



GREEN BANK DESIGN SUMMIT

Read-Ahead Material



Read-Ahead Material for the Green Banks Design Summit

This read-ahead material is intended to provide participants with important background information that will prepare them to explore issues that will be covered during the two days of the Summit. Your experience at the Summit will be greatly enhanced if you familiarize yourself with this background, so please take the time to read this material. This excerpt is adapted from *Green & Resilience Banks: How the Green Investment Bank Model Can Play a Role in Scaling Up Climate Finance in Emerging Markets*, by Natural Resources Defense Council, Coalition for Green Capital, and Climate Finance Advisors.

Introduction

In 2016, the Paris Agreement entered into force as the first global, coordinated response to address climate change. It is built on explicit national commitments to action and an overall ambition to keep warming well below 2°C. It is also built on the understanding that finance is a critical component to meeting these objectives. The amount of investment needed for a low-carbon, climate-resilient economic transformation is substantial—by some estimates up to \$6 trillion per year, or \$90 trillion by 2030.

This brief reading explores how green banks, also known as green investment banks, and similar entities can help meet the financing needs to address climate change, support countries' Paris Commitments, and meet the challenges specific to scaling investment in low-carbon and climate-resilient (LCR) infrastructure in emerging and developing economies.

The need for private finance is a fact. Public funding alone cannot finance the investment needed to address climate change. This has been emphasized numerous times leading up to the Paris Agreement. It was further underscored in the *G20 Green Finance Synthesis Report 2016*, which noted that financing environmentally sustainable growth will require substantial investment—both public and private—and may require complementary financial policy efforts such as promoting sustainable banking principles, scaling up innovative instruments to address maturity mismatch

and efforts to reduce information asymmetry. Transforming the financial system to deliver the scale and quality of capital needed will require addressing systemic barriers within the financial system itself.

Given the time it may take to achieve systemic transformation of the financial system, efforts to mainstream climate considerations throughout the financial system and its institutions must continue and, at the same time, specialized financing vehicles, blended finance approaches, and institutions like green banks must be scaled up.

At least fifteen green banks are operating in local and national jurisdictions around the world. In each case, they were established by policy makers as part of a broader set of solutions to address market failures and barriers to low-carbon, climate-resilient investment. In its 2016 report, *Green Investment Banks: Scaling up Private Investment in Low Carbon, Climate Resilient Infrastructure*, the Organisation for Economic Co-operation and Development (OECD) provides a comprehensive assessment of the operations of green banks and related institutions and concludes that "... green banks are making a case that centralizing expertise in a new independent institution dedicated to mobilizing green private investment can be an effective approach to unlocking larger flows of private capital." As a specialized financing vehicle focused on LCR infrastructure with the mission of crowding in private capital, a green

bank can provide a national and local solution to fill the financing gaps and scale up these types of investments.

For emerging markets, green banks or green bank programs within larger institutions can, when carefully designed, well-capitalized and dutifully managed, address many of the barriers inhibiting investments in LCR infrastructure. Existing green banks have a common set of characteristics, including being purpose-built to serve local markets, having a narrow climate-focused mandate, and blending public and private capital.

Green banks can be established and capitalized in a number of ways, but historically their initial capital has been from public sources. For new green banks in emerging markets, domestic public funds may be available, but international sources

of public funding—whether bilateral or multilateral development finance or climate finance—can also play an important role in the creation, establishment, and promotion of domestic green banks. The green bank model is additionally useful because of the model’s focus on acting at the local and transactional level, where investment decisions are made.

There are three key ways the green bank model can help increase LCR investment in developing and emerging economies. Green banks could (i) help countries achieve climate goals articulated within their nationally determined contributions, (ii) be a locus of financial innovation to meet local market needs, and (iii) be a complementary partner for international sources of climate finance and development finance institutions (DFIs).

The Role of Green Investment Banks

At least 15 green investment banks (GBs) or similar entities have been established in local and national jurisdictions around the world.

Almost all of these entities were formed by national or local governments with a focus on the “pure play” objective of facilitating clean energy, energy efficiency and/or resilient investments. Existing green banks were started as public or quasi-public entities, capitalized with funds that are derived from legislative action, taxes, or other contributions of public money into a special financing vehicle. While many have the name, none of these institutions

are “banks” in the classic definition, meaning they do not take deposits, manage savings, or provide direct financing to consumers. They are, however, meant to be stand-alone, self-sustaining finance entities, operating similarly to a bank.

What Does “Green” Mean?

As the name suggests, green banks make “green” investments. The definition of a green investment can vary among institutions, though it generally encompasses investments that reduce emissions or energy use. To date, most “green banks” have focused on mitigation projects—such as renewable energy and energy efficiency—and have sent a signal to the marketplace that their funding seeks out investments that are climate-friendly. Given the magnitude of the need to address climate risks and build resilience into infrastructure, green banks may have a role in financing climate-smart and resilient infrastructure, water projects, and clean transportation projects such as electric vehicles or charging station infrastructure. The choice of what sectors and projects to invest in is up to local policy makers and market participants who can identify the market needs and objectives that the green bank is meant to serve.

Green banks have been established by diverse governments that recognize the potential of specialist institutions that are dedicated to understanding and addressing the specific national and local barriers to increased private investment in LCR infrastructure. Green banks seek to maximize and mobilize private capital into projects at the local and national levels. Part of their mandate is to blend their public funds most effectively to “crowd-in” private capital to fill the financing gap that may be preventing LCR investments. To date, most green banks have been established in OECD countries, but several developing and emerging economies are close to establishing a green bank or a green bank-like entity, with many more actively exploring the opportunity.

Where they exist, green banks are proving themselves to be effective public-private approaches to catalyze and “crowd-in” private finance in local contexts, responding to local needs, often with specialized investment teams. The function and role that they play in the financial ecosystem has proven to be critical to accelerating and scaling up local investment, particularly for clean energy. For developing and emerging economies, specialized financing vehicles and blended finance approaches have played similar roles for scaling up financing where market failures exist and where social objectives—in particular, those tied to development and sustainability goals—need a public-private financing solution.

While many green banks have demonstrated success in developed countries at accelerating the adoption of clean energy technologies, the model may be applicable in developing and emerging economies to LCR investment and to achieving other goals, such as the Sustainable Development Goals. In fact, in developing and emerging economies where the financial sector is nascent or in early stages of growth, and where governments see a need to have a focused approach to catalyzing investments (particularly

those that meet the country’s climate change goals), green bank institutions can play a critical role in getting the local financial sector comfortable with LCR investments, as well as in linking the local financial sector with international capital providers looking to make green investments.

Green banks and other institutions following the green bank model can, when carefully designed, well-capitalized and dutifully managed, play a role in mitigating risks and addressing many of the barriers inhibiting LCR investments in developing and emerging economies. This blended finance approach has already been tested at the international and regional levels through a range of international finance institutions, primarily public or intergovernmental, which currently have funds, facilities or mechanisms aimed at increasing the amount of funds committed to LCR investments. These vehicles have played a significant role in crowding-in private investment in developing

“A green bank is an institution that is more than the sum of its parts. Green banks are a new kind of specialized intermediary designed to accelerate the growth of clean energy markets. Their role is not to replace or ‘crowd out’ commercial banks and private investors but to ‘crowd in’ private capital. What this means in practice is different in each country. Green banks are tailored to the country’s goals, resource endowment, market opportunities and market risks. Green banks use private-sector experience and discipline in the service of the public good. They play a transformative role because neither traditional government programs, with their limited engagement with markets, nor the private sector, with its competitive pressures and fiduciary constraints, can reliably achieve this outcome.”

Source: NRDC, Greening India’s Financial Market: Opportunities for a Green Bank in India, <https://www.nrdc.org/resources/greening-indias-financial-market-investigating-opportunities-green-bank-india>.

and emerging economies over the last decade, particularly in clean energy projects. A recent Climate Policy Initiative report on climate finance notes: “Public concessional or lower-than-market-rate finance, including loans with longer tenors and grace periods, play a catalytic role by supporting the establishment of policy frameworks, strengthening technical capacity, lowering investment costs, and reducing investment risks for the first movers in a market.” Many of these funds or facilities are housed within larger development finance institutions and often allow those very institutions to move beyond their own business-as-usual approach, providing the right type of capital, including incentive grants and technical assistance, to promote investments that would not have happened without such sources of funding and related capacity building.

In many markets, a green bank will need to be part of a broader set of solutions to address market failures and barriers preventing investment. In many developing and emerging economies, technical assistance and capacity-building activities will be critical components of the broader set of solutions, including those efforts that are sector-specific, such as technical training for equipment installers, standardized contracts, and other measures that may help facilitate market-specific development. In addition, technical assistance and capacity building for macro issues, such as improving the business-enabling environment, or legal frameworks, or reducing subsidies for fossil fuels, will also play critical roles in enticing private investment.

What will differentiate green banks from many other funds or facilities is their pure LCR focus at a national or local level, and their focus on catalyzing private finance. In this regard, it may be easier for GBs to target and fund local projects, which may be smaller or be perceived to have higher risk. They can also target and attract local capital

and focus on projects where other sources of similar financing may be lacking. Notwithstanding the large amounts of financing that could be tapped to support LCR investment (whether they be from international sources such as the Green Climate Fund or Climate Investment Funds or from larger institutional investors and international banks), efforts to track climate financing flows continue to show a relatively small amount of overall funding flowing to these types of investments.

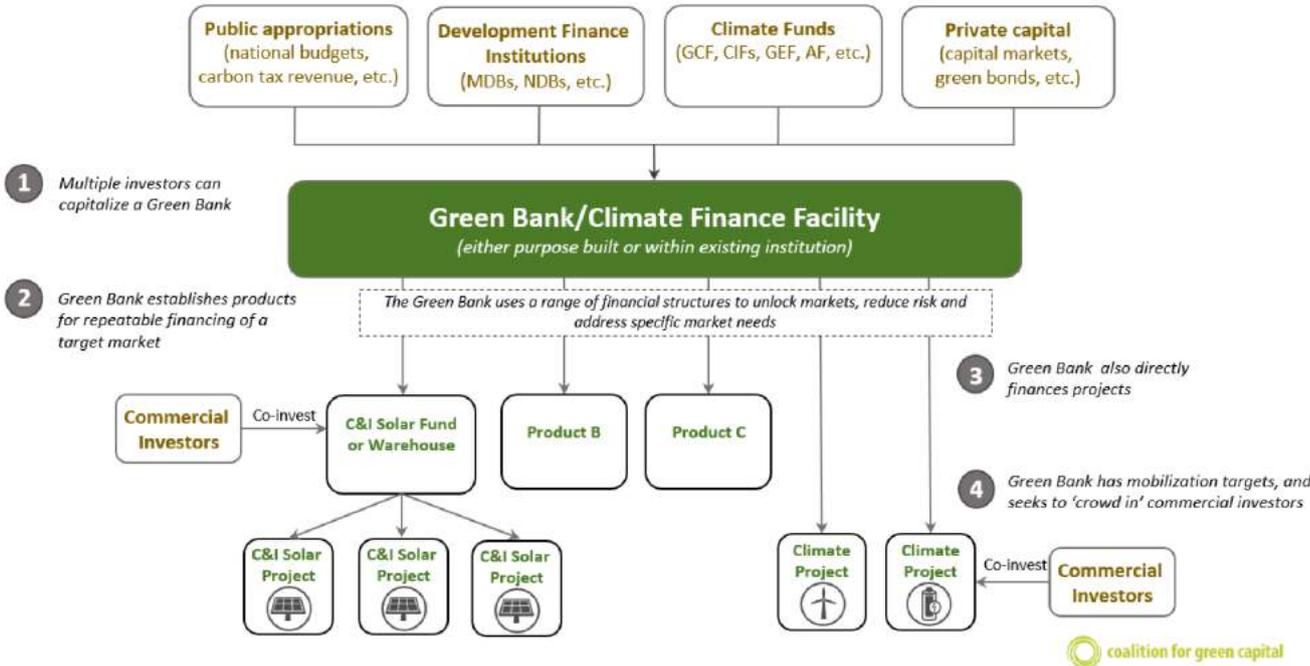
The unique regulatory, technology and performance risks, as well as informational and institutional barriers, may require committed and knowledgeable local players. Green banks are dedicated local institutions with a focus and mandate to attract and deploy capital for clean energy and green projects. As an institution with a declared objective, there is an immediate organizational orientation that is relatively uncomplicated compared to many other existing institutions that support LCR investment and may have broader mandates. In many of those institutions, the effort to integrate climate considerations is a process of mainstreaming. Focusing LCR investing within a dedicated finance institution may have considerable operational value relative to an ad hoc program area of an entity already focused on other matters and activities. In green banks, clean and green investments do not need to compete for resources against projects in any other industry or sector. (Green banks so far have been dedicated institutions, but countries are exploring the potential to use institutions with broader mandates, like national development banks, to perform the functions of the green bank model, including the focus on catalyzing private investment and market transformation.)

In playing their unique role and function, green banks and other institutions using the green investment bank model may have several critical advantages to promote LCR investment at the local and national level. Existing green banks have demonstrated several key advantages which have helped them achieve their success in scaling up LCR investments. These advantages have included:

- Knowledge about local market, technology, policy, and political conditions;
- Relationships with local developers, politicians, and finance institutions;
- The ability to source local project deals;
- Local risk assessment and risk mitigation capability;
- The ability to nimbly target market niches to stimulate market development; and
- The ability to crowd in local and international capital by reducing perceived and actual project-related risks.

Local knowledge, risk mitigation capability, and market microtargeting are particularly important in developing countries, where capital markets may be underdeveloped and often both domestic and international investors struggle to assess risks and source deals.

To address the localized institutional and investment gaps in climate finance, countries or subnational entities can establish their own green banks. New green banks, including those housed within existing institutions, can become critical nodes in the global network of financial institutions, including providing a complementary and corresponding set of local partners for international finance, both public and private.



Defining Characteristics of Green Banks

Though green banks vary across nations, with varying structures, missions and tools, they have a core set of defining characteristics. Some of these defining characteristics are similar to those of international and national development finance institutions, in particular those that work with the private sector and aim to provide a level of “additionality” in the market. Also, many development finance institutions and green banks have a focus on accountability for their development and climate mandates through the use of metrics and measurement of operations against development objectives, as well as their focus on being cost-effective. Some of the key characteristics of green banks include:

NARROW MANDATE

Green banks generally have a narrow mandate focusing mainly on LCR investment and mobilizing or crowding in private capital, using interventions to mitigate risks and enable transactions.

INDEPENDENT

Green banks are typically established as special-purpose public or quasi-public entities that are granted independent authority to meet their mandates. Most green banks are governed by a board with public- and private-sector expertise and have, in their operations, a degree of latitude to design and implement investment products based on the needs of the markets they serve.

ADDITIONALITY

Like many development and policy-driven institutions, green banks seek to crowd in private capital only in transactions where there is a gap that is not being filled by the markets. In this role, green banks are facilitating transactions that wouldn't otherwise happen.

COST-EFFECTIVENESS

Green banks mobilize private capital using least-cost solutions in order to reduce public expenses as part of an organizational mandate for profitability.

ACCOUNTABILITY

Green banks are evaluated using metrics such as the amount of private capital mobilized, return on capital, number of jobs created, and greenhouse gas reductions. Green banks' public reporting on their performance typically includes transparent calculation methodologies to build credibility.

CAPITALIZED WITH PUBLIC FUNDS

Like existing development finance institutions, green banks have, to date, been capitalized with public funds. In the case of green banks, these funds often come from federal, state, or local governments or through utility bill surcharges, government budget allocations, or the use of tax proceeds. Funding to capitalize existing green bank institutions has occurred in a number of ways, but often the money used to establish these institutions comes from public coffers.

BUILT TO SERVE LOCAL POLICY AND MARKET NEEDS

The market failures and barriers preventing LCR investment vary across markets. Green banks have been established with the specific purpose of dealing with these circumstances and have been driven by the policy objectives of their local or national governments. Existing green banks have operated within specific local market conditions, addressing barriers such as grid electricity cost and lack of strength or depth of the banking sector to finance certain investments, such as clean energy.

DESIGNED TO LEVERAGE PRIVATE CAPITAL

By design, the approach green banks take to finance projects seeks to use as little public and low-cost capital as is necessary to drive the private investment that is needed to achieve their LCR investment goals.

Much debate surrounds whether green banks should operate on fully commercial terms or on “concessional” terms. In development finance institutions, much of the debate around whether to provide financing to the private sector on concessional terms focuses on the desire to minimize market distorting practices, something which many believe is a consequence of subsidies. Nonetheless, in seeking to both (i) catalyze private investment to achieve development objectives, and (ii) minimize market-distorting practices, many DFIs use blended finance judiciously, seeking to structure each investment with the minimal amount of concessional funding required to fill the financing gap. Market-based financing is the benchmark against which this structuring happens and, in practice, the exercise of structuring the minimum amount of concessionality may be challenging because market terms are constantly evolving.

Many green banks use public capital to provide loans, insurance, credit guarantees, or other financial products, including grants (as technical assistance), at below-market rates or with other favorable terms such as long tenor or low collateral. Such terms may be justified in the service of environmental, job creation, industrial development, and other goals. This approach is not new, and has been used, for example, by national export-import banks, which lend on preferential terms to firms that create jobs or promote domestic business interests.

Generally speaking, the presence of these types of funding vehicles—whether through green banks or development institutions—is itself a signal to the markets that there is willing capital to invest in these projects. Should that signal result in private capital fulfilling each investment need without green banks or blended finance, in many ways that would be a measure of success. For the most part, however, these sources of funding continue to play a critical role, and the fact that they are capitalized with public funding, have a narrow and focused mandate for certain types of investments, and have the ability to bring additional (financial, credit) benefits through flexible lending terms is highly valuable in the efforts to scale up financing quickly toward climate-smart investments.

Unique Role of Green Bank Funding

The effect of the characteristics outlined above is that green banks—and their funding—play a unique role in the markets they serve and the projects they finance. The products and tools that green banks deploy have the ability to mitigate risks and enable transactions through the structuring aspects of their financing. This does not necessarily imply a high level of concessionality, nor does it imply green bank funding is provided on par with other commercial financial institutions. In their unique role, GB funding brings a number of benefits to the projects green banks finance, and their additionality means their funding fills financing gaps that the market is not otherwise filling.

Ways to Create and Capitalize a Green Investment Bank

Creating and capitalizing a green bank are two separate issues, but closely related. Most existing green banks have been established as a result of a policy measure or legislation and driven by the need to provide financing mechanisms for specific policy goals.

Existing green banks have been created in a number of ways, including through administrative action or the passage of a new law. In some cases, green banks have been newly formed

institutions, and in others, they have consolidated existing, related programs under one entity, the difference depending on local institutional and legal conditions. In developing and emerging economies, establishing a green bank can occur in similar ways, including through government directive, by policy measure or by legislation. Policy makers in countries with these economies may also choose to establish (or convert an existing entity into) a green bank as a means

to support climate objectives, complementing existing climate funds, development finance, and other sources of capital with similar objectives.

Regardless of what public policy action is taken to establish a green bank, all green bank entities require the authority needed to operate as a financing mechanism in the market, with the ability to lend, guarantee, and otherwise structure funding into projects to meet project needs and fill financing gaps, with the goal of leveraging additional private capital.

In some cases, while administrative, policy or legislative action is needed to create the green bank, regulatory or other programs are needed to capitalize the green bank. See below for examples.

Green banks can be created as brand-new entities, or they can be created out of existing institutions. Determining the right approach to create a green bank in a country with a developing or emerging economy should involve consideration of a number of factors, including the need for policy action to create a green bank mandate, the capacity of existing institutions to function as a green bank, and sources that will be used to capitalize the green bank.

Creating a green bank as a new entity may maximize the ability of the green bank to target markets and the impact it seeks to achieve and potentially deploy capital more quickly than otherwise might occur. Focused, pure-play types of entities are often perceived by the markets as a single point of contact for financing for certain types of activities. In the case of green banks, particularly those that have been established with a simple, clean energy mandate, they have been helpful to target funding at specific projects that are aligned with that clearly defined, narrow mandate. However, establishing new institutions is not always straightforward, and there may be complexities and potential delays that come with the challenge of creating a new institution or institutional approach.

Creating a green bank or green bank program by either repurposing an existing entity or consolidating existing programs into one entity may provide benefits, in particular with respect to leveraging existing organizational structures, staff, or processes.

However, the process of reorienting the focus of existing institutions may present challenges with transforming business lines, winding down programs and activities that do not meet the narrow mandate, and the potential delays resulting from organizational culture change which may impact productivity. The capacity of lending officers and back offices to measure and monitor risk may not extend to green technologies. Such institutions do not always have the existing mandate (or capacity) to focus on catalyzing private investment. A hybrid model can also be used by creating a new division or subsidiary of an existing entity.

Capitalization of Green Banks

Green banks can be capitalized in a number of ways, but given the fact that they are primarily driven by policy makers' desire to stimulate and incentivize certain types of investment, the initial capitalization of green banks has, in the past, been primarily from public sources, usually domestic. This does not preclude green banks from receiving or being capitalized by other sources. In the emerging-market context, this may include partial capitalization from sources such as DFIs, climate funds, bilateral donors, or other sources.

The sources of funds used to capitalize green banks are important, as those funders will require the green bank to use the funds in specific ways, including delivering certain development impacts. Development impact will be a requirement of most public sources, including bilateral donors, multilateral donors and climate funds. This is also true of private capital that may be sourced to capitalize or invest in a green bank and which will be driven by both investment returns and impact (with returns taking priority). The range of possible sources of funds to capitalize green banks is described in the following chart.

Source of Funds	Examples	Common Requirements
DOMESTIC PUBLIC SOURCES	<ul style="list-style-type: none"> • Public budgets • Tax revenues • Revenues from utility services • Bond issuances • Carbon pricing revenues 	<ul style="list-style-type: none"> • Development impacts, local economic needs/goals • Policy mandates implemented • Sector investment increased
INTERNATIONAL PUBLIC SOURCES—BILATERAL/DONOR FUNDING	<ul style="list-style-type: none"> • DFID • USAID • GIZ • KfW 	<ul style="list-style-type: none"> • Development impacts • Sector investment increased • (Depending on the source): no losses/minimize concessionality
INTERNATIONAL PUBLIC SOURCES—DEVELOPMENT FINANCE INSTITUTIONS	<ul style="list-style-type: none"> • AFD • IFC • ADB • IDB • AfDB • EBRD 	<ul style="list-style-type: none"> • Development impacts • Sector investment, including down-market • (Depending on the source): returns, but not necessarily fully commercial
INTERNATIONAL PUBLIC SOURCES—CLIMATE FINANCE	<ul style="list-style-type: none"> • GCF • GEF • CIFs • Adaptation Fund 	<ul style="list-style-type: none"> • Development impacts • Sector investment increased • (Depending on the source): no losses/minimize concessionality
PHILANTHROPIC, IMPACT INVESTORS	<ul style="list-style-type: none"> • MacArthur • Packard 	<ul style="list-style-type: none"> • Development impacts • Sector investment increased • Patient return expectations
INSTITUTIONAL INVESTORS, PENSION FUNDS, OTHER PRIVATE	<ul style="list-style-type: none"> • CalPers • APG 	<ul style="list-style-type: none"> • Returns commensurate with risk/market based

Existing green banks have used a number of public sources to capitalize their institutions.

New green banks, especially in developing countries, can look to a number of internal and external sources of capital for funding. The following section describes the potential sources that can be used to provide initial or ongoing capital to a green bank.

Domestic Sources of Public Funding

To date, existing green banks have been primarily funded with domestic public funds. Sometimes this involves raising new public resources to be committed to the green bank, but it also might mean repurposing existing public funds to go into a green bank. Under this approach, green bank capitalization becomes part of an ordinary government budget and appropriations process. However, unlike typical government programmatic expenditures, the funds allocated to the green bank will not be fully expended, with replenishment needed the next fiscal year. Rather, the public funds are preserved and used to build up a capital base.

REGULAR BUDGET FUNDS

A green bank could be funded through the ordinary government budgeting process. This is the most simple and direct way to fund green banks but is often the most challenging. Both Australia and United Kingdom green banks were capitalized in this manner. However, it may be difficult for other nations, developing or otherwise, to look to government budgets that tend to be tight.

CAP AND TRADE/CARBON TAX REVENUE

A number of green banks have used the revenue from carbon-based fees and policies to capitalize their green banks. Both Connecticut and New York states partially funded their green banks using the revenue earned through participation in the Regional Greenhouse Gas Initiative (RGGI), a regional cap-and-trade program. Green banks are a logical place to use funds collected from carbon-based fees, as green banks will deploy the clean energy solutions that allow energy users to avoid using the taxed fossil-fuels, as is the intention of any Pigouvian tax. Without creating a clear path to move away from carbon-based energy sources, the tax may not have direct connections to investing in LCR infrastructure. Green banks help avoid this outcome.

UTILITY SURCHARGE

A number of green banks have been and continue to be capitalized by collecting funds from electricity ratepayers through a utility bill-based surcharge. These “system benefit charges” are common in

the United States and have historically been used to fund subsidy programs for energy efficiency. Though this is a large pool of funds and common in some markets, it likely has low applicability in low-income countries.

NATIONAL DEVELOPMENT BANKS/FUNDS

While many national development banks (NDBs) exist, often they have broad mandates beyond low-carbon, climate-resilient investment. Additionally, these institutions do not always track or emphasize the catalyzation of private investment. Funding from these institutions could be provided to help capitalize a green bank that complements the NDBs’ work or fills gaps in local financing where NDBs may not currently participate.

International Sources of Public Funding: Bilateral & Development Finance Institutions

International sources of public funding, whether bilateral or multilateral development finance institutions, can play an important role in the creation, establishment, and promotion of domestic green banks.

Almost all development institutions have mandates that include among their development objectives the desire to scale up LCR investment and, in particular, investments that provide significant reductions in emissions and enable developing and emerging economies to adapt to climate change. Many of these institutions have also set private-investment mobilization targets. These funding sources are therefore seeking investments that help them achieve their development goals and often leverage private investment. The sources of capital can be grant-based or through nongrant instruments (e.g., debt, equity, or guarantees) priced on quasi-commercial terms or fully concessional terms. In almost all cases (even with respect to those institutions that primarily lend to the private sector), their financing comes with additional benefits (such as preferred creditor status) and pricing expectations are often not as high as fully commercial, private sources of capital. Investing in or through a local green bank, with a clear mandate around LCR sectors and

private-sector mobilization, can be a way to help meet the goals of these international development institutions.

Many of these institutions work through existing local financial institutions to access parts of the market they are not well-suited to address, including the ability to fund smaller, more local investments. Working through local financial institutions often requires building internal capacity within those institutions, and then providing incentives to entice the institution to build a business that achieves the LCR objectives. A similar approach with domestic green banks—whether newly created, established through consolidation of existing programs, or existing institutions with repurposed mandates—would provide a unique complement and partner for those international sources of funding in their efforts to scale up LCR investments.

International Sources of Public Funding: Climate Finance

These sources include institutions like the Green Climate Fund, Global Environment Fund, Climate Investment Funds, Adaption Fund, and others.

International sources of climate finance may be by far the most relevant source (outside of domestic budgets) to capitalize and seed a new green bank. The role of climate finance in the context of the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement is central to the goals of limiting warming to 2°C and building resilience and adapting to climate change. Part of achieving **article 2.1c of the Paris Agreement** will also require using public finance in a way that focuses on mobilization. These goals are achieved through countries' nationally determined contributions, which are meant to outline how emissions reductions and adaptation needs will be met.

The sources of climate finance in this context are critical to helping countries achieve these objectives and will require these funds

to be leveraged with private capital to meet financing requirements. These funds are meant to have a critical role in financing the following activities to support climate-related investments in developing and emerging economies:

- Developing an enabling environment and building capacity in local markets, laying the groundwork for scaling up LCR investment;
- Supporting the development of financial instruments that can help fill market gaps, particularly those that help mitigate or share risks;
- Co-financing projects and investments that meet UNFCCC and Paris objectives;
- Supporting and building capacity at local commercial and development banks, including deepening local capital markets;
- Financing infrastructure adaptation investments;
- Supporting the development of low-carbon technology, where these types of funds may be needed; and
- Strengthening monitoring of outcomes.

These sources of funds are—by their nature—concessional. They are meant to fund projects that aren't currently happening because they present a higher level of risk (perceived, real, or both) than private capital will bear. These funds are designed to be more patient, be used to underpin and credit-enhance investments and, in doing so, play a catalytic role supporting climate objectives—both mitigation and adaptation. Both because of the objectives they seek to achieve and because of their concessional nature, the “function” of international sources of climate finance would be aligned with the capitalization needs of a green bank.

There are almost 100 individual climate finance funds. The Climate Fund Inventory (CFI) database of the OECD lists 99 bilateral and multilateral public climate funds existing to support countries with their climate change mitigation and adaptation actions, as well as with readiness

activities. These climate-dedicated funds target different fields of activities (e.g., adaptation, mitigation, capacity-building), sectors, and regions, and they enable support via different financing mechanisms. Three of the more well-known multilateral and multifocal climate funds are:

GREEN CLIMATE FUND (GCF)

A multifocal fund established in 2010, initially capitalized at more than US\$10 billion, this fund will channel funds through accredited intermediaries to projects in developing and emerging economies.

THE GLOBAL ENVIRONMENT FACILITY (GEF)

The GEF comprises a number of sub-funds, including the Least Developed Countries Fund (LDCF), the Special Climate Change Fund (SCCF), and the GEF's main trust fund. It is also operated through intermediaries that finance projects that meet its objectives.

THE CLIMATE INVESTMENT FUNDS (CIFs)

The CIFs are comprised of four funds: the Clean Technology Fund, the Pilot Program on Climate Resilience, the Small Renewable Energy Program and the Forest Investment Program. The CIFs are channeled primarily through the multilateral development banks and have US\$8 billion in funding.

Each of these funds has within its mandate and funding priorities the ability to support and capitalize national-level green banks or green bank programs. Both the GEF and the CIFs have provided funding to support local financial institutions in developing and emerging economies in their efforts to scale up climate-related investments, including clean energy and energy efficiency. While the GCF is in the early days of investing, it too can provide capital that can be useful in the creation of a green bank entity. In fact, the GCF has already committed capital to several early green bank initiatives in emerging markets. Furthermore, each of these funds allow its intermediaries to use its capital to on-lend, provide guarantees and risk sharing

mechanisms, and, in some cases, provide patient equity capital. In doing so, their funds play a key role in risk sharing and mitigation for other sources of capital, including private investors and development finance. Using any of these funds to initially capitalize a domestic or local green bank (alongside additional funding from an intermediary) would also support the national enabling environment, capacity building, and deployment of investments that are tailored to the local context and needs.

Institutional Investors, Pension Funds, Other Private Investors & Capital Markets

It may be possible for a green bank to access private sources of capital to fund its operations and activities. However, in almost all circumstances, these sources will require risk-adjusted and market-based returns for their investments.

The dual mandate of the green bank to achieve development goals and leverage other sources of private capital into projects means that any constraints that funders provide for their capital—including expected hurdle rates, return expectations, or requirements—will, by default, impact the investment decisions that the green bank will make. The decision to source funding from private capital should take into account the ways the return requirements of that capital will impact the green bank's ability to fill financing gaps in the market and achieve overall development impact.

That said, green banks that issue “green bonds” as a refinancing tool for bank loans once projects and portfolios have an operating track record can help lower overall costs of LCR capital-intensive projects.

In issuing bonds in this way, green banks can free up capital that can be recycled into other or earlier-stage projects in the pipeline. Green banks such as the Connecticut Green Bank have successfully executed this strategy. The necessary conditions may include (i) having sufficient portfolio size to attract bond investors, (ii) having sufficient credit or public capital to allow the green bank to leverage government guarantees or other obligations (thereby reducing the risk to bondholders), and (iii) meeting market requirements for issuing green bonds, for example, as put forward by the Green Bonds Principles and Climate Bonds Initiative.

This text is excerpted and adapted from: Natural Resources Defense Council, Coalition for Green Capital, and Climate Finance Advisors, Green & Resilience Banks: *How the Green Investment Bank Model Can Play a Role in Scaling Up Climate Finance in Emerging Markets*, <https://greenbanknetwork.org/portfolio/green-and-resilience-banks/>.

List of additional materials for those interested in learning more:

Beyond Direct Access: How National Green Banks Can Build Country Ownership of Climate Finance <https://greenbanknetwork.org/portfolio/beyond-direct-access/>

National Green Banks in Developing Countries: Scaling Up Private Finance to Achieve Paris Climate Goals <http://coalitionforgreencapital.com/wp-content/uploads/2017/07/Green-Banks-in-Emerging-Markets.pdf>

National Development Banks and Green Investment Banks: Mobilizing Finance in Latin America and the Caribbean Toward the Implementation of Nationally Determined Contributions. <https://www.nrdc.org/sites/default/files/national-development-banks.pdf>

Clean Energy for All: Framework for Catalytic Finance for Underserved Clean Energy Markets in India. <https://www.nrdc.org/sites/default/files/>

[catalytic-finance-underserved-clean-energy-markets-india-report-201810.pdf](https://www.nrdc.org/sites/default/files/catalytic-finance-underserved-clean-energy-markets-india-report-201810.pdf)

Green Banking Strategies for Local Governments. <https://greenbanknetwork.org/portfolio/green-banking-strategies-for-local-governments/>

2018 Green Bank Year in Review. <https://greenbanknetwork.org/portfolio/2018-year-in-review/>

Green Investment Banks: Scaling up Private Investment in Low-carbon, Climate-resilient Infrastructure. <https://www.oecd.org/environment/cc/green-investment-banks-9789264245129-en.htm>

Transaction Takeaways:

Hokkaido Betsukai Biogas Power Generation. <https://greenbanknetwork.org/portfolio/hokkaido-betsukai-biogas-power-generation/>

Solar for All. <https://greenbanknetwork.org/portfolio/transaction-takeaway-solar-for-all/>

Kennedy Energy Park. <https://greenbanknetwork.org/portfolio/transaction-takeaway-kennedy-energy-park/>

Green Bank Network Transaction Database <https://greenbanknetwork.org/gbn-member-transaction-database/>

More resources are available at: <https://greenbanknetwork.org/knowledge-center/>

<http://coalitionforgreencapital.com>