

Issue Brief: Green Bonds

What are green bonds?

A “green bond” is functionally like any other bond issued by governments, financial institutions or companies. It is a tradable financial instrument that allows the issuer of the bond to borrow funds with a promise to pay back the money (i.e. the principal), usually with interest, by a certain date. The distinction is that green bonds are supposed to raise money for environmentally beneficial purposes only. “Climate bonds” are a type of green bond which specifically are supposed to address climate change problems, though the two terms are often used interchangeably. The World Bank issued the first green bonds in 2008. Since then, other development banks, corporations, governments and municipalities have issued similar products. Today, corporations are the largest issuers of green bonds, and the global market for these products is growing rapidly. In less than the first half of 2014, US\$18.35 billion in self-labeled green bonds had already been issued, as compared to US\$11 billion in all of 2013, which itself was several times more than previous years.¹ Additionally, many more bonds with proceeds intended for environmentally beneficial purposes are not formally labeled as green. Indeed, Climate Bonds Initiative estimates that some US\$502.6 billion in both labeled and unlabeled climate-themed bonds have been issued.

What kinds of activities do green bonds fund?

The following examples illustrate the breadth of activities funded by green bonds:

Corporate: In early 2014, GDF Suez issued the largest corporate green bond ever, a “green use of proceeds bond” that was guaranteed by the company and raised money for Suez’s recent and pending renewable energy and energy efficiency projects.² Around the same time, Toyota became the first car maker to issue a “green securitized bond” to fund electric vehicle and hybrid car loans.³ In 2012, Mid-American Energy issued one of the earliest “green project bonds,” a 28-year bond to specifically finance the Topaz solar project, a 550 MW solar power plant in California.⁴

Government: New York’s Energy Research and Development Authority issued green bonds to fund 128 drinking water and wastewater projects across the state. These “green revenue bonds” are to be repaid by revenue collected from fund recipients, such as local governments and water agencies.⁵ In 2013, the Indian Renewable Energy Development Authority issued green bonds to finance project development loans for renewable energy.

Development banks: The World Bank has issued green use of proceeds bonds to support a variety of projects, including: capacity and infrastructure development for river basin and irrigation

management in Indonesia; the medium-sized Rampur Hydropower Project in India; an energy efficiency project in China for “leasing and performance contracting for the industrial sector, financing for biomass electricity (from corn and wheat stalk), and building a heat power plant;” and in Turkey “increasing privately owned and operated energy production from indigenous renewable sources and enhance energy efficiency investments in industries such as iron and steel.”⁶

Who decides what is “green”?

There is no standard for what kinds of activities can be funded by green bonds. Absent common standards or criteria, the vast majority of green bonds are self-labeled by the issuer. For example:

- The World Bank decides what projects can be eligible for green bond proceeds based on its own selection criteria. These criteria were reviewed by the International Climate and Environmental Research University of Oslo (CICERO). CICERO also certified the International Finance Corporation’s criteria for green bonds. The IFC issues green bonds for renewable energy, energy efficiency and other activities that are supposed to reduce greenhouse gas emissions. However, IFC green bonds may also support dirty energy such as fossil fuel projects and destructive dams. Similarly, the European Investment Bank’s Climate Awareness Bonds fund renewable energy and energy efficiency activities, among others, but they may also support some fossil fuel projects and destructive dams. Notably, EIB prohibits its green bond proceeds from funding nuclear and coal-based energy.
- The corporation GDF Suez’s green bond criteria exclude support for fossil fuels but allow funding for large dams and nuclear energy. The company’s green bond criteria include compliance with environmental and social guidelines based on ISO 26000, the International Organization for Standardization’s guidance on social responsibility. Vigeo, a French firm that rates corporations on environmental, social and governance issues, evaluated the projects in Suez’s green bond pipeline for compliance with its criteria.⁷

There are currently several approaches being developed to either standardize or set parameters as to what may be considered to be a green bond.

- **The Climate Bonds Initiative** is developing standards for a bond to be eligible for an industry-recognized label of “Certified Climate Bond.” It has developed a “climate bonds taxonomy” to establish common definitions for 8 broad categories — energy, energy efficiency, transport, water, waste management, land-use and adaptation infrastructure — which are then further defined



with criteria, explanations and restrictions. Fossil fuels and nuclear energy are specifically excluded, while support for large dams is pending discussion on the issue of tropical reservoir emissions.⁸ In order for an issuer to have their bond qualify as a Certified Climate Bond, an approved third party must verify compliance with CBI's Climate Bond Standard, and then the Climate Bond Standards Board must approve certification.

- **The Green Bonds Principles** are “voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issuance of a Green Bond.” There is no attempt to define what would qualify as green or to exclude any specific categories, such as fossil fuels. The Green Bonds Principles were drafted by Bank of America Merrill Lynch, Citi, Credit Agricole Corporate and Investment Banking and JP Morgan Chase.⁹

Environmentally harmful activities and green bonds

Though many have financed environmentally sound projects, green bonds — because of the lack of common standards or criteria — could finance environmentally harmful activities yet still label them as “green.”

Hydropower: Green bonds issued by both corporations and development banks have been linked to destructive hydropower projects, despite serious social and environmental impacts, including the release of greenhouse gases by reservoirs in the tropics.

For example, with the proceeds from a World Bank Green Bond, the World Bank disbursed a US\$600 million loan to the government of India in 2008 to help fund the Rampur Hydropower Project,¹⁰ a 412 MW run-of-the-river hydropower dam¹¹ located on the Sutlej River in Himachal Pradesh. Among its many shortcomings, the project's environmental impact assessment failed to address potential disasters such as landslides and erosion due to construction, and lacked a disaster management plan.

Communities affected by the dam and the South Asian Network on Dams, Rivers and People have voiced discontent about the lack of public consultation as well as the environmental harm caused by the project.¹² Local communities are facing water shortages due to water diversion, lower crop production, increased asthma rates associated with dust from project construction and report that their farm animals have been weakened.

Waste incineration: Waste incinerators produce a variety of toxins, including cancer-causing dioxins, which bioaccumulate in the environment and food chain, and can damage reproductive and immune systems. Once built, incinerators undermine the goal of waste reduction by limiting the ability of a country or municipality

to increase recycling, usually for decades. The EIB's Climate Awareness Bonds have funded some environmentally dubious activities, including a waste incineration/energy plant in Tallinn, Estonia. The waste-to-energy plant has been built with a capacity to burn 220,000 tons per year, which amounts to 60 percent of all the municipal waste generated in the country, thus locking Estonia into a maximum recycling rate of 40 percent. But Estonia's current recycling rate is already 40 percent (Eurostat 2012). EU law requires 50 percent recycling by 2020 (2008/98/EC) and is likely to mandate 70 percent recycling by 2030 (COM/2014/0398). Therefore, this new burner financed by Climate Awareness Bonds will either need to operate undercapacity — wasting taxpayers' money — or require Estonia to import waste from other countries.¹³

Fossil fuels and nuclear energy: It appears that, to date, no bond issuances for nuclear energy or fossil fuels have been labeled as green. However, given industry efforts to market shale gas from hydraulic fracturing or “clean coal” as green, the potential for “green” bonds funding dirty energy is a real risk. Indeed, as noted above, the IFC, EIB and other international financial institutions could support some fossil fuel-based green bonds, and there are no exclusions as to what is considered “green” by the Green Bond Principles. In fact, the Principles specifically state, “There is diversity of opinion on the definition of Green Projects; therefore it is not the intent of the GBP to opine on the eligible Green Project categories.”

Biomass and forestry: To date, it appears that no green bond issues have financed harmful biomass or forestry investments. Yet, a risk exists that they could in the future. For example, one holding company in the UK, Green Investment Solutions, plans to issue a US\$256 million green bond to raise money for two timber plantation operations in 2014. The first plantation is a softwood stand in Russia, while the second is a 35,000-tree teak plantation in Brazil to produce timber and oil products. The bond issue is projected to support obtaining forestry rights for the company, as well as to update existing infrastructure.¹⁰ Environmental impacts of large plantation projects for forestry or biomass are often problematic. Plantations could be established on already degraded areas, or they could expand into lands covered by forest. Biodiversity is usually low, especially in tropical plantations, and plantations can severely impoverish soil quality and water supplies. Finally, plantations can produce their own greenhouse gas emissions, if existing forest stands are cut and burned improperly.

Lack of transparency: Currently, the majority of green bonds are “use of proceeds” bonds, in which the issuer first raises the money and later determines what specific projects will be funded by the proceeds. For example, according to the prospectus, GDF Suez's 2014 green bond can fund recent (since January 1, 2013) and future



green projects. The company specifically stated in its roadshow that the bond could support the Jirau Hydropower Project in Brazil. However, this dam was already operational at the time of the bond issuance, and by 2012 had already received billions in financing, including almost BRL \$10 billion in preferential credit from Brazil's development bank, BNDES. Yet as the company is not required to list which specific projects are actually supported by green bond revenue, bondholders do not know precisely what is going to be funded.

Since it began operation, the Jirau HPP has been far from "green." Among its environmental and social impacts, the Jirau Dam may lead to the near-extinction of several important migratory fish species.¹¹ Construction caused social and environmental impacts on federally-protected indigenous territories such as the Karitiana territory of the Karipuna tribe, as well as on nearby tribes living in voluntary isolation. In addition, the Jirau HPP has increased deforestation in the Brazilian Amazon. The Brazilian Instituto Nacional de Pesquisa Espacial attributed a doubling of the deforestation rate in Rondônia state during 2010-2011 to the construction and implementation of the Jirau HPP and Santo Antônio HPP further downstream. In addition, in 2009, 140,000 hectares of the "Reserva Estadual do Rio Vermelho" protected area were reduced in order to accommodate the Jirau HPP.¹² Without proper reporting on what projects were ultimately funded by the GDF Suez bond, bondholders have no way of knowing whether they are responsible for financing these harmful environmental and social impacts.

Recommendations

Given the climate crisis, there is an urgent need to shift investment dollars away from financing climate pollution and toward environmentally sound initiatives. Green bonds can be an important component of that effort, but there must be common, basic standards in place.

- **Exclusion of dirty energy.** Green bonds should not finance dirty energy such as fossil fuels, nuclear energy, destructive dams, waste incineration or harmful biomass or forestry projects.
- **Safeguard the environment and affected communities.** In addition to greenhouse gas emissions, social and environmental criteria must be taken into account. For example, green bonds should not finance projects that violate human rights or pollute water.
- **Transparency and reporting.** Green use of proceeds bonds must report transparently and publicly on eligible investments at the outset, and then on the actual investments made through the lifetime of the bond. Such reporting should be independently verified.
- **Getting what you pay for.** The proceeds of green bonds must be used for their intended purposes. Currently, in most countries,

green bond issuers are not contractually obligated to finance the projects for which the bond has been publicized. Fixing this would require regulatory changes as well as high standards of transparency, disclosure, monitoring and reporting to the public.

- **Not international climate finance.** The US\$100 billion that developed countries are obligated to provide to developing countries for mitigation and adaptation activities under the United Nations Climate Convention is entirely separate from important efforts to shift private investment from brown to green. Green bonds must not be counted towards the US\$100 billion in climate finance.

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1. Bonds & Climate Change - The State of the Market in 2014, Climate Bonds Initiative, July 2014. <http://www.climatebonds.net/resources/publications/bonds-climate-change-2014>
 2. "Green use of proceeds" bonds are general obligation bonds whose proceeds are segregated for specific green purposes.
 3. Securitization is the process of pooling assets, such as green car loans, and packaging them into financial instruments such as bonds. In this case, bondholders are repaid by the revenue generated by hundreds of car loan repayments.
 4. Project bonds specifically fund a particular project (or group of projects). Project bonds are repaid by the revenue generated by those projects.
 5. As opposed to general obligation bonds, which are guaranteed by the general treasury of a company or state, revenue bonds are paid back by a specific revenue stream, such as particular taxes or fees.
 6. See World Bank Green Bond Fifth Annual Investor Update 2013. <http://treasury.worldbank.org/cmd/pdf/WorldBankGreenBondNewsletter.pdf>
 7. See <https://www.gdfsuez.com/wp-content/uploads/2014/05/gdf-suez-green-sustainability-bond-videos-seconde-opinion-april-2014.pdf>
 8. Climate Bonds Initiative has not decided yet on whether to include the financing of carbon capture and storage as deserving of climate bond status.
 9. For a more detailed critique of the Green Bonds Principles, see an open letter calling for the principles to be strengthened – by Bank Track, Amigos da Terra - Amazonia Brasileira, Berne Declaration, Friends of the Earth U.S., Global Witness, International Rivers and Rainforest Action Network. http://www.banktrack.org/download/159d532/140409_banktrack_letter_to_green_bonds_principles_banks_0.pdf
 10. The World Bank, Rampur Hydropower Project, 2014. <http://www.worldbank.org/projects/P095114/rampur-hydropower-project?lang=en&tab=overview>
 11. Despite their name, run-of-the-river projects can create reservoirs which may impede sediment flows as well as emit greenhouse gases due to flooded vegetation
 12. Himanshu Thakkar, SANDRP Comments Re the Rampur Hydroelectric Project (India), June 18 2009. http://www.internationalrivers.org/files/attached-files/sandrp_cdm_commentsrampur.pdf
 13. See <http://www.no-burn.org/downloads/The%20Urgent%20Need%20for%20EU%20Biowaste%20Targets.pdf>
 14. "Forestry firm to launch green bond and biomass fund," Environmental Finance, July 17, 2014. <https://www.environmental-finance.com/content/news/exclusive-forestry-firm-to-launch-green-bond-and-biomass-fund.html>
 15. See <http://www.internationalrivers.org/resources/amazon-in-peril-1777>
 16. To offset the reduction, 140,000 hectares were added to the existing "Reserva Federal do Rio Pardo." Yet only 70,000 hectares of the offset area consisted of forested land, while the remaining 70,000 hectares consisted of land for agricultural production occupied by 5,000 families. The resulting effect was a net loss of 70,000 hectares of forested areas attributable to the Jirau HPP.