

Getting to Work: A Review of the Operations of the Clean Technology Fund

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This working paper summarizes key innovations and challenges of the Clean Technology Fund. It analyzes the projects included in the investment plans that the Fund has endorsed to date. It makes the case for a more transparent approach to project implementation to ensure that the international community can learn the lessons from this pilot phase of operations.

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INTRODUCTION

Over the past year, the Clean Technology Fund (CTF) administered by the World Bank in partnership with Regional Development Banks has begun financing clean technology deployment projects in fast growing developing countries. The objective of the CTF is to use the minimum level of concessional finance necessary to realize investment opportunities that will have transformative effects on the greenhouse gas (GHG) emissions of the recipient country over the long term. As of March 2010, US\$4.35 billion –nearly the entirety of the \$4.405 billion in funds pledged to the Clean Technology Fund (CTF)-- have been earmarked to support investment plans in 12 countries, and a regional concentrating solar program in North Africa.¹ \$888 million dollars in financing for 15 projects in 8 countries has been approved to date.

This working paper reviews recent developments at the CTF, including the status of contributions to the fund, its governance structure, and evolving results framework. Its focus is on the projects for which CTF financing has been approved to date. It analyzes the Mexico and South Africa investment plans and projects as case studies to illustrate some of the challenges and opportunities of addressing policy, regulatory and governance issues in project design and implementation. It is part of a series of working papers WRI has produced analyzing evolving developments at the CTF. Our March 2010 Working Paper [*Clean Technology Fund: Insights for Development and Climate Finance*](#) reviewed the basic mechanics of the Fund and the Clean Technology Investment Plans approved.

¹ CTF Semi-Operational Annual Report, 26 October 2010

SETTING THE CTF CONTEXT

The CTF is one of a set of Climate Investment Funds (CIFs), which also includes a Strategic Climate Fund (SCF) that supports several lines of programming including a Pilot Program on Climate Resilience (PPCR), a Forest Investment Program (FIP), and a Scaling Up Renewable Energy Program (SREP).

Table 1: CTF Pledges 30 Sep 2010

Country	Pledge (millions)		Pledge USD (millions)
Australia	Grant	AUD 100	97
France	Loan	EUR 203	277
Germany	Loan	USD 615	615
Japan	Grant	JPY 92,655	1,112
Spain	Capital	EUR 80	109
Sweden	Grant	SEK 600	90
UK	Capital	GBP 385	613
USA	Grant	USD1,492	
Total	USD 4,405		

Source: Climate Investment Funds, Trustee Report on the Financial Status of the CTF 28 October 2010 <http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/CTF%204%20Trustee%20Report%20nov2010.pdf>

Regional Development Banks including the Inter-American Development Bank (IDB), Asian Development Bank (ADB), African Development Bank (AfDB) and the European Bank for Reconstruction and Development (EBRD) are partners in the CIFs together with the International Finance Corporation (IFC) and the International Bank for Reconstruction and Development (IBRD), which also provides administrative functions.

The CIFs were established at the initiative of the governments of the UK, USA and Japan in early 2008. Together, the CIFs represent a pledge of \$6.1 billion in public finance for climate change programs from 13 of the world's largest donors, administered through multilateral channels. The bulk of these funds (\$4.405 billion) are dedicated to the CTF (see Table 1), to support the deployment of clean energy technologies and make transformative reductions in greenhouse gas (GHG) emission trajectories in developing countries.

The role of the World Bank in general and the CIFs in particular in administering financing for climate change has been controversial within the UN Framework Convention on Climate Change (UNFCCC) negotiations.² Nevertheless, the CIFs are an important channel for some of the \$30 billion in “fast start” financing between 2010 and 2012 promised in the Copenhagen Accord. Many donor countries, particularly the United States, are counting their contributions to the CIF towards their fast start finance commitments.³

In response to requests from developing countries, efforts have been initiated to monitor whether contributions to the CIF are “new and additional” i.e. represent new money for climate change. The CIF administrative unit has asked all donors to document how they categorize their contributions, and a team of experts from the World Bank has recently published new policy research on the options for monitoring climate change finance. Denmark, France and Switzerland have yet to respond to the CIF administrative unit request for clarification on the categorization of their contribution to the CIF. All other donors have confirmed that their contributions to CIFs are Official Development Assistance (ODA) and these will be registered as such with the OECD Development Assistance Committee. They have also stated, however, that their contributions to the CIFs are “new and additional”, either because they are being financed through an additional allocation for climate change than had been budgeted the previous year, or because they are additional to previous years ODA contributions. Norway and Switzerland have not committed on this count, however, pending agreement under the UNFCCC on the definitions of new and additional.⁴

² Athena Ballesteros, Smita Nakhooda and Jacob Werksman “Power, Responsibility and Accountability: Re-Thinking the Legitimacy of Institutions for Climate Finance” WRI Working Paper December 2009. <http://www.wri.org/iffc>

³ World Bank, *Development and Climate Change Monitoring Climate Finance and ODA*, 26 October 2010 <http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/Joint%205%20New%20and%20Additional%20ODA%20nov2010.pdf>

⁴ Climate Investment Funds, “Distinguishing and Tracking CIF contributions as New and Additional ODA Resources,” October 2010 http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/Joint%205%20New%20and%20Additional%20ODA%20nov2010_0.pdf

Table 2: Terms of CTF Financing for Public Sector Operations

	Harder Concessional	Softer Concessional
Maturity	20	40
Grace Period	10	10
Principal Repayments Year 11 – 20	10%	2%
Principal Repayment Year 20 – 40	N/A	4%
MDB Fee FY 09 – 10	0.10%	0.10%
Service Charge FY 09 – 10	0.75%	0.25%
Grant Element	45%	75%
Source: The Climate Investment Funds, “Clean Technology Fund Financing Products, Terms, and Review Procedures For Public Sector Operations”, 28 May 2009.		

The differing interpretations of what constitutes a “new and additional” contribution to the CIFs reinforce the need for a common set of standards and formats for reporting and monitoring contributions to climate finance.⁵

Terms of Finance

The CTF represents an important new line of business for the MDBs. Its programs are intended to “stimulate lasting changes in the structure or function of a sub-sector, sector or market” and “demonstrate how CTF co-financing could be used, possibly in combination with revenues from emissions reductions, to make low GHG emissions investments financially attractive by improving the internal rates of return on such investments.”⁶

⁵ WRI has developed a set of voluntary guidelines to this effect, available online at <http://www.wri.org/publication/guidelines-for-reporting-information-on-climate-finance>

⁶ The World Bank. February 2009. “Clean Technology Fund Investment Criteria for Public Sector Operations.”

The terms of financing for private sector projects will be determined on a case by case basis, with reference to core principles of:

- Avoiding distortion and crowding out of other financial actors
- Maximizing leverage through co-finance from the MDBs, bilateral, and other commercial lenders
- Financial sustainability by allowing the project to perform profitably under market conditions, and minimizing future dependence on subsidies for similar projects
- Absence of foreseeable losses

Projects can be financed through concessional interest rate loans and performance based loans, subordinated debt and mezzanine finance, guarantees and insurance; risk sharing and equity, and the MDBs retain flexibility to design new instruments. In limited circumstances that must be clearly justified, the MDBs themselves may access subordinated debt from the CTF so they can make investments that would otherwise be too risky for their own balance sheets.⁷ Information on the final terms of private sector projects are confidential for business reasons; trust fund committee members, however, will be informed of these terms but are bound by a non-disclosure agreement.

Funds for public sector projects are primarily disbursed in the form of concessional loans. Harder loans with a smaller grant component, and a shorter payback period are extended to programs that earn market threshold returns, but may face costs of risk premiums. Softer loans are available for programs that may have negative rates of return. The MDBs charge an administrative fee in either case (see Table 2). The level of concessionality can be adjusted to meet country needs.

Grants of up to \$1 million are available to support the development of investment plans and projects, including research, convening, and the costs of consultants as needed.

http://siteresources.worldbank.org/INTCC/Resources/CTF_Investment_Criteria_Public_sector_revisedFeb9.pdf

⁷ CTF Financing Products, “Terms and Review Procedures for Private Sector Operations,” 17 March 2010.

http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/CTF%20and%20review%20procedures%20for%20private%20sector%20operations%20march%2017%202010_Key_Document.pdf

Grant funding will also be used for knowledge and learning activities.⁸ CTF resources can also be used to guarantee investments that will incur technical and economic performance risks, or commercial and financial risks, but not political risks which should be addressed through institutional and policy reform. The MDBs' administrative and overhead charges have been a cause of concern for some governments.

New Modes of Governance

Each of the CIFs is governed by a Trust Fund Committee (TFC) composed of 16 participants, with an equal number of representatives of donor governments and developing country governments. Decisions are taken by consensus. All 8 of the governments contributing funds to the CTF are represented on its governing trust fund committee⁹; developing country members of the World Bank selected the governments of India, China, Brazil, South Africa, Mexico, Turkey, Egypt and Morocco to represent them on the committee. Representatives of the World Bank, and each of the partnering RDBs are also represented, but do not vote.¹⁰

The CTF committee allows "stakeholders" to observe its deliberations, including the secretariats of the UN Framework Convention on Climate Change (UNFCCC) and of the Global Environment Facility (GEF); two representatives of the private sector or business associations (one from a recipient country and one from a contributor country) and four representatives of civil society (one from a developed country, and one each from Africa, Asia and Latin America).¹¹ All observer roles are

⁸ The Climate Investment Funds, "Clean Technology Fund Financing Products, Terms, and Review Procedures For Public Sector Operations", 28 May 2009. http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/CTF_Financing_Products_and_Terms_FINAL.pdf

⁹ At present, there are only 8 countries contributing to the CTF; if more join, then contributor countries will also need to go through a process of self-selection to decide on representation on the Trust Fund Committee

¹⁰ MDBs do not vote on plans or projects. Potential recipient countries are similarly barred from taking part in decisions when their requests for funding are being considered.

¹¹ These observers were appointed through a process of "self selection" coordinated by the World Business Council for Sustainable Development for the private sector, and by the Washington, DC based NGO Resolve for civil society in 2009. RESOLVE for its part is a relative newcomer to issues of climate finance; it did, however, appoint an advisory panel of experts within the NGO community engaged on

"active", which allows them to request the floor to make interventions, propose agenda items, and recommend experts. The World Bank and its partners periodically host a "Partnership Forum" to share lessons learned from the CIF with a range of stakeholders, and to seek expert input. The first forum was held in Washington DC in October 2008, the second by the ADB in Manila in March 2010, and the next will be in Tunis in March 2011.

Constraints on Participation

Not all sessions of the CTF committee meetings are open to observers. Deliberations over investment plans in closed "executive sessions" which are only open to government members of the committee and the MDBs take place. As the secretariat of the fund, the World Bank has sought to ensure that CTF disclosure practice is consistent with its disclosure policy, and hesitated to exceed those standards. In May 2009, the governing committee agreed to publicly disclose Clean Technology Plans prior to their meetings. Previously these plans were not disclosed until after they had been approved in principle by the committee. In October 2009, the decision was made to allow observers to attend country and MDB presentations of the investment plans, and provide brief comments. The actual discussion of the plan continues to be in executive session excluding observers on the grounds that discussions touch on sensitive national issues. Some committee members have noted that it can be easier to have difficult conversations without observers present.

Under these circumstances, it is not surprising that groups and individuals that have significant expertise and experience to contribute to the decision-making of the CTF may not prioritize participation. Some participants in the fund have raised concerns about the value that observers add to the CTF's decision-making. The author acknowledges that as an acting observer to the CTF, her views are not objective, and that the participation of observers varies. Greater effort may be required to draw in

climate change to help it design the selection process. Given the strong rejection of some factions of G77 governments of the CIFs, it is possible that some civil society groups felt that engagement with the CIFs would compromise perceptions of their credibility and legitimacy within domestic policy processes.

civil society organizations with technical expertise and relevant networks. For developing country based civil society groups that engage actively within their domestic context on climate change and technology issues, the CTF meetings can seem very far away from their day to day priorities. Private sector observers have not been active participants in these meetings: but they attend the meetings at their own cost, and have expressed frustration at the limited opportunities for engagement despite the fact that selected representatives do have significant experience with clean technology deployment.

In November 2009, the civil society and private sector observers made a formal request to the chairs of the CTF trust fund committee to include observers in all sessions of the meetings. The CIF administrative unit has, in response, commissioned independent reviews of the role of civil society observers and private sector observers, completed by IUCN and the International Institute for Sustainable Development respectively. Those reviews will be discussed at the November 2010 meetings.

Investment Criteria and Technology Standards

In May 2008, in Poznan, the CTF committee, in consultation with the MDBs, agreed a set of Investment Criteria which determine the categories of technologies the CTF will support, and the standards by which specific investments are deemed likely to have a “transformative” impact (See Box 1). The application of these criteria has proved controversial because they allow investments in fossil fuels, including coal, under limited circumstances. Ultra-supercritical coal fired power plants, are eligible because they are more efficient than standard plants, even though they will emit millions of tons of carbon each year in a 30 year life span. Similarly, the Investment Criteria allow support to substitute new coal plants with highly efficient natural gas plants, if the new facility will emit no more than half the carbon as a coal powered business as usual alternative.

Box 1: Criteria for CTF Investments

Assessment of Transformative Impact of Investments

- (a) Potential for GHG Emissions Savings
- (b) Cost-effectiveness
- (c) Demonstration Potential at Scale
- (d) Development Impact
- (e) Implementation Potential
- (f) Additional Costs and Risk Premium

Standards for Coal and Gas Investments

- Ultra supercritical coal plant emissions must be lower than 0.795 t CO₂/MWh (net)
- New gas-fired power plant (or additional gas unit) emissions must be lower than 0.398 t CO₂/MWh (net), which is 50% of the threshold for sub-critical coal-fired power plants
- New coal plants must also be “ready” for carbon capture and storage (CCS) in that it must be sited in a location with a reservoir for storage, and space for CCS equipment. In addition, an economic analysis of the feasibility of CCS should be completed.

Source: World Bank, *Clean Technology Fund: Investment Criteria for Public Sector Operations*, Jan. 2009.

Many NGOs and other stakeholders including WRI, have expressed disappointment in these criteria. To have a transformative impact the CTF should focus its investments on technologies that can provide cheap, reliable power at a large scale, without relying on fossil fuels. In most countries fossil fuel technologies are already well established, familiar to dominant sector actors, and benefit from significant support including both direct and indirect subsidies. The scarce resources pledged to the CTF should therefore be used to drive down the costs of zero carbon technologies, such as wind and concentrating solar power.

Furthermore, the Investment Criteria state that the concessionality of CTF financing must be “tailored to cover the identifiable additional cost of an investment, or the risk premium required, in order to make the investment viable.” It seems unlikely, under these circumstances that the viability of investments in lower carbon fossil fuel technologies will hinge on the availability of concessional finance.

Investment Criteria Challenge Consensus

The interpretation and application of the Investment Criteria has begun to test the CTF's consensus based decision making. With the encouragement of civil society organizations, US legislators have placed conditions on US contributions to the CIFs that prevent the US from supporting CTF investments in fossil fuels. In a consensus based process, these conditions have the effect of a veto on the deployment of the agreed CTF standards for coal and gas investments.

The US action, coming after the criteria had been adopted, could be defended on the grounds that US Congress and civil society had no prior opportunity to influence the CTF criteria. There was limited transparency or non-governmental participation (by business or civil society) in the original phases of the CTF design process. The first opportunity for the US Congress to seek and provide views on the CTF was in June 2008 when it held hearings in response to Treasury's request for appropriation of the first tranche of funding pledged by the Bush administration.

Nevertheless, the CTF Investment Criteria were agreed to by all participating countries. A multilateral, consensus based decision-making structure, with an equal representation of contributor and recipient countries is premised on members of the governing committee working according to the agreed rules, without imposing unilateral conditions.

Participating countries will not tolerate continued decision-making by consensus if one member of the committee has to work outside of the multilaterally agreed rules. They will seek the adoption of a vote based system or some similar framework that does not allow individual countries to block progress. Indeed, the possibility of revising the CTF governing framework has already been proposed, and the CIF administrative unit has produced a review of the decision-making processes used by other multi-lateral funds. The US will likely defend consensus-based decision-making within the CTF, because it allows them to retain a degree of control within multilateral settings.

Results Management

Each of the CIFs is intended to have a specific results management framework, and efforts have been made to agree upon the general elements of this framework before program

implementation begins. Committee members have expressed interest in having periodic reporting in as project implementation proceeds. Substantial effort has gone into developing the CTF results framework, which has changed significantly over the past 6 months. The notion that finance and technology deployment can catalyze transformation has been central to the logic of the CTF. The addition of indicators addressing issues of policy and regulatory reform in the most recent draft of the results framework strengthens it significantly. The new results framework also includes increased emphasis on social issues, and overarching development benefits.

CLEAN TECHNOLOGY INVESTMENT PLANS AND PROJECTS

When developing countries express interest in accessing the CTF, the World Bank partners with the relevant regional development bank and other 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, which identifies the major sources of GHG emissions in the country, major opportunities for mitigation, and justifies proposed projects for which CTF support is sought. The scope and content of these plans are to fit national circumstances.

No investments in fossil fuels for electricity have been approved so far. Plans have focused on scaling up on-grid renewable energy (RE), particularly wind and concentrating solar thermal power technologies, and on reducing transport emissions by introducing Bus Rapid Transit (BRT) systems. While most existing CTF resources have already been earmarked for approved country investment plans, a \$250 million investment plan for Nigeria is to be discussed by the TFC at the November meeting.

One important test of the impact of the CTF investment plan will be the extent to which the analysis contained within it actually informs broader national planning processes, as well as the MDBs mainstream engagement on energy within those countries. If the investment plans are not used in this way in practice, their effectiveness as a basis for accessing funding may need to be re-assessed.

Annex I of this paper reviews all 15 projects approved by the

CTF governing committee thus far,¹² as well as an Eskom Renewable Energy project in South Africa pending approval at the November meeting. All projects are subject to the operational policies of the implementing MDBs, including their environmental and social safeguards. Projects are reviewed by TFC before they are sent to the Boards of the sponsoring MDBs for approval. This allows for adjustments and clarifications to be made before project finalization.

Mexico, Turkey and Egypt were the first three countries to come before the CTF with investment plans. Implementation of the Turkey and Mexico plans has advanced the furthest, with three projects each approved by the trust fund committee. Only one of the projects in the Egypt plan, targeted at supporting wind power including through transmission system extensions, has been approved. 4 projects under the South Africa CTF envelope have been submitted for review, although only the 2 projects targeting the private sector have been approved to date (1 has been withdrawn, and the other will be discussed by the TFC at the Nov 12 CTF meeting). Private sector sustainable energy financing facility projects have been approved in Thailand, Ukraine, the Philippines, and Vietnam respectively. No projects have come forward from Morocco, whose investment plan was approved in Oct 2009, or the more recently approved plans of Colombia or Kazakhstan. An update on the North Africa Concentrating Solar Power program has been produced. The majority of approved projects to date are led by the IFC and IBRD, although the IDB, the AfDB and the EBRD have also proposed projects, several of which are implemented in partnership with the IBRD or IFC.

¹² This review was compiled on the basis of a desk review of the project information documentation disclosed by the CIF administrative unit via email updates that included observers to the CTF, as well as documentation made public on the CIF website at http://www.climateinvestmentfunds.org/cif/current_information_documents as of 3 November 2010. It may be the case that more information on the project scope will be disclosed in the future once the projects have been approved by the boards of the respective MDBs. It is also possible that information that was not made available electronically could be accessed if a formal request were to be lodged with the information service providers at the MDBs in question, however, the author has not been able to take this time consuming additional step yet.

Policy, Regulation, and Governance¹³

Many countries have placed a stronger emphasis on underlying policy and regulatory issues in the context of specific project proposals than they did in their national Clean Technology Investment Plan.¹⁴ In many cases, reference is made to ongoing GEF programs in the country that target institutional and capacity barriers that complement the project approach.¹⁵ Some projects do, however, seem to link the introduction of privatization oriented reforms in the electricity sector with the deployment of clean technology though there is little basis for such correlation. For example, the Egypt CTF investment plan links the deployment of wind energy technologies to the overarching reform agenda of the government which “has included trade liberalization, an overhaul of the tax system and substantial financial sector reforms and privatization. This has led to a friendlier investment climate, which in turn has yielded a strong private sector response.”¹⁶

Most projects include some discussion of the role of stakeholder engagement in project implementation – primarily of business and industry for energy efficiency programs, but several projects also make note of the need to engage civil society and the general public. A closer look at the Mexico and South Africa CTF projects as case studies offers insights into how issues of transparency, inclusiveness, accountability and capacity are being incorporated into projects seeking to enhance policy and regulatory frameworks for clean energy.

Mexico’s investment plan took a relatively holistic approach to the assessing and addressing the challenges of clean technology deployment, emphasizing institutional capacity and governance

¹³ This analysis is informed in part on discussions at a forum of electricity regulators from India, Brazil, South Africa and Mexico convened by the World Resources Institute, Idasa, and Prayas Energy Group in Cape Town in May 2010. The full conference report is available online at <http://electricitygovernance.wri.org>

¹⁴ S. Nakhoda, The Clean Technology Fund. WRI Working Paper. World Resources Institute, Washington DC. <http://www.wri.org/iffe> for analysis of the investment plans

¹⁵ Note, however, that GEF representatives observing the CTF meetings are also not allowed to participate in project discussions

¹⁶ Project Information Document, Appraisal Stage, Egypt- Wind Power Development Project. Para 2. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/04/22/000262044_20100422154657/Rendered/PDF/PID0Wind0Power0Dev10April022.pdf

issues.¹⁷ The projects proposed in Mexico correspondingly take on many important and difficult issues of governance and institutional capacity. The Mexico Urban Transport Transformation program emphasizes the need to improve urban transport planning systems, and to strengthen the institutions engaged in such processes to enable them to work more effectively together to reform the systems, noting that “within the different planning stages for urban transport reforms, most of the attention goes to the technical aspects of the projects (engineering designs, technology, equipment, etc.), neglecting the institutional framework to back it up. Given the long-term nature of urban transport and climate agendas, it is important to support institutional strengthening at the state and local level.” The envelope of public and private sector projects advanced by the IDB, also includes a programme focused on addressing the social implications of renewable energy development in Oaxaca, and the need to ensure that renewable energy development offers development benefits for local communities. While most CTF projects make reference to community benefits from RE in justifying projects, so far few other CTF projects have focused on realizing such benefits directly, or on managing potential conflicts with other social and environmental concerns.

South Africa’s investment plan placed somewhat less emphasis on issues of governance and institutional capacity.¹⁸ The two projects approved by the TFC to date, however, do note the challenges of policy implementation and regulatory reform in the context of getting programs off the ground. For example, the South Africa Sustainable Energy Acceleration project is set in the context of a Renewable Energy Feed in Tariff (Re-FiT) approved by the regulator in early 2009, but yet to become operational. It is designed to respond to this challenge by supporting large industries to “self supply” renewable energy, thus kick-starting the implementation of renewable energy projects in anticipation of implementation of the RE-FiT. It discusses the need to raise stakeholder awareness of the need for reform, including by working with civil society and “neutral”

associations such as wind and solar energy producers.¹⁹ It does not, however, make links to the Integrated Resource Planning process that is presently underway in South Africa, the major policy process that will shape the role sustainable energy options will play in the power sector over the next 20 years. It is worth noting that the World Bank and African Development Bank’s relationship with South African civil society stakeholders is tense. The Bank is likely to need to find new and less defensive ways to engage, particularly around shared objectives of improving the sector’s environmental footprint and strengthening its overarching governance framework within the power sector.²⁰

Neither set of projects discuss operational provisions or approaches that will ensure accountability in project implementation and procurement. Certainly the MDBs have safeguard policies in place that seek to prevent against corruption and other problems in procurement and project implementation processes that are important in the context of implementing capital intensive projects in sectors such as transport and electricity. The South Africa Sustainable Energy Regulation plan, for example, states that projects will not be selected through formal competitive process as “this would likely incur delays, and the MDBs do not believe there are enough projects that are ready to justify such a process. Yet there is some evidence to suggest that at least the first phase of the RE-FiT may be oversubscribed, and proactive measures to ensure that projects deliver high quality value for money will be crucial to building confidence in RE over the longer term in South Africa. CTF projects could take a much more proactive approach on such issues, and seek to set precedents of good practice in this regard.

¹⁹ Renewable energy industry actors are hardly “neutral” actors in the context of such regulatory reforms, although they certainly have important technical information and practical experience that can inform decision-making.

²⁰ The review of CTF projects suggests that stakeholder engagement in this vein has been included in other IFC CTF projects including the Thailand Sustainable Energy Finance Programme. Collaboration to design effective techniques for stakeholder engagement and facilitating an informed, open discussion about the options for policy and regulatory reform might enable such efforts to be more successful than past efforts have been, including the MDBs long engagement on policy reform in developing countries.

¹⁷ See Annex II

¹⁸ S. Nakhoda, The Clean Technology Fund. WRI Working Paper. World Resources Institute, Washington DC. Online <http://www.wri.org/iffc> for analysis of the investment plans

IFC Projects Financing the Private Sector

9 of the 15 projects approved to date have been led by the International Finance Corporation (IFC). Most of these propose to establish sustainable energy financing facilities that will work with local financial intermediary institutions to support smaller sustainable energy programs, and with leasing agencies for energy efficiency projects, seeking to leverage local capital markets towards sustainable energy over the longer term. These facilities are nested within technical advisory service programs aimed at building up capacity within the partnering institutions and, in some cases, end users such as ESCOs on sustainable energy finance. The core tenets of these projects, in countries as different as the Philippines to South Africa, have much in common and project documentation explains that these facilities are modeled on similar programs that IFC has piloted in China, Russia, and Central Europe. The documentation has tended not to include much detail on implementation. This is understandable to an extent, because IFC can only begin to negotiate in earnest with potential local private sector partners after the funding for such projects has been approved by the TFC.

Consistent with the terms for CTF private sector investments that final agreements will be subject to full due diligence and approval by an internal IFC Approval body as well as the board of IFC. A second Investment Review Committee reviews and approves the terms of each individual CTF transaction to ensure that the level of concessionality offered is appropriate. Project documentation suggests that some investment components and technical advisory are more grounded in local circumstance than others. For example, the Turkey Commercializing Sustainable Energy Finance Program (CSEF) aspires to take advantage of the fact that the owners of financial institutions in Turkey also own industrial conglomerates, and this ownership link may be a vector for diffusing ideas. This contextualization may reflect the fact that EBRD had been working on the CSEF for some time before CTF co-financing was sought, and project developers were able to engage stakeholders in order to tailor it to local circumstances.

Many of the IFC projects envisage training, outreach and awareness raising activities that culminate in similar products,

such as a “handbook on best practice in energy efficiency” as part of the technical advisory services program and capacity building efforts. The circumstances that prevent or enable improvements in sustainable energy deployment, and the conditions under which financing can catalyze such gains, varies greatly from country to country and is highly contextual. It will be important to both make sure that capacity building efforts and advisory services respond to the needs of intended beneficiaries and accurately capture local nuances in order to be value added at the national level. At the same time from a knowledge management and learning perspective, it would be very useful to capture the insights from the production of such materials, and in particular to compare country experiences catalyzing transformation in energy efficiency and conservation through financial intermediaries.

Terms of Financing

The pilot phase of the CTF’s operations should provide an empirical basis to better understand the conditions under which concessional public finance leverage change in investment practices, particularly as it experiments with a range of different financial instruments to support the public and private sectors respectively. Annex I shows, however, there is wide variation in the publicly available information about project objectives and design – including how the project will engage local financial institutions, businesses and other stakeholders. While the exact terms of financing for CTF private sector projects are not disclosed for business confidentiality reasons, information about modalities and terms of engagement also varies greatly. Some are detailed enough to illustrate the range of instruments that will be used: for example, the Vietnam Sustainable Energy Finance Facility specifies that two products will be available: a lower interest rate CTF loan, or a performance based market interest rate loan with up to \$2.5 million in aggregate convertible to grants if the bank meets eligibility and disbursement standards. Others provide a much more general indication of a wide range of instruments that might be used.

As project implementation proceeds and the details of modalities become clearer, disclosure of information about what kinds of instruments are being used would be most useful to help stakeholders understand how the CTF is engaging, and how

much innovation is transpiring. The question of how terms of finance offered have affected project viability is a critical issue to address through the knowledge management activities of the CTF. Concise knowledge products are needed that draw lessons and insights from across countries about what levels of concessionality are necessary to trigger investment in low carbon technology, what kinds of financing products are most effective in doing this, and why. The lessons from the CTF experience can be particularly important as countries all over the world step up their efforts to align climate change and economic development through low carbon development approaches.

Transparency and Disclosure

The CIF administrative unit has made a proactive effort to make more information about the implementation phases of the CIF publicly available, including by setting up dedicated information pages that compile this information in one place.

The level of information disclosed by the MDBs varies greatly, however, because the CIF relies on the operational procedures of the implementing policies of the lead MDB. It is much easier to gain comprehensive documentation of programmes implemented by the World Bank Group as a result of the new and more comprehensive information disclosure policy it has adopted, than for any of the other participating MDBs.²¹ The EBRD, for example, does not make any of its project documentation available online through its website, and only discloses an abbreviated project summary. As a result, there is a lack of consistent information on the objectives, methods and terms on which the CTF financing is being mobilized. This has the effect of undermining the CIF's stated objective of helping the international community learn about how to finance clean technology. If there is inadequate transparency about what is happening, it will be difficult to learn from it. Some efforts to harmonize the level of information disclosure across the MDBs participating in the CTF are necessary.

²¹ Products implemented by the World Bank in partnership with an RDB are documented by both institutions, and are therefore covered by the World Bank's disclosure policies.

CONCLUSIONS

The CTF has the potential to help create the conditions necessary for developing countries to pursue low-carbon development options that align well with national needs. While the CTF's Clean Technology Investment Plans failed to emphasize the role of policy and regulation in achieving these outcomes, the emergent portfolio of CTF projects appears to be drawing the links between the success of proposed investments and the enabling environment necessary to ensure projects can transform economies. As a next step, the MDBs will need to work more closely with government, civil society and the private sector to ensure policy and regulatory frameworks are shaped and owned by local stakeholders and reflect local conditions and priorities.

Furthermore, if the MDBs are to be entrusted with scarce public resources to address climate change, the success of the CIFs should be judged, at least in part, by whether they lead to the mainstreaming of low carbon strategies in the MDB's core portfolios.

- Zero carbon and energy efficiency investments, as well as the institutional capacity, improved policy and regulatory frameworks necessary to achieve transformation at scale, should continue to be CTF priorities.
- The CTF criteria for transformative investment should be interpreted ambitiously, and be central to project development and approval processes. The ambitious interpretation of these criteria is the best way of addressing concerns regarding investment in fossil fuel technologies.
- CTF projects should address issues of governance, accountability, and the prevention of corruption in project design, and set precedents of good practice.
- Capacity building and advisory services should be tailored to local needs and circumstances rather than creating generic "one size fits all" hand books and guidance, while maximizing synergies across projects.
- Greater transparency and disclosure about the modes of project implementation--including the details of national partners, and the range of financial instruments deployed in support of projects--is necessary, and can be designed to support more effective project implementation.

- CTF knowledge management products should draw lessons from across countries about what levels of concessionality are necessary to trigger investment in low carbon technology, what kinds of financing products are most effective in doing this, and why.
- The CIFs should prompt systematic attention to climate change in all aspects of mainstream MDB portfolios.
- Civil society should seek to inform the design of CTF investments, and monitoring their implementation within countries to ensure that issues of governance, long term sustainability and development impact for the poor receive due consideration.

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ABOUT WRI

The World Resources Institute is an environmental think tank that goes beyond research to find practical ways to protect the earth and improve people's lives. Our mission is to move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations.

Annex 1: CTF Projects

<p>Note on research method: This table was compiled on the basis of a desk review of the project information documentation disclosed by the CIF administrative unit via email updates that included observers to the Clean Technology Fund, as well as documentation posted to the public via the CIF website at http://www.climateinvestmentfunds.org/cif/current_information_documents as of 3 November 2010. It may be the case that more information on the project scope will be disclosed in the future once the projects have been approved by the boards of the respective MDBs. It is also possible that information that was not made available electronically could be accessed if a formal request were to be lodged with the information service providers at the MDBs in question, however, the author has not been able to take this time consuming additional step yet.</p>				
I. Egypt	<p>PROJECT</p>	<p>IMPLEMENTERS</p>	<p>CTF FINANCING (USD Millions)</p>	<p>TERMS AND CONCESSIONALITY</p>
	<p>1. Egypt Wind Power Development Project Approved: 7 May 2010</p>	<p>IBRD with Egyptian Electricity Transmission Company (EETC)</p>	<p>150.00</p>	<p>Information not disclosed in publicly available project documentation.</p>
<p>OBJECTIVES, PRIORITIES AND APPROACH Seeks to connect 3000 MW of power from future wind parks at the Gulf of Suez and Gabel El-zait to the national network through a combination of infrastructure investment and advisory services / capacity strengthening. The wind parks to be built by private investors through a competitively bid “Build Own and Operate (BOO)” approach. Initially a 250 MW wind farm will be tendered in 2010, with 2x250 MW of additional capacity to be tendered in 2011. The bulk of the CTF resources will be spent on 220kv and 400kv transmission lines to help connect these upcoming facilities to the grid. The project rationale states that experience with preparation of bid documents, development of grid codes, and legal agreements through this program will support future renewable energy projects, including solar projects, and that policies introduced by the Government of Egypt in implementing the first BOO wind project such as land use policies, bank guarantees, foreign exchange denominated PPAs, and permitting are likely to help future development of wind and solar projects.</p>				
II. Mexico	<p>PROJECT</p>	<p>IMPLEMENTERS</p>	<p>CTF FINANCING (USD Millions)</p>	<p>TERMS AND CONCESSIONALITY</p>
	<p>2. Mexico Efficient Lighting and Appliances Approved 2 Sep 2010 Resubmitted Oct 2010 w/ revised co-finance</p>	<p>IBRD with Nacional Financiera (NAFIN) Oversight by <i>Secretaría de Energía</i> (SENER)</p>	<p>50.00</p>	<p>Loan agreement not yet public so detailed terms unavailable</p>
<p>OBJECTIVES, PRIORITIES AND APPROACH: The CTF finance will be deployed as part of an integrated program coordinated by SENER, the Mexican Energy Ministry, to improve energy efficiency. The programme includes the replacement of conventional bulbs with CFLs, and a knowledge and institutional strengthening program financed by the GEF. CTF Financing will support the replacement refrigerators and air conditioners, and supports the provision of vouchers for low income consumers, as well as credits for low income consumers to pay for more efficient appliances, and will be implemented by NAFIN.</p>				
	<p>PROJECT</p>	<p>IMPLEMENTERS</p>	<p>CTF FINANCING (USD Millions)</p>	<p>TERMS AND CONCESSIONALITY</p>
	<p>3. Mexico Renewable Energy Program Approved: 17 Nov 2009</p>	<p>IDB</p>	<p>53.38</p>	<p>Terms not disclosed: funds to support individual projects as subordinated debt, guarantees, and/or equity, approved on case by case basis</p>
<p>OBJECTIVES, PRIORITIES AND APPROACH: CTF resources will be directed towards an envelope of 2 – 4 private sector projects using wind, solar, biomass, geothermal, or small-scale hydro technologies leading to the installation of 350 – 450MW of renewable energy (RE). The individual projects will be approved on a case by case basis. The first project is the <i>250.5 MW Euros Project</i> by Accione, Spain in the Ventosa region (\$30 million from CTF) potentially one of the biggest in Latin America (167 wind turbines of 1.5 MW each). IFC and IDB’s environmental and social due diligence to avoid negative impacts of wind development are emphasized, as project sites are close to migratory bird corridors and indigenous people’s lands. \$100,000 in CTF grant finance will be used to create a Development Plan for local communities in Oaxaca, who are experiencing impacts from construction of multiple private wind farms (including CTF recipients). An additional \$100,000 in grant finance is sought to assess the economic benefits of developing a wind industry in Mexico that quantifies direct and indirect benefits to the economy as a whole. These projects are embedded in public and private sector technical assistance activities to address regulatory, technological and R&D shortcomings (as described in the CTF plan) and build capacity + knowledge in CRE (the regulator), SENER, NAFIN, and SEMARNAT (the environment department). Studies will include: (a) the potential to attract programmatic carbon finance to RE and energy efficiency (EE) activities (\$800,000 in CTF grant finance); (b) methodologies for the regulator to calculate RE and cogeneration self supply project prices without penalizing intermittency; (c) pricing methodologies and conditions for the use of transmission and distribution systems by RE producers; (d) biomass, geothermal and cogeneration potential in Mexico. \$300,000 in CTF grant financing will be used to strengthen NAFIN’s RE project preparation capacity.</p>				

	PROJECT	IMPLEMENTERS	CTF FINANCING (USD million)	TERMS AND CONCESSIONALITY
	4. Mexico Urban Transport Transformation Program Approved: 15 Oct 2010	IBRD Banco Nacional de Obras (BANOBRAS)	200.00	Not explained in publicly disclosed information.
OBJECTIVES, PRIORITIES AND APPROACH: This program will seek to build institutional capacity at the state and national levels to build integrated transit systems, as well as the introduction of more low carbon bus technologies and the scrapping of buses. Target cities are expected to include Puebla, Monterrey, León, and Ciudad Juarez. States and cities will be supported to develop integral urban mobility plans that include climate change considerations, plans for modernizing traffic management and allocating space for transport, and support for urban transport institutions and local government staff in relevant areas. Second, it will finance mass transit corridors and ancillary investments including preparation, design, construction, supervision, maintenance and rehabilitation of roads for trunk lines and feeder roads. Third it will finance low carbon rolling stock buses, and systems to scrap old buses using inefficient outdated technologies by helping develop institutions to manage vehicle scrapping programmes. It will also support overall technical coordination of activities within the cities.				
	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	5. Mexico Private Sector Wind Development (EdF La Ventosa) Approved: May 11, 2009	IFC with Eléctrica del Valle de México (EVM) – subsidiary of EdF and IDB (CTF money managed by IFC)	15.60	Not explained in publicly disclosed information.
OBJECTIVES, PRIORITIES AND APPROACH: A 67.5 MW wind farm in the La Ventosa region of the State of Oaxaca, Mexico developed by a subsidiary of EdF at a cost \$190 million. EVM, IDB and IFC have joined forces to each consider providing up to the Mexican peso ("MXP") equivalent of US\$21 million in senior debt to the Project. Project signed 27 August 2010. The Project is being developed under Mexico's self-supply framework and will supply its energy to four subsidiaries of Wal-Mart de Mexico under 15-year self supply power purchase agreements. The private sector RE envelope documentation alludes to emergent social issues associated with the project.				
	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
III. Turkey	6. Turkey Private Sector Sustainable Energy Financing Facility (TurSEFF) Approved: 15 Jan 2010	EBRD Implemented through Akbank, Denizbank, Garanti, and Vakıfbank.	43.25 + 6.75	Not explained in publicly disclosed information.
OBJECTIVES, PRIORITIES AND APPROACH: Partnership between EBRD and 4 local Turkish banks, to enable them to lend up to \$5 million for large scale commercial sustainable energy projects, based on the EBRD Sustainable Energy Financing Facility (SEFF) model deployed in Russia, Georgia, Romania, Ukraine and Bulgaria. Borrowers will be subject to normal credit checks, and supported by a team offering technical assistance and borrowing advice from the local bank free of charge. Technical assistance financed by EC IPA 2009 and \$2.4 million CTF grant. It is expected to build lasting capacity within local financial institutions to support the development of long term financial products for EE and RE.				
	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	7. Turkey Commercializing Sustainable Energy Finance Program (CSEF) Approved: 17 Sep 2009	IFC and EBRD joint initiative	21.70	Not explained in publicly disclosed information; documentation states that sub-projects will have a term of up to 15 years.

<p>OBJECTIVES, PRIORITIES AND APPROACH: Seeks to work with financial intermediaries to develop small renewable energy and energy efficiency programs of \$0.3- 2.0 million in loans / leases, primarily in the small and medium enterprise (SME) sector, but also in the commercial, residential and municipal sectors. It will work in particular with leasing companies to help them finance EE/RE technologies including cogeneration units, boilers, compressors, chillers, control systems, EE motors. It proposes to work primarily with FIs owned by local conglomerates which have control of the leading industrial establishments in Turkey so that insights from programs can be transferred across their operations. Program includes a technical advisory services component aimed at raising awareness and capacity amongst FIs to help them become active in EE financing, credit analysis and product support; and encourage them to establish an EE support unit, and collaboration with the IBRD project which includes development of a “best practice manual in financing of energy efficiency”. The proposed projects would not be accepted by the Turkish financial institutions, if the concessional finance portion was missing.</p>				
PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY	
8. Turkey Private Sector Renewable Energy and Energy Efficiency Project Approved: 28 May 2009	IBRD Türkiye Sınai Kalkınma Bankası A.Ş. (TKSB) and Türkiye Kalkınma Bankası (TKB) Guarantor: Republic of Turkey	100.00	Harder concessional loan: 0.75% service charge per annum, 20 years with 10 years grace (plus 0.1% MDB fee per annum on the undisbursed balance). Loans will have at least 7 years maturity (not less than 4 years for leases).	
<p>OBJECTIVES, PRIORITIES AND APPROACH: A credit facility for Sub-loans and Financing Leases to finance RE (wind, small hydro (>10MW), geothermal, and emerging technologies of solar and biomass) and EE sub-projects. Use of CTF resources will be allocated by FI, tailored to project needs and overall be 20% of total project cost, though not restricted to particular technologies. Loans can only be made to private entities (more than 51% stake private) have at least fifteen percent (15%) Sub-project Sponsor equity financing for Renewable Energy Sub-projects, and at least twenty five percent (25%) Sub-project Sponsor equity financing for the Energy Efficiency Sub-Projects; generate a financial rate of return of at least eight percent (8%). Complemented by capacity building through training to enhance understanding of EE and RE investments; due diligence techniques, including financial, technical, social and environmental assessment – appraisal; assessment of main benefits, cash flows, investment needs; improved understanding of energy audits, assessing energy savings potential; strengthen marketing teams to develop and maintain a sustainable energy efficiency pipeline; increased awareness of EE projects and replication options; customized financial products and risk management tools; increase investor confidence in RE technologies especially new technologies such as solar and biomass; accelerate the deployment of wind energy by moving up the cost curve to help Turkey meet its 20,000MW by 2020 target is. A UNDP-GEF project will complement the program. Associated advisory services will also include support for the development of an energy efficiency law.</p>				
IV. South Africa	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	9. South Africa Energy Efficiency Program- Approved: 5 Oct 2010	AfDB + IFC	15.00 Investment: 13.15 Advisory services: 1.00 implementation and supervision: \$.850 Split evenly between AfDB+IFC	Not specified in publicly available documentation. States that concessionality will be tailored to project
<p>OBJECTIVES, PRIORITIES AND APPROACH: Work with financial intermediaries and leasing agents to finance EE equipment investments. Emphasizes need for advisory services for financial intermediaries and end users to increase familiarity with such programs. Identifies potential markets in the industrial and mining sectors for a range of end use technologies, with financing need of well over \$100 million over the next 3 -4 years as electricity prices increase. The CTF funds would be used for individual loan / lease projects of \$0.3-5.0 million for EE in private industrial companies/SMEs for 10 -15 years with appropriate tenors for sub-loans; structured to avoid negative impact end users cash flows as energy savings could off-set financing costs following the payback period. EE sub-projects must be for new projects to renovate or refurbish a corporate/SME sector; financing may be as sub-loans invested in fixed assets decreasing energy consumption of the sub-borrower or utilizing RE; EE sub-projects must generate at least a 20% decrease in energy consumption per unit.</p>				
PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY	

	10. South Africa Sustainable Energy Acceleration Program Approved: 5 October 2010	AfDB + IFC	85.00 Investment: 83.00 Advisory services grant: 1.0 Implementation and supervision: 1.0	To be tailored to project needs to provide minimum concessionality. Not specified in publicly available documentation.
OBJECTIVES, PRIORITIES AND APPROACH: Given delays in implementation of South Africa's Renewable Energy Feed in Tariffs (REFiT), the project will help interested companies generate/implement megawatt sustainable energy projects, including RE for self supply purposes. Will also help offset first mover costs for participants in the RE-FiT once it is operational. This is intended to support more rapid scale-up of Sustainable Energy Independent Power Producers and the creation of a Sustainable Energy (SE) sector in South Africa. Focus on solar power (both PV and CSP), wind power and co-generation. States that only a few projects are ready for financing immediately. CTF funding would likely be applied as low cost, long tenor senior loans alongside the MDBs. Includes selected capacity building, monitoring of policy and regulatory reforms, and proposes to build government and civil society awareness of the need for reforms and support specific efforts to build renewable energy advocacy and policy making capacity around reforms including by supporting "neutral" associations (eg. wind or solar) to gather, aggregate and share real time information on the sector. Advisory services will complement the IFC Africa Renewable Energy Access Advisory Services 3-year, \$3 million program to be piloted in South Africa and then rolled out to other sub-Saharan countries. Projects will not be selected through formal competitive process as "this would likely incur delays, and the MDBs do not believe there are enough projects that are ready to justify such a process."				
	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	11. Eskom Renewable Energy Programme Under deliberation – to be reviewed at Nov CTF meeting	IBRD and Eskom	350.00 (IBRD 250 + AfDB 100)	Not specified in publicly available documentation.
OBJECTIVES, PRIORITIES AND APPROACH: The program will finance the 100 MW Sere Wind Farm (100 MW) in the Western Cape as phase I of a project at a site with 200MW of capacity. It will comprise forty to fifty 1.5 to 3.0 MW wind turbines sized for moderate to low wind regime as the site has a "moderate" wind resource and expected to have a load factor of 25 percent, and located 40-kms from a 132-kV sub-transmission line. It will also finance a 100 MW concentrating solar thermal based on Eskom's tower and mirror design using for the Upington Concentrating Solar Power (CSP) plant to operate as a baseload unit. It is expected to achieve a 60-65 percent annual load factor using molten salt as a thermal circulating fluid and storage medium. Its capital cost is estimated at US\$600 million, excluding contingencies. Given uncertainties around the technology, and the need to incorporate the latest technological developments based on global experience in the plant design, contingent financing of about US\$150 million has been included. A technical review of the preparatory work completed by Eskom and the preliminary design is to be completed.				
V. Ukraine	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	12. Ukraine Renewables Direct Lending Facility Approved 12 Oct 2010	EBRD	27.60	Information not available through EBRD website or CIF websites
OBJECTIVES, PRIORITIES AND APPROACH: Financing for all forms of RE projects including hydro, wind, biomass, solar. Projects for the production / distribution of biomass fuel may also be considered (but on corporate loan basis rather than project finance). CTF co-finance to cover up to 20% of project costs. It will be supported by a comprehensive technical assistance program designed to provide both institutional and project support, including with \$8.5 million in support from the GEF for policy dialogue to advance legislative and regulatory reforms to promote RE, as well as information dissemination and coordination between government agencies and developers.				
VI. Vietnam	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	13. Sustainable Energy Finance Program (V-SEF) Approved: 30 Sep 2010	IFC In country partners not specified	30.00	Exact rates not specified but proposes: 1) a lower interest rate CTF loan 2) a market interest rate loan with up to \$2.5 million in aggregate convertible to grants if the bank meets eligibility and disbursement standards

	OBJECTIVES, PRIORITIES AND APPROACH: Target 3-4 commercial private banks and/or leasing companies, and address existing market barriers through advisory services, in coordination with IBRD. Focus of the program is on the emergent leasing sector in Vietnam which is engaging with SMEs on \$50,000 to \$100,000 investments, as leasing keeps EE investments off balance sheets and makes smaller investments more attractive. IFC will lend up to \$100 million leveraged by up to US\$28 million in CTF funds; combined these will be lent to individual projects of \$0.2-3 million in EE and possibly small-scale RE primarily in private industrial companies/SMEs for up to 14 years. Programs will also support financing provided to the commercial, residential and public sectors. It seeks to incentivize a faster rate of disbursement of sustainable energy loans without compromising quality standards. Will coordinate with / complement IBRD program which will use GEF resources to build policymakers capacity and establish labeling and standards for industrial equipment. Will coordinate with national TV network to introduce a regular program to disseminate information on good energy management practices and clean energy options to wider public. May also support EE benchmarking in energy intensive sectors to raise standards.			
VII. Philippines	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	14. Renewable Energy Accelerator Program Approved: 30 Sep 2010	IFC	20.00 Investment: 19.00 Advisory services grant: 0.5 Implementation and supervision: 0.5	Not disclosed / specified in publicly available documentation.
	OBJECTIVES, PRIORITIES AND APPROACH: Establish a series of direct project level interventions in the wind, biomass and solar sectors, in anticipation of the implementation of the Feed in Tariff program. Will be complemented by a US\$10 million CTF allocation for the Philippines Sustainable Energy Finance Program (“PSEFP”). Bulk of the CTF financing alongside IFC loans in a subordinated senior debt, but would also consider products e.g. mezzanine/ equity / subordinated loans. Proposes some capacity building activities to assess and bridge knowledge gaps; develop tools to support market development e.g. a project developers guide; develop and implement training modules. It will also explore biomass, solar and wind resource studies (to identify hot spots), and tools to support standardization and quality assurance.			
VIII. Thailand	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	15. Sustainable Energy Finance Program Approved: 5 Oct 2010	IFC	30.00 Investment: 28.5 Advisory services grant: 1.00 Implementation:0.5	Not disclosed / specified in publicly available documentation.
	Will work with local financial institutions, ESCOs, global banks, and leasing agencies to support EE and RE financing through the private sector on a programmatic basis. By working with local institutions can support projects to small for the IFC to finance directly. Will seek to increase private sector involvement in development and financing of EE/RE/ESCO investments, and provide clean and EE equipment in the corporate, SME, commercial, residential and municipal sectors. Advisory services will include efforts to support credit analysis, marketing, financial product development, reporting methodologies for EE and RE; Market Awareness Raising incl. conferences, seminars, workshops and EE/RE/ESCO promotional campaigns in partnership with relevant industry associations and market players; End User Support / ESCO including assistance in obtaining funding/ structuring projects. Training in EE/ RE/ESCO finance will be conducted, a publication of a “best practice manual in financing of EE/RE/ESCO” produced for market stakeholders. Will also work at the project level, including by performing an energy audit for prospective EE customers to help build a pipeline of projects for financing.			
	PROJECT	IMPLEMENTERS	CTF FINANCING (USD Millions)	TERMS AND CONCESSIONALITY
	16. Thailand Renewable Energy Accelerator Program Approved: 2 June 2010	IFC	40.00 Investment: 39 Advisory services grant: 0.5 Implementation: 0.5	Not specified in documentation; to be determined on case by case basis
	Series of direct project level interventions in the nascent solar and wind sectors. Will also help address existing market barriers through advisory services. CTF likely to be deployed as senior debt alongside IFC and other to catalyze commercial debt, but IFC will retain the flexibility to use other products such as subordinated loans, mezzanine or equity, depending upon the structure of each project. Most projects will be limited to the 10 year period of the RE “adder” offered in the Thai electricity regulatory framework, but a smaller tranche may be extended longer for repayment. Advisory services may include a white paper for the sector stakeholders exploring RE intermittency and its effect on the Thai grid; building local capacity of Project Development, Manufacturing, EPC and O&M contractors; workshops and training for market actors; assessment and mitigation of key risks and solar and wind resource studies (identification of hot spots); tools for standardization and quality assurance; supporting project design, procurement, construction – including contract and legal support to solar and wind developers; helping developers establish environmental and social standards assessments and action plans, including for cumulative impacts.			

ANNEX II: REVIEW OF THE CTF INVESTMENT PLANS

March 2010 CTF INVESTMENT PLANS			
	Colombia	Indonesia	Kazakhstan
Baseline and Objectives	Framed by Colombia's National Climate Change Planning Policy and mitigation analyses completed by the Energy Mining and Planning Unit. While Colombia's energy mix is relatively low carbon due to the role of hydropower, additional demand is met by fossil fuels – an increase in coal use of 150% is predicted. Transport represents 12% of emissions source of emissions growth. Plan seeks to reduce national electricity consumption by 5,000 GWh, and displace 1.6 MtonCO _{2e} per year. It will expand the reach of the Bogota integrated transport system, and expand strategic transport programs to 7 cities in Colombia, with an expected reduction of 2.8 MtCO _{2e} per year.	Energy, industry, and land use change cause Indonesia's significant global GHG contribution. Energy use is the second largest source of emissions, and growing fastest. Plan framed by Presidential decree on National Energy Management which sets RE targets, and Indonesia's pledges to reduce emissions by 26% by 2020. Proposes to double installed geothermal capacity which will reduce emissions by 5.1 million tons per year, and scale up EE and RE to deliver. Future phases may explore low carbon transport and other RE options.	Kazakhstan is the largest emitter in Central Asia with an energy intensive economy and a net oil exporter and an energy sector dominated by low priced fossil fuels. Plan framed by its 2007 GHG inventory and 2 nd national communication to the UNFCCC which shows that energy activities account for 80% of emissions. Plan identifies opportunities to save emissions in sectors including oil and gas production, transport, steel, cement, residential but finds that 71.2% of mitigation potential is in the energy sector (electricity + heat). Plan does not specify the scale of expected emission reductions from the proposed interventions.
Priorities of Clean Technology Investment Plans	Sustainable transport: support policy and regulatory measures to: accelerate sustainable transport programs in 7 Colombian cities; support travel demand management; optimize links between public, bicycle, rail transport options and public space in Bogota; factor low carbon technologies (e.g. buses into all programs); consolidation of a scrapping policy to eliminate old buses; Energy Efficiency: address knowledge, financial and regulatory barriers to efficiency by working with 2-3 biggest banks to develop EE financing; educating end users and scaling up demand for equipment upgrades in industrial, residential and commercial sectors.	Geothermal Power: large-scale Investments led by the public sector: upto 260 MW by Pertamina; up to 250 MW by PT PLN; 300 MW with private participation through risk mitigation with the prospects also for some private sector investments Energy Efficiency and Renewables Financing: risk sharing and mezzanine financing with state and private banks to increase financing for SMEs; direct lending to large end users for EE/RE; technical advisory services to local banks to support investments in EE/RE. Promotion of RE will focus in particular on biomass energy options.	Renewable Energy Development (i) 200 MW new / restored small hydro (upto 25 MW units); (ii) 100 MW wind +solar power; (iii) strengthening distribution through the Kazakhstan Sustainable Energy Financing Facility Associated Gas Utilization/Fuel Switch/Flaring Reduction: electricity generation from associated gas from oil pipelines to avoid flaring. Consistency with CTF criteria for natural gas switching projects is not discussed, and the objectives / impact of proposed program is not clear. District Heating System Modernization through equipment /management upgrades and consumer engagement in partnership with municipalities. Energy Efficiency: support local financial institutions by providing funding; sharing risk; building capacity to assess EE finance risk
Financing	CTF: \$150 million = \$100m Urban Transport, \$50m EE MDBs: \$725.8 million = IDB: \$535.8m = \$400m Transport, \$135.8m EE WB-IBRD: \$100m Transport IFC: \$90m EE Domestic: \$1,820million = GoC: \$380m = \$340m Transport, \$40m EE Bogotá DC: \$150m Transport Municipalities: \$240m Transport Private Sector: \$1,060m = \$960m Urban Transport, \$290m EE	CTF: \$400 million= 125m geothermal (ADB) \$125m geothermal (IBRD); \$50m IFC/ADB geothermal advisory; \$50m IFC EE/RE; \$50m ADB EE/ RE. MDBs: 1,075million ADB: \$500m geothermal; \$250m EE/RE IFC:250m EE/RE IFC/ADB joint advisory: \$75m <i>Given the proliferation of donor activities focused in the areas identified, special efforts may need to be made to avoid duplication.</i>	CTF: \$200 million = \$73m RE, \$56m APG/Fuel Switch, \$50m District Heating, \$21m EE MDBs: \$534 million = \$166m RE, \$197m APG/Fuel Switch, \$121m District Heating, \$50m EE Others: \$535 million = \$102m RE, \$70m APG/Fuel Switch, \$334m District Heating, \$30m EE

Electricity Sector Interventions			
Energy Planning	Notes that studies on mitigation abatement potential have been completed with an emphasis on efficiency. Focuses on the central challenge that distribution utilities have a disincentive to foster efficiency.	Includes a comprehensive overview of relevant laws and initiatives in the country, including the national action plan on climate change, but does not address the processes and frameworks by which PLN plans for and meets energy demand. Links / complementarity between proposed investments in RE and EE could be elaborated.	Program for energy development 2030 includes energy self-sufficiency targets, next exporter status, inclusion of renewables. Sustainability 2024 strategy aims to halve energy intensity by 2020. Little discussion of the framework / processes for energy planning or how energy efficiency and renewables would fit that framework.
Energy Efficiency (EE) Policy Regs.	2001 Law sets a framework for efficiency policies and regulations. UPME efficiency standard labeling and technical standards lay groundwork. A national energy efficiency commission has been established. Recognizes that past national programs have not coordinated to manage technical, informational and financial aspects. Proposes to use CTF resources to overcome these barriers, strengthen institutional frameworks, foster best practice in efficiency regulation, and examine options for aligning regulatory incentives with efficiency.	References the national energy policy, the energy law, the master plan on energy conservation. Acknowledges limited progress in implementing these frameworks. Processes for collaborating across ministries (esp the Ministries of Finance, Energy, and Industry) to provide comprehensive support for EE may support achievement of program objectives.	Energy efficiency law is under development; the need for such a law, supporting legislation, and an action plan for efficiency is noted although these are not yet included in proposed activities. District heating project may inform practice (and in turn regulations) in other states over time; the need to address split incentives for municipalities and utilities recognized.
Renewable Energy Policy + Regulations	N/A	Provides a comprehensive review of the many pieces of supporting legislation for geothermal and RE including the 2006 Energy Law, the Climate Change Road Map, the 2009 Electricity Law, and associated regulations on distributed and medium renewable energy products. Discusses the development of new mechanisms to drive investments including feed in tariffs.	Renewable energy law enacted in 2009. MDBs are supporting the development of implementing legislation including Feed in tariffs and grid access consistent with international best practice. Plan specifies maximum range for feed in tariff of 20KZT/kWh.
Pricing	Suggests that the electricity pricing and regulatory regime in Colombia is generally conducive to efficiency – notes that many actors have pursued opportunities, but to a limited degree. References the need for pricing and regulatory reform to support renewable energy programs, which could be a future CTF program.	Recognizes that pricing systems within Indonesia do not allow for full cost recovery. Notes that govt efforts to “rationalize” energy tariffs are underway, and that this is a high risk to the effectiveness of the program as a whole. Notes that the final-in tariff for geothermal energy is still being decided, and whether it attracts private investment remains to be seen.	Notes that energy prices are comparatively low, and this has impeded past projects. The recently announced increase of the heating tariff in Almaty and indicates that Kazakhstan’s regulatory agency is willing to allow the heat supplier to cover the production costs through the tariffs. No discussion of process/ steps taken to move towards competitive market structure.
Subsidies	Discussion of cross subsidies between industrial and low income consumers within Colombia wrt residential energy efficiency program components. No discussion of subsidies for fossil fuel energy within the Colombian economy.	Recognizes that energy markets are distorted by subsidies, and notes efforts that govt has already taken to begin to correct this situation e.g. the elimination of subsidies for oil for power generation. Does not yet address the underlying subsidies that underpin state owned coal and oil enterprises. A clear multi-stakeholder process to address these issues might be a helpful complement to proposed activities.	Limited discussion of existing subsidy structures or steps one might take to address and reconcile these.
Executive	Acknowledges the need for better	Notes that while MoE has a mandate to	Limited discussion of the various roles

capacity	coordination across agencies. Proposes activities that will support the development of technical skills, and to address knowledge barriers.	promote labeling, standards for appliances, audits, training for energy managers and public awareness, capacity to implement programs efficiently is limited. Increasing the profile and visibility of these programs is important if programs are to succeed.	and responsibilities of various government agencies, and where capacity may be strengthened. Plan notes a need to coordinate with other agencies in the sector given that Min of Environment is the point of contact; steps to this end not yet outlined.
Regulatory Capacity	Acknowledges challenges of regulating distribution utilities to incentivize energy efficiency. The proposed program will enhance the regulator's understanding of international best practice in this area, and support efforts to put in place regulatory approaches that better support efficiency.	Notes the establishment of MEMR to support implementation of the Geothermal Law. Efforts to establish an independent regulator in Indonesia have stalled after rulings on privatization. The terms on which new generation is contracted, however, requires independent oversight and transparency, and some mediation between various policy and legal directives is needed. This would support a timely, high quality and cost effective completion of proposed new investments.	Notes the steps the regulator has taken in increasing heating tariffs. EBRD's legal and regulatory dialogue with Ministry of Energy and Mineral Resources (MEMR) on RE and EE mentioned. Limited discussion of the capacities / institutional context for the regulator though it seems to be playing a significant role.
Transparency	Limited attention, though the plan recognizes the need to improve information sharing on energy efficiency options. The plan would be strengthened, however, by a discussion of how improvements in operational transparency of the distribution utilities (and of the regulator) and independent scrutiny of periodic reports on performance, for example, might support efficiency programs.	Recognizes the importance of transparent and competitive procurement; does not yet indicate how these issues will be operationalised though this will be central to program success. Useful to learn the lessons of the coal fast track program wrt need for good procurement practices and transparency about program implementation. Further, efforts to enhance transparency around pricing and subsidies may support objectives of addressing subsidies and rationalizing prices.	The lack of transparency in the business environment in Kazakhstan is recognized as a significant challenge. There is some attention to the need to share information about the impact of the district heating scheme to facilitate scale up, but in general there could be more attention to issues of transparency that could enhance program implementation such as the terms and procurement processes for contracting new infrastructure, prices, etc.
Public + consumers	Notes the need to educate end-users on EE, either by directly educating consumers or training technicians and industry groups who will in turn educate consumers. More careful attention to individual consumer needs will be important in the design of the residential EE program; public participation in program design may support more effective program design. Consumer protections in extending credit to residential users to improve efficiency may need consideration.	Limited discussion of the role that citizens, consumers and the public in program design and implementation. There is scope for creative collaboration here to enhance governance conditions that will support program implementation. Engaging consumers in informed efforts to address pricing / subsidy related issues will be useful, including to mitigate potential negative impacts for the poor. There is strong civil society interest in understanding the impact and progress made through the CTF.	Plan includes an annex on the result of consultations with NGO stakeholders on the development of the plan. The need to inform and engage consumers in energy efficiency programs (esp. the district heat program) is mentioned.
Utility capacity	Need to work with distribution utilities to address efficiency opportunities, particularly in the residential sector noted.	Partnership with PLN to develop geothermal resources and uptake of renewable energy has the potential to significantly enhance internal capacity. Internal incentives wrt energy efficiency	Discusses the need to build the capacity of district heating utilities on energy efficiency, role of other utilities including in RE programs not yet discussed.
Local Technology Centers	Discusses the need to build up local technical capacity and skills to identify and implement EE projects e.g. efficiency audits.	The need to build up local skills on energy auditing and efficiency noted; collaboration with ESCOs also noted though this industry not yet well developed.	The Kazakhstan Sustainable Energy Finance Facility will bring international (German, Russian) expertise on renewable energy development together with financing from local banks; less emphasis on local capacity on technology deployment.

GHG Management	Not discussed; corporate greenhouse gas accounting programs might usefully complement the industrial energy efficiency program proposed.	Not discussed	Not discussed.
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This review is based on the Clean Technology Fund Investment Plans that have been publicly disclosed on the Climate Investment Fund website as of 10 March 2010. Dennis Tirpak, Senior Fellow in WRI's Climate and Energy Program collaborated in reviewing the Indonesia Plan.

December 2009 CTF INVESTMENT PLANS			
	Philippines	Thailand	Vietnam
Baseline and objectives	Framed by the Philippine Energy Road Map. GHG emissions have grown due to increased use of coal, and from transport as a result of a 6% motorization rate. At the same time, poverty has also risen. The plan supports the National Environmentally Sustainable Transport strategy. Also supports RE objectives including 100% increase in RE capacity. The plan is based on two scenarios evaluated by the World Bank: one proposing a 10% improvement in EE and a doubling of RE; the other making a more ambitious progress on RE, EE, and sustainable transport. Also set in the context of Philippines attempts at sector reform.	Framed by the 2008 - 2012 National Strategy for Climate Change Management developed by the Office of the Prime Minister. Electricity (37%) and transport (26%) are the key sources of GHG emissions in Thailand. An Alternative Energy Plan, a Transport for Sustainable Development plan, and the Bangkok metropolitan climate policy provide the context for the plan. Notes that Bangkok is the center of economic growth for the country, and this is raising environmental and livability challenges, and emissions per-capita are comparable with Europe. Identifies need to increase use of alternative energy, improve conservation, scale up public transport, and improve energy efficiency in manufacturing.	Framed by National Program to Respond to Climate Change. Vietnam's emissions are growing faster than GDP (8% annually between 2003-2007), due to expansion of heavy industry & motorized transport, increased use of fossil fuels for power, and increased energy intensity (50% since 1998). Under BAU, energy demand estimated to double and energy-related GHG emissions to triple between 2010 and 2030. Electricity generation (248%), transport (214%) and industry (163%) are the leading sources of energy consumption. Notes potential to reduce Vietnam's national energy consumption relative to BAU by 5-8 % by 2015, with 5% RE capacity by 2020 and public transport accounting for 50% of passenger-kilometers travelled by 2020.
Priorities of Clean Technology Investment Plans	-Reform of rural cooperatives in partnership with the Development Bank of the Philippines so they use RE Energy efficiency through demand side management -Solar Power development facilitated by net metering + enhanced energy efficiency, particularly in the Visayas and Mindanao -Bus rapid transit in Cebu and Metro Manila	-Financing for the private sector to implement RE projects (esp. biomass and wind) through the state owned Bank of Agriculture and Agricultural Cooperatives and EXIM Bank -Financing for the state utility EGAT and the provincial distribution utility PEA to make long term investments in RE -support private financial institutions to support RE/EE/ cleaner production in the private sector -Urban transformation in Bangkok through EE and BRT	-Energy Efficiency: industrial energy efficiency and ESCOs -Transmission system modernization (high voltage lines and smart grid technology) -Capitalisation of a financing Mechanism for private sector RE, EE and cleaner production programs - Strengthen urban light rail transport systems in Hanoi and Ho Chi Minh city by integrating them with bus routes and supporting infrastructure
Public Financing	CTF: \$250m = \$75m for RE; \$50m Transport; \$125m RE/EE MDBS: \$1050 (\$750m IBRD; \$400m ADB) RE: CTF: \$75m (World Bank) + \$250m IBRD + \$250m IFC + \$180m Phil Govt Urban Transport: CTF \$50m; \$250m IBRD; \$50m Phil Govt \$125 million RE/EE: CTF \$125m; GoPhil \$50m; ADB \$400m	CTF: \$300 m = \$160m public sector advancement; \$ 60m private sector advancement; \$ 70m urban transformation MDBS: \$500m = IBRD \$160m public sector + \$70m urban transformation; IFC: \$270m private sector	CTF: \$250 m = \$50m industrial EE, \$50m transmission, \$50m urban transport, \$30m Smart Grid, \$70m Clean Energy Financing Facility MDBs: \$1,180 million (ADB: \$300m = \$40m industrial EE, \$260m transmission, \$500m urban transport; IBRD: \$30m Smart Grid; IFC: \$70m Clean Energy Financing Facility) GoV: \$265 million = \$25m industrial EE, \$40m transmission, \$100m urban transport, \$100m Smart Grid
Detailed Review of Plan Interventions Targeting the Electricity Sector			
Energy Planning	Presidential task force on climate change is developing road maps for	Discussion of the Alternative Energy Development Plan and the need to	The Power Master Development Planning process which seeks to match

	mitigation and adaptation. Overarching objectives to use less energy; use it more efficiently; develop indigenous resources and attract private investment are mentioned, but there is no discussion of the planning framework (or lack thereof) in the Philippines.	reconcile this with the mainstream Power Development Planning processes	demand and supply is mentioned.
Energy Efficiency (EE) Policy Regs.	Makes reference to the energy efficiency conservation plan which seeks to establish a legal framework for EE, DSM in all sectors, and establish baseline data and benchmarks. Also references the National Energy Efficiency Conservation Program. While the lack of effectiveness of these laws is referenced, there is little discussion of steps that could be taken to enhance implementation.	Plan set in the context of the Energy Conservation and Promotion Act, and builds on the experience of the EGAT DSM office. References the establishment of the Energy Conservation Fund Promotion Fund as well. Also notes that a fund to support ESCOs has been established. Issues of split incentives for EGAT and the limits to the role the DSM office can play are not addressed in much detail.	2003 Decree on Efficient Utilization of Energy and Energy Conservation and 2006 Vietnam National Energy Efficiency Program, which targets 3-5% savings from BAU in 2006-2010, and 5-8% in 2011-2015. Energy Efficiency and Savings Law expected in 2010. Limited impact of energy efficiency laws to date is noted as a risk. Links between the government proposed EE funds and the proposed private finance mechanisms are not elaborated.
Renewable Energy Policy + Regulations	Jan 2008 RE act enacted in 2009 presents the overarching framework of the plan. Capacity to implement the tenets of the act or the implications of the implementing regulations are not discussed even though significant uncertainty as to the details of the RPS, feed in tariffs, net metering and RE trust fund remain. Reference made to World Bank support for clarification of these issues. The Biofuels act of 2006 is also mentioned.	The Alternative Energy Development Plan seeks to scale up the role of renewable energy. The Small Power Producers Program and Very Small Power Producers programs provide further financial incentives for RE.	2007 National Energy Strategy prioritizes renewable energy and sets targets of 5% by 202 and 11% by 2050. 2001 Renewable Energy Action Plan RE law has been proposed, and feed in tariffs and other incentives being considered.
Pricing	Reference is made to the competitive electricity markets that have been introduced. Feed in tariffs that will enhance viability of RE also mentioned. Little discussion of the fact that electricity prices in the Philippines are quite high by global standards, but this has neither incentivized efficiency nor the uptake of renewables.	Mentions that energy efficiency measures might be facilitated by some pricing reform.	A non-negotiation standardized power purchase agreement (SPPA) and a tariff formula (the ACT) for small RE projects selling to the grid. Implications of transmission pricing for viability of smartgrid mentioned.
Subsidies	RE act establishes a trust fund financed by levies on fossil fuel use. Limited other discussion of implications of subsidies for fossil fuels.	Little discussion of subsidies for fossil fuels within Thailand.	The Plan does not discuss current fossil fuel subsidies. Vietnam historically has provided subsidies on imported fuel to maintain a stable low price, however. As of December 2009, Vietnam will provide subsidies to oil product distributors, and if world crude oil prices rise by more than 12%, may intervene to help stabilize the market through either subsidies or lower taxes.
Executive capacity	Notes establishment of the RE management bureau. Little discussion of the capacity of the executive to advance proposed programs	Reference made to the Ministry of Energy as the key actor for the sector. Institutional context for its operations receives limited discussion, though links with the Ministry of Environment are referenced. Relies on the Ministry of Finance to oversee contributions to funds to scale up RE/EE investments.	Discussion of the role that the Ministry of Investment and Trade plays in overseeing the sector. Limited discussion of its capacity to advance sustainable energy programs.

Regulatory Capacity	Little discussion of the role of the National Electricity Regulator though it is relevant for most components of the plan.	Discusses the mandate of the Electricity Regulatory Commission to protect consumers, oversee tariffs, and administer a public benefit fund. Less emphasis on its mandate to support energy efficiency, or its capacity to implement this mandate with independence in practice.	A new electricity regulatory authority is being put in place, in part to “unbundle” the tariff system such that NPT revenues are directly linked to the amount of power it transmits between generators & distribution companies. MOIT has the regulatory authority to issue best practices guidelines and draft standards.
Transparency	Limited discussion of transparency, although reference is made to several key implementing regulations that still need to be developed, the need to reform rural cooperatives, and other objectives that would be enhanced by transparency.	Limited discussion of transparency even although it proposes working with state financial institutions to establish new funds whose operations and impacts should be monitored.	Limited discussion of transparency. The ADB is providing technical assistance (TA) raise awareness of EE, which is also a goal of the National Energy Efficiency program is to enhance public awareness.
Public + consumers	Little attention to these issues in the plan. ADB RE/EE program seeks to raise consumer awareness of efficient energy use by both engaging them in program implementation and through education. IBRD RE program does not discuss these issues. Yet citizens / consumers may be partners in efforts to enhance the accountability of rural cooperatives.	Emphasizes need to change public behavior, and reference is made to the role of the regulator in protecting consumers. Limited discussion of the role that civil society may play in program implementation or oversight.	The National Energy Efficiency Program will build public awareness of energy conservation. In general, discussion of stakeholder engagement in the development of the plan is limited.
Utility capacity	Need to address capacity of rural cooperatives addressed; interactions between new players in power sector generation and existing utilities given limited attention.	Strong focus on Thailand’s utilities and the need to provide incentives for them to pursue low carbon options consistent with the AEDP	The need to provide incentives to utilities to implement RE/EE is mentioned. Efforts to reform the National Power Transmission Company (NPT) to support renewable are discussed.
Local Technology Centers	Not discussed		Not discussed.
GHG Management	Not discussed	The Thailand Greenhouse Gas Management office has been established in the Ministry of Environment.	Not discussed.
<p>This review is based on the Clean Technology Fund Investment Plans that have been publicly disclosed on the Climate Investment Fund website as of 1 December 2009.</p>			

OCT 2009 CTF INVESTMENT PLANS			
	Ukraine	South Africa	Morocco
Baseline and objectives	A business as usual (BAU) scenario is set against Ukraine's Energy Strategy. Plan based on Ukraine's targets under the Kyoto Protocol, and to reduce emissions by 20% and 50% below 1990 levels by 2020 and 2050 respectively. Energy and industry priority sectors for intervention as account for 91% of emissions. Based on "low carbon development" options to reduce emissions relative to the BAU including: rehabilitation of fossil fuel power plants, 6GW of additional nuclear power plants, switching to 5 500 MW combined cycle / heat and power plants; renewable power generation; increasing electricity production from hydropower by 5 TWh; renovation of the gas network; improving industrial efficiency; improving household efficiency.	Framed by the Long Term Mitigation Scenarios, a national effort to identify opportunities to reduce South Africa's GHGs. More than 70 % of emissions come from the energy sector because of its reliance on coal, and its economy is highly energy intensive. The scenarios identify energy efficiency, renewable energy, nuclear energy, and modal shifts towards public transport as key opportunities to reduce emissions. The plan is placed in the context of its renewable energy policy and newly adopted renewable energy feed in tariffs, 12% energy efficiency improvement target, and initial experiments with carbon taxes.	Framed by second national UNFCCC communication. GHGs increased 35% between 2000 and 2006, particularly in the electricity (increased coal), and transport sectors. Reducing energy demand could reduce by 6.17 MtCO _{2e} per year. Energy supply measures including renewable energy, nuclear power, and increased natural gas could offer 17.6 MtCO _{2e} . National Plan of Priority Actions seeks to: diversify fuel supply; increase access to energy; promote renewable energy and energy efficiency; integration with European Markets. Targets by 2020 include: increase wind production by 600% to reach 20% of generation; low energy lighting to reduce energy demand by 800MW; tariff revisions to promote conservation; 15% reduction in energy use in buildings, industry and transport.
Priorities of Clean Technology Investment Plans	-100 MW private sector renewable energy (wind farms) and funding through financial intermediaries for 80 MW of smaller projects eg. small hydro and biomass (RE) -450 MW Natural Gas Combined Cycle Combined Heat and Power plant (CCGT/CHP) -Financing for Energy Efficiency (EE) Smartgrid development to support renewable energy scale up -Upgrading 30% of compressors in Ukraine's gas transit system to higher efficiency levels <i>The CCGT/CHP and the Gas Transit System do not appear to meet the investment criteria.</i>	-100 MW Eskom Uppington Concentrating Solar Thermal plant -100 MW Western Cape Province wind farm -Support municipal governments to deploy solar water heaters -Scale up energy efficiency financing to the commercial and industrial sectors	Renewable energy promotion, energy conservation, and public transport identified as key interventions for CTF financing support. Does not provide details on specific programs. Instead, proposes to work through the newly established Fond de Développement de l'Énergie (FDE), a government owned fund to enhance energy security that has attracted \$1 billion in co-financing from the UAE, Saudi Arabia, and the King Hassan Fund. CTF would help "buy down the costs of low carbon growth" through this fund.
Financing	CTF: \$350 million = \$75m RE; \$50m CCGT/CHP; \$75m EE; \$50m smartgrid; \$100m gas system MDB Co-Financing: \$2550m IBRD: \$ 250m EE; \$300m Smartgrid; IFC: \$50m RE; \$750m CCGT/CHP EBRD: \$250m RE; \$100m CCGT/CHP; \$75m EE; \$750m gas network	CTF: \$500m MDB Co-Financing: \$560m IBRD: \$150m CSP; \$110m Wind IFC: Energy Efficiency and Solar Water heating \$200m AfDB: \$50m CSP + \$50m Wind	CTF: \$150 million MDB Co-Financing: \$400 – 600m IBRD: \$100 – 200m IFC: \$200m or more AfDB: \$100 – 200m
Detailed Review of Plan Interventions Targeting the Electricity Sector			
Energy Planning	Little discussion of energy planning frameworks and processes. The Ministry of Fuel and Energy oversees the sector and that efforts are underway to introduce competition including through a wholesale electricity market and power pool. Multiple energy strategies and policies are discussed.	Mentions Eskom new build program, noting that there are few near term alternatives to coal to meet energy needs. The lack of effective and transparent planning processes, the responsibility for which has recently been returned to Eskom as system operator is not mentioned.	Notes that the Ministry of Energy Plan sets ambitious goals for increasing supply including by scaling up renewable energy and energy efficiency conservation.

Energy Efficiency (EE) Policy Regs.	A new government energy efficiency law is referenced. The National Agency for the Appropriate Use of Energy (NAER) has developed and implemented several energy efficiency policies, and can participate in the design for tariff policies. Focus of the plan is on making financing for energy efficiency available to commercial banks in the Ukraine.	2009 National Energy Efficiency strategy sets 12% energy efficiency improvement targets. A new standard offer model to incentivize energy efficiency is discussed.	An energy efficiency law is under development. The plan emphasizes the targets to reduce energy consumption by 15% in key sectors. It also mentions programs to incentivize household efficiency by offering a 20% discount to households that reduce consumption by 20% below targets; a demand side management program administered by the National Office for Electricity (ONE); and other provisions to enhance efficiency. .
Renewable Energy Policy + Regulations	The Law on Alternative energy Sources of 2003 provides a framework for alternative energy, but has lacked financial support until the adoption of the green tariff (see below). Ukraine is in the process of developing procedures and standards for RE development.	Discussion of the implications of the new renewable energy feed in tariff for creating a market for renewable energy, but does not address current uncertainties around their implementation.	Laws to promote independent power production provide the basic framework for promoting renewable energy development in Morocco. A lack of supportive tariff and regulatory frameworks for wind energy scale up noted. Energipro program allows industrial customers to produce their own renewable energy through reduced wheeling and access to transmission infrastructure.
Pricing	A green tariff has recently been introduced to support renewable energy which presents a coefficient for the retail price for various renewable energy sources.	REFIT incentives for renewable energy noted. Low prices for energy highlighted as a disincentive for efficiency, while noting upcoming price increases. Some reflection on the cost structure of Solar Water systems.	Pricing incentives for energy efficiency in place at ONE are discussed in some detail.
Subsidies	Notes that energy prices (and gas prices in particular) have historically been low. Does not address underlying subsidies for conventional energy that are reflected in pricing and energy systems.	The close relationship between Eskom and the mining industry is mentioned, but no discussion of the underlying cost structure of the coal industry.	The plan notes the increase in public subsidies for oil, but does not discuss the possibility or viability of measures to address subsidies for conventional energy.
Executive capacity	The National Agency for the Appropriate Use of Energy seeks to promote energy efficiency. A state inspection for energy efficiency unit has been established. Ministries for Regional Development and Housing are also active on efficiency. A Renewable Energy Agency is mentioned, but there is no discussion of its capacity or relationship with other sector actors.	Limited consideration of the various and overlapping roles of the Department of Energy, Department of Public Enterprises, and Department of Environment which all play a role in governing the sector.	The roles of various ministries and agencies including the Ministry of Energy, ONE, and the Center for Development of Renewable Energies (CDER) are described; there is limited of their respective capacities and opportunities for institutional capacity enhancement, though it is clear that these institutions have important programs to promote renewable energy and efficiency underway.
Regulatory Capacity	Limited discussion the role of regulatory agencies; notes that the EBRD has been supporting the National Electricity Regulatory Commission to implement the renewable energy policy.	NERSA's role in introducing critical regulations to enable sustainable energy is noted, but there is limited attention to its capacity and authority to oversee the sector.	There is no independent electricity regulator in Morocco: ONE reports to the Ministry of Energy.
Transparency	Some discussion of the need for better information on renewable energy options. Corruption is recognized as a major risk for the sector, but there is little discussion of how transparency provisions can help mitigate these risks.	Recognizes the importance of raising consumer awareness of energy efficiency options, including Solar Water Heating. In general there is little attention to important issues of transparency in program implementation.	Risk assessment notes that the transparency of the operations of the FDE and its compliance with accepted standards of good governance to ensure that funds are spent in accordance with agreed priorities. There is no further elaboration of how these critical objectives will be met. A brief reference is made to a pre-preparation grant from the CTF to

			support this objective.
Public + consumers	Not discussed.	The engagement of consumers in the energy efficiency program is noted, but there is no other consideration of stakeholder engagement in the program.	Little discussion of how to engage the public or consumers in development or implementation of programs.
Utility capacity	The need to support renewable energy companies to participate in the market is discussed, but there is little discussion of the role of the dominant energy companies in Ukraine.	Eskom's capacity to implement CSP and wind energy programs will be enhanced through the program.	ONE capacity to implement renewable energy and efficiency programs is mentioned; a law to allow ONE to build its own renewable energy facilities is under development.
Local Technology Centers	No discussion of the role of local technology centers in the project implementation.	Supports technology development capacity within Eskom. Notes the potential to support the newly established South African National Energy Research Institute (SANERI)	The role of the Center for Development of Renewable Energies which is now being reorganized into the Agency for the Development of Renewable Energy and Energy Efficiency in implementing programs is noted.
GHG Management	Not discussed.	Notes that a GHG inventory process for the transport sector is underway to support public transport planning. Limited other attention to GHG management capacity within South Africa.	Not discussed
This review is based on the Clean Technology Fund Investment Plans that have been publicly disclosed on the Climate Investment Fund website as of 25 October 2009.			

JAN 2009 CTF INVESTMENT PLANS			
	Turkey	Mexico	Egypt
Baseline and objectives	Framed by 1 st National Communication of 2007 to the UNFCCC (2 nd communication to be released in 2010), which plans to reduce emissions by 11% through large hydro, renewable energy (RE) and energy efficiency (EE). The CTF plan identifies a suite of options to reduce emissions by 30%: expanding wind power to 20,000 MW by 2020 at estimated cost of \$26.4 billion (\$7.84 billion more than with conventional technologies), existing plant upgrades, transmission upgrades, and implementation of a demand side management (DSM) program. EE investments would save some \$15.5 billion and reduce emissions. Considers opportunities to reduce emissions by 44%: 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 bio energy, 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 Leon are predicted to reduce emissions by 18MC02 per year (a 20% reduction against the baseline).	1 st National Communication to UNFCCC from 1990 and National Strategy studies of 2002 frame plan. Notes growing energy intensity and emissions. Cogeneration, industrial efficiency, switching to natural gas for industry and transport, wind energy development, organic waste management and methane utilization; afforestation projects extension of railways and underground lines, mass transit systems and extension of waterways for transport are key mitigation options. Avoid 20mC02 each year through RE program. Avoid 12% annual emissions and 30mtC02 over 20 years through transport.
Priorities of Clean	Renewable energy, smartgrid, and energy efficiency. Debt financing for preparation of RE and EE sub projects	Transport (bus rapid transit systems), renewable energy, and energy efficiency. IBRD will support a	Renewable energy (specifically wind and solar) and urban transport. CTF funds will seed an RE fund to

Technology Investment Plans	identified by IFC and EBRD sought. \$1 million grant finance sought for the smartgrid component of IBRD project with the Turkish Transmission Company (TEIAS). Complementarity with World Bank development policy loans to privatize the electricity sector and introduce competition in electricity markets including through a power pool.	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 upfront investment)”. IDB support for energy efficiency and renewable energy programs.	incentivise 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 co-financing: \$1,900 million IBRD: \$300m smartgrid; \$500m RE/EE \$400m SME/Public EE; IFC/EBRD: \$400 RE/EE; Govt of Turkey: \$1,550 million	CTF: \$500m MDB Co-Financing: \$1,646 million IBRD: \$600m BRT; \$400; \$400m lighting and appliances; IDB: \$300m + \$10m (grant) for RE; \$50m+1.5m grant for EE; IFC: \$135 Govt of Mexico: \$1,425 million	CTF: \$300 million MDB Co-Financing: \$150m IBRD for transport; 150m AfDB + IBRD for transmission (respective contributions not specified); \$250m IBRD for RE fund. Gov Egypt + Donors: \$285 million for transport; \$100m for RE component.
Detailed Review of Plan Interventions Targeting the Electricity Sector			
Energy Planning	Analyzes cost increment for replacing fossil fuels with renewables, but does not address underlying assumptions of demand projections.	PROSENER’s (planning unit) current plan considers energy portfolio diversification and increase RE share; 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.
Energy Efficiency (EE) Policy Regs.	2007 Energy efficiency law and implementing regulations include improve efficiency of generation, transmission and distribution. No discussion of implementation processes or role of electricity regulator (EMRA).	Focus on demand side measures. Role of the National Commission for Energy Efficiency to promote EE at various levels of govt. Focuses on new mandate of CRE to regulate externalities to promote efficiency.	Notes that govt is considering establishing an energy efficiency agency and conservation plan.
Renewable Energy Policy + Regulations	The plan notes that the 2005 Renewable Energy law has attracted interest in wind energy development. Govts’ accelerated target seeks to increase RE (mostly wind) from 3,000 MW to 20,000 MW by 2020. EMRA 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, including by helping CRE (electricity regulator) design and implement regulations. Establish renewable energy financing within local infrastructure finance bank (NAFIN) to support investments in RE.	Govt pursuing wind commercialization: first by introducing competitive bidding for RE supply; will explore feed in tariffs as a second phase (in 5 years). Govt efforts to prepare 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 incentivise transmission company to buy RE (financed by revenues from gas exports)
Pricing	Efforts are underway 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.