

DEVELOPMENT AND CLIMATE CHANGE



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Overview

- Poverty reduction, economic growth and climate change must be addressed in tandem
 - Climate change inhibits development
 - Development could accelerate climate change
- Energy is key to growth > challenge is moving to low carbon growth
- Additional financing essential for transformation and technology transfer
- Role of Climate Investment Funds

There Is a New Dimension to World Bank Goal of “Sustainable Development”

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Until Recently

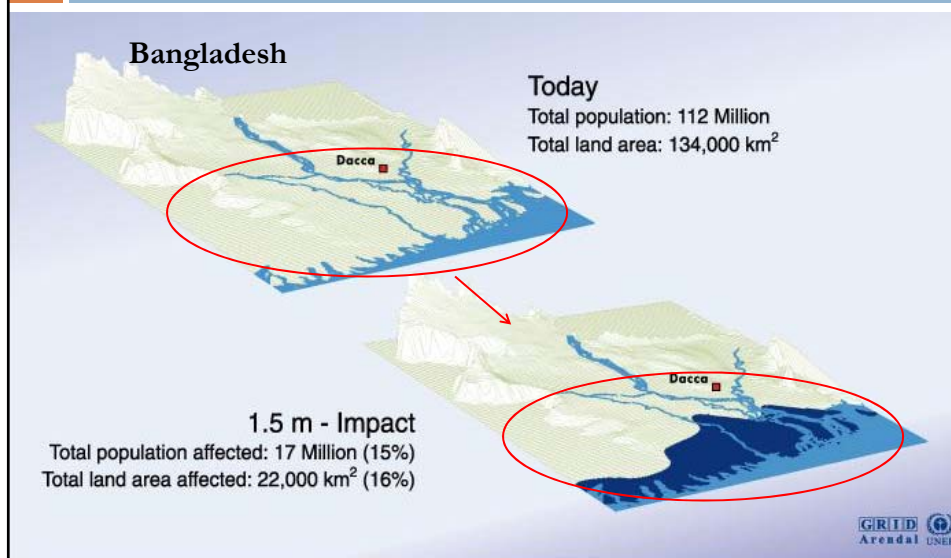
- ✓ Poverty Reduction and Economic Growth
- ✓ Environmental Sustainability
- ✓ Social Sustainability

Now: *Transformational shift* needed to include

- Climate Sustainability
 - ▣ Adaptation - climate resilient development
 - ▣ Mitigation - transition to low carbon development

Climate Change is an Urgent Development Challenge

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Worldwide - Developing Countries Most At Risk

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<i>Drought</i>	<i>Flood</i>	<i>Storm</i>	<i>Coastal 1m</i>	<i>Coastal 5m</i>	<i>Agriculture</i>
Malawi	Bangladesh	Philippines	All low-lying Island States	All low-lying Island States	Sudan
Ethiopia	China	Bangladesh	Vietnam	Netherlands	Senegal
Zimbabwe	India	Madagascar	Egypt	Japan	Zimbabwe
India	Cambodia	Vietnam	Tunisia	Bangladesh	Mali
Mozambique	Mozambique	Moldova	Indonesia	Philippines	Zambia
Niger	Laos	Mongolia	Mauritania	Egypt	Morocco
Mauritania	Pakistan	Haiti	China	Brazil	Niger
Eritrea	Sri Lanka	Samoa	Mexico	Venezuela	India
Sudan	Thailand	Tonga	Myanmar	Senegal	Malawi
Chad	Vietnam	China	Bangladesh	Fiji	Algeria
Kenya	Benin	Honduras	Senegal	Vietnam	Ethiopia
Iran	Rwanda	Fiji	Libya	Denmark	Pakistan

Low Income
 Middle Income

Source: World Bank

The World Bank is Helping Developing Countries Adapt to the Unavoidable

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Concessional Financing

- Drought resistant crops
- Managing scarce water
- Preparing communities
- Protecting forests and coastal ecosystems
- Improving energy access

Catastrophic Weather Insurance

Climate Resilient Development

Research

- 2010 World Development Report
- Economics of Adaptation
- Coastal Cities



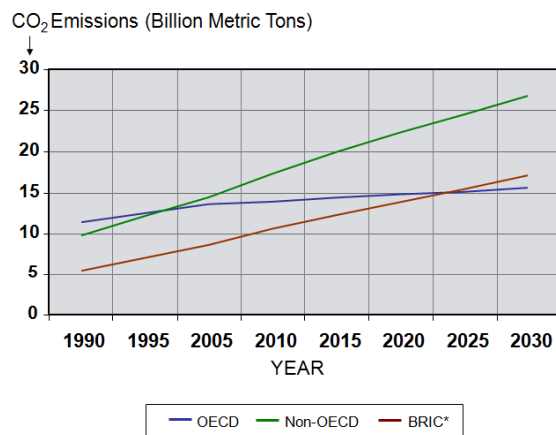
1.6 Billion Poor Are Without Access to Modern Energy



Development is a Climate Change Challenge

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Emissions will grow substantially in rapidly industrializing countries

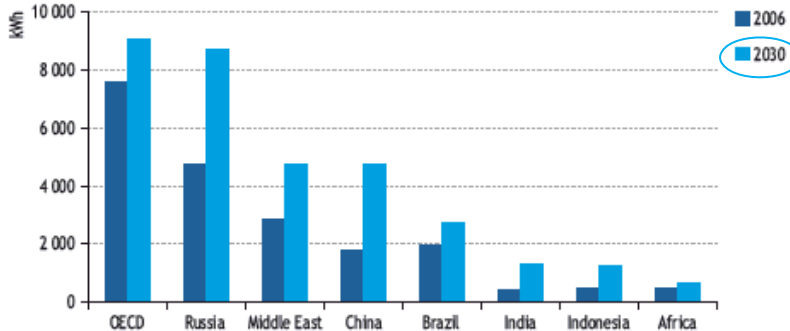


Sources: Energy Information Administration (EIA) International Energy Outlook 2008

Per Capita Emissions Gaps Will Persist

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Figure 6.2 • Per-capita electricity demand by selected region in the Reference Scenario



The World Bank Is Helping Developing Countries Move to Low Carbon Development Paths

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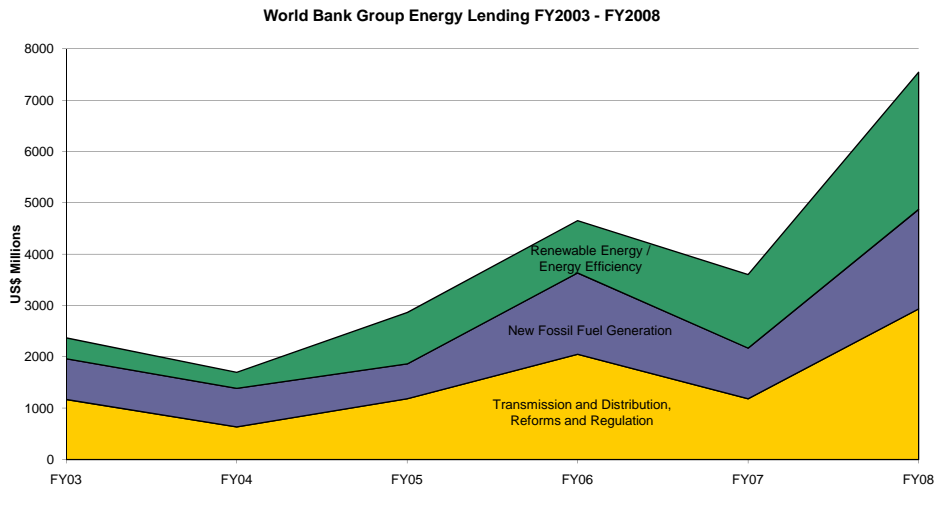


- **Policy Lending**
 - Regulatory reform
 - Strengthening institutions
- **Low carbon* energy project finance**
 - FY03 \$400 million (17% of energy portfolio)
 - FY08 \$3 billion (40% of energy portfolio)
- **Clean transport program finance**
- **Climate Finance** - over \$2 billion

*Renewables, energy efficiency, hydro, gas flaring reduction, switching from oil/coal to gas

Our Energy Portfolio Is Growing Fast, But Our Low Carbon Lending Is Growing Faster

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Climate Finance

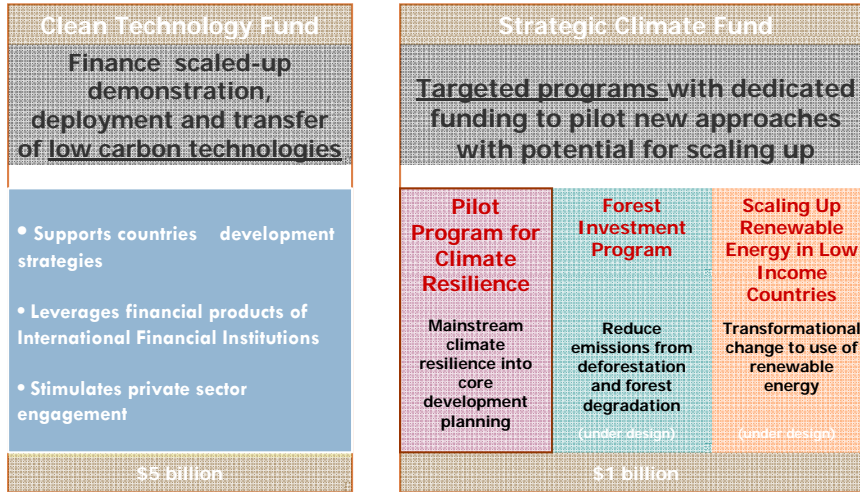
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- Movement to low carbon programs driven by:
 - Changing country development strategies toward low carbon growth
 - Proactive packaging of:
 - ✓ Policy reform
 - ✓ Mainstream finance
 - ✓ Specialized finance (Carbon Funds, Global Environment Facility)
- Now is the time to take climate finance to the next level...

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CLIMATE INVESTMENT FUNDS

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CLIMATE INVESTMENT FUNDS

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Design and Operating Principles

- Multi-stakeholder with balanced governance
- Demonstrate scale and transformation
- Utilize MDBs to leverage public and private sector
- Complement other financial mechanisms – Global Environment Facility and Adaptation Fund
- Sunset clause

Pledges	US\$ equivalent millions
Australia	127
Canada	82
France	300
Germany	813
Japan	1,200
Netherlands	50
Norway	50
Spain	118
Sweden	92
Switzerland	20
United Kingdom	1,488
United States	2,000
Total	\$6.3 billion

*exchange rates as of Sept 26th, 2008

CLIMATE INVESTMENT FUNDS

CLEAN TECHNOLOGY FUND

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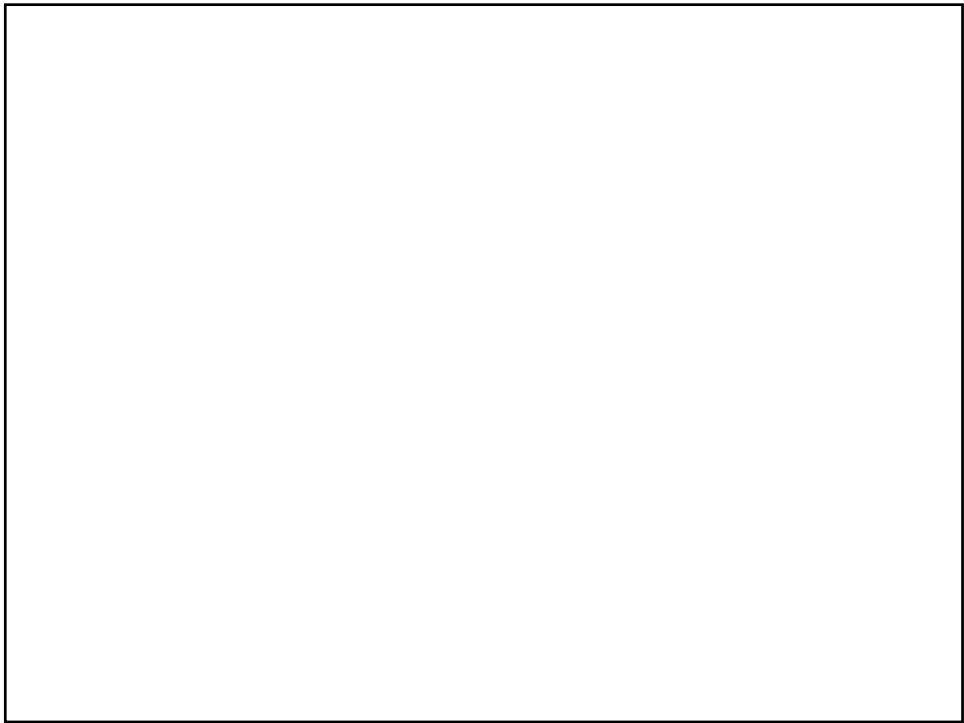
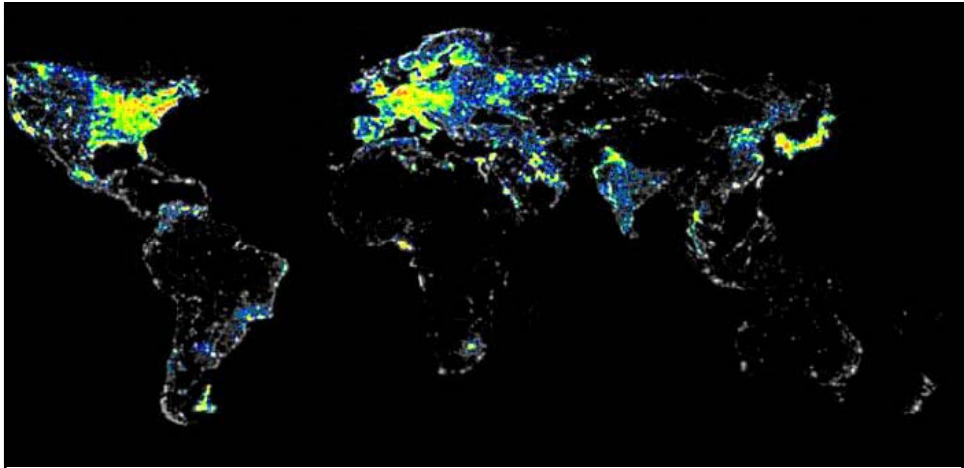
- Supports programs involving renewable energy and energy efficiency of energy supply and demand, and improved transport sector efficiency and modal shifts
- Accessing CTF
 - ▣ Investment plan embedded in national development plan
 - ▣ Investment Criteria
 - Potential for GHG Emissions Savings
 - Cost-effectiveness
 - Demonstration Potential at Scale
 - Development Impact
 - Implementation Potential
 - Additional Costs and Risk Premium
- Concessional financing to help countries buy down costs of public and private sector investments in low carbon development

CLIMATE INVESTMENT FUNDS

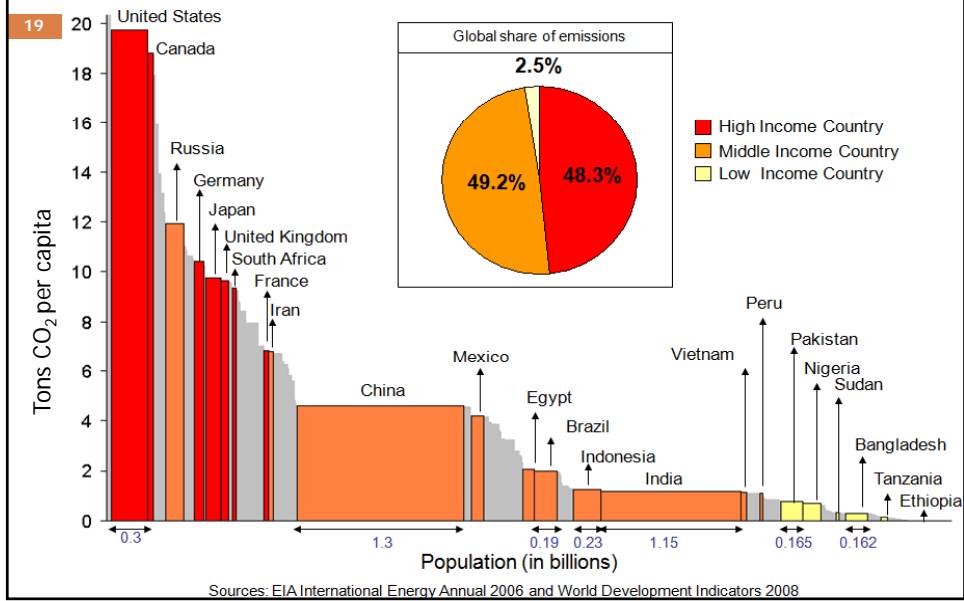
CLEAN TECHNOLOGY FUND

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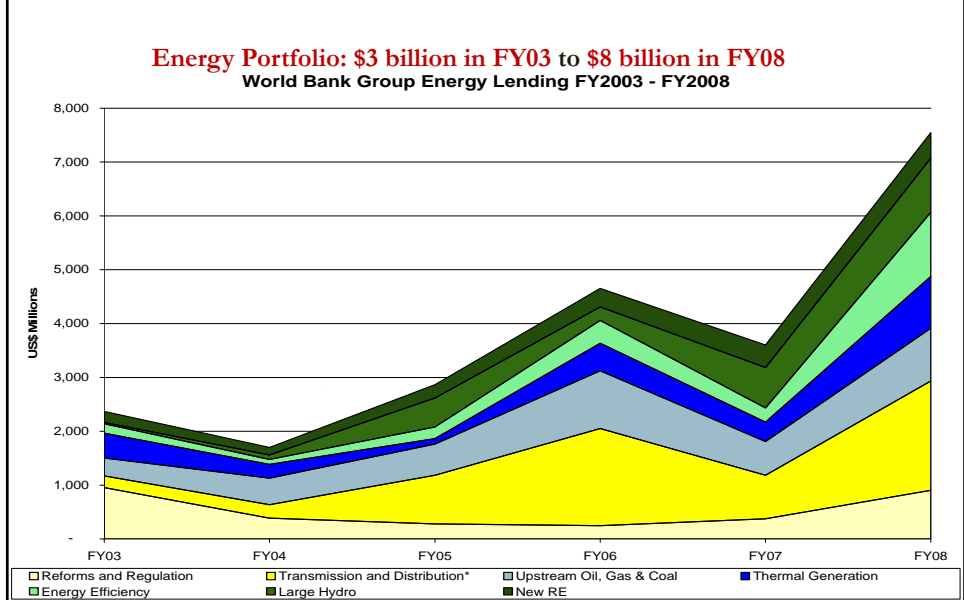
- First investment plans endorsed in January
 - ▣ **Egypt**
 - Wind Power – From <1,000 MW to 2,500 MW of electricity from wind
 - Urban Transport - Six bus rapid transit corridors and five light rail route
 - Proposed CTF \$300 million » » » \$1.9 billion
 - ▣ **Mexico**
 - Renewable Energy - Program to replace inefficient lighting and appliances expected emissions reductions of 4 million tons of CO₂ per year
 - Urban Transport - 20 bus rapid transit corridors with low-carbon bus technologies
 - Proposed CTF \$500 million » » » \$6.2 billion
 - ▣ **Turkey**
 - Renewable Energy - Implementing "intelligent" grid management and control systems to support large-scale integration of wind power
 - Renewable Energy and Energy Efficiency - Promoting private sector development through credit lines to local development banks
 - Proposed CTF \$250 million » » » 2.1 billion



Per Capita Emissions Vary Greatly



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CLIMATE INVESTMENT FUNDS

Pilot Program for Climate Resilience

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- Help most vulnerable countries explore practical ways to mainstream climate resilience into core development planning and budgeting
- **Grants** as the main instrument with an option to augment by IDA-like resources
- **Countries invited to date:** Bangladesh, Bolivia, Cambodia, Mozambique, Nepal, Niger, Tajikistan, Zambia (MNA country tbd)
- **2 regional programs** in Caribbean and South Pacific

CTF Requirements for Coal Investments

Project proposal should be embedded in a country-owned CTF investment plan that demonstrates a national strategy for technology deployment and diffusion

Meet CTF investment criteria, such as significant GHG emissions savings, cost-effectiveness, replication potential at scale, and additional costs/risk premium

Additional screening requirements for new coal power plants: highly efficient (maximum carbon intensity threshold) **AND carbon-capture and storage ready**

CCS-ready means: adequate space for equipment; identified storage reservoir; feasible transportation options; and, power plant viable with CCS operation. Costs of CCS-readiness can be significant.

CTF's CCS-readiness definition matches EU provisions

Less than 3% of installed capacity worldwide meets CTF's carbon intensity threshold. None in the US.

Only three power plants worldwide (in Japan and EU) meet the CTF criteria for carbon intensity and CCS-readiness