

Green Bond

IMPACT REPORT JUNE 2016





THE WORLD BANK

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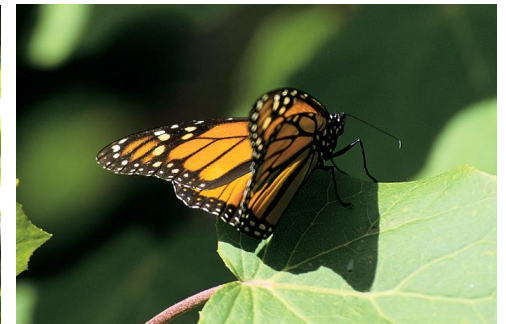
World Bank Green Bond Highlights:

- **Green Bonds:** 125 World Bank (IBRD) Green Bonds issued in 18 currencies totaling US\$9.1 billion, of which US\$5.7 billion was outstanding as of June 30, 2016.
- **Eligible Green Bond Projects:** 90 Green Bond eligible projects with commitments totaling US\$15.9 billion. Disbursements have commenced for 84 Green Bond eligible projects in 24 countries with commitments totaling US\$14.1 billion. A total of US\$6.6 billion in Green Bond proceeds has been allocated to support the financing of disbursements to these projects.

- **Examples of Impact Results**

- US\$2.4 billion commitments to 10 renewable energy projects is expected to result in 2,359 MW of renewable energy capacity¹ – equivalent to the total installed capacity of Latvia in 2014.²

US\$3.9 billion has been committed to improve public transportation in emerging countries. In 13 of these projects with IBRD commitments totaling US\$2.3 billion, public transport ridership will increase by 2.3 million passengers per day



¹ This represents the expected total renewable energy capacity installed or rehabilitated from the 10 projects supported by the World Bank. 1,197 MW is the pro rated share based on the percentage of total project cost that is financed by World Bank loans.

² Source: US. Energy Information Administration Agency – International Energy Statistics.

World Bank Green Bond

eligible projects span the world and cover multiple sectors

Some IBRD project examples include:



Energy Efficiency

A project that improves energy efficiency in the industrial, commercial and municipal sectors in **Ukraine** will result in energy saving of nearly 7 million MWh per year – the equivalent of 517,000 homes' energy use for a year.¹



Forestry

A project to improve forest management in **China** will result in 132,600 hectares of forests restored or re/afforested and a 20% increase in vegetative cover plus improve species diversity. It will also train 216,000 farmers in forest management.

Renewable Energy

A geothermal energy project in **Indonesia** will add 150 MW of renewable energy by 2018. The project avoids 1.1 million tons of CO2 eq. annually – equivalent to taking 232,000 passenger vehicles off the road each year.¹

Transport

A public transport project in **Ecuador** will increase passengers by 369,000 people per day and reduce travel time by 40%. It will provide affordable, safe, reliable transportation for all with special focus on the disabled.

Climate Resilient Infrastructure

A project to increase resilience of communities to the impacts of climate change in **China** will benefit 6.6 million people and provide 9,500 km² of flood protection in rural and urban areas.



Water

A project to improve sustainable water management in **Brazil** will benefit 2.6 million people and provide 164,000 people with improved sanitation improving quality of life and environmental preservation and conservation.



Our commitment to help countries address climate change creates sustainable investment opportunities

Foreword by Arunma Oteh, World Bank Vice President and Treasurer

Climate change poses a fundamental threat to economic development across the world. A report we published in November 2015 found that if left unattended, climate change could push an additional 100 million people into poverty by 2030. Moreover, the world's poorest people are likely to suffer disproportionately, because they live in countries that are the least prepared and the least able to deal with the consequences of climate change.

Our Green Bond program supports projects that will significantly reduce CO₂ equivalent emissions, increase energy savings and power generation from renewable sources, improve water management, and restore forests across many parts of the world.

The World Bank Group has been a pioneer in the green bond market, issuing our first green bond in 2008. The transaction was developed based on demand from Scandinavian pension funds for a highly-rated, fixed-income product whose proceeds would be used to support climate-related projects.

Since then, the World Bank's global issuances to both institutional and retail investors have reached US\$9.1 billion through 125 transactions. The documentation of its green bond process, use of a second opinion from the Center for International Climate and Environmental Research (Cicero) at the University of Oslo, and issuance in 18 different currencies have paved the way for the development of the market.

More broadly, the World Bank has been a strong advocate for the green bond market, working with both investors and issuers to increase awareness about its potential, and publishing several guides and articles for those interested in supporting and learning about climate finance and investing for impact through green bonds.

In addition, we are pioneering efforts to harmonize green bond impact reporting across multilateral institutions as an important tool for investors to evaluate the non-financial benefits of their investments.

To that end, we are pleased to share this second World Bank Green Bond Impact Report with the objective of

providing transparency and easily accessible information about the use of green bond proceeds and the expected impact of Green Bond Eligible Projects.

The indicators presented in this report have been selected from a host of development results expected for the eligible projects. They illustrate the type and scale of expected results in a variety of sectors and country contexts, and also reflect individual country challenges.

However, these projects must also be seen in the context of the World Bank's Climate Change Action Plan going forward. The plan, adopted earlier this year by the World Bank, charts out a blueprint for helping countries deliver on climate action, particularly in the critical years leading to 2020, when the Paris Agreement is due to come into effect.

The climate agreements reached in Paris last year marked a turning point on the road to combatting climate change. Rather than a top-down approach of setting goals, individual countries submitted their own plans for actions that they intend to take to reduce greenhouse gases.

The World Bank Group helped some countries draw up their plans, and is now working with a range of them to link the plans with our own country work programs.

A quick review of the plans finds that among developing and middle-income countries, energy is the most frequently mentioned area for climate action. Agriculture, forestry and land use, and transport are the next-most mentioned areas for action, followed by water management, and risk management. These priority areas will inform the World Bank's work this coming year.

As the World Bank, we have a responsibility to our clients to help them both recognize and respond to the risks that climate change poses. We also have the capability to leverage the public and private finance necessary to help our clients shift to a cleaner growth trajectory.

Our work in the green bond market is among the key ways we are working to beat climate change.

World Bank Country Partnership Framework

The comparative advantage of the World Bank Group (WBG) is its ability to address complex problems on a global scale. This ability comes from the powerful combination of country depth and global breadth, public and private sector instruments and relationships, multisector knowledge, and the ability to mobilize and leverage finance.

Before developing a new partnership strategy with a client country, the Bank completes a comprehensive diagnostic study (called a Systematic Country Diagnostic), which identifies the barriers to eliminating extreme poverty and boosting shared prosperity in the country. In collaboration with partners, experts from the World Bank's Global Practices and Cross-Cutting Solution Areas work with country-based staff and its sister institutions, IFC and MIGA, to prioritize the Bank's program of financial, analytical, advisory, and convening support for the country, based on its comparative advantage and the client's priorities. This support comes together in the Country Partnership Framework.



WBG staff also work on global challenges, including gender, jobs, climate change, fragility, forced displacement, and others. Cross-Cutting Solution teams drive coordination across the Bank Group, its regions, and technical practices. On climate change, for example, the Bank Group engages at the global level on carbon pricing and dialogue about climate; and it helps countries to assess policy and investment choices to meet their country-level commitments.

The World Bank is accountable to its shareholders and the public through a set of feedback and accountability mechanisms, including the Corporate Scorecard, and regular opportunities to discuss progress on operations with its Board of Executive Directors. It continues to refine a set of indicators to track progress on client results and the effectiveness of its operations to demonstrate progress.

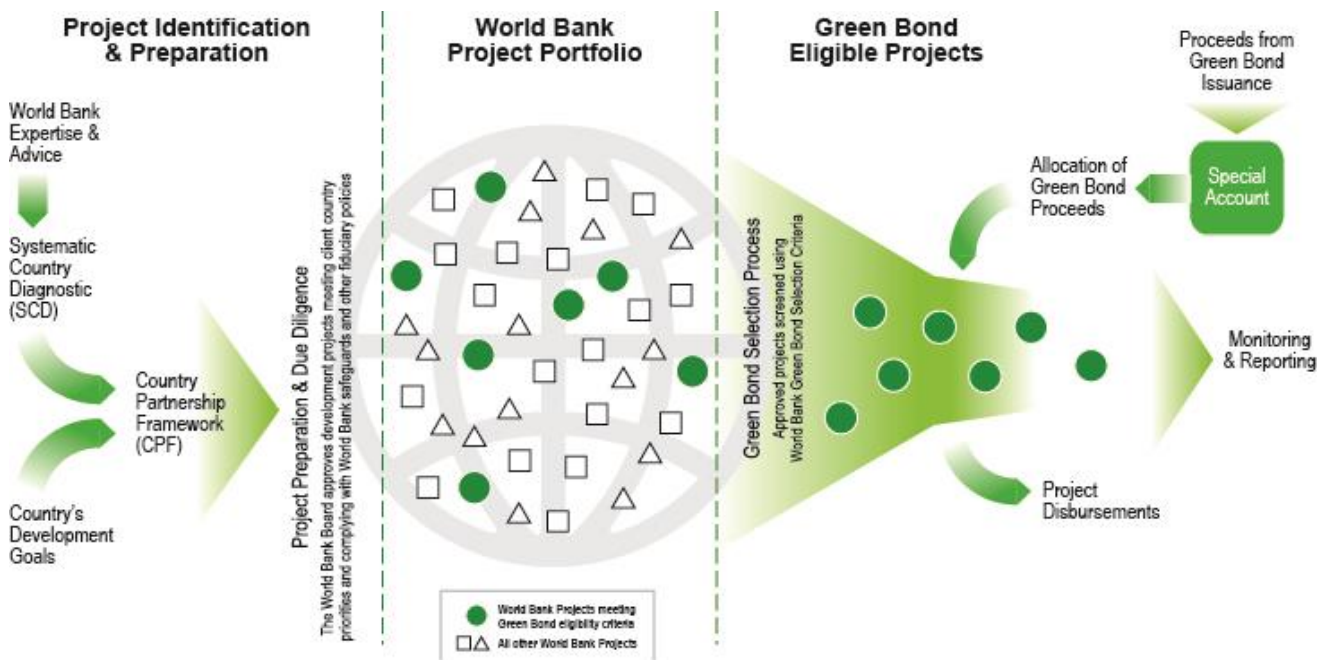
All of the work at the World Bank is anchored in two goals: ending extreme poverty and promoting shared prosperity in a sustainable manner. Reaching these ambitious goals requires the World Bank to deliver the world’s best ideas, knowledge, and experience in development. Country-based teams are the chief interface with clients and are responsible for developing country and regional strategies. They foster selectivity in country programs, ensure that these programs account for the relevant country’s individual context and political economy, and integrate public and private sector solutions.

The country-based teams work with client countries to identify, assess and appraise individual projects and programs including conducting feasibility studies that assess the environmental, social and financial sustainability of the proposed projects.

Every project is presented to the Board of Executive Directors, a resident Board with 25 chairs representing its member countries, for approval. Each project must be consistent with the agreed Country Partnership Framework and demonstrate how it contributes to achieving the twin goals of the World Bank to reduce poverty and promote shared prosperity in a sustainable manner.

Government agencies report the projects’ progress and the World Bank monitors the agreed milestones towards achieving the project’s objectives including a formal review at least twice a year. The World Bank also conducts a review of the lessons learned at the conclusion and each project is also subject to an independent evaluation.

From the pool of approved projects, a subset of illustrative projects that meet the World Bank’s Green Bond eligibility criteria are selected for inclusion in the program. To demonstrate the breadth of the World Bank’s work helping countries address the climate challenge, projects are selected from different countries and sectors. There are currently 90 projects that have been included in the program and disbursements have commenced in 84 of these projects.



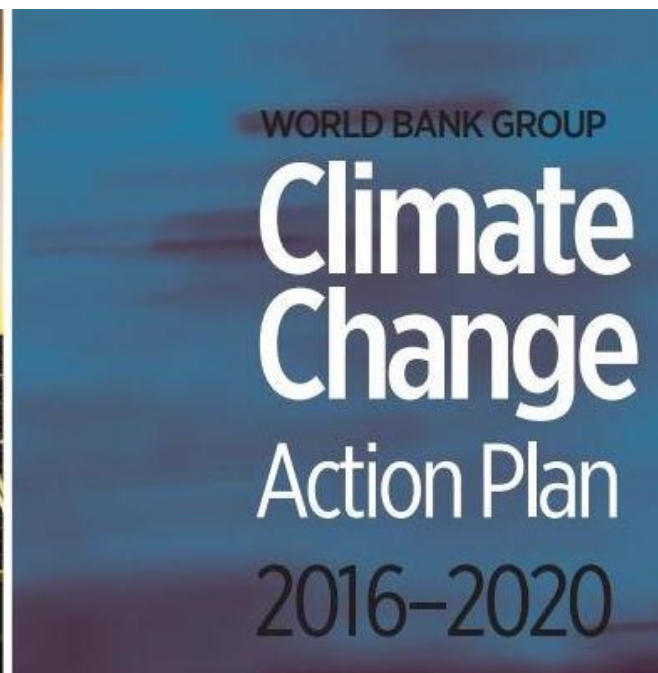
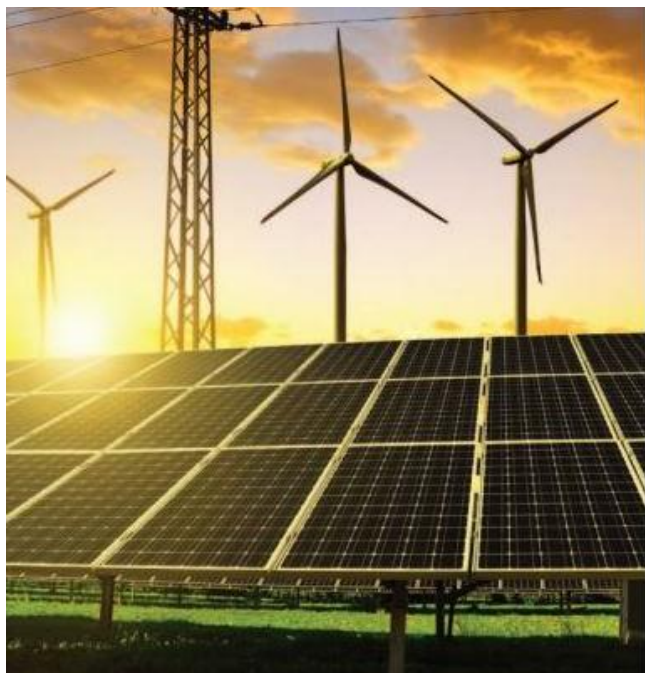
World Bank Group Climate Action Plan

In December 2015, the World Bank Group adopted a Climate Change Action Plan to help developing countries turn the promises made at the historic Paris Climate Agreement into reality. The plan lays out a clear roadmap, with ambitious targets, for helping countries mitigate for and adapt to the impact of a changing climate.

As per the plan, the Bank Group will incorporate climate change considerations across all of its work, and expand its commitments in six high-impact areas: renewable energy and energy efficiency, transportation, boosting the resilience of cities, climate-smart land use, strengthening the competitiveness of the green sector, and extending disaster preparedness.

Among the specific goals to be met by the World Bank Group under the Action Plan by 2020 are:

- Adding 30 gigawatts to the world's renewable energy capacity, a doubling of current World Bank contributions, and mobilizing \$25 billion of commercial funding for clean energy.
- Investing \$1 billion over five years to promote energy efficiency and resilient building in urban areas and quadruple funding over five years to make transport systems more resilient.
- Developing climate-smart agriculture investment plans for at least 40 countries, with 100 percent of agriculture lending to be climate-smart by 2020. Priority areas will include the use of climate resilient seeds, high-efficiency irrigation, livestock productivity, and risk management.
- Supporting sustainable forest management strategies in more than 50 countries.
- Bringing early warning systems for natural disasters to 100 million people in 15 countries, and extending social protection systems to 50 million people to help them adapt to a changing climate.
- Implementing large-scale national and trans-boundary programs to promote water efficiency across sectors, and improving water management.
- Scaling up country-level support and global advocacy work to reform fossil fuel subsidies and putting a price on carbon pollution.

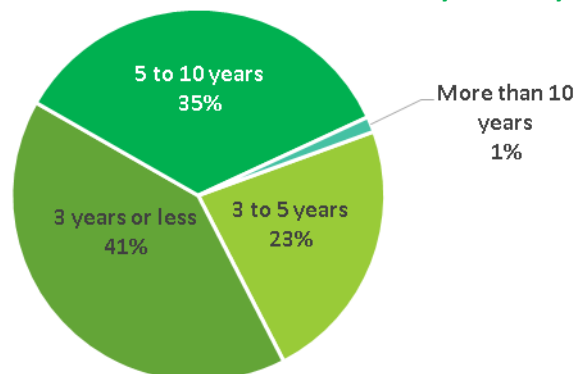


World Bank Green Bonds

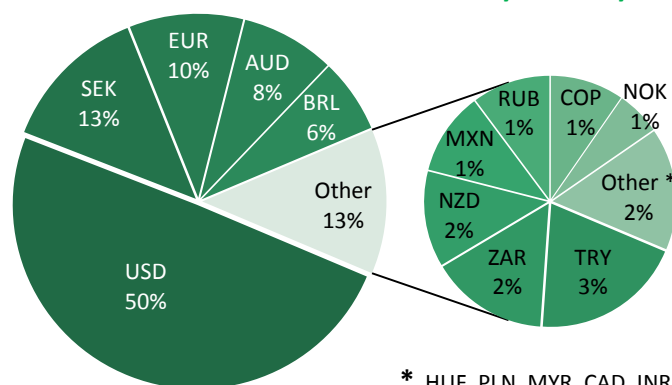
Green Bond issuances

As of June 30, 2016, the World Bank (International Bank for Reconstruction and Development, IBRD) has issued 125 Green Bonds in 18 currencies raising the equivalent of US\$9.1 billion of funding supporting the transition to low-carbon and climate resilient growth. 25 green bonds totaling US\$ 2.9 billion had matured by Jun 30, 2016 of which US\$1.6 billion has been replaced with new green bonds. In addition, US\$0.3 billion of green bonds have been repurchased or called and these amounts have also been rolled-over. World Bank Green Bonds totaling US\$5.7 billion were outstanding as of June 30, 2016. The total amount of matured green bonds that may be replaced with new green bonds in future is US\$1.3 billion.

World Bank Green Bond Issuance by Maturity



World Bank Green Bond Issuances by Currency



* HUF, PLN, MYR, CAD, INR and JPY

Use of proceeds reporting

Currently, there are 84 Green Bond eligible projects supported by Green Bond proceeds. The total committed amount for these projects is US\$14.4 billion. By June 30, 2016, US\$7.1 billion had been disbursed to these projects and US\$0.2 billion has been subsequently repaid, leaving a total of US\$6.9 billion outstanding financing supported by US\$5.7 billion Green Bond proceeds.³

There are six additional projects with a total committed amount of US\$1.6 billion that have been identified as Green Bond eligible. Allocations will begin once these projects start disbursing.

The current pipeline of undisbursed commitments to Green Bond eligible projects is US\$8.8 billion.

Use of Proceeds Summary

Amounts in US\$ billion ³	Cumulative Balance: Opening	Activity	Cumulative Balance: Closing
Green bond proceeds from new issuance	8.4	0.7	9.1
Allocations supporting eligible project disbursements	(5.6)	(1.5)	(7.1)
Repayments from green bond eligible projects	0.1	0.1	0.2
Roll-over of green bond redemptions	(1.8)	(0.2)	(1.9)
FX translation adjustments ^{a/}	(0.2)	(0.0)	(0.2)
Unallocated green bond proceeds^{a/}	1.0	(0.9)	0.1
Green Bond redemptions	(1.8)	(1.5)	(3.3)
of which: portion not replaced with new green bonds	-	(1.3)	(1.3)
Green Bonds outstanding	6.5	(0.8)	5.7

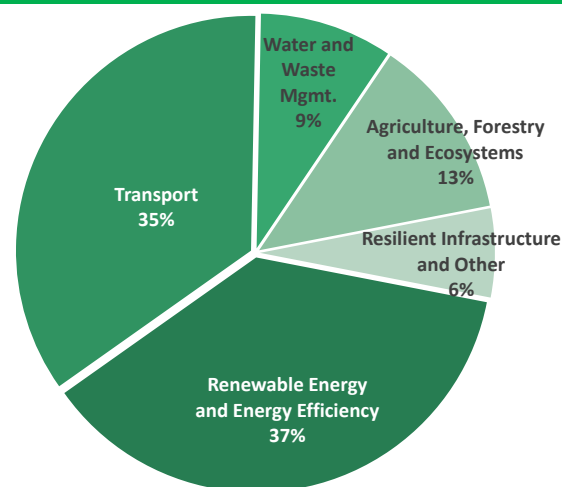
Notes:

a/ EUR denominated green bonds and eligible project amounts converted to US\$ equivalents using spot exchange rate on Jun 30, 2016
Amounts may not add up due to rounding.

³ The balance of US\$1.3 billion that was originally supported with green bonds that have subsequently matured and not been replaced with new green bonds is supported by proceeds from the World Bank's core bond program that supports sustainable development.

Commitments by Sector

Amounts in Eq. US\$ billion (may not add up due to rounding)	Committed ^{1/}			Allocated & Outstanding ^{2/}
	Mitigation	Adaptation	Total	
Renewable Energy and Energy Efficiency	5.3	0.0	5.3	3.2
Transport	5.0	0.0	5.0	1.6
Water, Wastewater, and Solid Waste Management	0.1	1.2	1.3	0.8
Agriculture, Land Use and Forestry	0.5	1.3	1.8	0.6
Resilient Infrastructure, Built Environment and Other	0.3	0.6	0.9	0.7
Total	11.2	3.1	14.4	6.9
	78%	22%	100%	



Notes:

- 1/ Committed amount net of cancellations for eligible projects for which the loans are disbursing.
 - 2/ Green Bond proceeds allocated to support financing for disbursements to eligible projects net of loan repayments. Not adjusted for matured bonds that were not replaced with new green bonds.
- Amounts may not add up due to rounding



Renewable energy development amounts to 15% of projects eligible for support from the World Bank's Green Bonds. The energy sector contributes about 40% of global CO₂ emissions. Despite improvements in some countries, the global CO₂ emission factor for energy generation has hardly changed over the last 20 years, making the transition to a more sustainable energy mix is critical for climate change mitigation.⁴



Energy efficiency is the low cost option to reduce emissions and unnecessary expenditures. At the same time, a projected 2.4 billion people are expected to migrate to urban areas by midcentury and cities already account for two-thirds of global energy demand thus contributing to 70% of GHG emissions.⁵ Harnessing the "hidden fuel" of energy efficiency offers many opportunities to help cities achieve energy security, energy savings, improved municipal services, increased competitiveness, and reduced costs and emissions.⁶ 22% of World Bank Green Bond eligible projects is dedicated to energy efficiency improvements.



Transport contributes about 15% of global greenhouse gas emissions (IPCC). With motorization on the rise, that share is expected to grow dramatically, making this a critical sector to reform in order to address climate change.⁷ Transport improvements that shift to low-emission modes also generate 'co-benefits' in terms of reducing congestion, local air pollution, oil dependency and transport safety risks.⁸ 34% of the Green Bond eligible projects focuses on transportation efficiency and urban mass transit solutions.



Water stress is an increasing challenge facing the world, driven by population and economic growth, land use changes, increased climate variability and change, and declining groundwater supplies and water quality.⁹ Improved water resources management and climate-smart water infrastructure help countries manage this risk. 9% of the World Bank's Green Bond eligible projects focuses on water, wastewater and waste management issues.



Agriculture is vulnerable to climate change and it is, with associated deforestation, the largest contributor to greenhouse gases. Climate smart agriculture has the potential to deliver a "triple win" of increased productivity, enhanced resilience, and carbon sequestration.¹⁰ 12% of the World Bank's Green Bond eligible projects illustrate measures in livestock, agriculture, and land, forest and ecosystem management aimed at mitigating and/or adapting to climate change.

⁴ <https://openknowledge.worldbank.org/handle/10986/17143>

⁵ <http://www.worldbank.org/en/region/eap/publication/energizing-green-cities-in-southeast-asia>

⁶ <http://www.worldbank.org/en/news/feature/2014/12/08/building-energy-efficient-cities-new-guidance-notes-for-mayors>

⁷ <http://www.worldbank.org/en/topic/transport/overview#1>

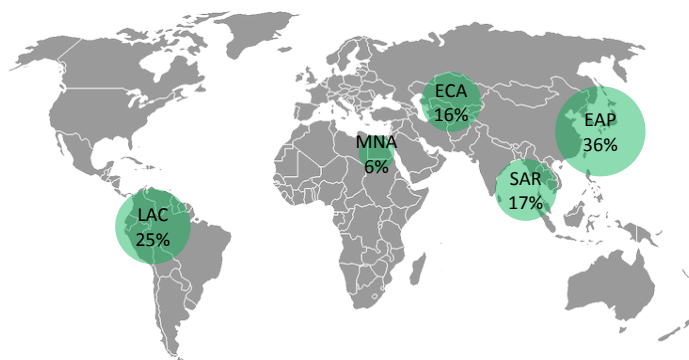
⁸ <http://siteresources.worldbank.org/INTTRANSPORT/Resources/336291-1227561426235/5611053-1229359963828/TP40-Final.pdf>

⁹ <http://www.worldbank.org/en/topic/waterresourcesmanagement/overview#1>

¹⁰ http://www.worldbank.org/content/dam/Worldbank/document/CSA_Brochure_web_WB.pdf

Commitments by Region

Amounts in Eq. US\$ billion (may not add up due to rounding)	Committed ^{1/}	Allocated & Outstanding ^{2/}
East Asia & Pacific (EAP)	5.2	2.2
Europe & Central Asia (ECA)	2.3	1.1
Latin America & Caribbean (LAC)	3.6	2.3
Middle East & North Africa (MNA)	0.8	0.2
South Asia (SAR)	2.5	1.0
Total	14.4	6.9



Notes:

1/ Committed amount net of cancellations for eligible projects for which the loans are disbursing.

2/ Green Bond proceeds supporting financing for disbursements to eligible projects net of loan repayments. Not adjusted for matured bonds that were not replaced with new green bonds.

Amounts may not add up due to rounding

Green Bond eligible projects

All World Bank bonds support sustainable development, focusing on poverty reduction and inclusive growth. They fit well within all investor mandates, especially those investment strategies that incorporate Environmental, Social and Governance factors into the decision-making process. The World Bank's Green Bonds are a subset of its sustainable investment opportunities focused specifically on climate change issues that directly impact developing countries and address the global climate challenge.

Green Bond eligible projects promote the transition to low-carbon and carbon resilient growth in client countries targeting climate change mitigation and adaptation. The World Bank's eligibility criteria underwent an independent review by the Center for International Climate and Environmental Research at the University of Oslo (CICERO).

Examples of climate change mitigation projects:

- Solar and wind installations
- Funding for new technologies that permit significant reductions in greenhouse gas emissions
- Rehabilitation of power plants and transmission facilities to reduce greenhouse gas emissions
- Greater efficiency in transportation, including fuel switching and mass transport
- Waste management (methane emission) and construction of energy-efficient buildings
- Carbon reduction through reforestation and avoided deforestation

Examples of climate change adaptation projects:

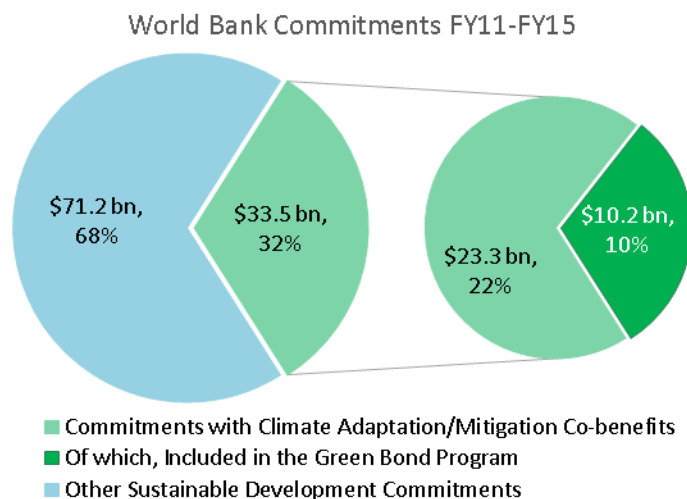
- Protection against flooding (including reforestation and watershed management)
- Food security improvement and implementing stress-resilient agricultural systems (which slow down deforestation)
- Sustainable forest management and avoided deforestation.

Green Bond eligible projects are identified through a two-stage process.

1. All projects supported by the World Bank go through a rigorous review and approval process to ensure that they meet countries' development priorities. The process includes: (i) early screening to identifying potential environmental or social impacts and designing policies and concrete actions to mitigate any such impacts; and (ii) approval by the Board of Executive Directors – a resident Board with 25 chairs representing member countries.
2. Environmental specialists then screen approved World Bank projects to identify those that meet the World Bank's Green Bond eligibility criteria.

For more information about the World Bank Green Bond implementation guidelines and the eligibility criteria, see <http://treasury.worldbank.org/cmd/pdf/ImplementationGuidelines.pdf>.

It's worth noting that the World Bank's activities that help client countries mitigate and adapt to the effects of climate change are much broader than the subset of Green Bond eligible projects discussed herein. Since the World Bank began tracking commitments with climate change adaptation and mitigation co-benefits at a portfolio level in FY11, over one third of all World Bank commitments have included climate change co-benefits. Of these about 30% (representing 10% of total commitments over the period) have been included in the World Bank's Green Bond program.



Impact reporting

The World Bank is committed to transparent reporting of climate financing including reporting the impacts of the projects included in its Green Bond program. Detailed information for all World Bank financed projects is available on the main World Bank website <http://www.worldbank.org/projects>. In addition, project summaries and impact indicators for Green Bond eligible projects are summarized on the investor website at:

<http://treasury.worldbank.org/cmd/htm/MoreGreenProjects.html>.

The following section lists the 84 Green Bond eligible projects supported by Green Bonds as of June 30, 2016. The projects are organized by major sector. Selected results indicators, World Bank loan amount, share of loan amount to total project costs, and the amount of Green Bond proceeds that have been allocated to support disbursements to each project are disclosed. Annex 1 describes in more detail the reporting approach and should be read in conjunction with this report.

Interpreting reported results







The intention of impact reporting is to help develop a more detailed understanding of the climate and environmental impacts that can be expected or projected to result from Green Bond eligible projects. Several key results indicators have been selected and where possible quantified, but it is important to appreciate the inherent limitations of data reported therein. The main considerations to adequately interpret results are:








- **Scope of results:** reporting is based on “ex-ante” estimates of climate and environmental impacts at the time of project appraisal and mostly for direct project effects, except as indicated where the results have been updated for actual results at the time of project completion.
- **Uncertainty:** an important consideration in estimating impact indicators and projecting impacts is that they are based on assumptions. While technical experts aim to make sound and conservative assumptions that are reasonable based on the information available at the time, the actual environmental impact of the projects generally diverge from initial projections. In general, behavioral changes or shifts in baseline conditions can cause deviations from projections.
- **Comparability:** Caution should be taken in comparing projects, sectors, or whole portfolios because baselines (and base years) and calculation methods may vary significantly. In addition, the cost structures between countries will also vary, so that developing cost-efficiency calculations (such as results per dollar invested) could, for example, place smaller countries with limited economies of scale at a disadvantage and will not take into consideration country-specific context.
- **Omissions and qualitative results:** because the selected projects aim to provide social and developmental benefits as well as climate environmental ones, they will have impacts across a much wider range of indicators than captured below. Therefore, exclusively focusing on the reported indicators will leave out other important development impacts. Where quantitative data is unavailable, qualitative indicators have been included to illustrate the type and direction of a few other beneficial impacts. To get a better understanding of the developmental impacts of projects and the broader country context, please view the full project documentation available on the World Bank website. <http://www.worldbank.org/projects>.







**List of World Bank Green Bond Eligible Projects by Main Sector
Target Impacts and Committed and Allocated amounts**








A. Renewable Energy and Energy Efficiency




Results should be read in conjunction with Annex 1 which describes the reporting approach.

#	Link to more information	Project name (number year/s loans approved) and description	A/M /a	Project life	Target results ^{/b}					Committed US\$ mil ^{/d}	IBRD share ^{/e}	Allocated US\$ mil ^{/f}
					Annual energy savings ^{/c} MWh	Annual energy produced MWh	Renewable capacity added MW	Annual GHG emissions avoided tons of CO ₂ eq.	Other results			
1		Belarus - Biomass District Heating (P146194 FY14): increase energy efficiency in district heating systems and replace natural gas with wood biomass as a renewable energy source.	M	20	236,000	1,660,000	106	420,000	Cumulative over 5 years: ● 1,180,000 MWh energy savings from efficiency investments. ● 2,100,000 tons of CO ₂ eq. emissions reduced.	90.0	100%	18.3
2		China - Beijing Rooftop Solar Photovoltaic Scale-Up (Sunshine Schools) Project (P125022 FY13): promote renewable energy in 1000 schools and other educational institutions.	M	20	na	100,000	100	89,590	● 10 to 15 % of the schools' annual power use provided by renewable sources. ● 650,000 students in 1,000 schools benefit.	120.0	50%	14.9
3		China - Eco-Farming Project (P096556 FY09): promote sustainable farming systems and reduce greenhouse gas emissions (from methane and burning coal and firewood) benefiting rural communities with biogas systems.	M	20	na	~	~	900,000	● 400,000 - 500,000 rural households benefit with cleaner biogas-based cooking and heating systems.	119.8	27%	119.8
4		China - Energy Efficiency Financing (P084874 FY08, FY12): promote energy conservation in China's industrial sector supporting intermediary loans for energy efficiency projects in medium and large-sized manufacturing companies.	M	20	21,807,900	na	na	6,490,000	● 2,666,000 tons of coal eq. (tce) annual energy savings (assuming 150 subprojects)	300.0	45%	300.0
5		China - Energy Efficiency Financing II Project (P113766 FY10): promote energy conservation in China's industrial sector through intermediary loans to energy efficiency projects.	M	20	20,200,000	na	na	6,100,000		100.0	66%	72.3
6		China - Green Energy Schemes for Low-carbon City in Shanghai (P127035 FY13): promote greener city development with energy efficiency and renewable energy installations in commercial and government buildings.	M	20	621,700	~	~	165,000		100.0	41%	21.0

#	Link to more information	Project name (number year/s loans approved) and description	A/M /a	Project life	Target results ^{/b}					Committed US\$ mil ^{/d}	IBRD share ^{/e}	Allocated US\$ mil ^{/f}
					Annual energy savings ^{/c} MWh	Annual energy produced MWh	Renewable capacity added MW	Annual GHG emissions avoided tons of CO ₂ eq.	Other results			
7		China - Jiangxi Shihutang Navigation & Hydropower (P101988 FY09): maximize inland waterway transport capacity as a low-carbon alternative to land transport and generate hydropower.	Both	20	na	472,000	120	450,000	<ul style="list-style-type: none"> 4,400 hectares of crop land protected from flooding. RMB 26.6 million reduction in annual flood losses. 	100.0	31%	100.0
8		China - Liaoning Third Medium Cities Infrastructure (P099224 FY08): improve the energy efficiency and environmental performance of heating and gas services.	M	20	2,757,200	na	na	~	<ul style="list-style-type: none"> 8,935 tons of sulphur dioxide avoided per annum. 11,659 tons of total suspended particles (local pollutant) avoided per annum. 	191.0	51%	117.1
9		China - Shandong Energy Efficiency (P114069 FY11): improve the energy efficiency and environmental performance of the industrial sector and finance renewable energy production from biomass (corn and wheat stalk).	M	15	3,247,500	165,000	30	~	<ul style="list-style-type: none"> 397,000 tce energy savings. 	150.0	47%	56.3
10		China - Urumqi District Heating Project (P120664 FY11): promote energy efficiency in district heating by replacing dispersed boilers in urban areas with an integrated district heating network.	M	20	1,229,400	na	na	415,500	<ul style="list-style-type: none"> 1,626 MW of inefficient coal-fired boilers replaced by combined heat and power district heating network. 	99.1	29%	99.1
11		India - Power System Development Project IV (P101653 FY09): expand transmission infrastructure resulting in decreased CO ₂ emissions through efficiency gains and transferring surplus hydro energy to power deficit regions.	M	20	8,699,000	na	na	~	<ul style="list-style-type: none"> Reduced transmission losses equivalent to between 526-993 MW. 107,000 circuit kilometers of increased transmission capacity. 68,000 GWh power exchange growth between regions. 	400.0	16%	400.0
12		India - Rampur Hydropower Project (P095114 FY08): scale-up access to renewable energy through construction of a run-of-the-river hydroelectric scheme.	M	30	na	1,770,000	412	1,407,700		400.0	60%	400.0
13		Indonesia - Indonesia Geothermal Energy (P113078 FY12): increase power generation from renewable geothermal resources.	M	30	na	1,210,000	150	1,100,000	<ul style="list-style-type: none"> 33,000,000 tons of CO₂ eq. cumulative emission reductions of over 30 years. 	175.0	30%	67.6

#	Link to more information	Project name (number year/s loans approved) and description	A/M /a	Project life	Target results ^{/b}					Committed US\$ mil ^{/d}	IBRD share ^{/e}	Allocated US\$ mil ^{/f}
					Annual energy savings ^{/c} MWh	Annual energy produced MWh	Renewable capacity added MW	Annual GHG emissions avoided tons of CO ₂ eq.	Other results			
14		Jamaica - Energy Security and Efficiency Enhancement Project (P112780 FY11): increase energy efficiency and security by promoting greater participation of renewable energy and gas-based generation in the energy mix.	M	na	na	~	~	~	<ul style="list-style-type: none"> Gas and renewable energy use increased above its baseline of 42 MW of the total energy matrix (at project inception). \$9/MWh reduction (from \$21/MWh to \$12/MWh) in cost of electricity generation. 	15.0	100%	11.2
15		Mexico - Efficient Lighting and Appliances Project (P106424 FY11): promote the efficient use of energy and to mitigate climate change by increasing the use of energy efficient technologies in the residential sector.	M	5	2,000,000	na	na	664,000	<ul style="list-style-type: none"> Cumulative over 5 years: <ul style="list-style-type: none"> Exchange 45.8 million light bulbs and 1.9 million refrigerators and air conditioners. 3.32 million tons of CO₂ eq. emissions reduced. 50-60% electricity saved in residential households. 10,000,000 MWh in cumulative energy savings. 	250.6	35%	250.6
16		Mexico - Integrated Energy Services (P088996 FY08): increase energy access for poor communities using renewable energy (mainly solar and some wind generators) and to develop a sustainable market for providing energy services in remote rural areas.	M	20	na	5,800	6.2	241,000	<ul style="list-style-type: none"> 4,400 rural households receive electricity from renewable sources. Larger long-term national impact with replication throughout rural areas. 	12.0	18%	12.0
17		Mexico - Sustainable Rural Development (and Add Financing) (P106261 FY09, FY13): increase the use of energy efficient, waste management and renewable energy technologies in agribusiness.	M	10	20,493	32,130	~	283,900	<ul style="list-style-type: none"> Cumulative over 7 years: <ul style="list-style-type: none"> 143,450 MWh saved from energy efficiency investments. 224,908 MWh produced by renewable (biomass) energy. 1,987,500 tons of CO₂ eq. emission avoided. 	96.8	48%	68.4
18		Moldova - District Heating Efficiency Improvement (P132443 FY15): improve quality and reliability of heating services by improving the operational efficiency and viability of a new district heating company.	M	30	96,700	na	na	22,800	<ul style="list-style-type: none"> 34% reduction in heating system breakdowns by year 5. 109,000 people with access to more energy efficient cooking and heating. 	40.5	66%	3.7
19		Montenegro - Energy Efficiency (and Additional Financing) (P107992 FY09, FY14): improve energy efficiency and environmental quality in 27 buildings used for health and education services.	M	25	30,000	na	na	12,200	<ul style="list-style-type: none"> Cumulative over 5 years and targeting 27 buildings: <ul style="list-style-type: none"> 150,000 MWh in lifetime energy savings. 60,750 metric tons of CO₂ eq. lifetime emissions reduced. 	12.4	100%	10.0

#	Link to more information	Project name (number year/s loans approved) and description	A/M /a	Project life	Target results ^{/b}					Committed US\$ mil ^{/d}	IBRD share ^{/e}	Allocated US\$ mil ^{/f}
					Annual energy savings ^{/c} MWh	Annual energy produced MWh	Renewable capacity added MW	Annual GHG emissions avoided tons of CO ₂ eq.	Other results			
20		Morocco - Clean and Efficient Energy Project (P143689 FY15): develop the first utility sized photovoltaic plant to more reliably supply solar power to remote regions.	M	25	na	~	75	78,000	<ul style="list-style-type: none"> ● 412,000 people benefit from electricity and associated economic opportunities of which 50% are expected to be female. 	125.0	79%	2.4
21		Morocco – Noor Ouarzazate Concentrated Solar Power (P131256 FY12, FY15): replace fossil fuel-based electricity with renewable energy using concentrated solar power technology.	M	30	na	1,638,000	410	522,000		341.8	15%	52.5
22		Peru - Second Rural Electrification (P117864 FY11): provide electricity to remote communities by extending the conventional electricity grid and financing solar photovoltaic systems.	M	20	na	~	~	~	<ul style="list-style-type: none"> ● 42,500 rural households electrified, of which 20,000 served by solar photovoltaic systems from regulated electricity distribution companies. ● 174,000 people benefited. 	50.0	60%	30.9
23		Tunisia - Energy Efficiency (P104266 FY09): support industrial energy efficiency and co-generation investments by providing financing through intermediaries.	M	20	580,000	na	na	126,000		34.4	91%	31.2
24		Turkey - Private Sector Renewable Energy and Energy Efficiency Project (P112578 FY09, FY12): enhance renewable energy access (small hydroelectric and geothermal) and energy efficiency in industries (iron and steel, cement, ceramics, chemicals and textiles).	M	20	4,065,000	3,451,000	950	3,507,000	<ul style="list-style-type: none"> ● Reach 28% of country's total generation to be from renewable energy. 	919.3	61%	831.6
25		Turkey - Renewable Energy Integration (P144534 FY14): assist in meeting increased power demand by strengthening the transmission system and facilitating large-scale renewable energy generation.	M	20	na	na	na	690,000	<ul style="list-style-type: none"> ● 1,734,000 MWh per year of wind energy handled by the substations funded under project. 	242.5	63%	48.5
26		Turkey - SME Energy Efficiency (P122178 FY13): improve energy efficiency in small and medium enterprises in energy-intensive industries by scaling-up commercial bank lending for energy efficiency investments.	M	20	61,400	na	na	30,900	<p>Cumulative over 5 years:</p> <ul style="list-style-type: none"> ● 154,500 tons of CO₂ eq. emissions reduced annually for all SME loans. ● 307,000 MWh in electricity savings by the end of project implementation. 	201.0	67%	79.7

#	Link to more information	Project name (number year/s loans approved) and description	A/M /a	Project life	Target results ^{/b}					Committed US\$ mil ^{/d}	IBRD share ^{/e}	Allocated US\$ mil ^{/f}
					Annual energy savings ^{/c} MWh	Annual energy produced MWh	Renewable capacity added MW	Annual GHG emissions avoided tons of CO ₂ eq.	Other results			
27		Ukraine - District Heating Energy Efficiency (P132741 FY14): improve energy efficiency and quality of service of District Heating companies.	M	20	524,000	na	na	261,800	● 721,400 consumers served by the participating companies.	265.5	87%	2.7
28		Ukraine - Energy Efficiency (P096586 FY11): improve energy efficiency in order to meet energy intensity reduction targets, decrease dependence on imported gas, and decrease the cost of energy supply.	M	15	6,978,000	na	na	1,000,000	● Create jobs directly and indirectly through increased cost competitiveness as a result of lower energy intensity.	200.0	100%	160.5
29		Uzbekistan - Advanced Electricity Metering Project (P122773 FY12): improve energy efficiency by measuring energy consumption and waste through advanced metering and billing systems.	M	na	na	na	na	~	● 1.2 million advanced meters installed. ● Improve billing and collection rates by 8% and 10%, respectively.	180.0	73%	0.6
Subtotal for Renewable Energy and Energy Efficiency							2,359			5,331.7		3,383.0
											Cumulative loan repayments	(188.6)
											Total allocated and outstanding for Renewable Energy and Energy Efficiency	3,194.3

Notes:

na – Indicator is not applicable for this project.

~ Indicator is not measured/reported for this project.

Amounts may not add up due to rounding.

Refer to annex 1 for more information about the basis for reporting.

^a Column indicates whether the project aims to mitigate climate change (“M”), help client countries adapt to the effects of climate change (“A”), or both.

^b Target results are expected impacts based on estimates developed at the time of project approval and materializing at the end of the project implementation period (5 years in most cases). The indicators shown are normally a subset of the development impacts contained in project documentation available in the World Bank project website (see <http://www.worldbank.org/projects>). Results reported are based on the total project cost, with the percent shown next to the loan amount corresponding to the proportion of the total project cost that is financed by World Bank loans. Actual impacts may be different from these estimates and do not represent the actual results in a specific year. Quantitative estimates are intended to be indicative of the scale of impacts and qualitative results aim to inform about the nature of changes that will be achieved as a result of projects included in the Green Bond program once they are completed and at full capacity.

^c Annual energy savings include reduced energy use for both power and heat, where applicable.

^d The committed amount is the Green Bond eligible portion of the World Bank loan net of cancellations reported in equivalent US\$ millions. Loans denominated in other currencies are converted to US\$ equivalents using the spot exchange rate on the report date (June 30, 2016).

^e The percentage shows the percentage of the total project cost that is financed by World Bank loans. When a project is co-financed, this share could be used to apportion total results to the World Bank.

^f The allocated amount is the amount of Green Bond proceeds allocated to support the financing of disbursements to the project reported in equivalent US\$ millions. Loans denominated in other currencies are converted to US\$ equivalents using the spot exchange rate on the report date (June 30, 2016).

B. Transport

#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
30		Brazil - Greening Rio de Janeiro Urban Rail Transit – Additional Financing (P111996 FY12): provide a more efficient and cleaner suburban rail transportation system.	M	<ul style="list-style-type: none"> ● 60 new trains and upgraded infrastructure to shorten travel times. ● Bicycle and parking facilities in select stations. ● 70,200 additional passengers served per day. ● 34,000 tons of CO₂ eq. reduced annually by project end. 	600.0	73%	355.7
31		Brazil - Sao Paulo State Sustainable Transport (P127723 FY13): improve transport efficiency and safety, increase the share of waterway transport, and improve resilience to climate change and natural disasters.	Both	<ul style="list-style-type: none"> ● 50% reduction of road fatalities in the 100 most critical spots. ● Increase waterway transportation. ● Expanded automatic station network to monitor climate risk. ● Increased number of municipalities with disaster risk mapping. 	300.0	70%	199.7
32		China - Changzhi Urban Transport (P124978 FY12): improve transport mobility and accessibility while reducing emissions.	M	<ul style="list-style-type: none"> ● 5% reduction in fuel consumed per kilometer traveled in the project corridors. ● Reduced number of traffic accidents. ● Reduced travel times during peak-hours. 	100.0	50%	22.9
33		China - HaJia Railway (P117341 FY14): provide additional railway capacity and reduce transport time for passengers and freight.	M	<ul style="list-style-type: none"> ● 3 million additional passengers per year. ● Reduced passenger travel time. ● 15 million people benefit including rural poor. ● Reduced pollution from railways. 	300.0	5%	17.1
34		China - Heilongjiang Cold Weather Smart Public Transportation System (P133114 FY14): upgrade the quality, safety and efficiency of public transport service.	M	<ul style="list-style-type: none"> ● 38.8 million more bus rides annually due to increased efficiency of bus service. ● 20 - 30% reduction in fuel use. ● 22 - 25 km of improved transport corridors developed. 	154.0	46%	22.6
35		China - Hubei Xiangyang Urban Transport (P119071 FY12): improve mobility, safety, and efficiency in urban transportation.	M	<ul style="list-style-type: none"> ● 460,000 people to benefit from reduced travel times and greater access to the city center. ● 30% reduction in fatalities and severe accidents. 	100.0	47%	46.3
36		China - Jiaozuo Green Transport and Safety Improvement (P132277 FY14): improve transport safety and efficiency along the selected transport corridors and promote non-motorized trips within the pilot green corridor.	M	<ul style="list-style-type: none"> ● 490,000 residents benefited. ● Reduced traffic fatalities. ● 17 km in green corridors exclusively dedicated to pedestrians and cyclists. ● 241,000 non-motorized trips per year in the green corridors. ● 32,400 additional bus passengers per year. 	100.0	50%	14.2
37		China - Nanchang Urban Rail (P132154 FY13): provide an effective urban mass rapid transit system for a rapidly expanding city to reduce pollution, traffic congestion, and commuting times.	M	<ul style="list-style-type: none"> ● Reduced travel time on public transport by 25 minutes or more. ● Increase ridership by 200,000 people per year. ● 100% of stations to become wheelchair and sight impaired accessible. ● 506,000 people benefit. 	250.0	10%	65.7




#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
38		China - Qinghai Xining Urban Transport Project (P127867 FY14): provide more efficient, safer and cleaner transportation.	M	<ul style="list-style-type: none"> ● 20% decreased travel time. ● 264,000 additional passengers daily. ● Improved accessibility to 190,000 jobs. ● Reduced vehicle pollution. 	30.3	48%	3.7
39		China - Tianjin Urban Transport Improvement Project (P148129 FY16): leverage the existing metro system and to promote walking and biking in the urban core, in order to make transport greener and safer.	M	<ul style="list-style-type: none"> ● 2.8 million trips benefit from improvements each day. ● 85,000 new metro users. ● 50 km of roads rehabilitated, 111 metro stations improved and 5 new bus terminals completed. ● 6,500 tons of CO₂ emissions reduced annually. 	100.0	45%	0.3
40		China - Urumqi Urban Transport Project II (P148527 FY16): improve mobility in selected transport corridors.	M	<ul style="list-style-type: none"> ● 645,000 people benefit from direct access to BRT corridors. ● 51.7 km of BRT routes operated. ● 45% of commuters using smart cards. 	140.0	26%	0.4
41		China - Wuhan Second Urban Transport (P112838 FY10): improve efficiency, coverage and safety of public transport systems in an environmentally friendly way.	M	<ul style="list-style-type: none"> ● 459,000 tons of CO₂ eq. emissions reduced annually. ● Establish facilities for pedestrians and cyclists. ● Improved air quality. ● 4% increase in share of public transportation. 	100.0	16%	61.9
42		China - Xi'an Sustainable Urban Transport (P092631 FY08): protect health and cultural relics by reducing pollution from transportation and increase transport accessibility and mobility.	M	<ul style="list-style-type: none"> ● Double area of bus terminals. ● Nearly 50% increase in average speed of public transportation. ● 26.7 km of new bicycle routes. ● Adopt a motor vehicle emissions control plan. ● Implement air quality monitoring. 	150.0	36%	150.0
43		China - Xinjiang Yining Urban Transport Improvement Project (P126454 FY12): provide improved access, safety, and efficiency in public transportation in an environmentally sustainable manner.	M	<ul style="list-style-type: none"> ● Reduced peak-hour travel times in two integrated corridors. ● 25% increased bus ridership to reach 263,000 passengers per day and 60,000 additional people with access in selected new development areas ● Reduced traffic accident fatalities. 	100.0	48%	63.2
44		China - Yunnan Honghe Prefecture Diannan Center Urban Transport (P101525 FY14): improve the safety, accessibility, and efficiency of transportation in core urban areas by building new infrastructure, staff training and education campaigns.	M	<ul style="list-style-type: none"> ● Reduced average travel time for public transport users. ● Double access to transport services to reach 742,000 people. ● Increased ridership to 153,400 trips per day. ● Reduced the number of transport related fatalities. 	150.0	43%	2.4
45		Colombia - National Urban Transit Program (P117947 FY10, FY12): reduce carbon emissions and improve public transportation efficiency and safety.	M	<ul style="list-style-type: none"> ● Reduced average travel time for low income riders. ● Reduced accidents and pollution (including greenhouse gases) associated with bus transport services. ● Increased access to the disabled and other commuters with special needs. 	587.9	47%	329.5

#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
46		Ecuador - Manta Public Services Improvement Project (P143996 FY14): improve transport services and the quality and sustainability of water and sanitation.	M	<ul style="list-style-type: none"> 71,000 residents benefit from water investments. Improved mobility and accessibility of street network including pedestrian facilities and cycling paths. 	100.0	87%	5.0
47		Ecuador - Quito Metro Line One (P144489 FY15): improve urban mobility and serve the growing demand for public transport.	M	<ul style="list-style-type: none"> By 2018: 369,000 passengers per day. 65,000 tones of CO₂ emissions reduced per year. \$14 million in annual fuel savings. 40% reduction in average travel time. 1,800 jobs created. 	205.0	12%	113.9
48		India - Eastern Dedicated Freight Corridor - II (P131765 FY14): increase the capacity and quality of freight rail service.	M	<ul style="list-style-type: none"> 1,133 kms of new freight-only rail. Axle-load limit raised from 23 to 25 tons increasing speeds. 12.8 million tons of CO₂ eq. emissions reduced over a 30 year period. 	1,100.0	67%	63.8
49		India - Sustainable Urban Transport (P110371 FY10): improve government capacity to manage climate friendly urban transport solutions focusing on public and non-motorized transport.	M	<ul style="list-style-type: none"> 12,800 tons of CO₂ eq. emissions reduced annually over 10 years. 	105.2	32%	47.9
50		Mexico - Urban Transport Transformation (P107159 FY10): reduce carbon emissions and transform public transportation efficiency.	M	<ul style="list-style-type: none"> 1,960,000 tons of CO₂ eq. emissions reduced annually when city subprojects are fully operational. 18 integrated mass transit corridors of 15km each. 222,000 passengers per day. 	150.0	6%	26.2
51		Philippines - Cebu Bus Rapid Transit (BRT) Project (P119343 FY15): improve the quality, safety, and environmental performance of urban public transportation.	M	<ul style="list-style-type: none"> 200,000 more commuters using public transportation. 115,000 tons of CO₂ eq. reduced annually by 2020, increasing to 192,000 tons of CO₂ eq. reduced annually by 2025. 	116.0	51%	12.3
Subtotal for Transport					5,038.4		1,624.6
Cumulative loan repayments							(13.2)
Total allocated and outstanding for Transport							1,611.4

Amounts may not add up due to rounding.






C. Water, Wastewater and Waste Management

#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
52		Brazil - Federal Integrated Water Sector (P112073 FY12): improve water resource management including assessing how climate change impacts water availability, and improve coordination and capacity of key federal institutions in the water sector.	A	<ul style="list-style-type: none"> ● 13 state water agencies and 4 federal river basin water agencies trained to increase management capacity. ● Increased water use efficiency and proper management of solid waste. ● Improved quality of water service in both urban and rural areas. 	107.3	75%	8.3
53		Brazil - Integrated Solid Waste & Carbon Finance (P106702 FY11): improve treatment and final disposal of municipal solid waste and reduce methane emissions.	M	<ul style="list-style-type: none"> ● 3 dumps closed. ● 9,000 tons per day of waste disposed in environmentally sustainable sanitary landfills. ● 7 municipalities made investments to improve recycling and composting activities. <i>(Updated for actual results at project completion)</i> 	16.7	31%	16.7
54		Brazil - Espirito Santo Integrated Sustainable Water Management Project (P130682 FY14): improve sustainable water resources management and increase access to sanitation.	Both	<ul style="list-style-type: none"> ● 2.6 million people benefit. ● 70% State with disaster warning system. ● 1,590 tons of BOD (Biochemical Oxygen Demand) removed a year. ● 164,000 people with improved sanitation. ● 2,000 hectares reforested. 	81.1	70%	0.2
55		China - Bengbu Integrated Environment Improvement (P096925 FY08): improve effectiveness and resilience of urban water supply, treatment services and flood prevention and control systems through improved infrastructure and watershed management.	A	<ul style="list-style-type: none"> ● 95% flood protection of Bengbu's city land area. ● 11% pollution discharge reduction. ● 3 months of water supply reserves. 	99.9	45%	99.9
56		China - Water Conservation II (P114138 FY12): improve agriculture water management and increase agriculture water productivity.	A	<ul style="list-style-type: none"> ● 15% increase in main crop yields. ● RMB 200 increase in per capita annual agricultural income. ● Reverse the trend of declining water table in groundwater irrigated areas. 	80.0	50%	56.7
57		China - Xining Flood and Watershed Mgmt (P101829 FY09): improve sustainable utilization of land and water resources by improved flood control management, wastewater collection and treatment, and watershed management.	A	<ul style="list-style-type: none"> ● 2,000,000 tons of untreated wastewater flowing into rivers avoided annually. ● 900,000 tons of soil loss avoided annually. ● 400,000 people benefit from reduced vulnerability to flood events. 	100.0	53%	100.0
58		Dominican Republic - Emergency Recovery and Disaster Risk Management (P109932 FY08, FY12): provide infrastructure recovery and strengthen risk management capacity in tropical storm affected areas.	A	<ul style="list-style-type: none"> ● 11,577 hectares of damaged irrigation rebuilt. ● 152 km transmission lines restored to "disaster-resistant" standards. ● Santiago waste water operation restored. ● 200MW of damaged hydropower facilities restored and dam safety standards improved. 	100.0	100%	97.3
59		India - Andhra Pradesh Water Sector Improvement (P100954 FY10): improve irrigation services on a sustainable basis and strengthen the State's institutional capacity for multi-sectoral development and of its water resources.	A	<ul style="list-style-type: none"> ● Improved irrigation service delivery on a sustainable basis. ● Increased cropping intensity, crop diversity, and productivity of crops, livestock, and fish. 	450.6	46%	230.3

#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
60		Indonesia - Water Resources and Irrigation Management Program 2 (P114348 FY11): improve infrastructure and government capacity for river basin water resource and irrigation management.	A	<ul style="list-style-type: none"> Increased crop productivity by providing more efficient and reliable irrigation water. 500,000 farmer households from provinces involving 12 river basins benefited. 	150.0	74%	71.7
61		Morocco - Solid Waste Sector DPL (P104937 FY09): enhance the governance of the solid waste sector.	M	<ul style="list-style-type: none"> Regulatory reforms leading to solid waste management programs in 11 municipalities. 735,000 tons of CO₂ eq. emissions reduced annually (methane gas capture). 30% of waste disposed in sanitary landfills and 21 dumpsites closed or rehabilitated. 	111.5	100%	111.5
62		Tunisia - Second Water Sector Investment (P095847 FY09): promote better water management through efficiency improvements in irrigation and increased capacity for watershed management.	A	<ul style="list-style-type: none"> 24,436 hectares rehabilitated with irrigation and drainage systems. 21,128 households supplied with new drinking water. <i>(Updated for actual results at project completion)</i>	16.2	19%	16.2
Subtotal for Water, Wastewater and Waste Management					1,313.4		808.9
Cumulative loan repayments							(34.3)
Total allocated and outstanding for Water, Wastewater and Waste Management							774.6

Amounts may not add up due to rounding.

D. Agriculture, Land Use, Forests and Ecological Resources

#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
63		Armenia - Second Community Agriculture Resource Management and Competitiveness Project (P133705 FY14): improve pasture-based livestock management in targeted alpine grasslands areas.	A	<ul style="list-style-type: none"> ● At least 10,000 pasture users benefit through their membership in Pasture Users' Cooperatives. ● 110,000 hectares of land managed with sustainable practices. 	23.0	54%	0.1
64		China - Guangdong Agricultural Pollution Control (P127775 FY14): promote waste management in livestock and crop production (including methane capture and use) and improve soil nutrient, fertilizer, and pesticide use.	M	<ul style="list-style-type: none"> ● 45,000 tons of annual pollution load to waterways reduced. ● 500 tons of annual nutrient load to waterways reduced. ● 18,800 hectares with improved soil nutrient, fertilizer and pesticide use. 	100.0	48%	17.1
65		China - Hebei Rural Renewable Energy Development Project (P132873 FY15): demonstrate sustainable biogas production and utilization to reduce environmental pollution and supply clean energy.	M	<p>By 2020:</p> <ul style="list-style-type: none"> ● 42,000,000 m3 of biogas used annually. ● 58,780 tons of CO² emissions reduced annually. ● 96,100 rural resident households with access to biogas supply. ● Additional biogas used as fuel for public transportation. 	71.5	47%	7.3
66		China - Hunan Forest Restoration and Development (P125021 FY13): increase resilience of forests.	Both	<ul style="list-style-type: none"> ● 58,900 hectares of ecological forest plantation areas reforested and rehabilitated. ● 26,130 households benefited. 	80.0	69%	66.0
67		China - Integrated Forestry Development (P105872 FY11): increase forest cover to create wind breaks, farmland shelter belts, and conservation schemes, and to train farmers in forest and environmental management.	Both	<ul style="list-style-type: none"> ● 132,600 hectares of forests restored or re/afforested. ● 20% increase in vegetative cover plus improved species diversity in degraded forests rehabilitated. ● 216,000 farmers trained in forest management. 	100.0	50%	99.4
68		China - Integrated Modern Agriculture Development (P125496 FY14): develop sustainable and climate resilient agricultural production systems by investing in improved irrigation and drainage systems and practices that address climate risk.	A	<ul style="list-style-type: none"> ● Reduced water use per ton of rice, wheat and maize produced in target regions. ● 94,000 hectares of farmland served with improved irrigation and drainage services. ● 38,500 hectares of leveled land and improved soil conditions. 	200.0	64%	49.3
69		China - Ningxia Desertification Control and Ecological Protection (P121289 FY12): control desertification and land degradation by stabilizing moving sands, re-vegetating degraded steppe lands and planting shelter belts.	Both	<ul style="list-style-type: none"> ● 30,000 hectares restored or re/afforested. 	80.0	70%	17.7
70		Indonesia - Coral Reef Rehabilitation and Management Program- Coral Triangle Initiative (P127813 FY14): protect and sustainably manage unique coral ecosystems in selected districts and provinces.	A	<ul style="list-style-type: none"> ● Reduce destructive fishing in selected areas. ● 1,140 direct beneficiaries in fishing communities. ● 1.4 million hectares of marine areas brought under biodiversity protection. 	3.8	89%	1.1

#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
71		Mexico - Forests and Climate Change (P123760 FY12): support rural communities' sustainable management of forests, and generate additional income from forest products and services and to reduce emissions from deforestation and forest degradation.	Both	<ul style="list-style-type: none"> ● 10% increase in areas under improved forest management (equivalent to 1,630,000 additional hectares). ● Support 2 pilot areas to reduce carbon emissions from deforestation and forest degradation. ● 4,000 forest communities benefited. 	350.0	45%	215.4
72		Morocco - Large Scale Irrigation Modernization (P150930 FY16): expand agriculture through the adoption of irrigation techniques that make more efficient use of water resources, while building better ties between farmers and markets.	A	<ul style="list-style-type: none"> ● 9,274 farmers benefit. ● 100% of area with access to water on demand in peak period. ● 20,700 hectares with improved irrigation technologies. 	150.0	80%	1.1
73		Peru - Peru National Agriculture Innovation Program (P131013 FY14): strengthen the national agricultural innovation system and integrate climate change criteria into project such as adaptive research, seed improvements and skills development, among others.	A	<ul style="list-style-type: none"> ● 20,000 small and medium farmers adopting new technologies. ● 61 new technologies demonstrated on farms. 	13.0	31%	1.7
74		Philippines - Rural Development (P132317 FY15): improve the resilience of small-scale farmers and fishermen to climate change by helping them recover and increase income-generating activities and strengthening the conservation of coastal and marine resources.	A	<ul style="list-style-type: none"> ● Increase incomes of about 1.9 million farmers and fishermen and the value of their products. 	501.3	75%	81.9
75		Russian Federation - Forest Fire Response (P123923 FY13): improve forest fire prevention and management and to enhance sustainable forest management.	Both	<ul style="list-style-type: none"> ● Improved forest fire detection and suppression systems. ● Improved capabilities of fire brigades. ● 75,500,000 tons of CO2 eq. emissions avoided over 25 years. ● Raise public awareness and education standards in forestry issues in general. 	40.0	33%	6.2
76		Tunisia - Fourth Northwest Mountainous and Forested Areas Development (P119140 FY11): better protect and manage natural resources through conservation of soil and water resulting from improved agriculture and pasture practices and to improve access to potable water for rural communities.	A	<ul style="list-style-type: none"> ● Reduced erosion and forest degradation. ● Build climate change awareness and disseminate climate-appropriate practices to reinforce livelihood and agro-system resilience. ● 318,000 people benefited. 	33.5	73%	24.1
77		Uruguay - Sustainable Management of Natural Resources and Climate Change (P124181 FY12): improve farm environmental management and reduce greenhouse gas emissions by promoting improved agriculture and livestock management.	Both	<ul style="list-style-type: none"> ● 2,700 hectares of agricultural land with reduced methane emissions. ● Improved water use in irrigation and livestock production systems. ● Improved pasture management and other productivity measures. 	49.0	89%	28.1
Subtotal for Agriculture, Land Use, Forests and Ecological Resources					1,795.1		616.5
Cumulative loan repayments							(0.6)
Total allocated and outstanding for all sectors							615.9

Amounts may not add up due to rounding.

E. Resilient Infrastructure, Built Environment and Other

#	Link to more information	Project name (number year/s loans approved) and description	A/M	Target results	Committed US\$ mil	IBRD share	Allocated US\$ mil
78		Belize - Climate Resilient Infrastructure (P127338 FY15): enhance the resilience of road infrastructure against flood risks and the impacts of climate change.	A	<ul style="list-style-type: none"> ● 30 km of roads rehabilitated and 12 bridges and culverts improved. ● 50% reduction in road interruption due to flooding. ● 170,000 people living near the road networks directly benefit. 	30.0	100%	0.9
79		China - Fujian Fishing Ports Project (P129791 FY14): reduce the vulnerability of fishing communities to extreme weather events.	A	<ul style="list-style-type: none"> ● 11,000 fishermen and their families (total 64,000 people) benefit. ● 3,000 fishing vessels protected in ports. ● Improved effectiveness of early warning and emergency systems. 	60.0	58%	1.2
80		China - Huai River Basin Flood Management and Drainage Improvement (P098078 FY11): increase resilience of communities to the impacts of climate change, particularly flooding.	A	<ul style="list-style-type: none"> ● 9,500 km² of flood protection (in rural and urban areas). ● 6,600,000 people benefited. 	200.0	33%	179.4
81		Macedonia & Serbia - South East Europe and Caucasus Catastrophe Risk Insurance Facility (P110910 FY11): increase access to catastrophe risk insurance through facilitating the growth of insurance markets.	A	<ul style="list-style-type: none"> ● Increased catastrophe insurance coverage from 2% to 15% for homeowners, farmers, enterprises, and government entities holding catastrophe insurance policies. 	10.0	100%	10.0
82		Mexico - Climate Change Development Policy Loan (P110849 FY08): mainstream climate change considerations into public policy.	Both	<p>Climate-informed public policies, including:</p> <ul style="list-style-type: none"> ● 642,000 hectares reforested. ● 6,000,000 tons of CO₂ eq. emissions reduced annually due to reforestation. ● Domestic carbon pricing strategy developed. ● City and state climate action plans developed. 	501.3	100%	501.3
83		Russian Federation - Hydrometeorological Services Modernization (P127676 FY14): enhance capacity to deliver reliable and timely weather, hydrological and climate information.	A	<ul style="list-style-type: none"> ● >70% accuracy of forecasts for the main administrative centers of Russia. ● > 85-90% accuracy of seasonal river flow forecasts in Volga river basin reservoirs. ● Increased number of sectoral data users data. 	60.0	43%	4.3
84		Timor-Leste - Road Climate Resilience Project (P125032 FY14): rehabilitate and improve the climate resilience of a road corridor.	A	<ul style="list-style-type: none"> ● Improved drainage conditions along 110 km road corridor. ● 30% reduction in major road damage events. 	15.0	16%	0.0
Subtotal for Resilient Infrastructure, Built Environment and Other					876.3		697.1
Cumulative loan repayments							-
Total allocated and outstanding for Resilient Infrastructure, Built Environment and Other							697.1

Amounts may not add up due to rounding.

Annex 1 – Reporting Approach

Detailed information is available for every project on the World Bank website (<http://www.worldbank.org/projects>).

The impact indicators summarized in this report focus on results considered by the World Bank’s investor relations team to be of interest to Green Bond investors, based on dialogue with investors. They were selected from among other development results expected from the eligible projects. The indicators are intended to illustrate the type and scale of expected results in a variety of sectors and country contexts. To better reflect individual country challenges, demands, and resources, the report focuses on presenting a diversity of countries, projects and sectors rather than cumulative impacts. Because of the limited comparability between projects, sectors and countries (see “Interpreting reported results” on page 6 and “No aggregation of GHG estimates” below), impact results are not aggregated, with the exception of renewable energy capacity added which is deemed to be broadly comparable.

This impact report is split between the five main sectors represented in the World Bank’s Green Bond eligible projects. Where projects cover multiple sectors, the project is included in the main sector only, but target results will include all components of the project.

1. Renewable energy and energy efficiency:	Many World Bank projects in this category include both a renewable energy and energy efficiency component, so combining the sectors avoids redundancy. The reporting framework adopted identifies four core indicators for energy efficiency and renewable energy projects; where information covering the proposed core indicators is publically available, this is included. ¹¹ However, for some projects quantitative estimates for these indicators are either not available or not applicable. A few other indicators that are considered relevant for Green Bond investors are also provided.
2. Transport 3. Water, wastewater and solid waste management 4. Agriculture, land use and forestry 5. Resilient infrastructure, built environment and other	Projects categorized in the remaining sectors are more heterogeneous. The report provides project specific indicators based on available information that provides an indication of the scale of results.

The following summarizes key assumptions and approaches used in preparing this report.

- **Ex ante projections:** Quantitative estimates for target results represent ex ante projections developed during project design mostly for direct project impacts once projects are at normal operating capacity. The target results include expected results for projects still in the preparation, construction and/or implementation phase. The impact report thus serves as an illustration of expected results made possible through Green Bond eligible projects, but it is not intended to and does not provide actual results achieved in a specific year or reporting period. Target results have been updated with actual results at project completion when the final project commitment is materially different to the original authorized amount. Where the amounts are based on actual results this is noted in the preceding tables.
- **Length of time projects are on report:** Impact reporting will be provided for projects for so long as they are part of the Green Bond program. This means that projects are added to the impact report once Green Bond proceeds have been allocated to support the financing of disbursements to the project, and removed once the client has repaid the respective loan. Projects may also be removed from future reports if the World Bank

¹¹ This impact report has been prepared following an approach developed in collaboration with 11 other International Finance Institutions (IFIs) to encourage greater harmonization in impact reporting. Core indicators for other sectors have not been recommended as part of initial efforts to work towards a harmonized approach for impact reporting. See “Working Towards a Harmonized Framework for Impact Reporting,” December 2015. <http://treasury.worldbank.org/cmd/pdf/InformationonImpactReporting.pdf>

decides to remove a project from its Green Bond program.¹² If a project is removed from the Green Bond program, any Green Bond proceeds previously allocated to support the financing of disbursements to that project will be credited back to the Special Account for Green Bond proceeds and allocated to support the financing of disbursements to other Green Bond eligible projects as part of the routine allocation process.

- **Reporting for co-financed projects:** The World Bank often co-finances projects with the client country and/or other lenders. The results for the individual project are based on the total project including all financiers. The World Bank's share of the total financing is included for each project. Where results are aggregated (for example total renewable energy capacity installed), the pro-rated share based on the World Bank's share of financing the total project cost is also included.
- **Partial project eligibility:** Some projects may have portions that are Green Bond eligible while others are not. In cases where a project is partially Green Bond eligible, the committed amount reported reflects only that portion that is Green Bond eligible. Allocations to support disbursements to such projects are made on a pro rata basis.
- **No aggregation of GHG estimates:** When reported in the World Bank Project Appraisal Reports and/or Implementation Status Reports, the GHG emission reductions for projects are reported in tons of CO₂ equivalent. The World Bank is undertaking an effort in conjunction with other International Finance Institutions to harmonize the approaches for GHG accounting.¹³ At the same time, it is working to develop internally consistent GHG accounting methodologies for investment projects across relevant sectors. Given these on-going developments in GHG accounting, the basis for estimating CO₂ equivalent emission reductions may vary between World Bank projects. Therefore, the World Bank does not recommend aggregating the results of different projects in its portfolio.
- **All reported results are from publically available sources:** Reporting is based on publically available impacts for the projects disclosed in Project Appraisal Reports and Implementation Status Reports. In order to facilitate comparability of the reported results, the reporting units have been converted where such conversion is based on a standard conversion factor.

¹² As part of the World Bank's due diligence in monitoring projects included in its Green Bond program, it may elect to remove a project. Possible reasons for removing a project from a Green Bond program include, but are not limited to, cancellation of the project or significant implementation delays.

¹³ For more information on the harmonization framework see http://www.worldbank.org/content/dam/Worldbank/document/IFI_Framework_for_Harmonized_Approach%20to_Greenhouse_Gas_Accounting.pdf.

Annex 2 – List of Abbreviations

AUD	Australian Dollars
BRL	Brazilian Real
CAD	Canadian Dollars
CCAP	Climate Change Action Plan
CICERO	Center for International Climate and Environmental Research at the University of Oslo
CO ₂	Carbon dioxide
CO ₂ eq.	Carbon dioxide equivalent
COP	Colombian Pesos
ECA	Europe and Central Asia region
EAP	East Asia and Pacific region
EUR	Euro
FY	Fiscal year running from July 1 st to Jun 30 th
GHG	Greenhouse gas
GWh	Gigawatt hours (equal to 1,000 MWh or 1,000,000 KWh)
HUF	Hungarian Forints
IBRD	World Bank (International Bank for Reconstruction and Development)
INDC	Intended Nationally Determined Contributions
INR	Indian Rupees
JPY	Japanese Yen
km	kilometers
km ²	Square kilometers
KWh	Kilowatt hours
LAC	Latin America and Caribbean region
MNA	Middle East and North Africa region
MW	Megawatts
MWh	Megawatt hours
MXN	Mexican Peso
MYR	Malaysian Ringgits
NDC	Nationally Determined Contributions
NOK	Norwegian Kroner
NZD	New Zealand Dollars
PLN	Polish Zloty
RMB	Chinese Renminbi
RUB	Russian Ruble
SAR	South Asia region
SEK	Swedish Kronor
SME	Small and medium sized enterprises
tce	Tons of coal equivalent
TRY	Turkish Lira
USD	United States Dollars
WBG	World Bank Group
ZAR	South African Rand

Acknowledgements and Disclaimers

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