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Investing in a Sustainable Future:

Multilateral Development Banks' Investment in Energy Policy

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November 2009

WORLD RESOURCES INSTITUTE

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This paper has benefited from an extensive review, that has greatly strengthened the report. At the World Resources Institute, Ruth Greenspan Bell, Paul Joffe, Britt Childs Staley, Janet Ranganathan, Dennis Tirpak, Jacob Werksman, and Davida Wood provided valuable comments. Grayson Bryant, Emily Chessin, Tanya Gulnik, Kaija Hurlburt, Natalie Kempkey, Seema Kumar, Andrew McBride, and Isabel Munilla provided research support. Polly Ghazi, Jennie Hommel also provided editorial and production support.

Aaron Cosbey of IISD helped frame the scope of this analysis, and Chris Charles helped coordinate the project. David Jhirad, Shantanu Dixit, and Navroz Dubash provided helpful feedback on the report. We greatly appreciate the time and effort taken by numerous staff of the World Bank Group, the Inter-American Development Bank, the Asian Development Bank, and the U.S. government to review this report. All views expressed, and any errors, remain the authors' sole responsibility.

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Table of Contents

Executive Summary

The electricity sector lies at the nexus of two urgent global imperatives: powering economic activities and livelihoods, and reducing greenhouse gas (GHG) emissions from the use of fossil fuels. The international community is looking to Multilateral Development Banks (MDBs) to help developing countries balance these sometimes conflicting imperatives. Historically, developing countries have drawn on the public financial resources of MDBs to develop electricity infrastructure. The MDBs have propagated their ideas about technology choice, regulatory policy and service delivery alongside their capital investments in new power lines and plants.

Energy prices do not reflect the true costs of fossil fuel technologies to public health, to the local environment, and to the planet's climate system. Decision-making in the electricity sector has tended to be both exclusive and opaque, dominated by interests with a stake in "business as usual" practices. As the prices of fossil fuels rise along with our understanding of the environmental and social costs of conventional energy, we need new and better ways to meet energy demand, and support long term development. Standard energy policy and regulatory mechanisms do not support the renewable energy and energy efficiency scale up necessary to reduce emissions from the energy sector. In most countries, policies and regulations tend to emphasize short term cost and supply considerations, rather than the long term benefits of enhanced energy security, environmental performance, and cost savings over time offered by clean technologies.

Multilateral Development Banks are in a position to work with stakeholders in developing countries, including other donors, to pursue low carbon growth options that also support poverty alleviation. This report examines those policies, regulations, and institutional capacities in the electricity sector that will direct both public and private investment towards sustainable energy options (see Box 1). The elements we have proposed do not prescribe a particular mix of technologies or approaches that should be emphasized in any country or region: this would be neither appropriate nor possible. Every country is endowed with a unique set of energy resources, and the economic, social, and political circumstances that affect how it can meet energy demand are also unique. These elements are instead intended to help any country consider the options for how best to provide electricity services in light of intertwined economic, social and environmental considerations, in order to provide critical development benefits and reduce greenhouse gas emissions.

Box 1: Enabling Investment in Sustainable Energy

POLICIES AND REGULATIONS

- Long-term integrated energy planning
- Policies and regulations to encourage energy efficiency
- Policies and regulations promoting renewable energy
- Access to electricity for the poor
- Pricing structures that encourage efficiency and reduce consumption
- Subsidy reforms to reveal true costs of fossil fuels and promote the viability of sustainable energy options

INSTITUTIONAL CAPACITY AND GOVERNANCE

- Capacity building of executive agencies on sustainable electricity
- Regulatory agency capacity to oversee implementation of sustainable electricity policy
- Utility capacity to promote energy efficiency and renewables
- Transparency of policy, planning and regulatory processes for electricity
- Stakeholder engagement in policy, planning and regulatory processes

Summary of Analysis

We reviewed loans provided by MDBs to developing countries for electricity policy, to understand how the various elements of sustainable energy we identified were reflected in these investments. The results are described in full in section III of this report. Although we believe that all the elements are relevant to countries, we recognize that it may not be necessary or possible to include all these elements in a single loan by an individual MDB.

Summary of Findings

- A relatively small number of MDB projects addressed many of the elements of sustainable energy proposed in our framework, and represent important examples of how the MDBs can bring expertise, networks, and finance to help align investment in the electricity sector with sustainable, low-carbon development (see Table 1).

Table 1: Elements of Sustainability Addressed in MDB Loans in the Electricity Sector

Bank	Number of loans	Number of Elements of Sustainable Energy Addressed					
		0	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
Asian Development Bank	29		14	5	7	3	
Inter-American Development Bank	19	1	2	6	8	2	
World Bank	31	2	11	8	7	2	1

- Only a few programs emphasized the need for integrated energy planning that identifies options to meet energy needs at the lowest environmental and social cost.
- While many programs address access to electricity for the poor, attention to this important issue is not consistent. Programs often focus primarily on extending centralized electricity systems, and enhancing cost recovery.
- Attention to the transparency of energy programs' design and implementation and the engagement of local stakeholders, particularly civil society and consumer organizations, is limited.
- A country's receptiveness to sustainable energy policy is essential to MDBs' investments in climate change friendly technologies.MDB interventions that comprehensively address these elements of sustainability are concentrated in countries where government policies were already favorable to sustainable energy and climate change, for example Mexico.
- The projects examined often addressed the enabling elements with relatively small investments in technical assistance and capacity building when compared to the costs of investment in actual infrastructure.
- Clean Technology Fund supported investment plans that comprehensively address the elements of sustainable energy proposed in this paper may hold promise for helping pursue sustainable energy options that support low carbon development.

Recommendations

- MDB support for the electricity sector should more consistently and comprehensively address policy, regulatory and institutional capacity to align investment with environmentally and socially sustainable energy using the framework proposed in this report.
- More attention should be paid to integrated electricity planning, and the implications of choices on GHG emissions in the long term.

- MDB support for energy policy should more consistently and creatively support access to electricity for the poor.
- The cumulative effects of sustained support for technologies such as hydropower, and transmission and distribution infrastructure, must be managed better.
- Project development and implementation must be transparent, and engage stakeholders throughout.
- If the MDBs are entrusted with dedicated finance for climate change, their core support for electricity must also help developing countries address climate change.
- Solutions to the challenges of sustainable electricity must be tailored to respond to local realities and politics.

1.0 Introduction

Two urgent global challenges intersect in the electricity sector: the need to provide power for economic activities and livelihoods, and the need to reduce greenhouse gas (GHG) emissions from the use of fossil fuels.

More than 60 percent of the world's GHG emissions in 2000 came from energy (Baumert, Herzog and Pershing, 2005). In both developed and developing countries electricity is generated at a large scale using coal, oil, gas, hydropower and nuclear technologies, and then transmitted over long distances to centers of use. New coal fired power plants to meet demand for electricity are a leading cause of GHG emission growth in developing countries. In the past, these plants were perceived to provide plentiful energy at low prices. But as the prices of fossil fuels rise along with our understanding of the environmental and social costs of conventional-energy technologies, we need to meet these demands in ways that do not harm the climate. Multilateral Development Banks (MDBs) are confronting the challenges at this intersection as they extend advisory services and finance to developing countries that are seeking to grow their economies, to secure access to reliable energy services for all their citizens, and to contribute to a global solution to climate change. Historically, developing countries have drawn extensively on the public financial resources of development banks to develop their electricity systems. Government efforts to stimulate economic growth amidst the ongoing financial crisis have directed large volumes of public money to infrastructure, and the MDBs have stepped in to catalyze these efforts. The MDBs have propagated their ideas about technology choice, energy policy, and service delivery alongside their financial investments in new power lines and plants. They have the potential to support changes in policies, regulations, and institutions that govern the power sector to help align investment with more sustainable outcomes.

Domestic policy and regulatory challenges are primary barriers to investment in the electricity sector in general, and in renewable energy and energy efficiency in particular. Most countries' policies and regulations tend to emphasize short-term costs and supply rather than the long-term benefits of cost savings, enhanced energy security, and environmental performance offered by clean technologies. In most cases, conventional electricity prices do not reflect the true costs of fossil-fuel technologies to public health, to the local environment, and to the global climate. Decision making in the electricity sector tends to be both exclusive and opaque, dominated by interests with a stake in "business as usual" practices. Although the MDBs have helped draw attention to many of these issues through their engagement with developing countries on electricity policy, we believe that many opportunities have been missed. To ensure policy reforms serve their intended objectives and beneficiaries, decision-making processes must be transparent, citizens and stakeholders must be engaged, and strong accountability mechanisms put in place. The MDBs can work with government and non-governmental stakeholders, as well as other donors and international organizations, to help developing countries put in place new, and more effective forms of pricing, investment incentives, and oversight to enable low carbon growth powered by sustainable energy.

1.1 Policy Reform and the MDBs

The MDBs have invested heavily in infrastructure in developing countries since they were established. But today, each Bank's annual investment of $1 billion to $6 billion is relatively small compared with the hundreds of billions of dollars that developing countries are trying to attract (IEA World Energy Outlook 2007). It is therefore useful to understand the past influence of the MDBs in shaping conventional assumptions about energy service delivery, in order to understand how the MDBs should engage on climate change mitigation objectives in this same sector in the future.

Electricity is a capital intensive infrastructure service that supports both economic development and social development. Historically, public utilities have provided electricity services. In the 1980s, however, countries such as the United Kingdom and Chile "un-bundled" the generation, transmission, and distribution of electricity into separate industries, permitting the companies within these industries to compete with one another. The next step was privatizing these industries. These experiments had a significant influence on the theory of the electricity sector, challenging assumptions that electricity was a classic "natural monopoly".[1] The abundance of private capital available during the 1990s prompted significant interest in attracting private investment in electricity, and in relieving governments of responsibility for this sector. As experience with electricity reform spread across industrialized and developing countries, a number of steps in the process came to be identified by academic experts and practitioners as elements of a "standard model" described in box 2.

Box 2: The Standard Model for Electricity

Based on the experiences of countries such as Chile and the United Kingdom, a fairly homogenous set of arrangements for electricity service and delivery based on principles of commercialization and competition were proposed as a new "standard model for electricity." State-owned enterprises would be corporatized—or established as a company with a board of directors and separated from government—and then commercialized in order to recover costs. An independent regulator for the power sector and a legal framework to allow private participation would be introduced. New private investment in generation would be provided by independent power producers through long-term power purchase agreements. Next, utilities would be unbundled into generation, transmission, and distribution assets in preparation for privatization. Generation and then distribution assets would be divested to the private sector. Last, competition would be introduced through the establishment of wholesale and retail markets for electricity.

Sources: Navroz Dubash, "Power Politics" (Washington, DC: World Resources Institute, 2002); Katherine Gratwick and Anton Eberhard, Demise of the Standard Model for Power Sector Reform and the Emergence of Hybrid Power Markets, *Energy Policy* 36 (October 2008):3948–60; Thomas Heller and David Victor, *The Political Economy of Power Sector Reform* (Cambridge: Cambridge University Press, 2005); S. Hunt and G. Shuttleworth, *Competition and Choice in Electricity* (New York: Wiley, 1996); Paul L. Joskow et al., "Markets for Power: An Analysis of Electric Utility Deregulation" (Cambridge, MA: MIT Press, 1983).

1 Note that this shift in approach was facilitated by the technological breakthrough of the natural gas turbine, which made it possible to bring electricity on (and off) line as demand required it, and, coupled with low gas prices, notably in Britain and the United States, offered a less expensive generation option.

As a result, MDBs began to reassess the role of the state-owned public utility as the default provider of electricity services. In many developing countries, the financial performance of state-owned utilities was poor, and they were unable to recover their operating costs. Their technical performance was inadequate as well, with frequent blackouts. In addition, a large proportion of citizens often lacked access to electricity. Restructuring the electricity sector with the goal of attracting greater domestic and foreign private-sector participation through privatization and liberalization became an explicit condition of the World Bank's lending practices (World Bank 1993).

Consequently, World Bank's financing for energy projects declined, while lending for policy reform and technical assistance increased (Dubash 2002; Gratwick and Eberhard 2008). The Asian Development Bank and the Inter-American Development Bank soon followed suit. Bilateral donors, including the U.S. Agency for International Development (USAID), the U.K. Department for International Development (UK-DfID), and even some UN programs also redirected their assistance to the electricity sector using the same general prescription for reform.[2] (Gratwick and Eberhard,2008). The onset of the 1997 financial crisis in Asia created new room for the MDBs to push competition and privatization oriented electricity reform as part of a package of macroeconomic assistance. Yet the crisis also greatly reduced the availability of private capital.

As a result, although countries took steps to attract private capital into the electricity sector, investment reduced dramatically. MDBs paid limited attention to specific national circumstances, the concerns of local stakeholders or the political economy of each country's electricity sector (Dubash, 2002). In many cases, labor groups associated with the public utilities and consumers who would be affected by the new forms and costs of service delivery resulting from privatization resisted these reforms (Dubash, 2002; Nakhooda, Dixit and Dubash, 2006; Williams and Ghanadan, 2006). Generally, few efforts were made to engage civil society and nongovernmental stakeholders in the design or implementation of electricity reform programs (Dubash, 2002, Nakhooda, Dixit and Dubash, 2006).

The shortcomings of this approach to electricity policy reform have become increasingly apparent. Compliance with conditions for privatization has been weak (World Bank 2003; Sippel and Neuhoff, 2008), and today, reforms have stalled in many developing countries. Powerful firms have taken over the market space created by competition-oriented policy and regulatory changes, and then blocked further efforts at reform (Gratwick and Eberhard 2008; Heller and Victor 2005).

In 2003, an internal evaluation of the efforts by the World Bank, International Finance Corporation (IFC), and Multilateral Investment Guarantee Agency (MIGA) to promote private-sector development in the electric power sector found that the World Bank "mostly advocated for privatization." Although a country's commitment to sector reform was a condition for lending, World Bank staff did not provide much guidance to governments on how to work toward reform. This study also concluded that "poverty reduction and environmental mainstreaming . . . have not, for the most part, been intrinsic components of designing sector reform and private sector development in the electric power sector" (World Bank 2003). A 2005 review of the Asian Development Bank's record in the energy sector also found that "expected energy market reforms have been slower than expected . . . this market reform objective for the energy sector may have created overambitious expectations as the

2 For example, USAID still uses the number of countries that have taken steps to unbundle power-sector functions as an indicator of success for its energy programs. A number of international consulting firms also encouraged this approach through their advice to their developing country clients

complexity of reforms and the political and economic changes, which need to accompany them, have taken much longer than expected to occur" (Asian Development Bank 2005).

Against this backdrop, this report proposes a framework of key enabling elements of policy and institutional capacity to support investment in sustainable energy. Environmental and social considerations are central to these elements, whereas they were often peripheral to the "standard model". So are issues of governance that are essential to ensure that solutions fit national circumstances. The report then reviews all electricity loans with a policy component between 2006 and 2008 by the Asian Development Bank, the Inter-American Development Bank, and the World Bank for which project appraisal and development information was publicly available, and considers how well these elements were incorporated . We conclude with recommendations to strengthen the impact of the MDBs' engagement with developing countries on electricity policy.

2.0 A Framework to Enable Investment in Sustainable Energy

How can the MDBs help developing countries meet their needs for sustainable electricity and, in particular, address climate change? In the past, MDBs have actively supported many programs in developing countries that shape the electricity sector's policies, regulations, and institutional capacity. But how have these programs addressed sustainable electricity and climate change issues in recent years?

From the body of practice and literature on sustainable energy, we identified elements of policies, regulations, and institutional capacities that are likely to support investments that both generate critical development benefits, and reduce greenhouse gas emissions (summarized in Box 2). These elements also build in large part on the WRI-Prayas-NIPFP Electricity Governance Indicator Toolkit, a comprehensive framework of indicators of transparency, accountability, inclusiveness and capacity in policy and regulation of the electricity sector.[3]

These elements, of course, support each other: for example. The higher costs per unit of renewable energy may be offset by reduced consumption of electricity that results from greater energy efficiency. The elements of institutional capacity and governance that we have identified underpin each of the proposed elements of sustainable energy policy and regulation. Together, these elements should help create the conditions necessary to support sustainable electricity systems in any country over the long term, although they will of course need to be tailored to local circumstances and realities. It would therefore be reasonable to expect many of these elements to be considered by the MDBs in their design of loans that target electricity sector policy.

Box 3: Enabling Investment in Sustainable Energy

POLICIES AND REGULATIONS

- Long-term integrated energy planning
- Policies and regulations to encourage energy efficiency
- Policies and regulations promoting renewable energy
- Access to electricity for the poor
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- Subsidy reforms to reveal true costs of fossil fuels and promote the viability of sustainable energy options

INSTITUTIONAL CAPACITY AND GOVERNANCE

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- Stakeholder engagement in policy, planning and regulatory processes

3 See Dixit, Dubash, Maurer, and Nakhooda 2007, as well as past work by WRI, Prayas, and the Sustainable Energy Regulation Network of the Renewable Energy and Energy Efficiency Partnership have conducted on good governance, clean energy, and regulation. Available at http://electricitygovernance.wri.org.

2.1 Long-Term Integrated Electricity Planning

An integrated electricity plan should help countries identify the best ways to manage and meet demand. To ensure access to affordable, reliable, and clean electricity services requires countries to develop a long term vision, and a planning process, that prioritizes energy efficiency and renewable energy (Swisher, Januzzi, and Redlinger 1997). Developing an effective plan, however, requires detailed understanding of the technology and management choices open to various actors in the electricity system (Nadel, Yang, and Yingyi 1995), and a transparent and inclusive discussion of the implications of choices made. These processes need to address and manage the associated financial, social and environmental tradeoffs that may arise, particularly regarding options to reduce greenhouse gas emissions. The MDBs can use their technical expertise and financial support to help stakeholders within countries identify the least environmentally and socially costly mix of options to meet their energy needs, including the need to extend access to electricity to people who do not yet have it.

2.2 Policies and Regulations Encouraging Energy Efficiency

There are opportunities to improve the efficiency of existing electricity production and use systems in all countries that are unrealized even though they would seem to save both money and emissions (IEA, 2007). MDBs can help countries design ambitious policies and regulations to seize these opportunities to improve energy efficiency, by supporting various actors in the electricity sector. Because the revenues of actors that supply electricity are derived from their sales, they often have few incentives to promote programs that will reduce the demand for energy, particularly from their most reliable customers (Harrington and Moskovitz, 1994; Kushler et al, 2006; Reddy and Goldemberg, 1990; IEA 2007). In addition, programs to promote efficiency may incur direct costs to utilities that discourage action, even though they may save money over the long term. Reform prescriptions that separate generation of electricity from its distribution can make this problem worse, by separating the actors that generate electricity from the consumers that use their products, making (Reddy and Goldenberg, 1990). A variety of policy and regulatory approaches can overcome these barriers and promote efficiency. An important example is rate regulations that reward utilities for reducing electricity demand and consumption in key sectors. Such regulatory regimes can be very effective in increasing energy efficiency. A surcharge on electricity generators, or electricity rates, may be used to help fund public benefits such as energy efficiency and demand-side management programs. Support may also be extended to establish Energy Service Companies that charge fees to identify and implement efficiency measures.

2.3 Policies and Regulations Promoting Renewable Energy

MDBs can help countries design programs that promote the appropriate use of renewable energy. Indeed, many renewable energy technologies are more suitable than conventional power plants for smaller-scale, decentralized applications. Some technologies, such as certain forms of wind energy and solar power, provide electricity intermittently. Renewable energy producers may therefore be given preferential access, and reduced charges, to use transmission and distribution networks. Renewable energy portfolio standards (also known as quota or obligation schemes) may be designed to obligate

electricity service providers to obtain a specific amount of electricity from sustainable sources.[4] Feed-in tariffs have been effective at stimulating the production of renewable energy, by guaranteeing producers both a basic price for electricity sold and access to the grid.[5] Policies and regulations incorporating environmental costs into electricity pricing, and limiting environmental impacts, can support these programs. The underlying need is to help developing countries pay the often higher costs of renewable energy. MDBs can use their technical expertise and international networks to help countries find creative ways to pay for renewable energy and to design cost-effective procurement standards. They can also make available concessional and grant financing from developed countries to support projects enabled by these policies.

2.4 Access to Electricity for the Poor

Worldwide, some 1.6 billion people in developing countries, especially in rural areas, still have no access to electricity at all (IEA, 2008). Electricity is only one of several ways of providing clean energy services to poor households: for example, efficient biomass cook stoves may improve indoor air quality. Nevertheless, electricity can provide essential development benefits, such as refrigeration for medicines in health clinics, power for pumps, mills, and other machinery that support livelihoods, and lighting in schools. Extending the electricity grid to serve rural, sparsely populated areas can be expensive, and the costs can be quite difficult to recover.[6] Electricity services may be provided to rural areas more quickly and cost effectively through decentralized renewable energy technologies, without waiting for expensive grid extension. MDBs can help developing countries find innovative ways of extending access to electricity and the best clean energy technologies. They also can provide concessional capital and create financing models that enable investments in energy services for the rural poor, from whom it may take longer and be more difficult to recoup investments.

2.5 Pricing Structures to Encourage Efficiency and Reduce Consumption

MDBs have been actively engaged in efforts to change how electricity is priced in the electricity sector, but these measures have focused on raising revenues by increasing prices for consumers in order to recover the utilities' operating costs. However, energy prices also directly affect consumption. For example, "block" tariff systems give consumers, particularly commercial or industrial users, a discount as their use of electricity increases, which encourages the consumption of energy. "Inverted" or rising block tariffs offer the first block of units at a low rate, followed by successively higher rates

4 In some schemes, utilities can choose to pay a penalty rather than fulfill their required allocation. But utilities cannot be required to allow renewable energy providers priority access to networks. Such schemes may be supported by tradable "certificates" for renewable energy, which certify that the supplier has actually bought green power.

5 By 2005, at least thirty-two countries and five states/provinces had feed-in policies (REN 21, 2006). The amount of the tariff can be based on factors like the avoided cost to the utility of building its own new plant, the final price to electricity consumers, and the rate of return on the investment necessary to stimulate renewable deployment. Whether "feed-in" tariffs offering too favorable a rate of return to potential investors are compromising consumers' interests has not been determined. Transparent pricing and the real costs incurred by renewable energy producers are necessary to ensure that eligible producers' windfall profits are not inappropriately large.

6 In addition, poverty tends to be more prevalent in rural areas, and poor people tend to use relatively small amounts of electricity, as they generally have few electric appliances and limited ability to pay for electricity.

for additional units, which should induce consumers to reduce their overall use of energy.[7] Charging different tariffs for energy consumed at different times of the day can make the supply more secure, by shifting the demand from peak to off-peak periods. MDBs should support pricing structures that encourage a more efficient consumption of energy while retaining effective, transparent safety nets to ensure that poor people can afford energy for basic needs.

2.6 Subsidy reform to reveal true costs of fossil fuels and promote the viability of sustainable energy options

Conventional fossil-fuel electricity technologies are often valued cheaper than new, clean energy options. In many countries, however, the costs of fossil fuels are heavily subsidized (see Global Subsidies Initiative, http://www.globalsubsidies.org/en/resources/energy). Removing or even shifting these incentives away from fossil fuels toward renewable energy and energy efficiency requires careful planning and execution. In many countries subsidies have been put in place to ensure that poor and vulnerable people have affordable access to energy services. Yet there is often limited transparency about how these subsidies are spent and targeted, and benefits may be captured by elites (Dixit and Sant 2007; von Moltke, McKee, and Morgan 2004). MDBs can support countries to collect better information and transparency regarding how subsidies are spent and targeted, and reflect this information in their policies. They can also help stakeholders in developing countries to address subsidies for fossil fuels by weighing associated trade-offs, and identifying new ways to protect the interests of poor and vulnerable groups. A 2008 review of the World Bank's record on climate change emphasized the importance of reforming subsidies for conventional energy systems to create a "level playing field" for sustainable electricity options.[8]

2.7 Capacity of Executive Agencies (human resources, skills, training) on sustainable electricity

MDBs can support training, human resource expansion, and other programs to build the capacity of planning and executive agencies to support the design of effective policies to promote sustainable electricity. Renewable energy requires particular expertise, understanding, and skills that are different from those required for conventional, fossil-fueled electricity systems. The staff of executive agencies such as ministries of energy or planning also benefit from training and information to keep up with new developments, particularly since the availability, costs, and viability of clean energy technologies can change quite quickly. Promoting energy efficiency similarly requires different approaches, priorities, and skills than are needed simply to increase electricity supply. The MDBs should support government agencies responsible for electricity to consider environmental impacts alongside the economic and security impacts of their decisions.

7 For social reasons, some countries also use rising block tariffs to provide a "lifeline" allocation of cheaper energy to help poor consumers.

8 The review found that of the more than 250 projects in which the World Bank had sought to reform energy prices, some were successful, but the bank often failed to make the necessary links to environmental sustainability and social welfare impacts. See World Bank 2009.

2.8 Capacity of regulators (human resources, skills, training) to oversee implementation of sustainable electricity policy

MDBs can offer technical guidance to electricity regulators and build training and human resource capacity to implement renewable energy and energy efficiency programs. Regulators have a major impact on environmental sustainability, as they oversee the implementation of electricity policy, particularly through pricing and tariff regulation that can incentivize (or discourage) energy efficiency and renewable energy options. In addition, they license new power plants, and set service and efficiency standards, including measures to extend access to electricity. In many developing countries, independent regulatory agencies have been established quite recently in the context of efforts to restructure and privatize the electricity sector with financial and technical support from MDBs.[9] Social and environmental considerations have not always been woven into the mandates of these institutions. MDBs can help regulators understand and address the environmental and social implications of their decisions, and oversight of electricity-sector actors.

2.9 Utility Capacity to Promote Energy Efficiency and Renewables

The utilities involved in generation, transmission and distribution of electricity ultimately have to implement electricity policies and regulations. MDBs have financed can help build the capacity of the staff of electricity utilities manage renewable energy and efficiency. Renewable energy technologies require different skills and understandings to deploy than utilities that have run coal-fired power plants and hydropower facilities may have on hand. When electricity utilities have long-term investment needs, they can consider demand-side management and efficiency options as an alternative to new generation, as well as renewable energy options to meet demand. Distribution utilities in particular can work directly with their consumers, to promote opportunities for energy savings (Kushler, York, and Witte 2006; Reddy 1999; Taylor, 2008; Tellus Institute, 1999). The ability of utilities to manage GHG emissions is particularly important in the context of climate change. MDBs can support utilities to access planning tools that allow them to measure and manage GHG emissions, incorporate renewable energy and efficiency options into demand and investment projections (Hertzmark 2007), and help utility staff train specialized personnel such as engineers, auditors, and renewable energy technicians.

2.10 Transparency of Policy, Planning, and Regulatory Processes for Electricity

By transparency, we refer to both the quality of information that underpin decisions in the electricity sector, and the processes by which that information is made available for public scrutiny. Disclosure of the greenhouse gas emissions associated with energy choices is a crucial dimension of transparent decision-making in the electricity sector. More transparent energy policies, planning, and regulatory processes can increase stakeholders' understanding of and accountability for implementation. Transparency about the analysis and assumptions underlying proposed measures can serve as the basis

9 In the 1990s, the establishment of independent regulatory institutions was part of the reform prescriptions characterizing the structural adjustment lending targeting the electricity sector. The goal has been to separate the government's "technical" decision making from its "political" processes.

of useful engagement with stakeholders including consumers, renewable energy providers, and citizens and civil society. For example, making information about incentive programs for renewable energy clear and easily accessible to investors and stakeholders can help build confidence and interest in the program. Similarly, if a public benefit fund is established to finance energy conservation, transparency about how these funds are spent will help identify whether investments are maximizing efficiency gains, and enhances accountability for the programs' implementation. MDBs can support developing countries to put in place both the systems (such as websites, databases, stakeholder meetings) and the policies (guidance on norms, rules, and good practice in disclosure of technical information) to support transparency in electricity policy and regulation.

2.11 Stakeholder Engagement in Policy, Planning, and Regulatory Processes

MDBs can engage civil society, consumers, the private sector, and other stakeholders in the design and implementation of electricity sector programs and support government agencies to engage civil society in decision-making processes. Ultimately, citizens and consumers pay the costs of electricity services and decide how to use energy. Stakeholders' understanding and support of new pricing systems and behavioral changes are essential to the success of sustainable energy programs. Engaging market actors, including potential investors and renewable energy producers in program design, can also help ensure that incentives and regulations respond to their needs appropriately. Independent civil society groups in many countries recognize the importance of engaging in electricity policy and regulatory processes to advocate for public interests. They have often been important advocates for sustainable energy and helped monitor the implementation of government and regulatory decisions. The capacity of civil society actors to engage in these processes and provide credible, useful input is integral to the success of such approaches. MDBs can support national institutions to reach out to stakeholders in the design and implementation of electricity policies and regulations, and to build the capacity of civil society and consumers to engage.

3.0 MDB Support for Electricity Policy, Regulation, and Institutional Capacity

The MDBs have engaged countries on all of the elements of sustainable energy identified in this report, and over the past five years they have launched several specialized initiatives to promote clean energy and low carbon technologies (see box 3). This section of the report considers the extent to which these elements have been incorporated in to the design of MDB programs addressing policy, regulation, and institutional capacity in the electricity sector. MDBs are, of course, only one of many actors that influence how the elements of sustainable energy we have identified will be addressed in a country: national stakeholders, other donors, and international organizations all share in this responsibility. In addition, MDBs influence electricity policy in developing countries through many channels, including their policy dialogues with country governments, the research and analysis they produce on development issues, and by convening governments and experts to exchange ideas. The content of their loans to the electricity sector that have a policy component, however, provide important insights into how these issues are being prioritized in their financial investments.

Our findings are based on a desk review of all loans to the electricity sector with a policy component for which program documentation was publicly available between 2006 and 2008 initiated by the Asian Development Bank, the Inter-American Development Bank (IDB), and the World Bank (the International Bank for Reconstruction and Development, and the International Development Agency).[10] We also review programs to be funded by the recently established Clean Technology Fund, a new instrument that will make more than $5 billion of concessional public financing available to the MDBs to support clean technology in developing countries. Since our analysis is based only on a desk review of publicly disclosed loan documentation, it may not reflect all the issues addressed as the programs were implemented in each country.

10 The review was based on information made publicly available through the websites of the respective MDBs.

Box 4: MDB Initiatives to Promote Clean Energy

World Bank: The board of executive directors of the World Bank Group recently released its Strategic Framework on Climate Change and Development, which set a target to increase the group's support of energy efficiency and new renewable energy at 30 percent per year, based on the 2007 baseline. The World Bank is committed to raising its support for renewable energy projects by 20 percent per year from 2004 to 2009 (although this target was set relative to an unusually low baseline level of investment). It also recently released its Sustainable Infrastructure Action Plan (SIAP) for 2009 to 2011, following its 2003 Infrastructure Action Plan which sought to get the World Bank back into the business of infrastructure finance after a period of declining investment (described in Section I of this report). The SIAP renews the World Bank's emphasis on several of the elements of sustainable energy detailed here, including governance issues. The outputs and targets linked to these elements are described in less concrete terms than are the very specific targets set for volumes of financing to deliver or regions to target. The Bank has also launched a number of parallel initiatives to explore accelerating the deployment of clean energy technology in developing countries. Its Energy Sector Management Assistance Programme (ESMAP) has supported analyses to inform energy policies, focusing particularly on social and environmental issues.

Asian Development Bank (ADB): In July 2005, the ADB started its $1 billion per year Energy Efficiency Initiative (EEI) to compile and analyze the existing knowledge and experience regarding energy efficiency policies and to formulate a clean energy investment strategy. In both 2008 and 2009, it exceeded its target. According to its own reports, the ADB has invested US$1.693 billion in "clean energy" and $3.02 billion since launching the EEI.[b] Starting in 2013, ADB will clean energy investment target from $1 billion to $2 billion a year, in order to accelerate the region's low-carbon growth and reduce greenhouse gas emissions.[c] In June 2009, the ADB board approved and adopted its new energy policy to (1)promote energy efficiency and renewable energy, (2) maximize energy access, and (3) promote energy-sector reforms, capacity building, and governance. In addition, the bank committed to support developing member countries transition toward a low-carbon economy by "providing assistance for mainstreaming climate change mitigation activities such as (i) financing greenhouse gas abatement projects, (ii) conducting upstream analysis of options for meeting power sector expansion, (iii) incorporating carbon footprints of the projects, and (iv) providing support to build technical capacity to identify and evaluate low-carbon development strategies" (*Energy Policy*, June 2009, www.adb.org). In 2007, the ADB launched a dedicated Clean Energy Fund to support investments in clean energy projects and policies, and in 2009 it began its "Energy for All Initiatives" to provide access to energy to 100 million people by 2015.

Inter-American Development Bank (IDB): The IDB started its Sustainable Energy and Climate Change Initiative (SECCI) in 2006 to mainstream sustainable energy approaches into the bank's operations. The IDB recently made development policy loans to both Colombia and Mexico for climate-change issues. IDB also is part of the Initiative for Integration of Regional Infrastructure in South America (IIRSA). Key initiatives under the IIRSA are roads, gas pipelines, and power plants that will generate electricity that can be traded to meet regional needs. Finally, in 2008 the IDB began its Renewable Energy, Energy Efficiency and Bioenergy Action Program, which focuses on addressing regulatory barriers to clean energy deployment in Caribbean countries.

Climate Investment Funds: The Climate Investment Funds (CIFs) were established in January 2008 and are administered by the World Bank Group. They include the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF), which support programs including the Pilot Program on Climate Resilience (PPCR), the Forest Investment Fund (FIF), and the Scaling Up Renewable Energy Program (SREP). Regional development banks, including the Inter-American Development Bank, the Asian Development Bank, the African Development Bank (AfDB), and the European Bank for Reconstruction and Development, are partners in the Climate Investment Funds. By September 2008, twelve donor governments had pledged $6.1 billion to the CIFs, most of which is for the Clean Technology Fund, to deploy clean energy technologies and reduce GHG emissions in developing countries.

Notes:

[a] World Bank Group's Sustainable Infrastructure Action Plan (SIAP) is available at http://siteresources.worldbank.org/INTSDNETWORK/Resources/SIAP-Final-July08.pdf.

[b] The allocation of so-called clean energy investments under the EEI is subject to the Guidelines for Estimating Asian Development Bank (ADB) Investments in Renewable Energy and Energy Efficiency Projects, available at http://www.adb.org/Documents/Clean energy/Guidelines-Estimating-ADB-Investments.pdf. In 2007, the ADB approved loans totaling $10.1 billion, the highest ever recorded since its inception in 1966. Using this figure, ADB's $2.911 billion exposure is equivalent to around 28.82 percent of its total approved loans, whereas the CE component equals 13.68 percent of the same.

[c] Asian Development Bank, "New ADB Policy Targets Secure, Clean Energy for Asia," press release, June 22, 2009.

We did not review the International Finance Corporation (IFC)'s activities because of our focus on policy, regulatory issues, and institutional capacity. The IFC has supported both renewable energy deployment and efficiency projects in many developing countries. The IFC's support of coal-fired power and fossil fuels also has increased significantly in recent years, however (Bank Information Centre, 2009). The IFC and other MDBs can also have an important influence on enabling frameworks for sustainable energy through their engagement with the local financial institutions in developing countries that act as their intermediaries. Accordingly, by helping build the capacity of domestic institutions to finance renewable energy and efficiency programs, they are well positioned to catalyze investment in sustainable electricity.[11]

The MDBs should help clients assess and manage the impacts of their investments on climate change. To achieve this goal, they might help clients enhance the efficiency of proposed projects, and assess the viability of alternative technologies and approaches that would emit fewer greenhouse gases. The rapid growth of the world's renewable energy industry has increased the availability and viability of alternative options. MDBs should help developing countries assess the additional costs of pursuing lower-carbon choices and explore ways of raising the necessary financing for those choices (Nakhooda, 2008). Many developing countries have been able to obtain financing for such "business as usual" energy technologies and options from sources other than the MDBs, particularly the private sector and public financial institutions based in rapidly emerging economies such as China. In some cases, this alternative financing may limit the MDBs' influence on the design of individual infrastructure projects, as their financing is no longer essential to the deal. Least developed countries with high political and credit risks, however, may have much more difficulty attracting private investment, which may in turn give the MDBs more influence.

3.1 Findings from Our Review

Tables 6, 7 and 8 list the World Bank's, ADB's, and IDB's loans targeting electricity policy in developing countries. Although we believe that all the elements of sustainability proposed in section II are relevant to all countries, we recognize that it may not be necessary or possible to include all these elements in a single loan by an individual MDB. Table 2 summarizes the results of our review of all three MDBs.

Table 2: Elements of Sustainability Addressed in MDB Loans in the Electricity Sector

Bank	Number of loans	Number of Elements of Sustainable Energy Addressed					
		0	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
Asian Development Bank	29		14	5	7	3	
Inter-American Development Bank	19	1	2	6	8	2	
World Bank	31	2	11	8	7	2	1

11 More than 50 percent of the IFC's financing is to financial intermediaries (local banks) in developing countries.

3.1.1 *Asian Development Bank*

Ten of twenty nine ADB projects accounted for more than five of the eleven elements of sustainable energy (see table 3). Most of the ADB's projects addressing electricity-sector policies or regulatory issues considered at least two of our sustainable electricity elements (See Annex 1).

Table 3: Asian Development Bank: 29 Loans Reviewed

Number of Elements of Sustainable Energy Addressed in Individual loans					
0	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
	14	5	7	3	

ELEMENT OF SUSTAINABLE ENERGY	NUMBER OF ADB LOANS ADDRESSING THE ELEMENT
Long-term integrated energy planning	4
Policies and regulations to encouraging energy efficiency	7
Policies and regulations promoting renewable energy	14
Access to electricity for the poor	11
Pricing structures that encourage efficiency and reduce consumption	4
Reforming subsidies to reveal true costs of fossil fuels and promote the viability of sustainable energy	7
Capacity of executive agencies on sustainable electricity	13
Regulatory agency capacity to oversee implementation of sustainable electricity policy	6
Utility capacity to promote energy efficiency and renewables	9
Transparency of policy, planning and regulatory processes for electricity	20
Stakeholder engagement in policy, planning and regulatory processes	3

Programs like the Pakistan Renewable Energy Development Sector Investment Program, supplemented by the Private Participation in Infrastructure Program, promote such renewable energy options as wind, solar, biomass, and small- to medium-sized hydropower. The programs concentrate on the regulatory and tariff requirements to attract investment in these renewable energy technologies. Issues of transparency in regulation are given significant emphasis. The need to engage local civil society and consumers in implementing the programs, including by partnering with these groups to control corruption is also recognized. In Samoa, the ADB is supporting a program to promote a small (less than 20 MW) hydropower plant, renewable energy deployment, and measures to conserve energy in accordance with an integrated electricity plan. ADB is also supporting Fiji to develop an integrated energy plan through a comprehensive Renewable Energy Technical Assistance program (see box 5).

Box 5: The ADB's Support for Renewable Energy Development in Fiji

Since 2007 the ADB has been providing technical assistance to the Fiji Islands to develop a least-cost, renewable, power-sector plan. In addition to grants of $850,000 and an additional grant of $700,000 from the Japan Special Fund for the improvement of infrastructure services, the Fijian government is contributing $280,000 to the program. Working through the Ministry of Works and Energy as the lead implementing agency, the program will prepare a least-cost expansion program to exploit renewable indigenous energy resources and upgrade local transmission and distribution systems for more reliable electricity services.

Fiji's power is supplied by the Fiji Electric Authority (FEA), a government-owned corporate utility that services more than 50 percent of the country's population. With demand projected to grow 5 percent per year, the FEA has been planning to increase its diesel-fueled electricity generation capacity. But the country has been hit hard by rising fuel prices, leading to higher costs for consumers. The investment program outlined in the ADB grants will reduce the FEA's vulnerability to fluctuations in global fuel prices through (1) a review of the Fiji Electricity Authority's (FEA) prioritized renewable investment plan to meet electricity demand forecasts, including least-cost and sensitivity analysis, and training for FEA staff on how to prepare such analysis ; (2) preparation of prefeasibility studies for prioritized subprojects under the expansion program; (3) assessment and projection of the FEA's financial performance; and (4) financial and economic analysis of the investment program, including risk analysis. The program includes a capacity-building program to help screen proposed FEA investments for opportunities to obtain supplementary financing from the clean development mechanisms that would enhance viability. In addition, the program addresses adaptation to climate change impacts (now a specific element of ADB assistance to Pacific DMCs) by analyzing how to "climate-proof" proposed investments to withstand extreme climate events.

Source: ADB Technical Assistance: 39521-01: Preparing the Renewable Power Sector Development Project, Fiji Islands, available at www.adb.org.

In India, the ADB and other MDBs have been supporting the government and utilities of the northern state of Himachal Pradesh to develop hydropower resources. The ADB's $ 950 million Himachal Pradesh Clean Energy program supports the construction of three hydropower facilities, from 60 MW to more than 400 MW each. Program design documents consider subsidies for energy, as well as opportunities to incorporate regulatory and government capacity to manage hydropower. A relatively smaller, capacity-building technical assistance project attached to the program noted the need for an integrated electricity plan, and to take advantage of opportunities to increase efficiency.

3.1.2 Inter-American Development Bank

Ten of the nineteen IDB policy loans targeting the electricity sector that we reviewed considered at least at least five elements of sustainable energy, and most loans considered more than two elements (see table 4; Annex 2).

Table 4: DB: 19 Loans Reviewed

Number of Elements of Sustainable Energy Addressed					
0	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
1	2	6	8	2	

ELEMENT OF SUSTAINABLE ENERGY	NUMBER OF LOANS ADDRESSING THE ELEMENT
Long-term integrated energy planning	5
Policies and regulations to encouraging energy efficiency	10
Policies and regulations promoting renewable energy	11
Access to electricity for the poor	8
Pricing structures that encourage efficiency and reduce consumption	3
Reforming subsidies to reveal true costs of fossil fuels and promote the viability of sustainable energy options	7
Capacity of executive agencies on sustainable electricity	12
Regulatory agency capacity to oversee implementation of sustainable electricity policy	12
Utility capacity to promote energy efficiency and renewables	3
Transparency of policy, planning and regulatory processes for electricity	11
Stakeholder engagement in policy, planning and regulatory processes	3

In Guatemala, for example, the IDB has supported policy and regulatory measures to establish rural electrification programs with significant renewable energy components. The program is framed by a national energy plan for the country that includes both efficiency and demand-side management options and supply options. The plan itself was supported by a related IDB technical assistance program. The program will work with civil society organizations in remote rural areas on program implementation and includes another technical assistance component for training to design, manage, and maintain solar and renewable energy systems.

Similarly, Costa Rica's Electric Power Sector Development program emphasizes the need to ensure good environmental and social performance in its exploration of new models for private-sector engagement and new policies and regulations in the electricity sector. The program will support a detailed map of Costa Rica's renewable energy potential. The program also promotes energy efficiency, through both pricing reform and energy efficiency labs to implement demand-side management programs.

In Panama, the IDB's technical assistance on electricity regulations and policies promotes crucial elements of sustainable energy. The Panama Rural Electrification Program will support policies to promote renewable energy, and build executive and regulatory capacity to implement these policies.

3.1.3 *World Bank*

Ten of the World Bank's thirty-one loans considered at least five elements of sustainable energy (See Annex 3).

Table 5: World Bank: 31 Loans Reviewed

Number of Elements of Sustainable Energy Addressed					
0	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
2	11	8	7	2	1

ELEMENT OF SUSTAINABLE ENERGY	NUMBER LOANS ADDRESSING THE ELEMENT
Long-term integrated energy planning	5
Policies and regulations to encouraging energy efficiency	12
Policies and regulations promoting renewable energy	14
Access to electricity for the poor	15
Pricing structures that encourage efficiency and reduce consumption	6
Reforming subsidies to reveal true costs of fossil fuels and promote the viability of sustainable energy options	12
Capacity of executive agencies on sustainable electricity	9
Regulatory agency capacity to oversee implementation of sustainable electricity policy	12
Utility capacity to promote energy efficiency and renewables	3
Transparency of policy, planning and regulatory processes for electricity	12
Stakeholder engagement in policy, planning and regulatory processes	6

The World Bank's South Africa Renewable Energy Support Program focuses on developing renewable energy potential and an enabling legal framework. It is supported by a $6-million program to build capacity within the sector to implement renewable energy programs, particularly the National Energy Regulator of South Africa and the Department of Mines and Energy. Specifically its technical assistance explores the level of feed in tariffs necessary to support private participation in renewable energy deployment, and proposes new programs to reduce electricity demand.

The Ghana Energy Development and Access project supports the creation of feed-in tariffs and other mechanisms to encourage solar, biomass, and other indigenous renewable energy technologies, as well as the training and strengthening of regulatory agencies and other actors to implement renewable energy projects. In Morocco, the World Bank is integrating renewable energy and programs to extend access to electricity for the poor through its development policy loans in support of electricity reform (see box 6).

Box 6: Promoting Renewable Energy in Morocco

Morocco's energy sector depends heavily on imported fuels for its thermal power plants. Petroleum subsidies have restricted the government's budget and left it vulnerable to external price rises. In the past, its state utility the Office National de l'Electricité (ONE)used an electricity tariff structure that made it unable to recover its costs, and the inefficiency of energy use and transmission strained its limited generation and distribution infrastructure.

The Moroccan government's sector reform policies were intended to reduce dependence on energy imports, increasing the sector's competitiveness and efficiency through market integration and addressing energy subsidies. The World Bank and other international finance institutions underwrote the government's initiatives and development of the Energy Sector Liberalization Law, which unbundled ONE's generation and distribution monopolies, raised the threshold for private generators from 10 MW to 50 MW, and allowed the purchase of electricity from neighboring countries and grids. The law also mandated that ONE, acting as the system's operator, set annual targets for installed renewable energy capacity (1,000 MW of installed wind capacity and 400,000 square meters of photovoltaic panels by 2012) and provide contracts and grid connection to independent producers. Its energy efficiency provisions include minimum standards and efficiency monitoring that will help coordinate government financing for these programs.

The ONE Support Program, launched in [add year] builds on some of the policy initiatives supported by the development policy loan, by providing additional financing to finance substantial improvements to new and existing transmission lines and distribution substations; research on wind power density, electricity tariff restructuring, electricity procurement and bid review processes; and the distribution of compact fluorescent light bulbs. These initiatives correspond to goals and triggers required for approval of the first and second development policy loans.

Foreign investment in both conventional and renewable energy generation has increased, including French investment in an existing wind farm. For example, Energipro is a ONE program designed to promote private investment in wind energy by providing siting, grid connection, and guaranteed purchase agreements for excess generation at fixed rates. Currently, the program has secured industry commitments for more than 850 MW of wind capacity to be developed by 2012.

Source: International Bank for Reconstruction and Development, "Program Document for a Proposed Loan in the Amount of €75 Million (US $100 Million Equivalent) to the Kingdom of Morocco for an Energy Sector Development Policy Loan," May 2, 2007, available at http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000310607_20070509111922.

3.2 The Clean Technology Fund

The Clean Technology Fund (CTF) is a new experiment making concessional finance available to the MDBs to deploy low-carbon technologies, particularly in developing countries. When developing countries express interest in accessing the CTF, the World Bank partners with the regional development bank concerned to conduct a joint mission that includes other pertinent development partners to discuss with government, private sector and other stakeholders "how the CTF may help finance scaled up low carbon activities". A clean technology investment plan is then developed under the leadership of the recipient country, with support from the MDBs, which identifies the major sources of GHG emissions in the country, major opportunities for mitigation, and justifies proposed priorities for which CTF support is sought. Each of the MDBs provides co-financing for the programs, and in order to be eligible for the CTF countries must have a pre-existing working relationship with the World Bank and pertinent Regional Development Bank in relevant sectors (such as energy and transport).

As of May 2009, Mexico, Egypt, and Turkey have drawn up investment plans, and the governments of South Africa, Ukraine, Morocco, the Philippines, Thailand, and Vietnam also have sought the CTF's assistance. In addition, a regional Concentrating Solar Thermal Power Program in the Middle East and North Africa has been proposed by the IFC, International Bank for Reconstruction and Development (IBRD), and African Development Bank (AfDB) using CTF financing. Mexico seeks support for energy efficiency, renewable energy, and urban transport (bus rapid transit programs), and Egypt seeks finance to scale up wind energy and address urban transport needs. Turkey's investment plan supports renewable energy (particularly wind), smart grid development for improved wind management, and energy efficiency programs (see Trust Fund Committee Comments on the Turkey Investment Plan, available at http://www.worldbank.org/cifs). Box 7 compares these plans, and reveals that although all three plans address many elements of sustainable energy, attention to policy, regulatory, and governance issues varies and is not always comprehensive.

Table 6: Clean Technology Fund Investment Plans

	Turkey	Mexico	Egypt
Baseline and objectives	Framed by first national communication to the UNFCCC (2007), which plans to reduce emissions by 11% through hydro, RE, and efficiency (second communication to be available by 2010). The CTF plan identifies a suite of options to reduce emissions by 30%: expanding wind power to 20,000 MW by 2020 at an estimated cost of $26.4 billion ($7.84 billion more than with conventional technologies), existing plant upgrades, transmission upgrades, and the implementation of a demand-side management (DSM) program. EE investments would save some $15.5 billion while reducing emissions. Also considers opportunities to reduce emissions by 44% through further efficiency, including replication of DSM programs, transport programs, restoration of degraded forests, afforestation, increasing nuclear power, waste power.	Framed by Mexico's 2009 Special Climate Change Plan (PECC). The plan identifies GHG mitigation options linked to land use, forestry and bioenergy, end-use efficiency, power generation and distribution, oil and gas, and transport. The CTF investment plan prioritizes commercially available technologies that face "institutional, regulatory or cost barriers (especially up-front investment)." It anticipates reducing electricity consumption by 22,000 GWh per year (10%) and deferring 5,000 MW of conventional energy. Construction of 3 BRT corridors in Mexico City and León are predicted to reduce emissions by 18M Co_2 per year (20% reduction against baseline).	First national communication to UNFCCC from 1990 and national strategy studies of 2002 frame the plan. Plan notes growing energy intensity and emissions. Cogeneration, industrial efficiency, switch to natural gas for industry and transport, wind-energy development, organic-waste management and methane utilization; afforestation projects extending railways and underground lines, mass transit systems, and extension of waterways for transport are key mitigation options. Avoid 20mCo_2 each year through RE program. Avoid 12% annual emissions and 30mtCo_2 over 20 years through transport.
CTF Priorities	Renewable energy, smart grid, and energy efficiency. Debt financing sought for preparation of RE and EE subprojects identified by IFC and EBRD, and $1 million grant finance for smart-grid component of IBRD project with the Turkish Transmission Company (TEIAS). Complementarity with World Bank's development policy loans to privatize the electricity sector and introduce competition in electricity markets, partly through a power pool.	Transport (bus rapid-transit systems), renewable energy, and energy efficiency. IBRD will support a sustainable transport program, and a lighting and appliance efficiency program. IFC will support a private sector RE program focused on wind, available technologies that face "institutional, regulatory or cost barriers (especially up front investment)." IDB support for energy efficiency and renewable energy programs.	Renewable energy (specifically wind and solar) and urban transport. CTF funds will seed an RE fund for transmission company to purchase wind energy, upgrade transmission to tap wind resources, and support new RE public private partnerships. CTF support for urban transport will replace old public buses and private taxis with a new fleet of CNG vehicles, complete 2 new lines of its underground metro, and prepare for BRT and LRT systems. The plan is linked to ongoing programs to reform Egypt's power and transport sectors.
Financing	CTF: $400 million ($250 million in phase 1). MDB cofinancing: $1,900 million IBRD: $300 million smart grid; $500 million RE/EE; $400 million SME/Public EE; IFC/EBRD: $400 million RE/EE; Turkish gov't: $1,550 million.	CTF: $500 million MDB cofinancing: $1,646 million IBRD: $600 million; BRT: $400 million lighting and appliances; IDB: $300 million + $10 million (grant) for RE; $50 million +$1.5 million grant for EE; IFC: $135 million Mexican gov't: $1,425 million	CTF: $300 million MDB cofinancing: $150 million IBRD for transport; $150 million AfDB + IBRD for transmission (respective contributions not specified); $250 million IBRD for RE fund. Egyptian gov't + donors: $285 million for transport; $100 million for RE component.
	Detailed Review of Plan Interventions Targeting the Electricity Sector		
Integrated Energy Planning	Analyzes cost increment for replacing fossil fuels with renewables but does not address underlying assumptions of demand projections.	PROSENER's current plan considers energy portfolio diversification and increase of RE share, plus specific targets to enhance efficiency and production, especially for consumers. While not a completely holistic least-cost plan, it does include multiple impacts and approaches.	Power-sector development strategy to increase IGCC and supercritical coal technology, increase RE to 20% of production, and increase consumption efficiency.

Policies and Regulations promoting Energy Efficiency (EE)	Energy efficiency law and implementing regulations (2007) include more efficient generation, transmission, and distribution. No discussion of implementation processes or role of electricity regulator (EMRA).	Focus on demand-side measures. National Commission for Energy Efficiency will promote EE at various gov't levels. Focuses on CRE's new mandate to regulate externalities to promote efficiency.	Notes that the government is considering establishing an energy efficiency agency and conservation plan.
Policy + Regs. promoting Renewable Energy (RE)	The plan notes that the 2005 renewable energy law has attracted interest in wind-energy development. Gov't's accelerated target is increasing RE (mostly wind) from 3,000 MW to 20,000 MW by 2020. EMRA is developing guidelines for wind-energy contracting. Attention to EMRA's capacity focuses on wind-technology procurement but flags upcoming reviews of prices for RE, esp. solar and biomass.	IDB component focuses on policy and regulatory incentives for scaling up renewable energy investments and commercialization of these technologies. Will support LAEFERTE (renewable energy law) implementation process, partly by helping CRE (electricity regulator) design implementing regulations. Establish local infrastructure finance bank (Nacional Finera) to support investments in RE.	Gov't is pursuing wind commercialization, first by introducing competitive bidding for RE supply; will explore feed in tariffs as a second phase (in 5 years). Gov't is preparing sector for competition + privatization + independent regulator highlighted as complementary measures. Proposed new electricity law will give RE providers market access + dispatch rights. A public RE fund will enable transmission company to buy RE (financed by revenues from gas exports).
Pricing structure on EE	Efforts are under way to revise pricing structures to reflect costs.	Integration of RE predicted to result in net reductions in prices by lowering price instabilities / supply risks.	Low tariffs seen as barrier to attracting investment. Social implications of pricing reform are being studied.
Subsidies	Effort are under way to ensure that full costs of oil and gas are reflected in electricity pricing noted, but little discussion of subsidies for conventional energy.	Subsidies for fossil fuels addressed. Complexity + expensiveness of electricity subsidy system addressed, noting these are eroding CFE's (utility) capital base. Emphasis on residential and agricultural prices rather than commercial / industry users.	Subsidies for fossil-fueled electricity as well as gasoline and LPG noted. Need to reform pricing system for electricity consumption addressed. Social protection considered.
Government Capacity	Institutional capacity weaknesses are noted, but limited attention to how this will be addressed. Emphasis is on capacity of market and financial actors.	Works with wide range of government institutions, including Energy Savings Commission (CONAE), SENER, and the need to coordinate with SCHP (Ministry of Finance) on tariff / subsidies issues.	Gov't has strong capacity in RE and wind development. Will have conflicts of interest as market commercializes. Past experience with conventional energy IPPs seen to support RE scale-up program.
Regulatory Capacity	Notes insufficient regulatory capacity, particularly to enforce energy efficiency. Little discussion of EMRA's capacity.	Plan focuses on CRE's role in implementing LAEFERTE and regulating externalities.	Limited discussion of role of electricity regulator, although it will have major role in implementing new energy law.
Transpar-ency	Improving information about energy efficiency of appliances noted, but otherwise little attention to how information about policy / regulatory scope and implementation will be collected or used.	Supports establishment of a national information system to promote energy efficiency. Recognizes importance of information and awareness raising about programs with a range of national stakeholders.	No discussion of information sharing or transparency requirements of program design and implementation, transparency of RE fund expenditures, and terms of competitive bidding for RE PPAs not addressed.
Engagement of Consumers and Civil Society	Importance of engaging SMEs in EE programs noted. No other discussion of stakeholders' engagement.	Engagement of consumers in design and implementation of regulations on EE and RE and on implementation of PECC more broadly.	Little discussion of how to engage stakeholders and consumers, beyond compliance with safeguards.
Utility capacity	External expertise will be contracted to help transmission companies develop smart grid. Need to build distribution utility's capacity on efficiency noted but CTF support for TEDAS not sought at this point.	Will support local research centers to demonstrate technologies and tailor to local conditions, particularly wind and smart grids. Will provide financial and capacity support to promote RE investment.	Will support gov't's engagement in RE PPPs. Emphasis on developing local manufacturing capacity.

Note: This review is based on the Clean Technology Fund Investment Plan documents that have been publicly disclosed on the Climate Investment Fund website as of May 1, 2009. RE = Renewable Energy, EE = Energy Efficiency, GHG = greenhouse gas.

Mexico's plan is noteworthy for taking a holistic approach to the conditions and processes needed to enable investment in renewable energy and efficiency. It emphasizes building the capacity of those institutions making decisions in the electricity sector, including building the electricity regulator's capacity to manage environmental externalities. It also seeks to collaborate with local research institutions and stakeholders in implementing the program, by supporting research on clean technologies such as wind and smart grid and adjusting them to local circumstances.

Egypt and Turkey's plans place relatively less emphasis on these important issues of institutional capacity. For example, a major component of the Egypt plan is to kick-start the establishment of a national renewable energy fund to create incentives for transmission companies to purchase renewable energy. The proposed fund will be partly financed by revenues from the sale of natural gas. The fund does not yet, however, mention such critical governance issues as transparency in fund priorities or disbursement, which will affect the fund's efficiency and effectiveness.

Box 7: The Climate Investment Funds and Financial Arrangements under the UNFCCC

The Climate Investment Funds (CIFs) were prompted by a joint commitment by the governments of the United Kingdom, the United States, and Japan to pool their efforts to "help developing countries bridge the gap between dirty and clean technology . . . and boost the World Bank's ability to help developing countries tackle climate change."

Several governments have expressed concerns that the CIFs and the programs they support may skew the negotiations on financing climate change within the United Nations Framework Convention on Climate Change (UNFCCC). The CIFs are therefore now regarded as an "interim measure to scale up assistance [for climate change] to developing countries and strengthen the knowledge base in the development community." Members of the G77 countries and China, however, have stated that they do not consider funds committed to the CIFs to meet Annex I obligations under the UNFCCC to help developing countries address climate change.

The Clean Technology Fund's design accordingly includes a "sunset clause" stating that "the CTF will take necessary steps to conclude its operations once a new [UNFCCC] financial architecture is effective" (Governance Framework for the Clean Technology Fund, p. 12). Once this new architecture has been established, any funds remaining in the CTF may be transferred to "another fund that has a similar objective." If the UNFCCC negotiations result in a renewed mandate for the CTF, operations may continue with appropriate adjustments in priorities or programs.

Source: Governance Framework for the Clean Technology Fund, available at http://siteresources.worldbank.org/INTCC/Resources/CTF_Governance_Framework_jan.pdf.

The plans submitted by Mexico, Egypt, and Turkey are linked to ongoing program loans and technical assistance programs supported by the MDBs in these countries. Earlier loans by the World Bank and IDB to Mexico addressed climate-change issues, largely as a result of the country's proactive domestic policies on climate change. Mexico's clean technology plan ties these elements together in a more holistic way, whereas Egypt's and Turkey's plans raise issues less emphasized in past and ongoing MDB loans.

It is not yet clear whether the availability of concessional finance to pursue low carbon development options through the CIFs will result in increased attention to climate change issues in the "core" support that the MDBs extend to developing countries in the future.

4.0 Conclusions and Reccomendations

The MDBs investments in renewable energy and energy efficiency projects have increased over the past five years. But attention to underlying policy, regulatory, and institutional elements that will in the long term align both public and private investment in the electricity sector with sustainable low carbon development has been uneven in the MDBs support for policy reform. The elements of policy and institutional capacity that we have proposed in this report should help MDBs invest in the energy services that developing countries need to reduce poverty and support economic growth, while also reducing the impact of the electricity sector on climate change.

The MDBs confront many challenges as they seek to help developing countries achieve sustainable, low carbon growth, particularly while the responsibilities of developing countries in responding to climate change remain hotly contested within the UN Framework Convention on Climate Change. Social and public interests need to be at the heart of their support for electricity policy, and these efforts must have legitimacy and credibility with stakeholders in the recipient countries. Programs based on shared values and objectives are more likely to be effective. Policy innovations that encourage a full cost analysis of technology options and more transparent, inclusive, and accountable decision making are essential to achieve these goals.

Technical capacity, expertise, and patience are critical to realizing many of the elements of sustainable energy that we have identified: money alone will be inadequate. The MDBs have often fulfilled these sustainable energy elements through investments in technical assistance and capacity, which are small relative to the costs of investing in actual infrastructure. We cannot determine in this report whether these programs are having adequate impact, but note that this is an important area for further analysis and exploration. It is necessary to better understand whether relatively small amounts of funding can have a significant impact or whether greater financial resources are needed.

Our review of the various MDBs' support for the electricity sector suggests the following trends and opportunities to enhance sustainability and attention to climate change:

- **Comprehensive efforts to promote sustainable energy through MDB policy support for the electricity sector must become the rule rather than the exception.**

A small but significant number of projects meet the numerous elements of sustainable energy policy identified in this report. They are important examples of how MDBs can bring expertise, finance, and other forms of support to help align investment in the electricity sector with sustainable, climate-friendly development. Overall, however, attention to sustainable energy issues in electricity policy reform continues to be limited.[12]

- **Integrated electricity planning is needed.**

Relatively few programs have emphasized the need for integrated electricity planning. Most renewable energy programs do not take into account opportunities for demand-side management and efficiency. While the operational requirements of energy efficiency and renewable energy programs differ, they

12 As stated up front, this conclusion is based on a desk review of documentation and may not necessarily reflect the full complexity of operational and implementation realities within countries.

should be combined for policy and regulatory purposes. Increased efficiency can offset the relatively higher tariffs that need to be charged in order to support some renewable energy technologies. Policy tools are needed that help governments consider energy efficiency "nega-watts" as an alternative to building new power plants that add megawatts to the system. Such measures may allow consumers to purchase less electricity, even if they are paying a higher price of energy per unit. Ultimately, the real concern for consumers is the total electricity bill rather than the rate per unit of electricity, so integrated electricity planning in policy design and support would help maximize this complementarity. The impact of electricity choices on greenhouse gas emissions is a critically important consideration in electricity planning (see box 8).

The World Bank's own Internal Evaluation Group's review of "win-win" policies for climate change and development recognized the importance of integrated energy planning as part of project development. Although the World Bank's board of directors responded by confirming its support for "broad-based planning tools by policy makers to support the implementation of policies in the legal and regulatory framework" it also stated that it was "unconvinced of the effectiveness of the use of integrated resource planning by either supply-side entities or their regulators" (Management Response to the Climate Change and the World Bank Group 2008, p. 5). This view seems based on the fact that integrated resource planning methodologies were originally designed for vertically integrated electricity utilities, whereas the World Bank has supported unbundling of utilities and competitive electricity markets. Views on the role of market forces in the delivery of electricity should not impede the adoption of important components of integrated resource planning methodologies that improve the environmental and social impact of electricity service.

- **Policies should address access to electricity for the poor more consistently and creatively.**

Many MDB loans consider access to electricity for the poor, although our review found that these issues are not always a priority in all programs.[13] Program documents often suggest that efforts to commercialize and privatize energy systems will improve access to energy, because better cost recovery will give countries more resources to invest in expanding their electricity infrastructure. The sector actors' fiscal health does, of course, affect their ability to provide electricity to the poor. However, while private-sector actors can help expand access to electricity, competitive electricity market structures can also create disincentives to invest in programs focused on the poor, as cost recovery is much more difficult (see, Dubash 2005; Karekezi and Kimani 2002; Williams and Ghanadan 2006). These measures will not necessarily support objectives of extending access to electricity for the poor, unless they are expressly designed to do so. Government and regulators would also benefit from MDB support to explore more creative approaches to enhance access to electricity for the poor. In many developing countries, decentralized approaches and renewable energy technologies are central to achieving these goals.

- **Cumulative impacts of sustained support for conventional technologies must be managed.**

13 Fifteen of thirty-two loans from the World Bank addressed issues of access to energy for the poor, and eleven of twenty-nine loans from the Asian Development Bank and eight of nineteen loans from the Inter-American Development Bank considered access issues.

Several hydropower- and natural gas- based programs financed by the MDBs have been described as sustainable energy projects in program documentation, and some countries do obtain electricity from hydropower facilities that emit fewer GHGs than electricity from fossil fuels do. However, while the MDBs routinely assess the environmental and social impacts of large infrastructure projects, hydropower is also subject to risks in the context of climate change. In particular, it is critically important that MDBs begin to factor in the likely impacts of climate change on water availability. Such analysis may raise questions about the long term viability of investments in new hydropower capacity in regions where water patterns may change significantly in coming decades. MDBs also need to look more closely at GHG emissions from reservoirs of large dams as part of their impact assessment, although this has rarely been done. Concrete measures to respond to these questions are needed, and GHG accounting and management can be a useful tool to this end.

Each of the MDBs also has begun to increase the number of its large investments (more than US $300 million) in transmission and distribution infrastructure. Over the past three years, the ADB has invested more than $4 billion in transmission; the IDB has invested more than $1 billion; and the World Bank has invested at least $6 billion.[14] Transmission upgrades and expansions can improve efficiency by reducing transmission-related losses and enabling renewable energy sources to feed into the grid. But transmission and distribution projects sometimes primarily deliver electricity from conventional infrastructure such as coal-fired power plants, and only indirectly support sustainable energy objectives. Environmental and social safeguards have increasingly made it difficult for MDBs to invest directly in such conventional infrastructure projects. The cumulative environmental and climate change implications of transmission and distribution projects must be considered as part of projects design and implementation.[15]

- **More attention should be paid to transparency in project development and implementation and stakeholder engagement.**

A growing number of projects are considering provisions for transparency, although more needs to be done to adjust these provisions to support sustainable energy. Transparency about the environmental and social implications of choices being made by key actors in the power sector can play an important role in helping chart a path towards a more sustainable energy future. It is particularly important to include information about the potential GHG impacts of energy choices, and to make this information transparent (see box 8). Transparency can clarify the context in which a range of actors including the private sector must operate, and create more accountable and effective institutions. MDBs can do more to help make national institutions easily accessible to the public.

Generally, few programs attended to the terms on which consumers, civil society, citizens, or stakeholders could participate in more effective design, implementation, and credibility of initiatives. Past efforts to reform the power sector have failed to effectively engage affected stakeholders and consumers and, as a result, have had limited credibility and traction. Civil society and citizen confidence in renewable energy and energy efficiency programs is important, particularly given the relatively

14 Many transmission projects also are connected to large hydropower dams. Our review is based on only those projects for which loan documentation is publicly available. Although the actual numbers and amounts for these loans likely are different, the documentation has not yet been made public.

15 GHG accounting methodologies that consider the energy mix carried by the grid could support such objectives.

expensive up-front costs of some technologies and the behavioral changes their deployment may require. Stakeholders demand for greater emphasis on environmental and social sustainability from policy makers, government agencies and regulatory authorities is necessary to shift these options from niche applications into the mainstream. Without this demand, vested interests with a stake in continuing to depend on inefficient fossil-fuel economies may dominate decision making.

Box 8: Understanding and Managing GHG Emissions from Electricity to Support Sustainable Energy

GHG accounting can inform a consideration of less-GHG-intensive approaches to meeting development needs, including through greater energy efficiency. Transparent GHG accounting also should facilitate more accurate assessments of the incremental costs associated with reducing emissions. MDBs can help build the capacity of government- and private-sector stakeholders in developing countries to account for the emissions that will result from various developments and investments, in order to use this information for policy design and implementation. Internationally accepted management tools such as the Greenhouse Gas Protocol help government agencies, utilities, and private companies conduct such analysis .[a]

Few MDB programs have sought to build the capacity of national actors to manage greenhouse gas emissions. Notably, none of the CTF programs disclosed to date have addressed stakeholders' ability in recipient countries to measure and manage GHGs. By enabling local stakeholders to measure, manage and report GHG emissions, MDBs could have a transformative impact on emissions over the long term.

Programs in Mexico underwritten by both the Inter-American Development Bank and the World Bank Group are notable exceptions, which likely reflect Mexico's strong national commitment to managing GHGs. Mexico is one of the few developing countries that has submitted more than one national communication. Nevertheless, many developing countries where the MDBs are active (including emerging economies such as China and Brazil) are carrying out vibrant corporate GHG management programs with government support. Governments have acknowledged the value of such tools and approaches. MDBs' support of such GHG-management programs may lead developing countries to weigh using them to achieve sector objectives, particularly in countries where national climate change plans and policies are already under way.

Sources: See Greenhouse Gas Protocol, available at http://www.ghgprotocol.com.

- **If the MDBs are entrusted with dedicated climate change finance, their core support for electricity should also help developing countries address climate change.**

By helping countries develop clean-technology investment plans, the Climate Investment Funds (CIFs) and the Clean Technology Fund (CTF), in particular, can create opportunities for developing countries to consider low-carbon energy options, identify priorities that align with national needs, and form a basis from which to seek the necessary financial and technical support from developed countries to transition to a low-carbon development path. Improvements in sectoral governance, institutional capacity, and policy and regulatory environments are likely to have a transformative impact on both economies and prospects for sustainable development. These issues are not yet, however, emphasized in the current CTF results measurement framework.

Just as importantly, the CIFs represent a pool of resources to help the MDBs support developing countries to take climate friendly approaches to development. They represent more public finance than has ever before been dedicated to climate change. But they are dwarfed by the size of the MDBs' annual financing portfolios on future GHG emissions. The technologies, programs and approaches that are supported with the core resources of the MDBs should be consistent and coherent with the objectives of the CIFs, rather than cutting at cross purposes. If, in the future, the MDBs may be entrusted with scarce public resources to address climate change, then they must demonstrate that they are systematically addressing issues of environmental and social sustainability in their mainstream investments.

- **Solutions must be tailored to local realities and politics.**

With some exceptions, MDB programs that comprehensively address elements of sustainable electricity tend to be concentrated in countries where local policies (and politics) are already quite favorable to low carbon options. This raises questions about whether and how the MDBs can engage more proactively on these issues in countries less inclined to consider such issues. Persuading a wide range of stakeholders to identify policy, regulatory, and institutional solutions that meet a country's long-term development objectives with due regard for environmental and social benefits is an important step to this end. Many MDBs must have the documented approval of the national Ministry of Finance before they can engage with critical stakeholders outside of government on these issues. The trade-offs among long-term public interests, short-term development needs, and global environmental benefits are seldom easy to manage. Nevertheless, MDBs are in the position of having to help developing countries navigate these tradeoffs. Even though other financial institutions may have more money to invest in the physical infrastructure of electricity, MDBs are one of the few institutions also providing advice and financing for policies and their implementation. MDBs need to be active in issues of sustainable energy and climate change, and reach out to stakeholders to design creative solutions to the challenges at hand.

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Annex 1: Asian Developmant Bank Energy Policy Projects

Asian Development Bank	Project ID	US$ (millions)	Country	Transparency of Policy Planning, Regulation	Policies & Regulations Promoting RE	Policies & Regulations Promoting EE	Integrated Energy Plan	Access to Energy for Poor	Pricing Structure on EE	Subsidies for Conventional Energy	Regulatory Capacity	Government Capacity	Consumers / Civil Society	Utility Capacity
1. MFF Himachal Pradesh Clean Energy Development Investment Program	41627	950	India	X	X					X	X	X		
2. Energy for All Initiative	40629	2.3	Regional		X	X		X				X	X	
3. Municipal District Energy Infrastructure Development Project	41957	400	China			X		X			X	X		X
4. Power Sector Development Project	41504	1.5	Papua New Guinea	X	X			X		X	X	X		X
5. Development of Mini Hydropower Plants in Badakhshan and Bamyan Provinces	42094	746	Afghanistan	X	X			X		X				
6. Capacity Building for Himachal Pradesh Power Sector Agencies	41611	0.9	India	X	X		X			X	X			X
7. Power System Master Plan for Bihar	42054	0.6	India	X				X						
8. Facilitating the Energy Conservation Fund Energy Smart in Madhya Pradesh	41681	1.7	India			X								X
9. Accelerated Rural Electrification	39236	0.7	Bhutan	X	X			X				X	X	
10. Preparing the Renewable Power Sector Development Project	39521	1.6	Fiji Islands, Rep. of	X	X		X	X	X			X		X
11. Promoting Private Sector Participation in the Power Sector	41025	0.6	Nepal	X	X							X		
12. MFF Uttaranchal Power Sector Investment Program (Subproject 1)	37139	42	India		X			X				X		X
13. MFF Renewable Energy Development Sector Investment Program (formerly Renewable Energy Development Facility)	34339	625	Pakistan	X	X			X		X	X	X	X	

14. Corporatization of Bangladesh Power Development Board	39141	0.8	Bangladesh	X										
15. MFF: Guangdong Energy Efficiency and Environment Improvement Investment Program – Tranche 1	39653	137	China, People's Rep. of			X								X
16. Promotion of Private Sector Participation in the Power Sector	40276	0.6	Bangladesh	X										
17. CAREC Members Electricity Regulators Forum	41001	0.5	Regional	X							X			
18. Supporting Implementation of the National Energy Efficiency Program	41077	0.9	Vietnam, Soc. Rep. of			X								
19. MFF – Madhya Pradesh Power Sector Investment Program (Tranche 1)	32298	861	India	X		X								X
20. Renewable Energy Development	34100	162.6	Indonesia	X	X			X	X			X		X
21. Green Power Development Project	37399	110	Bhutan		X		X					X		
22. Private Participation in Infrastructure Program I	36155	400	Pakistan		X							X		
23. Power Sector Expansion Project	38183	41	Samoa	X	X	X	X		X			X		
24. Power Sector Development Program Loan	37752	451	Philippines	X										
25. Infrastructure Project Development Facility	40009	436	Indonesia	X						X				
26. Power Sector Development Program	36205	286	Bangladesh							X				
27. Sustainable Power Sector Development Program	36107	465	Bangladesh	X					X					
28. Power Sector Development Program	30207	131	Sri Lanka	X				X						
29. Promoting Private Sector Participation in the Energy Sector	36268	0.5	Bangladesh	X										

Annex 2: Inter-American Developmant Bank Policy Projects

Inter-American Development Bank	Project ID Number	US$ (millions)	Country	Transparency of Policy Planning, Regulation	Policies & Regulations Promoting RE	Policies & Regulations Promoting EE	Integrated Energy Plan	Access to Electricity for Poor	Pricing Structure on EE	Subsidies for Conventional Energy	Regulatory Capacity	Government Capacity	Consumers/ Civil Society	Utility Capacity
1. Support for the Energy Sector in the Entre Rios Province	AR-T1029	0.8	Argentina	X				X			X	X		
2. Promotion of Clean Energy Market Opportunities	CH-M1009	0.995	Chile		X	X	X		X			X		X
3. First Electric Power Sector Development Program (2008–2011)	CR-L1009	250	Costa Rica	X		X		X	X	X	X	X	X	
4. Support for Implementation of the Country Energy Policy	ES-T1069	0.149	El Salvador	X		X		X		X	X			
5. Rural Electrification Master Plan of Guatemala	GU-T1120	0.625	Guatemala	X	X		X	X	X			X		
6. Multiphase Rural Electrification Program: Phase I	GU-L1018	55	Guatemala	X	X	X		X			X	X	X	
7. Energy Efficiency Integral Plan	GU-T093	0.6	Guatemala	X		X				X	X	X		X
8. Support for Environmental and Social Work to Develop Renewable Sources of Energy	GU-1111	0.5	Guatemala	X	X					X	X	X		
9. Power Sector Support Program	GY-L1014	12	Guyana	X		X				X		X	X	
10. Honduras Energy Sector Support Program	HO-L1019	28.55	Honduras								X	X		
11. Residential Use of Renewable Energy and Energy Efficiency	ME-T103	0.749	Mexico		X	X	X					X		
12. Electricity Sector Support Program Second Loan	NI-L0122	40.2	Nicaragua		X	X	X				X			

13. Support to Power Sector Investment Program	NI-T1053	0.35	Nicaragua											
14. Electricity Sector Support Program	NI-L1021	32.7	Nicaragua		X	X		X		X				
15. Investment and Corporate Transformation Program for ETESA Phase 1	PN-L1031	12.5	Panama	X										
16. Rural Electrification Program	PN-0150	30	Panama		X			X			X	X		
17. Comprehensive Review of Regulatory Framework & Policies of Energy Sector	PM-N1002	0.498	Panama		X	X	X	X			X	X		
18. Support for Energy Strategy of Peru	PE-T1145	0.5	Peru	X	X						X			
19. Support Initiatives for Energy Generation with Renewable Sources	RG-T1561	1	Regional	X	X					X	X			X

Annex 3: World Bank Energy Policy Projects

World Bank	Project ID Number	US$ Millions	Country	Transparency of Policy Planning, Regulation	Policies & Regulations Promoting RE	Policies & Regulations Promoting EE	Integrated Energy Plan	Access to Energy for poor	Pricing Structure on EE	Subsidies for Conventional Energy	Regulatory Capacity	Government Capacity	Consumers + Civil Society	Utility Capacity
1. Mexico Environmental Sustainability Development Policy Loan	P095510	300.75	Mexico		X	X			X	X		X		
2. CM-Energy Sector Development SIL (FY08)	P104456	65	Cameroon	X	X		X	X		X	X	X	X	
3. Office national de □lectricité (ONE) Support Project	P104265	150	Morocco	X	X	X	X	X	X	X	X	X		X
4. Mexico□ Climate Change Development Policy Loan	P110849 and P115101	501.25 + 401	Mexico		X	X					X	X	X	
5. Development Policy Loan 3	P107365	500	Ukraine								X			
6. Second Infrastructure Development Policy Loan	P111905	200	Indonesia	X				X		X				
7. Solomon Islands Sustainable Energy	P100311	4	Solomon Islands	X		X		X						X
8. Senegal Energy Sector Recovery Development Policy Financing	P105279	80	Senegal		X	X	X	X		X				
9. Bangladesh Power Sector Development Policy Credit	P107797	120	Bangladesh	X	X	X		X					X	
10. Public and Natural Resource Management Development Policy Grant	P106468	6	São Tomé and Príncipe											

11. TG-Economic Recovery and Governance Grant	P110618	175	Togo						X					
12. Supplemental EGRO-II Development Policy Grant	P112133	10	Haiti											
13. MG Integrated Growth Poles Additional Financing Credit	P110405	40	Madagascar					X						
14. Third Programmatic Business Product & Efficiency Development Policy Loan	P105029	550	Colombia	X										
15. Bangladesh DSC IV Supplemental Financing II	P110110	100	Bangladesh	X										
16. TZ-Energy Development & Access Expansion	P101645	105	Tanzania		X			X			X	X		
17. Renewable Energy Market Transformation	P073322	6	South Africa	X	X						X	X		
18. MA-Energy Sector DPL	P099618	100	Morocco		X	X		X	X	X	X	X		
19. ID-Infrastructure DPL (IDPL)	P107163	60	Indonesia		X		X	X		X			X	
20. Development Policy Loan 2 (DPL 2)	P096389	300	Ukraine						X		X			
21. Himachal Pradesh Development Policy Loan 1	P105124	60	India		X							X	X	X
22. Reform Implementation Development Policy Loan (RIDPL)	P094288	100	Lebanon				X			X	X			
23. Development Support Credit IV/Development Policy Lending	P074801	70	Bangladesh							X				
24. Uganda Power Sector Development Project	P069208	300	Uganda	X	X	X		X		X		X		
25. Third Andhra Pradesh Economic Reform Loan/Credit	P075174	225	India							X			X	

26. Power/Water Sectors Recovery and Restructuring Project	P095240	10	Madagascar	X		X		X						
27. Programmatic Development Policy Grant	P074889	10	Tajikistan	X		X		X	X					
28. Support for Strategic Local Development and Investment Project	P064925	100	Philippines		X			X						
29. Infrastructure Services	P057761	40	Malawi					X			X			
30. RY Power Sector	P086865	50	Yemen			X					X			
31. MX Competitiveness DPL	P098299	300.76	Mexico	X	X	X				X	X			