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# Mapping the World Bank Group Risk Mitigation Instruments for Climate Change

Climate Policy Initiative

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### Descriptors

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### About CPI

**Climate Policy Initiative** is a team of analysts and advisors that works to improve the most important energy and land use policies around the world, with a particular focus on finance. An independent organization supported in part by a grant from the Open Society Foundations, CPI works in places that provide the most potential for policy impact including Brazil, China, Europe, India, Indonesia, and the United States.



## Introduction

Risk mitigation instruments for financial investments such as guarantees, risk-sharing facilities, and insurance products can be attractive, relatively inexpensive ways for the public sector to mobilize private investment for climate related projects,<sup>1</sup> particularly given the current constrained economic environment. Public institutions such as Multilateral Development Banks (MDB) already provide risk coverage to sectors and countries that private providers do not address. However, it is unclear if the current set of risk mitigation tools offered by public institutions is adequate to support low-carbon technologies, and whether these tools could be improved.

Among MDBs, the World Bank Group (WBG, or 'Group'), through its member institutions – MIGA, IFC, IBRD, and IDA<sup>2</sup> – has traditionally been a major provider of risk coverage instruments for development projects. Furthermore, in recent years, the WBG has made climate change objectives central to its mission,<sup>3</sup> prompting an increase in the Group's investment in renewable energy, which now accounts for 44% of the Group's annual energy lending (WB, 2012).

Based on a detailed mapping and project-level analysis of the Group's available risk coverage instruments, we explore whether these trends are also evident in its commitment to risk mitigation. This is a first step toward answering broader questions around how the Group and other public institutions can improve the risk coverage tools available and thus facilitate greater private investment for climate projects.

**At least in theory, the WBG provides coverage against most risk categories, particularly those faced by private debt investors. Yet, despite its increasing commitment to addressing climate change, few risk instruments appear to have been used at a significant scale to support climate related projects. We identify options that could improve this situation. First, a specific mandate for the WBG to broaden the use of its risk mitigation instruments for climate change could significantly increase their availability to and use by climate investors. Support could also enhance uptake of two specific kinds of instruments with significant potential for climate related projects: guarantees and index-based instruments.<sup>4</sup>**

This brief begins with an overview of general risk coverage offered by the WBG through its various member institutions, highlighting the overall financial commitment from the Group and potential gaps in risk coverage. We then summarize trends in risk coverage commitments for climate change before concluding with some recommendations. This brief is complemented by an annex summarizing the WBG's instruments' technical features and risk coverage provided, and by presentation slides that include a more detailed overview of the resources committed by the WBG for risk mitigation, the evolution of risk instruments over the last few years, and their usage for climate related projects.

- 1 For more information on the definition of climate related projects please refer to Box 1 - Methodology.
- 2 Acronyms: MIGA - Multilateral Investment Guarantee Agency; IFC - International Finance Corporation; IBRD - International Bank for Reconstruction and Development; IDA - International Development Association. In our survey we also covered GEF (Global Environment Facility) and CIF (Clean Investment Fund).
- 3 The WBG has in the recent years engaged in several initiatives related to its global redirection towards a stronger development of clean energy investment. Responding to the recommendations of the G-8 summit in 2005, the World Bank launched the investment framework for clean energy and sustainable development which established the foundation for moving toward a more comprehensive WBG engagement in climate change (WB, 2008). Currently, the WBG's official strategic document for climate change is "Development and Climate Change: A Strategic

- Framework for the World Bank Group" adopted in 2008, which serves as a guide and support to the operational approach of the WBG's institutions to climate change (WB, 2008). The WBG has also formally engaged in active support for the "Sustainable Energy for All" initiative, launched by the United Nations in September 2011, which calls on governments, businesses and civil society to achieve, by 2030, universal access to energy, a 30% share of renewable power produced and consumed, and double energy efficiency improvement rates (IMF-WB, 2013). Based on this initiative, the WBG recently launched an Energy Sector Directions Paper, where the Group commits to minimize environmental costs of energy supply, and reduce financial support for new coal power generation projects, unless aimed at "meeting basic energy needs in countries with no feasible alternatives" (WB, 2013c).
- 4 Index-based instruments use objective parametric triggers for the determination of claim payments.

## Overview of Risk Categories Covered by the World Bank Group

All WBG institutions include risk mitigation within their mandates and strategies. This is reflected in the wide variety of available risk mitigation instruments that range from insurance policies and guarantees aimed at enhancing creditworthiness of projects, to contract-based instruments targeting the volatility of commodities and currencies. The WBG offers these instruments either through dedicated product lines, by providing co-financing and assistance of other facilities (DRFI<sup>5</sup>), or by acting as the implementing entity for international funds (such as the GEF and CIF).<sup>6</sup> Figure 1 shows the coverage theoretically offered through dedicated product lines by the WBG institutions examined in this survey. We distinguish between explicit, implicit, and indirect coverage, based on the extent to which specific risks are targeted distinctly by risk mitigation instruments.<sup>7</sup>

The WBG “explicitly” covers counterparty and credit risks through risk and loan guarantees, and offers dedicated tools for the coverage of political and social risks, such as political risk insurance provided by MIGA or flexible mechanisms like partial risk guarantees

5 Acronym: DRFI - Disaster Risk Financing and Insurance.  
 6 While not being a member institution, the GEF and CIF use WBG’s institutional channels to fund the development of risk mitigation instruments.  
 7 More insights on the differences between the types of coverage, and risk categories can be found in Box 1 - Methodology.

provided by IBRD and IDA. The IBRD and IFC have dedicated facilities to cover disaster risks, namely, the DRFI and the GIIF,<sup>8</sup> while the IFC is the only institution that explicitly mitigates risks associated with environmental instruments such as the Carbon Delivery Guarantee, which is dedicated to CDM projects.

Where gaps arise in explicit risk coverage, partial credit guarantees can “implicitly” address these by providing risk coverage to investment assets (namely loans and bonds), independent of the specific risk event that may trigger a default. Both explicit and implicit coverage directly address risks, however, products providing implicit coverage are typically comprehensive. As a consequence, these may be more onerous than coverage through instruments that offer targeted, explicit coverage.

Finally, the WBG due diligence requirements for projects result in “indirect” mitigation of residual risks. For example, before providing coverage to investors to protect against default through a guarantee, the IBRD requires project developers to undergo an environmental impact assessment, which ensures that all reasonable measures are taken to reduce impacts on the environment and related risks.

8 Acronym: GIIF - Global Index Insurance Facility

Figure 1 - Risk mitigation coverage offered by WBG products to all projects

RISKS	POLITICAL, POLICY, SOCIAL						TECHNICAL, PHYSICAL					COMMERCIAL, MARKET					OUTCOME			
	Public Governance	Legal and Ownership rights	Permitting/Siting	Policy	Private Governance	Reputation/Social opposition/Violence	Construction	Disaster/Catastrophe	Reliability of output	Operation and Management	Environmental impacts	Currency	Input/Output Price Volatility	Environmental Instr. Volatility	Access to Capital	Counterparty/Credit Default	Investment Liquidity/Exit	Emission Reduction Targets	Co-impacts (i.e. employment)	Financial sustainability (budget)
MIGA	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit														
IFC	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit
IDA	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit									Explicit	Explicit				
IBRD	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit	Explicit			Explicit

Source: CPI elaborations based on WBG data.

Types of Coverage: Explicit  Implicit  Indirect

Box 1 - Methodology

For this analysis, we use publicly available sources covering more than 20 risk mitigation instruments currently offered by the WBG.

**Risk categories:** The categories we use to classify risks are largely consistent with the approach taken in CPI's Risk Gaps series (CPI, 2013). We use four macro-categories summarized in the following table.

POLITICAL, POLICY, AND SOCIAL RISKS	TECHNICAL, PHYSICAL RISKS
Originate in the social dimension, including governments and individuals. Policy risks derive from legitimate actions of authorities exercising their regulatory functions; political risks derive from illegitimate acts by authorities and citizens.	Derive from the physical dimension of the assets and/or the surrounding environment. They are technology-specific, or the result of unexpected catastrophic events.
COMMERCIAL, MARKET RISKS	OUTCOME RISKS
These risks originate in the economic dimension and relate to the value of inputs and outputs and to the costs and availability of financial resources. Investment liquidity risks, for example, refer to uncertainties in the ability of monetizing the investment. Environmental instruments volatility refers to volatility of low-carbon market-based instruments (i.e. ROCs).	Typically perceived by the public sector entities and linked to the ability of publicly-supported green projects to meet objectives reductions of emissions or co-impacts within expected costs (budget risks).

We updated the methodology where appropriate to take into account new findings about individual risk mitigation instruments.

**Risk coverage analysis:** The degree of risk coverage of an individual instrument is assessed qualitatively based on the type of protection offered. In particular we distinguish between no coverage, and explicit, implicit, and indirect coverage. We use the term explicit coverage to refer to the full theoretical risk coverage explicitly mentioned by the instrument. Likewise, implicit coverage refers to the full theoretical risk coverage provided without explicit mention by the instruments; while indirect coverage takes account of all indirect benefits offered by the instrument that in fact provide coverage against other risks (i.e. risk mitigation that results from due diligence activities sponsored by the WBG).

**Risk mitigation commitments:** We estimate the WBG's level of investment in risk mitigation by looking at the money committed to risk mitigation at a project/initiative level, rather than the money that is actually disbursed to beneficiaries following the occurrence of risk events. Commitments refer to the amounts approved by the board and are calculated as the maximum amount that would be paid directly by the WBG following the occurrence of the trigger. This amount usually coincides with:

$$\text{nominal exposure} = (\text{percentage of asset guaranteed}) \times (\text{nominal value of the asset})$$

Our reference period covers all years since 1990.<sup>1</sup> We only consider projects supported by WBG dedicated product lines; thus excluding simple co-financing of risk mitigation instruments, or commitments channeled by the WBG from other sources (GEF and CIF). In addition, we only include projects that are currently active or completed, thus excluding all initiatives that are still undergoing the approval process, or have been dropped.

**Climate related commitments:** We use a conservative approach to identify climate related commitments. We consider activities that directly target emissions reductions and then exclude those whose climate-related component cannot be identified because of their multi-purpose nature (i.e. transport). We also considered activities targeting disaster risk mitigation (mainly the financial impacts) that are explicitly dedicated to adaptation purposes as stated in the accompanying documentation.

1 1990 is the year of inception of MIGA, the first institution to be entirely dedicated to the issuance of risk mitigation instruments within the WBG.

## Trends in Risk Coverage Commitments for Climate Related Investment

Since 1990, the WBG has committed an average of USD 2 billion each year to risk mitigation activities for all kinds of projects – not just those that are climate related. These activities have increased over time, and at a slightly higher pace than the Group’s overall supply of direct lending instruments such as loans. In the last three years, total risk mitigation investment by the Group grew to USD 4 billion. Over this same period, the proportion dedicated to climate related projects has averaged 10%, rising to 14% between 2010 and 2012 when annual commitments to climate related projects reached, on average, USD 570 million per year (See Figure 2).

There are several reasons explaining this increase. First, the WBG’s intensified commitment to risk mitigation for climate change in 2005 coincided with a G-8 Leaders’ call for more investment in clean energy in the developing world (WB, 2008). A further significant increase occurred in 2008 with the onset of the global financial crisis, which drove demand for risk mitigation coverage.

In the last five years, IBRD has committed the largest amount of financial resources for risk mitigation of climate related projects; while IFC is the most active in terms of number of initiatives, particularly in the energy efficiency sector (See Figure 3). The following provides further detail:

- **MIGA is the largest provider of risk mitigation instruments within the WBG, but its involvement in the climate change sector is still relatively low.** While the *Political Risk Insurance* offered by MIGA accounts for USD 25,208 million, or about 55% of the overall WBG commitments to de-risking purposes, only 4% of this goes to climate relevant projects. Given the large volumes handled by MIGA, it is plausible that stronger engagement through this institution would substantially increase the financial support available to climate related projects.
- **IBRD manages the largest variety of risk mitigation instruments. Its involvement in climate related initiatives seems to have been recently focusing on contingent financing for the public sector.** IBRD provides a remarkable number of instruments including five different

Figure 2: Share of climate related commitments in total WBG risk mitigation

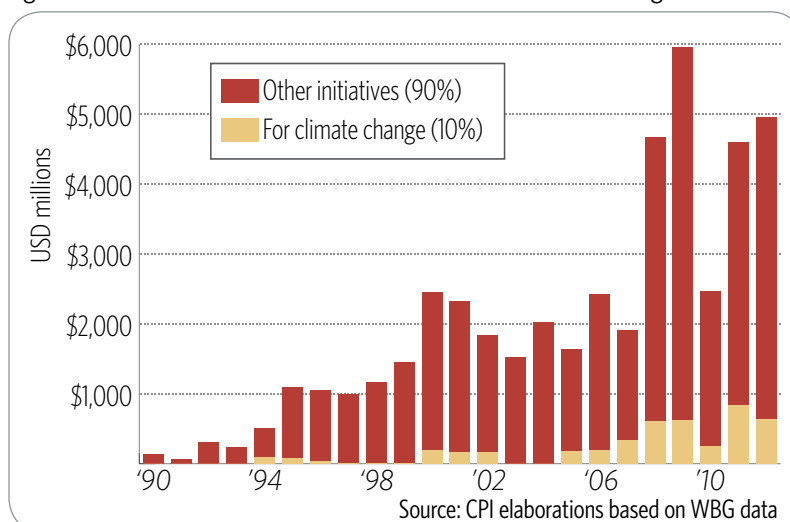
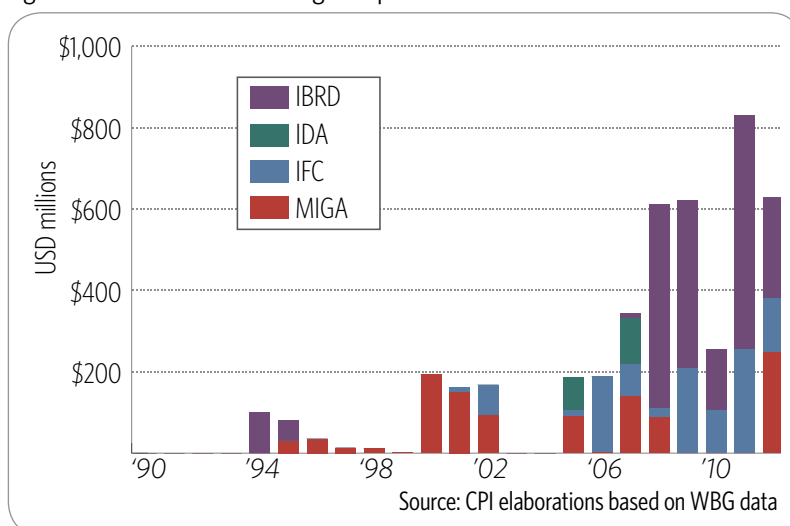


Figure 3: Climate related risk mitigation per institution



guarantees, several hedging products and credit enhancers for sovereign loans, as well as many tailored financial solutions to address catastrophic events. Even so, guarantee products have been used only occasionally by climate related projects over the last 20 years,<sup>9</sup> with the last instance of that kind of support in 1995. IBRD contribution to climate change has been

9 For example, only one project has involved the Enclave Partial Risk Guarantee, although it has been designed in 1997. The occasional use of Partial Risk Guarantees is partly explainable by the “last resort” principle, where investors must seek guarantees from MIGA and IFC before demanding World Bank’s direct intervention, narrowing Partial Risk Guarantees’ scope to large-scale complex infrastructure projects involving heavy public engagement (PPPs). On top of this, the requirement of the counter guarantee of host governments, not necessary in the case of MIGA and IFC, can discourage the full engagement of governments. Finally, a major reason of under-utilization includes inadequate internal incentives for management/staff (WB, 2013b), or the substitutability of Partial Credit Guarantees (PCGs) targeting public projects with direct IBRD lending (IEG, 2009).

progressively shifting its focus toward *contingent financing*, mainly credit lines with deferred drawdown option<sup>10</sup> to fill countries' liquidity gaps in the aftermath of disasters (adaptation).

- IDA shows a relatively small, but increasing interest in climate related projects. Indeed, proposed projects to be implemented in the next years target principally renewable energy, in particular wind and hydro power.** The institution also plans to expand its products portfolio. As for now, it only issues Partial Risk Guarantees, but the introduction of a *credit guarantee* product is foreseen for the end of the year.
- IFC is the only institution within the WBG offering risk instruments specifically designed for climate related investments and has been increasing its commitment to risk mitigation, however, it has still only seen one product in the climate change sector reach significant scale.** IFC has increased its commitment to risk mitigation in the last five years: The share of risk mitigation instruments in the total financial exposure has risen from 7% in 2006 to 42% in 2012, as reported in the IFC annual reports. And the share dedicated to climate related projects followed a similar though less pronounced trend, evolving from an average 12% of the commitments to risk mitigation since 2000, to 25% in 2011-2012. IFC directed several products in support of climate related projects but, to date, the *Risk Sharing Facilities* for energy efficiency have been the only ones to reach a significant scale. Unlike the other WBG institutions, IFC has designed the only financial instrument specifically dedicated to climate change, the *Carbon Delivery Guarantee*.

Figure 4: Total WBG Commitments to Climate Change by Geography

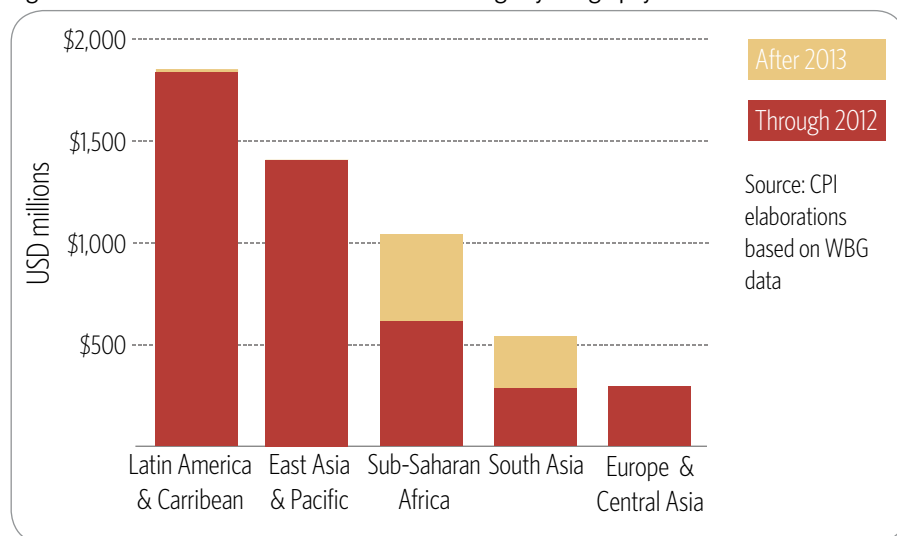
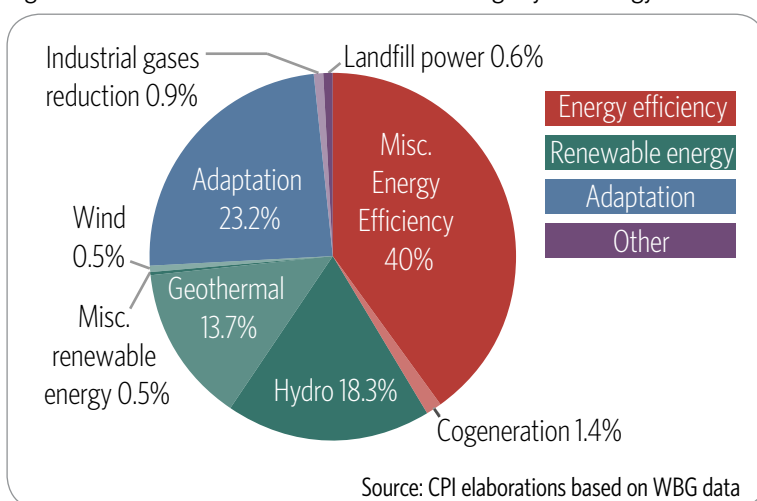


Figure 5: Total WBG Commitments to Climate Change by Technology



**In terms of geographic focus, most WBG commitments to climate change risk mitigation went to Latin America and East Asia, with Sub-Saharan Africa receiving significantly growing support (See Figure 4).** In both Latin America and East Asia, after an initial interest in renewable energy projects (through guarantees offered by MIGA and IBRD) most risk mitigation activities now focus on energy efficiency and adaptation risk mitigation, principally through the use of the IBRD contingent financing and IFC's risk sharing facility. In Sub-Saharan Africa there is a convergence of project activities planned in the coming three years, with MIGA and IDA being equally involved, and targeting both energy efficiency and renewable energy projects.

**Worldwide, most of the commitments target long-established renewable energy and energy efficiency technologies (See Figure 5).** Before 2005, climate related investments were mainly concerned with established renewable energy investments such as

10 A deferred drawdown option allows the borrower to postpone access to loan to when it is needed, i.e. when a shortfall in resources occurs following the occurrence of a risk event.

hydro power and geothermal. After 2008, initiatives on adaptation and energy efficiency have increased, but the supply of risk mitigation instruments to innovative technologies such as concentrated solar power falls significantly short of demand, partly explained by the WBG's choice to support early-stage technologies through conventional instruments such as concessional loans. It is interesting to note that each WBG institution has focused on specific green technologies. For example, MIGA has shown a focus on renewable energies, while IFC has invested more in small-scale energy efficiency projects.

**Despite not being part of the WBG, agencies dedicated to supporting low-carbon technologies such as the GEF and CIF,<sup>11</sup> also provide risk coverage to climate related projects using the World Bank as one of their implementing entities.** While the GEF and CIF mainly provide grants and concessional financing to cover the incremental costs associated to low-carbon technologies, these funds also provide limited (especially within the CIF) financial support to risk mitigation instruments like guarantees (mostly), contingent financing, and insurances.<sup>12</sup> Both funds however, are prioritizing their use for the next years as an effective approach for financing programs and projects to engage the private sector and deliver scale.

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11 Climate change is one of the six focal areas included in the mandate of GEF, while the CIF funding windows are dedicated to climate change as per mandate.

12 Similarly to GEF and CIF, the WBG can also use IBRD loans and IDA credits to back up local guarantee facilities.



## Conclusions

**1. More can be done.** Despite the WBG's growing prioritization of climate related investment, provision of climate specific risk mitigation products is not keeping pace with increasing climate investment needs. More importantly, only a few types of risk instruments appear to have been used at a significant scale to support climate related projects.

**2. A mandate to expand the use of risk mitigation instruments for climate change could help increase their availability to climate investors.** Our findings suggest the performance of different risk mitigation instruments is not only demand-driven, but also supply-driven. Financiers, for example, have often highlighted that one of the reasons for the relatively limited commitment of MIGA to climate related initiatives is the lack of a dedicated, publicly disclosed (thus trackable and verifiable), mandate (CPI, 2013).<sup>13</sup> On the other hand, IFC, which has a clear climate-related engagement target, has indeed increased its share of climate-related risk mitigation initiatives in a relatively short period of time. More transparency on institutions' targets and a clear mandate across WBG organizations could spur more internal analysis of what the barriers are, and an external marketing effort to encourage more uptake by climate related projects.

**3. Guarantees, in particular, could be used more frequently to support climate related projects.** Despite being a widely diffused instrument, we do not see the same uptake of guarantees when it comes to climate related projects. For example, although IFC guarantees are extensively employed by commercial banks and microfinance institutions to raise funds to support their lending activities for microfinance purposes, they have been used only twice for climate change<sup>14</sup>; the IBRD has only used guarantees occasionally for risk mitigation, which even so has gradually diminished over time. This trend can be explained partially by the limited understanding of the guarantee products by low-carbon investors, who may find concessional loans a more convenient source of financial risk mitigation than guarantees (MIGA, 2013). Despite the ongoing review of all WBG guarantees,<sup>15</sup> there has been no immedi-

13 Direct communication with MIGA has revealed that the Agency has so far operated with an internal strategy for climate change that should be made public in the near future (MIGA, 2013)

14 There is an interesting example of guarantees issued by the IFC to an Indian institution to support retrenched women workers (SEWA) to credit enhance micro-loans issued by banks to SEWA members for the purchase of solar lanterns and solar cook-stoves.

15 In 2012 the WBG started a process to review its guarantees, aimed at facilitating a greater use of guarantees for mobilizing private financing

ate clarification of their role in supporting low-carbon projects although this could present an opportunity to improve guarantees and provide greater coverage for future climate related projects.

**4. Index-based instruments benefit clients in a number of ways including by reducing the terms of payout times and associated moral hazard.** These instruments could potentially be explored for support to climate related sectors beyond disaster risk mitigation. Index/trigger-based instruments can help to address renewable energy investors' concerns about enforcement procedures, by linking payments to specific objective indices whenever they cross the contract threshold before the end of the contract period; external claim payment triggers make instrument assessment more transparent (intelligible) and help to overcome information asymmetries. Such instruments are currently used by the WBG for disaster risk mitigation with triggers being linked to weather indices (i.e. hurricane intensity, rain levels), but financiers suggest that a parametric approach could be tested for addressing policy risk.<sup>16</sup>

**5. While information on premiums is easily accessible for almost all products, more can be done to improve available information on transaction and enforcement costs.** Data on premiums is always publicly available where supply of risk mitigation products is standardized (i.e. MIGA and IBRD). More difficult is the estimate of transaction and enforcement costs, as they cover a wider range of explicit and implicit costs of different nature such as legal expenses and costs of processing and intermediation (with information only partially available). Public availability of information on the time of enforcement could be an important step forward toward transparency, significantly improving the ability of investors, or other stakeholders (i.e. beneficiaries, guarantee holders), to comprehensively assess risk mitigation instruments.

**In the coming months CPI will remain actively engaged in its analysis of risk mitigation instruments and tools, with additional in-depth analysis of the World Bank Group's risk mitigation instruments in dedicated case studies, with the aim of assisting the Group in identifying product design elements and further exploring opportunities for synergies across its institutions that can improve the effectiveness of the instruments in support of climate related investment.**

(WB-OPCS, 2012). The review process had an impact on recent reforms both in IFC and MIGA, which involve also the inauguration of better coordinated activities between the two agencies (IMF-WB, 2013).

16 During the last San Giorgio Group stakeholders discussed the possibility to use a parametric approach for insurance, in which reimbursements are linked to a pre-defined magnitude of policy change (CPI, 2012).

## Bibliography<sup>17</sup>

- CPI. 2013. "Risk Gaps Series". Climate Policy Initiative. <http://climatepolicyinitiative.org/publication/risk-gaps/>
- CPI. 2012. "Second Annual Meeting of the San Giorgio Group: Expanding Green, Low-Emissions Finance". Climate Policy Initiative. <http://climatepolicyinitiative.org/wp-content/uploads/2012/10/Second-Annual-Meeting-of-the-San-Giorgio-Group.pdf>
- IEG. 2009. "The World Bank Group Guarantee Instruments 1990 - 2007. An Independent Evaluation". Independent Evaluation Group. [http://lnweb90.worldbank.org/oed/oeddoelib.nsf/DocUNIDViewForJavaSearch/97714149F690485385257589006CBCB9/\\$file/guarantees\\_eval\\_full.pdf](http://lnweb90.worldbank.org/oed/oeddoelib.nsf/DocUNIDViewForJavaSearch/97714149F690485385257589006CBCB9/$file/guarantees_eval_full.pdf)
- IMF-WB. 2013. "A Common Vision for the World Bank Group - Background Annex". Development Committee, Joint Ministerial Committee of the Boards of Governors of the Bank and the Fund on the Transfer of Real Resources to Developing Countries. <http://web.worldbank.org/WBSITE/EXTERNAL/DEVCOMMEXT/0,,pagePK:64000837~piPK:64001152~theSitePK:277473~contentMDK:23385078,00.html>
- IMF-WB. 2008. "Development and Climate Change: a Strategic Framework for the World Bank Group". Development Committee, Joint Ministerial Committee of the Boards of Governors of the Bank and the Fund On the Transfer of Real Resources to Developing Countries. <http://siteresources.worldbank.org/EXTCC/Resources/407863-1219339233881/DCCSFReporttoDevelopmentCommitteeOct122008.pdf>
- MIGA. 2013. Personal communication. June 4<sup>th</sup>, 2013.
- WB. 2013a. "Energy and the World Bank". The World Bank. <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/0,,contentMDK:22858145~pagePK:210058~piPK:210062~theSitePK:4114200,00.html>
- WB. 2013b. Personal communication. June 6<sup>th</sup> 2013.
- WB. 2013c. "Toward a Sustainable Energy Future for All: Directions for the World Bank Group's Energy Sector" [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/07/17/000456286\\_20130717103746/Rendered/PDF/795970SST0SecM00box377380B00PUBLIC0.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/07/17/000456286_20130717103746/Rendered/PDF/795970SST0SecM00box377380B00PUBLIC0.pdf)
- WB. 2012. "World Bank Financing for Renewable Energy Hits Record High". The World Bank. <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:23290974~menuPK:51062077~pagePK:34370~piPK:34424~theSitePK:4607,00.html>
- WB-OPCS. 2012. "Modernizing the World Bank's Operational Policy on Guarantees: Approach Paper." World Bank - Operations Policy and Country Services. <http://siteresources.worldbank.org/EXTRESLENDING/Resources/1-5-12-Guarantee-AP-post-CODE-clean.pdf>

17 Sources used for own elaborations related to project-level analysis and mapping of the risk instruments are not included in this bibliography section. More information on the project-level analysis can be found in the presentation slides made available along with the brief.

## Annex - Instrument technical features and coverage

The following tables illustrate the main technical features characterizing the instruments offered by the World Bank Group, their costs and timing, the extent of coverage guaranteed to the asset and the eligibility criteria for underlying investment assets and related projects. Risk instrument categories are determined based on the Risk Gaps series classification (CPI, 2013), with a narrower definition that excludes the categories of “direct investment” (in part) and “revenue support policies,” which are not exclusively dedicated to risk mitigation.


Table 1: WBG Risk Instruments Technical Features









































Note: (\*) Conversations with stakeholders suggest that length of coverage is flexible and that the maximum duration could reach 40 years if needed (WB, 2013b).

PRODUCT NAME		INSTRUMENT TECHNICAL FEATURES					INSTRUMENT COSTS AND TIMING	
		INSTRUMENT TYPE	LAUNCH	MAX COVERAGE LENGTH	MAX COVERAGE %	GOVT. GUARANTEE	PRODUCT COST	TIME NEEDED FOR ENFORCEMENT
MIGA	Political Risk Insurance	Insurance - Indemnity based insurance	1990	20 years	90 - 95% of the insured amount		0.50 - 1.75% (annual) of the insured amount	6-14 months
IFC	Carbon Delivery Guarantees	Contract - Purchase Agreement	2006	5 years	100%		Fee paid by the sellers of CERs - IFC also gains a predetermined and stated spread between CERs traded	N/A
	Global Index Insurance Facility	Insurance - Parametric insurance	2009	N/A	100%		Half the cost of traditional agricultural insurance	1-2 months
	Hedging Products (Currency and Interest Swaps)	Contract - Derivatives	1990	10 years	100%		Below market terms	Immediate disbursement
	Partial Credit Guarantee	Credit enhancement - Loan and credit guarantee	1990	20 years	50%		All-in-costs include the spread, commission, interest payments, and any other fees. Pricing follows the loan pricing policy and is a function of the credit risk coming from the project and from the borrower.	1 month
	Risk Sharing Facility	Credit enhancement - Loan and credit guarantee	2002	10 years	40-50%		Costs include the RSF fee a Front-end fee, a Commitment fee, and a Structuring/Appraisal fee. Fees are based on credit risk from the loans and the borrower.	6 months
	Securitization	Credit enhancement - Securitization	2000	20 years	N/A		N/A	N/A
	Trade Finance Facilities	Credit enhancement - Letter of credit	2005	5 years	100%		N/A	N/A
IDA	Partial Risk Guarantee	Insurance - Indemnity based insurance	1997	20 years*	100% of a debt tranche	X	Guarantee fee = 0.75 % + Initiation fee = 0.15% on guaranteed amount or USD 100,000 (whichever is greater)	N/A

PRODUCT NAME		INSTRUMENT TECHNICAL FEATURES					INSTRUMENT COSTS AND TIMING	
		INSTRUMENT TYPE	LAUNCH	MAX COVERAGE LENGTH	MAX COVERAGE %	GOVT. GUARANTEE	PRODUCT COST	TIME NEEDED FOR ENFORCEMENT
IBRD	Policy Based Guarantee	Credit enhancement - Loan and credit guarantee	1999	20 years	Partial	X	Guarantee fee (annual) = 0.50 - 0.70% of max exposure (depending on maturity) + Front-end fee = 0.25 % of max exposure	N/A
	Partial Credit Guarantee	Credit enhancement - Loan and credit guarantee	1994	20 years	Partial	X	Guarantee fee (annual) = 0.50 - 0.70% of max exposure (depending on maturity) + Front-end fee = 0.25 % of max exposure	N/A
	Partial Risk Guarantee	Insurance - Indemnity based insurance	1994	20 years	100% of a debt tranche	X	Guarantee fee (annual) = 0.50 - 0.70% + Front-end fee = 0.25% (on maximum exposure under the guarantee) + Initiation fee = 0.15% of guaranteed amount or USD 100,000 (whichever is greater)	N/A
	Enclave Partial Risk Guarantee	Insurance - Indemnity based insurance	1997	20 years	100% of a debt tranche	X	Guarantee fee = 2.00 - 2.20% + Front-end fee = 0.25% (on maximum exposure under the guarantee) + Initiation fee = 0.15% of guaranteed amount or USD 100,000 (whichever is greater)	N/A
	Development Policy Loan Deferred Drawdown Option	Direct investment - Contingent loans	2001	6 years	100% of the loan amount		Lending rate (6-months) = IBRD Flexible Loans tariffs + Front end fee = 0.25% of loan amount + Stand-by fee = 0.50% of loan amount	Immediate disbursement
	Hedging Products	Contract - Derivatives	2003	Full loan maturity	100% of the loan amount		Lower-than-market premiums/prices	Immediate disbursement

PRODUCT NAME		INSTRUMENT TECHNICAL FEATURES					INSTRUMENT COSTS AND TIMING	
		INSTRUMENT TYPE	LAUNCH	MAX COVERAGE LENGTH	MAX COVERAGE %	GOVT. GUARANTEE	PRODUCT COST	TIME NEEDED FOR ENFORCEMENT
IBRD/DRFI	Agricultural Parametric Insurance	Insurance - Parametric insurance	2003	N/A	90-100% coverage		Various across countries and type of event covered	1-2 months
	Catastrophe Bonds	Credit enhancement - Securitization	2005	10 years	10% of damaged assets		10-11% risk premium	1-2 months
	Catastrophe Deferred Drawdown Options	Direct investment - Contingent loans	2008	15 years	Partial		Lending rate (6-months) = IBRD Flexible Loans tariffs + Front end fee = 0.50% of loan amount	0-1 months
	Property Catastrophe/ Public Asset Catastrophe Risk Insurance	Insurance - Indemnity based insurance	2000	1 year	100% of insured amount		Annual premium = 0.044 - 0.55% of the sum insured	2-6 months
	Sovereign Catastrophe Risk Insurance Pool	Insurance - Parametric insurance	2007	N/A	Partial		4.44% of amount covered (annual)	0-1 months
	Index-based Weather Derivatives	Contract - Derivatives	2008	1 year	100%		Annual premium = 7 - 13% of the maximum payout	Immediate disbursement
GEF	Contingent Financing	Direct investment - Contingent loans and grants	1996	N/A	N/A		N/A	N/A
	Guarantees	Credit enhancement - Loan and credit guarantee	1994	N/A	80% of the loan amount		N/A	N/A
	Insurances	Insurance - Indemnity based and parametric insurances	2009	N/A	N/A		N/A	N/A

Table 2: WBG Risk Instruments Risk and Asset Coverage  
Types of Coverage: Explicit  Implicit  Indirect 

PRODUCT NAME	RISK COVERED				INVESTMENT ELIGIBILITY			PROJECT/CLIENT ELIGIBILITY		UNDERLYING ASSETS					
	POLITICAL, POLICY & SOCIAL	TECHNICAL, PHYSICAL	COMMERCIAL, MARKET	OUTCOME	LOCAL INVESTOR	FOREIGN INVESTOR	ELIGIBLE INVESTOR (TYPE)	ELIGIBLE INVESTOR (COUNTRY OR INSTITUTION)	ELIGIBLE PROJECT / INVESTMENT RECIPIENT (TYPE)	ELIGIBLE PROJECT / INVESTMENT RECIPIENT (COUNTRY)	SHORT TERM LIABILITIES	DEBT	EQUITY	TANGIBLE & INTANGIBLE	
MIGA	Political Risk Insurance					X		Both public and private	MIGA industrialized member countries	Both private and public	MIGA developing member countries	X	X	X	
	Carbon Delivery Guarantees					X	X	Private	IFC member countries	Private	IFC developing member countries			X	
	Global Index Insurance Facility					X		Private	IFC member countries	Private	IFC developing member countries			X	
	Hedging Products (Currency and Interest Swaps)					X	X	Private	IFC member countries	Both private and public	IFC developing member countries	X	X	X	X
	Partial Credit Guarantee					X	X	Both public and private	IFC member countries	Both private and public	IFC developing member countries		X		
IFC	Risk Sharing Facility					X	X	Both public and private	IFC member countries	Private	IFC developing member countries	X	X		
	Securitization					X	X	Private	IFC member countries	Private	IFC developing member countries	X	X		
	Trade Finance Facilities					X	X	Private	IFC member countries	Both private and public	IFC developing member countries	X			
	Partial Risk Guarantee					X	X	Private	All	Private	IDA-only countries	X	X		
IDA	Partial Risk Guarantee					X	X	Private	All	Private	IDA-only countries	X	X		

PRODUCT NAME	RISK COVERED				INVESTMENT ELIGIBILITY			PROJECT/CLIENT ELIGIBILITY		UNDERLYING ASSETS				
	POLITICAL, POLICY & SOCIAL	TECHNICAL, PHYSICAL	COMMERCIAL, MARKET	OUTCOME	LOCAL INVESTOR	FOREIGN INVESTOR	ELIGIBLE INVESTOR (TYPE)	ELIGIBLE INVESTOR (COUNTRY OR INSTITUTION)	ELIGIBLE PROJECT / INVESTMENT RECIPIENT (TYPE)	ELIGIBLE PROJECT / INVESTMENT RECIPIENT (COUNTRY)	SHORT TERM LIABILITIES	DEBT	EQUITY	TANGIBLE & INTANGIBLE
<b>IBRD</b>														
Policy Based Guarantee					X	X	Private	All	Public	IBRD countries eligible for the Development Policy Lending support program	X	X		
Partial Credit Guarantee					X	X	Private	All	Public	IBRD countries and IDA-blend countries		X		
Partial Risk Guarantee					X	X	Private	All	Private	IBRD countries and IDA-blend countries	X	X		
Enclave Partial Risk Guarantee						X	Private	All	Private	IDA-only countries	X	X		
Development Policy Loan Deferred Drawdown Option					X		Public	IBRD countries and IDA-blend countries	Public	IBRD countries and IDA-blend countries		X		
Hedging Products						X	Both public and private	IBRD (mainly) and other creditors to IBRD sovereign clients	Public	IBRD countries and IDA-blend countries (mainly)		X		

PRODUCT NAME		RISK COVERED				INVESTMENT ELIGIBILITY			PROJECT/CLIENT ELIGIBILITY		UNDERLYING ASSETS				
		POLITICAL, POLICY & SOCIAL	TECHNICAL, PHYSICAL	COMMERCIAL, MARKET	OUTCOME	LOCAL INVESTOR	FOREIGN INVESTOR	ELIGIBLE INVESTOR (TYPE)	ELIGIBLE INVESTOR (COUNTRY OR INSTITUTION)	ELIGIBLE PROJECT / INVESTMENT RECIPIENT (TYPE)	ELIGIBLE PROJECT / INVESTMENT RECIPIENT (COUNTRY)	SHORT TERM LIABILITIES	DEBT	EQUITY	TANGIBLE & INTANGIBLE
IBRD/DRFI	Agricultural Parametric Insurance					X		Both public and private	IBRD countries and IDA countries	Private	IBRD countries and IDA countries		X		X
	Catastrophe Bonds					X		Public	WB member countries	Public	WB member countries				X
	Catastrophe Deferred Drawdown Options					X		Public	IBRD countries	Public	IBRD countries				X
	Property Catastrophe/ Public Asset Catastrophe Risk Insurance					X		Private	WB member countries	Both private and public	WB member countries				X
GEF	Sovereign Catastrophe Risk Insurance Pool					X		Public	WB member countries	Public	WB member countries				X
	Index-based Weather Derivatives					X		Public	IBRD countries and IDA countries	Public	IBRD countries and IDA countries				X
	Contingent Financing					X		Both public and private	Mainly local or regional institutions	Both private and public	GEF grants eligible countries		X	X	
	Guarantees					X		Both public and private	Mainly local or regional institutions	Both private and public	GEF grants eligible countries		X		X
	Insurances					X		Both public and private	Mainly local or regional institutions	Both private and public	GEF grants eligible countries				X