Cover Page for CTF Project/Program Approval Request			
1. **Country/Region**	Colombia	2. **CIF Project ID#**	(CIF AU will assign ID.)
3. **Project/Program Title**	Innovative Instruments to Foster Energy Efficiency in SMEs in Colombia		
4. **Terms and Amount Requested in million USD equivalent**	**Private sector** Equity / First Loss Guarantee: 2.00 Grant (TC activities): 2.00 Fee (for implementation of TC / KM activities): 0.10 Fee (for implementation of investment operations): 0.21 **Total: 4.31**		
5. **Implementing MDB(s)**	Inter-American Development Bank		
6. **National Implementing Agency**	N/A		
7. **MDB Focal Point**	Claudio Alatorre (calatorre@iadb.org)		
8. **Brief Description of Project/Program (including objectives and expected outcomes)**			

Electricity prices in Colombia are among the highest of large countries in Latin America and the Caribbean and have experienced the greatest increase over the last three years. Furthermore, the Ministry of Mining and Energy forecasts that electricity demand will grow at an annual average of 5.6% in the tertiary sector and 4% in the industrial sector between 2009 and 2020.

Energy efficiency (EE) is considered one of the instruments with the greatest potential to lower production costs and improve business productivity, while simultaneously reducing greenhouse gas (GHG) emissions. However, there are significant and interrelated awareness, knowledge and financial barriers to promote EE improvements in Colombia. The market still perceives EE technologies as unproven, unreliable or unattractive, in part due to the limited availability, or visibility, of successful pilot projects. Moreover, Local Financial Institutions (LFIs) have limited expertise and capacity on how to market, assess and structure EE financing. This contributes to the LFIs' uncertainty regarding underlying risk profiles and, as a consequence, to a preference for collateral-based lending schemes, which are often not well suited for EE financing.

Lessons learned from prior initiatives promoting EE in LAC have shown that technical assistance towards capacity building of energy service companies (ESCOs) and other EE market actors does not suffice in achieving systemic impacts if not coupled with instruments to reduce financing bottlenecks. Building on such experiences, the program's model takes an integrated approach to concurrently address awareness, financial and technical barriers to market development. Barriers related to the perception of EE projects as high risk will be addressed through the introduction of quality standards for ESCOs and the implementation of pilot EE projects within key sectors. The proposed solution to the problem of limited availability of financing for EE for ESCOs and SMEs is the creation of a dedicated financial vehicle, the Colombia EE Trust (CEET), to be co-financed by the IDB (through two of its private sector windows, the Multilateral Investment Fund –MIF– and its Structured and Corporate Finance –SCF– department) and the Clean Technology

Fund (CTF), and which will target sectors and provide several financing modalities—with the aim of demonstration—that the market is currently not covering.

The objective of the financing facility is to demonstrate the sound performance of EE investments with new financing approaches. The underlying investments will consist of internationally proven EE/Self-Supply measures. The contribution of the program will be to demonstrate them under local conditions and to a series of local stakeholders, while showing also that new approaches to financing can perform robustly, putting more emphasis on the technical and financial merits of the project (using—for example—account receivables as collateral to provide financing) and lowering requirements in terms of personal or other types of guarantees from ESCOs or SMEs that exacerbate financing constraints. Successful demonstration, and the capacities built through the technical assistance components of the program, should lead to a reduced risk perception associated with the underlying investments, the investee companies, and the new financing modalities, to allow companies, ESCOs, and financial intermediaries to further pursue them without additional grant or risk mitigation resources required.

Under this program, CTF resources will be combined with IDB/MIF investment and grant resources with the following objectives: i) funding a comprehensive set of technical assistance and capacity building activities of crucial need to overcome non-financial barriers; and ii) sharing the first loss position in the facility (either as guarantees or equity) to allow for a significant level of debt leverage (over 80:20 debt/equity ratio) that would allow the facility to increase its scale (USD 20M+) and reduce the cost of funding to be able to provide adequate financing terms for borrowers, and iii) allowing sufficient demonstration across a number of technologies, applications and financing models, including the use of Energy Performance Contracts (EPCs). The proportion of grant resources proposed under this program is significant, given a) the critical importance of the capacity building activities across a number of stakeholders, b) the need to buy down the cost of feasibility studies of pilot projects in order to catalyze investment and demonstration, and c) the need to buy down the facility's management/operational costs, given the smaller-than-optimal size associated with its pilot nature. The additionality of the relatively small USD 4M CTF allocation hereby proposed resides precisely in mitigating—along with the IDB/MIF's concessional/patient capital—the higher risks and costs of supporting this highly demonstrational first-mover structure and program.

In summary, the project's main objectives are to enhance the access of ESCOs to adequate financing and to support the access of SMEs to the market for specialized EE financial and technical services, so as to enable them to invest in measures that reduce high energy costs, at the same time lowering exposure to potential increases in energy prices. This would in turn help improve their competitiveness, while generating expected GHG emission reductions of approximately 850,000 TonCO_2e over the lifetime of the financed projects.

9. Consistency with CTF Investment Criteria

See 4. Fit with CTF Investment Criteria pp. 23-27

a. Potential GHG Emissions Savings: see p. 23
b. Cost-effectiveness: see p. 23
c. Demonstration Potential at Scale: see p. 23
d. Development Impact: see p. 23
e. Implementation Potential: see p. 24
f. Additional Costs and Risk Premium: see p. 25
g. Financial Sustainability: see p. 26
h. Effective Utilization of Concessional Finance: see p. 26
i. Mitigation of Market Distortions: see p. 27
j. Risks: see p. 27

10. Stakeholder Engagement

Extensive consultations have been held in the context of the project design stage with key actors within both public and private institutions. On the public side, consultations included those with the Unit for Mining and Energy Planning (UPME) of the Ministry of Energy and Mines, and the National Planning Department (DNP). Private institutions and NGOs consulted included the Colombian National Business Association (ANDI), the Colombian Association of Small and Medium Enterprises (ACOPI), the Colombian Association of Public and Communication Enterprises (ANDESCO), the Colombian Institute for Normalization of Technical Regulations (ICONTEC), the National Center for Cleaner Production, the National Council for Energy Efficiency, the Cosmetics and Cleaning Products Industry Chamber and the Bogotá Chamber of Commerce. Private firms consulted include all established ESCOs, most engineering firms involved in design and installation of energy efficiency systems and a number of major energy producers/distributers, including Ecopetrol, Empresa Energía del Pacífico S.A. (EPSA), and Empresas Públicas de Medellín (EPM). In addition, a number of local financial institutions were consulted, including BBVA Colombia, Bancolombia, Findeter, Bancoldex, and Suramericana Seguros.

11. Gender Considerations

There is no data available to determine the gender gap in the adoption and implementation of EE in Colombian SMEs. Therefore, this project will help to set the baseline for the future and where possible and relevant the data collected in the context of the project monitoring and evaluation activities will be disaggregated by gender. This will be done by collecting separate data for women-owned firms (i.e. firms where the chief financial officer, chief executive officer, or chief operating officer—or equivalent—is a women) and/or women-led firms (i.e. firms where 51% or more ownership by women).

12. Co-financing Indicators and Targets (consistent with results framework)

Core Indicators	Targets
Tons of GHG emissions reduced or avoided	0.38 $MtCO_2e$ [a]
Volume of direct finance leveraged through CTF funding	USD 10.5 M [b]
Annual energy savings (and renewable energy produced) (GWh)	63 GWh/year [c]

EE investments financed by the CEET	At least 20
Development Indicator(s):	
Number of firms implementing new performance based energy contracts	At least 6
Number of new SME projects financed by CEET investments	At least 15
People participating in EE training programs and awareness raising events	At least 1,000

[a] As mentioned in the description above, the program is expected to generate **0.85M $MtCO_2e$** of GHG emission reductions. However, given that the investment facility will also include CTF, IDB and other investor resources' approved under a previous CTF program (C-SEF, also part of the Colombian IP) the 0.38 $MtCO_2e$ represent the share associated with the proportion of IDB/MIF and CTF investment and grant resources (relative to the total resources of the facility) contributed under this specific proposal, to avoid double counting.
[b] Similarly as explained below, total non-CTF finance mobilized by the program will be much higher, over **USD 33M**. The USD 10.5M hereby indicated represents only the share proportional to the USD 4M of CTF resources to be approved under this specific proposal, and to avoid double counting.
[c] Per the same rationale above, this is just the share for this tranche of CTF financing. Energy savings supported by the CEET is estimated at **142 GWh/year**.

13. **Co-financing**

	Please specify as appropriate	Amount (in million USD)
• IDB/MIF (junior tranche)	Equity / First Loss Guarantee + TA Grant	2.50
• IDB/MIF's implementation agency	TA Grant	0.50
• IDB (senior tranche) [d]	Loan	18.50
• CTF (junior tranche)	Equity / First Loss Guarantee + TA Grant	4.00
• CTF (senior tranche) [d]	Guarantee	5.00
• NDF	Guarantee	1.25
• Private Sector	Sponsor (equity in projects)	15.00
Total		**46.75**

[d] These tranches were already approved by the CTF and pre-approved by IDB under the Colombia Sustainable Energy Facility (C-SEF) program.

14. **Expected Date of MDB Approval**

Q1 2015

Innovative Instruments to Foster Energy Efficiency in SMEs in Colombia
(CO-M1095)

IDB Private Sector CTF Proposal
for Submission to the CTF Trust-Fund Committee

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. Electricity prices in Colombia are among the highest of large countries in Latin America and the Caribbean and have experienced the greatest increase over the last three years[1]. Furthermore, the Ministry of Mining and Energy forecasts that electricity demand will grow at an annual average of 5.6% in the tertiary sector and 4% in the industrial sector between 2009 and 2020.

2. Energy efficiency (EE) is considered one of the instruments with the greatest potential to lower production costs and improve business productivity, while simultaneously reducing greenhouse gas (GHG) emissions. However, there are significant and interrelated awareness, knowledge and financial barriers to promote EE improvements in Colombia. The market still perceives EE technologies as unproven, unreliable or unattractive, in part due to the limited availability, or visibility, of successful pilot projects. Moreover, Local Financial Institutions (LFIs) have limited expertise and capacity on how to market, assess and structure EE financing. This contributes to the LFIs' uncertainty regarding underlying risk profiles and, as a consequence, to a preference for collateral-based lending schemes, which are often not well suited for EE financing.

3. Lessons learned from prior initiatives promoting EE in LAC have shown that technical assistance towards capacity building of energy service companies (ESCOs) and other EE market actors does not suffice in achieving systemic impacts if not coupled with instruments to reduce financing bottlenecks. Building on such experiences, the program's model takes an integrated approach to concurrently address awareness, financial and technical barriers to market development. Barriers related to the perception of EE projects as high risk will be addressed through the introduction of quality standards for ESCOs and the implementation of pilot EE projects within key sectors. The proposed solution to the problem of limited availability of financing for EE for ESCOs and SMEs is the creation of a dedicated financial vehicle, the Colombia EE Trust (CEET), to be co-financed by the IDB (through two of its private sector windows, the Multilateral Investment Fund –MIF– and its Structured and Corporate Finance –SCF– department) and the Clean Technology Fund (CTF), and which will target sectors and provide several financing modalities -with the aim of demonstration- that the market is currently not covering.

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[1] Average sales price (USD/MWh) of electricity in the eight countries with largest GDP in Latin America and the Caribbean. Source: Bloomberg NEF.

lowering requirements in terms of personal or other types of guarantees from ESCOs or SMEs that exacerbate financing constraints. Successful demonstration, and the capacities built through the technical assistance components of the program, should lead to a reduced risk perception associated with the underlying investments, the investee companies, and the new financing modalities, to allow companies, ESCOs, and financial intermediaries to further pursue them without additional grant or risk mitigation resources required.

5. Under this program, CTF resources will be combined with IDB/MIF investment and grant resources with the following objectives: i) funding a comprehensive set of technical assistance and capacity building activities of crucial need to overcome non-financial barriers; and ii) sharing the first loss position in the facility (either as guarantees or equity) to allow for a significant level of debt leverage (over 80:20 debt/equity ratio) that would allow the facility to increase its scale (USD 20M+) and reduce the cost of funding to be able to provide adequate financing terms for borrowers, and iii) allowing sufficient demonstration across a number of technologies, applications and financing models, including the use of Energy Performance Contracts (EPCs). The proportion of grant resources proposed under this program is significant, given a) the critical importance of the capacity building activities across a number of stakeholders, b) the need to buy down the cost of feasibility studies of pilot projects in order to catalyze investment and demonstration, and c) the need to buy down the facility's management/operational costs, given the smaller-than-optimal size associated with its pilot nature. The additionality of the relatively small USD 4M CTF allocation hereby proposed resides precisely in mitigating –along with the IDB/MIF's concessional/patient capital- the higher risks and costs of supporting this highly demonstrational first-mover structure and program.

6. In summary, the project's main objectives are to enhance the access of ESCOs to adequate financing, and to support the access of SMEs to the market for specialized EE financial and technical services, so as to enable them to invest in measures that reduce high energy costs, at the same time lowering exposure to potential increases in energy prices. This would in turn help improve their competitiveness, while generating expected GHG emission reductions of approximately 850,000 TonCO_2e over the lifetime of the financed projects.

LIST OF ABBREVIATIONS

A/C	Air Conditioning
ABG	Access to Basic Services and Green Growth
AC	Advisory Committee
AOP	Annual Operating Plan
CCO	Colombia Country Office
CCS	Climate Change and Sustainability Division
CEET	Colombia Energy Efficiency Trust
CTF	Clean Technology Fund
C-SEF	CTF Colombian Sustainable Energy Financing Program
DNA	Diagnostic of Executing Agency Needs
EE	Energy Efficiency
EE/CE	Energy Efficiency and Clean Energy
EPC	Energy Performance Contracting
ESCO	Energy Services Company
ESPs	Energy Services Providers
FI	Financial Institution
GHG	Greenhouse Gases
GWh	Giga-watt / hours
IADB	Inter-American Development Bank
IIC	Inter-American Investment Corporation
LAC	Latin America and the Caribbean
LFI	Local Financial Institutions
MIF	Multilateral Investment Fund
MSMEs	Micro, Small and Medium-sized Enterprises
OR	Operating Regulations
PCU	Project Coordination Unit
PEU	Project Executing Unit
QED	Quality for Effectiveness in Development
SCF	Structured Corporate Finance
SCF/FMK	Structured Corporate Finance / Financial Markets
SME	Small and Medium-sized Enterprises
TOR	Terms of Reference
UPME	Mining Energy Planning Unit, Ministry for Mining and Energy
VPP	Vice Presidency for Private Sector

1. COUNTRY AND SECTOR CONTEXT

a. Description of the problem: untapped energy efficiency potential.

7. Electricity prices in Colombia are among the highest of large countries in Latin America and the Caribbean and have experienced the greatest increase over the last three years[2]. Furthermore, the Ministry of Mining and Energy (Mining Energy Planning Unit, or UPME) projects that electricity demand will grow at an annual average of 5.6% in the tertiary sector and 4% in the industrial sector between 2009 and 2020[3].

8. Energy efficiency (EE) is generally considered one of the instruments with the greatest and most cost-effective potential to reduce energy costs[4], improve productivity and competitiveness[5], while reducing GHG emissions per unit of output. However, although there are significant opportunities to improve the way energy is used in Colombia, market players tend to react to increased energy demand by expanding energy supply rather than promoting more rational and efficient energy use.

9. According to the results of a survey conducted during the preparatory stages of this project amongst main stakeholders within the Colombian EE market[6], even though the EE market has seen some development during the last few years, it remains significantly underdeveloped when compared to its potential scale. The main barriers identified for the further development of the EE market were of financial, cultural and awareness nature[7].

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[2] Average sales price **(USD/MWh)** of electricity in the eight countries with largest GDP in Latin America and the Caribbean. Source: Bloomberg NEF.

Country	GDP rank	Residential				Commercial			
		2010	2011	2012	Average Annual Increase	2010	2011	2012	Average Annual Increase
Brazil	1	171.05	189.32	171.31	0.05%	134.31	149.82	134.30	0.00%
Mexico	2	89.72	95.49	90.24	0.19%	203.50	219.79	221.60	2.84%
Argentina	3	-	-	66.83	n/a	-	-	94.31	n/a
Venezuela	4	21.06	23.29	24.68	5.29%	19.76	20.36	21.22	2.37%
Colombia	**5**	**170.00**	**180.00**	**210.00**	**7.04%**	**120.00**	**150.00**	**180.00**	**13.52%**
Chile	6	240.00	240.00	259.40	2.59%	145.00	145.00	145.20	0.05%
Peru	7	122.10	129.72	129.72	2.02%	103.50	93.51	93.51	-3.38%
Ecuador	8	92.20	94.20	95.93	1.32%	78.50	78.30	78.65	0.07%

[3] UPME – Mining and Energy Planning Unit, *Projection of Energy Demand in Colombia*, October 2010.

[4] *See: "Promoción de Medidas de Eficiencia Energética y Energías Renovables en Colombia",* KfW & Castalia, 2011.

[5] In the United States, the economic link between energy efficiency and industrial competitiveness has recently been highlighted in the *Energy Savings and Industrial Competitiveness Act* of 2014, introduced in the US Senate by Senators Jeanne Shaheen (D-NH) and Rob Portman (R-OH), which represent a bipartisan effort to increase energy efficiency in buildings, industry, and the federal government. See: http://bit.ly/1hXth8c

[6] CO-T1344-SN1 - "*Market study for the characterization and prioritization of the economic sectors with greatest potential for energy efficiency interventions in Colombia*". Report workshop n.1, Feb 17-21, 2014, Bogota.

[7] 53% of the survey respondents identified financial barriers as the most important ones, whereas 33% reported that the main barrier was general awareness about EE opportunities.

10. Energy Efficiency Potential. According to the results of the market assessment conducted as part of the project preparation[8], the overall potential for energy saving measures in the industrial sector in Colombia amounts to USD838M/year, with 'Food, Beverage and Tobacco' and 'Chemicals' being the two sub-sectors with the highest saving potential, at USD152M/year and USD151M/year respectively. In the tertiary sector, which includes health clinics, hotels, public and military buildings and services (banks, shopping malls, etc.), the estimated energy saving potential reaches USD244M/year. In the area of public outdoor lighting, municipalities and private concessionaries could save an estimated USD22M/year.

11. According to the 2010-2015 Plan of Action of the *Rational and Efficient Energy Use and Non-conventional Renewable Energy Program* (PROURE)[9], elaborated by the Mining and Energy Planning Unit (UPME) of the Ministry of Mining and Energy, investments on the order of USD730M are required to achieve a 10% savings in energy consumption (6,300 GWh) in Colombia by 2018. The PROURE Plan of Action estimates that USD107M are needed in the industrial sector for the promotion and implementation of good practices in energy management, while USD185M will be needed over the five years of the duration of the PROURE program in the tertiary sector to substitute 294,000 refrigerators in commercial establishments and upgrade lighting systems in hospitals and schools.

12. A 2011 study commissioned by KfW[10] analyses and ranks various EE measures in Colombia according to the potential savings achievable, relative to an established baseline. The findings show that the substitution of incandescent lights with more efficient lighting systems in buildings can yield energy savings between 63% and 75%; public street lighting upgrade could save between 39% and 48% of the energy used, whereas more efficient A/C systems have a potential to generate savings of between 23% and 40% relative to the baseline.

13. At the SME level, the results of a pilot project promoting energy efficiency and energy-management good practices in SMEs in Bogotá, financed by the MIF and executed by the Bogotá Chamber of Commerce between 2008 and 2012 (CO-M1038), show that energy efficiency can have significant impacts on Colombian SMEs' productivity and competitiveness. The project's final evaluation highlights that, as a result of the implementation of the project's recommendations on energy-management good practices (i.e. excluding new investments in EE equipment), 62% of the SMEs declared they were able to reduce energy costs, 57% saw a reduction in production costs and 56% noted an increase in health and safety of their operations. The estimated energy savings range reported by SMEs participating in the program

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8 CO-T1344-SN1 - "*Market study for the characterization and prioritization of the economic sectors with greatest potential for energy efficiency interventions in Colombia*". The main objectives of the consultancy are: (i) to estimate the size of and characterize the sectors with the greatest potential for EE; (ii) to characterize the typical ESCO clients (project beneficiaries); (iii) to map the current range available from ESCO firms; (iv) to estimate the potential for reducing emissions; (v) to develop recommendations about how to overcome barriers to EE projects.

9 Prías Caicedo, Omar Fredy, *Programa de Uso Racional y Eficiente de Energía y Fuentes No Convencionales* - Plan de Acción al 2015 con visión al 2025, Unidad de Planificación Minero-Energética (2009), p. 14.

10 *"Promoción de Medidas de Eficiencia Energética y Energías Renovables en Colombia",* KfW & Castalia, 2011.

was between 5% and 8% compared to the baseline before the adoption of the improved energy management practices. In 2011 energy prices, this was equivalent to approximately COP$1M/month (USD500+) for smaller medium-sized SMEs and approximately COP$2M/month (USD1,000+) for larger medium-sized SMEs.

b. Causes of the Problem: barriers to energy efficiency in Colombia.

14. Energy efficiency potential and energy savings opportunities do not often easily translate into financeable projects. This is due to a number of barriers, which in Colombia include awareness barriers, financial barriers, regulatory and institutional barriers, and technical barriers.

15. Financial sector barriers. There is limited domestic EE financing availability in Colombia due to a number of interrelated financial and knowledge barriers. Local financial Institutions (LFIs) often lack the expertise and capacity to market, analyze and structure EE deals, which makes them uncertain about expected risk & return structures. The supply of credit to the private sector is very low (36% of GDP in 2011, lower than that of comparable economies in the region) and most of that credit is of relatively short maturity[11] due to the fact that LFIs' deposits are concentrated in very short-term instruments. By November 2012, 71.2% of their deposits were of less than one year, with 63.5% of less than 180 days[12].

16. LFIs' relative lack of familiarity with EE project finance products often translates into requests for significant collateral or guarantees from their clients. Since LFIs generally only offer credit to counterparts with solid debt collateral and/or strong balance sheets (not the case in many SMEs), and EE equipment is seldom accepted as collateral, access to credit for EE projects remains an important bottleneck for EE market development. Moreover, projected economic savings on the client's energy bills are not generally accepted as a source of repayment, or as guarantee, for the loan. Furthermore, credit access does not affect all firms equally. Micro, small and medium-sized enterprises (MSMEs) have traditionally had even more limited access to financing[13], especially for medium- and long-term financing. Finally, in the case of MSMEs, an additional financial barrier is represented by the fact that small-size projects normally have higher relative transaction costs, including audits, financing, legal and project preparation costs.

17. SME awareness barriers. On the energy services demand-side, SMEs still lack knowledge about the cost-benefit ratio of EE investments, their risks, and contractual structures that can be used to lower risks (e.g. Energy Performance Contracting, EPC). There is insufficient monitoring of energy costs at firm level, so business decisions are based on incomplete information about energy consumption

[11] CO-T1332 Project Team's estimates that the average loan maturity in is around two years, based on data from Bancolombia.

[12] CO-T1332 Project Team's estimates, based on data from Asobancaria, 2013.

[13] See Luis Alberto Zuleta J., "Política Pública e Instrumentos de Financiamiento a las Pymes en Colombia" in Eliminando Barreras: El Financiamiento a las Pymes en América Latina, Carlos Ferraro (ed.), Chapter II, ECLAC, November 2011.

and the cost of interventions to improve EE[14]. Moreover, according to the survey mentioned above[15], the payback period expected by most firms in the industrial and tertiary sector is below 2-3 years, while most energy efficiency projects have payback periods of at least 2-3 years. Finally, the survey also highlighted the lack of widely accepted, standardized monitoring and verification protocols that can be easily understood and relied upon by clients, ESCOs and LFIs alike.

18. Technical barriers: Market stakeholders consulted for the project preparation market survey[16] highlighted a number of technical barriers preventing further uptake of EE technologies in Colombia. The most significant ones identified through the consultation were (i) the technical difficulties faced by SMEs in defining and controlling the baseline energy costs[17], (ii) the uncertainty in the market regarding quality, performance and prices of high efficiency equipment, and (iii) the availability of qualified technical services for the maintenance of imported equipment.

19. Regulatory and institutional barriers: The main barriers within this category include the lack of binding national energy efficiency targets and the lack of an operational legal framework to support the implementation of EE measures. According to the *Climatescope 2013*[18], of the three key clean energy policies present in Colombia none was related to energy efficiency, covering instead renewable energy targets, biofuels and tax incentives for renewable energy turbines. Moreover, the existing fiscal incentives for EE projects are regarded by market players as insufficient in scope and difficult to implement. These barriers are aggravated by the lack of a centralized institutional structure that develops, promotes and executes EE projects in Colombia, such as an Energy Efficiency Agency[19].

20. In May 2014, Law 1715 for the Promotion of Non-conventional Sources of Energy and Energy Efficiency was passed by the Colombian Congress. At the time of preparing this document, the first two regulatory decrees were being discussed for final approval, regarding issues such as the regulation of energy co-generation and distributed generation. The Ministry of Mines and Energy expects to have fully completed the implementation of this law by May 2015.

21. Additional barriers: limited ESCO market. On the supply side, the market for companies providing services along the EE value chain (Energy Service Providers, or ESPs), such as energy audits, installation or maintenance of equipment is

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[14] According to a 2010 Regus survey, only 8% of Colombian companies monitor their carbon footprint, a figure that is well below the worldwide average of 19%. Fewer than one-third of Colombian companies (23%) claim to have invested in energy efficient equipment and 35% have a policy that includes investing in low carbon emissions equipment.

[15] See footnote n.7.

[16] CO-T1344-SN1 - "*Market study for the characterization and prioritization of the economic sectors with greatest potential for energy efficiency interventions in Colombia*". Report workshop n.2, Apr 4, 2014, Bogota.

[17] This includes cost of electricity, gas and of any other fuels used, and the costs of operation and maintenance of the equipment.

[18] Multilateral Investment Fund: *Climatescope 2013*, Report by Bloomberg New Energy Finance.

[19] Examples of organizations that promote and disseminate EE projects are the National ESCO Association (Asociación Nacional ESCO, or ANESCO) and the Chilean Energy Efficiency Agency (Agencia Chilena de EE, or AChEE), in Chile.

growing in Colombia. However, the number of Energy Services Companies (ESCOs), i.e. those ESPs for which Energy Performance Contracting (EPC) is a core part of their energy-efficiency services offering, remains very limited. EPC is a turnkey service, sometimes compared to the design/build construction contracting, where the contracting firm providing the energy efficiency (or renewable energy) services also provides guarantees that the savings produced by the project will be sufficient to finance, at least, the full cost of the project itself.

22. EPCs are typically offered by ESCOs, and are normally classified in three types: (i) guaranteed saving EPC, where the project is typically financed by the client (or an FI) and the ESCO guarantees a minimum level of savings; (ii) shared saving EPC, where the ESCO typically provides the financing and takes a larger portion of the savings; and (iii) *chauffage* EPC contract, where the ESCO is fully responsible for providing energy, heat or cooling to the client at an agreed price for a set period, owns the facilities and is responsible for their operation and maintenance[20].

23. The role ESCOs have had in North America in promoting EE projects uptake is significant[21]. Given awareness and financing barriers mentioned above however, in Colombia such a model has not yet catalyzed the market transformation it can potentially generate. The analysis conducted during project preparation stage shows that there are currently three (3) firms in Colombia working with performance-based energy contracts, which can typically be considered ESCOs. In this context, one of the main problems observed is that while ESPs have the required technical capacity needed for the assessment of the clients' energy efficiency gap and for the structuring of the technical aspects of the project, they often lack the capacity to structure projects from a financial perspective (project finance) and to access the capital and/or provide the financial guarantees which are normally associated with performance-based energy contracts.

24. This is not only a problem for ESPs. In fact, all the existing ESCOs consulted during the project analysis have highlighted their constraints in obtaining medium-term financing to implement their portfolio of projects. As noted above, LFIs only offer credit to persons or companies with solid guarantees/collateral (asset-based lending) or low-risk balance sheets (not the case for most ESCOs, which are normally small and with short financial history), and the use of project financing remains limited. Moreover, the loan tenor is often shorter than the period required to repay the cost of the equipment with the economic savings generated by the energy efficiency improvements, which constitutes an additional barrier.

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[20] For a detailed analysis of Energy Performance Contracts see, inter alia: Langlois, P. and Hansen, S.J., World ESCO Outlook, The Fairmont Press, 2012, and the International Energy Agency DSM Programme , Task 16: Competitive Energy Services (energy contracting, ESCO services, http://www.ieadsm.org/ViewTask.aspx?ID=16&Task=16&Sort=0 .

[21] For a description of the history and growth of the ESCO and EPC market in North America see: *Introduction to Energy Performance Contracting*, ICF International and National Association of Energy Services Companies, 2007. http://1.usa.gov/1g4U6mG

2. PROPOSED PROGRAM

a. General Objective and Description

25. The project's impact objective is to facilitate SME access to the market for specialized EE financial and technical services, and to enable them to invest in measures that reduce energy costs and lower GHG emissions. The project result objective is to catalyze the use of performance contracts under the ESCO financing model for SME energy efficiency projects. Further, the project aims at demonstrating the economic viability of financial products specifically designed to serve the EE market.

26. The model will test an integrated approach to reduce awareness, technical and financial bottlenecks in the market for energy efficiency for SMEs, through ESCOs and performance-based energy contracts. This will be achieved through development of the technical and financial capacities of companies and consultants in the area of EE services and equipment provision (component 1: capacity building for ESCO market development). In addition, the project will aim to reduce barriers to project financing and mitigate technical and performance risks of the EE equipment (component 2), through the design and operationalization of an ad-hoc financial vehicle, the *Colombian Energy Efficiency Trust* (CEET),[22] which draws on lessons from models implemented in Eastern Europe, in particular the IBRD-GEF funded *Bulgarian Energy Efficiency Fund*[23]. The CEET will address market barriers related to inadequate financing terms available from LFIs in Colombia for EE projects through offering integrated services including (i) expedite technical and financial appraisal of proposed EE project financing, (ii) competitive pricing, (iii) longer-than-market tenor for the financing offered and (iv) accepting a greater measure of project risk, by taking into account expected project cash flows. The CEET will take the initial risk of financing energy efficiency project for SMEs to demonstrate the financial viability of EE projects to other SMEs and LFIs in Colombia.

27. Finally, the project will promote the visibility of investment opportunities in this area (component 3: strategic communication), to ultimately unlock investments from local commercial banks. While addressing regulatory barriers remains outside the scope of this private sector-focused operation, the knowledge products and communications activities of the project will seek to include energy regulators and policy makers in the context of the larger dialogue between the IDB Group and the Government of Colombia for the implementation of the CTF Investment Plan.

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[22] This name is used on a provisional basis.

[23] On the BEEF, see also section on lessons learned (2.22).

b. Program Components and funding instruments

i. Component I: ESCO Market Development.

28. The objective of this component is to address the technical and awareness barriers which are preventing the further development of a market for ESCO services focused on EPC. On the energy services demand side, this component will develop a number of tailored events targeting SME managerial and technical staff, aimed at raising awareness regarding the benefits of implementing good energy management systems and upgrading to more energy-efficient equipment. Further, the component will co-finance a training program for SME energy managers (or technical staff in charge of the production process in smaller SMEs) to provide interested SMEs with the basic knowledge to assess the EE opportunities and contract experts for the development of the identified opportunities.

29. On the energy services supply side, the component will help generate market confidence towards ESCOs through the adoption of a technical standard (*norma técnica*) and certification scheme for Colombian ESCOs. Energy Service Providers (ESPs) looking to operate under EPCs will receive capacity development for project identification and evaluation, technical standards and basic marketing techniques. Finally, the component will also support the development of a set of demonstrational cases of implemented EE projects, through partial co-financing of a number of selected pilot projects.

30. The main activities and products of this component are the following: (i) definition of a technical standard and certification scheme for ESCO operations in Colombia; (ii) training for ESPs on energy performance contracting and ESCO models; (iii) support for the definition of business plans for new ESCOs; (iv) awareness events for SME managers; (v) energy management training for SME technical staff; (vi) training of LFIs staff on EE financing opportunities; and (vii) selection and co-financing of pilot cases with demonstrational purposes.

ii. Component II: Development and operationalization of the Colombian Energy Efficiency Trust.

31. The objective of this component is to alleviate the financial barriers through the establishment of an EE Facility (referred to before as CEET) to provide enhanced access to finance for EE projects promoted –in most cases- by ESCO firms. The CEET will offer loans and partial credit guarantees, among other financial products, to medium-size projects which currently are not being financed because of scarce private commercial funding and limited investor appetite for these investments due to their size, perceived technology and/or demand risks. The Facility, which will

incorporate lessons learned from other similar funds[24], will be in charge of financial and technical evaluation of proposed EE projects presented by ESCOs and/or their clients. Priority sectors for the CEET to focus on, as identified through the project preparation market studies, include the Food, Beverage and Tobacco, Chemicals and, in the service sector, energy efficiency in buildings.

32. The CEET will contribute to cover the existing financing gap on the EE demand-side (including industrial and service sectors, energy, water, urban transport, buildings and communities, etc.) and self-supply renewables, promoting the use of energy performance contracting under the ESCO financing models. IDB will manage a selection process for the Facility Manager for the Facility. The Bank's participation in the Facility will provide a catalytic effect for the mobilization of additional investors, therefore optimizing its additionality, while enhancing the Facility's investment capacity.

33. CEET funding composition. The CEET will be structured as a special purpose vehicle in Colombia, specifically as *Patrimonio Autónomo*. Under Colombian law, such a trust acquires the ability to exercise its rights and obligations through the trustee (fiduciaria), i.e. a local financial institution. The Trust thus has the requisite legal personality to enter into contracts, own assets and otherwise receive financing from the IDB Group. In order to establish such a trust, Colombian law requires some form of equity injection, which IDB/MIF will provide.

34. The range of financial products to be offered by the CEET will include loans and guarantees, among other possibilities, which appear to be the most suitable to address the identified market barriers while ensuring economic viability of the CEET.[25] The total final capitalization of the CEET is expected to be around USD 22 million (potentially more if, after some initial demonstration, private investors are attracted). To date, expected financing sources for the CEET includes debt, equity and guarantee resources from IDB/SCF (~USD 18.5M), IDB/MIF (USD 1.5M), and the CTF (USD 7M, including the senior and junior tranches). In addition, up to USD 1.25M of the IDB-administered resources from the Nordic Development Fund may be deployed to partially guarantee IDB/SCF's contribution. In this context, the higher risk taken by the MIF through its junior position will mobilize junior resources from the CTF, and thus reduce the overall risk for senior tranches of investment to effectively allow debt leverage. Given the higher risk taken by the junior tranches, the potential upsides of the CEET will be shared pro-rata by the junior investors.

35. Part of the available non-reimbursable resources from the CTF and the MIF will be used to cover for the initial costs of the CEET. It is expected that once the fund acquires self-financial sustainability and can demonstrate a proven and profitable

[24] Examples of similar financial vehicles designed to spur investments in energy efficiency through the ESCO model include the GEF/IBRD-financed Bulgaria Energy Efficiency Fund (BEEF). Lessons learned from the USD13M BEEF have been considered and taken into account for the development of the CEET, and specific technical advice has been obtained for the design of the CEET from the BEEF's designers and Fund Managers.

[25] CO-T1344-SN2 - "*Design and structuring of the Colombian Energy Efficiency Trust*"

track record, domestic investors can participate in the Facility as senior or junior investors. The project team (and Facility Manager) will aim to leverage additional sources of financing, such as the MGM Sustainable Energy PE Fund (RG-M1182).

36. CEET expected lifespan and returns. The Facility's life is expected to be 8 years (that could be expanded for two more, if needed). The initial investment period will be for up to 5 years. The preferred exit strategy will consist in selling the Facility portfolio to a LFI once profitability is established (i.e. a LFI interested in EE). Alternatively, a sunset period will be established after year 5, during which new loans will have maturities that match the remaining lifespan of the Facility.

37. An early exit window for investors in the CEET will be established after the end of the initial ramp up period (e.g. after the third/fourth year of operation of the CEET). Specific triggers for the early termination of the Facility's activities will be included in the legal documents and may include parameters such as disbursement performance indicators, percentage of non-performing loans, aggregate net losses above a set threshold at a certain point in time and adherence of the loan portfolio with the objectives of the facility.

38. CEET Facility Manager. The IDB will select the Facility Manager through a competitive bidding process, taking into account the findings of the project preparation studies[26] and applying the lessons learned from similar selection processes undertaken for other IDB supported funds. The Facility Manager will be formed by a small team of highly qualified investment and energy professionals, combining the financial and energy efficiency expertise needed to properly identify, financially and technically evaluate, structure, close and supervise eligible investments.

39. Trustee. Given that the facility will be structured under a *Patrimonio Autónomo*, a Trustee will be required. A commercial bank is expected to provide such service, to leverage its resources and capabilities, as well as to enhance the demonstration effect of the program. The Trustee will manage the accounting, financial and legal transactions related to the investments, possibly including also supporting credit analysis of loan off-takers, as well as recovery/collection of defaulted loans.

40. The technical assistance activities and the relative products of this component are the following: (i) definition of CEET credit manuals and operations regulations; (ii) definition of a portfolio of projects and investment opportunities; (iii) registration of the CEET under Colombian law; (iv) operationalization and initial marketing costs of the CEET; and (v) partial coverage of Facility management and Trustee costs.

[26] Preliminary Terms of Reference for the selection of the Facility Manager are included in Annex V to this Memorandum.

iii. Component III: Knowledge Management and Communications Strategy.

41. The objective of this component is to document, organize and communicate the results and lessons learned generated through the implementation of this project. This is instrumental to further raising awareness on energy efficiency business models, products and services, to replicate and extend the project results and to provide longer term sustainability from both a technical and financial standpoint. The following audiences have been identified for the purposes of dissemination and communication of knowledge and experiences generated by the project: (i) private sector companies that can benefit from either improved EE (demand side) or broaden their service offering in EE (supply side); (ii) financial institutions that want to develop new products targeting EE to SMEs; (iii) other civil society organizations, multilateral organizations and networks of experts, with experience or interest in developing similar projects across the LAC region; and (iv) public sector and Colombian government institution involved in the larger dialogue with the IDB Group with regard to the implementation of the CTF Investment Plan, to ensure a positive feedback of information from practitioners to policy makers.

42. The knowledge gap that this project seeks to reduce is whether, and to what extent, ESCO market growth can be promoted while simultaneously supporting EE services supply (through capacity building and access to financing) and demand (through increased awareness and reduced risk). In particular, the project seeks to determine what types of financing models are best suited to catalyze commercial finance for ESCOs and their SMEs clients, and the circumstances under which local financial institutions could be incentivized to more proactively engage with the EE market, including through off-taking the CEET portfolio once it reaches maturity. As learned from similar IDB initiatives, pilot projects and related case studies will be key to increase awareness and reduce risk perception barriers, as they provide actual data on costs and performance of, and savings achievable with, improved-efficiency equipment.

43. The activities and products of this component are the following: (i) development of strategic communications to promote ESCO models in Colombia (audience: SMEs and financial institutions); (ii) writing and dissemination of case studies (between 5 and 10), highlighting successful engagement of financial institutions (audience: SMEs and financial institutions); (iii) seminars to disseminate project outcomes at the regional and national levels (audience: private sector, public sector, and civil society); (iv) international conference on EE and ESCO promotion after project completion (audience: public sector, private sector and civil society, development organizations).

44. The main elements of the governance and execution structure of each of these components is presented in Annex 2.

c. Program Financing Plan

45. The program will be financed with a blend of reimbursable (for the investment component) and non-reimbursable funds (for technical assistance activities as well as –partially- the management/operational costs of the investment facility) from the Clean Technology Fund and the IDB Group. The private sector players that will benefit from technical assistance support for the development of EE projects in the context of this project will be requested to contribute around 20% of the cost of the project, so additional finance from the beneficiaries has been included in the detailed budget. As mentioned, the project team is also exploring the possibility to leverage additional external sources of financing, such as the MGM Sustainable Energy Fund (MGM SEF).

46. The investment facility will combine two tranches of IDB Group and CTF financing: i) the junior/riskier tranche (equity or first loss guarantee) proposed through this program proposal, and ii) the senior tranche (debt or second loss guarantee) already approved by the CTF and pre-approved by IDB through the Colombia Sustainable Energy Finance Program (C-SEF)[27]. **The current proposal seeks approval only for the junior/riskier tranche**, since approval for the senior CTF financing was already obtained at the time of submission of the C-SEF program.

47. A breakdown of the different sources of financing available for the program is provided in the tables below:

i) **Junior/riskier tranche (<u>for approval</u> under this CTF proposal) (USD Millions):**

Sources of funding (and instrument)	Investment resources	Grant / TA resources	Total
CTF (equity or guarantee)	2.00	2.00[28]	**4.00**
IDB/MIF (equity or guarantee)	1.50	1.00	**2.50**
IDB/MIF implementation agency		0.50	**0.50**
Private sector (equity in subprojects)	7.50		**7.50**
Total (i)	**11.00**	**3.50**	**14.50**

[27] The C-SEF program was jointly submitted by IFC and IDB and approved by the CTF on December 2010. Following a first CTF investment channeled by the IFC (with IFC and IDB co-financing), and to effectively utilized the remaining CTF funds, the initial proposal was amended, submitted to and approved by the CTF on May 2013, allowing the flexibility needed in terms of financial intermediaries to allow for structuring of the CTF investment through an investment vehicle like the hereby proposed.

[28] A part of this (amount to be determined once final structure and its economics is determined) will be used to buy down operational and management costs of the facility, given the suboptimal size of this first, pilot fund.

ii) Senior tranche (<u>already approved</u> under C-SEF program) (USD Millions):

Source of funding (and instrument)	Investment resources	Grant / TA resources	Total
IDB/SCF (loan or guarantee)	18.50		**18.50**
CTF (guarantee)	*5.00**		***5.00***
NDF (guarantee)	*1.25**		***1.25***
Private sector (equity in subprojects)	7.50		**7.50**
Total (ii)	**26.00**	**0.00**	**26.00**

GRAND TOTAL (i and ii)	**37.00**	**3.50**	**40.50**

* Not added up for the calculation of the total figure at the bottom to avoid double counting, as this is guarantee support and not direct investment resources.

d. Summary of Proposed financial structure and CTF Terms

48. As mentioned, to effectively achieve the objectives of this program, a custom-made special purpose vehicle (SPV) in the form of a *Patrimonio Autónomo* (PA), i.e. a Colombian Trust, is required. Colombian regulation requires that PAs that will be offering credit in local currency must be financed with local currency. IDB has identified three structures that would allow for that:

    a. Local financial institution to provide local currency financing to the SPV; this financing will in turn be guaranteed by the IDB, the MIF, NDF, and the CTF, all of whom will effectively take the SPV and project risk.
    b. IDB to provide a loan to the SPV, with first and second loss guarantees of the MIF, NDF and the CTF.
    c. IDB and the CTF to provide debt financing to the SPV directly, and IDB/MIF and CTF to provide equity to the SPV. The NDF will provide a guarantee to the IDB.

49. All three structures are currently undergoing due diligence assessments, to confirm their financial viability and legal feasibility. Due diligence will also evaluate their comparative performance from the implementation and financial points of view. Each structuring option has different timing, management, risks and costs implications. IDB and MIF will only be in a position to confirm the optimal structure once due diligence is completed. Confirmation of the hereby proposed CTF funding and terms is essential to complete such assessment.

50. For the first two structures, the junior tranche of CTF financing would be structured as a first loss guarantee, pari passu with the MIF financing. For the third structure, the CTF and MIF junior tranches would be provided as equity.

51. Below we present the proposed terms[29] for both instruments:

First Loss Guarantee

Use of CTF Proceeds:	The junior tranche of the CTF will provide a first-loss, partial credit guarantee in favor of IDB, to share the credit risk associated with the CEET SPV, who will be conducting the on-lending to local borrowers.
Tenor:	The guarantee will have a maximum tenor of 10 years, consistent with the expected CEET lifespan.
Seniority:	The CTF guarantee will be placed in a first loss position, pari-passu with the MIF guarantee.
Pricing:	The guarantee fee[30] will be between 150 and 300 bps per annum. Final pricing will be determined once all cost elements associated to the implementation of the SPV are negotiated, and utilizing the minimum concessionality needed to make the program financially feasible.[31]

52. If neither of the first two structures utilizing the CTF guarantee was feasible, IDB will pursue the third structure, providing direct equity and debt financing of the SPV. Under this structure, the MIF and CTF will be the equity investors of the facility, at the minimum level required to allow leveraging it with IDB debt financing (thus enhancing the economic viability of it).

Equity

Use of CTF Proceeds:	The CTF investment will be used to provide –along with capital from the MIF- the equity investment required for the SPV.

[29] These proposed instruments and terms apply only to the CTF investment resources subject to approval under this submission. The additional USD 5M from CTF previously approved under the CTF C-SEF program will follow the terms thereby approved.

[30] The Guarantee fee may be credited to the CTF account in a single transfer at the end of each calendar year to reduce the financial charges otherwise involved in making quarterly transfers of $10,000 or less to the CTF account.

[31] In the case that the CTF resources are structured as a first loss guarantee, the CTF –through an agreement with the MIF, who will act as the sponsor of the facility and will share with CTF the first loss position- will also have a participation in any final upside of the SPV, once it is liquidated at the end of the pre-defined period (maximum 10 years), or upon IDB/MIF's early exit from it, with such upside being pro-rata with the CTF's participation in the first loss position.

Tenor / Exit:	The maximum tenor for the investment will be 10 years. Earlier (partial or full) exit may be feasible if/after: a) the investment period has finished and debt has been fully repaid, or b) upon initial demonstration other investors become interested in buying part or all the equity stake of the SPV. Exit conditions will be similar to those negotiated for the MIF, the other anchor investor.
Return:	Per the base case scenario in the financial model, and the project pipeline info obtained from ESCOs, expected annual return will be in the range of 7-9%. However, final return at exit could differ from this, as it will depend on a number of operational performance (e.g. pace of origination and rotation of the facility, operational costs, loan losses and recoveries) as well as regulatory and macroeconomic (e.g. taxation, inflation, interest rates, currency fluctuations) factors. Return is expected to be similar to other equity investors in the fund, but the possibility of capping equity returns to the CTF will be considered if needed to attract other equity investors. The principle of minimum concessionality will be observed in such determination, if it became relevant.

3. PROGRAM'S STRATEGY FOR ACHIEVING MARKET TRANSFORMATION

53. The Program was designed to have a systemic transformational impact on the EE market by developing specific projects and energy performance contracting in Colombia, through technical assistance to the demand and supply side of the EE value chain, especially in SMEs, and by improving access to finance for EE projects. The program will produce and communicate specific results in terms of promotion of energy efficiency projects and energy performance contracting in Colombia, which will in turn contribute to further market uptake.

54. Several areas will be addressed, each one according to the barriers previously identified. In the area of access to finance, the CEET will pilot new financing modalities (e.g. financing with only equipment and expected project cash flows as collateral) or assume the front-end, higher risks of a number of investments, generating a project portfolio whose performance would provide the track record and demonstration effect sought by the program[32]. In terms of regulations, the definition and implementation of a voluntary technical norm for ESCOs, coupled with the further dissemination of existing EE standards (e.g. ISO 50001 and 50002 for energy audits, 50006 for baseline performance indicators, and 50015 for measurement and verification) will enhance sustainability, competitiveness and productivity. In addition, the program will leave installed capacity among technical consultants, ESCOs and SMEs who can replicate the knowledge going forward.

55. Indicators of systemic impact from the MIF's Corporate Result Framework that will be applicable to this project include (i) number of markets or sectors that emerged

[32] This portfolio, once proved, could –among other possibilities- be offered to local financial institutions, enabling them to 'enter' the market for EE projects at a lower risk level.

or are expanded with MIF support and (ii) number of key public or private actors or institutions changing or applying new practices based on MIF-sponsored projects or knowledge.

4. FIT WITH CTF INVESTMENT CRITERIA

a. Potential GHG Emissions Savings

56. GHG emissions reductions have been calculated for the list of projects in the indicative pipeline (the same utilized in the financial model) for the Facility. The useful life of such projects varies from 10 to 20 years, depending on the technology. If all these projects are implemented, the fund will disburse about USD 30 million in loans, and approximately 850,000+ tons of CO_2 emissions will be avoided over the lifetime of the financed EE projects. Of these total emission reductions expected from the CEET, about 380,000 Tons should be counted as the proportional share corresponding to the CTF funding (USD 4M) requested through this proposal.[33]

b. Cost-effectiveness

57. Based on the above mentioned share of 380,000 tons of CO_2 emissions to be avoided over the lifetime of the various EE projects financed, and the CTF investment (under this proposal) of USD 4M, investment per ton of the CTF investment would stand at USD 10.6/ton CO_2. Considering total investment generated by the program (not just CTF), investment per ton is USD 43.4/ton CO_2.

c. Demonstration Potential at Scale

58. This project will contribute to generating transformational impacts in the Colombian energy efficiency market. The project will support SME access to the market for specialized EE financial and technical services, producing specific results in terms of promotion of energy efficiency projects and energy performance contracting in Colombia through its two key components: (i) technical assistance to demand and supply side of the EE value chain, especially in SMEs, and (ii) improved access to finance for SME's EE projects.

59. Assuming the demonstration to commercial banks of the sound performance of EE investments in segments and through financing modalities they have not yet tackled results in at least a 3x replication factor[34] over the following 10 years, indirect GHG emission reduction of the project would be an additional ~2.5 $MTonCO_2$.

d. Development Impact

[33] The other 470,000 Tons of CO_2 emission reductions should be counted towards the USD 5 M CTF contribution from the previously approved CSEF proposal.

[34] The potential replication could be much higher, given the size of the market opportunity, per the findings of the market study conducted in preparation of this program.

60. The Development impact of this project will be measured with a mix of financial and non-financial indicators. The most important **impact indicators** which will be used are:

- An expected 6 new ESCO firms generating new business through the use of performance based energy contracting
- 850,000+[35] ton/CO_2 in emission reductions.

The most important **results indicators** which will be used are:

- At least 50 firms that adopts new technologies or new good practices to increase their efficiency in energy use;
- At least 20 investments completed by the CEET;
- At least 15 SMEs with access to EE finance from the facility

e. Implementation Potential

61. The key elements of the implementation potential include, i) demand potential, ii) ESCO interest, iii) regulatory and legal feasibility, iv) facility management capacity, and v) financial feasibility. All these elements have been assessed with positive results; some of the assessments are being finalized to fine tune the facility structure, financial product design and pricing (which impacts demand), among other.

62. In terms of demand potential and ESCO interest, the market study conducted identified -through the ESCOs in Colombia, who collaborated in the assessment- a pipeline of EE and Self-Supply projects of about USD 160M, significantly above what the facility could finance, thus offering confidence about the demand[36].

63. In terms of facility management capacity, the IDB Group has identified and discussed the project with various potential managers for the facility, as well as trustees for the PA; their experience in the sector and with this type of structures and their manifested interest in participating in this project provides the required confidence in this dimension.

64. In terms of legal feasibility, legal due diligence has been initiated, with no obstacles identified[37].

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[35] Although only ~380,000 tons are to be attributed to the CTF funding provided though this proposal.

[36] In addition to this, the Colombian market for energy efficiency and clean energy has considerable growth potential; according to the results of the market assessment conducted as part of the project preparation, the estimated potential for energy saving in Colombia measures USD838M/year in the industrial sector, USD244M/year in the tertiary sector and USD22M/year in the area of public outdoor lighting, municipalities and private concessionaries.

[37] The legal requirement for a PA/Colombian Trust to only be able to accept financing in local currency (to avoid a currency mismatch with the subloans it would be extending) posed an immediate challenge (given that both IDB and CTF funding is normally provided in USD). This initial obstacle is being overcome through financial structuring solutions; i.e. the three alternative structures hereby proposed, which include the use of local financial institutions, guarantees, swaps and equity.

65. In terms of regulation, the recent passing of the National Law for the Promotion of Non-conventional Sources of Energy and Energy Efficiency (Law 1715 of 2014) has the potential (once the follow up regulations are passed in the next few months) to significantly enhance financial viability of EE and Self-Supply solutions; a number of the companies interviewed during project preparation are starting to plan investments or related business development based on the better enabling conditions created by the law.

66. Finally, in terms of financial feasibility, the underlying EE and Self-Supply have proven financially viable profiles, which provide the basis for IDB investment in this project; in terms of the Facility, given the suboptimal size of this pilot/demonstrational project, the CTF and MIF concessional/patient capital are required to make it viable (as discussed in detail in the next point)

f. Additional Costs and Risk Premium

67. The proposed program and the investment facility face a set of additional costs and risks relative to commercial financing modalities that require concessional finance to make it viable. In terms of costs:

    i. Technical assistance: an investment facility alone would not be able to produce the desired capacity building, demand mobilization, and demonstration effect sought by this program. Grant resources (from the MIF, its implementation agency, and the CTF) are therefore needed to fund these activities.

    ii. Facility management and operational cost: as previously explained, effective management of the investment facility and the Patrimonio Autonomo requires: a) a small, highly qualified team of investment and energy experts; b) a Trustee, to operationalize the financial transactions, and provide additional services such as corporate credit analysis and recovery/collections of defaulted loans. Given the relatively small, pilot size of the Facility, these costs (some of which are fixed in nature) are proportionally higher than in a regular fund (normally of USD 50M+) and cannot be fully passed on to final borrowers through interest rates; doing so would increase the costs to a point where the pricing of the loans would be too expensive and out of the market, thus hindering economic demand. Grant resources from the MIF and CTF are therefore needed to buy down the cost of these program implementation costs.

    In terms of risks, this program aims to push the boundary of business as usual in Colombia terms of the market segments targeted (higher participation of SMEs) and the financing modalities and instruments utilized (discount of project cash flows, project financing with limited collateral beyond project cash flows) for EE and Self-Supply investments. This will naturally result in a higher risk faced by debt and equity investors in the Facility, as probability of default and/or loss given default could be higher than normal. This would naturally require a risk premium which

would be charged, when possible, to borrowers; in some case however it will have to be partially absorbed (through cost and/or risk concessionality) by the concessional/patient capital provided by the IDB, MIF, NDF and CTF. Their participation as long-tenor lenders, partial guarantors or anchor investors are therefore key for the viability of the facility.

g. Financial Sustainability

68. The objective of the financing facility is to demonstrate the sound performance of EE investments with new financing approaches. The underlying investments consist of internationally proven EE/Self-Supply measures. The contribution of the program is demonstrating them under local conditions and to a series of local stakeholders, while demonstrating also that new approaches to financing can perform robustly, putting more emphasis on the technical and financial merits of the project (using account receivables, for example, as collateral to provide financing) and less in terms of personal or other types of guarantees required from the ESCOs or the SMEs. Successful demonstration, and the capacities built through the technical assistance components of the program, should lead to a reduced risk perception associated with the underlying investments, the investee companies, and the new financing modalities, to allow companies, ESCOs, and banks to further pursue them without additional grant or risk mitigation resources required.

69. Aligned with this objective, but also from a broader perspective (not just financial sustainability but also that of the other market development interventions aimed by the program), one year before the project's technical assistance and market development components end[38], a sustainability workshop will be held with all key stakeholders to identify specific actions needed to ensure the continuity of the project's activities after the project's grant funding has been expended.

70. Finally, the sustainability of the intervention will be enhanced by the fact that the project will build and install technical capacity among EE consultants, ESCOs and SMEs, allowing them to leverage such knowledge base in the context of additional projects going forward.

h. Effective Utilization of Concessional Finance

71. As explained in previous sections, there are a number of knowledge, capacity, cost and risk barriers preventing broader investment in EE and Self-Supply measures. The proposed program, utilizing market-termed financing from IDB combined with targeted grants, concessional finance and patient capital from the MIF and CTF aims to address them all. The specific uses and justification of grants and concessional finance from the MIF and CTF are explained in detail in the "Additional Cost and Risk Premium" section above. We consider this an appropriate and effective use of concessional finance given a) its comprehensive and targeted approach to address financial and non-financial barriers, combining TA

[38] The project has a duration of 4 years, whereas the Colombian Energy Efficiency Trust will have a duration of 8 years.

and investment support; b) the clear demonstrational value of the proposed intervention; c) the use of concessional finance for purposes and functions that nobody else in the market is currently covering; d) the limited nature of the concessional resources required[39], and e) the expected financial sustainability of the underlying investments as well as the proposed financing modalities, expected to be adopted by ESCOs, commercial banks and other financial intermediaries once demonstrated by the facility (and beyond its own life).

i. Mitigation of Market Distortions

72. The market will not be negatively (rather positively) distorted, because the program will target segments and financing modalities not currently utilized in Colombia for EE and Self-Supply investments. It will therefore not take business away from other financing agents, but rather demonstrate to them additional possibilities for effectively approaching these markets and develop new business lines.

j. Risks

The most important risks that have been identified are:

73. Market risk. The risk of limited demand by the prospective clients for the financial products offered through the CEET will be mitigated through a) design of financing instruments and modalities (including their terms) adequate to address the financial barriers while offering attractive conditions in market standards; and b) implementation of knowledge dissemination and capacity building activities to promote EE investments by clients.

74. Credit risk. The credit risk of underlying investments will be mitigated through the expert technical and financial analysis of the Facility management team, as well as the support from the Trustee and the Investment Committee.

75. Currency risk. This risk is significantly mitigated through the combined or alternative use –depending on the structure- of a local financial institutions providing financing in local currency, partial credit guarantees and currency hedging via swaps. Residual risks are further mitigated by the expected performance and returns of the facility, which provide a cushion of profit to absorb it. Additional layers of mitigation will be offered by clauses to be included as part of the facility's investment guidelines/credit manual, as well as the experience of the facility manager to mitigate currency risks, if needed, as the macroeconomic context and currency conditions evolve over the life of the facility.

76. Regulatory Risk. The risk of any changes to the current legal framework that may affect the Facility, its parties, or the Facility Purpose. This risk is mitigated by the current commitment from the Government of Colombia to promote and increase renewable energy and energy efficient investments and to foster investments helping to achieve reduction of CO_2 emissions.

[39] CTF support of ~USD 9M is on the low-side of typical CTF envelopes.

77. Executing Agencies risks:

- Technical Assistance (components 1 and 3): insufficient capacity of the Executing Agency - Corporación CYGA - for the implementation of the activities included scope of the project. Mitigation: the executing agency will be assisted on the day to day activities by ICONTEC staff working on EE and will have access to the organizations and EE experts participating in the project Advisory Committee;
- CEET (component 2): risk that a suitable candidate for the role of Facility Managers will not be easily identified and attracted. To mitigate this risk, the IDB Group has already engaged in discussions with prospective Facility Managers, and will soon launch the formal selection process (which will be completed –or significantly advanced- by the time of securing IDB approval). In addition, and to ensure suitable compensation for an adequately qualified team, the remuneration structure of the FM will includes a partial fixed amount to cover the first stages of operation of the CEET (including the generation of the portfolio; the MIF and CTF grant will be hereby utilized). The fixed component of the FM remuneration structure will significantly decrease overtime from year 1 to year 8, to be gradually replaced with increasing performance-based fees, linked to disbursement performance and default rates, to ensure alignment of incentives.

5. Key Performance Indicators

Key Performance Indicators	Target
Tons of GHG emissions reduced or avoided	At least 0.38 $MtCO_2e$ [a]
Volume of direct finance leveraged through CTF funding	USD 10.5 M [b]
Annual energy savings (or renewable energy produced) (GWh)	63 GWh/year [c d]
EE investments financed by the CEET	At least 20

[a] As mentioned in the description above, the program is expected to generate **0.85M $MtCO_2e$** of GHG emission reductions. However, given that the investment facility will also include CTF, IDB and other investor resources' approved under a previous CTF program (C-SEF, also part of the Colombian IP) the 0.38 $MtCO_2e$ represent the share associated with the proportion of IDB/MIF and CTF investment and grant resources (relative to the total resources of the facility) contributed under this specific proposal, to avoid double counting.

[b] Similarly as explained below, total non-CTF finance mobilized by the program will be much higher, **over USD 33M**. The USD 10.5M hereby indicated represents only the share proportional to the USD 4M of CTF resources to be approved under this specific proposal, and to avoid double counting.

[c] Per the same rationale above, this is just the shared for this tranche of CTF financing. Energy savings/self-supply energy produced supported by the CEET is estimated at **142 GWh/year**.

[d] This annual rate of energy savings/renewable energy produced is expected to be reach once the facility funds have been fully on-lent, which is expected sometime around year 5.

Additional Development Indicators	Target
Number of firms implementing new performance based energy contracts	At least 6
Number of new SME projects financed by CEET investments	At least 15
People participating in EE training programs and awareness raising events	At least 1,000

6. **Stakeholder Engagement**

78. Extensive consultations have been held in the context of the project design stage with key actors within both public and private institutions. On the public side, consultations included those with the Unit for Mining and Energy Planning (UPME) of the Ministry of Energy and Mines, and the National Planning Department (DNP). Private institutions and NGOs consulted included the Colombian National Business Association (ANDI), the Colombian Association of Small and Medium Enterprises (ACOPI), the Colombian Association of Public and Communication Enterprises (ANDESCO), the Colombian Institute for Normalization of Technical Regulations (ICONTEC), the National Center for Cleaner Production, the National Council for Energy Efficiency, the Cosmetics and Cleaning Products Industry Chamber and the Bogotá Chamber of Commerce. Private firms consulted include all established ESCOs, most engineering firms involved in design and installation of energy efficiency systems and a number of major energy producers/distributers, including Ecopetrol, Empresa Energía del Pacífico S.A. (EPSA), Empresas Públicas de Medellín (EPM). In addition, a number of local financial institutions were consulted, including BBVA Colombia, Bancolombia, Findeter, Bancoldex and Suramericana Seguros

79. The meetings conducted with strategic private sector stakeholders were aimed at validating the CEET's value proposition. All ESCOs approached manifested their interest for both the technical assistance and financing components of the project; particular interest was assigned to off-balance sheet /project finance financing modalities. Meetings with potential fund managers confirmed their interest and capacity to provide facility management services.

80. In sum, these stakeholders have expressed great interest in the project, and are awaiting approval and operationalization of the facility for further engagement with it.

7. Gender Considerations

81. There is no data available to determine the gender gap in the adoption and implementation of EE in Colombian SMEs. Therefore, this project will help to set the baseline for the future and where possible and relevant the data collected in the context of the project monitoring and evaluation activities will be disaggregated by gender. This will be done by collecting separate data for women-owned firms (i.e. firms where the chief financial officer, chief executive officer, or chief operating officer - or equivalent - is a women) and/or women-led firms (i.e. firms where 51% or more ownership by women).

ANNEX 1 – MDB PROJECT IMPLEMENTATION AND SUPERVISION FEES

Summary for 10 Years (USD)	
Implementation	100,000
Legal Cost	85,000
Supervision	125,000
Total	**310,000**

ANNEX 2 – Project Governance and Execution Structure

The governance and execution structure of the program is presented below:

- Components 1 and 3 of the project will be implemented by a Project Executing Unit (PEU), which will be set up by the Executing Agency responsible for those components, Corporación CYGA. The PEU will act in close consultation with the MIF Supervision Team. The PEU will be comprised of a Project Director, in charge of ensuring that all project milestones are met and of a Project Assistant, responsible for supporting the Director in the reporting activities vis-à-vis the MIF, as well as for the other project's administrative tasks. The PEU will be assisted by an Advisory Committee (AC) with consultative functions. The AC will meet between two and three times per year to review the progress of the project and advise the PEU on any strategic decision to be taken. The AC will also provide guidance with respect to any additional issue related to market and regulatory developments for the energy efficiency and clean energy (EE/CE) sector that may be relevant for the implementation of the project. Relevant stakeholders within Colombia's EE/CE sector will be invited to be part of the AC, which would be comprised by no more than nine members. Members of the AC could include ICONTEC, ACOPI, the Consejo Colombiano de Eficiencia Energética, and representatives from relevant governmental bodies (such as the Ministry of the Environment and Sustainable Development, Ministry of Commerce, Industry, and Tourism, or Ministry of Mining and Energy).
- Component 2 will be implemented by the CEET Trust Manager, under the guidance and supervision of the respective shareholders' supervision teams. The CEET's corporate governance will comply with requirements stated for NSG operations (NSG Corporate Governance Guideline (OP-1178-1)). The Trust's corporate governance will be in line with the corporate governance best practices of similar funds. It will include appropriate procedures for investment decision making, investment and investors committees, procedures for removal of the fund manager, rules for competing funds, related transactions and key person's events.

  CEET Governance Structure. The Governance Structure of the CEET may include a Shareholders' Assembly, an Advisory Committee (AC) and an Investment Committee (IC), with the following prerogatives:
  - Shareholders' Assembly. The Shareholders would meet at least once a year to approve the audited financials and receive information on the Trust's performance.
  - Advisory Committee (AC). The AC would provide advice to the Trust Manager on strategic and other aspects including the review and resolution of any real or potential conflict of interest. The AC would be formed by representatives of the lenders who will be selected every three years. The MIF would be part of this AC. SCF expects to have participation in the AC as a silent observer without voice and without vote.
  - Investment Committee (IC). The IC would approve the acquisition, disposition and/or liquidation of portfolio investments. It would be comprised of five members selected annually, three of which will be affiliated to the Trust

Manager. The IC would also include two independent members to be approved by the AC. The vote of at least one of the independent members should be required to approve any investment decision.