

Policy Brief

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How a U.S. Green Bank Could Make the Economy Greener and Fairer

By **Stephany Griffith-Jones and Kelly Sims Gallagher** | *September 2021*

This policy brief describes the role a U.S. federal green bank could play in mobilizing finance to address the threat of climate change and outlines the principles and policy instruments that should underlie the operationalization of a federal green bank.

Stephany Griffith-Jones is Emeritus Professorial Fellow at Institute of Development Studies, Sussex University; Financial Markets Program Director at the Initiative for Policy Dialogue at Columbia University; and a Distinguished Fellow at the ClimateWorks Foundation.

Kelly Sims Gallagher is Academic Dean and Professor at The Fletcher School, Tufts University. She is also the founding director of the Climate Policy Lab at Fletcher.

US history shows that when the country faces major economic challenges, America creates public institutions up to the task of meeting them. An example is the Reconstruction Finance Corporation that under President Roosevelt played such a key and large role in funding investment in the 1930's New Deal (Uğurlu and Epstein, 2021). This policy brief explores key insights for policy makers on the role of a federal green bank to address the urgent need to mobilize finance to address the threat of climate change.

RATIONALE FOR A U.S. GREEN BANK

Theory and practice both point to compelling evidence that a federal green bank would channel public and private investment for the public interest, particularly climate mitigation and resilience (Bhandary et al., 2021). In the future, this bank could be broadened to an American Investment Bank (see Hockett and Omarova, 2017, for a proposal). The bank would be a lead or supplemental investor in critical green infrastructure projects across the economy with a particular mission of stimulating investment in projects that reduce emissions or help communities adapt to climate change. A federal financial institution can be used specifically to stimulate profitable projects that many private institutions may not at first find attractive, steer investments into underserved communities, and catalyze economic development in towns, cities, states, and regions across the United States (many of which are ignored by Wall Street). A federal green bank can be one of the best tools in the country's toolbox for ensuring a just energy transition that supports communities being left behind with targeted investment.

A federal green bank would complement existing state-level green banks that are already working to leverage private investments in the states where they are operational, and also capitalize new green banks in states where they do not already exist. This support would scale up the impact of existing green bank investments and also channel significant new investment to communities being left behind. The New York Green Bank, for example, was established in 2013 and has achieved a capitalization of \$1 billion with a total of \$3.6 billion mobilized as of 2021 (NY Green Bank, 2021). Not all states have green banks, however, and those that do are often hampered by a lack of adequate capitalization. The Michigan Saves program only has a trust fund of \$11 million and the Hawaii Green Bank is not currently able to invest in all technology areas that it would like to serve due restrictions placed on its current source of funds.

Well-capitalized, vigorous public financial institutions can and do work with the private sector to soften the blows during downturns and extend prosperity in upturns (Zhang, 2020). They support infrastructure investment and small and medium enterprises, especially in innovative sectors or serving vulnerable communities. They are major actors internationally, and within many of the most successful countries, like Germany, Japan, Canada, South Korea, China, and many others. The total

assets worldwide of all public development banks are around \$11.4 trillion USD and their annual lending around \$2.3 trillion USD, representing about 10 percent of global investment. National development banks were found to be highly effective in mobilizing climate finance in a cost-effective fashion where they have endeavored to do so (Bhandary et al., 2021).

It is a paradox that while the US government, in an act of idealism after the Second World War, provided funds via the Marshall Plan to create and capitalize the very successful German public bank, the Kreditanstalt für Wiederaufbau (KfW), it has not yet created a similar institution at home. Today, the KfW has turned the initial investment, provided by the US, into more than \$500bn in assets, becoming the second-largest German bank. It is a critical source of domestic capital for small business, clean energy, exports, innovation, and start-ups (Zhang, 2020). KfW was a driving force for reconstruction after the war, for integrating East Germany after reunification, and for recovery from the 2008 financial crisis. It played a key role in kick-starting funding for renewable energy, especially solar, on its own in the initial phases, showcasing its effectiveness and profitability; later, private finance followed (Griffith-Jones, 2016). It also financed millions of building retrofits to enhance energy efficiency in Germany's building stock (Schröder et al., 2011). During Covid-19, KfW and local public banks are providing very significant finance to individuals and businesses, helping save many companies and jobs.

Generally, public banks have invested in a different and higher-risk set of renewable energy projects than their private counterparts (Mazzucato and Semieniuk, 2018). In the UK, most offshore wind projects have had investment from a public bank, whether the UK Green Investment Bank (GIB) or others. The GIB directly financed offshore wind through both equity and debt, leveraging private debt into these projects as well (Geddes et al., 2018). The original UK Green Investment Bank suffered from political meddling, and has now been replaced with a new bank, the UK Infrastructure Bank, which has a remit to support net-zero compatible infrastructure (HM Treasury, 2021).

POLICY IMPLICATIONS

Rep. Debbie Dingell (D-MI) recently introduced legislation with bipartisan support to establish a National Climate Bank that is mirrored in the Senate with a companion bill sponsored by Senators Edward Markey (D-MA) and Chris Van Hollen (D-MD). The National Climate Bank has also been conceptualized as a “Clean Energy & Sustainability Accelerator,” and efforts are also underway to fund an accelerator through a budget resolution. If enacted, this bank or accelerator would be a non-profit financial institution with up to \$100 billion in capital and the mission of directing investment into transformative projects that create good jobs and mitigate both global warming and inequality. It would invest in every state through and alongside state green banks, many of which already exist. The Accelerator would establish a green bank in any state that did not already have one, creating a powerful network of local institutions supported by the national green bank. This structure would be designed to unleash local energy, supported by a national organization that provides centralized support, technical expertise, and standardized instruments when appropriate. The structure and mandate of the institution could facilitate implementation of a targeted, full 40 percent of investment to support America's most vulnerable communities. This targeting of investments would align well with the Biden Administration executive order 14008, which states that 40 percent of the overall benefits of relevant federal investments should accrue to disadvantaged communities (White House, 2021).

Questions for which policymakers need answers include:

- How large should its initial capitalization be?
- How should it operate?
- What instruments should it use to achieve its objectives?

CAPITALIZATION

\$100 billion is a reasonable minimum initial capitalization that provides adequate finance to the task of catalyzing private finance, but it could easily be much larger. The China Development Bank has assets of \$1.6 trillion and it operates both domestically and internationally (CDB, 2020). The European Investment Bank (EIB), which lends to all European Union countries with a collective GDP

slightly lower than that of the United States, has a capital base of \$300 billion, half of which will be dedicated to support lending to climate change mitigation and adaptation by 2025 (Griffith-Jones et al., 2021); furthermore, the EIB is projected to mobilize investment of 1 trillion Euro (\$ 1.2 trillion USD) by 2030. The EIB will halt all funding for non-green activities by end of 2022, having announced end of funding for all unabated oil and gas projects by end of 2021 (Griffith-Jones and Carreras, 2021). Given that most of the competition is capitalized at much larger levels, the capital base for an American green bank should grow over time. An American green bank capital base of \$100 billion is estimated to catalyze private sector investment at around \$460 billion in four years and \$880 billion in ten years, creating nearly four million jobs in four years and 12 million jobs over ten years (Vivid Economics, 2020).

OPERATIONALIZATION

Five principles are important to operationalize an American federal green bank.

1. It must have a clear, well-defined mission that guides its work and enables it to be held accountable. It should report regularly on its activities and be evaluated in ways that ensure its mission, for a green and just transformation, is being properly fulfilled.
2. It should invest in projects that generate financial returns and grow its capital base without maximizing profits at the expense of other core goals (profit making, but not profit maximizing). The bank must recycle some of its capital in order to have a long-term, accelerating impact.
3. The bank should not crowd out or compete with private investors but rather should address market gaps. The bank should, where desirable, underwrite investments initially perceived as too risky, too burdensome, or too modest by commercial financial institutions. As the private sector gets more comfortable with the risks of a given type of investment and the administrative burdens fall, the private sector should take over that class of investment and the green bank should turn its focus to other areas.
4. The federal green bank must be flexible enough to use a variety of financial instruments that match risks and opportunities, including being able to borrow against its assets like any other financial institution. That means the green bank should be independent from any government agency. Otherwise, administrative requirements such as those contained in the Fair Credit Reporting Act would prevent the green bank from using several fundamental financial tools that will be critical to its success.
5. It must have an independent, stable, and non-partisan governance structure that is protected from political influence and able to pursue a consistent strategy during times of political change.

Consistent with the third principle of encouraging risk taking, Congress has recently expanded the tools of the Development Finance Corporation (and did so with bipartisan support) to provide capital to the developing world. Similarly, the full array of tools used there — loans, guarantees, securitization and equity investment — need to be used to meet the challenges domestically in the US. (Griffith-Jones et al., 2021).

POLICY INSTRUMENTS REQUIRED

Loans to innovative and strategic projects are a valuable tool. Such loans have succeeded in the past: The Loan Programs Office (LPO) at the US Department of Energy (DOE) financed Tesla with a loan for a factory when private lenders were not ready to take the risk. That loan was paid back early and has catalyzed the electric vehicle market globally. The DOE program still exists as an important tool in the fight against climate change, but it is designed primarily to help bring new technologies to market. It is not set up to finance nationwide deployment of existing technology like wind and solar. A new, more flexible institution is needed to build this infrastructure as quickly as possible and concessionary loans should be in the toolbox. Big, ambitious financing for electricity transmission, commercial demonstration of industrial de-carbonization, and new technologies or applications of utility-scale clean power, as well as other similar investments, are urgently needed.

A green bank would accelerate the pace at which new low carbon technologies become bankable by establishing a track record of success and a set of repeatable, accessible processes for financing these projects. As the experience of other countries shows, working alongside commercial banks and institutional investors, a US green bank would be able to share knowledge as a public, not a proprietary, good, so critical risk and performance data make it to market quickly.

It would be key to facilitate small loans to small and medium-sized businesses — for example, for distributed solar energy and other transformative investments — to increase private lenders' confidence by creating a track record of performing loans and standardizing deal structures. To encourage private lenders to make these loans, the accelerator will lend to local lenders at low rates on the condition that these lenders then use that money to finance clean energy projects for their customers. We know this, called on-lending, works from the experience of green banks in the U.S. and public development banks around the world.

Another key instrument is the loan guarantee, which is appropriate when private lenders and investors are in principle willing to lend but there is a level of risk, and especially uncertainty, that deters them. Because green technology is a relatively new field of investment, many private investors perceive it to be risky, complex, or uncertain. Green banks understand these investments very well, and they can help private investors become more comfortable with the risks by guaranteeing a portion of any initial losses that occur. Green banks can unlock a great deal of private capital quickly by agreeing to share some portion of initial losses, and over time these guarantees become unnecessary as the private investors become more familiar with the investments and the financial products that best support them. Guarantees should be partial — both to limit the risk to the public sector and to ensure that the private sector has skin in the game. Electric vehicle infrastructure is an area where guarantees could be appropriate as the market matures.

Securitization involves pooling projects and then selling slices of the pool, achieving diversification and scale. German public bank KfW did this successfully for energy efficiency. Properly designed, it creates scalable investment products that allow large investors, such as pension funds, to invest. Securitization is a particularly useful tool when individual projects are too small or too “quirky” to attract private investor interest. By pooling together many similar assets, securitization allows private investors to make bigger investments with the same amount of work on the front-end. For example, a regional bank may not be interested in evaluating whether a \$50,000 loan for an individual homeowner to make energy efficiency improvements will save enough energy to pay for itself over the course of the loan, but it might be interested in buying a portion of a \$5 million pool of 100 such loans with similar characteristics. Securitization makes the investment less risky and more worthwhile, making more private capital available.

Finally, there is co-investment, where multiple investors each contribute to financing a project while agreeing in advance about how and when each will be paid back. When co-investing, a green bank can either be a lender (as discussed above) or an owner of “equity.” Equity is the percentage of a business or project that will be owned by shareholders like the government or private investors. Equity is especially appropriate when a project may not be profitable initially and needs money to get up and running that it may not be able to pay back right away. When equity stakes are utilized in deal structuring, the public sector shares in the upside benefits, rather than just bearing the potential downside risk. Equity investment can also help the cause of social equity by providing balance-sheet funding to community-focused lenders who provide financial service to the most vulnerable communities — communities of color, rural communities, as well as those suffering from poverty and environmental degradation. Providing equity, combined with technical assistance, serves to build clean energy lending capacity and lower the cost of capital for those most in need.

Given the proper mission, scale, mandate, and tools, an American green bank would promote transformation to a faster, greener, and fairer economy. The time to do it is now! ✨

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Workshop Participants

Rene Javier Aninao, Corbu Strategic Intelligence	Amy Myers Jaffe, Tufts University	Jeffrey Schub, Coalition for Green Capital
Rishikesh Bhandary, Boston University	Richard Kauffman, Columbia University	Gregor Semieniuk, University of Massachusetts Amherst
Dan Esty, Yale Law School	Alex Kragie, Coalition for Green Capital	Douglass Sims, NRDC
Mark Gallogly, U.S. State Department	Gilbert Metcalf, Tufts University	Kelly Sims Gallagher, Tufts University
Isabella Gee, Alfred P. Sloan Foundation	Evan Michelson, Alfred P. Sloan Foundation	Mary Templeton, Michigan Saves
Ilmi Granhoff, ClimateWorks Foundation	Stephen Pike, Massachusetts Clean Energy Center	Sue Tierney, Analysis Group
Stephany Griffith Jones, Columbia University	Billy Pizer, Duke University	Jim Watson, UCL Institute for Sustainable Resources
Reed Hundt, American Green Bank Consortium	Rick Roberts, Vulcan Capital	Gwen Yamamoto Lau, Hawaii Green Bank

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