REQUEST FOR CEO APPROVAL

PROJECT TYPE: Medium-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title: NAMA Pilot Implementation of Technology Transfer Projects in the Industrial Sector of the Cundinamarca-Bogotá Region			
Country(ies):	Colombia	GEF Project ID:	5841
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5190
Other Executing Partner(s):	Environment and Business Corporation (CAEM)	Submission Date:	6 January 2016
GEF Focal Area (s):	Climate Change	Project Duration(Months)	48
Name of Parent Program (if applicable): ➢ For SFM/REDD+ ☐ ➢ For SGP ☐ ➢ For PPP ☐		Project Agency Fee ($):	164,016

A. FOCAL AREA STRATEGY FRAMEWORK

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount ($)	Cofinancing ($)
CCM-1 Program 1	- Technologies successfully demonstrated, deployed, and transferred - GHG emissions avoided	- Innovative low-carbon technologies demonstrated and deployed on the ground	GEFTF	1,432,982	10,062,473
(select) CCM-EA	- Adequate resources allocated to support enabling activities and capacity building related to the Convention - Human and institutional capacity of recipient countries strengthened	Countries receiving GEF support for national Communication, etc.	GEFTF	293,502	2,064,987
		Total project costs		1,726,484	12,127,460

B. PROJECT FRAMEWORK

Project Objective: ***To promote technology transfer through the development of NAMA pilot projects in the industrial sector of the Cundinamarca-Bogota region, in line with Colombia's low carbon development strategy.***

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount ($)	Confirmed Cofinancing ($)
Strengthening of the capacity of the industry sector in order to establish its energy and GHG emissions BAU baseline	TA	Strengthened capacity in the industry sector to identify and develop GHG emission reduction technology transfer projects.	-Educational materials produced to enable energy and GHG emissions self-diagnosis of industry sector companies in the Bogotá-Cundinamarca region. -Capacity building program implemented with industry sector stakeholders in the Bogotá-Cundinamarca region. -Energy and GHG emissions baseline diagnosis conducted for the technology transfer pilot	GEFTF	313,000	825,556

			projects identified in the industry sector in Bogotá-Cundinamarca. -Dissemination strategy and presentation of the project to industry sector stakeholders in Bogotá-Cundinamarca			
Implementation of technology transfer pilot projects according to the mitigation actions identified and prioritized in the industry sector	TA/Inv	Pilot projects implemented and operating in the industry sector in the Bogotá-Cundinamarca region, including best operative energy practices (BOPs), process and technology re-conversion, innovation and adaptation projects	-Financial instruments established to promote investment in technology transfer pilot projects in Bogotá-Cundinamarca. -Feasibility studies for low emissions technology transfer pilot projects in the industry sector in Bogotá-Cundinamarca developed. This portfolio will include projects of three different types: a) Projects that incorporate best operative energy practices (cost less than USD 15,000) b) Projects that involve process conversion, innovation and adaptation (cost over USD 15,000) c) Projects that involve technology conversion, innovation and adaptation (cost over USD 15,000) -Portfolio of low emissions technology transfer pilot projects (which includes the above mentioned three types of projects) implemented in industry subsectors in the Bogotá-Cundinamarca region.	GEFTF	757,931 (Inv) 258,000 (TA)	10,067,904
Knowledge management for the replication of the technology transfer pilot projects' impact in the industry sector	TA	Inputs provided for the formulation of a NAMA for the industry sector to replicate the development of technology transfer projects in other industry subsectors and regions of the country	-Diagnosis of energy and GHG mitigation indicators, MRV procedures, and outcomes achieved by the technology transfer pilot projects to identify cases of success for their replication/extension. -Dissemination of lessons learned and best practices of the pilot projects in other regions, in order to spur further innovation processes and technological transformation in the industry sector in Colombia.	GEFTF	199,600	434,000

			-Assessment of institutional and financial mechanisms of pilot projects and coordination for the sustainability and replication of future technology transfer pilot interventions in the industry sector and other subsectors in Colombia. -Pilot case study completed to support the development of a NAMA for the industry sector.			
Monitoring, learning, adaptive feedback and evaluation	TA	Project is monitored and evaluated according to GEF guidelines and project-specific needs	-Terminal evaluation conducted -Required financial audits conducted	GEFTF	41,000	
Subtotal					1,569,531	11,327,460
			Project management Cost (PMC)	GEFTF	156,953	800,000
			Total project costs		1,726,484	12,127,460

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME ($)

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount ($)
National Government	Ministry of Environment and Sustainable Development	In-kind	800,000
National Government	Bank of Foreign Trade (Bancoldex)	Loans	9,000,000
National Government	Regional Autonomous Corporation of Cundinamarca	In-kind	859,260*
National Government	Cundinamarca Departamental Governor's Office	In-kind	84,000*
Private Sector	Bogota Chamber of Commerce	In-kind	250,000
Private Sector	Environment and Business Corporation (CAEM)	In-kind	360,000
Bilateral Aid Agency (ies)	Swisscontact	In-kind	220,000
Bilateral Aid Agency (ies)	USAID	In-kind	354,200*
GEF Agency	UNDP Colombia country office	In-kind	200,000
Total Co-financing			12,127,460

*Original amount in co-financing letter shown in COP. Exchange rate used: USD 1 = COP 2500

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in $)		
				Grant Amount (a)	Agency Fee (b)	Total c=a+b
UNDP	GEFTF	Climate Change	Colombia	1,306,862	124,152	1,438,205
UNDP	GEFTF	Biodiversity	Colombia	419,622	39,864	459,486
Total Grant Resources				1,726,484	164,016	1,890,500

CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount ($)	Cofinancing ($)	Project Total ($)
International Consultants	23,000	-	23,000
National/Local Consultants	861,600	180,000	1,041,600

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBS communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

1. The Colombian government has identified energy saving and efficient use as a priority due to the impact it has on both national GHG emissions and in the productivity and competitiveness of the industry sector. In Colombia, Rational and Efficient Use of Energy (REE) management is governed by the enactment of Law 697 of 2001, which declares REE as a matter of public, social, and national interest. As a result, the country has made progress in energy efficiency with the creation of the Programme for the Rational and Efficient Use of Energy and Other Non-Conventional Forms of Energy (PROURE), as a tool to seek to improve energy efficiency of the productive sectors and to promote non-conventional energy sources in accordance with the national energy saving goals. By resolution, the Ministry of Mines and Energy (MME) adopted the indicative action plan 2010-2015 (with a vision to 2020) to develop the PROURE.

2. In the past National Development Plan (NDP) 2010-2014 "Prosperity for All", four measures were prioritized to address climate change, which are: i) the Colombian Low-Carbon Development Strategy (ECDBC), ii) National Climate Change Adaptation Plan, iii) the National REDD+ Strategy, and iv) the Financial Protection Strategy for Disasters. The ECDBC has been defined as a program that includes sectoral mitigation plans to reduce GHG emissions while harnessing financing options that allow strengthening of the sectors. This strategy identifies the industry sector as one of eight priority sectors due to its role in the national economic development, its high share in consumption of energy resources, and its potential for reducing GHG emissions associated with production processes. The Ministry of Commerce, Industry and Tourism, in coordination with the Ministry of Environment and Sustainable Development, and within the framework of the ECDBC, designed the Sector Action Plan for GHG mitigation in the industrial sector, approved in June 2014 by consensus of different industry stakeholders and government representatives. Finally, the current National Development Plan (2014-2018) called "All for a new country", establishes green growth as one of its transversal strategies.

3. Taking into account the afore-mentioned national priorities, the project is clearly aligned with national strategies (National Development Plan, Low Carbon Development Strategy) and legislation (energy efficiency laws and regulations, such as URE and PROURE). The Colombian Government is currently developing several NAMAs within the framework of the Colombian Low Carbon Development Strategy, and developing NAMAs in the industry sector is a priority. However, as the structure for an industrial NAMA is still under discussion, the outputs of this project will be of great importance in piloting approaches for in the development of a NAMA for the industrial sector. A full description of the National Strategies and Plans aligned with this project can be found in section 2.1 of the Project Document.

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities. N/A

A.3 The GEF Agency's comparative advantage: N/A

A.4. The baseline project and the problem that it seeks to address: N/A

A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

4. During the project design phase, the focus of the components was adjusted to better respond to the findings of the assessments conducted during the preparation phase. These changes do not alter the objectives and outcomes of the project, but reflect some minor shifts in the project strategy. A full presentation of the project strategy can be found in section 2.4 of the Project Document. The main changes are described below.

5. Component 1 has been modified to include the energy business as usual (BAU) baseline in addition to the GHG emissions BAU baseline. However, the main shift in focus for this component in the full project is an emphasis on the GHG emission and energy BAU baselines for the specific companies that will participate in the conversion projects (Component 2), and not to elaborate a GHG inventory or to create an inventory system for the entire industrial sector in the region as mentioned in the PIF. The objective of this baseline analysis is to establish a solid foundation for conducting the pilot projects in Component 2. An inventory of the whole sector is too wide an objective for this medium-sized project and would not result in sufficiently detailed BAU data for reliable Monitoring, Reporting, and Verification (MRV). The rest of the expected results in the component are similar to the PIF, with an emphasis on capacity building and educational material for the industry sector on establishing baselines and on best operative energy practices.

6. The implementation of the pilot conversion projects continues to be the focus of Component 2. In the PIF an industry sub-sector prioritization was suggested as a project activity. However, this analysis was already conducted during the design phase and is included in the Project Document, in section 2.2. This has allowed for a much more precise identification of project prototypes, expected energy savings, and expected CO2 emission reductions. Regarding the pilot projects themselves, in the PIF the project types were presented based on the type of technology (best practices, fuel optimization, clean fuels, and energy efficiency/process optimization). In the ProDoc this has been simplified and the three project types are: best practices (under USD 15,000), process conversion, innovation and adaptation (over USD 15,000) and technology conversion, innovation and adaptation (over USD 15,000). Furthermore, the number of projects in order to reach the expected environmental benefits was adjusted based on a more detailed analysis on possible mitigation actions for the pilot projects for the different sorts of projects. Now it is estimated that there will be 160 best practices pilots (BOPs), 37 process transformation pilots, and 49 technology transformation pilots conducted in order to reach the expected emissions reductions. The project will work with 160 industries, of which all will implement BOPs and a subset of them will implement more investment-heavy process and technology reconversion, innovation and/or adaptation projects. These projects will be financed either through the industries' own resources or through targeted soft credit lines for energy efficiency from Bancoldex, the national business development bank. GEF resources will be used primarily for energy audits that will identify the most cost efficient energy efficiency measures to be undertaken, and for monitoring equipment in order to accurately record, document, and analyze energy consumption reductions. Energy audits will take particular care in incorporating climate risks into the process, in particular identifying measures that can increase efficiency in both water end energy use. The details of the selection process for the identified industries can be found in the Project Document Section 2.2.

7. For Component 3, even though the word "MRV" was replaced with "knowledge management" in its title, the focus remains similar: measurement and monitoring of the results (GHG emissions reductions of the industry companies involved in the pilot projects) and dissemination of the results of the project. The Project Document has defined with much more detail how the experience of the NAMA pilot projects will be captured so that the Government builds upon this pilot experience to design and implement a sector-wide NAMA. Therefore, it was has been established that the entire project, including the pilot implementation of efficiency measures and the MRV methodologies, will be developed in close cooperation with the Ministry of Environment and other entities related to NAMA development, in order to produce a produce a case study document to capture the experiences.

8. A detailed calculation of CO2 emission reduction estimates was conducted. As a result, the calculations demonstrate that the project will directly contribute to an annual reduction of approximately 23,000 tCO2e. Indirectly, it is expected that the project will help reduce 251,000 tCO2e per year. A summary of the CO2 emission reduction calculation is presented in Annex D of this CEO Endorsement Request and the full calculation is presented in Annex 4 of the Project Document.

F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? NO

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

Risk	Type		Mitigation Action
Change in the socio-economic conditions of the industries in the industrial subsectors in the Bogotá-Cundinamarca region which limits their	Financial	Medium	The productive sectors in Colombia have developed in a context of political and economic stability, and a policy context that recognizes the socio-economic benefits of industrial activity. Changes in these socio-economic conditions may occur, affecting the economic performance of companies, and thereby their interest in investing in technology reconversion, innovation and adaptation processes. However, there are national policy mechanisms that help mitigate this situation. First, economic benefits and other co-benefits associated

participation in the project.			with the implementation of technology transfer projects make the investment profitable even in unstable conditions. Second, the existence of Resolution 0186 of 2012 issued by MADS, which sets the framework to access tax benefits triggered for the development of savings and energy efficiency, provides additional incentives to add value to projects, thereby attracting the interest of stakeholders. Furthermore, the project has a technical, administrative and financial support strategy for the structuring and implementation of pilot projects, such as programmes for capacity building, financing mechanisms, and technical assistance, among others.
Technical problems that incidentally affect technology transfer projects, limiting achievement of expected outcomes.	Operational	Low	While energy efficiency technologies applicable to the industry (in priority subsectors) have been widely tested, they are not exempt to technical and/or operational failures. To mitigate this situation, the development of technology transfer projects involves a strict structuring and evaluation process of technical, administrative and financial aspects in order to establish their suitability and operability under the specific conditions of each industry in the industrial subsectors in the region of Bogota-Cundinamarca. Further, validated and tested technologies will be preferred. Also, protocols will be established to address possible cases of technical problems as soon as possible, limiting their impacts to a minimum (including negative environmental impacts).
The general public and/or communities in the zones of influence of industry subsectors have a wrong perception of implemented projects and their outcomes.	Strategic	Low	Although the projects bring direct benefits in terms of energy saving and reduction of GHG emissions, as well as the associated co-benefits, differne levels of knowledge between communities and the industries in priority subsectors that the project will work with in the region could cause the communities to have a wrong perception of the pilot projects that are implemented. To mitigate this, a transparent and proactive communication strategy must be implemented with local communities since the early stages of the project, taking into account the lessons learned from similar projects, which include effective dissemination of project processes and its outcomes through a communication strategy.
Lack of collaboration from banks in providing and developing financial instruments that can be used for implementing the pilot technology transfer projects	Financial	Low	Industries could have difficulty accessing the financial instruments to be developed or identified during the implementation of the project due to lack of information or reluctance of private banks to promote such alternatives (e.g. it is more favorable for them to promote other types of credits that represent higher incomes to them). To mitigate this, private banks (led by the national development bank) have been closely engaged during project formulation and will be involved in project implementation, ensuring that the bank and industrial sectors have a mutual understanding of the financing needs for this type of project as well as the financial and environmental benefits that they will deliver.
Climate change impacts, in particular water shortages, affect industrial operations in Bogota/Cundinamarca region	Climate	Low/Medium	Water shortages have been identified as the main climate change impact that could affect small and medium industries in Bogotá/Cundinamarca. This could affect water intensive industrial processes, as well as energy supply if hydroelectricity generation is affected. The project will incorporate the climate risk into the energy audits conducted in the industrial sector, seeking to optimize

			water/energy measures that can increase the efficiency in the use of both resources.
Overall Risk		**Low**	

A.7. Coordination with other relevant GEF financed initiatives

8. The project will require close coordination with the UNIDO/GEF "Promotion of Industrial Energy Efficiency in Colombian Industries" project, which will be implemented in parallel to the existing project. It is important to note that there is a clear difference in the scope and target of these initiatives. The current UNDP/GEF project is narrowly targeted at implementation of technology transfer pilot initiatives in projects focused on energy efficiency measures. It will be implemented in specific industrial subsectors in a given region (Bogotá-Cundinamarca). This will serve as a case study that will be the basis of an industry sector NAMA for Colombia. The UNIDO/GEF project has a broader, higher level scope that focuses primarily on policy support, and is implemented by the UPME, an institution that has a high level of policy influence at a national level. Hence, the policy approach of the UNIDO/GEF project clearly complements the on the ground implementation focus of the UNDP/GEF initiative. Furthermore, the portfolio of investments to be supported by the UNIDO/GEF project has not yet been developed, while the UNDP/GEF project has a clearly defined boundary for its pilot intervention. Given the broad range of EE investment opportunities in Colombia, it is very feasible to differentiate the support offered by both projects, although this will require close coordination. Particular care will be taken in ensuring coordination of capacity development activities. The target audiences differ, with the UNIDO/GEF project working with the academic sector in training highly specialized Energy Management System service providers, while the current project will target technicians working directly in the industrial sub-sectors identified in this project. However, strong collaboration across both initiatives will reinforce the capacity building effort and strengthen the sustained capacity of the industrial sector, as the specific and targeted capacity development offered by this initiative to industry subsectors will be aligned with the institutionalized capacity developed by the UNIDO/GEF project.

9. The project builds upon the achievements of the UNDP/GEF "Energy Efficiency Standards and Labels" (EE S&L) project that is reaching its conclusion and has been instrumental in the recent approval of the National Technical Regulations for Energy Labeling (RETIQ), which mandates labeling for a wide range of electrical appliances. While the main target of the labeling scheme is residential appliances, electric motors are also incorporated in the scheme, and may be of relevance to this project. More importantly, during its final year the EES&L project will engage in a widespread dissemination campaign to raise consumer awareness of energy efficiency. As appropriate, the current project will build upon this awareness raising effort to highlight the benefits of energy efficiency in the industrial sector.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

10. The following table presents more in detail the role of each key stakeholder in implementing this project. Full implementat for the project can be found in the Project Document Section 4.

Stakeholders	Project Implementation Role
United Nations Development Programme in Colombia UNDP- Colombia	UNDP Colombia will be the implementing agency of the project. The agency will contribute it´s experience promoting environmental sustainability as a factor for mitigating poverty in Colombia and improving the wellbeing of the population.

Environmental Corporation of Entrepreneurs (CAEM)	CAEM is the executing organization for the project. The organization is a subsidiary of the Chamber of Commerce of Bogota, which has a wide range of experience implementing activities in the business sector that are directed towards climate change mitigation, promoting energy efficiency and generating sectorial intervention models to be transferred and replicated by business groups.
Institutional Stakeholders: Ministry of Environment and Sustainable Development, the Ministry of Commerce, Industry and Tourism and the Mining Energy and Planning Unit	These governmental entities will help to strengthen project leadership and provide the necessary institutional articulation to achieve the commitment and participation needed by other project stakeholders for the development of the project. They will support the promotion and strengthening of incentives for implementing restructuring projects, such as the articulation of programs that promote competitiveness and productivity of target businesses, for example the technology transfer in Bogota-Cundinamarca and other regions of the country. The Ministry of Environment and Sustainable Development is a key player in cooperation regarding the NAMA development, as they are currently defining the structure and methodology of NAMA development in Colombia for the Industry sector.
National and International Cooperation: Swisscontact, etc.	Contribution of intervention models and tools, theoretical knowledge and experience implementing successful practices. Articulation with other energy efficiency projects that are being implemented in order to complement the activities undertaken by the current project.
Private Sector: Business owners in the prioritized sectors, Chamber of Commerce of Bogota (CCB), the National Association of Entrepreneurs (ANDI), Unions and other business associations	These are the beneficiaries of the project. They will implement the recommended actions and restructuring projects and cofinance the cost of required investments. The unions and associations will support the promotion and dissemination of the project activities within their businesses, such as the replication of implemented measures.
Financial Sector: Bancoldex, Asobancaria and Comerical Banks	These actors will financially support the businesses that integrate prioritized sectors in the obtainment of resources for the implementation of projects.

B.2 Socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions

11. The project is directly linked to the improvement of the competitiveness and productivity of the industrial sector in the region of Bogotá and Cundinamarca, which employs approximately 260,000 people in the region. The detailed analysis conducted during the project preparation phase identified specific interventions in the selected sub-sectors with clear financial viability. Hence, all investment promoted by this project will lead to improved productivity per unit of energy consumed, which in an important factor in enhancing the financial health of the industries. A summary of the conclusions of this analysis is included in the Project Document, Section 2.2. The full bottom up analysis, which includes the identification of cost effective measures, the projected energy savings, and subsequent estimation of GHG emission reductions, is included as an annex to the Project Document (Annex 4).

12. Although the industrial sector of Colombia has invested a remarkable sum (e.g. USD 142 billion in 2012) in environmental compliance related issues, the sector is a source of air, water, soil and noise pollution. Nearby communities are often directly affected by these negative side-effects of industry, and women and children are the most vulnerable to these impacts. Studies by the District Secretary of Health in Bogota show that for each 10 microgram-increase in particulate matter per cubic meter of air

due to industrial activity, may increase by up to 20% of medical consultations on acute respiratory infections among vulnerable populations (children, pregnant women and elderly persons).

13. This project has a high potential to improve air quality aspects as a co-benefit of the project through the employment of new technology and more efficient operation of existing technologies, which reduces the amount of particulate matter released to the air. This may help reduce the development of respiratory diseases in nearby communities, and therefore indirectly in lower social costs, reduced sickness absence of workforce, and increased workforce productivity.

14. The project is designed to align global environmental objectives with improvements to the industrial processes of small and medium enterprises (SMEs). This will improve the competitiveness of these businesses due to an increase in productivity per unit of energy consumed. Maintaining SMEs competitive in the Cundinamarca-Bogota region is essential for social development, as the sector is an important source of employment, currently employing 260,000 people, mostly from lower middle income families. Furthermore, the industrial sector employs around 38,000 women in the Cundinamarca-Bogota region and 95,000 on a national level (an estimated 14.6% of the persons employed in the sector). The positive afore-mentioned economic and air quality-related co-benefits may therefore have the potential to enhance working conditions and reduce health-related risks especially for women workers in the sector, who are likely to be more vulnerable to negative environmental impacts. Evidently, the positive impacts of better air quality conditions will benefit all persons employed by the sector.

B.3. Cost-effectiveness in the project design:

15. It is expected that the project will directly contribute to an annual reduction of approximately 23,000 tCO2e. Indirectly, it is expected that the project will help reduce 251,000 tCO2e per year. Therefore the cost-efficiency in the use of GEF resources is given based on the fact the direct abatement costs are approximately USD 8.6 per ton of CO2, and indirect abatement costs are less that UDS1 per ton CO2. These estimates are based on a 10 year investment lifetime. A summary of the CO2 emission reduction calculation is presented in Annex D of this CEO Endorsement Request.

16. On the national level, a key factor in determining the sub sectors and pilot projects to be implemented is the financial return on investment for the interventions. Once the barriers associated to the upfront costs of identification and design have been addressed (with support of this project), the targeted interventions are highly cost efficient from an investment point of view. A detailed cost-benefit calculation on the proposed technology reconversion projects for each sub sector was conducted during the project preparation phase. The main conclusions are presented in section 2.2 of the Project Document and the full analysis is included in Annex 4 of the project Document. This analysis allowed to more accurately estimate the required co-financing to implement the technology reconversion projects, estimate the financial returns, and calculate their CO2 emissions reduction potential. Co-financing is totaling USD 12,127,460 whereas the estimated co-financing in the PIF was USD 9,615,976. A great part of this sum consists of the availability of a loan by the Bank of Foreign Trade, which is intended for private sector companies' energy efficiency efforts, and which will help finance the planned technology reconversion projects.

C. DESCRIBE THE BUDGETED M &E PLAN:

M&E Activity	Responsible Partner	Target Cost USD	Time
Inception Workshop (IW)	- CAEM – Project Team - UNDP-CO - UNDP/GEF	1,000	Within the first three months of project start
Inception Report	- CAEM - Project Team - UNDP-CO	-	Immediately after the IW
	- CAEM	-	

M&E Activity	Responsible Partner	Target Cost USD	Time
Measure of project progress verification mechanisms and implementation	- Project Coordinator - Strategic Partners		Annually, prior to the submission of the APR/PIR and when defining the Annual Work Plans
APR and PIR	- CAEM - Project Coordinator - Strategic Partners - UNDP-CO - UNDP/GEF	-	Annually
Project Steering Committee Meetings	- CAEM - Project Coordinator - Strategic Partners - UNDP-CO - Representatives of the Colombian government	1,000	Bi-annually
Quarterly Progress Reports	- CAEM - Project Coordinator - Strategic Partners	-	Quarterly
Technical Reports	- CAEM - Project Coordinator - Strategic Partners - External Consultants	May vary according to the need	It will be determined by the Project Team and UNDP-CO
Mid-term Informal Review (optional although not mandatory)	- CAEM - Project Coordinator - Strategic Partners - UNDP-CO - UCR PNUD/FMAM - External Consultants		Mid-term of project implementation
Final Evaluation	- CAEM - Project Coordinator and Team - Strategic Partners - UNDP-CO - RCU UNDP/GEF - External Consultants	25,000	At least three months before finishing project implementation
Project Terminal Report	- CAEM - Project Coordinator - Strategic Partners - UNDP-CO	-	At least three months before the project ends
Lessons Learned	- CAEM - Project Coordinator - Strategic Partners - RCU UNDP/GEF (suggested formats to document good practices, etc.)	-	Annually
Audit	- UNDP-CO - Project Coordinator and Team	10,000	Annually
Field Visits	- CAEM - Project Coordinator	4,000	

M&E Activity	Responsible Partner	Target Cost USD	Time
	- Strategic Partners - Representatives of the Colombian government		Annually for the Coordinator. For other partners, when they consider it necessary.
TOTAL TARGET COST (Excluding UNDP staff travel expenses)		GEF	50,000 USD
		Total	41,000 USD

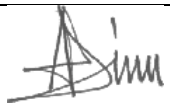
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):): (Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Alejandra Torres	Head, Office of International Affairs	MINAMBIENTE	04/25/2014

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date *(Month, day, year)*	Project Contact Person	Telephone	Email Address
Adriana Dinu UNDP-GEF Executive Coordinator		January 6, 2016	Oliver Page UNDP-GEF Technical Advisor for LAC	(507)302-4548	oliver.page@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK

This Project will contribute to achieving the following Country Programme Outcome, as defined in the CPAP or CPD: Strengthening of capacities by civil society and public institutions, in order to address and reduce the negative impact of climate change, the reduction of the ozone layer, solid waste management, comprehensive management of water sources and persistent organic pollutants, in accordance with international agreements.

Country Programme Outcome Indicators: Civil society and public institutions strengthen their capacity to address and reduce the negative impact of climate change, the reduction of the ozone layer, solid waste management, comprehensive management of water sources and persistent organic pollutants, in accordance with international agreements/At least 4 new initiatives in 2012.

Key Applicable Area Environment and Sustainable Development Key Outcomes Area: Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access

Applicable GEF Strategic Objectives and Programme: Climate Change

Applicable Expected GEF Outcomes:

Applicable GEF Outcomes Indicators:

	Indicator	**Baseline**	**Objectives**		**Means of Verification**	**Risks & Assumptions**
			Project Mid-term	**Project End**		
Project Objective[1] Promoting the adoption of best industry practices and the implementation of low-carbon technologies in companies that form part of the industry sector in Bogotá-Cundinamarca	Amount of GHG emissions reduced in industry subsectors in the Bogota - Cundinamarca region	Current emissions of the benefitting companies in the industry subsectors in the region (to be determined in year 1 of project)	50% of BOP projects executed and project portfolio of technological reconversion, innovation and adaptation to be implemented, already identified.	Direct reduction of at least 55,000 tCO2e in priority industry subsectors for the region, by implementing pilot projects, as compared to baseline. Expected annual reductions at end of project are 23,000 tCO2e/year.	The value of the reduction of GHG emissions is established as the difference between baseline emissions of each project and the emissions calculated with operational information and of energy consumption of the beneficiaries of the GEF project in priority industrial subsectors for the city –region, once the projects have been implemented.	Assumption: The macroeconomic conditions of the country remain stable and allow for financing of cost effective energy efficient measures with short and medium term payback.

[1] Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

	Amount of energy saved through implementation of Energy Efficiency measures	Current energy consumption of the benefitting companies in the industry subsectors in the region (to be determined in year 1 of project)	At least 15 MWh reduction in annual energy consumption as a result of the implementation of 50% of projected BOP projects (80 projects).	At least 80 MWh reduction in annual energy consumption as a result of the implementation of the full portfolio of projects. To be achieved through : • Implementation of 160 BOP projects, • Implementation of 86 projects of technological reconversion, innovation and adaptation (processes and technologies) that include the following activities: - Energy optimization in fuel consumption, - Adaptation and/or substitution for cleaner fuels, - Improvement in the production processes for increasing energy efficiency and optimizing their operations.		

	% of increase in energy productivity in SMEs which make up the industry subsectors in the Bogotá-Cundinamarca region	Current level of production and energy consumption in the benefitting companies in the industrial sub-sectors in the region (to be established in year 1).	Energy productivity indicators established and the goal of improved productivity defined for each project.	Increase between 1% and 3% in energy productivity of enterprises in priority industrial subsectors for the region that have implemented the proposed technology transfer projects.	Evaluation of production parameters (produced units consumed inputs, sales, etc.) in the period of time, and energy consumption (kWh consumed, TJ consumed, etc.) of companies in the industrial subsectors for the region, once the projects have been implemented in order to compare them with the baseline information of each developed project.	Risk: Despite having implemented the technology transfer processes, energy productivity of the companies is being impaired by externalities that affect production and therefore energy consumption.
	Level of investment triggered for energy efficiency in industrial sector in Bogotá/Cundinamarca	Scattered investment taking place, unquantified and unconsolidated	Business plans in place for investment of at least USD 6,000,000 in EE in industry	At least USD 6,000,000 invested by industry in energy efficiency measures.	Project records tracking investments made in EE measures	Assumption: Overall investment conditions in Colombia remain stable or improve over the project lifetime
Outcome 1 Strengthening of the capacity of the industry sector	Number of guidelines for Energy and GHG emissions self-assessments produced for companies benefitted by the GEF project	General technical information, primarily from international sources and partially from domestic sources about establishing GHG baselines and defining relevant emission factors. Specific information and methodologies required for industrial sub	General methodological guide for determining baseline energy and GHG emissions applicable to such projects in the industrial subsectors in the region properly developed and disseminated.	Methodological guidelines applied by all companies that have implemented BOPs projects (in building their energy and GHG emissions baseline).	Methodological guidelines developed according to the requirements of the GEF project, with their corresponding dissemination materials, such as presentations, booklets, among others.	

		sectors is unavailable.				
	Number of persons trained in technical, financial and commercial projects associated with the development of specific technology transfer projects for industrial subsectors in the region	Industry specific capacity development programs not developed.	Capacity-building programs developed for technical, financial and commercial aspects associated with the development of specific technology transfer projects for industrial subsectors in the region.	At least 300 people trained in technical, financial and commercial projects associated with the development of specific technology transfer projects for industrial subsectors in the region.	Training programs designed in accordance with appropriate technical institutions and actors. Records of attendance and participation in training activities.	
	Number of companies that implement BOP with energy and GHG emissions assessment completed	There is no baseline GHG in the companies.	Energy and GHG emissions assessment in the 80 companies that have implemented BOP projects so far.	Energy and GHG emissions assessment of the 160 companies that have implemented BOP projects.	Baselines (energy and GHG emissions) of all projects implemented by industrial subsectors in the region, according to project guidelines.	Risk: The energy and GHG emissions assessment of companies do not have data to collect the required baseline information prior to the implementation of technology transfer projects.

Outcome 2 Implementation of technology transfer pilot projects according to the mitigation actions identified and prioritized in the industry sector.	Number of projects accessing funding from financing mechanisms defined by the GEF project.	Overall, there are financial models for the promotion and financing of energy efficiency activities in general (ESCO type models with performance payments) but not specific to the types of projects proposed by the project, added to the lack of resources to promote major industry changes (the resources used by these modeling are limited to the financial capabilities of companies or ESCOs).	Defined and structured financing mechanisms.	80% of the identified projects seeking funding have access to financing mechanisms defined by the GEF project.	Portfolio of financing options (funding program) of technology transfer projects for industries in priority subsectors for the region, effectively agreed with the stakeholders of the national financial and operational sector.	Risk: Projects opt for self financing, thus choosing not to access financing mechanisms proposed by project. This would not affect the achievement of project results.
	Number of Best Operating Practices projects identified and implemented within SMEs	There is a prior definition of the most appropriate mitigation measures to reduce the consumption of electricity and heat in industries that make up the industrial subsectors in Bogotá-Cundinamarca.	160 identified BOP projects, and a first project portfolio of technological reconversion, innovation, and adaptation identified in at least 40 SMEs. (investment below $15,000)	100% (160 projects) of BOP projects and of the portfolio of technological reconversion, innovation, and adaptation is implemented. (investment below $15,000)	Characterization reports and/or energy assessment of the projects implemented, in accordance with the standards defined by the GEF project.	Assumption: Industries with robust financial health and access to financial resources will invest in identified BOPs that have a positive financial return in the short and medium term.

	Number of projects implemented in technological and/or process conversion, innovation and/or adaptation	There is a characterization of project types per sub sector. Individual projects not defined.	At least 86 of technological reconversion, innovation and adaptation (processes and technologies) projects identified and financially structured. (Investment minimum $15,000).	At least 86 of technological reconversion, innovation and adaptation (processes and technologies) projects implemented (Investment minimum $15,000).	Outcomes Reports of BOPs projects and technological reconversion, innovation and adaptation implemented.	Risk: That the outcome is achieved in terms of reductions in GHG emissions, in a lower number of projects. Risk: Climate change impacts, in particular water shortages, affect industrial operations.
	Number of Monitoring, reporting and verification systems (MRV) for monitoring indicators and outcomes of technology transfer projects.	The MADS is developing a MRV system for Colombia, with the purpose of having a standardized approach that allows to estimate and report the change in GHG emissions and absorptions caused by policies and/or mitigation actions in the sector. Within this process, the definition of indicators is planned through the application of the Policy and Action Standard Guide published by WRI.	Basic design parameters defined for the operation of the project MRV system in accordance with the needs of the stakeholders and the national government.	A MRV system (tool) in place covering the scope of this project and collecting and reporting GHG and associated data for investments triggered by project.	Reports generated by the project MRV system.	Assumption: Investments triggered by project follow project guidance to collect required data.
	Number of training processes aimed at strengthening technical capacities of stakeholders and	Energy efficiency technical capacity is spread throughout the sector, without	Training and strengthening processes carried out with stakeholders and decision-makers within	100% of the companies benefitted by the GEF project have participated in the training activities	Records of attendance and participation in training activities.	

	decision-makers in priority industry subsectors for Bogota-Cundinamarca.	having been set specifically to date.	companies that have implemented BOP projects (50% of companies planned).	carried out and are fully trained to identify EE opportunities and conduct MRV on implemented measures.		
Outcome 3 Knowledge management for the replication of the technology transfer pilot projects' impact in the industry sector.	Level of systematization consolidation and analysis of best practices of technology transfer pilots.	Currently, no knowledge management system aimed at monitoring energy indicators and mitigation for such projects has been implemented.	Having defined a project outcome management system of technology transfer projects implemented	100% of the outcomes and energy and GHG mitigation indicators of implemented projects properly consolidated and analyzed.	Results of energy and GHG mitigation indicators for industrial subsectors in the region based on implemented projects.	
	Level of systematization of local socioeconomic benefits resulting from project implementation	Level of socioeconomic benefits attained through energy efficiency investments is unclear and assessed qualitatively	Baseline parameters for socioeconomic assessment are defined, in terms of industry competitiveness, employment, and gender.	Full assessment of socioeconomic benefits of energy efficiency investments in industry is finalized and disseminated.	Data generated by participating industries and report produced by project staff.	
	Level of dissemination of project results and processes carried out in different regions of Colombia (lessons learned and project achievements)	N/A	2 dissemination processes (in different regions to that of the project) of experiences from lessons learned and successful outcomes achieved by the projects implemented.	4 dissemination processes (in different regions to that of the project) of experiences from lessons learned and successful outcomes achieved by the projects implemented.	Effectively developed processes for sharing experiences and lessons learned with entrepreneurs and stakeholders from other regions.	
	Level of availability of financial mechanisms and products in place to	Financing available, but not specifically tailored to the needs of energy efficiency	Financial mechanisms and products defined and on-going.	At least 2 financial mechanisms available, capable of delivering at least USD 10m annually	Mechanisms for financing technology transfer projects (energy	Risk: Projects opt for self-financing, thus reducing interest from financial institutions

	guarantee sustainability and replicability of future pilot interventions in the industrial sector and other subsectors in Colombia.	investments in industrial SME sectors		to EE projects in SMEs in Colombia.	efficiency) in industries within priority subsectors for the region effectively agreed with relevant stakeholders.	in targeting EE in SMEs.
	Quality of information provided to MADS for development and implementation of a NAMA in the industry sector.	Through the ECDBC and the MinCIT, the country has been working on the definition of the structure for constructing the NAMA for the industry sector, clearly defining the basis of the scheme, support activities required and the types of projects to be implemented that seek the desired results.	Inputs established to align the project with the methodology defined for structuring the NAMA for the industry sector.	NAMA implementation case study report formulated and aligned with the Government's defining parameters and complying with all MRV procedures.	Input supplies, guid ance of the project and outcomes achieved for their replication in other subsectors and regions, through the application of a national methodology for the formulation of NAMA for the industry sector, which will be registered.	Risk: Project results do not provide convincing data and evidence to develop a national industry NAMA.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Secretariat Comment at PIF:

Secretariat: Items to consider at CEO endorsement/approval	UNDP Response
KC, June 9, 2014. List of deliverables at PPG Stage: 1. The detailed estimate (with methodology) for direct and indirect (incl. post-project) GHG emission reductions for all pilots NAMA implementations.	1. A summary of the CO2 emission reduction calculation is presented in annex D of the CEO Approval request. The full calculation worksheet is included in Annex 4 of the Project Document
2. The selection of appropriate NAMA based on mitigation potential within industrial sector will be identified to introduce pilot approach.	2. Section 2.2 of the project document outlines the identification of industry sub-sectors that will be targeted by the project, based on their potential for GHG emission reductions. Four sub-sectors will be targeted and pilot measures will be implemented to demonstrate the cost-effective implementation of mitigation measures. This pilot experience will serve as a basis for the development of a nation-wide NAMA.
3. Updated and detailed implementation plan for the priority NAMA based on the PPG assessment will be submitted. List of deliverables at CEO approval request on supported NAMAs:	3. The project document presents a detailed implementation plan for the NAMA pilots. The project targets a total of 160 Best Operating Practices projects, 37 process reconversion projects, and 49 technology reconversion projects. MRV protocols will be applied to this set of projects and systematized as a NAMA pilot experience, to be upscaled to a nationwide NAMA.
4. Entry to the UNFCCC NAMA Registry Portal for matching with GEF support (including PPG support). For more information please see GEF/UNDP Azerbaijan matching for both PPG and Project grant on UNFCCC NAMA Registry page.	4. The GEF support will be registered in the UNFCCC NAMA registry portal upon registration of a National Energy Efficiency in Industry NAMA to be developed by the Government of Colombia.
5. Submission of final co-financing letters as applicable including GEF agency.	5. Letters are attached in Annex 5 of the Prodoc
6. Duly filled CCM tracking tool.	6. Tracking tool attached in as a separate document to this CEO endorsement.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

PPG Grant Approved at PIF: **100,000**			
Project Preparation Activities Implemented	***GEF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent Todate***	***Amount Committed***
Project design and project document preparation including institutional arrangements, monitoring and evaluation	85,000	85,000	
Stakeholders consultation and validation workshops	5,000	5,000	
Travel	10,000	10,000	
Total	100,000	100,000	0

ANNEX D: CALCULATION OF DIRECT AND INDIRECT EMISSION REDUCTIONS SUMMARY
(Full emission reduction calculation is included as Annex 4 of Project Document)

SUBSECTORS	BEST OPERATING PRACTICES				PROCESS PROJECTS				ADAPTATION OR SUBSTITUTION OF TECHNOLOGY			
	TOTAL INDUSTRIES	ESTIMATED ANNUAL SAVINGS (GJ)	AVOIDED EMISSIOS (TON CO2/YR)	INVESTMENT (USD)	TOTAL INDUSTRIES	ESTIMATED ANNUAL SAVINGS (GJ)	AVOIDED EMISSIOS (TON CO2/YR)	INVESTMENT (USD)	TOTAL INDUSTRIES	ESTIMATED ANNUAL SAVINGS (GJ)	AVOIDED EMISSIOS (TON CO2/YR)	INVESTMENT (USD)
Basic iron, steel industry, and of metal and non-metallic mineral products	34	60,858	4,958	$ 93,134	18	72,253	5,472	$ 536,000	18	63,506	5,183	$ 1,049,139
Manufacturing of petroleum products, outside refinery, basic chemicals, pharmaceutical products, soaps, detergents, and other chemical products	42	9,483	846	$ 132,729	7	734	56	$ 53,000	4	3,206	323	$ 48,390
Processing of meat, oils and greases, fruits and vegetables	42	20,192	1,635	$ 228,216	6	2,402	182	$ 45,000	21	38,832	2,946	$ 3,020,061
Manufacture of dairy products, candies, coffee, chocolate, and other food products	42	15,107	1,267	$ 228,269	6	1,157	88	$ 45,000	6	2,704	247	$ 98,300
TOTAL	**160**	**105,640**	**8,705**	**$ 682,349**	**37**	**76,546**	**5,797**	**$ 679,000**	**49**	**108,248**	**8,700**	**$ 4,215,890**

SUBSECTORS	BEST OPERATING PRACTICES	PROJECTS	ESTIMATED ANNUAL SAVINGS (GJ)	AVOIDED EMISSIOS (TON CO2/YR)	INVESTMENT (USD)
Basic iron, steel industry, and of metal and non-metallic mineral products	34	36	196,617	15,613	$ 1,678,273
Manufacturing of petroleum products, outside refinery, basic chemicals, pharmaceutical products, soaps, detergents, and other chemical products	42	11	13,423	1,224	$ 234,120
Processing of meat, oils and greases, fruits and vegetables	42	27	61,425	4,764	$ 3,296,307
Manufacture of dairy products, candies, coffee, chocolate, and other food products	42	12	18,968	1,601	$ 371,569
TOTAL	**160**	**86**	**290,434**	**23,202**	**$ 5,580,269**
10 year total			**2,904,341.99**	**232,017.44**	

Emission factors		
Coal	0.09	ton CO2/GJ
Natural Gas	0.06	ton CO2/GJ
Electricity	0.10	ton CO2/GJ

COST EFFECTIVENESS	
US/ton CO2/yr	lifetime US/ton CO2 (10 years)
7.84	0.78
11.71	1.17
48.50	4.85

INDIRECT EMISSION REDUCTIONS					
Measure	**Industries in sub sectors at national level**	**Percentage of implementation**	**Industries and projects**	**Avoided emissions (tonsCO2/yr)**	**Lifetime avoided emissions (10 years)**
Best Operating Practices	2886	60%	1731	94,182	941,817.31
Process projects			400	62,667	626,669.65
Technology adaptation and/or substitution projects			530	94,098	940,980.70
TOTAL	**2886**		**2661**	**250,947**	**2,509,468**
10 YEAR TOTAL		-		**2,509,468**	

For indirect emission reductions, it is estimated that 2886 industries in the selected subsectors exist in Colombia of which 60% will undertake energy efficiency masures as a result of the outreach and capacity development promoted by the project