

# Decarbonizing the US Economy: Pathways Toward a Green New Deal



## SAMPLE POLICY: DIRECTING CREDIT TO GREEN BUSINESSES

### INTRODUCTION

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The climate crisis is here. According to the UN Intergovernmental Panel on Climate Change, limiting climate change to 1.5°C—and avoiding some of its most harmful impacts—would require a 45 percent cut in human-caused CO<sub>2</sub> emissions by 2030 and carbon neutrality by mid-century. We argue that decarbonizing at this rapid pace is not only possible, but that it will improve our economic outlook, create jobs, and promote equity. Such an endeavor, however, necessitates immediate action and a broad range of policy tools. In *Decarbonizing the US Economy: Pathways Toward a Green New Deal*, we outline the three pillars of such an approach: 1) carbon pricing that promotes an equitable transition while meeting our emissions goals; 2) comprehensive regulations to redirect private spending and to ensure climate targets are met; and 3) large-scale public investments.

Solving these sizable problems will require a sizable actor: government. To change the everyday decisions of businesses, individuals, and communities, and to provide a true alternative to the dirty “business-as-usual” economy, we must put a price on carbon and deploy direct environmental regulation. Though necessary, regulations and carbon pricing alone will be insufficient to meet the scale of the challenge and to address the dislocation associated with decarbonization. Carbon pricing and regulation may reduce fossil fuel extraction, for example, but they won’t ensure that workers in carbon-intensive industries find quality jobs; they may reduce transportation-related emissions, but they won’t offset increased driving costs or expand access to alternative modes of transit. Fortunately, the choice between decarbonization and meeting other social needs is a false one. A rapid transition to a carbon-neutral economy will raise living standards for the majority of Americans.

We must rewrite the rules of our economy to promote a rapid and equitable transition, with an increase in public investment at the core of such an undertaking. To transform our economy on the scale that a Green New Deal would require, we need a large degree of coordination—coordination that can and must be directed by the government. While the economics of decarbonization are often misunderstood as a problem of *scarcity*, in which doing more to avert climate change means doing less to meet other social needs, we argue that a more robust public sector to facilitate this transition is both affordable and attainable.

In *Decarbonizing the US Economy*, we outline a set of policy proposals that demonstrate how we can decarbonize the economy in ways that promote growth and ensure equitable outcomes. These sample policies show that decarbonizing the US economy can create quality jobs, reduce inequality, and tackle the existential threat of climate change. Here, we explore one of these policies: directing credit to green businesses.



## SUMMARY

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For a variety of reasons, many of the private-sector entities engaging in green investment will face financing constraints. Given the inability or unwillingness of private financial markets to adequately finance green investment, the federal government should take steps to affirmatively direct credit to private investment in decarbonization, including clean energy production, manufacturing, agriculture, and building retrofits. Such “credit policy” builds on a long history of directing credit to socially valuable activities that face credit constraints, including owner-occupied housing, foreign trade, higher education, and small businesses. It will involve a mix of expanded loan guarantees, a new public bank, and direct support from the Federal Reserve (the Fed).

## BACKGROUND

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While the Green New Deal will involve a major expansion of the public sector, the majority of new spending on decarbonization will come from the private sector. When such investments are carried out by large, established corporations, specific financing problems do not arise. But much of the private investment will come from smaller businesses, startups, farms, small property owners, and households—all of which may face significant limits in their access to finance. In these cases, even investment with favorable expected returns is often limited by a lack of liquid assets or limited ability to borrow. Decarbonization investment in these sectors will require new policies to ensure that credit is widely available. Policies to direct credit to specific sectors or activities is called “credit policy,” in contrast to conventional monetary policy, which merely seeks to influence the overall level of credit or liquidity in the economy as a whole.

It is clear that even in an environment of abundant liquidity, there is no guarantee that decarbonization investment will be adequately financed. Many small- and medium-sized enterprises may have promising projects but are unable to obtain financing because of information asymmetries or other market failures. This is especially likely with startups focused on new products and/or processes—exactly the sort of innovation that decarbonization in manufacturing in particular is likely to require. There is a reason why Silicon Valley startups rely on a specialized venture capital sector rather than conventional bank finance; but no similar specialized funders exist for investments in decarbonization. Empirical research shows that while large corporations are relatively impervious to shifts in financial conditions, access to bank credit can be a major factor in investment by smaller and newer businesses (Chodorow-Reich 2014). Similarly, many households may be excluded from credit markets because of reasons like low current income, precluding even investment in home energy-efficiency that could quickly pay for themselves. As Nobel laureate Joseph E. Stiglitz (2013) puts it, “Governments and central banks need to have explicit programs to encourage lending to certain groups/sectors that are underserved.” In general, it is clear—and has become increasingly evident since the housing bubble and financial crisis of the 2000s—that private financial markets cannot be relied on to direct credit to the most valuable uses. Government must play a positive role in allocating credit (D’Arista and Boyce 2002). Ensuring that credit flows to renewable energy and other green investments is a critical part of a comprehensive decarbonization program.

Credit policy has long been used in the US and other rich countries to direct bank lending and other forms of finance to areas deemed national priorities. In order to ensure that specific classes of borrowers had access to credit on acceptable terms, the Fed targeted a number of different interest rates and purchased bankers’ acceptances as well as federal debt in the 1920s (Carlson and Duygan-Bump 2016). During World War II, the federal government financed the great majority of new industrial capacity, even when the factories themselves were privately owned (Mason 2017a). During the financial crisis, the Fed took further steps to support credit for specific institutions and sectors. During 2007 and 2008, it was the decisions of the Fed that determined which troubled financial



institutions would survive, which would be absorbed by other institutions, and which, like Lehman Brothers, would be allowed to fail. During the summer of 2008, when the commercial paper market that provides short-term financing to the nation's largest corporations had essentially ceased to function, the Fed stepped in to replace private lenders. By making loans directly to nonfinancial, as well as financial, businesses that had previously borrowed in the commercial paper market, the Fed effectively replaced private banks as the source of short-term loans for corporate America. During the slow recovery that followed, the Fed continued purchasing large volumes of mortgage-backed securities, effectively serving as the ultimate lender for a large fraction of new mortgages issued in the years after 2010.

Building retrofits are a particularly promising target for credit policy. Because these retrofit projects combine upfront costs with savings over a long future period, they are natural candidates for debt financing. But the dispersed building owners, the information problems, and, in the case of commercial structures, the transaction costs often created by the separation of ownership from liability for utility bills mean that there is a natural role for a public agency to facilitate lending.

Concretely, a decarbonization credit policy would include three components. First, a new and/or existing federal agency should offer loan guarantees for green investments by small businesses, farmers, and homeowners. These are a commitment by a government agency to absorb some fraction of the losses from defaulted loans to designated borrowers. Loan guarantees are a natural way to allow the federal government to use its status as a privileged borrower to support credit flows to private businesses, and they are one important tool to direct credit to socially useful private projects. The value of loan guarantees comes from the existence of pervasive information problems in private credit markets. In a world of perfect information, a loan guarantee would simply be a subsidy. But because of information problems in credit markets, there are a number of loans that are not made even though they would offer positive private returns. By offsetting the risks created by information asymmetries, a loan guarantee program can support increased lending with private and social returns much greater than the required outlay of public funds. A renewable-energy loan guarantee program was included in the 2009 American Recovery and Reinvestment Act (ARRA) stimulus bill, and the high-profile failure of one recipient (Solyndra) attracted a great deal of public attention and criticism. But Solyndra was one of only two of the 24 companies that received loans under the program that defaulted; the ratio of public money actually spent to new lending generated was very favorable and the program ended up being profitable (Pollin 2014).

Second, a public investment bank should be established to lend directly to startups and other small businesses for decarbonization investment. This will be particularly important for carbon-neutral manufacturing, as well as for renewable energy producers.

Third, the Fed should incorporate a decarbonization mandate into monetary policy. This involves maintaining low interest rates—as discussed in the macroeconomics section below. Permanently low interest rates make it easier to finance the expanded public and private spending that decarbonization will require. In addition, the Fed should purchase debt issued to finance green investment, either directly or via the public investment bank.

## **SAMPLE POLICY**

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The federal government should take a three-pronged approach to ensure that investment in decarbonization by private businesses and households is not limited by lack of access to credit. First, it should greatly expand loan guarantee programs for green investment. Second, it should establish a new public investment bank to lend directly to small businesses. Third, the Fed should support decarbonization both by committing to keep interest rates low and by buying debt issued to finance decarbonization, either directly or from the public investment bank.



A loan guarantee program could be similar to the Department of Energy Loan Guarantee Program included in the ARRA stimulus bill but on a much larger scale. While the ARRA program guaranteed \$14 billion in loans over five years, the goal for a new program should be to guarantee at least \$25 billion in eligible loans per year. One recent study of loan guarantee programs suggests that it is reasonable to expect an annual default rate of 10 percent and a recovery rate of 50 percent (Pollin 2014). Given these assumptions, a program covering 80 percent of default losses could support \$20 billion in increased loans with an outlay of less than \$750 million per year.

The second prong of decarbonization credit policy is one or more specialized public banks. Infrastructure banks have been proposed in the past; in the decarbonization context this would be a bank with a specific focus on investment in carbon-neutral manufacturing and renewable energy. Such a bank could also make long-term loans to state and local governments, public-private partnerships, and private businesses to finance decarbonization investment. The federal government would provide the initial capital, and the bank would be publicly owned. Going forward, it could finance itself by issuing its own bonds, which could then be bought by the Fed. The advantage of such a structure is that it frees the Fed of needing itself to develop the capacity to assess and evaluate green investment projects. Insofar as the green infrastructure bank's bonds were marketed to the private sector, they would also help satisfy the world's demand for safe, liquid-dollar assets. In Europe, a similar approach has been suggested via the existing European Investment Bank (De Grauwe and Ji 2019).

Two important areas for credit policy that may require more specialized public institutions are financing for building retrofits by homeowners and other small property owners as well as green investment by farmers. These borrowers are particularly likely to face credit constraints and are also most likely to face information problems—both on the side of lenders assessing their projects and on the side of borrowers taking advantage of available financing opportunities. For these reasons, it will be desirable to have specialized public bodies to support lending in these areas. These could be public entities that lend directly to homeowners and farmers, along the lines of the US Department of Agriculture's (USDA) existing Farm Loans Program. Alternatively, it may be preferable to take advantage of the specialized knowledge and relationships of existing private lenders and channel credit to these sectors through secondary purchases and/or guarantees of their debt, as with Fannie Mae and similar programs to support home mortgage lending.

Finally, the Fed should play an active role in supporting decarbonization. Most straightforwardly, this implies leaving interest rates lower than it might otherwise choose to, since low interest rates will facilitate both expanded public borrowing and private investment. In addition, the Fed should directly act to channel credit to decarbonization, by buying debt issued to finance it. Just as the Fed today buys securitized mortgages to support the home mortgage market, and during the crisis bought a wide range of private debt to support lending in general, the Fed should purchase both public and private debt issued to finance investment in decarbonization on an ongoing basis. In particular, once a public investment bank is established, the Fed should buy its bonds, ensuring that it can finance large-scale lending. To the extent that this requires a change in the Fed's legal authority, this should be provided by legislation. But the experience of the 2008-2009 crisis suggests that the central bank can already take expansive action in support of specific financial markets when it believes that it is urgent to do so.



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