

## Greening India's Financial Market: Investigating Opportunities for a Green Bank in India

Strong policy settings and incentive structures must be adopted to enable renewable energy investment to scale up to needed levels in India. Innovative financial mechanisms and institutions, such as green banks, have proved successful on the state level and internationally. These financing tools and institutions can help propel India's solar and wind energy markets and support critical energy-saving efficiency and climate resilience projects.

India is at a critical juncture in scaling renewable energy to provide energy access to growing cities and vast rural communities. Financing is one of the principal barriers to the rapid expansion of India's clean energy market needed to meet the ambitious national target of 175 gigawatts (GW) of solar, wind, and other renewable energy by 2022, as well as the broader targets of the Paris Climate Agreement. Financing must be not only abundant, but also cheap, so that clean energy can compete with fossil fuels. Therefore plentiful and low-cost capital will allow India to transition to a clean energy platform while enabling continued economic growth.

Although investment in renewable energy and energy efficiency is growing both internationally and in India, the scale of investment does not yet match the scale of financing needed to grow rapidly. Over \$140 billion of investment is required in the next six years to reach India's solar, wind and efficiency targets to increase clean energy access. Significant collaborative efforts are required from various stakeholders, including government, financial institutions, investors, industry, and research organizations, in order to develop innovative financial solutions to achieve these targets.

Strong policy settings and incentive structures must be adopted to enable renewable energy investment to scale up to needed levels in India. Dedicated "green" financial institutions known as green banks are proving successful at the state and national level at leveraging public dollars to bring in private capital. An Indian green bank (or banks) can help propel India's solar and wind energy markets and support critical energy-efficiency and climate resilience projects.

To achieve India's clean energy and climate goals, an innovative financial institution like a green bank can leverage limited public funds to reduce capital costs and risk – unlocking broader private investment in clean energy projects to scale up the market. In this way, green banks tailor their offerings to match domestic needs and can help mainstream green investment locally. Green banks have many tools at their disposal to grow clean energy markets, which fall into three primary forms:

- Offering flexible, affordable lending that matches the terms and payback period of a clean energy project, thereby lowering the cost of energy.
- Using financial products and techniques to mitigate specific risks that currently limit investment in the Indian clean energy market.

- Engaging in market development and demand generation.

According to a 2014 Global Commission on the Economy and Climate report an estimated \$93 trillion in infrastructure investment is required in the next 15 years for transport, energy and water systems (primarily in cities) to build low-carbon economies globally. Until recently, growth in low-carbon markets has been constrained domestically, in part due to lack of targeted, innovative financing tools. Barriers to clean energy finance in India include lack of enough domestic debt capital to finance infrastructure, high cost of domestic debt capital, high perceived risk due to lack of knowledge within the domestic banking sector about innovative clean energy technologies, and off-take and currency risks for foreign investors.

Major providers of international public finance such as the World Bank are stepping up their commitment to invest in the transition to low-carbon economies. The World Bank recently committed to spending 28 percent of its investments (worth \$16 billion) directly on climate change projects. While this money is not traditionally directed towards climate change or low-carbon projects, green banks have the potential to both to attract this and to deploy it in India. Green banks can attract and channel this



capital and accelerate the participation of domestic investors and financial institutions by leveraging limited public funds to reduce the risk, resulting in more abundant affordable capital to scale the deployment of domestic clean energy projects.

Solar and wind energy sources offer critical clean energy solutions to respond to a growing young population, threats to energy security, and the impacts of climate change. Prime Minister Narendra Modi's government has made energy access, clean energy, and job creation into national priorities – all of which can be achieved if India reaches its national target to source 40 percent of electric power from non-fossil fuels by 2030. For example, if India achieves its solar target of 100 GW by 2022, solar power is estimated to generate over 10 percent of India's electricity in 2022 (up from 1 percent currently). Addi-

tionally, as many as 1 million full-time jobs could be created by the solar sector if the 100 GW target is met. Green banks can help overcome the biggest financing hurdles that are currently stalling India's nascent clean energy market to achieve these national priorities.

### **Key Takeaways: Benefits of a Green Bank in India**

#### **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 maturation 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, depending on the country's goals, resource endowment, market opportu-

nities 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.

#### **Better financing terms means more projects, lower cost energy and lower subsidy costs**

Domestic Indian banks typically offer higher interest rates and shorter financing terms than would be economical for clean energy projects. The Climate Policy Initiative (CPI) estimates that high-cost, short-term and variable-rate debt raises the cost of renewable energy in India by 24 to 32 percent compared with similar projects

in the U.S.<sup>8</sup> Due to its green investment mandate, specialized green underwriting expertise, and public source of capital, a Green Bank can introduce to the market reduced lending rates and flexible terms that match the terms and payback period of clean energy projects. This enables a broader pool of clean energy projects to be viable, making the projects more likely to be developed and also attract diverse investors, including directing international sources of capital to local projects. Ultimately, this will drive down costs to a rate competitive with coal. CPI also estimates that relative to existing support of renewable energy, low cost debt can reduce the overall subsidy cost by 28 to 78 percent.

#### Green bank's risk mitigation tools keep lending costs low

A critical role that green banks play is to guide local lenders. Lack of familiarity with commercially available clean energy technologies increases perceived risk of financing projects involving clean technology. A green bank helps bridge the gap between the perceived risk associated with clean energy investments and the expectations of the private lenders by offering products such as subordinated debt, partial credit guarantees, insurance, or loan-loss reserves. These risk mitigation products help private banks execute the initial transactions for clean energy projects. Additionally, green banks can provide aggregate market information and facilitate best practices to increase transparency, boost investor confidence and reduce perceived risks in clean energy investment. Following "open source banking" techniques like tracking, publishing and sharing information about the performance of projects and investments in other markets can further reduce real and perceived risks and boost investor confidence.

#### Investment partnerships bring new players on board

Green banks lend their name, capital, and credibility to clean energy projects thus making them more attractive for private players. Co-investment, in which the green bank lends in consortium with other commercial banks, helps bring new lenders to the clean energy markets. Green banks can also identify and analyze technologies that are new to the local market, but have

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a track record elsewhere. This can expand financing for commercially mature, but unfamiliar technologies to India. Green banks can potentially attract higher international capital in India and facilitate quick scaling up of the domestic market.

#### Green Banks facilitate the scaling up of distributed clean energy resources

Small projects like rooftop solar and off-grid solar applications in rural villages have the potential to be transformative in India but financing small, nonstandard projects, individually and on a one-off basis, incurs high transaction costs and is often perceived as high risk. Green banks can establish standard terms as a requirement of receiving financing. This reduces costs and has the added benefit of allowing projects to be more easily aggregated into a portfolio. To stimulate markets, green banks can finance, aggregate or "warehouse" deals to reach a scale where they become attractive for on-sale to large investors or for securitization through green bond issuances. Once this has been demonstrated, commercial lenders and other investors understand it is possible and can replicate.

#### Example of a Green Bank UK Green Investment Bank

Created in 2012 and formally launched on Nov. 28, 2012, the UK Green Investment Bank plc was established as a stand-alone institution to attract private funds to fi-

nance the public sector's investment in environmental preservation and low-carbon business and infrastructure investments. The bank is structured as a public limited company and owned by the UK Department for Business, Innovation, and Skills.

- **Purpose:** The UK Green Investment Bank (GIB) is the world's first investment bank dedicated to greening the economy. The mission of the UK GIB is to "mobilise investment in the UK's green economy" through a strategy designed to maximize green impact and "underpinned by robust principles and policies designed to ensure that each investment's green impact is assessed, monitored and reported to the highest standard.
- **Assets:** The Bank had an initial capitalization of approximately £3.8 billion. According to the 2014-2015 Annual Report, the GIB was close to its expected long-term investment run-rate of £800 million to £1 billion per year.
- **Target Projects:** The GIB invests in innovative, environmentally-friendly areas for which there is a lack of support from private markets, namely offshore wind, energy efficiency, waste and bioenergy, and onshore renewables. In 2014-2015, the GIB expanded its investment mandate into community-scale renewables, largely hydro projects of less than 8 MW and onshore wind projects of less than 18 MW. Overseas projects in South Africa, East Africa, and India are also beginning to develop, funded by an initial pilot of £200 million from the Department of Energy & Climate Change (DECC).
- **Impacts:** To date, the GIB has invested in 68 green infrastructure projects and seven funds. It has directly committed £2.6 billion to the UK's green economy into transactions worth £10.6 billion.

The GIB has extended its reach into over 200 communities across the UK, created jobs, and mobilized private capital. For every £1 invested, GIB has brought in £3 of additional private capital for UK-based green projects. In March 2015, an FCA authorized subsidiary, GIBFS, reached its first close on a new offshore wind fund, further attracting investors to that sector. GIB also reported becoming profitable in the second half of the 2014-2015 financial year ◀