

DRAFT WORKING DOCUMENT

April 4, 2014

DEDICATED PRIVATE SECTOR PROGRAMS

PROPOSAL FOR PHASE II

I. INTRODUCTION

1. The CTF Trust Fund Committee at its meeting in October 2013 reviewed a proposal for the Dedicated Private Sector Program (DPSP) (document CTF/TFC.12/4), which contained four program proposals. The Trust Fund Committee approved two program proposals:

- ***Utility-Scale Renewable Energy***: aimed at scaling up renewable energy (RE), starting with a focus on utility-scale geothermal energy, and
- ***Renewable Energy Mini Grids and Distributed Power Generation***: focused on catalyzing growth in energy access by addressing primarily financial and regulatory barriers to private sector led mini grid and distributed power generation to serve rural and under-served off-grid communities.

An indicative allocation of USD 115 million was approved for the Utility Scale Renewable Energy Program, and USD 35 million for Renewable Energy Mini Grids and Distributed Power Generation for allocation within existing CTF pilot countries.

The Trust Fund Committee took note of the two other proposed programs, Risk Capital to Address Regulatory Risks for Renewable Energy and Climate Finance Equity Investments, but felt that in each case more work was needed to explain/ mitigate the risks inherent in these programs.

The Committee agreed that if additional financial resources became available for the DPSP, these could be allocated in a timely fashion to existing or new programs. The programs could be extended beyond CTF pilot countries to all CIF pilot countries if justified. Finally, the Committee requested the CIF Administrative Unit and the MDBs to report back to the Trust Fund Committee on progress on implementation of the first phase of the DPSP at its next Committee meeting.

2. Of the indicative Phase 1 allocation of USD 150 million, MDB proposals for an aggregate USD 75 million have been submitted to the CFT TFC for approval as follows:
- a. USD 40 million for geothermal in Mexico and Chile
 - b. USD 35 million for mini grid and distributed power generation in India, Indonesia, and the Philippines.

Applying the agreed eligibility and readiness criteria, the MDB committee earmarked additional allocations for forthcoming proposals under the Utility scale RE program, including:

- a. USD 10 million Colombia
- b. USD 65 million for Turkey.

The funding proposals for all these projects are expected before October 2014.

3. Given the additional contribution received at the end of December 2013 from the United Kingdom of USD 330 million, the CIF Administrative Unit and the MDBs have worked together to outline the potential deployment of the additional resources, including the scaling up of

existing programs, and modified and new programs. This paper details the following programs proposals for the possible allocation of the DPSP:

1. Scaling up of the two approved programs (Utility-Scale Renewable Energy and Renewable Energy Mini Grid and Distributed Power Generation), to all CIF countries,
2. Two modified programs originating from the previous Climate Finance Equity Investment Program, namely,
 - a. The Income Participation Program,
 - b. The Mezzanine Finance for Climate Change Program,
3. Two additional sub-programs under the Utility-Scale Renewable Energy program,
 - a. A new program for small/ medium-sized Grid Connected Renewables
 - b. A new program for solar photovoltaic financing.
4. One new program on Energy Efficiency and Self-Supply with Renewables

5. All program proposals include projects / sub-programs that could absorb a substantial portion of the USD 330 million of additional CTF resources for additional CTF pilot countries and other CIF pilot countries particularly in Africa. The Trust Fund Committee is requested to review and endorse those proposals that they wish to see further developed. The Trust Fund Committee is also invited to determine an indicative allocation of initial funding for each endorsed program proposal. Individual projects or sub-programs developed under any endorsed program will be submitted to the Trust Fund Committee for approval of CTF funding.

6. The General Principles and Objectives of the DPSP remain unchanged from those presented in the October 2013 proposal for the DPSP (document CTF/TFC/.12/4). A summary of the principles, objectives, and operating procedures can be found in Annex 1.

II. FUNDING AND EXPANSION OF COUNTRY COVERAGE

- Each proposal identifies the minimum amount of funding that would be required for a meaningful first phase, or a scaling up of existing programs. All proposals have been designed with the idea that they could be scaled up in CTF pilot countries and more broadly within CIF pilot countries.
- Following the recommendation of the CTF Trust Fund Committee, the program proposals include non CTF pilot countries particularly in Africa. The MDB Committee strongly supports the expansion of the DPSP beyond the CTF pilot countries. The barriers and challenges of scaling up private sector investment are found in both middle income and lower income developing countries often with greater acuity. In addition, to achieve scale on a regional wider basis (e.g. across regions or globally) it is necessary to pilot test innovative financing and risk mitigation approaches and compile and disseminate lessons learned (from both successes and failures) through the implementation of DPSP

programs across several countries and regions simultaneously. This will also facilitate more “south-south” learning and knowledge sharing to facilitate successful models for private sector investment and increase the impact of these investments. To put it another way, the outcomes from the whole will be greater than sum of their parts.

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III. PROGRAM PROPOSALS FOR PHASE II

- The Trust Fund Committee is requested to consider and endorse the program concept proposals that it would like to see further developed and to assign priority to the order of development based on availability of funding. The Trust Fund Committee is also requested to provide comments on the proposed first projects and sub-programs that could be piloted.
- To facilitate review, a brief summary of each proposal is presented below, together with a table that shows the salient features of each proposal in summary form (Proposals at a Glance). A detailed elaboration of the individual proposals follows this summary.

1. PROGRAMS PROPOSED FOR SCALING UP

a. UTILITY SCALE RENEWABLE ENERGY: GEOTHERMAL

At its October 2013 meeting, the CTF Trust Fund Committee approved an allocation of USD 115 million for phase 1 of this program with a particular focus on mitigating the drilling and resource risks for geothermal project development. This approach was adopted given the large financial hurdle posed by these risks in developing geothermal projects. Projects under this program have strong country ownership and use proven technologies that offer significant cost reduction potential for wide scale deployment and replacement of carbon-intensive thermal power generation in emerging markets. This program could include other technologies such as solar power, or biomass energy utilization.

The MDBs allocated these resources to five projects in Turkey, Mexico, Colombia, and Chile. Two projects (USD 20 million for Mexico and USD 20 million for Chile) have been submitted to the TFC for approval. For phase 2, the MDBs propose an allocation of 50 % of the new DPSP funding (USD 165 million) for geothermal projects in both CTF and non CTF countries, with USD 50 million earmarked for Africa.

b. RENEWABLE ENERGY MINI-GRIDS AND DISTRIBUTED POWER GENERATION

The Renewable Energy Mini Grids and Distributed Power Generation Program was endorsed by the CTF Trust Fund Committee with a USD 35 million allocation for Phase I. ADB has submitted a sub-program proposal to the TFC for three pilot CTF countries, India, Indonesia, and the Philippines. Under Phase II of the DPSP there is an opportunity to expand this program beyond these pilot countries to other CTF and non CTF pilot countries, particularly in Africa.

This program addresses the energy needs of bottom-of-the-pyramid consumers who may never be served by traditional grid connections. Establishing mini grid and distributed power generation systems¹ can help transform the energy landscape by putting new energy consumers on a low carbon growth trajectory, thereby leapfrogging the traditional fossil fuel electricity grid. Sometimes the low carbon growth trajectory is the only viable solution to provide energy services to remote populations. The program would catalyze access to electricity by addressing the key financial, credit and other barriers to private sector led development in this sector.

Additional investment opportunities that could be considered in a Phase II have been identified in Asia (Bangladesh, Cambodia, Maldives, Nepal and the Pacific Islands), Africa (Ghana, Mali), and Latin America (Columbia, Haiti, Peru, Mexico, and Brazil).

2. REVISED PROGRAMS – A REVISED EQUITY INVESTMENT PROGRAM

The Climate Finance Equity Investments program presented to the TFC in October 2013 was not endorsed. The Trust Fund Committee requested further information regarding how risks would be managed under an equity program, and how different funding instruments (grants, capital, and loans) would be considered. Two revised proposals are presented in this regard.

a. INCOME PARTICIPATION PROGRAM (INPP)

The Income Participation program, InPP, is an effort to address the funding gap of USD 1 trillion in worldwide climate investments by supplying a variety of financial instruments such as mezzanine financing, instruments with convertibility features, equity, and quasi-equity, and other subordinated instruments that would deliver a certain amount of income participation in correlation with the risk capital provided. These funds could be invested directly in companies or via investment funds.

This program aims to demonstrate that it is possible to place risk capital profitably in the sustainable energy sector and climate investments more generally. The combined experience of MDBs in equity investments in climate related projects, and the success of these investments would create the necessary momentum to create an environment which would draw in purely commercial investors. All investments would have an exit strategy defined at the outset.

Pipeline: MDBs need to provide more detailed information.

b. MEZZANINE FINANCE FOR CLIMATE CHANGE

The revised program includes a draft proposal for a \$50 million mezzanine co-investment (or “sidecar”) facility for ADB’s flagship climate finance equity fund, the Climate Public-Private Partnership Fund (CP3). DPSP funds would be used to help finance climate change projects which otherwise would be not viable with traditional senior debt and equity financing. Already approved by ADB’s board, CP3 intends to reach its first financial close in Q3 2014 of \$200-400 million. The longer term vision of the program is to increase the effectiveness and scope of climate finance equity investments through the provision of flexible and catalytic financing

¹ The program contemplates a range of potential system sizes from 1kW to 1MW.

facilities. It would effectively create a third tier of financing available in the emerging markets, increasing the impact of public and private finances and leading to a deeper financial market for bridging the climate investment gap.

3. NEW PROPOSALS

a. PROGRAM TO CONNECT SMALLER PRIVATE RE UTILITIES BETWEEN PRIVATE PARTNERS

Many CTF countries have created the right conditions for private sector investment in large state driven renewable energy projects as demonstrated by MASEN in Morocco. However, in some countries there could be significant potential for private to private projects where both the electricity producer and off-taker are private companies. Private generation and contracting would use the national grid to “wheel” the power, but the project developer revenue would not be dependent on public feed-in tariffs, but rather on payment from private off-takers.

These types of projects face barriers due principally to a) poor or weak regulatory environments for these type of projects in country, and b) lack of financing because commercial banks and International Finance Institutions are focused on the larger public projects where FiTs or subsidies are deployed. These barriers could be overcome through a combination of policy dialogue, technical assistance to clients and concessional finance. The programme would also cover support to countries with newly developed, but as yet untested FiT regimes, in order to help the renewables industry in these countries establish a track record.

Potential clients have been identified in North Africa: Egypt, Jordan, Morocco, and Tunisia.

b. UTILITY SCALE RENEWABLE ENERGY: SOLAR PHOTOVOLTAIC

Solar PV is considered amongst the most scalable and sustainable forms of renewable energy; effective measurements of irradiance can be undertaken beforehand, and proven PV-technologies have been developed over time. The overarching objective of this program is to enable the scaling up of these renewable energy technologies with an initial focus in Africa and Latin America and the Caribbean (LAC). Given the values of solar irradiance on the African continent along the solar belt north and south of the equator, as well as in some regions in LAC, conditions for solar photovoltaic projects are optimal. To this end, Solar PV not only represents significant potential in these markets in terms of improving and diversifying the energy mix but also the potential to provide positive benefits to end-users by ensuring greater energy access and improvements in affordability. While ensuring greater energy security in these regions, investments in Solar PV projects are expected to expand opportunities for private sector participation and development, to increase employment opportunities, to contribute to the growth of lower-carbon economies, and, not least, to result in improved livelihoods for women, men, and children. Presently, Africa is the lowest emitter of GHGs and Latin America has the cleanest energy matrix in the world; however, their rapidly growing populations and energy demand growth rates require a significant increase in the supply of reliable and affordable energy, such as Solar.

Investment opportunities have been identified in both CIF and non CIF pilot countries: Burkina Faso, Kenya, Nigeria, , Brazil, Jamaica, Honduras and Mexico, as well as Chad and Senegal..

4. NEW PROPOSALS

a. ENERGY EFFICIENCY AND SELF-SUPPLY RENEWABLE ENERGY PROGRAM (DETAILED PROGRAM DESCRIPTION TO FOLLOW SHORTLY)

The proposed Energy Efficiency and Self-Supply Renewable Energy Program is aimed at providing investment resources and technical expertise for the currently underserved sector of energy efficiency and self-supply renewable energy generation. CTF resources will be mostly used to establish a **Guarantee Facility** that will provide first-loss guarantees (or in limited cases complementary debt resources) in support of MDB loans for energy efficiency and self-supply renewable energy projects in CIF-pilot countries.

With an initial \$25M Facility IDB will support directly \$100-200 million of investment in self-supply renewable energy projects, as the guarantee coverage will leverage between four and eight times its size from other financing sources (debt and equity). Additionally, these projects will help establish local engineering capacity for their technical design, establish supply chains for equipment procurement, and demonstrate the market potential to local financial institutions (to be achieved through co-investment as well as a knowledge management activities). The market potential for biogas, small-scale biomass and solar projects is significant, and the demonstration impact of the CTF and IDB supported projects could lead to significant replication. An initial pipeline of investments has already been identified (and feasibility studies completed) in various CIF-pilot countries in LAC, so CTF guarantees would have immediate impact in those cases were the credit profile of the investments in these new applications or models needs to be enhanced to allow debt financing.

	Proposals at a Glance						
	Utility-Scale RE: Geothermal	RE Mini grids / Distributed Generation	Income Participation Program	Mezzanine Finance for Climate Change	Utility-Scale RE: Solar Photovoltaic	Small/ Med grid connected RE	EE and Self-Supply RE
Objective	To mitigate drilling risk for geothermal project development	To expand energy access via RE mini grid / distributed generation development	To facilitate the use of novel climate-smart technologies and innovative business models	To enhance the effectiveness and geographic reach of climate equity investments	Enable scaling up of RE technologies in Africa and Latin America & Caribbean; increased energy access, reduce (imported) fossil fuel dependence and enhance energy security	Kick-start investment in private/private and early-stage FiT generation/ off take of RE using the grid	To catalyze investment and demonstration of EE and Self-Supply RE applications and models through credit enhancement
MDBs interested	ALL	ADB, IDB, IBRD	EBRD, IDB, and IFC	ADB, IDB	AfDB, EBRD, IDB	EBRD	IDB
Phase 1 countries	Chile, Colombia, Mexico, Turkey	India, Philippines, Indonesia	NA	NA	NA	NA	N/A
Phase 2 countries	Africa (countries TBD), Indonesia, Turkey, LAC (countries TBD)	<u>Asia</u> : Bangladesh, Cambodia, Maldives, Nepal, Pacific Islands. <u>Africa</u> : Ghana, Mali, <u>LAC</u> : Columbia, Haiti, Peru, Mexico, and Brazil	CIF pilot countries with fairly developed financial markets and with exception for India	India, Indonesia, Philippines, Thailand, Vietnam, Bangladesh, Cambodia, Lao People's Democratic Republic, Maldives, Mongolia, Nepal, Pacific Region, Papua New Guinea, Tajikistan	<u>Africa</u> : Burkina Faso, Kenya, Nigeria, Chad, Senegal <u>LAC</u> : Brazil, Jamaica, Honduras, Mexico	MENA region	All CIF countries in LAC
Indicative	Phase 1:	Phase 1: \$35	Phase 2: TBD	Phase 1: N/A	Phase 2:135-154	Phase 2:\$75	Phase 2:\$30 million

range of funding	\$115 million; Phase 2: \$165 million	million (including \$5 million grant) Phase 2: \$58 million		Phase 2: \$50 million	million	million	
Market failure/barrier being addressed	High resource risk impedes investment	Lack of commercial financing for distributed or off-grid RE projects	High perceived risk faced by first-movers in new climate-smart technologies and business models	Lack of climate financing in higher risk developing countries	Overcome higher perceived risk profile of RE projects for private sector; regulatory risk; market/price risk	Weak regulatory environments; lack of LT concessional funding	Inadequate access to financing (tenors, collateral requirements); high risk perception given lack of sufficient local demonstration

	Proposals at a Glance						
	Utility-Scale RE	RE Mini Grids	Income Participation Program	Mezzanine Finance for Climate Change	Utility-Scale RE: Solar Photovoltaic	Small/ Med grid connected RE	EE and Self-Supply RE
Potential market demand	CTF pilot countries: 9 potentially financeable fields over 12-18 months (Phase 1); additional 19 fields in 18-24 months (Phase 2). SREP countries: 12 fields. Others: 10 fields. Total additional	An estimated 1.16 billion people (17% of the world's population) currently live without access to electricity.	CIF pilot countries,	Approximately \$1 trillion of climate finance is needed to keep global average temperature increases below 2 degrees Celsius and avoid "dangerous" climate change.	CIF countries: Burkina Faso, Kenya, Nigeria, Non CIF countries: Chad and Senegal	CIF Countries: 10-15 projects of various technologies and scale across eligible countries, leading to full absorption within three years.	CIF Countries: 25-50 projects of various technologies and scale across eligible countries, leading to full absorption within three years.

	capacity = 4GW (current installed capacity = 11GW)update						
Demand likely to be addressed by proposal in Phase 2	2-5 fields update	10-30 investments in mini grid and distributed power generation companies and impact funds	Equity investments in several deals by participating MDBs	ADB's main climate equity fund, CP3 is expecting first close towards the \$1 billion target in Q3 2014 of approximately \$200-400 million; CTF funds would be used to catalyze these investments into new sectors and countries.	Up to eight solar PV projects to be implemented resulting in 500 MW of additional installed capacity.		CIF Countries: 25-50 projects of various technologies and scale across eligible countries, leading to full absorption within three years.
Financial instruments	Contingent loans, equity or quasi-equity; subordinate loans; exploration risk insurance.	Loans, guarantees and quasi-equity products. Both direct investments and investments in	Equity-like instruments, mezzanine financing, and guarantees	Mezzanine finance (subordinated debt)	Commercial financing blended with concessional financing for sub-debt/ mezzanine financing	Commercial financing blended with concessional financing for sub-debt/ mezzanine financing	Guarantees (and in limited cases, loans)

	Support provided directly to the project or through commercial banks or public programs.	regional or country-specific impact investment funds may be pursued.					
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	Proposals at a Glance						
	Utility-Scale RE	RE Mini Grids	Income Participation Program	Mezzanine Finance for Climate Change	Utility-Scale RE: Solar Photovoltaic	Small/ Med grid connected RE	EE and Self-Supply RE
Key stakeholders	Government, private sector, MDBs, bilateral institutions of the UK, France, Australia, Netherlands, Germany	Governments, policy makers, financial institutions, investment funds, project developers, energy service providers, utilities, regulators, academia, civil society, and development partners	Participating MDBs, private sector project developers, lenders and other financiers	PE funds, UK Government	Governments, private sector, utilities, local communities, investors, energy market participants	Governments, private sector RE producers and users, IFIs	Manufacturing/services companies, energy service companies, commercial banks
Expected leverage	1:4 or higher	1:2	About 1:5 or higher for direct investments	1: 73 (ADB)	1:6	1:4 or higher	1:6-1:8

			and 1:20 or higher for investments in funds or financial intermediaries				
Other core indicators	Avoided CO ₂ , new RE capacity, GWh generated or saved	Number of households supplied; RE MWh generated; Avoided CO ₂	Avoided tCO ₂ e, MW installed, MWh generated or saved; finance mobilized	Avoided CO ₂ , MWh generated or saved; finance mobilized;	Avoided CO ₂ , new RE capacity, GWh generated or saved, access to clean energy	Avoided CO ₂ , new RE capacity, GWh generated or saved, access to clean energy	Avoided CO ₂ , new RE capacity, GWh generated or saved, number of technologies/applications demonstrated
Co-benefits	Capturing and disseminating knowledge; creating momentum to scale-up geothermal investment; expanding opportunities for co-financing; broaden donor reach	Improvement in indoor air quality; reduction of black carbon; job creation, training and workforce development; gender and social inclusiveness	Job creation; additional capital attracted to domestic investment; taxes generated; technology and skills transfer	Job creation; additional capital attracted to domestic investment; taxes generated; technology and skills transfer	Demonstration of RE at scale for replication; diversification of energy sector; government revenues; job creation; lower consumer tariffs	Demonstration of RE at scale for replication; government revenues; job creation; lower consumer tariffs; demonstrating value of direct contracting models, use of new technologies, reinforcement regulatory environments. Co-financing with GEF.	Reduction in the strain on the electricity and transportation systems, decreasing the need for costly transmission and distribution investments, decreasing electricity costs, reducing fossil fuel imports, enhancing energy security and improving trade balances; enhanced competitiveness of companies.

PROGRAMS PROPOSED FOR SCALING UP:

1. UTILITY SCALE RENEWABLE ENERGY

a. GEOTHERMAL

On October 28, 2013, the CTF Trust Fund Committee approved an allocation of \$115 million dollars for Phase I of a Utility-Scale Renewable Energy Sub-Program² with the objective of mitigating drilling risks in geothermal project development. These funds were earmarked for projects in CTF pilot countries, with specific allocations to be made by the MDB Committee based on project readiness.

Support to geothermal resource validation can have a truly transformational effect by unlocking development and contributing to scaling up development of one of the most competitive sources of renewable energy. The Utility-Scale Geothermal sub-Program has the potential to catalyze a reduction in the levelized cost of geothermal, driving it below the alternative fossil-fuel baseload technologies. This would be achieved through: (i) reduction in the resource risk thanks to the accumulation and dissemination of knowledge on successful risk-mitigation strategies in drilling operations, including technical improvements; (ii) reduction in investors' risk perception thanks to the improvement in drilling techniques and to the development of risk mitigation and risk sharing strategies and instruments, which would lead to lower premiums for debt and capital; (iii) construction of new drilling rigs and increase in the number of drilling professionals and contractors due to increased demand for their services, which would result in lower rental and hiring costs respectively.

Table 1 below summarizes the current pipeline of geothermal projects for Phase I. The proposed allocations have been agreed among the MDBs. It is expected that all projects in Phase I will be submitted for approval/consideration by the CTF Trust Fund by the end of October 2014 (i.e. within 12 months of the DPSP decision). Annex 1 contains additional details on each project.

Table 1: Phase I pipeline

MDB	Country	Proposed allocation (USD million)	Status	Expected submission
EBRD/IFC*	Turkey	25	Project concept under preparation, initial discussions held with stakeholders	Q2 2014
IBRD*	Turkey	40	Project concept under preparation, initial discussions held with stakeholders	Q3 2014
IDB	Mexico	20	Proposal submitted to TFC	Q1 2014
	Colombia	10	Project concept under preparation	Q3 2014
	Chile	20	Proposal under preparation, to be submitted to TFC in March 2014.	Q1 2014
TOTAL		115		

² CTF/TFC.12/CRP.3

*EBRD, IFC and IBRD have agreed to coordinate their activities in Turkey

In its October decision, the Trust Fund Committee also indicated that, if additional resources became available for Dedicated Private Sector Programs, it would welcome scaled-up proposals for existing programs.

Following the CTF committee decision, the MDBs have reviewed all proposals and suggest that about 50% of the new funding is channeled to scale up the Utility Scale Geothermal Program. This will allow increasing the global impact of the program. The October proposal³ had already identified an indicative project and country pipeline (see Annex 2), resulting in a preliminary estimated demand of \$230 million for DPSP funding from CTF pilot countries for mitigation of geothermal drilling risks in the early phases of project development. An additional allocation of about \$165 million under Phase II of the DPSP would allow expanding geographic support not only to additional CTF countries that have already identified potential fields for DPSP support (e.g Indonesia, Philippines) but also to non-CTF countries, particularly in Africa, some of which (i.e. Kenya, Ethiopia⁴) hold some of the largest undeveloped geothermal potential in the world (see Annex 3). Extending support to Africa SREP countries would provide a unique opportunity to maximize learning effects under the umbrella of the DPSP through knowledge dissemination and cross-fertilization of experiences on successful models and instruments for private sector development across countries and programs.

Table 2 below summarizes the indicative pipeline for the Phase II allocation. Project readiness will be essential to qualify for funding.

Table 3: Indicative pipeline for Phase II

MDB	Country	Proposed allocation (USD million)	Project status	Expected submission
ADB	Indonesia	30	ADB anticipates that all \$150 million of its approved program under the current Indonesia Investment Plan will be deployed by the end of 2014 for 3 specific private sector projects. With 40% of the world's global geothermal resources located in Indonesia, there is good reason to contribute additional CTF funds to mitigate risks and support other private sector developers in the market. ADB intends to use the same financial instruments successfully	Q4 2014

³ CTF/TC.12/4

⁴ Both Kenya and Ethiopia have set ambitious targets for geothermal development. Kenya plans to reach about 5,000 MW of installed capacity by 2030, while Ethiopia has set a target of 1,000 MW, also by 2030.

			piloted under the IP.	
	Philippines	20	ADB is in discussions with two separate private sector sponsors developing geothermal sites in northern Luzon and eastern Visayas regions. Both have indicated that they are unable to obtain any funding for exploration and resource verification stage of the projects. ADB would provide early stage debt financing through CTF funds.	
AfDB	Africa	50/110	The AfDB is engaged in discussions with various stakeholders within its markets represented by countries with some of the world's lowest electrification rates and considerable geothermal potential. CTF funds would be used to enhance the risk profile of projects, encouraging greater participation from the private sector and lowering total project costs. Development of these projects is expected to contribute to increased energy access and affordability.	Q42014/Q12015
EBRD/IFC	Turkey	35	Additional allocation for the project defined under Phase I	Q3 2014
IBRD	Turkey	10	Additional allocation for the project defined under Phase I	Q3 2014
	Indonesia	50	IBRD is in discussions with MOF to explore options to support implementation of the Geothermal Fund through provision of CTF guarantees to the loans offered by the State Investment Agency (PIP) to existing license holders. This is expected to reduce the requirement for collateral, which is currently a barrier for private developers.	Q4 2014
IDB	Chile/ Mexico/ Honduras	20	TBC	TBC
TOTAL		195		

Indicative Pipeline of Geothermal Projects of AfDB

Country	Installed Capacity (MW)	Total Project Cost (million USD)	CTF contribution (million USD)	
Kenya	200	400	30	Q4 2014
Kenya	150	300	20	Q4 2014
Tanzania	100	400	20	Q1 2015
Comoros	60-80	280	15	Q1 2015
Djibouti	50-60	250	25	Q4 2014
			110	

The proposed allocations are subject to the following:

- Assuming an allocation of about 50% funds from new pledges to DPSP phase II for geothermal, the proposed pipeline would need to be reduced to \$165 million, down from \$195 million
- In order to simplify the allocation procedures, EBRD and IFC have decided to merge their pipelines of projects in Turkey. An immediate allocation of the \$25 million has been requested to their joint pipeline under Phase I, with a need for additional \$35 million (when additional funds come under Phase II) to cover the work of both MDBs.
- Allocations to the same country through different MDBs will be processed as different operations (e.g. Indonesia-ADB, Indonesia-IBRD), unless otherwise indicated

Annex 1

Indicative project description for Phase I

Project	Preliminary description
EBRD/IFC - Turkey	Commercial banks in Turkey currently finance geothermal projects only after commissioning has been completed or, more often, after operations have begun and production of electricity has been verified. This financing gap is a barrier to scaling up geothermal development. The proposed project would support the creation of a direct lending facility to support the confirmation and production drilling stages through risk mitigation instruments. EBRD and IFC co-financing would be sought for the exploration & production drilling and construction stages, while the remaining financing gap would be covered by sponsor equity and co-financing from other lenders, including IFIs or local development banks. The project would also include a technical assistance component to support the client, and the government. It is expected that 3-4 projects could be supported under this scheme.
IBRD – Turkey	Commercial banks in Turkey currently finance geothermal projects only

	<p>after commissioning has been completed or, more often, after operations have begun and production of electricity has been verified. This financing gap is a barrier to scaling up geothermal development. The proposed project would support the creation of a financing facility through a Financial Intermediary, such as a local development Bank, to support the confirmation and production drilling stages through risk mitigation instruments. IBRD co-financing would be sought for the production drilling and construction stages, while minimum contributions would also be required in the form of sponsor equity and co-financing from the FI. The project would also include a technical assistance component to strengthen capacity of the Government and the FI. It is expected that 4 to 5 projects could be supported under this scheme.</p>
IDB – Mexico	<p>The program intends to combine IP and DPSP resources to scale up private investment in geothermal power generation projects (up to now only developed by the Public utility CFE) by making available a range of financial mechanisms tailored to meet the specific needs of each project’s stage of development, namely: (i) exploration and test drilling, where risk and/or cost sharing instruments are combined with lending to reduce Value at Risk for developers, hence removing the main barrier to investment; (ii) field development, production and re-injection drilling, where risk mitigation instruments may be developed with the private sector (insurance) to deal with the still relatively high risk levels, and can be combined with lending; (iii) construction and operation phase (only once sufficiency and stability of the resource have been proven), which requires more standard financing tools (ordinary, subordinate or concessional debt, but also contingent finance and guarantees). The IDB considers this a most effective structure to mobilize continued financing for the development of geothermal projects, especially in the early phase, where specific incremental risks (i.e. resource risks) are high. The involvement of a local public development bank (NAFIN) and the private banking and insurance sectors should maximize leverage from public and private sources, accelerate and scale-up finance to a larger number of projects, enable the conditions for a sustainable development of the geothermal sector and reduce the need for subsidies in the future.</p> <p>The Program is expected to finance up to 300 MW of additional installed capacity.</p>
IDB – Colombia	<p>The program would support the first geothermal exploration drilling campaign in the country. The IDB has supported preliminary surface studies for a project with an estimated capacity of 50 MW. The client would be the third largest power generator in the country, a mixed public-private utility.</p>
IDB - Chile	<p>The proposed IDB/CTF MiRiG program aims to combine resources from the IP and DPSP to support investment needs of projects that have already completed some exploratory drilling but require resource risk mitigation support to conduct additional exploratory and production drilling before they can access commercial debt financing. The projects that the IDB MiRiG program intends to support have the potential of becoming the first geothermal projects in Chile (and at this point in South America), demonstrating the viability of this technology locally and leveraging DFI and commercial financing on a non-recourse basis. CTF resources will thus be used in structuring financial solutions that will mitigate the effects of these risks to project developers and financiers, and incentivize project developers</p>

	<p>to make the significant additional investments still necessary to allow production drilling campaigns to go forward. Such structuring solutions could include senior and subordinated long term project loans, short term bridge loans, and guarantees. When needed, CTF loans may be disbursed earlier than IDB or other senior lenders' capital, if perceived resource risk levels are still too high for such lenders.</p>
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Annex 2
**Indicative project and country pipeline presented in the Utility Scale Renewable
Energy - Geothermal proposal**

	Description	Total number of fields	Countries	Estimated demand for DPSP funding
Group 1	Geothermal fields in CTF pilot countries potentially financeable in 12-18 months	9	Chile, Mexico, Colombia, Turkey	\$75-100 million
Group 2	Geothermal fields in CTF pilot countries potentially financeable in 18-24 months	19	Mexico, Indonesia, Chile, Philippines	\$130 million
Group 3	Potentially financeable geothermal fields in other CIF countries	12	Kenya, Ethiopia, Tanzania, Vanuatu, Armenia, Honduras	\$155 million
Group 4	Potentially financeable geothermal fields in non-CIF countries	10	El Salvador, Guatemala, Dominica, Nicaragua, St Kitts and Nevis, St Lucia	

Annex 3
Geothermal potential and installed capacity in CTF countries and Africa SREP countries

Region	Country	Estimated geothermal potential (MW)	Installed geothermal capacity (MW)
East Asia	Indonesia	10,000 (proven), 29,000 (potential)	1,300
	Philippines	2,027 (proven), 2,380 (potential)	1,868
Central Asia	Turkey	1,500	310
Latin America	Mexico	<6,500	958
	Colombia	2,200	0
	Chile	2,350	0
Africa	Kenya	7,000-10,000	240
	Ethiopia	5,000	7
	Tanzania	150	0

b. RENEWABLE ENERGY MINI-GRIDS AND DISTRIBUTED POWER GENERATION

MDBs interested in participating:	ADB, IDB, IBRD
CTF pilot countries in Phase I (proposal pending):	India, Indonesia, Philippines
Other potential countries (CIF pilot countries) in Phase II	Asia: Bangladesh, Nepal, Cambodia, Maldives the Pacific Region, and Myanmar ⁵ . Africa: Ghana, Mali LAC: Columbia, Haiti, Peru, Mexico, and Brazil
CTF Phase II funding request:	\$38 million (including \$3 million in TA)

A. Intro – Program overview/description

The Renewable Energy Mini Grid and Distributed Power Generation Program (the Program) was conceptually endorsed by the CTF Trust Fund Committee in October 2013 for Phase I of the Dedicated Private Sector Program. ADB has submitted the Phase I proposal for TFC approval for the 3 pilot countries listed above. There is an opportunity to expand the Program in Phase II to other CIF pilot countries and other regions, where energy access is also a significant challenge. The expansion of the Program to other regions, including non-CTF countries participating in the CIF, will generate unique “south-south” learning and knowledge exchange that will facilitate scaling-up mini-grids systems using private sector capital in a sustainable manner. The synergy created through simultaneous interventions at the global scale will result in outcomes where the whole will be greater than the sum of their parts.

The Program will address the fundamental challenge of providing modern and affordable energy services to bottom-of-the-pyramid consumers who will likely never be served by centralized electricity grids. Establishing renewable energy mini grid and distributed power generation systems⁶ transforms the energy landscape by putting new energy consumers on a low carbon growth trajectory, thereby leapfrogging traditional fossil fuel-dominated electricity grids. This program is about transformational change in the way modern energy is provided to people with no electricity; much the same way as mobile phones have transformed modern telecommunications and bypassed fixed-line phone services, it is anticipated that private sector-led mini grid development will lead to the rapid expansion of off-grid electricity access.

Through a combination of investment capital and technical assistance targeting financial, regulatory, policy and project specific barriers, it is anticipated this Program will deliver the scale and replicability needed to attract commercial financing and “mainstream” mini grid and distributed power generation in CIF countries. This Phase II proposal outlines a facility of \$58 million, of which approximately \$20 million would be allocated for Asia, \$28 million for Africa, and \$10 million for Latin America and the Caribbean.

⁵ Not currently a CIF country

⁶ The program contemplates a range of potential system sizes from 1kW to 1MW.

B. Business Case/Model

Market Description

An estimated 1.16 billion people (17% of the world's population) currently live without access to electricity. This does not include those nominally connected to grids who receive irregular and sporadic electricity for only a few hours a day. These people depend principally on biomass, candles, and kerosene to meet their lighting, cooking, and energy needs. As a result, they generally suffer from poor rates of literacy, low levels of education, inadequate health care, poor communication, low levels of income generation and cyclic poverty.

Access to electricity should not be considered as a panacea for eliminating poverty, but it is indelibly linked with accomplishing a range of development goals, and is widely considered to have a catalytic impact on development pathways. Modern energy services bring dramatic improvements to people's lives in a multitude of different ways. Improved lighting, education, communication, health care and security bring instant improvements to standards of living. Furthermore, reliable electricity brings longer term opportunities for establishing small and medium sized business and improving income-generating activity to help communities break the cycle of poverty and transition to middle-income economies.

There is a range of promising private sector developers in this market segment, and an enormous choice of potential locations, technologies, and business models to be employed. Many companies have been established locally in developing countries, and are expected to play a key role in south-south cooperation in this sector. But before they can get access to traditional sources of commercial capital, they have to prove their business model *over a minimum scale* (e.g., \$xx million in sales) *and over a sufficient period of time* (e.g., 3 financial years). Barriers currently inhibiting private sector developers include insufficient market capital, perceived high risk and relatively low return on investment, non-payment risks, high transaction costs for financing small projects, high up-front capital costs, insufficient net worth and limited experience of private sector entrepreneurial firms (which makes debt financing difficult), low liquidity and inadequate experience of commercial banks to evaluate projects, and difficulty in channeling MDB funds through local financial institutions.

Despite interest from technology and energy generation suppliers in expanding their services, current financing mechanisms do not offer the necessary risk management tools and warranties needed to facilitate sustainable and expandable investment (given there is no real structured market demand for off-grid energy services). Potential customers (demand for renewable energy) need mechanisms that facilitate access to reliable technology without prohibitively high initial costs and often local microfinance institutions acting in rural areas do not integrate RE financing into their current business structure.

In terms of risks to the program's successful implementation, main risks include the risk of business plan execution (generally "market" risk), technical configuration risk, soft systems (information, marketing, education and capacity building), operation and maintenance, as well as policy and regulatory risks for the private sector to operate in this space.

How will proposal address these?

Through a combination of investment, technical assistance and advisory services, the proposed Program will: (i) develop renewable energy based mini grid and distributed power generation solutions in target countries and expand the number of customers with access to modern energy, (ii) mobilize investment from the private sector to mainstream mini grid development, including in some countries the development of dedicated financial instruments and engagement with local financial institutions, and (iii) demonstrate private sector business models that can be replicated and scaled-up across the region.

Advisory services would include: (i) undertaking market analysis to understand main barriers for financing RE energy (both from supply as well as demand for RE); (ii) assessment of local regulatory and institutional barriers for financing and promoting new business models, including at the municipal level; (iii) designing intervention strategies (i.e. types of financial instruments and risk sharing mechanisms that could be promoted for instance through local financial institutions or a second tier development bank); (iv) pre-screening and selecting companies and funds with candidate projects meeting investment criteria, (v) evaluating and finalizing business plans and due diligence of projects or financing strategies that could be implemented by local financial institutions; (vi) establishing templates for legal documentation that can be replicated across projects and different products, including potential documentation for bidding and regulation of concessional contracts at municipal level, and (vii) capacity building with local financial institutions (including national development banks) and other investment partners to ensure leverage of capital resources. The advisory services component will also seek to promote knowledge sharing of successful business models with governments, electric utilities and other stakeholders to encourage improvements in the regulatory and investment environment for more private sector involvement in this market segment.

CTF funds would be deployed as investment capital (loans, guarantees, quasi-equity and equity products) for mini grid and distributed power generation companies, impact funds and local financial institutions, including second tier national development banks. The final beneficiaries of the program would be isolated populations with no access to reliable energy sources. Resources would be used to finance gaps in the project's financing or company's plans to scale up implementation, and to capitalize dedicated financial instruments that local financial institutions could promote to encourage energy suppliers and customers to invest in and pay for the RE services. Resources would also be used to partially mitigate credit and performance risks related to the project or those perceived by other lenders, to guarantee short or medium term loans, to bridge timing gaps between capital expenditure needs and payment of government subsidies, and as lower-cost loans to help mitigate the high upfront capital costs of RE systems. Financial products would be aligned with specific project risks, and would be consistent with the general findings and recommendations of prior review and analysis of the market risks in the target countries.

What is the longer-term vision?

Mini grids and distributed power generation systems offer the prospect of decentralized energy service provision analogous to that provided by modern mobile telephone networks. The

Program would expand access to clean, reliable, and affordable energy, improve the lives of people who do not yet have access to electricity and provide benefits such as improved health, better education, and opportunities for income generation. Market transformation will occur by removing financial and other barriers to private sector-led mini grid development, and the demonstration of viable commercial business models will be catalytic in increasing the size of the market. It is anticipated that successful investment models in local RE generation, that consider solutions in an integrated manner to incentivize investments by energy suppliers, payments by local costumers and innovative approaches for PPPs would have an important demonstration impact for further replication and scale. Mini grid and distributed power generation will leapfrog traditional GHG-intensive fossil fuel based generation, and promote the development of clean, renewable, reliable, low-carbon forms of energy.

Most opportunities in this sector come from entrepreneurs in developing countries, who, by proving successful commercial business models, can have an impact at the domestic level. However, entrepreneurs do not usually design their business plans to move quickly to investments across multiple countries and regions. By incorporating an energy access program of mini grids and distributed power generation into a global program, CTF would enhance scale up and replication of successful models to the regional and global level. There are strong parallels for this program across different regions (e.g., the Indian subcontinent and sub-saharan Africa); similar constraints and barriers, similar systems of mainstream electricity provision, similar large underserved sections of society without proper access to electricity, similar markets for new energy access services and similar actors and institutions. Lessons could be shared across regions , and in this sense, the value of a global DPSP program would be significantly enhanced, and ultimately would become larger and more effective than the sum of its parts.

Market size potential

Excluding the Phase I countries of India, Indonesia and Philippines, there remains enormous potential for development in Africa, Asia, Latin America and the Caribbean. While the absolute numbers and percentage of un-electrified populations in Latin America & Caribbean are smaller compared with other regions (although a number of countries still have 20-30% electrification gaps), the identified challenges are equally relevant. Please refer to table below for figures on the un-electrified population in different regions and to Appendix 1 for information on potential Phase II countries.

Region	Un-electrified population (millions)
Africa & Middle East	354.9
Asia & the Pacific (excluding Phase I countries of India, Indonesia and Philippines)	119.6
Latin America and the Caribbean	41.0

In the other CIF pilot countries in Asia and the Pacific, ADB’s Energy for All team has developed a pipeline of potential private sector mini grid and distributed power generation projects. With 62 million un-electrified households, Bangladesh represents the largest potential

market in Asia to be reached, with Myanmar (a possible new CIF candidate) second at 27 million. The investment needs that have been specifically identified through ADB's efforts include: Bangladesh (approximately \$15 million), Cambodia (\$2 million), Maldives (\$5 million), Nepal (\$10 million) and the Pacific Islands (\$12 million). This only represents a partial snapshot of the market. While the configurations will vary by country, these projects include solar PV mini grids, solar home system distribution networks, mini-hydropower systems and small wind and biomass/biogas systems.

In Africa, the IBRD has identified opportunities for mini-grids investments with high potential for replication in the following CIF countries: Ghana (\$15 million) and Mali (\$13 million).

Ghana's SE4ALL plan estimates that 65% of the population currently has access to the electricity grid. As a result, the single largest remaining access challenge has been identified as the region surrounding Lake Volta, where the presence of complex flooded terrain, and inhabited islands, peninsulas and waterfronts make it difficult and prohibitively expensive to electrify with conventional grid-based electrification. Preliminary assessments show that 200 inhabited islands and 2,000 lakeside communities are not likely to be connected to the national electricity grid in the near future, therefore depriving from access to electricity an estimated 550,000-1,870,000 people.

Over the past five years, the World Bank has supported the Ghana Energy Development and Access Project (GEDAP), which has helped promote off-grid electrification (including mini-grids) through provision of solar home systems, as well as solar PV-based lighting to clinics, schools, and community centers. Under GEDAP, the ongoing development of four mini-grids pilot projects in the lake region will serve 4,500 people in these four villages divided into about 600 households. These villages are meant to operate on the basis of hybrid energy generation (using either solar/wind and diesel in some combination).

With support from the CTF, the mini-grid project in Ghana would electrify an additional 60 villages (approximately 12,000 households, clinics, schools, and security posts) in the immediate vicinity of Lake Volta using mini- and micro-grid systems implemented by private sector entities. The use of CTF funding will be restricted to financing the renewable energy component of the hybrid systems. Based on the pilot exercise currently under evaluation through the GEDAP program, the electrification of these 60 villages would cost in the order of \$50 million. The request to the CTF is for \$15 million, with additional co-financing expected from private sector and other sources. The proposed CTF-funded project would be incorporated into the World Bank-supported successor project to the GEDAP program.

In **Mali**, a landlocked country with an electrification rate of roughly 20%, over 10 million people lack access to electricity. Conventional distributed generation, which is mostly based on diesel gen-sets, is extremely costly due to high fuel transportation costs. Therefore, state-owned electricity (SOE) companies such as the public utility EDM-SA have traditionally been reluctant to expand access to rural areas given the investment and operating costs involved. Nevertheless, Mali has developed an active rural electrification sector based on a bottom-up approach, whereby local private operators have piloted new business models to deliver energy services in rural areas. These local entrepreneurs have acquired significant expertise in operating small grids with

renewable energy sources (mainly solar PV). This expertise can be highly valuable for EDM-SA. Nowadays, EDM-SA is operating 20 isolated networks.

The CTF-funded mini-grid investment in Mali would pave the way to scaling-up the integration of solar PV in selected SOE isolated networks through PPPs, by leveraging the experience of private actors in installing and operating small-scale solar PV hybrid systems. The intervention will target some of the existing 20 isolated grids operated by the utility EDM-SA. Likely targets would be localities in which EDM-SA has just started or will soon start to operate within its concession perimeter. These pilot projects will be developed by private sector vehicles associating local private entrepreneurs with experience in renewable energy, other equity investors/commercial lenders, and the utility-company (also purchaser of power). CTF financing will be restricted to renewable energy components of the hybrid systems (e.g., solar panels, battery inverters). The total project cost is estimated at \$38 million. The request to the CTF is for \$13 million. Additional co-financing is expected from the private sector, \$25 million. Existing World Bank operations in Mali would be used to finance any “soft” expenses such as technical assistance necessary to successfully implement the project.

Complementarity with SREP-funded activities in Mali. This CTF-funded proposal aims to seize the significant potential for scaling-up solar PV generation in the neglected sub-segment of medium-sized isolated mini-grids given the high cost of conventional generation alternative. This segment lays in-between rural electrification by local entrepreneurs through mini-grids and national grid expansion. The complementarity between the proposed mini-grid project funded through the CTF and the interventions funded through the SREP investment plan for Mali are illustrated in the table below.

	SHER Project (SREP, IDA, GPOBA)	Proposed CTF-funded Project
Typical size of system	50 to 250 kW	500 kW to 2 MW
Localities targeted	400 to 1500 connections per site	1500 to 5000 connections per site
Investments financed	Solar PV + grid extension	Solar PV
Soft activities financed	Technical assistance, capacity building	N.A. (other projects and trust funds would be used as needed).
Operators	Local private concessionaires	PPP project company
Location	Outside of EDM-SA concession perimeter	Inside EDM-SA concession perimeter

For Latin America and the Caribbean, IDB has identified a pilot program in Colombia for \$25 million that could be replicated in other CIF countries. In addition, there is a perceived need in this region to further develop larger-scale, commercially-based (even if still with some subsidies) business models that have been developed in other regions (e.g. Asia). There are some concrete investment/program opportunities already identified in countries like Colombia and Peru, for which CTF investment capital would be relevant. To further identify and develop the pipeline of eligible investments, IDB would also propose some limited CTF grant funding for short, targeted

market assessments in a few other CIF pilot countries. Further details are provided in the next section.

Also in the Latin America and the Caribbean region, the IBRD has identified opportunities for mini-grid investments in **Haiti**, where an access rate below 40% is depriving over 5 million people from electricity, mostly in low density rural areas. Public sector interventions have largely focused on improving the condition and efficiency of the power system through the reconstruction and rehabilitation of the grid. As a result, the further electrification of rural areas has been low and very limited. On the other hand, the private sector has been relatively active in the area of rural electrification, managing all existing mini-grids in the country (35 as of now). As noted by the ongoing World Bank energy project which supports the creation of an enabling environment and institutions for off-grid electrification, the potential and need for private sector engagement in rural electrification is significant. The proposed CTF-funded mini-grid investments will help unlock private sector participation in rural electrification in Haiti through the demonstration of viable commercial business models. Delivery models and ownership arrangements (e.g., PPPs, cooperatives), technology choice, target area and number of mini-grid investments are unknown at this stage. The request to the CTF is for \$10 million, which would be combined with funding from private sources in an expected leverage of at least 1:1.

C. Proposal Terms and Implementation Strategy

- CTF funds would be deployed as investment capital (e.g., loans, guarantees, quasi-equity and equity products) either alongside MDB investments or on a stand-alone basis.
- In specific cases where a previous pipeline assessment is not available but the program is deemed to be relevant, provision of limited grants to MDBs is proposed to conduct short targeted market assessments to identify relevant companies, business models and a pipeline of investments. This money would also be used to confirm financial instruments and investment needs to be supported by CTF in each case, and assess other key market conditions (regulatory aspects, key characteristics of demand/un-electrified communities, among others) to confirm the viability of company plans and relevance of CTF financing. Such market assessments will inform where and how a subsequent CTF program aligned with the principles of this concept program should be proposed for funding. This should allow for properly targeted and designed project proposals, with reduced implementation risk, and enhance the likelihood of providing adequate demonstration for scale up and replication.
- Key stakeholders are expected to be communities and related groups where investments are located, implementing companies, financial institutions, government agencies and regulators. Local governments, including municipalities, would also be consulted and considered. Stakeholder engagement has already been carried out in several target countries through ADB's Energy for All initiative.

D. Results Framework

Indicator	Unit	Performance
GHG emission reductions	tCO ₂ e/year	TBD
CTF financial leverage	ratio	TBD
Increased supply of RE		
- Installed capacity	MW	TBD
- Generation	GWh/year	TBD
Number of previously non-electrified households provided with access to electricity	Number	TBD
Number of new jobs generated	Number	TBD

Appendix 1 - Potential Phase II countries⁷

	Country	Population (million)	Electrification rate	Un-electrified population (million)
Africa & Middle East	Nigeria	138.3	52%	66.1
	Ethiopia	78.3	23%	60.3
	Congo, Dem. Rep.	66.6	15%	56.5
	Tanzania	38.9	15%	33.1
	Kenya	36.5	23%	28.1
	Mozambique	20.2	20%	16.1
	Yemen, Rep.	23.0	44%	12.9
	Burkina Faso	14.8	13%	12.8
	Niger	13.3	9%	12.0
	Morocco	34.3	65%	12.0
	South Africa	43.8	75%	10.9
	Mali	12.4	17%	10.3
	Zambia	12.0	19%	9.7
	Ghana	23.3	61%	9.2
	Liberia	3.3	3%	3.2
	Egypt	81.6	98%	1.6
	Middle East and North Africa Region			
				354.9

⁷ <http://datamarket.com/>, <http://www.geni.org/>

	Country	Population (million)	Electrification rate	Un-electrified population (million)
Asia & Pacific	Bangladesh	153.5	60%	62.0
	Myanmar	53.4	49%	27.3
	Cambodia	14.4	31%	9.9
	Nepal	29.5	76%	7.0
	Papua New Guinea	5.9	11%	5.3
	Laos	6.7	46%	3.6
	Vietnam	86.1	96%	3.4
	- Solomon Islands	0.6	12%	0.5
	Mongolia	2.9	86%	0.4
	- Vanuatu	0.2	19%	0.2
	Tajikistan	7.7	99%	0.1
	Samoa	0.2	80%	0.0
	Tonga	0.1	80%	0.0
	Maldives	0.4	100%	0.0
	Kazakhstan	15.3	100%	-
	Thailand	65.5	100%	-
Pacific Region				

119.6

	Country	Population (million)	Electrification rate	Un-electrified population (million)
Latin America and the Caribbean	Brazil	191.9	93%	13.4
	Peru	29.0	75%	7.3
	Mexico	110.0	95%	5.5
	Haiti	8.7	38%	5.4
	Colombia	44.9	92%	3.6
	Honduras	7.6	70%	2.3
	Bolivia	9.2	80%	1.8
	Jamaica	2.8	70%	0.8
	Chile	16.4	95%	0.8
	Saint Vincent and the Grenadines	0.1	67%	0.0
	Dominica	0.1	88%	0.0
	Saint Lucia	0.2	98%	0.0
	Grenada	0.1	100%	0.0
	Caribbean Region			

41.0

	Country	Population (million)	Electrification rate	Un-electrified population (million)
ECA	Armenia	3.0	100%	-
	Turkey	71.9	100%	-
	Ukraine	46.2	100%	-

-

2. REVISED PROGRAMS

a. INCOME PARTICIPATION PROGRAM (INPP)

Proposal Name	Income Participation Program (InPP)
MDBs interested in participating:	AfDB, EBRD, IFC
CTF pilot countries in Phase I (proposal pending):	All CTF Pilot Countries
Other potential countries (CIF pilot countries) in Phase II	Will be finalized upon program approval
CTF amount requested:	USD \$\$ (AfDB) + \$\$ (EBRD) + \$\$ (IDB) + 20 (IFC) million

This Program will seek to deploy the CTF funds within the equity layer of the financing structure of projects, allowing other investors, including MDBs, to take risks that they will not be able to take otherwise. It intends to fill a gap in the available financing for climate-friendly investments in the private sector—by providing a targeted band of equity and equity-like instruments. Unlike concessional debt, CTF equity and equity-like instruments will act as growth capital, cushioning the project risk and creating conditions for project sponsors to expand the scope of projects, develop new business models, and adopt new technologies. Increased volume of attractive climate-smart deals will draw stronger debt flows, further enhancing the overall private sector crowd-in effect.

E. Intro – Program overview/description.

In capital markets of many countries, particularly middle income countries, including CTF pilot countries, early stage financing is generally available in form of entrepreneurs’ seed capital or series A (or others) financing from venture capital providers. Similarly, fairly well developed financial sector is often capable of providing commercial debt financing, suitable for project needs. However, an additional bridge piece of “senior equity” is often missing or not available in the amounts needed to be able to close the financial package of the investment, as the perceived risk-return profile of such piece does not meet the requirements of either group of financiers.

The absence of the needed “senior equity” growth capital is especially acute for clean energy projects, where the financing structure is skewed upfront, especially in developing countries, where the banks often require larger portions of equity at the financial closure (up to 50%⁸). Hence, the deficit of an equity-like instrument that could be tailored to

⁸ World Bank, 2013, Unlocking Commercial Financing for Clean Energy in East Asia

specific needs of a particular project and that could absorb risk, often times results in project sponsor not being able to reach financial closure.

The Income Participation Program (InPP) will offer a menu of instruments that will provide risk capital to projects in exchange for a participation in income distribution and an ability to enjoy potential upside. This menu will include equity-like investments (common or preferred shares), mezzanine financing, guarantees, and other subordinate instruments that deliver certain degree of income participation corresponding to the risk capital being provided.

Following the guidelines of the Dedicated Private Sector Programs (DPSP), the funds allocated to this Program will be made available globally to all interested relevant MDBs. The Program will undertake a project-by-project approach and MDBs will ensure appropriate alignment of interests between all parties in each transaction. MDBs are expected to blend the CTF funds with their own resources and take positions in the financing structure of a particular investment. Standard MDB policies, procedures, and practices will be applied, including in relation to ownership and control matter.

Initially, the Program may pick countries with a more structured legal framework and relatively developed financial markets that are sufficiently liquid to allow project sponsors to raise longer term debt, but – most importantly – to allow the MDB and CTF investments to have a clear view on the likely exit possibilities. A specific exit scenario will be structured given the project and country circumstances, but can be chosen from a menu of options, including direct exit through capital markets, equity put options, redeemable shares, and others.

F. Business Case/Model

Market Description

- What are the target market/sub-sector segment(s)?
All CTF pilot countries; all market/sub-sector segments
- Why is this not happening at the present time?
Over the past decade, renewable energy and energy efficiency technologies have come a long way, with many moving closer to commercial viability and bankability. Yet, even in the developing countries with the most liquid financial markets, the need for risk capital remains **largely unmet**. While various financiers are ready to provide venture capital with high return potential or low-risk/stable-return capital, the more “regular” or standard equity financing is often lacking.

The lack of this later stage equity financing is generally observed for most developing countries, but especially critical for the clean investments segment, where upfront equity requirements are particularly significant. Moreover, mitigating climate change requires investments in new sectors, technologies and business models—these types of investments often have no track record of historic returns and in cases where some limited track record

exists the returns are not high enough to satisfy the needs of traditional risk capital providers, while the risks are not low enough to draw in traditional debt providers.⁹ In addition to this, the risk-return perception is further aggravated by: (a) greater asymmetry of information about companies in the developing countries, particularly about their governance and ownership structures; (b) uncertainty about exit potential due to lack of depth of the financial sector; and other factors.

- Market failures or barriers to be overcome
 - Including the perceived and real risks associated with this type of investment
- This Program intends to help improve overall risk-return perception of clean energy investments. It seeks to demonstrate to other market participants that it is possible to place risk capital profitably (ie. with returns commensurate to the level of risk) in these sectors. The presence of an MDB in the transaction would leverage country and sector knowledge and relationship, helping better understand investment environment and manage investment risk. It will also provide some necessary comfort to ensure crowding-in senior lenders, including MDBs own financing, and third party capital. This arrangement will allow CTF funds to act as a catalyst in mobilizing the investment, while benefiting from knowledge, experience, and leverage of MDBs participating in the transaction and other financiers. The objective is to create a track record of successful investments to encourage future private sector investments flow that are willing to take equity and equity-like positions in climate projects.

How will proposal address these?

- lessons from existing experience
 - In recent years, MDBs have collectively invested in equity investments in climate-related projects. For example, since 2007 IFC has invested over USD 1 billion of equity in climate projects, leveraging more than USD 10 billion of private sector funds. Among these investments, over a quarter was deployed in few dozens of climate-related Private Equity Funds, directly leveraging almost USD 1 billion of private sector money. As MDBs and other players in the international financial system are looking for ways to significantly expand their footprint in these types of investments, expanding the spectrum of commercially viable climate-smart projects will require a targeted band of equity and equity-like instruments which could bear enough risk to be able to attract commercial capital either from private arms of MDBs or from other private financiers.
- how will this promote transformational change through the private sector?
 - The goal of this program is to address the “chicken-and-egg” problem faced by climate-related projects seeking equity financing. As mentioned earlier, mitigating climate change requires investments in new sectors, technologies and business models, and in new and emerging companies or more established companies entering a new sector. These investments have little track record to attract equity

⁹ For example, in certain cases, the expected returns on equity of the renewable energy project can be as low as 10%. (Bloomberg New Energy Finance, 2013)

capital, and because they are unable to raise adequate equity financing, these types of projects often do not take place, which in turn prevents their ability to build a track record.

Concessional equity and equity-like instruments could not only help to further scale up the number and volume of investments by establishing this much-needed track record, but also – and most importantly – open up new sectors, expand the scope of these risk-capital investments, and support the momentum for the climate investments.

Deploying CTF equity-like funds will allow to partially de-risk projects, enabling project sponsors to engage in projects in less developed sectors or less proven technologies. This, in turn, will allow both the MDBs and the private sector project sponsors to be first-movers in the use of a technology or a business model, creating demonstration effects, and improving the perception of risk of climate projects. Moreover, bearing greater risk than that of the lenders, the CTF equity funds can help draw in debt financiers who would not normally finance the project without the presence of the MDB and CTF financing in an equity-like format.

What is the longer-term vision?

- What will it take to make this sustainable without subsidy
If the CTF funds are invested with a calibrated risk-taking strategy, it is expected that the CTF InPP Program will be able to create a necessary draw, so that a number of other purely commercial investments will follow after seeing that this type of risk capital can be placed profitably (ie. with commensurate returns).

Market size potential

- What is the estimated market demand?
Equity investments provide critical support to the expansion of new technologies and business models for the climate smart-projects. While, in just few years IFC has completed over a hundred of equity projects in the climate space, there is a significantly greater potential pipeline of projects out there that cannot move forward without securing additional equity-like funds in the capital structure.
- Potential pipeline
As IFC's historical climate equity pipeline indicates no discernible pattern by technology or region, it is proposed not to narrow the Program by introducing a geographic or sectoral focus, as it will significantly limit MDBs' ability to build a pipeline and deploy funds. Specific pipeline will be formed and finalized upon program approval.

G. Proposal Terms and Implementation Strategy

- Financial instruments to be used
This Program proposes to use equity and equity-like instruments, from which a specific investment package can be constructed given certain country, technology,

and project circumstances. The instrument toolbox will include: equity and equity-like products (common or preferred shares), mezzanine financing, guarantees (tailored to equity and mezzanine products), and other subordinate instruments that deliver certain degree of income participation.

InPP will seek to remain flexible with regards to investment target and modality, which can include: (a) direct investments in renewable energy and energy efficiency projects/companies; (b) investments in the qualified portfolio of projects through established or specifically created financial intermediaries or investment vehicles; (c) providing unfunded investment guarantees¹⁰ without assuming a direct position in the capital structure of the project sponsor company or financial intermediary.

Investments under the InPP Program will be structured to fill an equity gap and to provide enough comfort to senior lenders, so that the project could reach financial closure, but at the same time achieve an alignment of interests with other equity holders, so that the combination of the “skin in the game” and anticipated payoffs would provide strong motivation to other equity investors. The structure of the specific investment will be determined based on the project needs, and sector and country specifics.

The MDBs will draw on their experience from having structured successful equity investments both on their own accounts and by mobilizing third party funds. In each case, the MDB will strive to achieve an investment structure that can deliver the best combination of risk protection, GHG reduction benefits, and leverage. Some of the effective structures may include:

- Investment in fund vehicle with capped returns: CTF funds can be invested pari passu with own MDB resources into a fund vehicle. While MDB will invest on the expectation of achieving market level returns, CTF returns can be capped below market (at least for a portion of funds), therefore, allowing the fund to broaden the investment scope to include clean energy projects with higher perceived costs or risks;
- Direct investment: CTF funds can be invested with the MDB's own funds into a company or a project SPV. CTF funds can be invested on a below market returns (at least for a portion of funds) cushioning other investors, including the MDB;
- Bridging financing gap: CTF funds can be used to bridge a financing gap in a company or a project where required amount of equity is not available on commercial terms, but there are at least some investors willing to provide financing;
- Investment with convertibility feature: CTF funds can be invested as mezzanine risk capital. For example, the funds can be provided in a form of

¹⁰ Providing downside protection without disbursing CTF capital upfront.

an income participating fixed income instrument, in which some or all of returns deferred during the construction period. Once the project becomes operational and the financing plan becomes completed, the instrument can be converted into equity (or other income participation form). This way CTF funds will provide a required concessional element upfront, while retaining an ability to later recoup higher rate of return through participation in income of the project.

- Key stakeholders and implementation strategy
All MDBs, private sector project developers, lenders and other financiers. The involvement of CTF operational focal points, and other governance and decision making will follow the general procedures outlined in the main text.
- Specific country considerations, if any
N/A
- Readiness or the timeframe for project approvals by CTF TFC under this program¹¹
DPSP and overall CTF readiness criteria will apply

H. Results Framework

- Core indicators and targets to be used to monitor outcomes and impacts
 - GHGs reduced: GHG reductions will be measured by the relevant MDB using its existing methodologies and, after the full disbursement, is expected to be somewhere in the range of 300,000 to 1,000,000 tCO₂e per year.
 - MWh generated or saved: Annual electricity generation enabled through the current allocation of the program is expected to be in the range 500 to 1,500 GWh per year.
 - Leverage from CTF Funds (separating public and private sources): The funds will be used in combination with MDBs' own resources, project sponsor's funds and other third party funds, delivering high and sustainable level of leverage. As the funds will be used at the equity level of the financing structure (or as an equity guarantee), the overall leverage is expected to be in the vicinity of 1:5 for direct investments and 1:20 for investments in funds or financial intermediaries. This Program is expected to have significant ability to leverage private sector capital partly because of the value addition that MDBs bring and partly because strategy and risk profiles are specifically

¹¹ "Resources should only be committed for projects or programs that are ready to move forward to final approval and implementation. For private sector projects:

i. initial project concept (or equivalent) approved or under review by MDB management;

ii. operation leader assigned; and

iii. inclusion in the MDB's project tracking system." Proposal for Further Enhancement of CTF Pipeline Management, CTF/TFC.11/10, April 10, 2013.

designed to appeal to commercial funds, including institutional investors. This will allow for a significant catalytic effect.

- **Co-Benefits / Development Impact**

The program will generate various co-benefits including: (i) additional amounts of private capital, including foreign capital, attracted into clean energy domestic investments; (ii) accelerated rate of technology innovation, adoption, and penetration leading to rapid cost and risk premiums reduction; (iii) avoidance of supply chain interruptions, assuring greater stability in employment, business development, and progressive cost reduction; (iv) increasing depth and breadth of financial markets; (v) job creation driven by expansion of businesses; (vi) attracting international fund managers and catalyzing the local investor base; and (vii) likely achieving a higher impact than most existing operations in terms of many development metrics; and other co-benefits.

One of the risks of the Program is the ability of the MDBs to structure and execute an exit for the individual investments. As indicated above, to mitigate this risk the MDBs will carefully assess the depth and breadth of the capital markets as well as evaluate exits possibilities.

I. Special considerations

- If country and CTF engagement procedures will differ from common approach
None

J. Funding:

- Funding needed to launch a first phase of a program (if this is the first proposal) – inclusive of any grant/TA component for capacity building or advisory services or funding needed for a scale up to other CTF/ CIF pilot countries (phase two).

USD \$\$ million. These funds will be invested on the expectation to recover both the principal amount of the investment and potentially additional upside returns.

b. MEZZANINE FINANCING FOR CLIMATE CHANGE

Proposal Name:	Mezzanine Financing for Climate Change
MDBs interested in participating:	ADB
Relevant CTF pilot countries in Phase I: (if there was a Phase I)	N/A
Other potential countries (CIF pilot countries) in Phases II	India, Indonesia, Philippines, Thailand, Vietnam, Bangladesh, Cambodia, Lao People's Democratic Republic, Maldives, Mongolia, Nepal, Pacific Region, Papua New Guinea, Tajikistan
CTF Phase II funding request:	\$50 million

A. Intro – Program overview/description.

The Program involves the use of a mezzanine co-investment facility to overcome barriers to climate-related equity investments in emerging markets. Whilst mezzanine finance is generally available in US and European capital markets due to their maturity, its absence in Asia means projects with debt or equity fundraising gaps are often unable to reach financial close through traditional financing solutions (due to a risk/reward imbalance). Mezzanine finance addresses these funding gaps while at the same time offering benefits to borrowers, investors and senior lenders. Particularly in less mainstream, higher risk developing countries where financing gaps are more common, mezzanine financing offers a way to catalyze investment in climate-related projects that may not otherwise have occurred. The Program would enable a greater number and larger size of climate-related equity investments to proceed to implementation and would likely increase the return on these investments while not excessively increasing levels of senior debt or lessening returns on equity.

This note outlines a proposal for a \$50 million mezzanine co-investment (or “sidecar”) facility for ADB’s main climate finance equity fund, the Climate Public-Private Partnership Fund (“CP3”)¹². Approved by ADB’s board, CP3 is targeting a total fund size of \$1 billion, and intends to reach its first financial close in Q3 2014 of approximately \$200-400 million. The CTF funded mezzanine sidecar facility would co-invest alongside ADB’s CP3 equity investments in the form of subordinated debt.

Whilst this subordinated debt would not enjoy the same level of cash flow seniority and security as senior debt, it would retain the key characteristics of debt, namely a requirement for full repayment of principal to lenders, and the delivery of a minimum return in the form of a payment coupon. Notably, the CTF funds would be ranked higher in the cash flow waterfall for individual projects (i.e., less risk) than ADB’s equity investments through CP3. It is anticipated that the mezzanine financing facility would be a valuable, catalytic addition to the CP3 equity investment

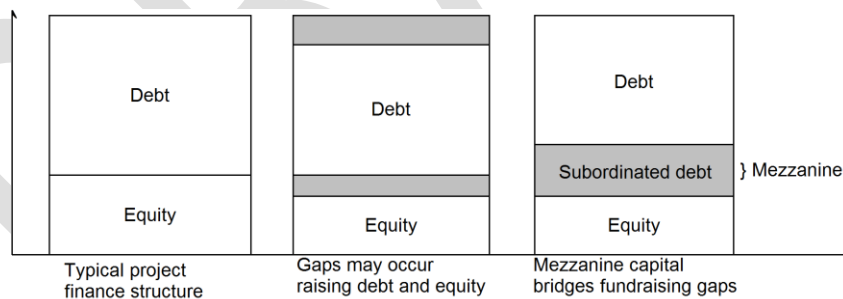
¹² <http://www.adb.org/projects/documents/climate-public-private-partnership-fund>

program, and by creating a combination of market instruments to better address financing needs, the impact of the combined investment program will likely be enhanced and amplified.

B. Business Case/Model

Market Description

Approximately \$1 trillion per annum in climate finance is needed to contain global temperature increases within a 2°C limit to avoid dangerous climate change¹³. It is widely recognized that neither public funds nor private funds alone can bridge this gap, and large-scale public-private partnerships (PPPs) are needed to tackle this issue in a meaningful way. As such, ADB has developed CP3 as a way to facilitate equity investments alongside large institutional investors, pension funds and public sector institutions in renewable energy, resource efficiency and natural resource asset funds and projects. With a final target fund size of \$1 billion, the fund will be a significant step for clean energy financing in Asia. However, alternative investment vehicles, such as a mezzanine co-investment facility, are needed to maximize the impact of this capital, the majority of which is likely to be invested as equity. While middle income markets (e.g., China, India and Thailand) generate reasonable equity investment opportunities (and attention from lenders for bank funding of projects), small Asian markets such as Nepal, Sri Lanka, Myanmar and Cambodia face funding gaps and higher risk premiums from both lenders and investors. What might be a viable project in middle income markets becomes unviable in less developed countries. As well as increasing the expected returns on equity investments, the mezzanine facility would increase the geographic range of potential investments into higher risk countries where projects often struggle to reach financial close. The following diagram shows how the facility would catalyze equity investments for projects unable to reach minimum fund raising requirements.



How will the proposal address these?

The Program would help to address financing gaps by providing a financial product that can catalyze new climate-related investments. For borrowers the facility would offer a long-term, flexible financing instrument able to bridge financing gaps when bank debt is either not available or unsuitable. It would be less restrictive than bank debt and would put less strain on projects' cash flows (more specifically, the debt service coverage ratio and senior debt to equity ratio). For investors, mezzanine finance is cheaper than equity, and the program would reduce the debt and

¹³ IPCC 1995. Second Assessment Report: Climate change 1995, commonly known as "Second Assessment Report" or "SAR".

equity fund raising requirements, likely increase returns on equity, and would allow investment to occur in new geographic regions or sectors experiencing financial barriers (which is commonly the case for climate-related investments in emerging markets). For senior lenders, benefits from the program would involve less restrictive financial covenants and would allow them to maintain priority on contractual cash flows whilst benefiting from the "equity-like" layer in the finance structure.

Given the absence of dedicated mezzanine funds in Asia and the partial reluctance of local banks to provide sufficient leverage at subordinated level, the Program would add a new instrument to improve the risk/reward return of a range of investments contemplated by ADB for CP3. Thus, the Program would be a key addition to addressing the challenges of climate change and the provision of energy services to more challenging markets. It would ultimately: (i) target climate change mitigation technologies with significant potential in terms of greenhouse gas (GHG) emission reductions, (ii) maximize the mobilization of co-investment for low-carbon development, (iii) increase the supply of renewable energy, and (iv) increase energy efficiency. It would contribute to overcoming a number of barriers faced by private sector institutional and equity investors such as (i) first-mover risk, (ii) high capital and operational expenditures, (iii) technology risk, (iv) revenue volatility, (v) sovereign risk, and (vi) financing risk.

What is the longer-term vision?

The longer term vision is to increase the effectiveness and scope of climate finance equity investments through the provision of flexible and catalytic financing facilities such as the one considered in this proposal. It would effectively create a third tier of financing available in the Asia market, increasing the impact of public and private finances and lead to a deeper financial market for bridging the climate investment gap.

For climate finance in developing countries, MDBs are centrally placed to play a key role for combining private and public sector institutions, both at investment and management levels. Institutional investors and pension funds are generally more willing to participate in investment vehicles tailored by MDBs to suit their risk/return profiles, and MDBs can bring value addition by providing: (i) appropriate financial facilities (equity, debt, dedicated technical assistance and other climate change funds); (ii) the knowledge platforms and technical experts from a broad range of sectors; and (iii) country dialogue and engagement to assist with implementation and reduce policy, regulatory and political barriers. However, to best utilize funds being raised for climate equity investment programs, alternative investment vehicles such as mezzanine financing facilities are needed, and thus program such this will be a key step to realizing the full potential of future climate-related equity investment programs.

Market size potential

With a climate financing gap of \$1 trillion, the full market potential for mezzanine facilities is limited mostly by the size of climate equity investment programs under development by MDBs and other financial institutions. For CP3, the knock-on effects from the successful demonstration of a large Asia-Pacific based climate equity fund are expected to be significant. The size and wide reach of the fund is expected to have a replication effect across different jurisdictions,

leading to further benefits in terms of GHG reductions at a country, regional and even global level. It would send a strong message to large institutional investors that climate related investments can provide attractive risk-adjusted returns and deal appropriately with market, operational and regulatory risks associated with green investments in emerging markets. In developing countries, increasing the deal flow would provide authorities with the experience, familiarity and capacity to manage future similar transactions. Through the provision of long-term investment capital, the MDB and CTF commitments are expected to enhance the range and size of investments and to mobilize additional capital through lowering the perceived risk of investments.

C. Proposal Terms and Implementation Strategy

Mezzanine finance would be deployed for individual investments according to the principle of minimum concessionality. This will be considered on a case-by-case basis to catalyze investments that would not otherwise have occurred. CTF funds would be deployed as subordinated debt, alongside ADB equity investments through CP3.

The funds would rank between senior debt and common equity in the form of subordinated debt, and would thus incur less risk than ADB's equity investments for CP3. The subordinated debt would include a obligation to return the full principal amount of the loan and a current interest coupon (repayable over the life of loan). This structure can induce additional senior lenders into a project, because they maintain priority of available project cash to service their debt (meeting minimum coverage ratios), while at the same time, providing another funding source that must be paid before investors can receive dividends from the project. .

It is proposed that the mezzanine funds would be deployed by the CP3 investment manager, which will be a joint venture partnership between ADB and an experience private sector fund manager¹⁴. As such, ADB will play a critical role in the decision where and when to deploy this capital into those projects or funds where concessionality is justified. The funds would not be co-mingled with CP3's investment, but deployed as a separate co-investing facility with distinct legal agreements, rights and remedies. In general, it is unlikely these funds would be deployed in middle income markets where the risk/reward perspective is a more commercial proposition. It would however be deployed in small, lower-income and post-conflict markets which are generally underinvested by commercial funds. ADB would play the primary role of negotiating and structuring any co-investment from CTF funds.

¹⁴ Information is confidential at this stage.

D. Results Framework

Indicator	Unit	Performance
GHG emission reductions	tCO ₂ e/year	TBD
CTF financial leverage		
- Private	ratio	TBD
- Public	ratio	TBD
Increased supply of RE		
- Installed capacity	MW	TBD
- Generation	GWh/year	TBD
Number of new jobs generated	Number	TBD

MDBs interested in participating:

Countries pipeline:

ADB

India, Indonesia, Philippines, Thailand, Vietnam, Bangladesh, Cambodia, Lao People's Democratic Republic, Maldives, Mongolia, Nepal, Pacific Region, Papua New Guinea, Tajikistan

Requested funding:

USD 50 million

3. NEW PROPOSALS –

a. PROGRAM TO CONNECT SMALLER PRIVATE RE UTILITIES BETWEEN PRIVATE PARTNERS

Facility Information Overview	
Countries covered	Jordan, Egypt, Tunisia, Morocco (EBRD SEMED Region)
Sector Covered	Grid-connected, utility scale renewables and co-generation up to 20 MW
Financial Structure	
EBRD Finance	USD 200 million
Donor Co-Finance	USD 90 million USD75 million CTF USD 15 million GEF
Sponsor Co-Finance/Commercial Lending	USD 250 million
Investment Period	2014 to 2018 (four years)
Expected Outcomes (TBC)	
Investment Volume	USD 540 Million
MW Installed	270
CO2 Emissions Reductions	500kt/yr or 7.5 mt/lifetime) ¹
Cost Effectiveness	CTF USD14.4/tCO2 (lifetime) GEF USD6.6/tCO2 (lifetime) ² TPV USD72/tCO2 (lifetime)
Leverage Ratio No Less Than	1:4 CTF 1:10 GEF ²

¹ 15 years, assumed Grid EF 0.6tCO2/MWh

² The higher CO2 reductions per USD and the higher GEF leverage ratio reflects the higher risk assigned to the GEF portion.

Introduction

The EBRD is developing a facility aiming to kick-start investment in private renewable energy/on-site co-generation projects in its countries of operation in the SEMED region, with a focus on small to medium-sized (sub 20MW) and private sponsor-to-private off-taker projects (i.e. projects which are typically not supported by subsidies).

The intention is to create a USD 540 million facility to combine donor financing, EBRD financing (US\$200m over four years), and sponsor equity/commercial finance (USD with a EUR 4 million EBRD or bilateral donor-financed policy dialogue package. This builds on the successful experience of EBRD's USELF facility.

To support this facility, the EBRD intends to submit a proposal to the DPSP for US\$75m of Phase II funding. This will sit alongside US15 million from the GEF Private Sector Facility,

which will be used to support financing slices in projects that CTF is unlikely to support (equity, sub-ordinated debt).

Rationale for the Programme

EBRD SEMED countries of operation have, overall, created the right conditions for private sector investment in very large, state driven renewable energy projects, as exemplified by MASEN in Morocco. However, there is significant potential for the development of smaller (sub 20MW) and private-to-private (private sponsor and private off-takers) projects. This has yet to materialise due to:

- i) a poor or non-existent regulatory environment; and
- ii) a financing gap, since commercial banks or IFI funding tend to focus on the larger, “safer” projects, which are also more likely to attract concessional financing from donors.

One of the key findings of the pipeline building was that there is considerable potential not just for auto-generation, but also for private-to-private contracting for renewables capacity, with the grid being used to ‘wheel’ the power, and with project developer revenue not dependent on feed-in tariffs, but rather on the direct payment from another user. At the end-user level in specific sectors in the region, power prices have moved close to or reached parity with retail prices, making these investments viable, albeit risky, due to reliance on the local grid for wheeling, and an untested market and regulatory environment. This aspect would be the key focus of the further development of the pipeline, with a view to encouraging non-traditional power developers to enter the market and thereby broadening it out.

The SEMed countries are well positioned to attract private investment in renewable energy due to strong solar and wind natural resources. However, in order to attract private sector investment in renewable energy, these countries must address the significant barriers of inadequacy of local regulatory and legal frameworks and the absence of cost-reflective tariffs. Due to these market failures, the limited investment in renewable energy to date has been dominated by the public sector. The models of private investment for renewable energy projects range as follows:

1. Independent power producer (IPP): A private (or majority private) entity owns and operates the power plant, selling the electricity to a public entity through a power purchase agreement (PPA), sometimes with a feed-in-tariff.
2. Auto generation: A private company builds, owns and operates a power plant to use the electricity for its own use, generally for industrial or manufacturing processes. A public off-taker may commit to purchase a portion of surplus production, if any.
3. Private to Private: A private developer sells produced electricity to one or more private off-takers. In some cases a public entity may serve as off-taker of last resort for a portion of potential surplus generation.

In the current economic climate in Egypt, Jordan, Morocco and Tunisia however, there are limited commercial sources available for medium to long-term lending for sustainable energy projects. The regulatory environment supporting these projects – when it is present – is often unproven. Furthermore, perceived project and financing risks have hindered the development of a private sustainable energy market.

In each country, successful implementation of an investment model involving the private sector includes (i) the establishment of the necessary legal and regulatory framework, and (ii) the financing, construction and operation of projects using that model. At times this can be an iterative process whereby the initial legal and regulatory framework is flawed or inadequate and changes are necessary before the new model can be considered a proven one.

Egypt, Jordan, Morocco and Tunisia each have varying combinations of regulatory and legal frameworks for the investment models above and varying degrees of progress towards establishing the successful functioning of a given model. In addition, in some cases a country has successfully used a financing model for conventional power projects but not for renewable energy projects.

The status per country concerning the private investment models for renewable energy project is summarised in Table 1 below. The scope of the proposed program is the area of the table that is shaded. The focus of the proposed program is two-fold:

- To strengthen and expand the policy and regulatory framework so as to support the development of various types of private sustainable energy investments; and
- To prepare and finance a portfolio of sustainable energy projects that will establish a precedent in regional markets and reduce the risk of subsequent investments.

Table 1. Status of countries concerning the private investment models for renewable energy projects
(the scope of the proposed program is the shaded area of the table)

Country	Private Investment Models		
	IPP	Auto Generation	Private to Private
Egypt	- Authorised - Unproven for renewable generation	- Authorised - Not proven for renewables	- Authorised - Not proven
Jordan	- Authorised - Proven for conventional and renewable generation	- Authorised - Not proven for renewables	- Not authorised (net metering allowed)
Morocco	- Authorised - Proven for conventional and renewable generation	- Authorised - Not fully proven for renewables	- Authorised for HV - Not proven for renewables
Tunisia	- Authorised for conventional but not renewable generation	- Authorised - Unproven for renewables	- Not authorised

Programme Implementation

EBRD has developed a robust pipeline of potential projects across the countries, but in this process has noted that key barriers remain to their implementation and bankability. These need to be overcome by a combination of policy dialogue, technical assistance to clients who are not familiar with on-site generation and direct contracting models, and investment support from concessional finance. These barriers vary by country however, and the pipeline development and deployment of support will reflect this. The facility's policy dialogue/ financing strategy and target projects to be financed within this programme will be defined on a country-by-country basis to ensure that technical assistance and EBRD finance is provided to segments which require it. For example, Jordanian private projects benefiting from a robust feed-in-tariff which are currently being developed with commercial bank support: these projects will be excluded from the concessional investment scope of the IA, but may qualify for technical assistance to the project developer.

Conversely, Tunisia has very recently announced a new feed-in-tariff system to support small private renewable energy generation, but the regulatory environment has many weaknesses and is unproven: the EBRD therefore intends to help improve this regime and support projects under the new regime for a certain limited period of time until the market develops the required confidence, in line with the approach taken in Ukraine. The duration of this period would be reviewed on an annual basis and information provided to the CTF Trust Fund Committee. A similar approach would be adopted in Egypt, subject to the stalled Energy Law being passed. Both Tunisia and Egypt also present considerable unexploited autogeneration opportunities. Finally, the EBRD is already assisting Morocco in preparing new regulations which will allow for private-to-private medium voltage renewable energy generation, a core area of intervention for the Bank, and once these new regulations have been adopted, projects would be financed through the facility.

Programme components and CTF funds utilisation

The approach to addressing the market barriers and promoting the growth of the private sustainable energy market in SEMed will be through a combination of technical assistance, policy dialogue and finance, with the support of the GEF and other co-financiers:

- **Technical Assistance:** The MDB will provide funds (co-financing) for technical assistance, which will provide hands-on support to partner institutions and project sponsors. Technical assistance will be active in the following areas: technical due diligence; market and feasibility studies; and strategy design and business model development for partners. The EBRD will work with project sponsors in preparing bankable projects and mobilising funds for their investment projects.
- **Policy dialogue:** The MDB will also support (through co-financing) policy dialogue. An annual evaluation of the impact of policy dialogue reforms and the progress towards meeting the market development goals will serve as the basis to determine if a financing model should be considered to be proven, which will in turn impact which projects will be eligible for the concessional GEF financing expected to accompany EBRD financing under the program.

- **Investment:** CTF funding will be used to cover equity gaps in a nascent market. As such, CTF resources will fill a niche that commercial lenders, the EBRD, and other sources of financing cannot. In this way, CTF funds can leverage considerable amounts of MDB and commercial financing; and address the specific market barriers relating to availability of finance that currently hinder the market for sustainable energy development in SEMed countries.

Investment Component

The EBRD will provide finance to private renewable energy projects in the four countries for all proven renewable energy technologies, and for high-efficiency, grid-connected co-generation. As mentioned above, types of projects supported would depend on the state of the market to ensure the ‘additionality’ of EBRD financing. We expect wind and solar photovoltaic technologies to be predominant, however, small hydro and grid connected waste to energy will be included, and there is potential for combined power and cooling installations as well.

CTF funds (USD75m) would provide concessional debt finance for up to 20% of the project cost to private sector developers. These funds would be used to cover equity gaps, and to mitigate the additional cost and risks associated with:

- i) new technology being deployed
- ii) investing in a new/unproven regulatory environment (Morocco, Tunisia) or a regulatory environment in development (Jordan, Egypt) and,
- iii) protect the client from unexpected negative revisions to regulatory laws.

To ensure a programmatic approach, EBRD will put a cap of USD7.5m on the amount of CTF money to be used for any one project, in order to be able to target at least 10 individual projects. GEF funds could if necessary be used alongside CTF funds, to cover particularly high risks by providing equity or subordinated debt. GEF funds will be restricted to no more than USD3 million per project.

Clients would typically be businesses, for example large consumers such as cement plants and steelworks, or aggregators on behalf of commercial consumers such as hotels.

Technical Assistance Component

Please see Annex I below for details on PD/TC components. The aim of the technical assistance package is to:

- i) assist governments and energy regulators in improving the regulatory environment; and
- ii) support clients in project preparation, through the provision of technical, legal and environmental due diligence.

Risks

- 1) Reliance on the local grid for ‘wheeling’:

EBRD’s analysis is that the main constraint for these relatively small, dispersed projects is not grid infrastructure but the regulatory framework to allow widespread access to, and use of the grid. This is exacerbated by lack of familiarity with the concept of wheeling and inherent caution of network operators. EBRD would address these barriers through policy dialogue with grid operators, regulators, and other authorities, to build confidence

and prepare a robust and accessible framework of both commercial and technical procedures. For example in Morocco, EBRD has an assignment in place with ONEE to draft a Grid Code and regulations governing access to the MV grid.

2) Client ability to pay for the electricity:

Normal commercial risk would be associated with these private-to-private contracts, based on the inherent competitiveness of their businesses. In addition the credit analysis would focus on the long-term competitiveness of renewable energy.

CTF Cost-Effectiveness

Very preliminary cost-effectiveness calculations would indicate the following cost effectiveness:

CTF USD14.4/tCO₂ (lifetime)
GEF USD6.6/tCO₂ (lifetime)
TPV USD72/tCO₂ (lifetime)

This is based on the following assumptions:

Grid EF = 600kg CO₂/MWh
Cost/kW installed = USD2,000
Lifetime of measures = 15 years

Expected Timeline

The target date for a first pilot project is Q3 2014, however this could be earlier depending on the existing pipeline. Internal EBRD approval for the framework is expected to take place in early March.

Appendix I: Integrated Approach policy dialogue and technical co-operation components

The Integrated Approach will include the following components:

- Policy Dialogue:
 - Gap analysis study on the current legal/regulatory frameworks private affecting renewable energy generation in all 4 countries and recommendations on how to improve these frameworks to better open markets to private investors. A conference to present the findings and bring policy makers and investors together from the four countries to share experience would be organised. (estimated cost of policy gap analysis and conference: EUR 300,000, EBRD-funded);
 - We expect to finance several follow-up assignments for policy dialogue in the 4 countries. The EBRD is already engaged in discussions/preparatory assignments in Morocco, Tunisia and Jordan (estimated budget up to EUR 1 million, EBRD-funded). Potential follow-up assignments include:

- Morocco: assistance to government and new energy regulator to implement new regulation allowing private sector involvement in medium voltage renewable energy generation (under implementation);
 - Assistance to the Tunisian government to improve the new law on private renewable energy generation;
 - Assistance to the Jordanian government to develop a new regulatory framework for private-to-private renewable energy generation with no feed in tariff;
 - Assistance to Egyptian government on improving and applying the stalled 2008 Law on renewable energy.
- Project Preparation: grant-funded consultants will perform the due diligence and project preparation for all projects financed under the Integrated Approach. This will be financed by EBRD or bilateral donor resources. Budgets are likely to reduce, or coverage of work will be increased, due to co-financing being sought from clients based on EBRD internal guidelines.
 - Technical due diligence: circa EUR 1,000,000
 - Environmental and Social due diligence: circa EUR 1,000,000
 - Legal due diligence including drawing up sample contracts and PPAs: circa EUR 700,000]

b. UTILITY SCALE RENEWABLE ENERGY - SOLAR PHOTOVOLTAIC FINANCING

MDBs interested in participating:	AfDB, EBRD
CTF pilot countries in Phase I (proposal pending):	-
Other potential countries (CIF pilot countries) in Phase II	CIF countries: Burkina Faso, Kenya, Nigeria, Brazil, Jamaica, Honduras and Mexico Non-CIF countries: Chad and Senegal
CTF amount requested / Total Project Cost (USD):	CIF countries USD 135 million CTF/ USD 664 million TPC Non-CIF countries USD 55 million CTF/ USD 338 million TPC

E. Intro – Program overview/description

Many African countries are ideally located along the solar belt, north and south of the equator with high direct solar irradiance and are therefore endowed with rich resources of solar energy as renewable, environmentally friendly basis for electricity production. For some countries, such as Chad and Burkina Faso, solar energy virtually represents the sole alternative to their existing thermal production potential, consisting mainly of diesel generators or heavy fuel oil plants.

Furthermore, solar photovoltaic (PV) projects can be implemented in a comparably short period of time. The Program will assist countries in achieving their carbon abatement strategies and reduce their reliance on expensive, often imported, fossil fuels.

Through the implementation of proven technologies Solar PV is one of the most reliable and sustainable forms of renewable energy. Moreover, successful execution of this program is expected to result in considerable positive benefits to end-users in the form of improved energy access and affordability, increased employment opportunity, and overall improved livelihoods.

Although Africa is the lowest emitter of GHGs, its rapidly growing population is expected to result in a significant increase in the demand of reliable energy. In Kenya, for example, with an electrification rate of about 23%, demand for electricity is anticipated to increase from the current level of approximately 1,302 MW to 15,026 MW by 2030; and in Burkina Faso, where the electrification rate is about 13%, energy demand is expected to increase from about 131 MW to 426 MW by 2020. Given such patterns in growing demand, several African governments have committed to making the development of renewable energy, in particular solar PV, a principal source of power.

Some of the same aspects are true in some regions of Latin America and the Caribbean. Most Central American and Caribbean countries are heavily reliant on imported fossil fuels. This dependence has significantly increased in the last fifteen years, with marked economic impacts, including on trade balances and energy security. For example, Honduras experienced a dramatic change in the composition of its power matrix, from being predominantly hydro-based to its current mostly thermal-based generation. Jamaica has some of the highest power costs in the world. In countries with a good solar resource, solar PV is therefore an option that is quickly becoming cost competitive. In other countries, such as Brazil and Mexico, better endowed with other renewable (including hydro) or fossil fuel resources, power cost and trade balances –while important- are not the main immediate concerns. But development of solar PV generation is seen as a potentially important contributor to power matrix diversification objectives, reducing exposure to the variability of hydrological regimes (particularly for those where generation is highly reliant on them, as in the case of Brazil) and volatile fossil fuel prices, for example, thus enhancing energy security.

The program will address a variety of barriers encountered by private sector investors, in particular (i) first-mover risk (ii) comparably higher total project costs of solar PV plants compared to fossil-fuel projects, (iii) the requirement of higher feed-in tariffs, (iv) regulatory risk, and (v) price/market risk (in cases where adequate PPAs cannot be secured).

F. Business Case/Model

Market Description

Limited energy access threatens human development, the creation of an enabling environment for private sector development and impacts negatively prospects for job growth. Furthermore, the majority of African countries, as well as Central American and Caribbean countries have deficits

in their energy balances as they heavily rely on imports to fulfill their energy needs. The weight of these imports, coupled with rising commodity prices, is increasingly hampering the countries trade balances and their foreign currency reserves. It is essential that these countries reduce the risks arising from the increasing and volatile prices of fossil fuels since many of them are net oil importers. Therefore, countries need to find alternative sources of energy to meet the needs of their populations and maintaining an appropriate level of financial reserves to import essential equipment for developing their local industries and other commodities that are not available on the local market but essential (e.g., food).

There is an economic (and social) imperative for African and Latin American and Caribbean countries to increase and diversify their power mix, and given the barriers to private investment in the renewable energy sector in these regions, innovative and alternative financing solutions are much needed. These barriers can be technological, institutional, environmental, social and financial. In addressing financial barriers, the Program aims to facilitate the development of projects that would not materialize otherwise given that the risk-return tradeoff for private investors on non-renewable energy projects are generally viewed as more attractive than renewable energy projects such as solar PV.

Solar PV would contribute to substantial reductions in the use of oil/diesel often resulting in import substitution. The Program's overall objective will be to support innovative private sector investments in this area. The private sector will have a decisive role in contributing to the targets of the recipient countries' governments to diversify their energy sector, lower electricity production costs and contribute to the transformation of these markets to low-carbon economies.

Independent power producer models would be a suitable solution for various targeted countries. However, development costs and perceived investor risks are high, resulting in a reluctance to invest or at significant high rates of return and in higher electricity production costs and higher end-user tariffs which often require government subsidy to ensure affordability.

The primary risk that the program will address is first-mover risk in markets such as Burkina Faso, Chad, Kenya, Brazil and Honduras where the proposed solar PV projects would be the first of its kind. In addition, CTF funds would help to maintain tariffs at a reasonable level, as project-based tariffs are not competitive with existing feed-in tariffs. For example, in Kenya feed-in tariff is USD 0.12/kWh. This rate is based on a so-called 'long-run marginal cost' of electricity as identified in Kenya's Least Cost Power Development Plan. The underlying power purchase agreement is not back-stopped by a Sovereign guarantee. The latter increases financing costs compared to a scenario with a MoF guarantee. With CTF contributions, such financing costs could be lowered and help to finally reach a tariff level that matches the requirements of the recipient country. CTF funds would be catalytic in facilitating investments and the involvement of MDBs would ensure that international best practices are being applied with regards to issues such as environmental, social standards, governance, and bidding processes.

How will proposal address these?

The Program focus would be to facilitate the development of solar PV projects that would not materialize without CTF involvement, thereby promoting investment in renewable energy

technologies and the participation of the private sector. This would be achieved by blending CTF and commercial funds in the context of senior loans, subordinated structures as well as guarantees and equity products. Such investment products could be combined on a case-by-case basis with technical assistance for capacity building, particularly in the case of first-movers, and enhancing the business-enabling environment. Therefore, CTF would substantially help to overcome gaps in the financial set-up of related projects, serve as risk mitigation vehicle and reduce barriers in implementing solar PV projects, whose implementation cost are usually higher than traditional thermal plants.

Based on such mix, the proposed Program would: (i) help to promote solar PV projects in the envisaged countries, (ii) increase the electricity access rate for rural and urban areas of the recipient countries, (iii) attract private sector investment to finally establish IPP models, and (iv) enable a high demonstration effect with a high potential for duplication and scaling up in other countries suitable for solar PV.

What is the longer-term vision?

Given the fact that solar PV technology is considered mature, in the future, learning effects, economies of scale and improved technologies will offer cost reduction potential, lessening the need for concessional finance. In addition, host country governments continue to enhance their legal and regulatory frameworks, allowing for greater engagement of the private sector generally and the attraction of more foreign direct investment. Once implemented, solar PV project tend to perform profitably under projected market conditions.

Market size potential

Considering the tremendous natural resource available for solar PV based electricity production in Africa and Latin America and the Caribbean, in particular along the solar belt regions, the potential for the development of solar PV projects in these regions is enormous. In addition, such first mover transactions tend to have a substantial demonstration effect in the regions to showcase the implementation of new forms of energy projects under challenging circumstances with private sector involvement. As state budgets are not likely to be sufficient to cover Africa's estimated infrastructure investment needs of USD 93 billion per year, or to meet Latin America's need to increase generation capacity by about 75% by 2030, engagement of the private sector will be key to unlock participation of private capital.

Indicative list of projects to be supported by AfDB in the next 18 months

Country	Installed Capacity (MW)	GHG Reduction Potential/annum	Total Project Cost (mio)	AfDB loan (mio)	CTF contribution
Burkina Faso	20	23,000 tons	EUR 37.9	EUR 7.8	CTF still tbd
Chad	40	48,000 tons	EUR 64	EUR 21	EUR 15
Kenya	40	21,300 tons	USD 96	USD 32	USD 15
Kenya	100	53,300 tons	USD 180	USD 60	USD 30
Nigeria	100	50,600 tons	USD 268	USD 89	USD 40

Senegal	150	313,000 tons	EUR 274	EUR 50	EUR 40
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Indicative list of projects to be supported by EBRD in the next 24 months

Country	Installed Capacity (MW)	GHG Reduction Potential/annum	Total Project Cost (mio)	AfDB loan (mio)	CTF contribution
Egypt	60	47,000 tons	EUR 120	EUR 42	40
Jordan	TBD				
Morocco	TBD				
Tunisia	TBD				

In the case of Latin America and the Caribbean, Brazil and Mexico represent the most immediate opportunities. In Brazil, a couple of projects, which would be the first utility-scale plants in the country, are being considered. As such, they would contribute significant demonstration in the local context, as well as help provide momentum and volume –with the potential for economies of scale- to an industry that has developed a number of small projects (normally below 1MW) but has not yet been able to compete with other technologies for larger-scale generation. In Mexico, a few dozen projects have been considered by IDB in the last couple of years, with a recent consolidation process in the subsector –with more experience and better capitalized developers arriving to Mexico and acquiring early-stage projects for further development- now offering better prospects for the take-off of this technology; and while a couple of projects were able to close, investment decisions have however stalled in the last few months given the energy sector reform underway. CTF’s financing can be key in helping mitigate regulatory risk (for both developers and lenders), as well as to mitigate market/price risk given the difficulties in getting adequate, fixed-price PPAs. In Honduras, a first project under development is facing difficulties raising capital, partly also as a result of the ongoing energy sector reforms. Jamaica has recently conducted a solar tender; financing of the awardee project or subsequent ones may require concessional financing to mitigate first-mover risks.

Most projects under consideration are in the 20-30MW range, with total costs between USD 50-80M each. An average of USD 15M per project of CTF financing would be needed, with a conservative estimate of at least two projects moving forward (with concessional finance support) in the next 18 months.

G. Proposal Terms and Implementation Strategy

- Financial instruments to be used would be senior and subordinated debt, guarantees, equity and technical assistance would be provided, as the need arises, alongside MDB investments.
- The populations affected by the projects, local communities, NGOs, government entities and participants in the energy market are expected to be stakeholders of the Program. Stakeholder engagement and community liaison officers would be key during project implementation.

- Countries under consideration so far are Burkina Faso, Chad, Egypt, Kenya, Nigeria, and Senegal.

H. Results Framework

Indicator	Unit	Performance
GHG emission reductions	CO2 emissions to be expressed in tons of CO2 avoidance per year	TBD
Access rate	Better access to this reliable and sustainable source of energy for households and businesses measured as number of new households and businesses connected	TBD
Installed capacity	Indication of the newly installed capacity of renewable energy to be expressed in MW of installed capacity	TBD
Annual Output	The newly created annual additional power generation to be stated in GWh per year	TBD
Tariff impact	Impact of the individual project on the host country's electricity tariff structure to be expressed as end-user tariff ex-ante and ex-post comparison	TBD
Leverage from CTF Funds	Volume of direct finance leveraged through CTF Funds	TBD

I. Consistency with CTF investment criteria

By implementing solar PV low carbon technologies for electricity production, the Program would contribute to the provision of clean, reliable and more affordable power - as an alternative to traditional fossil-fuel generation - that would contribute to economic and employment growth, and improvements in the health and economic well-being of those residing in rural communities, specifically women and children who would directly benefit from the provision of renewable energy services:

Other anticipated benefits include:

- A reduction in the import of/use of expensive and environmentally unfriendly fuels;
- A diversification of the energy sector in the recipient countries - often faced with overdependence on thermal resources;
- Projects implemented under this Program are expected to generate revenues for governments of the recipient countries and to reduce the need for fuel subsidies of end-user tariffs and energy imports, thereby improving the government's balance of payments (for every project, an economic model will be developed in order to compute the project's economic net present value and its economic internal rate of return);

- An enhanced know how transfer by implementing state-of-the-art technology linked with job creation for skilled and unskilled workforce (focus on use of local workforce in the construction and operation phase);
- Better environmental circumstances of the people affected by e.g. emergency diesel generators causing air pollution, noise and related illnesses - traditional use of biomass for cooking has direct negative implications on people's health, as biomass combustion nearby or inside the houses affects air quality avoided by solar PV based electricity, therefore, improving households' health and hygiene which will be a benefit in particular for women and children who tend to engage in these time-consuming activities (gender aspect). Another direct negative implication of utilizing fuel wood is the environment degradation it creates with the loss of some unique and precious ecosystems;
- Assuming production cost between USD 0.25-0.50 (based on fossil fuel) and PPA tariffs around USD 0.15-0.10 (based on solar PV) per kWh, end consumers may benefit from substantially lower tariffs.
- Overall, this program will help to catalyze the private sector into projects embedded in national priorities in reaching universal access to energy on the continent, thereby unlock participation of private capital.

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ANNEX 1: GENERAL PRINCIPLES, OBJECTIVES AND OPERATIONAL GUIDELINES OF THE DPSP (SUMMARY OF THE DPSP OCTOBER DOCUMENT CTF/TFC.12/4)

7. This section provides an overview of the main principles, objectives and modalities of the Dedicated Private Sector Programs (DPSP).

- Objectives:
 - Financing for programs and sub-programs that can deliver scale and speed, while maintaining a strong link to country priorities and CTF program objectives. The DPSP does not to replace the country-driven investment plan model, but provides a supplemental pathway through which funds can be more specifically channeled to private sector investments.
- Principles:
 - DPSP proposals comply with the overall principles and objectives of the CTF, including the results framework. Thus, programs and projects/sub-programs need to demonstrate:
 - a) potential for long-term greenhouse gas emissions savings;
 - b) demonstration potential of the activities being proposed;
 - c) development impact expected, including co-benefits; and
 - d) implementation potential, including targeted private sector leverage expected.
 - Through the results framework, the MDBs are expected to monitor achievement of results, promote accountability for resource use, and document and disseminate results and lessons learned.
 - The DPSP broadens the range of financing instruments beyond debt, to include equity, subordinated structures, guarantees and complementary technical assistance for capacity building. DPSP resources should be positioned in a higher risk position than other financiers particularly, private sector investors. Such positions could include subordinated loans or mezzanine tranches of debt, first-loss cover in risk sharing or insurance type products, and equity or seed money for early stage development.
 - The principle of *least concessionality* will apply. Each project or sub-program will propose the financial instruments and pricing parameters to be used.

- At no time will the DPSP have more than 30% of allocated funds committed in a single country so as to ensure a wide geographical reach.
- Country Ownership and Consultation:
 - The DPSP is deployed in addition to the current country-driven investment program modality. Projects/sub-programs under the DPSP programs are developed in consultation with, and with the engagement of, relevant public and private sector stakeholders and beneficiaries from the recipient countries. Application of the normal MDB processes will ensure alignment of the projects/sub-programs with country, MDB, and CTF strategies.
 - Consistency with country priorities and country ownership will be ensured through compliance with government policies and strategies as well as MDBs' country assistance strategies. MDBs will consult and engage recipient country stakeholders during the design of projects/sub-programs.
 - Once a program is endorsed by the Trust Fund Committee, the CIF Administration Unit will inform the CTF focal point of each CTF country of endorsed programs and seek their non-objection. Detailed procedures for project/sub-program development can be found in Annex 1.
- Monitoring and reporting:
 - Strategic operational monitoring of the DPSP is the responsibility of the CIF Administrative Unit, in close co-operation with the MDB Committee, based on MDB reporting pursuant to the monitoring guidelines. Tracking of sub-programs for approval and disbursement has been integrated into CTF pipeline management.
 - The CIF Administrative Unit and the MDBs will report annually to the CTF Trust Fund Committee on the progress made in implementing the programs, in accordance with existing monitoring and reporting requirements for CTF. Based on this reporting, the program would be assessed against the CTF results framework. The CTF Trust Fund Committee may, if appropriate, take decisions to alter program objectives, priorities and criteria; to redistribute funds between programs; cancel unused funds from original allocations if implementation objectives have not been met.
- CTF Trust Fund Committee Decision Making
 - Each program proposal and associated preliminary list of ready projects/sub-programs are submitted to the Trust Fund Committee for endorsement (please see

section on program proposals). The Trust Fund Committee will agree on an indicative allocation of CTF resources among the endorsed programs.

- Specific projects/ sub- programs under an approved program would be subsequently developed by the MDBs and submitted for funding approval. If the program proposal allocates funds among the participating MDBs, the MDB Committee will keep such allocations under review through the CTF pipeline review process and may agree to reallocate funds among the MDBs based on project readiness. The CIF Administrative Unit will inform the Trust Fund Committee of any reallocation of resources among the MDBs participating in the program.
- Where a program or sub-program is to be implemented by a single MDB and Trust Fund Committee approval of CTF funding has been obtained, projects to be financed under the program or sub-program would be approved by the Board of Directors of the MDB. The Trust Fund Committee will be notified of each project approved under a single-MDB program or sub-program in accordance with current procedures for private sector programs¹⁵.

The CIF Administrative Unit and the MDB Committee may make recommendations to the Trust Fund Committee on the indicative allocation of funds among the programs in cases where the demand for funds exceeds resources, or if one program demonstrates that it is disbursing funds and achieving results more effectively than another.

- Country consultation and project development process

Once a program is endorsed by the Trust Fund Committee, the following procedures for country engagement apply:

- a) the CIF Administrative Unit will inform the CTF focal point of each CTF country of the endorsed program and will invite each country to agree in principle (on a non-objection basis) to MDBs pursuing DPSP activities in the country;
- b) following a non-objection by the CTF focal point, the participating MDBs will design projects/sub-programs concepts consistent with the objectives of the specific endorsed program. For each project/sub-program concept developed, the relevant MDB will engage through the CTF focal point to discuss content of the concept to move forward with the project/sub-program due diligence;

¹⁵ See CTF Financing Products, Terms and Review Procedures for Private Sector Operations, October 24, 2102, Annex B, page 16: *To ensure accountability under the programmatic approach used for private sector projects and as agreed by the Trust Fund Committee, and also to ensure that useful data is available to the Members of the Trust Fund Committee to allow them to exercise their role with respect to private sector projects, MDBs will report to the Trust Fund Committee, at the financial closing of each project (when details of the project are available) on how each project meets the 10 CTF investment criteria.*

- c) the MDB will carry out due diligence and structuring of the project/sub-program and seek internal MDB clearance;
- d) the CTF focal point can provide any additional inputs at this stage to further guide the MDB in finalization of the project/sub-program;
- e) the project/sub-program will be submitted to the Trust Fund Committee for CTF funding approval. The submissions will include a list of the stakeholder consultations that took place; and
- f) before MDB approval or financial close of any CTF financing facility, the MDB will seek a non-objection from the country (which is part of the normal MDB country engagement and approval procedures).

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