable towards decarbonization by the executive or new independent bodies.

Key Congressional developments

Draft industrial planning bills: The US House and Senate have both passed significant draft industrial planning bills – now being negotiated across drafts – focused on supply chain resilience and US semiconductor manufacturing. The House of Representatives bill is the stronger of the two. It would invest \$45 billion in supply chain resilience and US semiconductor manufacturing, with significant climate implications. It would have the US Department of Commerce create a supply chain oversight body with a fund to flexibly finance critical investments, including through taking equity. Equity stakes are significant as they are among the most robust tools to steer and “de-risk” private investment, self-finance public investments, and potentially retire fossil energy assets. More broadly, the oversight body would constitute a weak macroeconomic planning board, able to monitor supply chains and productive capacity. Flexible funding would allow it to both get ahead of bottlenecks and invest directly in production.

Proposed financing institutions: Moderate Democratic Senators¹¹ have brought forward a proposal to create an “Industrial Finance Corporation” (IFC). This would be a government-owned corporation, to support: ¹²

- > Resilient supply chains in critical industries.
- > US manufacturing and the resulting economic development and good jobs.
- > On-shore commercialization of advanced technologies.
- > Small- and medium-sized manufacturers, especially those with low access to capital.

¹¹ Senators Chris Coons, Amy Klobuchar, Chris Van Hollen, Raphael Warnock, Gary Peters, Michael Bennet, and Mark Warner.

¹² From the **Industrial Finance Corporation Act of 2021**



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- > Industries vulnerable to systematic underinvestment and unfair industrial policies.

The IFC would “leverage \$50 billion in capital to generate hundreds of billions of dollars of additional financing by working with private capital partners. It will have the authority to issue and guarantee loans, purchase equity stakes, issue bonds, acquire assets, create investment facilities and enterprise funds, and securitize its investments.”¹³

The proposal for the IFC to have the power to purchase equity stakes and assets is quite significant. It signifies moderate political support for (limited) state ownership for industrial planning ends. Such powers could be deployed for critical decarbonization projects, such as retiring fossil assets and other public undertakings. Although proposals have emerged for public banks, financing accelerators, and public asset management institutions centering climate and social equality considerations, the IFC proposal appears most politically viable at the present juncture. Its political framing centers on strategic sector and technological development, implying a geopolitical salience.

In both of these Congressional developments, the decarbonization imperative does not explicitly drive either institutional design or political posturing. But, if implemented, both would create substantial industrial planning powers for the state that could be deployed towards decarbonization. Notably, the potential supply chain oversight body would sit within the Department of Commerce, which is an Executive body. Likewise, current proposals for the IFC enshrine its independence – which would give it significant flexibility.

Opportunities and risks

In the tension between Executive and Legislative developments, we see an open but fragile political opportunity to institutionalise key capacities to deliver deep decarbonization.

Opportunities

- > **Deployable capacities for decarbonization:** Forthcoming industrial policy and supply chain legislation will likely lack a climate mandate. However, they may produce institutions, processes, and tools that could be deployed towards

¹³ From the **Industrial Finance Corporation Act of 2021**



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decarbonization efforts. **Passage of a robust congressional industrial policy with the supply chain oversight body in place will be critical.**

- > **Deepening green political economy inertia:** Short-term efforts to build real economy productive capacity and supply chains for deep decarbonization will mitigate against later political economy snags, such as the potential of a rapid and large-scale increase in demand for green inputs to cause inflation. Investment in green supply chains and domestic manufacturing capacity will also create political economy inertia: new constituencies with material interests tied to further demand for green inputs. Similarly, there is potential to build broad support for green industrial policy as an energy resilience guarantee.
- > **International implications:** Projects of state developmentalism should not preclude diplomacy, solidarity, and mutual economic cooperation. Efforts to build new supply chains and industrial bases will inevitably entail building trade relationships and foreign investment. This could be a lever for green economic coordination. Moreover, procurement for global distribution of green technology could become a key demand management tool.

Risks

- > **Geopolitical tensions:** The US and other G7 countries are increasingly turning to supply chain resilience and industrial policy. The emerging approach combines elements of competition with China and other industrial powers and uses the rhetoric of “friend-shoring”. This fresh articulation of globalization and industrial policy is rooted in shared values and resilience, rather than prioritising lowering costs to compete in the global economy.¹⁴ However with a dynamic of competition, collaborative US climate diplomacy with China is at stake. Furthermore, invoking heightened geopolitical tensions with China to support industrial planning at home risks stoking social tensions and the emergence of a highly militarized (as opposed to democratically accountable) arsenal of industrial planning powers.
- > **Slow momentum:** As with many aspects of climate action, developments in this domain must be measured against both the status quo ante and the speed and scale of the decarbonization imperative. Scientific advice supports action that goes further and faster than current political momentum allows.

¹⁴ Bloomberg, June 2021, ‘Onshoring’ Is So Last Year. The New Lingo Is ‘Friend-Shoring’.



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Policy recommendations

Political efforts to develop (green) industrial planning capacities will likely continue to develop in the coming period. To conclude this briefing, we present priority capacities for policymakers and policy thinkers to consider. Some of these are already under development in proposals and actions discussed above.

- > **Public financing and asset management:** Although, the recently announced Inflation Reduction Act would, if passed, create a \$27 billion Clean Energy Accelerator fund, which would be for all intents and purposes a lowly capitalized federal green bank, the US currently lacks a robust public financing institution, such as a national development bank. This leaves industrial support limited to ad hoc legislative funding, as opposed to flexible, robust, and proactive financing. Moreover, it will be critical that the state can purchase equity and manage assets in order to steer private capital expenditure and to mobilize private debt markets to finance public and private investment. Although the IFC proposal combines a development bank with quasi-public asset management capacities, those functions need not be bound to each other. Nor should passage of such an institution preclude the development of other productive public assets or financing vehicles.
- > **Supply chain and productive capacity monitoring:** The Biden administration mandated a supply chain review which centred green industrial bases. The legislature is poised to develop a supply chain monitoring body. However, there needs to be greater transparency and robust resourcing, supported through global economic cooperation and coordination, to ensure monitoring is comprehensive.
- > **Formalized sectoral investment targeting and coordination:** Although the Executive faces institutional limits to its planning powers, one key domain to develop is indicative planning. By setting sectoral investment targets and coordinating producers and investors, the Executive can both influence private capital expenditure and inform industrial planning decisions made by other actors.



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About E3G

E3G is an independent climate change think tank with a global outlook. We work on the frontier of the climate landscape, tackling the barriers and advancing the solutions to a safe climate. Our goal is to translate climate politics, economics and policies into action.

E3G builds broad-based coalitions to deliver a safe climate, working closely with like-minded partners in government, politics, civil society, science, the media, public interest foundations and elsewhere to leverage change.

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