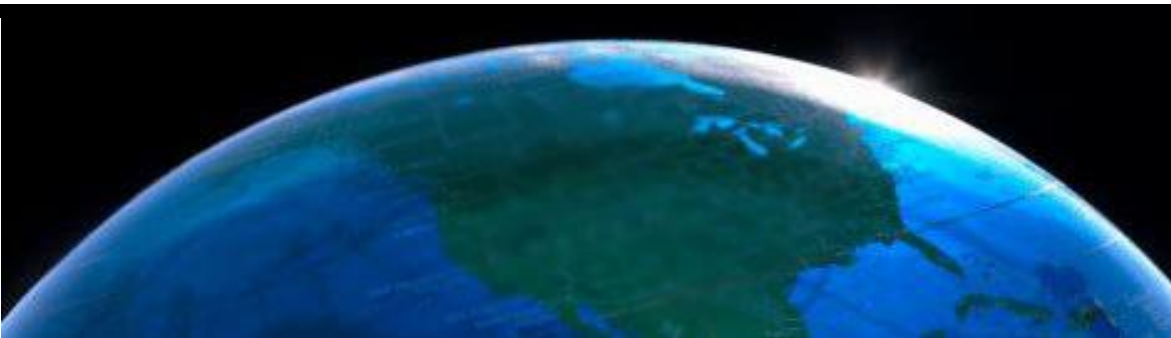




THE WORLD BANK TREASURY

Global Solutions



**Issam Abousleiman
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**World Bank Treasury
Port Ghalib
November 11, 2009**

Focus

Montreal Protocol and Multilateral Fund

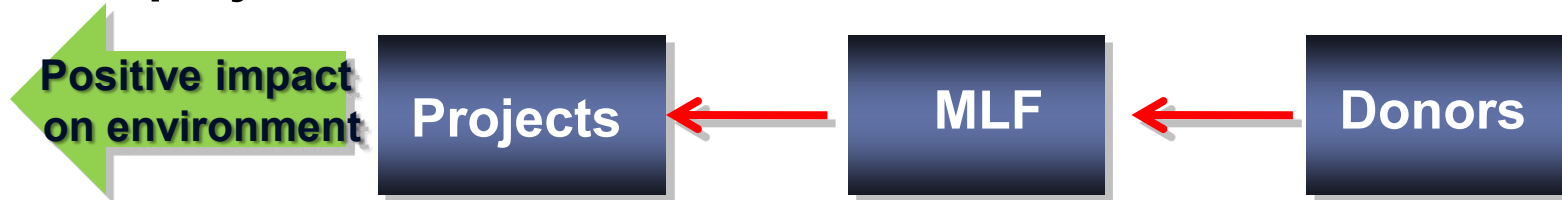
Scale up Funding to Achieve Ozone and Climate Benefits

Donor and Market Mechanisms

Carbon Finance

Montreal Protocol and MLF: Context and Impact

- Donors contribute to MLF based on 3-year replenishments to fund projects: ~\$2.5 bill contributions since 1990

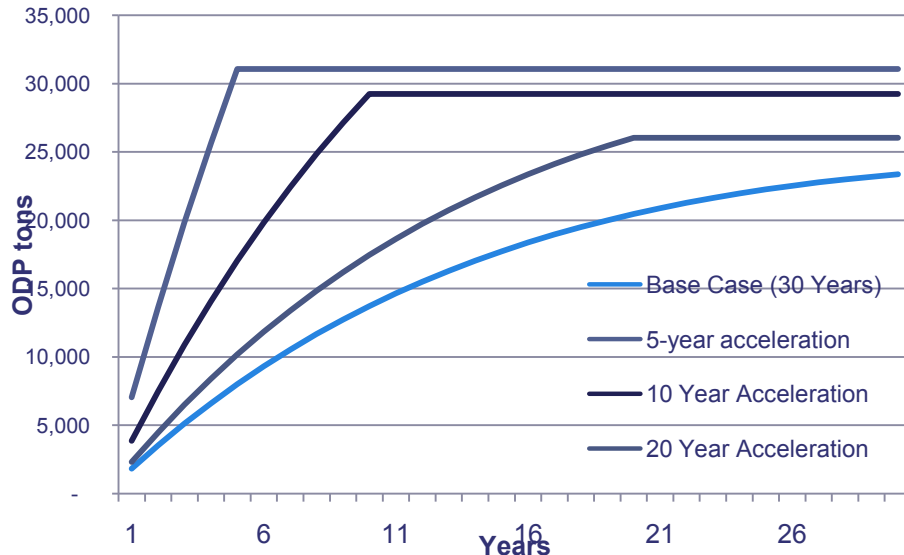


- Need for scaled-up financing to meet the ozone and climate benefits (per decision XIX/6)
- Acceleration of the execution of projects expected to generate significant global environmental benefits
 - Reduction in CO2 from more energy efficient technologies
 - Avoidance of high GWP HCFCs leakage
 - Reduction of HCFC banks and servicing needs
- Projects needs: scaled-up funds will be fully absorbed by demonstrated demands in the HCFC management plans

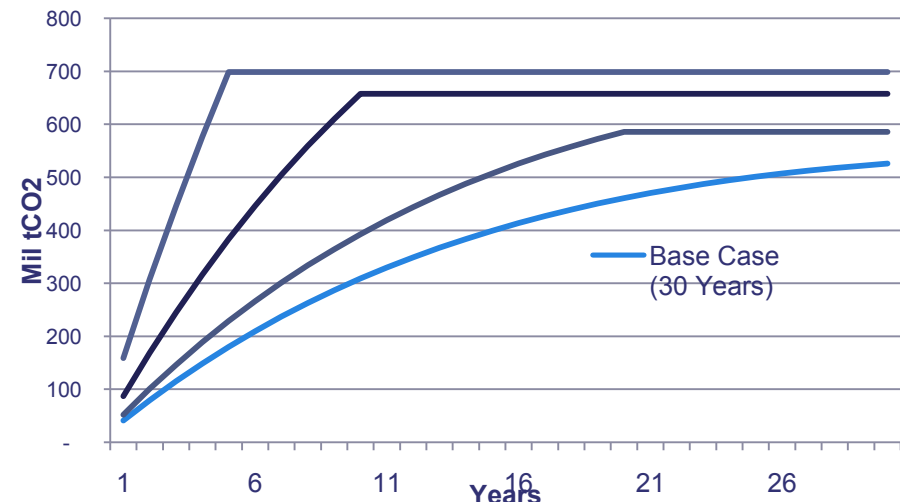
Financial Engineering for Greater Global Environmental Impact

- **Acceleration of the execution of projects expected to generate significant global environmental benefits**
 - Reduction in CO2 from more energy efficient technologies
 - Avoidance of high GWP HCFCs leakage
 - Reduction of HCFC banks and servicing needs

Comparison of Cumulative ODP Eliminated Under Different Scenarios

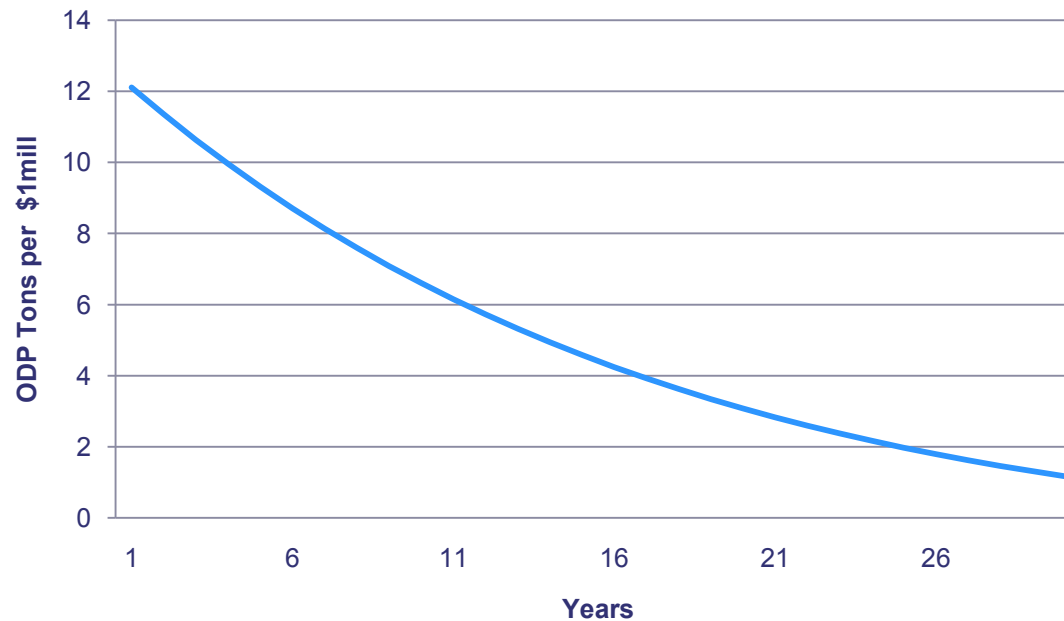


Comparison of Cumulative GWP of Primary and Secondary ODP Eliminated



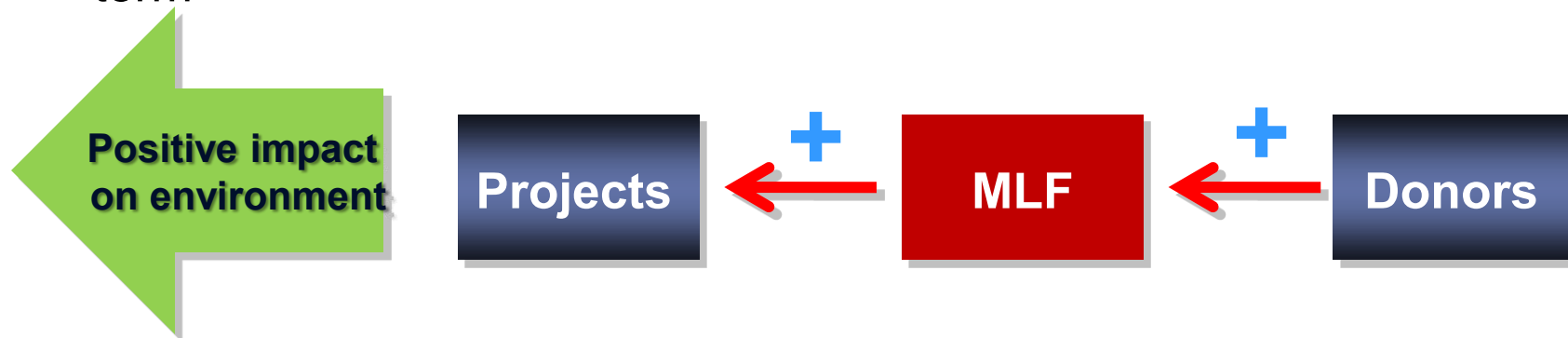
Time Factor: Eliminating Earlier Has Additional Financial Benefit

**Dollar Efficiency for ODP Tons Eliminated
(Inclusive of Primary and Secondary Effects)**

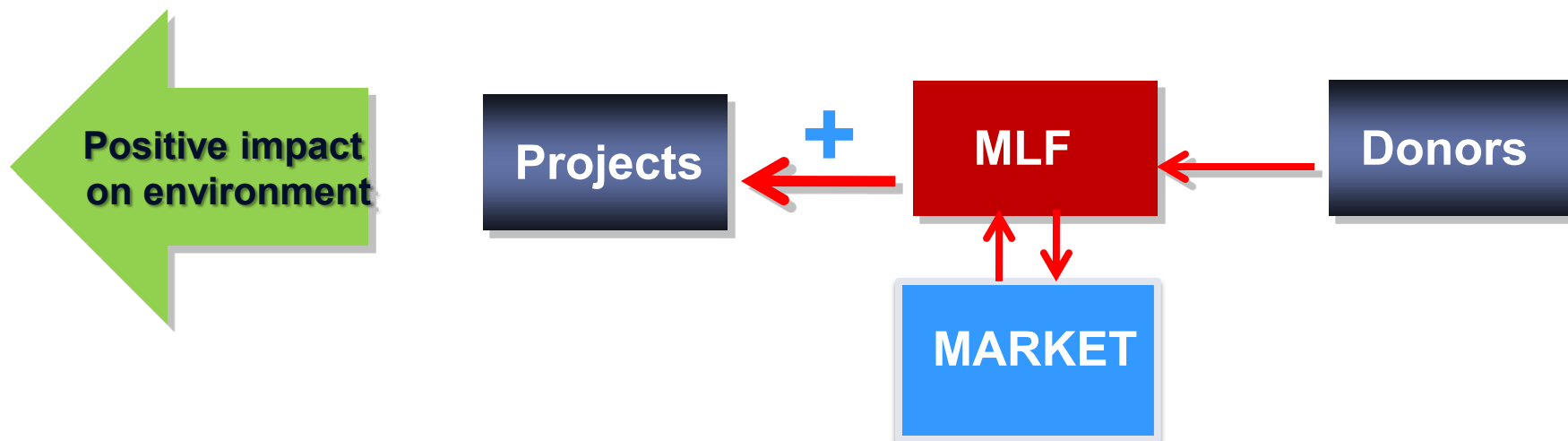


Financial Engineering for Greater Global Environmental Impact

- **Alternative 1:** Scale up donors contributions in the short and medium term

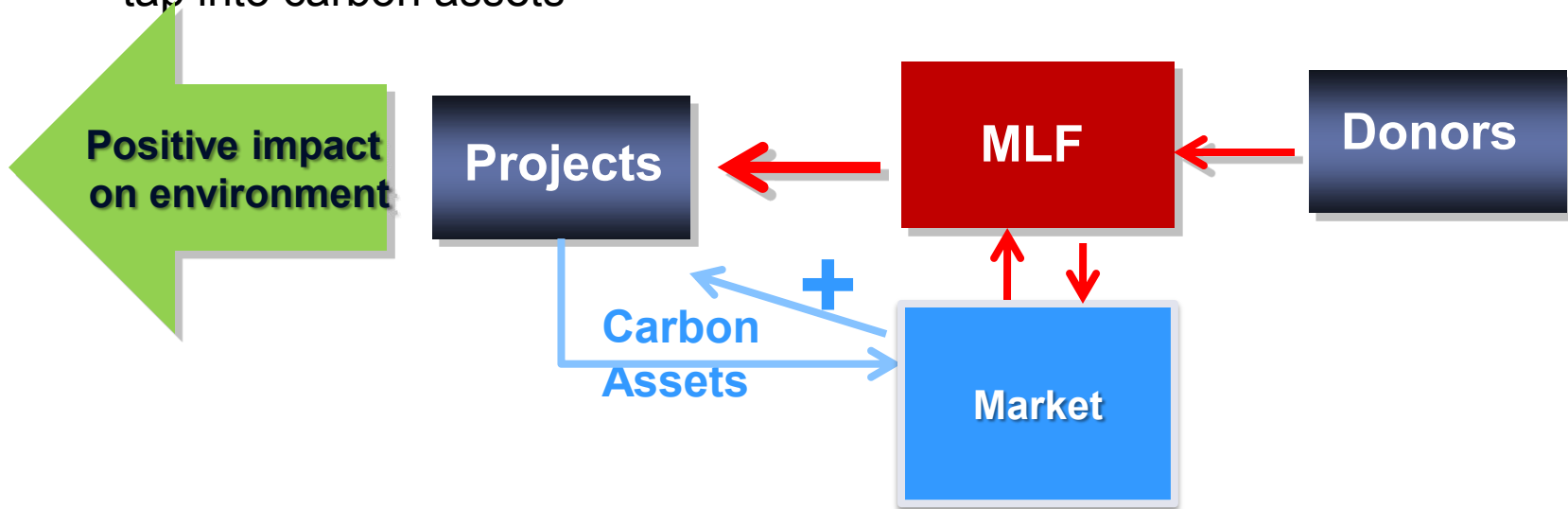


- **Alternative 2:** market mechanisms to accelerate donor funding



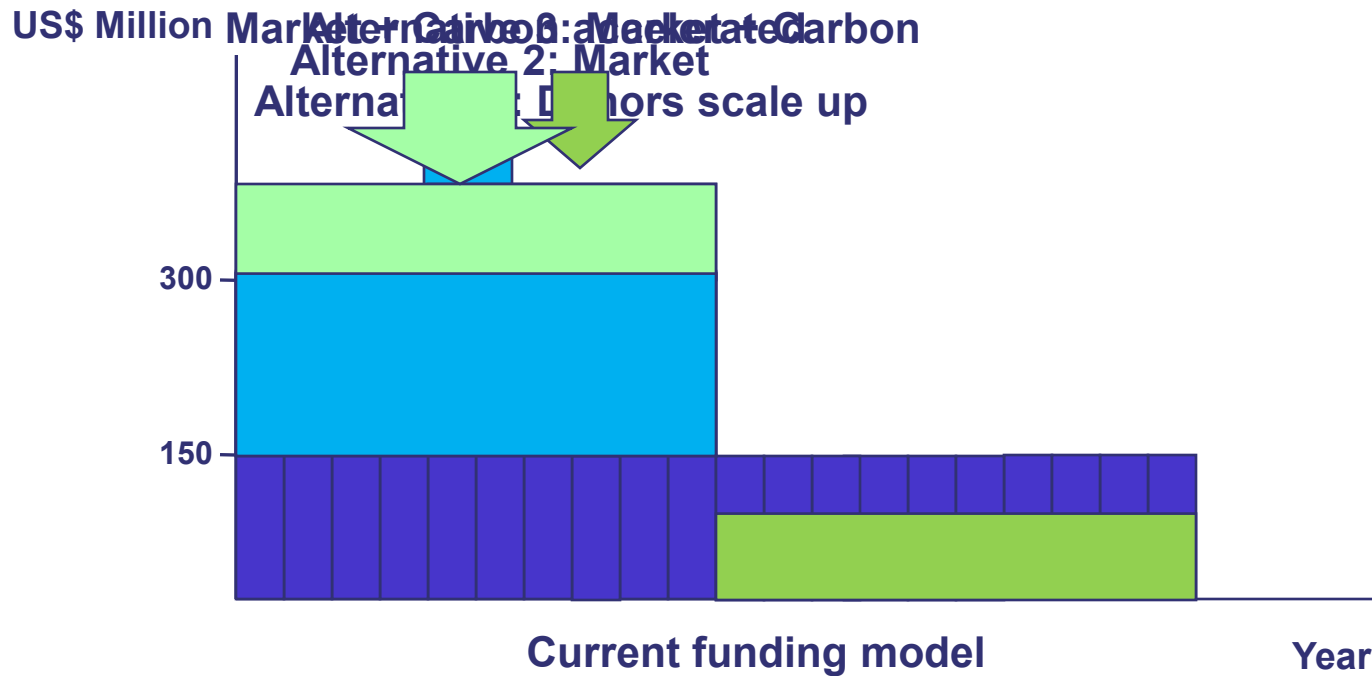
Financial Engineering for Greater Global Environmental Impact

- **Alternative 3:** Using market mechanisms to accelerate donor funding and to tap into carbon assets



- Future carbon assets generated by the projects could be monetized and channeled to projects to improve funding
 - Potential carbon assets are new and additional
 - Carbon assets from energy efficiency
 - Using carbon assets for possible upfront funding/project finance
 - Would improve financial viability of projects

Financial Engineering Impact on Project Funding



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Acknowledgements and Disclaimers

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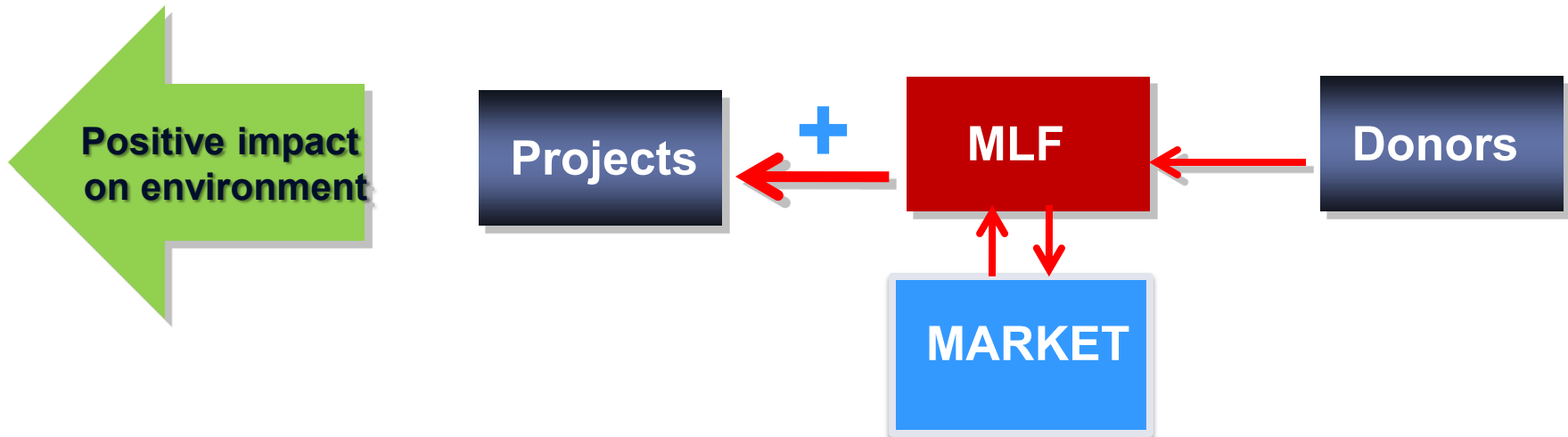
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Annex 1

Alternative 2: Using Capital Markets to Monetize Future Donor Contributions

- Financial agent would be able to monetize future donor contributions
 - Project funding available for short and medium term
 - Would require longer (over the current 3 years) and legally binding commitments from donors
 - Would have interest and other administrative costs
 - Successful precedent: International Finance Facility for Immunization (IFFIm)



IFFIm Successful Pilot: Using Capital Markets to Frontload Donor Commitments

- Capital markets were used to frontload donors legally binding long-term commitments for grants for immunization
 - Donors contributions of \$4 billion (and growing) over 20 years

- Economic and social return significantly exceed financial costs of frontloading (~expected 20%)
 - Millions of additional lives saved
 - Diseases eliminated

- New approach strongly supported by the wider development community

- Financial agent makes grant funding available as needed by projects

Annex 2



Focus

Introducing the World Bank

World Bank Overview



Global development cooperative owned by 186 member countries.

- The world's largest source for financial solutions for developing countries
- Finances activities through bonds issued by the **International Bank for Reconstruction and Development (IBRD)**, known in the capital markets as —The World Bank.”
- Over 60 years of financing development projects:
 - \$400 billion in funding
 - Approximately 130 countries
 - 4,000+ projects.

World Bank Group Business Areas...



- ***Asset Management services***
 - over US\$100 billion under management
- ***Financing**** *for governments and the private sector through*
 - bonds issued in the capital markets – US\$32.9 billion for 126 projects in over 35 middle income countries
 - direct donor funding for the poorest countries – US\$14 billion for 177 projects in over 75 countries
 - private equity investments – US\$ 890 million (FY2008)
 - carbon funds – over US\$ 2 billion of investible capital to purchase emission reductions through over 120 agreements
- ***Risk management solutions***
 - 766 transactions: derivatives for hedging purposes, insurance products against catastrophe risks and political risk insurance

* As of FY2009 unless otherwise stated

World Bank Group Business Areas

...continued



- ***Strategic advisory services for government policy decisions for***
 - Regulation
 - Budget financing
 - Financial solutions, including for asset management, public debt management, risk management

- ***Research and knowledge sharing from specialized experts***
 - More than 65,000 publications available online
 - Thousands of experts in all development areas to support countries' policy, financing, and risk management decisions

- ***Convening services***
 - Hundreds of conferences and workshops a year
 - The IMF / World Bank Annual Meetings of the Board of Governors alone convene 3,500 senior members of state and about 10,000 people

The World Bank's Role: Climate Change and Development



The World Bank is leading the global effort in sustainable development affected by the realities of climate change by filling the role as:

- **Major lender to Renewable Energy and Energy Efficiency**
- **Issuer of climate-focused bonds, including World Bank Green Bonds**
- **Innovator of international financing tools to fight climate change**
 - Climate Investment Funds (CIF)
 - Adaptation Fund
- **Pioneer in Carbon Financing, including:**
 - Carbon Partnership Facility
 - Forest Carbon Partnership Facility
- **Major provider of weather and climate-related Risk Management Solutions to World Bank members**

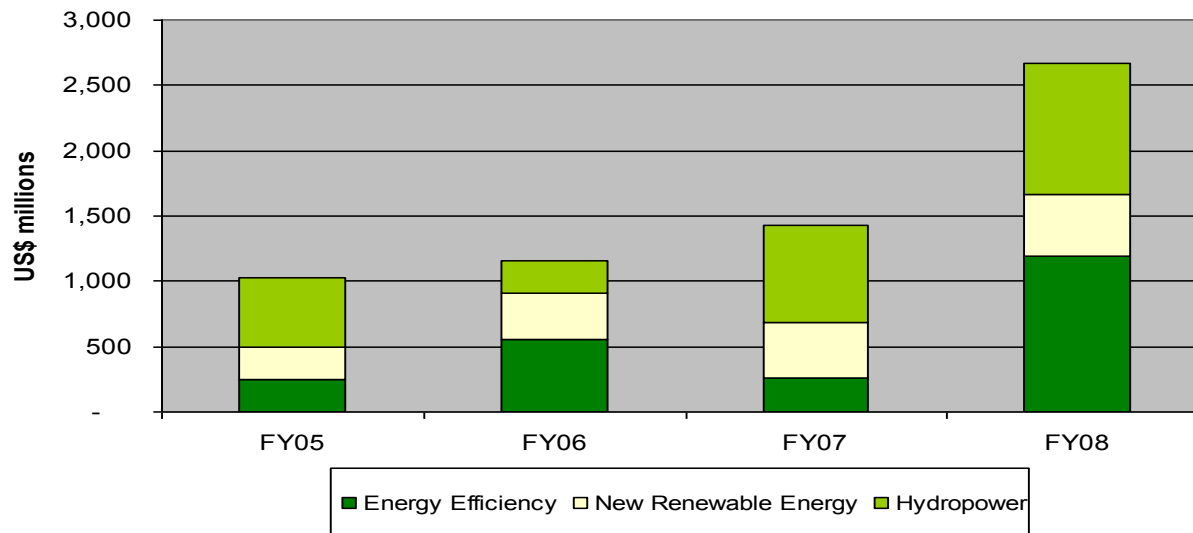
Focus

World Bank Lending for Green Initiatives

Green Lending for Energy

- *The World Bank prioritizes renewable energy and energy efficiency in climate change projects.*
- *All forms of renewables are supported – hydropower, geothermal, wind, biomass, and solar – as long as they are environmentally and socially sound.*

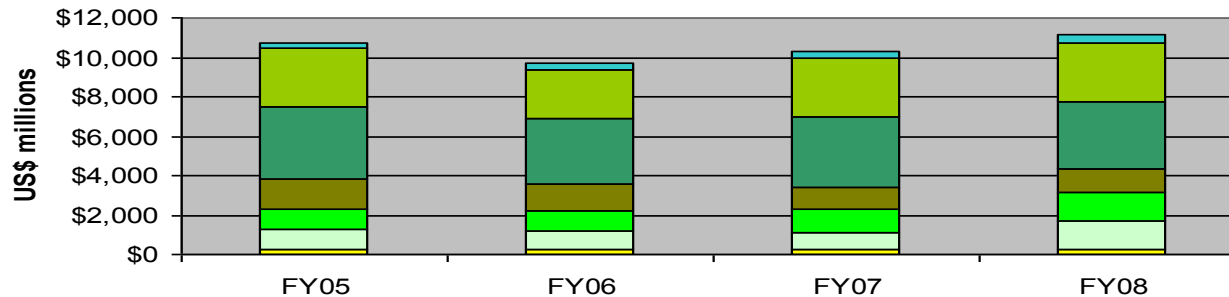
World Bank Commitments for "Green" Energy Lending, FY 2005 - FY 2008



Green Lending for Land Use and Water

- *The World Bank's environment lending supports projects that target both mitigation and adaptation.*
- *It also increased its environment lending in FY 2008 to scale up stronger land and water management.*

FY05-FY08 World Bank Group Environment and Natural Resource Management Lending



- Other Environmental Resource Management
- Water Resource Management
- Pollution Management and Environmental Health
- Land Management
- Environmental Policies and Institutions
- Climate Change
- Biodiversity

Project Summary

- **PURPOSE:** To mainstream investment in energy conservation in China's industrial sector
- **TERM:** 2008 - 2011
- **IBRD FINANCING:** US\$ 200 million



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China Energy Efficiency Financing

China recognizes the urgency to adapt manufacturing standards with cleaner technologies. Working with the World Bank, the Government of China concluded that an initial investment is essential to promote energy efficiency in the industrial sector. The initiative will include:

- *Financing projects in medium and large-sized manufacturing companies to serve as examples of different energy conservation options;*
- *Investment lending over a period of five years with corresponding equity investment from beneficiary enterprises;*
- *Strengthening government capacity to implement industrial energy efficiency policies and programs for future greenhouse gas emission reduction goals.*

Project Summary

- **PURPOSE:** Improve energy efficiency in buildings used for health and education services
- **TERM:** 2008 - 2012
- **IBRD FINANCING:** US\$ 9.4 million



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Montenegro Energy Efficiency Project

Montenegro currently must import about one-third of its power to feed its fast growing electricity demands and to make-up for diminishing electricity production from the run-down plants and assets of the state-owned electricity company. In addition, a legacy of highly inefficient buildings and other facilities contribute to the drain on energy supplies in Montenegro.

The World Bank funded **Energy Efficiency Project** will mainly finance energy efficiency investments in the public sector, reducing energy consumption and improving environmental quality in public schools and health centers—and promoting new energy efficiency and supply technologies in targeted public buildings across the country. It is designed to be a model for positive energy efficiency activities in rest of the country's public sector and private companies, reducing national greenhouse gas emissions.

Project Summary

- **PURPOSE:** To mainstream climate change considerations into public policy
- **TERM:** 2008 - 2011
- **IBRD FINANCING:** US\$ 501.25 million



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Climate Change Development Policy Loan

Mexico is disproportionately affected by climate change. Changes in temperature and precipitation have been increasing flood, drought and hurricane frequencies.

The Government of Mexico has taken the lead in addressing climate change. In March 2007, it formalized its commitment to mitigate and adapt to climate change through the National Climate Change Strategy (NCCS). With the financial and technical support of World Bank, they will do the following:

- *Scale up the ProÁrbol program by doubling the amount of land lost through deforestation.*
- *Introduce new alternative energy resources through hydro and wind power initiatives.*

Focus

World Bank Climate-Focused Bonds

CO2 “Cool Bond”

- ***An investment product developed for sustainable Japanese retail investors concerned about the impacts of global warming***
- ***First Japanese retail investment product referencing emission reductions of a specific project under the framework defined by the Kyoto Protocol***
- ***Coupons linked to future performance of CER prices and the actual versus estimated delivery of CER's from a hydropower***

Summary of CO2 “Cool Bond” Terms

Amount:	US\$25 million
Settlement Date:	June 26, 2008
Maturity Date:	June 30, 2013
Coupon:	3% fixed annual coupon for an initial period of 15 months, and then a coupon linked to the future performance of CER prices and the actual versus estimated delivery of CERs that will be generated by a hydropower plant located in the Guizho Province in China.
Sole Lead Manager:	Daiwa Securities Group SMBC Europe Ltd.
Investor Type:	Japanese Retail



Daiwa Securities
SMBC



ECO-3Plus Note

- ***An investment product developed for sustainable Benelux and Swiss retail investors concerned about the impacts of global warming***
- ***Coupons linked to the performance of an environmentally focused equity index***
- ***Environment index includes companies that***
 - produce alternative form of energy
 - engage in water and waste management
 - are involved in the production of catalysts used to reduce pollution

Summary of Eco-3Plus Note Terms

Amount:	EUR230 million
Maturity Date:	November 8, 2008
Coupon:	3% minimum, plus a possible additional amount based on the monthly performance of the ABN AMRO Eco Index
Sole Lead Manager:	ABN Amro
Investor Type:	Retail (The Netherlands, Belgium, and Luxembourg)



Green Bond

- **Investment product developed for sustainable investors concerned about the impacts of global warming**
- **Supports World Bank lending to climate change-related IBRD projects**
- **Funds from the World Bank Green Bond support climate change mitigation and adaptation projects selected by World Bank climate change specialists**

Summary of Green Bond Terms



Amount:	US\$300 million	SEK2.85 billion
Settlement Date:	April 24, 2009	November 12, 2008
Maturity Date:	April 24 2012	November 12, 2014
Coupon:	Floating Rate Note	3.5%
Lead Manager:	SEB	SEB

SEB



Focus

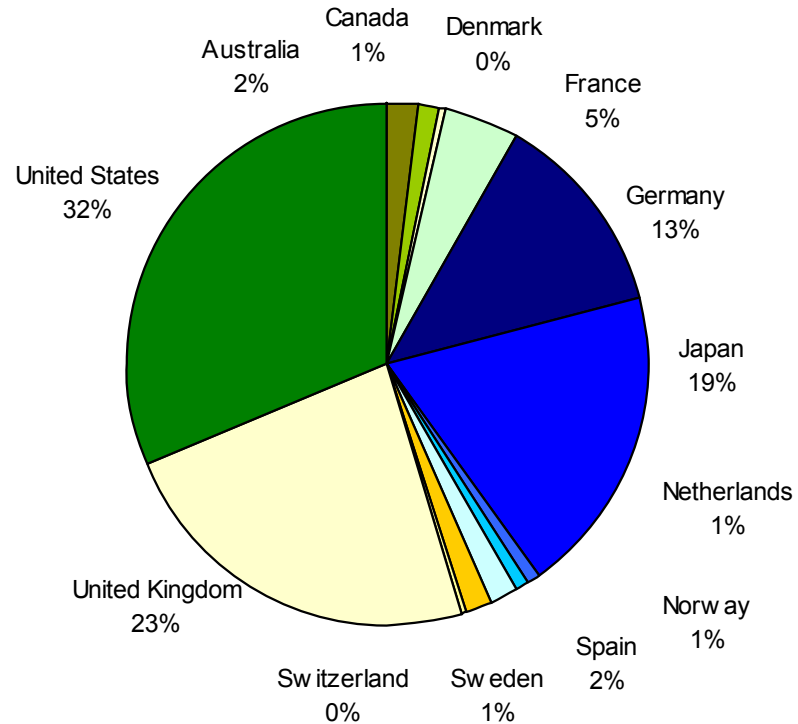
World Bank Financing Programs for Climate Investments

Climate Investment Funds

Overview

Clean Technology Fund
Finance scaled-up demonstration, deployment and transfer of <u>low carbon technologies</u>
Strategic Climate Fund
<u>Targeted programs</u> with dedicated funding to pilot new approaches with potential for scaling up climate resilience, forests, renewable energy

Pledges to Date (US\$ equivalent millions)



*exchange rates as of April 15th, 2009 = US\$5.9 billion ±

Adaptation Fund

- **Objective: Finance climate change adaptation projects and programs based on the needs and priorities of developing countries.**
 - United Nations Framework Convention on Climate Change program
 - Funding comes from a 2% tax on the certified emission reductions (CERs) received by investors in projects in developing countries
 - CERs are monetized to fund adaptation projects

- **Expected Results:**
Reduce the vulnerability of developing countries that have lesser capacity to adapt and are more vulnerable to climate change damages.

Summary of CER Sales by World Bank (to date)

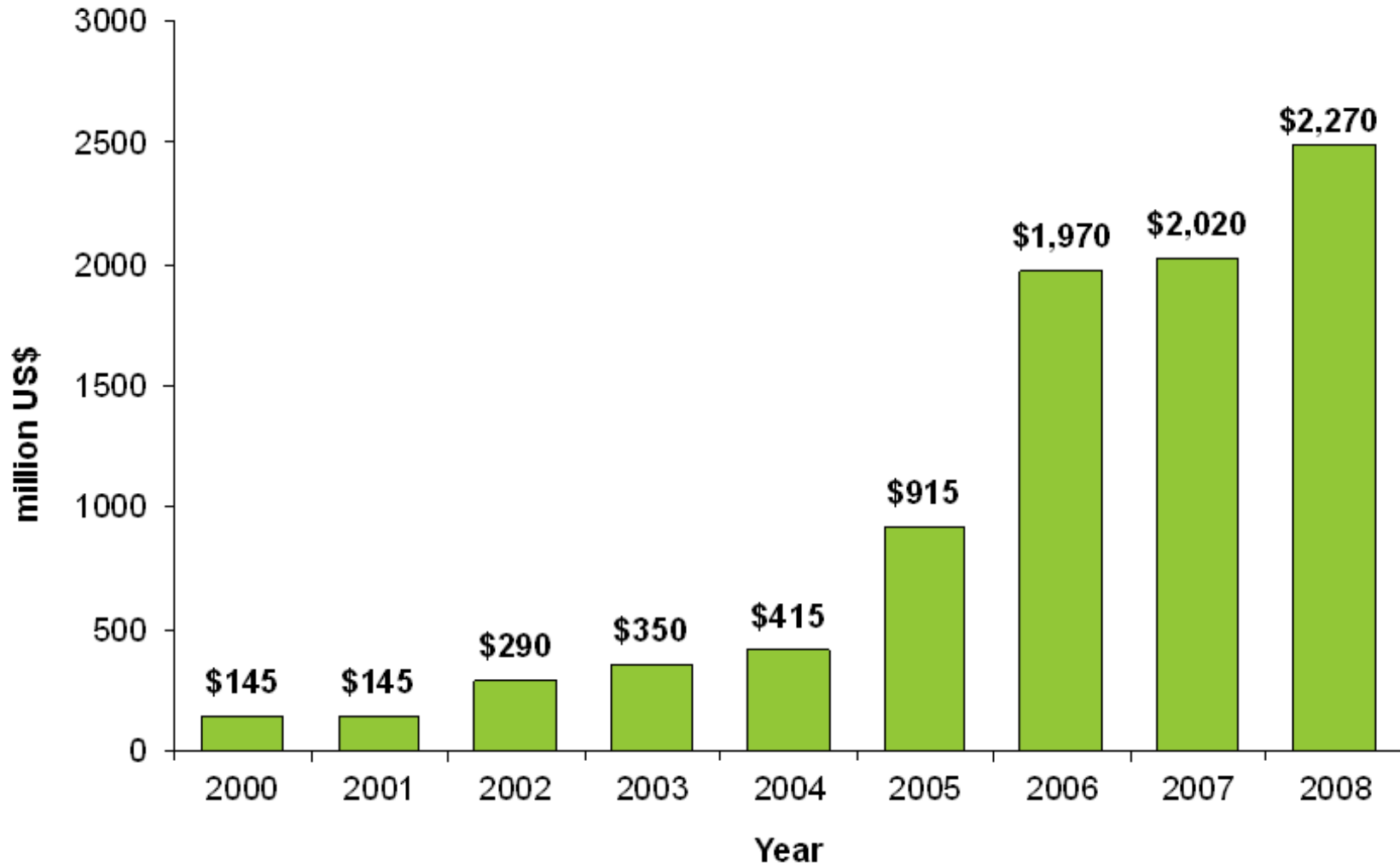
Date:	May 2009	June 2009	June/July 2009
Number of CER tons sold:	600,000	500,000	30,000
Amount Raised:	US\$10.2 million	US\$8 million	US\$.5 million
Dealer/Exchange:	Barclays	Bank of America Merrill Lynch	BlueNext Exchange

Focus

World Bank Carbon Finance

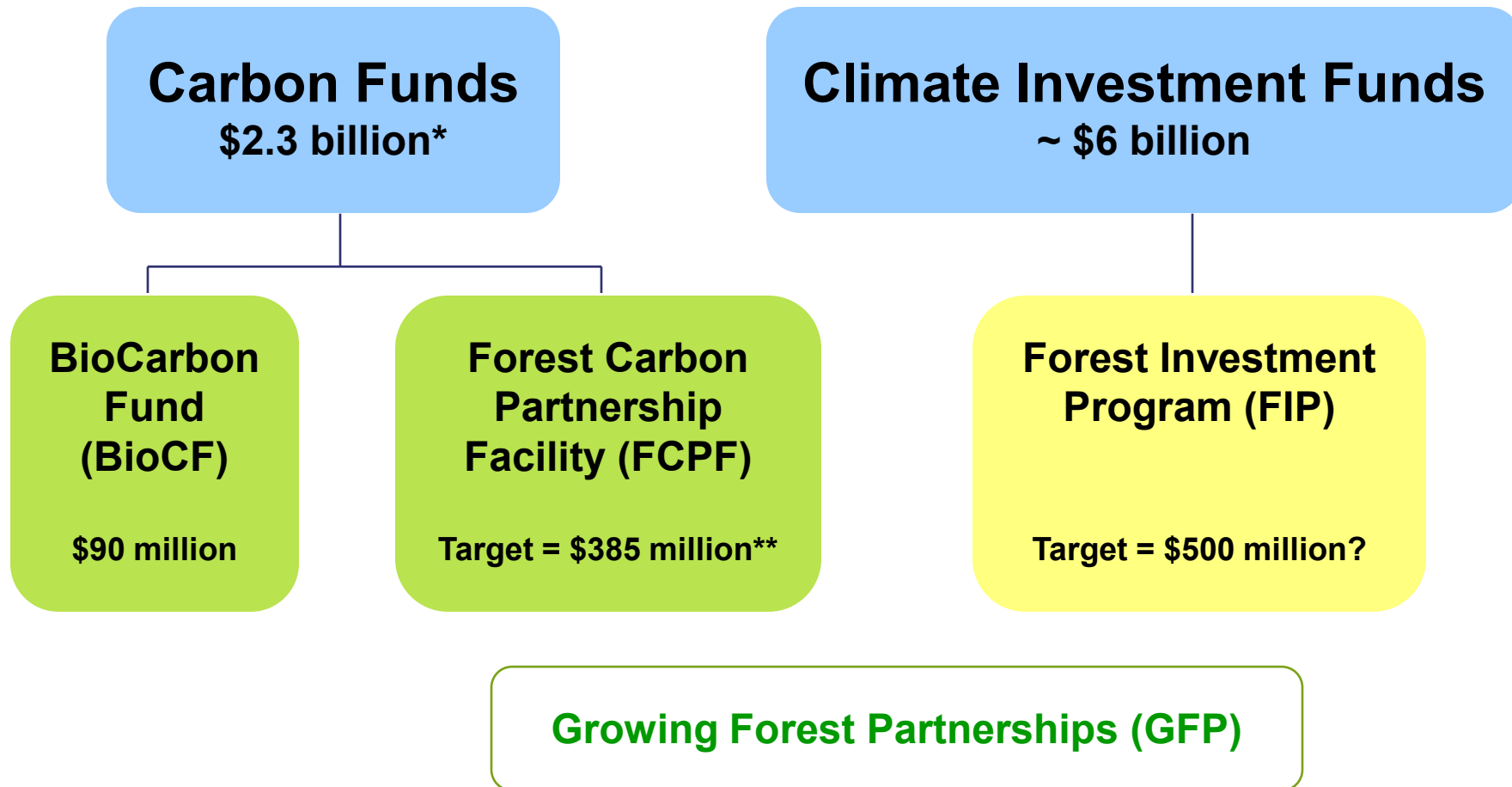
Total value of carbon funds

World Bank-managed funds



Forests and Climate Change

World Bank-managed Instruments



* \$2.6 billion if FCPF is included

** \$185 m Readiness Fund + \$200 m Carbon Fund. Only Readiness Fund operational (\$107 million)

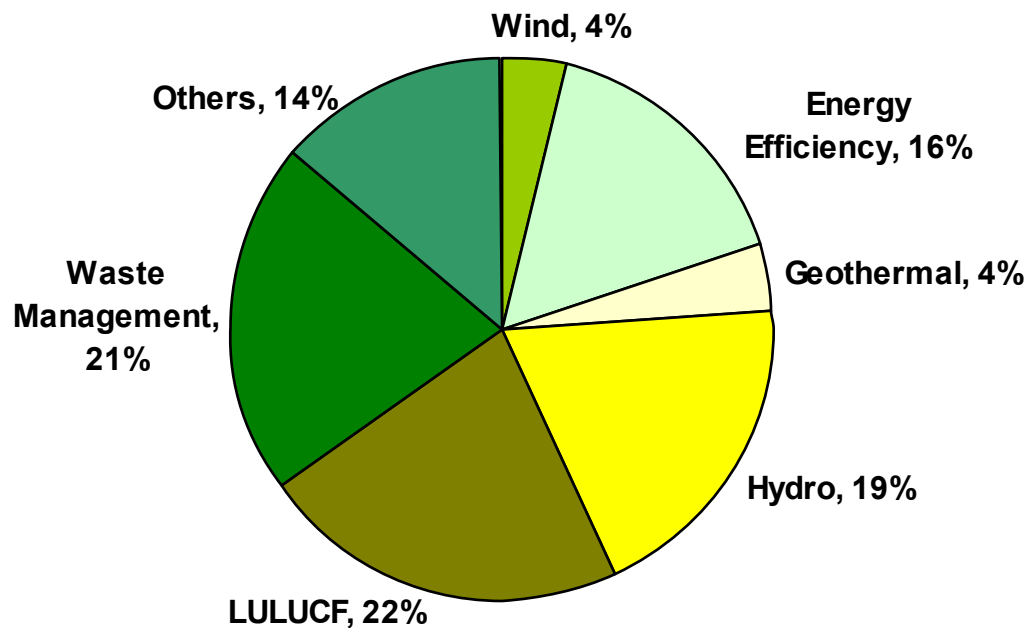
Forest Carbon Partnership Facility (FCPF)

- Sets stage for a large-scale system of incentives for reducing emissions from deforestation and forest degradation (REDD) in developing countries; operational since June 2008.
- **Contributors:** 13 donors or contributors from both the public and private sectors are supporting the FCPF: The Nature Conservancy, Agence Française de Développement (AFD), EC, Australia, Finland, Germany, Japan, The Netherlands, Norway, Spain, Switzerland, UK and USA.
- **Readiness Mechanism:** builds capacity for 37 tropical and sub-tropical developing countries to prepare in future, large-scale, system of positive incentives for REDD.
- **Carbon Finance Mechanism.** After completing the Readiness Mechanism, a few countries may participate in the Carbon Finance Mechanism (or —Carbon Fund”), through which the FCPF will pilot incentive payments for REDD policies and measures.



Technology distribution of portfolio and pipeline*

By number of projects from a total of 139 projects



Source: WB Carbon Finance Annual Report 2008

*Numbers are based on ERPA & CFD values as of December 31, 2008

LULUCF: Land Use, Land-Use Change, and Forestry

Focus

World Bank Climate Risk Management

Overview of World Bank Group natural disaster risk management products



As part of the menu of products to help clients adapt to the effects of climate change, a menu of WBG products can address the immediate liquidity needs of clients and can help manage and transfer financial risks to the market

Probability of Event ↑ ↓ High	Severity of Impact ↑ ↓ Minor	Insurance-Linked Securities	Catastrophe Bond (CAT Bond)	<ul style="list-style-type: none"> ➤ Currently in development: Multi-country pooling of risk and transfer to capital markets ➤ In 2006, WBG assisted Mexico in the issuance of Cat Bond in case of earthquakes 	Risk Transfer
		Weather Derivatives	Malawi Drought Insurance	<ul style="list-style-type: none"> ➤ Insurance against weather-related losses, based on an index ➤ WBG provided Malawi its first-ever weather risk management contract to protect against the risk of severe drought 	
		Insurance Pools	Caribbean Catastrophe Risk Insurance Facility (CCRIF)	<ul style="list-style-type: none"> ➤ Parametric insurance against natural disasters ➤ WBG Assisted 16 Caribbean Countries in establishing CCRIF against hurricanes and earthquakes 	
		Contingent Loans	DPL with a Catastrophe Deferred Drawdown Option (CAT DDO)	<ul style="list-style-type: none"> ➤ Provides immediate liquidity following a natural disaster, in the form of a contingent loan with associated risk framework reforms ➤ Costa Rica was first to sign, in 2008, four more in progress 	

Focus

World Bank Helping to Shape Policies

Enabling domestic policy environment is critical for making finance work

Incentives

- Rationalize energy, water and agricultural price, tax incentives, fiscal and expenditure policies

Regulations

- Efficiency standards; codes, zoning; climate screening/proofing of investments

Institutions

- Capacity of public, private and financial sector institutions to assess and act on climate risks and new business opportunities

Markets

- Improve investment climate; deepen financial and capital markets; new markets (cap & trade, CDM)

Public Outreach

- Education, raising awareness and promoting change in consumer behavior and preferences

Focus

World Bank Knowledge and Partnerships

Knowledge and Capacity

- *World Development Report 2010 on Development and Climate Change (climate-smart development policies)*
- **Economics of Adaptation** (*global adaptation costs with case studies in seven countries*)
- *Sector & Region specific studies (adaptation and mitigation):*
- **State and Trends of the Carbon Market**
- **Low-carbon growth country studies:** *Brazil; China, India, Indonesia; Mexico, Poland, South Africa*
- *Guidance Notes on climate proofing and adaptation*
- *Greening Infrastructure*
- *GHG Accounting (Energy, Transport, Forests, real sector at IFC)*
- *Climate Change for Development Professionals training*

Strengthening Partnerships

- *Multiple regional and sector partnership initiatives*
- *Partnerships on innovative climate finance vehicles “Bali Dialogue” Series – engaging finance and economic ministers at Annual/Spring meetings*
- *Participating in the UN-system wide approach*
- *Climate Finance Knowledge Platform (with UN agencies and Multilateral Development Banks)*
- *Building new knowledge partnerships (e.g., Cities & Climate Change, soil carbon)*
- *Civil society, NGOs, and private sector*

The Next Steps

- *Continue to work with investors and intermediaries to create financial products that support climate change programs and meet investor demand*
- *Continue to work with World Bank colleagues to develop the internal infrastructure/capacity to create and deliver new investment products*





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