

Energizing Climate Friendly Development:

World Bank Group Support for Renewable Energy and Energy Efficiency Climbs to US\$2.7 Billion in Fiscal Year 2008

In fiscal 2008, the World Bank Group (WBG) committed US\$2.7 billion to the promotion of low carbon energy in the form of renewable energy (RE) and energy efficiency (EE) in developing countries. This corresponds to an increase of 87 percent from the previous year and underlines the WBG's role as one of the largest financiers of sustainable energy in the world. Through piloting new approaches, overcoming market barriers, and providing technical assistance, the WBG has been able to act as a catalyst for the development of RE and EE in client countries and thereby leverage large additional investments by both public and private sectors.

Addressing climate change is one of the key global challenges of the coming decades—a challenge that lies at the very heart of international development. It is very clear that developing countries are the most vulnerable to climate change, putting years of hard-earned progress at risk. Because of their great potential to provide energy that is low-carbon, clean, safe, and reliable, RE and EE technologies play an important role in addressing this challenge.

The benefits of RE and EE in international development go well beyond climate change and the environment. In fact, high and volatile fossil fuel prices and energy security concerns have increased their attractiveness in a large number of diverse applications. EE measures, for example, through energy-efficient lighting, are a highly effective tool not only in reducing energy costs, but also in quickly reducing peak loads and therefore power generation requirements to address the acute power crises many developing countries are currently experiencing (Box 1). RE technologies are least-cost energy alternatives in many rural, sparsely populated areas where grid electricity connections remain elusive and the economics of diesel generators—the most widespread distributed electricity technology—are affected by high fuel costs. As a result, demand for such solutions has grown significantly in client countries in recent years (Box 2).

In response, the World Bank Group—comprising the World Bank, International Finance Corporation (IFC), and Multilateral Investment Guarantee Agency (MIGA), as well as cofinancing from the Global Environment Facility (GEF) and Carbon

“Climate change policies cannot be the frosting on the cake of development; they must be baked into the recipe of growth and social development. The World Bank has already been building on synergies between climate action and development—working on energy security and efficiency, encouraging renewable energy, protecting urban air quality, helping with the management of arid lands, and assisting with adaptation of agriculture.”

Robert B. Zoellick, President
World Bank Group
Opening Plenary Session Statement to the 13th Conference
of the Parties to the UNFCCC
Bali, Indonesia; December 12, 2007

Finance—has in recent years considerably increased its investment and advisory services focused on helping its partner countries in exploiting RE and EE opportunities.

In fiscal 2008, total World Bank Group financial commitments for RE, including hydropower of all sizes, and EE rose to US\$2.7 billion (Table 1). Ninety-five RE and EE projects in 51 countries, and two cross-border projects were supported in fiscal 2008; accounting for 35 percent of the total Bank Group energy lending commitments in fiscal 2008 (see Figure 1).¹ This represents an 87 percent scale up in financing for RE and EE from US\$1.4 billion in fiscal 2007. The GEF has been an important partner, contributing US\$149 million in cofinancing for World Bank projects.

At the Bonn International Conference on Renewable Energies in 2004, the World Bank Group made a commitment to accelerate its support for new RE and EE.² We pledged to increase our financial commitments for new RE and EE at a rate of 20 percent per annum between fiscal 2005 and 2009, compared to a baseline

¹ In addition to RE and EE, total WBG energy lending includes thermal electricity generation, oil, gas, and coal production and transport, electricity transmission and distribution, and policy reform projects.

² New RE comprises energy from solar, wind, biomass, and geothermal, as well as hydropower from facilities with capacities up to 10 MW.



Table 1: World Bank Group Commitments for RE and EE in Fiscal 2008

Source of funds	Commitments in fiscal 2008 (millions of US\$)			
	New RE	Hydro > 10 MW	EE	Total
World Bank	272	625	719	1,616
• IBRD/IDA	117	601	624	1,343
• GEF	90	-	55	145
• Carbon Finance	65	24	40	128
IFC	115	361	473	949
• Own Funds	72	361	473	906
• Carbon Finance	39	-	-	39
• GEF	4	-	-	4
MIGA	88	21	-	110
Total	476	1,007	1,192	2,675

Note: Some columns may not add up exactly because of rounding.
Source: WBG databases

“Concerns about energy security and climate changes and increasing energy prices make many renewable energy and energy efficiency measures and applications very attractive in a number of different settings and wide array of applications. This is reflected in the increased investment demand, and also for technical assistance to strengthen regulatory frameworks providing incentives to climate change friendly applications.” Jamal Saghir, Director, Energy, Transport and Water, The World Bank

commitment of US\$209 million (equal to the average of the previous three years). This baseline methodology was selected to allow a meaningful interpretation of investment trends that would balance the lumpy nature of investments in the energy sector. As in previous years, the World Bank Group has outperformed its Bonn commitment. From fiscal 2005 to fiscal 2008, the WBG committed close to US\$3.7 billion for new RE and EE compared to the Bonn commitment goal of US\$1.3 billion for the same period. As shown in Table 1, in fiscal 2008 commitments for new RE and EE were US\$1,700 million and an additional

US\$1,000 million was committed for hydropower projects greater than 10 MW per facility.

The cumulative World Bank Group financial commitments for RE and EE from fiscal 1990 to fiscal 2008 now exceed \$14 billion (Figure 2).

Strengthening Support for Development and Climate Change Management

RE and EE also feature prominently in the WBG strategy going forward—most prominently in the Sustainable Infrastructure Action Plan

Box 1: Rapid Rise in Demand for EE Interventions

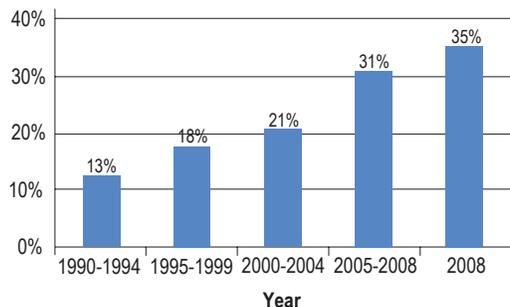
Rising energy prices, acute power crises in a number of client countries and climate change concerns have increased demand for EE programs. The WBG responded to these demands through a considerable scale-up in its efforts, leading to a quadrupling of its EE investments. The World Bank has made significant strides in helping client countries in institutional development, policy reforms and regulations, such as tariff rationalization and building energy conservation codes, to create an enabling environment for ramping up EE investments.

Among the EE projects in fiscal 2008, the China Energy Efficiency Financing (CHEEF) Project (IBRD US\$200 million and GEF US\$13.5 million) stands out as the single largest EE project of the WBG in recent years. The project will onlend funds through two domestic financial intermediaries to Chinese industries for implementing EE improvements in some of the country’s 1,000 most energy intensive enterprises.

The fiscal 2008 Bank portfolio also includes a number of demand-side EE projects that include the bulk procurement and distribution of CFLs, end use capacitors, and advanced metering systems. In fiscal 2008, such projects were approved for Pakistan, Argentina, Ukraine, Burundi and Zambia. Based on the lessons learned, the World Bank is developing toolkits and standardized approaches to further scale-up EE projects.



Figure 1: Share of RE and EE
(% of total WBG energy lending)

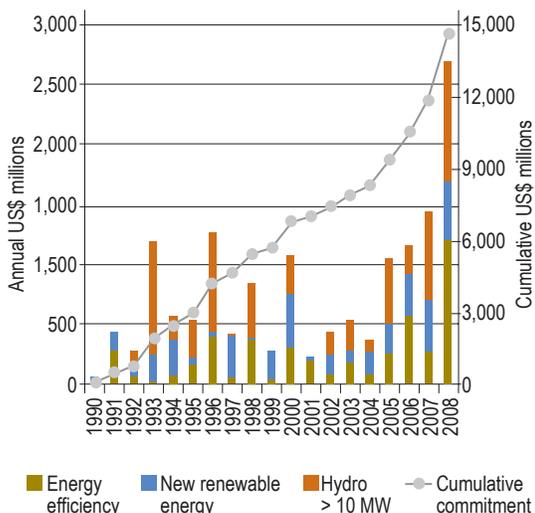


Source: WBG databases

(SIAP) that was launched in July 2008 and in the comprehensive Development and Climate Change: A Strategic Framework for the World Bank Group (DCCSF), which was discussed by the WBG Board of Directors on September 23, 2008, and which will be presented to the Development Committee of the Governors of the WBG and IMF during the Annual Meetings on October 12, 2008.

Sustainable Infrastructure Action Plan. The action plan will significantly scale up infrastructure investment in developing countries to support their growth and poverty reduction efforts. The

Figure 2: WBG RE and EE Commitments, Fiscal 1990–2008



Source: WBG databases

SIAP, to be implemented over the next three years, will help countries improve the reach and quality of infrastructure investments through increased financial and analytical support. The SIAP calls for a renewal of the WBG core energy sector strategy to respond to the emerging trends in energy security, climate change, and the energy access gap. RE and EE will be important components of the SIAP for

“The private sector plays a critical role in addressing the challenges of global warming since more than 80 percent of all current investments related to climate change come from non-government owned companies and investors. IFC doubled its investments in renewable energy and energy efficiency last year as we are committed to helping developing countries tap into sustainable sources of much needed energy.” Rashad Kaldany, Vice President for Infrastructure, IFC

Box 2: Mainstreaming Large-Scale Solar Energy

The World Bank is scaling up support for large-scale solar thermal and photovoltaic (PV) systems in a number of countries. The promotion of solar thermal power generation in Egypt and Morocco is an example. Egypt’s Kureimat solar-thermal hybrid project will increase the share of renewable power in the Egyptian generation mix and thereby contribute to the government’s aim of diversifying electric power production. Similarly, the Ain Beni Mahtar Integrated Solar Combined Cycle project in Morocco will integrate a solar thermal component into a traditional combined cycle plant to sustain the growth in Morocco’s energy demand and increase the share of RE in its energy mix. Both projects are expected to demonstrate the operational viability of hybrid solar-thermal power generation technology and contribute to the replication of integrated solar combined cycle power generation technology in Egypt and Morocco and elsewhere.

The World Bank is also mainstreaming the deployment of PV systems for off-grid rural electrification. For example, in fiscal 2008 a carbon finance operation was implemented that consists of deploying solar home systems (SHSs) in rural areas of Bangladesh in cooperation with a rural-based RE company, Grameen Shakti, and IDCOL Ltd., an infrastructure financing agency. Under this project, it is expected that more than 1 million solar home systems will be installed over the next four years, reducing carbon emissions by roughly half a million tons.



improving access and affordability of modern energy services; improving macroeconomic and fiscal balances; promoting good governance and private sector development; and protecting the environment.

Development and Climate Change: A Strategic Framework for the World Bank Group. The DCCSF is based on the recognition that an effective response to climate change must combine both mitigation—to avoid the unmanageable—and adaptation, to manage the unavoidable. The DCCSF is designed to make effective climate action part of core development efforts that are mainstreamed into all WBG operations. In an effort to reduce the resource gap in addressing these issues, the DCCSF includes funding sources in the Climate Investment Funds.

For more information on:

- World Bank Group support for RE and EE, <http://www.worldbank.org/energy>

“MIGA is committed to helping investors and developing countries reduce the harmful practices associated with global warming by supporting investments into projects that exploit renewable energy resources, support energy conservation, and increase efficiency”

James Bond, Acting Executive Vice President, MIGA

- World Bank Group projects, <http://www.worldbank.org/projects>, <http://www.ifc.org> and <http://www.miga.org>
- Sustainable Infrastructure Action Plan, <http://siteresources.worldbank.org/INTSDNETWORK/Resources/SIAP-Final-July08.pdf>
- DCCSF, <http://go.worldbank.org/HZ77KYCI90>
- CIF, <http://www.worldbank.org/cif>
- The Renewable Energy Toolkit, an interactive web-based tool for RE practitioners and policymakers, <http://www.worldbank.org/retoolkit>

Mainstreaming Sustainable Energy at the International Finance Corporation.

The growth in IFC’s clean energy portfolio in fiscal 2008 is indicative of a shift from donor-supported and small, niche market investments to an increasingly diversified and global market for clean energy across all sectors. The largest growth was in clean energy financing projects. In fiscal 2008, the IFC’s Financial Markets Group had nine such investments in five countries, including some of the largest and most rapidly growing emitters of greenhouse gases—Brazil, China, Russia, Turkey, and Ukraine. These projects will provide commercial lenders with more than US\$280 million for dedicated credit lines for clean energy activities, an approach originally developed with donor funds more than a decade ago. These projects help address the diverse, profitable, but smaller-scale investment opportunities otherwise difficult to capture.

“Most investments in energy efficiency and renewable energy needed to tackle climate change will be made by private sector companies. IFC’s role, as part of the World Bank Group effort against climate change, is to work with the private sector in emerging markets to stimulate those investments and to remove remaining barriers”. Lars Thunell, Executive Vice President and CEO of IFC.

A second feature of the IFC fiscal 2008 portfolio is the mainstreaming of RE lending across sectors and regions. Excluding financing projects that encompass both EE and RE, IFC made investments of more than US\$500 million in 13 RE investments in 11 countries with a total value in excess of US\$3 billion. These included biomass cogeneration and ethanol projects at sugar mills in Brazil and Nicaragua, quasi-equity investments in geothermal generation in Djibouti and Indonesia, and rehabilitating biomass plants in China and India. Originating sectors included agribusiness, infrastructure, global financial markets, and subnational finance.



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