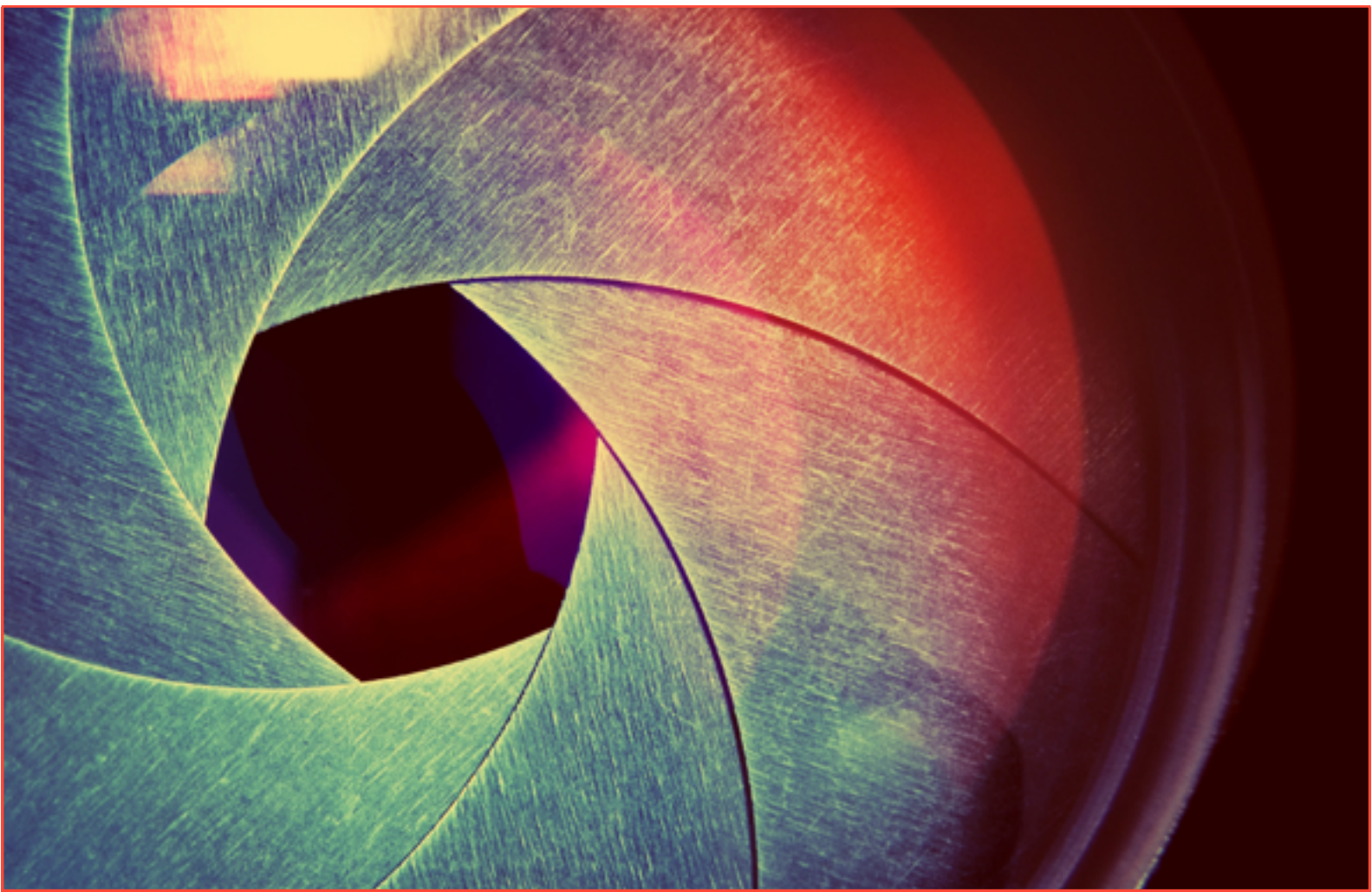




U.S. INDUSTRIAL POLICY NEEDS TO FOCUS ON MARKET FORMATION



**BY
ALEX
KIZER**



**&
KATELYN
O'DELL DEAN**

Alex Kizer is Executive Vice President at the EFI Foundation (<https://efifoundation.org/team/alex-kizer/>) and Dr. Katelyn O'Dell Dean is a Senior Research Lead at the EFI Foundation (<https://efifoundation.org/team/katelyn-dean/>).

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As countries around the world rush to encourage greater investment and growth in their domestic AI industries, we argue that unless governments develop industrial policy strategies centered on strengthening democratic economic governance, they risk consolidating corporate control of critical technologies in ways that threaten key democratic and societal objectives. In this paper, we (1) define democratic economic governance and the ways it can be integrated into governments' industrial policy strategies, (2) review the ways that democratic objectives have, or have not, been included in past tech industrial strategies; (3) look at governments' emerging AI industrial strategies and the threats they pose to democratic and societal objectives, and (4) discuss what an AI industrial policy strategy centered on democratic economic governance would look like and achieve.

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U.S. manufacturing was a major driver of domestic and global economic growth for much of the 20th century. In recent decades, however, U.S. manufacturing has seen a steady decline as a share of the country's GDP and as a leading employer.

The structural economic shift away from manufacturing toward service sectors has long-term consequences on the security and resilience of critical U.S. supply chains. For example, the raw materials and fabrication processes of many energy technologies, weapons systems, advanced electronics, and infrastructure mostly come from abroad. In some cases, these imports come from long-term trade allies, yet in others they come from regions with less geopolitical stability. How should the United States balance the benefits of globalization and offshoring of domestic manufacturing with the significant risk to supply chain resilience, especially in strategic sectors?

Industrial policy, where governments aim to seed and shape strategically important parts of the economy, has been leveraged sparingly in the energy sector to bolster domestic supply and maintain affordable, reliable sources of energy. For example, the shale gas boom of the early 2000s was achievable, in part, thanks to sustained federal government funding for R&D and tax incentives that increased the value of new domestic oil and gas projects in the 2000s. Energy sector transitions, like the shale gas boom, require federal support for both technological advancements and favorable market dynamics. In another example, solar photovoltaics ("PV"), the U.S. federal government seeded solar PV since the 1970s and decades later leveraged federal tax credits for projects that generate electricity from renewables, including solar. Concurrently, state governments passed policy mandates for utilities to purchase renewable energy, activating market liftoff.

Without targeted government investments in strategic energy areas, the United States risks 1) losing market share of critical technologies to other countries, 2) missing the opportunity to develop the next generations of transformational energy innovations, and 3) being overly dependent on unstable supply chains that jeopardize national security and economic interests.

For the last decade, the Trump and Biden administrations have sought to address these concerns using industrial policy strategies. These two approaches to modern U.S. industrial policy have distinct motivating factors and relied on different tools to intervene and shape commercial outcomes in the energy sector:

- The Biden administration focused on supply-side interventions executed through traditional policy tools (e.g. production tax credits and cooperative agreements contracts to modernize production facilities), while leveraging historic levels of funding across federal agencies to build and strengthen strategic markets.

- In contrast, the Trump administration has focused on a transactional approach to industrial policy, focused on shaping markets with non-traditional funding tools for the U.S. government (e.g. taking equity stakes in companies in strategic sectors and high tariffs), while spending very little in terms of direct federal outlays.

One early lesson learned from these approaches: building and strengthening domestic markets requires a greater emphasis on demand-side policies, defined as policies that are at least as attractive to buyers as they are to producers. Another early lesson is the U.S. government must leverage more creative, non-traditional funding tools that emphasize speed to market, or else the U.S. government risks doing too little, too late.

For the Biden administration, an over-reliance on traditional, supply-side policies and funding tools created an implementation bottleneck, leaving much of the U.S. government's funding unspent in federal agency accounts, rather than in hands of important market players. While the ultimate impact of the Trump administration's industrial strategy remains to be seen, the current transactional approach that emphasizes producers is unlikely to build new markets beyond heavy government support. For example, in 2025, the Trump administration signed a deal between MP Materials and the U.S. Department of War ("DOW") to bring online a U.S. critical minerals production facility. The deal uses non-traditional tools for the federal government, namely, a price floor mechanism that protects MP Materials from earning below a negotiated price for its products to ensure the supply facility comes online. In this case, DOW can also be an offtaker for the new supply facility. Although novel for the U.S. government, this approach to industrial policy still does very little to create a domestic market for U.S. supply facilities.

For the United States to address the offshoring of critical sectors, a new industrial policy is needed that involves a new emphasis on demand-side support. A successful shift to demand-focused industrial policy will first require a clear identification of strategic sectors and their pain points to direct federal focus, followed by an improved implementation plan with: (1) upgraded public-private partnerships to increase the speed to market of federal dollars and (2) the design of fit-for-purpose demand-side tools. Approaching market impact in this way, as opposed to only through the traditional supply-side approach, has the potential to create durable markets in strategic sectors without breaking the taxpayer-funded bank.

01

KEY INSIGHTS FROM RECENT INDUSTRIAL POLICY STRATEGIES

Figure 1. Defining modern industrial policy strategies in the energy sector.

02

THE BIDEN ADMINISTRATION’S BIG SUPPLY-SIDE PUSH

Under the Biden administration, the federal government undertook the most ambitious industrial policy effort in recent U.S. history. Three landmark funding packages—the Inflation Reduction Act (“IRA”) of 2022, the Infrastructure Investment and Jobs Act (“IIJA”) of 2021, and the CHIPS and Science Act of 2022 —authorized unprecedented funding for clean energy, manufacturing, and science and energy innovation across federal agencies. These laws collectively sought to mobilize billions of federal dollars in an effort to invest in new technologies across the research, development, demonstration, and deployment pipeline.

The strategy underpinning the Biden administration’s industrial policy largely followed traditional policy levers in an effort to incentivize markets. Hallmark levers of Biden’s industrial policy included production tax credits (e.g. the 45V clean hydrogen production tax credit), and funding to modernize industrial production (e.g. the OCED Industrial Demonstrations Program). Combined, these approaches intended to drive down domestic production costs for new, promising technologies in an effort to ultimately attract demand with lower, more competitive prices.

However, the Biden administration’s funding-heavy approach to industrial policy failed to successfully implement its massive budget due to an over-reliance on old tools ill-suited for commercial-scale projects and outcomes. Think: trying to drain a lake using a garden hose. The massive influx of funding and lack of strategic spending mechanisms created a fatal bottleneck. Very few federal dollars made it into the market. For example, the U.S. DOE received \$61B from the BIL, but three years later had outlayed a mere 5 percent. This painfully slow implementation process curtailed the intended pace of funding deployment, leaving many companies uncertain about when, or whether, federal support will materialize.

Moreover, even without these implementation challenges, supply-side only strategies struggle to bridge the gap between product creation and market formation. Without reliable up-front demand from credit-worthy offtakers, even the most promising technologies struggle to reach commercial scale, let alone achieve a sizeable market share. This challenge has left many federally supported emerging technologies in a developmental stalemate unable to finance commercial-scale production projects without guaranteed offtake, yet an inability to lock-in offtake without secure, reliable production plans.

Modern U.S. Industrial Policy Strategies for Energy	Drivers Government role	Policies Funding vehicles	Tools Spending mechanisms
Biden Administration <i>Defined by large funding for new production facilities, often reliant on traditional drivers and tools</i>	Traditional policy levers to incentivize markets Regulatory mandates, large supply-side funding incentives	Large, broad spending packages Apply more general funding across many sectors (e.g., IRA, IIJA, CHIPS + Science)	Traditional contracts and spending approaches (e.g., cooperative agreements, cost shares, grants, loans)
Trump Administration <i>Focusing on reducing regulations for new production, leveraging non-traditional tools with limited spending</i>	Traditional policy levers with little market intervention Deregulation, reduced targeted incentives, tax cuts, tariffs	Little federal spending. Reducing agency budgets and, in some cases, halting spending of new and existing funds	Non-traditional, transactional approaches (e.g., equity stakes, producer price protections)
Market Formation <i>Leverages public-private partnerships in strategic sectors to target funding to offtakers with new tools</i>	Non-traditional levers for creating markets Identify strategic sectors, scale public-private partnerships to help build offtakers for new markets	Large, targeted federal spending Use existing funding in targeted ways to help industry overcome specific pain points	Non-traditional, commercial-oriented contracts and award types (e.g., pay for performance, improved public-private partnerships)

Source: EFI Foundation

03

THE TRUMP ADMINISTRATION'S DEREGULATION APPROACH

In early 2025, the Trump administration's U.S. industrial policy quickly emerged as a “command-and-control” approach with a flurry of executive orders to provide non-monetary support for domestic markets in the energy and industrial sectors. Among these orders were directions to federal agencies to review and roll back regulations “burdening” domestic energy development and declaring a national energy emergency to allow emergency approvals of energy projects and expedited delivery of energy infrastructure. Notably, a significant focus of the Trump administration's industrial policies thus far has centered on clean energy sectors, including nuclear power generation, the electrical grid, and critical minerals.

In a strong pivot from the heavily funded Biden industrial strategy, the current Trump administration's industrial policy seeks to grow strategic sectors of the market with minimal spending and nontraditional contractual tools, focusing on reducing regulatory burdens like project permitting and market structures. Though use of non-traditional tools and transactional approaches, the Trump administration has attempted to achieve more rapid results in favored sectors. For example, the Reactor Pilot Program plans to leverage DOE's other transactions authority to enable advanced nuclear reaction demonstrations to build outside national laboratories in an effort to accelerate commercialization by making it easier to build projects.

The Trump administration has also expanded the federal government's role in industrial policy by taking equity stakes in nine companies in sectors ranging from critical minerals, nuclear, chips, and steel sectors. Lithium Americas (LA) renegotiated its \$2.26 billion federal loan from DOE to construct the Thacker Pass lithium project in exchange for a 5 percent equity stake in LA and a 5 percent equity stake in the project joint-venture. Vulcan Elements plans to build a new magnet production facility, supported by a \$620 million loan from DOW and a \$50 million equity investment. Another example: DOW invested \$35.6 million in Trilogy Metals to advance the Upper Kobuk Minerals project in Alaska that includes a 10 percent equity stake in Trilogy Metals.

These non-traditional federal investments predominately address the supply-side, enabling new production facilities to come online. They do not, however, incentivize a domestic market for the output from these facilities.

These moves raise serious questions about how creating “national champion” companies impact market competition. Making the federal government a strategic investor in commercial projects places taxpayers as an interested party in upside and downside risk of these companies and sectors. It is currently unclear how these actions may ultimately impact taxpayers and the future of Trump's industrial policy. Despite an expanded role and innovative toolkit, the Trump administration's minimal spending approach to industrial policy still centers around producers, lacking a clear pathway for new markets to persist without long-term government intervention.

04

A NEW INDUSTRIAL STRATEGY FOR MARKET FORMATION

Recent years have shown that an industrial strategy driven largely by supply-side levers is insufficient to build durable markets. A new industrial strategy, driven by an increased focus on demand-side support in strategic sectors, is required to scale domestic markets and maintain industrial competitiveness.

In an industrial strategy with increased demand-side pull, the U.S. government's role need-not drastically expand, but rather shift in focus towards the demand side of market formation. Increasing demand-side pull through strategic government action supports both suppliers and offtakers. Government-backed, bankable demand signals reduce commercial risk for emerging technologies, enabling suppliers to raise sufficient, affordable capital to build commercial-scale facilities and increase domestic production. Demand-side support tools can also empower offtakers' transition into emerging markets by strategically incentivizing purchases while markets scale.

Expanding the use of demand-side drivers is central to building out America's industrial policy toolkit, and many such tools have demonstrated significant success in energy and other sectors. For example, advance market commitments for Covid-19 vaccines succeeded in bringing vaccines to market in record time. NASA's “pay-for-outcomes” model of contracting with private spaceflight companies led to a 90 percent reduction in the cost of delivering material to orbit and launched a new industry. In another example, while the United States invested heavily in solar and wind R&D since the 1970s, which was critical for reducing the

costs of the underlying technology, the renewable portfolio standards — a demand-side tool — activated market penetration.

A successful demand-side driven industrial strategy for the energy sector will require (1) upgrading public-private partnerships to foster faster speed to market and (2) designing demand-side support tools to be fit-for-purpose in strategic sectors.

First, successful implementation of demand-driven industrial policy requires an increased amount and pace of federal spending in strategic sectors. Federal funding in targeted sectors can activate significant private sector investment, as illustrated by the increase in private-sector clean energy investments following the passage of the BIL, IRA, and Chips and Science Act. However, much of the federal funding associated with these industrial policy packages is still waiting to be spent. For the government to hold up its end of the clean energy investment bargain, this federal funding must be spent strategically and at an accelerated rate.

A strategic, accelerated rate of federal spending can only be achieved by leveraging new commercial oriented implementation tools. Traditional cooperative agreements and cost-share models are often slow and administratively complex when applied to commercial-scale projects. Moreover, a demand-focused industrial policy will require new federal implementation tools that are more agile and aligned with market dynamics. In many cases, the government has existing authority to execute these tools.

Other transactions authority allows DOE and several other federal agencies to use nontraditional funding structures for public-private partnerships outside of grants and cooperative agreements. In fact, the Trump administration used other transactions to structure non-monetary awards allowing nuclear reactor demonstration projects to build on federal land. With other transactions authority, for example, federal dollars could be spent through pay-for-performance mechanisms where private sector partners are only paid once certain goals are achieved. This strategy increases the speed-to-market of federal dollars by reducing timely paperwork and award processes, while still protecting taxpayer dollars through only making payments once set goals are achieved.

Second, a demand-driven industrial policy requires innovative policy tools that are just as attractive to offtakers as they are to producers. There is no one-size-fits-all option or “silver bullet” for demand-side policy as each commodity faces unique barriers to market formation and finding offtake. Because we have such little experience with demand-side tools in the United States, analysts often begin and end their thinking with advanced market commitments (“AMCs”) or contracts for differences (“CfDs”). There are, in fact, dozens of demand-side strategies that can be tailored to the needs of different technologies, sectors, and mar-

kets. Therefore, it is imperative to develop a demand-side toolkit to ensure there are a range of options based on the specific goals or metrics.

05

INDUSTRIAL STRATEGY IN ACTION: A NUCLEAR SUPPLY CHAIN EXAMPLE

In recent years, there is significant renewed interest in building new nuclear reactors in the United States. This is after decades of decline in building new reactor capacity in the United States, which led to losses in the nuclear labor force, manufacturing capabilities, and fuel fabrication facilities. The federal governments renewed commitment is due in part to the realization that the market alone would not sustain the U.S. nuclear enterprise, which provides strategic value to the economy and its national security.

The Biden Administration leveraged a suite of grants, loans, and tax credits to preserve the existing nuclear fleet and encourage commercialization of next-generation nuclear technologies. Support for the existing nuclear fleet included the BIL's \$6B Civil Nuclear Credit Program, which provided financial credits to nuclear power plants as risk of closure, and a \$1.5B loan guarantee to restart the Palisades Nuclear Plant. To increase domestic nuclear supply, the administration invested over \$3B in commercial demonstrations of advanced reactors. Finally, the administration also invested in the domestic nuclear fuel supply chain with a \$2.7B program to purchase domestic low-enriched uranium (“LEU”) and high-assay LEU after a 15-year ban on fuel from Russia was put in place.

While the Trump administration has continued many of the Biden administration's nuclear support policies, they have also explored using less-traditional, non-monetary support for domestic nuclear infrastructure. DOE has continued loan payments to the Palisades Nuclear Plant, disbursing \$440 million in 2025 alone and finalized an additional loan to restart the Three Mile Island plant in Pennsylvania. In January 2026, the LEU and HALEU program selected three companies to expand domestic supply chain infrastructure. In a less precented move, the Trump Administration issued several executive orders to expedite permitting by the Nuclear Regulatory Commission (“NRC”) and accelerate demonstration projects by building on federal land. Just this month, the NRC approved construction for a new commercial reactor, the first in nearly a decade.

06

CONCLUSION

Both the Trump and Biden administrations used industrial policies to strengthen domestic nuclear supply chains, largely by supporting producers. The Biden approach leveraged large amounts of funding for producers channeled through traditional support tools (e.g. tax credits and loans) while the Trump administration's actions thus far focused on leveraging executive power and non-monetary producer support for rapid near-term gains (e.g. expedited permitting).

Yet, neither approach takes the full market view and targeted action required to achieve lasting changes. They lack strong demand-side action.

Public-private partnerships can be leveraged to design effective demand-side policies for many sectors, including nuclear supply chains, by starting with the major pain points of an industry via quantitative and qualitative analysis, stakeholder surveys, and expert convenings. EFI Foundation (EFIF) developed 12 demand-side tools for American policy makers at the federal, state, and local level (Figure 2). Each is designed to attract buyers to sign long-term offtake agreements with suppliers of products in strategic sectors, effectively solving the supply/demand stalemate. Some may require new funding to implement (e.g. a Joint Offtaker Producer Auction for a specific commodity), while many do not (e.g. setting procurement standards), instead using the government's existing purchasing power to affect the market.

Recent industrial policy strategies in the energy sector make clear that traditional producer-centered incentives and implementation tools are insufficient to build durable markets in strategic sectors. While supply-side incentives can reduce production costs and enable early-stage projects and regulatory reforms can speed project development, neither approach guarantees durable market formation in strategic sectors. If the United States hopes to strengthen domestic manufacturing and develop stable supply chains in strategic sectors from nuclear energy to critical minerals, we must focus industrial policy on market creation.

An industrial strategy for the energy sector that places greater emphasis on demand-side drivers has the potential to transform U.S. industrial policy from project-enabling to market-forming. By developing fit-for-purpose demand-side tools with improved public-private partnerships, a demand-focused industrial strategy can provide targeted federal support that catalyzes the development of strategic markets. Commercial-oriented spending mechanisms ensure timeliness of federal support to accelerate market impacts. Together, a demand-focused and commercially oriented industrial policy can unlock the full potential of federal industrial investments – to build durable markets that anchor America's long-term energy security, industrial competitiveness, and supply chain resilience. ■

Figure 2. EFI Foundation's List of Demand-Side Support Tools

Type	Description	Applications	Advantages
Fixed-price subsidy	Fixed \$/unit of support	Any	Cost certainty for funding
Capex buydown	Support for % of capital costs for end users switching to clean commodity	Any, esp. fuel-switching	Helps fuel-switching projects reach FID
Price ceiling	Price ceilings for offtakers procuring clean commodity; funding limits delta between contracted price and ceiling	Industrial clusters, transport, ports	Supports price discovery, can de-risk multiple small projects
Capacity reservation	Funding supports midstream infrastructure by paying for capacity not yet sold to private offtakers	Power and pipelines, storage, bunkering	Support for shared infrastructure
Offtake backstop	Funding commits to purchasing a set amount of supply or to support if offtake fails through	Any	Financial certainty for supplier
Grant or loan	Direct low-interest loan/loan guarantee or cost-shared grant to offtakers	Any, esp. fuel-switching	Simplicity, familiarity
Carbon price hedge	CfD or other support indexed to regional carbon price to smooth out price shortfalls	Power, biorefining, refining	Support for projects that can leverage other funding
Contract for difference	Subsidy for difference between market and reference price; can include price floor/ceiling	Any	Financial certainty for offtaker
Letters of credit	Funding offers credit guarantees on behalf of projects in order to de-risk and improve bankability	Any	Supports early stages (pre-FID) of project development
Platform development	Creation of digital platforms and marketplaces for buying, selling, and trading clean commodities	Any	Streamlines market access and data exchange
Contract templates	Drafting of contracts, term sheets, or MOUs to serve as a model for industry	Any	Jump-starts market, provides a neutral starting point
Demand aggregation	"Buyers club" creation and program management	Any	Smaller offtake volumes can participate in market

Source: EFI Foundation, Building Demand for Low-Carbon Concrete, March 2026

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