

TC Document/ FORMAT AND CONTENT

I. Basic Information for TC [OPUS generates “Basic Information” and PTL follows rest of template]

▪ Country/Region:	Colombia
▪ TC Name:	Financing Mechanisms for Private Investments in Energy Efficient (EE) Public Lighting, promoting the replacement of low efficiency street lighting with high efficiency LEDs
▪ TC Number:	CO-X1020
▪ Team Leader/Members:	Jose Juan Gomes (Team Leader, IFD/CMF); Sylvia Larrea (co-team leader, INE/ENE); Maria Netto (IFD/CMF); Alvaro Concha (CMF/CCO); Maria Margarita Cabrera (IFD/CMF); Napoleão Dequech Neto (INE/RND); Escarlata Baza (LEG/SGO).
▪ Indicate if: Operational Support, Client Support, or Research & Dissemination	Client Support
▪ Date of TC Abstract authorization:	N/A
▪ Beneficiary (countries or entities which are the recipient of the technical assistance):	Financial Institution for Development (FINDETER), Republic of Colombia
▪ Executing Agency	Financial Institution for Development (FINDETER), same as Beneficiary
▪ Donors providing funding:	Global Environment Facility (GEF)
▪ IDB Funding Requested:	1,999,725 (US\$)
▪ Local counterpart funding, if any:	US\$25,850,000 (FINDETER). (See: Co-financing Letter)
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	December 2015
▪ Types of consultants (firm or individual consultants):	Individuals and companies
▪ Prepared by Unit:	IFD/CMF
▪ Unit of Disbursement Responsibility:	IFD/CMF
▪ TC Included in Country Strategy (y/n):	n
▪ TC included in CPD (y/n):	n
▪ GCI-9 Sector Priority:	The TC is closely related to two institutional priorities of the IDB under the GCI-9: (i) institutions for growth/social welfare; and (ii) protecting the Environment and Responding to Climate Change

II. Description of the Associated Loan/Guarantee

- 2.1 This subheading should provide a brief overview of the proposed loan/guarantee associated with the OS-TC including its stage of preparation and current status.

III. Objectives and Justification of the TC (estimated length: 1 page)

- 3.1 Colombia’s electricity consumption in 2013 was 64,686 GWh/year based on the Energy and Mining Planning Unit (UPME) of the Ministry of Mines and Energy.

Consumption increased around 49% between 2000 and 2013, representing an average annual growth of 5%. The country shows a clear tendency to increase the use of thermal energy for electricity production, moving from 46% to 49% between 2000 and 2013. Therefore the Government of Colombia has established a national goal to reduce consumption of electricity in commercial sectors (including public lighting) through unilateral action by 2.7% by the year 2015.¹

- 3.2 Street lighting energy usage in Colombia stands at approximately 3% of the country's electricity use, based on 2012 electricity usage of 59,508 GWh. This consumption amounts to 1,785 GWh/year, or 214,228 tons of carbon dioxide equivalent (tCO₂e). This energy costs approximately US\$290 million a year, mostly covered by municipalities, which in Colombia are responsible for providing street lighting. The country has approximately 1,400,000 public street lamps, of which 610,000 (or 44%) are covered by concession contracts. The majority (70%) of these lamps use High-Pressure Sodium-Vapor (HPSV) technology.
- 3.3 To contribute to the national goal of reducing electricity consumption, in 2014 the *Financiera del Desarrollo* (FINDETER), a government backed national development bank, launched a special financing line to finance investments in EE in street lighting. At the same time, FINDETER as a second tier bank would lend to local financial institutions (LFIs), which will use these resources to finance loans to final beneficiaries. This special financial line is designed to support efforts to replace HPSV use with more efficient Light-Emitting Diode (LED) technology for the modernization and expansion of street lighting services in Colombia. The beneficiaries of this line will be private and public companies, and the local government (e.g., municipalities). In addition to reducing electricity consumption, the projects under this credit line are expected to reduce costs for Colombian municipalities generating an important cash flow, as well as support sustainability and the growth plans of the municipalities.
- 3.4 EE projects in street lighting can be structured mainly under two different schemas: (i) the municipality applies for financing and hires a provider of EE projects to provide and install the technology; in this case, it would be the municipality that accepts most of the risk of project performance, relying on a series of mechanisms to ensure that the project generates sufficient cash flows to cover costs of investment, operation and financing; and (ii) the municipality structures a public private partnership (PPP) or concession for the replacement of its street lighting; where the investor or provider of the EE LED street lighting project (or a third party) makes the investment, and receives a return from the savings generated by the project; in this case, most of the risks of project performance are absorbed by the supplier of the EE project and not the municipality.
- 3.5 However, in spite of a very interesting investment opportunity for municipalities and investors, with associated benefits, the credit line has not been effectively utilized, demonstrating that there were still barriers to the successful implementation of EE in street lighting.
- 3.6 Based on initial market assessment studies, carried out by FINDETER and the Bank,² on opportunities and barriers to financing EE in the street lighting, it was found that many of the barriers to accessing credit from a potential financing strategy for EE projects were related to (i) a lack of technical knowledge to evaluate technologies and their performance among LFIs and final beneficiaries (e.g., lack of technical knowledge to evaluate technologies and projects led by responsible agencies of the municipalities; mistrust on the part of investors in the performance of EE projects),

¹ [Resolución 18-918 del 2010 del Ministerio de Minas y Energía](#)

² IDB 2013 FINDETER'S [market assessment](#) and [study](#)

(ii) lack of knowledge about the risks and returns in EE LED street lighting projects (e.g., lack of confidence on the part of investors in providers of LED projects, high levels of investment combined with the low creditworthiness of municipalities interested in making this type of investment); and (iii) lack of a clear legal framework for PPPs between the actors (i.e., prior contractual commitments, specifically the concession contracts for administration, operation and maintenance (AOM) of municipal systems of street lighting; change of administrations in the towns).

- 3.7 To tackle these barriers and unlock the potential of FINDETER's financing line to generate local and global benefits, the line of credit needs to be accompanied by a set of mechanisms that address: (i) the aforementioned knowledge gaps; (ii) any real or perceived risks; and (iii) the need for the results of the projects financed to be reflected in the limited legal and contractual framework for PPPs.
- 3.8 The proposed project, with GEF funding, aims to support the design of a 4-pronged strategy to reduce and mitigate several barriers and risks associated with the two main kinds of financing schemes for EE LED street lighting projects described above that have impeded the success of investment and the use of the current credit line and, at the same time, create market conditions that will stimulate the demand for this type of project investment, on the part of both the municipalities and the private sector and create trust between the actors involved. It is expected that overcoming these constraints will generate an increased demand for street lighting financing, which will enable FINDETER to place at least US\$25 million in loans to municipalities/financial intermediaries/energy services providers for the conversion to more efficient street lighting systems, leading to a reduction in the emission of GHG. The strategy will be implemented in each of the four components, described below (see section IV), through the development of tools to address technology and performance risks, as well as risks associated with energy services companies. In Colombia, there has been no comprehensive program such as the one proposed. Therefore, this project could set the tone for the structuring of a comprehensive Program of financing for street lighting projects.
- 3.9 The project will contribute to global environmental benefits of a direct reduction of approximately 11,521 tons of CO₂ equivalent per year and Energy savings of 30,803 MWh per year through increasing the energy efficiency of street lighting. Project savings will be tracked using a monitoring and evaluation system that the proposed project will develop.
- 3.10 This technical cooperation is consistent with the Bank's institutional priorities under the GCI-9. It supports the priority of Protecting the Environment and Responding to Climate Change and Institutions for growth/social welfare. The project team will make sure that the supported mechanisms designed under this project will also be fully compatible with relevant policies and sector frameworks and potential environmental benefits prioritized by the beneficiary.

IV. Description of activities/components and budget (estimated length: 1-2 pages)

- 4.1 The TC proposes to support the preparation of the operation through 4 main components, including:
- 4.2 **Component 1: Technical assistance and Legal mechanisms.** Address technical and legal barriers and the lack of knowledge about risks, performance of EE for street lighting among LFI and beneficiary firms. These efforts in order to gain access to credit for the implementation of EE projects in street lighting. In addition, the component will support the legal structuring of projects and facilitate negotiations between the various actors (e.g., PPPs). Among the tasks that would be

accomplished through this component, the most important ones are the following: (i) development of a document on energy efficiency criteria in selecting and contracting LED lighting technology for street lighting, with specific criteria and minimum technical requirements, for LED technology suppliers and contractors participating in the projects. (ii) evaluate and improve a methodology for assessing eligible projects, including how to present a technical and economical proposal. (iii) support the definition of technical features for projects where municipalities are responsible for the operation of street lighting. (iv) analysis of the different actors in the public and private market, and the conditions and agreements required for proper promotion of the financing line through FINDETER, including those specifically related to potential beneficiaries (Municipalities) and Energy Services Companies (ESCOs, Association of Experts in Energy Efficiency). (v) generate the specific technical capacities needed within FINDETER to coordinate and promote the financing strategy, including the assessment of project eligibility and the creation of an information system for the monitoring, reporting and validation of project results, among others. (vi) strengthen legal advice and legal structuring. (vii) identification of the roles, conditions and agreements/contractual requirements to be fulfilled by potential market players engaged in project development and monitoring (e.g., technology and energy efficiency service providers, insurers of project performance, and project certifiers and verifiers); and (viii) design of the operational guidelines and mechanisms through which financial intermediaries, technology providers and beneficiary firms apply or benefit from the financing strategy.

4.3 **Component 2: Financial mechanisms.** Risk mitigation elements will be designed to make risks attractive to the municipalities and concessionaires or investors to incentivize wide-scale substitution in all interested cities by: (i) adjusting the conditions of the existing line of credit to the specific needs of the EE street lighting program (ii) developing innovative financial mechanisms, e.g., development of secure guaranteed savings; insurance to cover the municipality against any possible breach on the part of the supplier for the project arising from poor execution. (iii) development of specific operational guidelines and systems to operationalize the financing strategy and reassure relevant market players that the risks they are assuming are acceptable; and (iv) technical support for identification of a pipeline of bankable projects, i.e., support for the development of alternative business models, such as alternative energy payment channels, standard contracts, quality control of projects and providers, capacity development of LFI, etc.).

4.4 **Component 3: Validation & Monitoring and evaluation mechanisms.** Risks on project performance will be mitigated. Activities under this component are for the improvement of operational mechanisms and systems required to monitor the results/benefits of the financing strategy (i.e. reduction of energy use and GHG emission reductions). The assertion of benefits arising from energy savings in the financing line will be a key incentive for municipalities to invest in this type of projects. To ensure these benefits are tracked and fully accounted for requires specific activities: (i) coordinate and control the proper use of methodologies for assessing eligible projects, presenting result indicators and monitoring whether the goals are being achieved; (ii) proposal of specific methods to collect, sample and maintain data relevant to assessing the estimated impact of each financing strategy (e.g. investments, GHG reductions) within the FINDETER system; and (ii) support the process of data handling necessary to easily share results of the program as a whole with third-party software systems.

4.5 The mechanism aims to monitor, validate and generate reports of the performance and impact of the projects. This mechanism will be necessary not only so that

FINDETER can monitor the results of the program, but also assess the compliance with contracts between providers of projects and municipalities. The information gathered through this mechanism also will be very valuable for other actors involved in the promotion and funding of EE as financial intermediaries (FIS), insurance companies, or even the same Bank and the GEF.

- 4.6 **Component 4: Capacity building and communications.** A key activity supported under this component is a dissemination and promotion strategy to promote outputs and sharing of knowledge generated by the project to key market participants; targeted training events required for proper promotion of the financing line, including those specifically related to potential beneficiaries (Municipalities) and energy efficiency services providers (Association of Experts in Energy Efficiency) or potential investors.
- 4.7 This strategy will be supported by a website platform to communicate the performance, results, co-benefits and impacts of FINDETER's loan investments (municipality project) that are supported and implemented. FINDETER will be responsible for the technical support and maintenance of the website platform during the project duration.
- 4.8 To ensure a proper execution, the project team will organize launching, mid-term and final review meetings/audio-conferences with the beneficiary and consultants. The administrative and technical supervision of the proposed technical assistance program will be under the responsibility of IFD/CMF.
- 4.9 The funding for this operation will be used to hire the services of consultants referred above; to pay for logistics and travel costs. Any contracting will be undertaken following Bank's policies and procedures. The procurement of individual consulting services will be carried out by the Bank in accordance with Human Resources Department (HRD) policies. The procurement of firm consulting services will be carried out by the Bank in accordance with the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (GN-2350-9). The procurement of consulting services different from consultants will be carried out by the Bank in accordance with Corporate Procurement Policies.

Indicative Results Matrix

	Unit	Baseline		Year 1 - 5		Expected Completion Date*	Data Source
		Value	Year	Planned	Actual		
Component 1: Technical documents on Street lighting	#	0	2015	2		March/2016	Beneficiary information and IDB Systems
Component 1: Legal advising of projects to make them viable and sustainable. Create a "model contract" for street lighting projects	#	0	2015	2		Jun/2016	Beneficiary information and IDB Systems
Component 1: Development of a document in EE criteria for selection and contracting LED technology for street lighting.	#	0	2015	1		Jun/2016	Beneficiary information and IDB Systems

Component 2: Development of innovative financial mechanisms through a credit line.	#	0	2015	1		March/2017	Beneficiary information and IDB Systems
Component 2: Implementation of projects with the financial and non-financial mechanisms.	#	0	2015	2		Nov/2018	Beneficiary information and IDB Systems
Component 3: Validation templates and evaluation criteria for suppliers	#	0	2015	1		Jun/2016	Beneficiary information and IDB Systems
Component 3: Development of the monitoring and evaluation mechanisms for Street lighting projects	#	0	2015	1		March/2017	Beneficiary information and IDB Systems
Component 4: Development of Communication strategy and action plan.	#	0	2015	1		Dec/2016	Beneficiary information and IDB Systems
Component 4: EE for Street lighting workshop	#	0	2015	1		December/2016	Survey
Component 4: Website platform to communicate the performance and results	#	0	2015	1		Jan/2016	Beneficiary information and IDB Systems

4.10 Provide the total amount of funding need to achieve the expected outputs by main component. Indicate if there is local counterpart.

Indicative Budget

[additional level of detail required in budget will be elaborated to provide good guidance]

Component	Description	IDB/Fund Funding	Counterpart Funding	Total Funding
Component 1:	Addressing technical and legal barriers and lack of knowledge of LFIs and beneficiary firms, supporting the legal structuring of projects and facilitating the negotiations between the various actors	730,000	540,000	1,270,000
Component 2:	Designing financial mechanisms	850,000	25,000,000	25,850,000
Component 3:	Developing validation, monitoring & evaluation mechanisms	230,000	300,000	530,000
Component 4:	Capacity building and communicating the performance, results, co-benefits and Impact of the project	94,500	10,000	104,500
Project Management Cost		95,225	40,000	135,225
Total US\$		1,999,725	25,850,000	27,849,725

V. Executing agency and execution structure

- 5.1 The executing agency will be FINDETER, with the fiduciary and operational capacities necessary for the successful execution of the program, as it is governed by the Financial System act³ and is subject to the supervision and monitoring by the Superintendence of Finance. In addition, the government has chosen FINDETER as one of the entities that will support its GHG emissions reduction efforts. For the purposes of this program, FINDETER will be responsible for: (i) executing the appropriate use of the resources obtained through the proposed technical cooperation (ii) providing in due time and form the necessary human, technological and budgetary resources required; and (iii) delivering to the Bank the required documentation to meet disbursements and other performance requirements for execution. As a condition prior to the first disbursement of the TC, the executing agency will provide evidence to the Bank's satisfaction of (i) the formal appointment of a program coordinator at FINDETER.
- 5.2 The project implementation will be based on the results matrix mentioned above and the products and indicators contained therein.
- 5.3 FINDETER will submit to the Bank the following reports: (i) progress reports every six months, within sixty (60) days from the end of the six months; and (ii) a final report within six months from the end of last project activity executed. The contents of the reports shall be jointly agreed between the Bank and FINDETER. The executor will also provide the Bank's financial statements of the project, within 90 days after the date stipulated for its last disbursement, which will be audited by an independent auditor firm selected and contracted resources from FINDETER.

VI. Major issues (estimated length: 1 page)

- 6.1 This In view of the high technical level of the proposed TC this work, there is a risk of not obtaining good quality results if appropriate follow the work of the consultants are not given. Therefore, the proposal considers ongoing monitoring activities and overall evaluation of the program, Peer reviewers to analyze the products produced may also be required.

VII. Exceptions to Bank policy

- 7.1 No exceptions to Bank policy are envisioned.

VIII. Environmental and Social Strategy

- 8.1 Based on the Environmental and Social Safeguard Filter, the proposed technical assistance has been classified as category C. No potential negative environmental and/or social impacts of the TC were identified and therefore no mitigation strategy is required to address any impact. See Safeguard Policy Filter Report (SPF), and Safeguard Screening Form (SSF).

Required Annexes:

- Annex I: [Request from the Client](#)
- Annex II: [Terms of Reference for activities](#)
- Annex III: [Procurement Plan](#)

Additional Annexes:

- [Co-financing Letter](#)

³ Financial System Act ["Estatuto Orgánico del Sistema Financiero"](#)

- [Letter of Endorsement from GEF Operational Focal Point on behalf of the Government](#)