GREEN BONDS ACCELERATE INDIA’S TRANSITION TO A HIGH-PERFORMING, LOW-EMISSION, ENERGY-SECURE ECONOMY
EXECUTIVE SUMMARY

Renewable energy has the potential to reduce India’s dependence on imported fossil fuels, provide access to electricity for all Indians, reduce water and air pollution, and meet the growing energy needs of its more than one billion citizens. India has auctioned 69 GW of renewable energy capacity to date, but the potential exists for much more.¹ In fact, it is estimated that only 3 percent of India’s renewable resources have been harnessed. The Government of India has committed to scaling up renewable energy and has set goals of adding 175 GW by 2022 and 450 GW by 2030.

To meet these targets, India’s Ministry of New and Renewable Energy (MNRE) originally estimated that additional investments of $300 billion would be required but later increased that number by another $80 billion.² Therefore, access to scalable, long-term, low-cost debt capital from institutional investors is critical to the growth of the sector and for India to reach its renewable energy goals. From 2013 to 2017, the U.S. Agency for International Development (USAID) partnered with the MNRE to explore innovative financing mechanisms that could overcome the market’s financial limitations.

FIGURE 1: India annual green bond issues, 2014 to August 2020

USAID’s assistance paved the way for the Indian Renewable Energy Development Agency (IREDA), a public financial institution, to raise $300 million in Green Masala Bonds in 2017. USAID also helped developer ReNew Power raise $550 million and Energy Efficiency Services Limited $77 million, unlocking new financing for clean energy projects in India.

Source: BloombergNEF, Bloomberg Note: Data include labeled and unlabeled green bonds, as explained in the appendix.

² “Additional $80 billion investment required to achieve India’s 2022 renewable target: MNRE secretary.” The Economic Times, December 11, 2019.
USAID helped introduce green bonds as a solution to address the investment gap in the Indian market. Once the MNRE decided to move forward, USAID helped IREDA structure the bond, attain a credit rating, identify projects to include in the bond, and attract global investors. USAID assisted with building the capacity of local financial institutions, which were critical to green bonds’ successful issuance, by bringing together Indian project developers and financiers with institutional investors interested in backing their projects. USAID also raised awareness about credit enhancement tools for renewable energy projects to upgrade the bonds’ credit rating to reduce the cost of capital raised through the instrument and attract investors. After the initial groundwork in 2014, India issued its first green bond in 2015. From January 2015 to August 2020, India issued an impressive $28.2 billion in green bonds.

USAID has a long history of working with the private sector and partner countries to unlock private investment by exploring innovative financing mechanisms and new approaches, policies, and products that can address market limitations. Over the years, the streams of capital that finance climate change work and other global development challenges have evolved as developing countries attract more private sector investment. By 2016, 84 percent of financial flows to developing countries came from private sources, up from 29 percent in 1960. Private investment is critical to the long-term success and sustainability of renewable energy projects. India’s investment in green bonds will continue to advance the energy sector long after USAID programs end.

INTRODUCING INNOVATIVE FINANCING TO THE INDIAN MARKET

USAID helped clearly identify the massive capital investment challenge for India’s renewable energy targets and the need for affordable, long-term financing. Furthermore, the Indian bond market was underused by foreign capital, which often stayed away because of high foreign exchange risk and lack of investment-grade products.

Early on, most of India’s renewable energy projects carried substantial technology and sectoral risks. Tax benefits were not uniformly accessible, access to capital markets was limited, and private equity tapered off as there were limited exit opportunities. Commercial banks and non-banking finance companies faced an asset-liability mismatch because renewable energy projects did not have sufficient assets to back the long-term debt for their high upfront costs and long production period. Most scheduled commercial banks also had reached their lending limits for the power sector. Equity investors and lenders with exposure to infrastructure assets, including renewable energy, struggled to raise new funds due to their inability to exit from existing investments on their accounts. The government needed new financing approaches to help independent power producers scale up development of renewable energy projects.

USAID reviewed current financing mechanisms and recommendations to scale up renewable energy financing in “Financing Renewable Energy in India” and released “Issue Paper: Green Bonds in India,” which covered types of bonds, bond pricing, rapidly growing green allocations by investors, and policy recommendations. These reports identified financial instruments that could provide long-term, low-cost financing while diversifying away from banks toward money markets in India and abroad.

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5 Scheduled banks in India are registered under the secondary schedule of the Reserve Bank of India Act, 1934. They are eligible for loans from the Reserve Bank of India at bank rate and are given membership to clearinghouses. These nationalized banks provide typical services such as opening accounts, providing loans, and accepting deposits.
With MNRE, USAID identified green bonds as a new long-term instrument that could reduce financing costs, increase access to capital, address asset-liability mismatch, and mitigate risk. Bonds are also refinancing tools that allow issuers to free capital from existing assets. This provides an exit strategy for private equity investors and lenders: in a project’s higher-risk construction phase, it is important for issuers, equity investors, or banks to know that once operational, the project can be refinanced through bonds, freeing capital for new investments. This provides fresh capital to lenders and enables private actors to raise equity for new green projects or refinance existing green assets. Bonds can also help access international capital pools such as pension and sovereign wealth funds, corporate social responsibility funding, insurance companies, and high net worth individual funds to finance renewable projects and assets. The MNRE recognized the value of green bonds and supported USAID to launch them in India, effectively linking financing needs to global sources of funding. Although foreign banks and investors have been more cautious, green bonds attracted $28.2 billion in new funding between 2014 and 2020, primarily from private and public independent power producers.

**PROVIDING TECHNICAL ASSISTANCE**

USAID worked with IREDA, Energy Efficiency Services Ltd., Solar Energy Corporation of India Ltd. (SECI), and Indian Railways to incorporate green bonds into their renewable energy portfolios. USAID also presented at RE-Invest 2015, the first renewable energy global investors’ expo organized by MNRE, which provided a platform for over 200 investors, 350 exhibitors, and 1,000 domestic and international delegates to engage, ideate, and innovate. USAID also presented to large Indian public entities such as Indian Oil Corporation Ltd. and National Thermal Power Corporation Ltd. (NTPC), outlining how green bonds could finance their renewable energy programs.

In 2015, MNRE established a group of 15 government financial institutions including IREDA, Power Finance Corporation Ltd., and India Infrastructure Finance Company Ltd. to raise $5 billion in financing. USAID helped IREDA structure the bonds, attain a credit rating, identify renewable energy projects to finance, and attract global investors.

**BUILDING LOCAL CAPACITY OF FINANCIAL INSTITUTIONS**

The Securities and Exchange Board of India endorsed the Green Bond Principles, which are voluntary guidelines that promote transparency through disclosures and reporting. In India, bond issuers and renewable energy sector developers showed a preference for conventional bonds to avoid the administrative costs of verifying green eligibility criteria and certifying use of proceeds. USAID partnered with the non-profit Climate Bonds Initiative to help create much-needed capacity within Indian institutions to certify green bonds. Certification provides a clear assessment of the issuer’s intended use of the capital, strengthens the credibility of the bond, and helps gain investor confidence. USAID also helped Indian institutions verify claims made in bond documents and confirm that the issuer adhered to green bond principles.
In 2016, USAID co-sponsored the inaugural India Forum of the Green Infrastructure Investment Coalition hosted by the London Stock Exchange, which brought together European institutional investors, Indian green infrastructure developers and financiers, development banks, and government representatives. The Forum introduced investors to investment-grade opportunities in India generated by the low-carbon transition, while giving project developers and financiers a chance to discuss their pipelines. Twelve Indian project developers and financiers presented their five-year infrastructure pipelines to investors, outlining plans to issue $18 billion worth of green bonds in the next five years, mainly to raise capital for renewables and energy efficiency projects.

USAID also organized two institutional investor roundtables in Mumbai and Delhi. The events were high-level dialogues between developers, financing institutions, municipalities, ministries, and regulators on how to increase green bond investment in India. In addition, USAID held one-on-one meetings with potential issuers, verifiers, industry groups, investors, regulators, stock exchanges, and public servants on building and participating in a dynamic Indian green bond market. These meetings increased confidence among private developers and banks.

**LASTING IMPACT**

Low cost debt can help reduce overall cost of capital. On average, 70 percent of renewable energy project costs in India have been funded through conventional term loans. Domestic banks and non-banking finance companies (NBFCs) were the major sources of debt in India. International development banks funded renewable energy, but mostly through credit lines to banks and NBFCs. After the introduction of policy and regulatory reforms, as well as new financing approaches such as green bonds, India was able to ramp up renewable energy investments.

Prior to 2015, there were no large-scale issuances. Today, India has increased capital for renewable energy projects and has become the world’s second-largest market for green bonds, with $28.2 billion worth of bonds issued. Since USAID first introduced green bonds and helped issue the first bonds through IREDA, the private sector, led by independent power producers who steer the deployment of renewables in India,

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6 Entities charged with verifying claims made in bond documents and adherence to green bond principles.
has been the most active and has issued around two-thirds of green bonds. The top private issuers have project portfolios exceeding 1 GW and are either listed companies or have overseas equity investors. The top five issuers by amount have around 80 percent of market share, as the top renewable energy independent producers (Greenko, Adani, ReNew) have built large portfolios that can support bond issuances in excess of $100 million. The market must continue to unlock large amounts of capital for project developers to finance clean energy projects and power India’s green economy to reach 450 GW by 2030.

USAID’s efforts to scale green bonds supports the U.S.–India Strategic Energy Partnership and the Asia Enhancing Development and Growth through Energy (EDGE) initiative, which advance both countries’ comprehensive energy strategies and shared commitment to environmental responsibility. The partnership aims to enhance energy security, expand innovation across respective energy sectors, deepen bilateral strategic alignment, and increase industry and stakeholder engagement.