

Scaling Up Investment in Restoration and Other Nature-Based Solutions Using Green Banks and Community Lenders

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THE OPPORTUNITY

Nature-based solutions (NBS) are actions to protect, manage, or restore natural or modified ecosystems that address societal challenges, simultaneously benefiting people and nature. Many important NBS involve ecosystem restoration. Recent government investment in NBS through programs funded by the Inflation Reduction Act and Bipartisan Infrastructure Law is unprecedented, but there is still a need for scaled-up investment in NBS projects in the United States.

The federal government is currently investing billions of dollars in **green banks** and other **community-based lenders** such as credit unions and community development financial institutions (CDFIs) through the EPA's **Greenhouse Gas Reduction Fund**.¹ As a result, new green banks are being created, existing green banks are expanding or being operationalized, and community lenders are reexamining their scope to encompass new types of green investments. While many green investments have traditionally been focused on technology and renewable energy, it is a perfect time for these institutions to explore and consider NBS as part of their strategies. Not only can NBS contribute to climate mitigation goals, they can also provide multiple climate resilience, biodiversity, and community benefits, making them an important component of impact-oriented financial strategies.

Box 1. What Are Green Banks and Community Lenders?

Green banks and other community lenders such as credit unions and CDFIs are mission-driven financial organizations. These lenders typically fill gaps in the financial marketplace by helping to drive investment in low-return or perceived risky markets.

Green Banks: Mission-driven financing entities characterized by the use of innovative financing to pursue clean energy and other climate change-related goals. These organizations can be public, quasipublic, or nonprofit institutions and exist to leverage both public and private capital.^{2,3} Green banks have typically invested in clean energy and energy transition projects, but are beginning to explore nature-based climate solutions and environmental infrastructure.⁴

CDFIs: Lenders focused on a mission of providing fair and responsible financing to underserved and underresourced communities that mainstream finance does not often reach.⁵

Box 2. What is the Greenhouse Gas Reduction Fund?

While green banks and community lenders have existed for many years, there are new opportunities available for these institutions to invest in climate-friendly projects through the Greenhouse Gas Reduction Fund (GGRF). The \$27 billion GGRF in the Inflation Reduction Act (IRA)—particularly the \$14 billion National Clean Investment Fund and \$6 billion Clean Communities Investment Accelerator—represents a once-in-a-generation opportunity to leverage private capital for investments in climate-positive projects (including NBS).

To learn more about what types of restoration or nature-based projects might be eligible through the GGRF, see the primer found at this QR code:



Box 3. Why Would a Green Bank or Community Lender Want to Invest in a Nature-Based Solution?

Each green bank and community lender has its own climate- and community-related goals. If a financial institution is driven by a mission that includes equity, community and climate resilience, reduced greenhouse gas emissions, sustainable infrastructure, health, or workforce development, NBS can be an important part of the solution set. NBS project outcomes can include:

- **Equity outcomes:** Investments in NBS can be targeted to underserved communities that are most exposed to accelerating climate hazards, and thus have the most to gain. These projects can help address past environmental injustices through developing resilience against disasters, extreme heat, and pollution.
- **Reduction or avoidance of greenhouse gas emissions:** Forests, rangelands, agricultural fields, coastal wetlands, and other habitats have a significant capacity to store and sequester carbon and, over time, can have significant carbon drawdown potential.⁶
- **Reduced climate risk:** Natural areas, either alone or in combination with conventional built infrastructure, can reduce flooding, store water, reduce wildfire risk, and moderate temperatures in ways that provide multiple other community benefits.⁷
- **Training and workforce development:** The implementation of NBS at scale requires training and expanding a new workforce, providing green jobs akin to those in the renewable energy sector. It is estimated that many of these new jobs will be needed in rural areas.^{8,9}
- **Health benefits:** Planting trees and maintaining tree cover, especially in urban areas, can help reduce air pollution that causes detrimental health effects while also mitigating extreme temperatures and the risk of heat-related health problems.^{10,11}

WHAT DOES FINANCING NATURE-BASED SOLUTIONS LOOK LIKE?

Innovative financial institutions like green banks and community lenders are equipped to play a role in financing NBS. The roles they may play in these deals will look similar to what they already do for other types of projects and could include the following:

- Mobilizing debt and equity providers
- Matchmaking capital with viable projects
- Providing bridge financing
- Aggregating viable projects to create investable products to reduce transaction costs
- Providing sweat equity and technical assistance to enable deals that might not otherwise happen

Box 4. How Has Financing Nature-Based Solutions Worked Before?

Financial products that are familiar to green banks and community lenders have been successfully used to finance NBS:

- A **forest resilience bond** that attracts private investment for forest conservation and management and generates cash flow through payments by utilities for avoided water treatment costs and insurance companies for reduced wildfire risk.
- The **Soil and Water Outcomes Fund**, which borrows private capital to pay farmers to implement environmental and climate-friendly practices. Governments and corporations pay for the positive outcomes generated.
- A **revolving loan fund** to finance urban green stormwater infrastructure in Washington, DC, through the DC Green Bank.
- A **linked deposit program**, run by the Maryland Department of the Environment, that helps encourage implementation of non-point source best-management practices to reduce pollutant loads in the Chesapeake Bay.
- The **Rhode Island Water Quality Protection Charge** program makes funds available to public drinking water suppliers for projects that protect drinking water sources, including purchase and protection of watershed lands.
- A **bond** issued by the Maryland Economic Development Corporation pays for both a new parking garage and a green waterfront in Annapolis, MD. Cash flow generated by the parking garage will help provide repayment for both projects.
- Application of the **Clean Water State Revolving Loan Fund** to provide a low-interest loan to the Nisqually Tribe and its partners for acquisition of forest land that will be managed for sustainable timber and will help protect water quality in rivers near Mt. Rainer. Timber revenue will help repay the loan.
- A **conservation bridge loan** that allowed the Confederated Tribes of the Siletz Indians and the McKenzie River Trust purchase a culturally and ecologically significant oceanfront land parcel in Oregon. The bridge loan was repaid through a NOAA grant.

For more detail about these examples and others, visit the website found at this QR code:



WHERE DO WE GO FROM HERE?

Using green banks and other community lenders to finance restoration and other NBS is still in early days. While successful examples of NBS financing exist (see Box 4), more work is needed to make these types of deals more commonplace.

Future work that could help scale up NBS financing includes:

- Sharing information with lenders about how NBS financing might contribute toward their goals, as well as what financial models are possible for NBS
- Enhancing capacity within existing lenders' staff for nature-based project financing
- Finding ways to make NBS financing models more replicable and scalable
- Identifying new revenue streams that allow more types of nature-based projects eligible for project financing
- Developing accepted standard quantification methods for NBS project benefits to allow investors to understand better when and whether projects have met their goals
- More clear indications from programs like the Greenhouse Gas Reduction Fund that nature-based projects are eligible project options

In 2023 Duke University's Nicholas Institute for Energy, Environment & Sustainability and the Environmental Policy Innovation Center formed the Nature-Based Solutions Financing Working Group to bring together academics, practitioners, financiers, and investors dedicated to scaling up finance for nature-based solutions to help solve challenges facing people and nature. The group met for an agenda-setting workshop in July 2023 and generated ideas that led to the creation of a set of resources summarized here. To see more details, check out the document found at this QR code:



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References

1. US Environmental Protection Agency. *Greenhouse Gas Reduction Fund*. <https://www.epa.gov/greenhouse-gas-reduction-fund>.
2. US Environmental Protection Agency. *Green Banks*. <https://www.epa.gov/statelocalenergy/green-banks>.
3. Coalition for Green Capital. *What is a Green Bank?* <https://coalitionforgreencapital.com/what-is-a-green-bank/>.
4. e.g., Connecticut Green Bank. *About Us*. <https://www.ctgreenbank.com/about-us/>.
5. Opportunity Finance Network. *What is a CDFI?* <https://www.ofn.org/what-is-a-cdfi/>.
6. Fargione et al. 2018. "Natural Climate Solutions for the United States." *Science Advances* 4(11): eaat1869. <https://doi.org/10.1126/sciadv.aat1869>.
7. Reguero et al. 2022. "Editorial: Nature-Based Solutions for Natural Hazards and Climate Change." *Frontiers in Environmental Science* 10. <https://doi.org/10.3389/fenvs.2022.1101919>.
8. International Labour Organization, UN Environment Programme, & IUCN. 2022. *Decent Work in Nature-Based Solutions*. <http://www.unep.org/resources/report/decent-work-nature-based-solutions>.
9. Teddy Roosevelt Conservation Partnership. 2021. *The Restoration Economy*. <https://www.trcp.org/wp-content/uploads/2021/05/The-Restoration-Economy-1.pdf>.
10. Nowak et al. 2014. "Tree and Forest Effects on Air Quality and Human Health in the United States." *Environmental Pollution* 193: 119–29.
11. Lungman et al. 2023. "Cooling Cities Through Urban Green Infrastructure: A Health Impact Assessment of European Cities." *The Lancet* 401(10376): 577–89. [https://doi.org/10.1016/S0140-6736\(22\)02585-5](https://doi.org/10.1016/S0140-6736(22)02585-5).