FINANCIERA DE DESARROLLO TERRITORIAL
(*Financial Corporation for Territorial Development*)
INTER-AMERICAN DEVELOPMENT BANK
GLOBAL ENVIRONMENT FACILITY

FINAL EVALUATION

Project "Financing Mechanisms for Investment in Energy Efficient (EE) Public Lighting, Promoting the Replacement of Low-Efficiency Street Lighting with More Efficient LED Lighting", Colombia

GEFSEC ID: 9354
IDB ID: CO-T1423
No. ATN/FM-15632-CO
GEF Focal Areas: Climate Change

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Terminal evaluation Period: 17-11-2020 to 24-05-2021

C O N T E N T

CHARTS

ANNEXES

LIST OF ACRONYMS

AE	Executing Agency, in Spanish
AI	Implementing Agency, in Spanish
AP	Public Lighting, in Spanish
IDB/Banco	Inter-American Development Bank
C	Component
CAR	Regional Autonomous Corporation of Cundinamarca, in Spanish
CC	Climate Change
TCA	Technical Cooperation Agreement
CD	Steering Committee, in Spanish
TC	Technical Cooperation or Technical Committee
UNFCCC	UN Framework Convention on Climate Change
CONPES	National Council on Economic and Social Policy, in Spanish
COP	Conference of Parties
TC	Technical Cooperation
TAC	Technical Advisory Committee
TCD	Technical Cooperation Document
SD	Sustainable Development
ECDBC	Colombian Low-Carbon Development Strategy, in Spanish
EE	Energy Efficiency
EEAP	Energy Efficiency in Public Lighting, in Spanish
TE	Terminal Evaluation
MTE	Mid-Term Evaluation, in Spanish
SCCF	Special Climate Change Fund
GEF	Global Environment Facility
LDCF	Least Developed Countries Fund
GEF-FINDETER	GEF Project "*Financing Mechanisms for Investment in Energy Efficient (EE) Public Lighting, Promoting the Replacement of Low-Efficiency Street Lighting with More Efficient LED Lighting"*
GHG	Greenhouse Gasses
GoCO	Government of Colombia
CF	Carbon Footprint
HPSV	High Pressure Sodium Vapor
IAvH	Alexander von Humboldt Biological Resources Research Institute, in Spanish
IDEAM	Institute of Hydrology, Meteorology and Environmental Studies, in Spanish
INE/RND	Environment, Rural Development and Disaster Risk Management Division
LA	Lesson Learned or Finding, in Spanish
LED	Light Emitting Diode
MADS	Ministry of the Environment and Sustainable Development, in Spanish
MoU	Memorandum of Understanding
M&E	Monitoring and Evaluation
POM	Project Operations Manual
N.a.	Not Applicable
EB	Executing Body
NGO	Non-Government Organizations
PA	Procurement Plan, in Spanish
PAC	Procurement and Contracting Plans, in Spanish
PDD	Project Design Document
PFNR	Non-Refundable Financing Proposal, in Spanish
PIF	Project Identification Form
PIR	Project Implementation Report
PMR	Project Monitoring Report
NDP	National Development Plan
OP	Operations Plan

AOP	Annual Operational Plan
PROJECT	Project "*Financing Mechanisms for Investment in Energy Efficient (EE) Public Lighting, Promoting the Replacement of Low-Efficiency Street Lighting with More Efficient LED Lighting*"
REDD+	Reducing emissions from deforestation and forest degradation
M&E	Monitoring and Evaluation
TC	Tons of Carbon
tCO_2e	Tons of Carbon Equivalent
TOR	Terms of Reference
PCU	Project Coordination Unit
EEV	Economic and Environmental Valuation

1 EXECUTIVE SUMMARY

1.1 Key aspects of the evaluation approach and methodology

The objective of the project was to "*contribute towards the design of a strategy aimed towards mitigating and reducing the main barriers and risks associated to the funding of Energy Efficiency (EE) projects in LED public lighting (PA), hereinafter EEAP, and create market conditions that foster the demand for this type of investment projects by municipalities and the private sector, as well as the trust among involved stakeholders"*, by means of actions that can be rolled out (IDB 2016).

The methodology was designed to be as inclusive as possible, and the evaluation followed an approach that prioritized the participation of different stakeholders who had been part of the project. The following data gathering, and analysis methods were employed in the evaluation: i) review of documentation; ii) semi structured (virtual) interviews; iii) questionnaires; and (iv) presentation of preliminary results. Nevertheless, due to COVID-19, adjustments were required to carry out the evaluation in a completely virtual fashion, which generated logistics efforts with very positive results in terms of interviews. Nevertheless, on-site checks were absent, which were carried out by means of a triangulation with the various stakeholders and compliance reports.

The evaluation is comprised of five dimensions: relevance, impact, effectiveness, efficiency, and sustainability. The description of each analyzed score is displayed in Chart 5

1.2 Project description

The project was structured under *two* components, namely:

***Component 1**: Technical assistance and legal mechanisms.*

***Component 2** Design of financial mechanisms.*

***Component 3** Development of validation, monitoring and evaluation mechanisms.*

***Component 4** Communications and capacity development.*

The estimated project costs by component are shown in Chart 1.

Chart 1: Financial costs and schedule (in thousands of USD)

CATEGORY	IDB GEF	LOCAL COUNTERPART	ASSOCIATED FUNDS	TOTAL
Component 1. Technical assistance and legal mechanisms	730,000	500,000		1,230,000
Component 2. Financial mechanisms	850,000		25,000,000	25,850,000
Component 3. Validation, monitoring and evaluation mechanisms	230,000	300,000		530,000
Component 4. Communications and capacity development	94,500	10,000		104,500
Project management cost	95,225	40,000		135,225
TOTAL COST	***1,999,725***	***850,000***	***25,000,000***	***27,849,725***

***Source** IDB 2016.*

1.3 Evaluation score summary

The object of the Terminal Evaluation (TE) is to provide an independent and in-depth review of the project implementation goals achieved. The TE is carried out in accordance with the guidelines, norms, and procedures established by the IDB and the GEF, as established in the Guideline for GEF Agencies conducting Terminal Evaluations (*"Guidelines for GEF Agencies conducting Terminal Evaluations", "GEF Evaluation Office Ethical Guidelines")*.

The score of the various dimensions under analysis, as established in the TORs, is shown below (*the table of evaluation keys is shown in Chart 5*).

Chart 2 Project evaluation score summary

EVALUATION OF RESULTS	SCORE
Relevance	Moderately satisfactory (MS)
Impact	Moderately unsatisfactory (MU)
Effectiveness	Moderately satisfactory (MS)
Efficiency	Unsatisfactory (U)
Sustainability	Probable (P)

Note: The higher the number in the range the better the score

Source *GEF 2018 Form, with results of the 2020-2021 evaluation.*

1.4 Main findings

1.4.1 Design, execution, and relevance analysis

The project harmonized the needs and priorities of local and regional beneficiaries and stakeholders. Results are clearly tied to development issues and the national and international legal regulations. Displayed some restrictions in terms of adapting to changes in the context and the design did not provide for impact indicators or restrictions in public contracting; furthermore, it did not correspond to the expectations created, especially in terms of the credit line. The activities implemented to achieve the project´s objective are described below:

- *Component 1: the project defined the technical, legal, and financial structuring methodology for FINDETER, with respect to AP systems projects. The developed methodology was intended for application in several pilot municipalities; however, it could not be applied due a lack of time in addition to the project extensions, hence, a part of what the application of the methodology entailed was delivered: characterization, diagnosis, and business model of their AP systems.*
- *Component 2: the financial mechanisms best suited for the products and services of FINDETER were identified and analyzed, as to continue supporting Public Lighting Modernization projects in Colombia. The project was contractually barred from granting the expected subsidy at the interest rate for placing credits towards EEAP in municipalities by FINDETER, and the expected credit line could not be deployed due to the delays in the project´s implementation, the limited time remaining after the extension and the occurrence of the pandemic.*
- *Component 3: a FINDETER-funded EE project evaluation strategy was design, as well as the monitoring and evaluation system (loaded in the Business Intelligence (BI) board, IT tool of Findeter).*
- *Component 4: a comprehensive EEAP project communication and dissemination strategy was designed and implemented.*

The project objectives were not modified, but changes in the context occurred, which affected it:

- *In 2016, according to the interviews performed, a change towards a legalist behavior occurred in the officials of FINDETER not related to this project, which lead to a careful review of any contracting procedure, which generated delays in this project. There were also delays in terms of the response by the IDB.*
- *The national presidential change also entailed changes in the management of FINDETER in 2018, which also generated a change in the internal contracting procedures, particularly with a "Contracting Committee" comprised of members at the highest level.*
- *Changes in local (mayor offices) and regional (governor offices) governments entailed changes of officials at all levels, which required dissemination efforts by the project.*
- *The COVID-19 Pandemic situation paralyzed all the field work in some municipalities for a few months between March and August. This work was resumed with some limitations by the end of the project, which caused delays, especially in terms of georeferencing[1]. Also, according to the interviews, there were also delays when trying to adapt the contracting procedures of the IDB to the virtual setting, as occurred when opening the tender for the structuring methodology application contract in the selected pilots (Consultancy 3, Component 1).*
- *The Colombian Peso was devalued[2], which caused an exchange-type affectation when returning resources to the IDB in Dollars, which had already been converted into Colombian Pesos but were not used.*

In terms of environmental and social safeguards, environmental and social impact assessments (ESIAs) were not required according to the C classification and the operating policies of the IDB; however, the project was compliant with national regulations and multilateral environmental agreements (B2).

1.4.2 Impact, Effectiveness, and Efficiency

This project has achieved a transformational change in beneficiaries, as well as in involved institutions and partners, in addition to the development of an EEAP project structuring methodology for local and regional governments, which may be replicated in other national and international projects. Nevertheless, the final impact sought after by the project was funding the change towards more efficient LED Lighting, generating energy savings for 30,804 MWh, which was not achieved because the expected credit line could not be launched, even though it is worth mentioning that the FINDETER is still working in structuring EEAP projects and funding the change (IDB 2016, IDB 2016, GEF 2015).

Product targets are linked to the objective of the project, which was not fully achieved; however, most outcome goals were achieved.

This project was subject to significant deficiencies in terms of budget implementation and achievement of objectives caused by delays in its execution, mainly during the first two years, as well as the complexity of administrative contracting processes and delays in responses/non-objections, in addition to the COVID-19 situation, at the end of the project.

1.4.3 Sustainability

The sustainability of this project is very likely, since there is significant demand for EEAP projects in local governments and FINDETER is convinced of its benefits and is applying the developed structuring methodology.

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[1] *Under normal conditions, without COVID, georeferencing is performed on-site; however, the mobilization restrictions imposed by health authorities prevented this work in its traditional fashion.*

[2] *The exchange rate changed from $1,871.49 per dollar on 1-11-2011 to $3.717,25 on 10-09-2020 (BCC 2018, http://www.banrep.gov.co/es/trm).*

Chart 3: ***Updated risks in the project execution by AI***

RISK	CLASSIFICATION P*I= R	RISK MITIGATION STRATEGY [*Indicator*]	COMMENT FROM TERMINAL EVALUATION
1. Interinstitutional Coordination: Lack of coordination with beneficiary entities may cause delays in the implementation of the Program	M*M= M	Strengthening of interinstitutional relations based on constant communication (email, calls), that will allow for the beneficiary entity to understand the scope and importance of this project, taking into account that these are cooperation resources and considering their implications.	The risk dropped since the coordination monitored the execution of scheduled activities with beneficiaries.
2. Operational risks: Decline in processes due to proposal quality or scheduling matters	M*M= M	Presentation of resolution alternatives in the event the processes called are rendered void. [Number of solutions presented over the number of declined processes.]	The risk was maintained and materialized with the C3, an alternative was implemented, which consisted in changing from the contracting of a firm for individual consultants, with a lower unit cost. Coordination with the technical areas and the Financial Vice-Presidency to submit solution alternatives for processes that may be declined, forecasting the new timeline and deadlines and viable budget.
3. Risk of catastrophic or epidemiological events: Materialization of a catastrophic or epidemiological event	M*M= M	Performance of risk mitigation protocols [*Number of Protocols established to mitigate risks*]	The risk materialized with the COVID-19 pandemic. Coordination with the risk area as Operating Entity, establishment of risk protocols.
4. Macroeconomic: Abrupt change in the TRM (Representative Market Rate)	L*M= L	Resources received in Dollars are monetized as soon as the TRM is favorable. [*Monetization record*]	The risk materialized; therefore, FINDETER suffered a loss when performing the transaction to return amounts not utilized by the project. Monitoring the TRM with support from the Trading Desk.
5. Technical/Legal: Potential delay in the implementation of the Program due to issues with the contractor	M*M= M	Application of strict evaluation criteria during the contract selection process and permanent monitoring of the quality of deliverables. [*Half-yearly reports evidencing compliance with acquired contractual commitments*]	The risk was maintained by handled correctly during the execution of consultancies. Monitoring the delivery schedule and the quality of deliverables provided by the consultant.

Source *IDB 2020 and interviews 2020.*

1.5 Summary of lessons learned and recommendations

A summary of the most relevant lessons learned, and recommendations is presented below:

Chart 4: ***Most relevant lessons learned and recommendations***

LESSON LEARNED	RECOMMENDATION
1. The agreement under which the activities and objectives to be achieved by the project is framed must clearly define its theory of change and viability, in accordance with the legal regulations of the bank and the implementing body/beneficiary.	The design of the project must clearly specify the causal pathway to achieve proposed objectives and meet established expectations, as well as having the instruments required to regulate these, such as the intended impacts/results.
2. The project design phase must involve the final implementers of the proposed measures, in order to incorporate their points of view and enhance the implementation.	The design of the project must include a consultation with the key stakeholders, especially those that are ultimately responsible for implementing the proposed activities, in this case, municipal mayor and governor offices.
3. The design of the project must consider the electoral cycle of every local government, namely every 4 years, when planning.	Projects must take into account the entry of new mayors when planning, and design a strategy to carry out activities before the new administration, such as, in this project, the structuring and evaluation of EEAP projects methodology.
4. The technical leadership for this type of projects is indispensable to achieve good performance.	A team must be defined in order to create an implementation unit, which shall be responsible for carrying out the project´s activities under a clear scheme of cooperation with the various units in the organization. This must be carried out with clearly defined planning, including goals, responsible persons and lead times.
5. The figure of public procurement and administrations is very complex and delayed; therefore, it is best to seek an easier operating alternative. Furthermore, the AI must streamline the communication and non-objection process applicable to requests from the AE.	It is necessary for the AE to review and streamline its administrative processes, tracking the various processes and their durations, in order to identify "bottlenecks" and seek solutions to the needs of the technical component, or to seek an alternative for its implementation, such as direct implementation by the IDB. On the other hand, the AI must track the entry of requests and the response time, in order to respond to the needs of the AE assertively.
6. Products prepared by the project support the activities of FINDETER.	EEAP projects are profitable by themselves; therefore, they require awareness, technical assistance, accompaniment, and a special fund from local governments. If proper structuring is performed, it will be easier to find funding. FINDETER may develop a project pipeline for funding. Furthermore, it is important to work with concessionaires, where applicable, and to extend this program to other public entities such as hospitals, schools and other citizen service providers. Other key stakeholders for sustainability purposes are municipalities, associations of municipalities, local banks, and public utility companies, among others, that may be important to carry out PPP.
7. EEAP projects offer multiple environmental, social, and economic benefits.	It is vital to develop more EE projects and to carry out a cost/benefit study/analysis of their implementation.
8. Close monitoring of the project must alert about potential delays for quick and correct decision-making purposes.	The project should have performed a Mid-Term Evaluation/Review, which may be carried out upon an implementation of 50% of the funds or in the middle of the implementation period, with the object of clarifying limitations and providing recommendations for its implementation. The AI should have employed project monitoring to trigger alarms sufficiently in advance.
9. The project left personnel trained in EE project structuring and evaluation.	The personnel who participated in the development of the project´s products may help scale this project and meet the demand not satisfied by EE projects.
10. It is important for products prepared in this project to be available to the general public and advertised in electronic media.	All products obtained must be published on the WEBSITE of FINDETER

2 BASIC INFORMATION

In USD

Project number IDB ***CO-T1423,*** *GEFSEC ID:* ***9354***
Title: Project *ATN/FM-15632-CO*: **"Financing Mechanisms for Investment in Energy Efficient (EE) Public Lighting, Promoting the Replacement of Low-Efficiency Street Lighting with More Efficient LED Lighting"**
Non-Refundable Financing Proposal: Nº ATN/FM-15632-CO
Country: Colombia
Executing Agency: Financiera de Desarrollo Territorial S.A (FINDETER)
Sector/Subsector: Climate Change

Directory approval date: 24/11/2015
Agency approval date: 9/07/2016
Agreement execution date: 13/10/2016
Date of first disbursement to the project: September 2017 (second disbursement, May 2020)

Amount of the Non-Refundable Investment Financing Agreement
Original amount: USD 1,999,725 (GEF Trust Fund)
Monto actual USD 1,999,725
Co-financing: Parallel loan USD 25,000,000 – In kind USD 850,000
Total project cost: USD 27,849,725

Months of implementation
From approval date: 48
From the Non-Refundable Investment Financing Agreement effective date: 55

Project disbursement periods
Original final disbursement date: 13/10/2019
Definitive final disbursement date: 13/10/2020
Cumulative extension (months): 12
Special extension (months): 0
Disbursements (13/10/2020)
Total amount of disbursements: USD 1,143,929.33 (USD 438,000 in 2017 and USD 705,929.33 in 2020)
Total implemented amount: USD 600,967 (52% of the total amount of disbursements, USD 542,962 were returned)
Unused amount from Technical Cooperation (TC): USD 1,200,000 (70%)
Co-financing disbursed and registered to date: USD 382,288

3 INTRODUCTION

3.1 Purpose of the evaluation

Terminal evaluations (TEs) offer an independent, integral, and systematic explanation to the final performance of the project´s cycle. These consider all the efforts, from the design of the project to its implementation and conclusion, and take into account the probability of sustainability and potential impacts. Its intended object is identifying issues in the project design, evaluate the achievement of objectives, identifying and documenting lessons learned, and providing recommendations on specific actions that must be carried out in order to improve the implementation of other projects. This evaluation gives the opportunity to recognize and gain insight on the success or failure of the project in the future.

3.2 Scope and methodology

The TE is carried out in accordance with the guidelines, norms, and procedures established in the Guideline for Global Environment Facility (GEF) Agencies conducting Terminal Evaluations (*"Guidelines for GEF Agencies conducting Terminal Evaluations[3]", "GEF Evaluation Office Ethical Guidelines[4]") and the "Guidelines on the Project and Program Cycle Policy (2020 update, GEF 2020)[5]"*.

This evaluation was carried out virtually in full due to the COVID-19 situation, which entailed adjustments that led to logistics efforts, with very positive results in terms of the conduction of interviews; nevertheless, on-site checks were absent, which were carried out by means of a triangulation with the various stakeholders and compliance reports. The impact caused by virtuality (even though it is a technique previously employed before the pandemic with cases in which on-site interviews could not be conducted for different reasons) was mitigated through a well-structured interview (Annex 1) and an empathetic management of the time dedicated, which achieved adequate openness in respondents and comfort when freely expressing their opinions (under complete confidentiality).

The evaluation employs the criteria of relevance, effectiveness, efficiency, sustainability, and impact. The general standard questions of the evaluation are shown below, which were used to prepare a series of questions that cover each one of the criteria in the terms of reference (TOR) related to this evaluation in detail.

- *Relevance or suitability* Were action lines or strategies designed and prioritized (design quality and suitability for the context of challenges and opportunities) appropriate for the development problem to be resolved? How about the Project´s monitoring mechanisms? How does the project relate to the objectives and environmental and development priorities at a local, regional, and national level? Which were successes, failures, and gaps in the project´s design and management? What internal and external factors affected the fulfillment of the established objectives? Is the project still relevant based on the changes in the context?
- *Effectiveness or efficacy*: To what extent have the established results and objectives of the project been achieved? Were the project´s activities in line with the activities schedule? Has any unplanned effect/result occurred? What are the key problems/barriers (institutional, legal, capacity-related, operational, financial, etc.) affecting the execution of

[3] https://www.gefieo.org/policies

[4] https://www.gefieo.org/sites/default/files/ieo/evaluations/gef-eo-ethical-guidelines-2007.pdf

[5] https://www.thegef.org/council-meeting-documents/guidelines-project-and-program-cycle-policy-2020-update

the project? Was the gender strategy of the project in line with the gender equality policy of the IDB and the country, and how did the proposed gender indicators get in line with the vertical logic of the project during its implementation?

- *Efficiency*: Were the project´s disbursements and expenses in line with the budget plans? Was the project implemented in an efficient fashion, in accordance with national and international norms and standards? How were investments carried out and results obtained (cost-efficiency and cost-impact)?
- *Impact*: Are there signs indicating that the project reduced environmental stress or improved the ecological status, or allowed for progress towards those results? What was the impact achieved by the actions (achievement of objectives, verifiable changes in threats or modifications to viability, replicability factors)? (reduction of emissions, among others).
- *Sustainability:* To what extent are there financial, institutional, socioeconomic, environmental risks, among others, in terms of sustaining the project´s results in the long-term?

The evaluation must provide credible, reliable and useful evidence-based information. The evaluation follows a participative consultative approach, which ensures close participation with officials of FINDETER, particularly the Office of the IDB in the Country, the project´s team, and key stakeholders (Annex 2 Respondents).

The dimensions described above shall be assessed in accordance with the criteria of the evaluator, using the rating keys under the "*guide for terminal evaluations of projects supported by the UNDP and funded by the GEF"*[6], which are shown in *Chart 5*.

Chart 5: ***Evaluation rating keys table***

RELEVANCE, EFFECTIVENESS, EFFICIENCY, AND IMPACT RATINGS	**SUSTAINABILITY (AND RISK[7]) RATINGS**
6: Highly satisfactory (**HS**): Did not present deficiencies	4. Probable (P)**:** Insignificant risks for sustainability
5: Satisfactory (**S**): Minor deficiencies	
4: Moderately satisfactory (**MS**): Moderate deficiencies	3. Moderately likely (**ML**): Moderate risks
3. Moderately unsatisfactory (**MU):** Important deficiencies	
2. Unsatisfactory **(U**): Significant deficiencies	2. Moderately unlikely (**MUl**): Significant risks
1. Highly unsatisfactory (**HU**): Serious deficiencies	1. Unlikely (**Ul**): Serious risks.

Note: HS= The project did not have deficiencies while achieving its objectives. S= The project suffered minor deficiencies while achieving its objectives. MS= The project had moderate deficiencies while achieving its objectives. MU= The project had material deficiencies while achieving its objectives. U= The project had significant deficiencies while achieving its objectives. HU= The project had serious deficiencies while achieving its objectives.

l= There are no risks, or these are insignificant, affecting this sustainability dimension. ML= There are moderate risks affecting this sustainability dimension. MUl= There are significant risks affecting this sustainability dimension. Ul= There are serious risks affecting this sustainability dimension.

Source *Adapted from GEF 2020.*

Some important aspects to be taken into consideration when approaching the dimensions of the evaluation are briefly described below:

[6] https://www.gefieo.org/sites/default/files/ieo/evaluations/files/gef-guidelines-te-fsp-2017.pdf

[7] *Risk is construed as contrary to sustainability; therefore, an unlikely risk represents lower risk.*

RELEVANCE

- Theory of change, and environmental and social safeguards.
- Connection of the project and development problems, as well as national policies in the current design and context. Deviations: adjustment proposals required within the technical, financial, economic, and institutional monitoring framework for implementation.
- Changes in the context and revision of assumptions will be examined.
- Connection of the project and the national and international legal regulations, as well as with the GEF.
- Degree of collaboration and complementarity of the Project and local partners and stakeholders (first-tier financial institutions, project developers, project incubators, technology providers, municipalities, relevant economic sectors) or with other projects and initiatives at the Colombian and/or international setting, highlighting commitments and responsibilities acquired by these.
- Detection and analysis of deviations related to the design and adjustment proposals required within the technical, financial, economic, and institutional framework for the implementation of the Project and its expected result.
- Updating risks identified in the design and the Risk Management Matrix (RMM), based on the project´s performance.

EFFICIENCY

- Comparison between planned and achieved/reached products/indicators by component, considering the estimated budget, period, procedures, and processes.
- Revision of results in terms of products achieved, compared with planned objectives: Are the project´s activities in line with the activities schedule defined by the semi-annual reports and the annual operative plans? Are project disbursements and expenses in line with the expected budgetary plans and with the Project´s monitoring mechanisms? What relevant events had an influence in the progress of the expected budgetary plans?

EFFICACY

- Comparison of physical achievements and the budget/execution.

IMPACT

- Analysis of impact indicators of the project (design vs. execution).

SUSTAINABILITY

- The probability that the institutional, financial, and operative capacity for the activities and progress generated by the project will adapt and strengthen, in order to continue providing benefits during a period after its conclusion.
- Achieved degree of collaboration and complementarity with other projects and initiatives at the Colombian and/or international setting, in order to identify potential alliances and joint investments with other institutions, with the object of achieving products with added value (e.g., initiatives/processes: updating of NDC, decarbonization LTS, climate finance strategy, etc.).

LESSONS LEARNED, CONCLUSIONS, AND RECOMMENDATIONS

The lessons learned may be defined as the knowledge acquired with respect to a process or one or many experiences, through reflection and critical analysis on results and critical factors or conditions that may have led to its success or hinder it. Lessons learned focus on the hypothesis that causally binds expected results and what has worked or has not worked with respect to their attainment. Lessons learned enable the identification of correlation and cause-effect relational trends, constrained to a specific context, as well as the proposal of practical and useful recommendations for replication of new knowledge in other contexts and in the design and/or execution of other projects or initiatives intended for the attainment of similar results. (publications.iadb.org/publications/spanish/document/Lecciones-aprendidas.pdf).

In this sense, the added value of lessons learned and of the recommendations derived therefrom, lines in the fact that they allow identifying the following, in a specific context: 1. Success factors (efficacy, efficiency, sustainability), 2. Deficiencies ("shortcomings") in policies, strategies, programs, projects, processes, methods, and techniques, 3. Potential solutions for recurring problems by identifying new courses of action, 4. Potential solutions in order to replicate successes, and 5. Potential courses of action aimed towards mitigating persisting or expected future risks.

The project´s lessons learned will be identified/gathered throughout the execution of the evaluation. This process will be carried out during the whole intervention. Lessons learned arise from the revision and analysis of the documentation of the project, as well as from the analysis of information and interviews with different stakeholders. Lessons learned are obtained from the evidence gathered, which draw conclusions and provide recommendations to strengthen, remedy, or mitigate the finding.

Recommendations aimed towards the project´s impact scope will be generated, addressed, where applicable, to GEF, FINDETER, and IDB, as well as to financial entities, municipalities, project developers, technology providers, and related economic sectors (energy, planning). Conclusions obtained from all collected data and tests carried out will also be included. The recommendations will be concise suggestions for critical interventions, which must be specific, quantifiable, attainable, and relevant. A table of recommendations will be included within the report´s executive *report*.

INTERVIEWS

An interview program was carried out to obtain opinions and perceptions about the Project´s performance from at least the following stakeholders (final respondents will be agreed upon with the Project Coordinator) (Annex 2 Respondents):

- *FINDETER*
- *National Planning Department*
- *Focus municipalities within the framework of the project with FINDETER*
- *Individuals from the Inter-American Development Bank involved in the design, technical and fiduciary supervision of the Project.*
- *Project Personnel (PCU)*
- *Other cooperation programs and entities related to the Project*
- *Public and private Project beneficiaries*
- *Other individuals deemed appropriate*

Furthermore, the consultant carried out interviews with individual consultants responsible for the execution of the specific studies and activities of the project.

3.3 Structure of the evaluation report

After the introducing, the second chapter of the evaluation report is structured by describing the content and purpose of the project, as well as the context in which it was designed, relevant background information, immediate objectives, and main stakeholders.

The following chapter describes the findings of the evaluation, subdivided into project design and formulation findings and project execution findings. The second subheading describes the relevance, effectiveness, efficiency, sustainability, and impact of the project in Colombia.

The last chapter relates to the lessons learned, conclusions, and recommendations.

4 PROJECT DESCRIPTION

The object of the Project is to "*contribute towards the design of a strategy aimed towards mitigating and reducing the main barriers and risks associated to the funding of Energy Efficiency (EE) projects in LED public lighting (PA), hereinafter EEAP, and create market conditions that foster the demand for this type of investment projects by municipalities and the private sector, as well as the trust among involved stakeholders"*, by means of actions that can be rolled out based on the following components (IDB 2016):

"Component 1: Technical assistance and legal mechanisms. This component will finance activities with the object of approaching technical and legal obstacles, as well as risks related to the execution of EEAP projects. This includes the following activities, among others: (a) preparing a document related to EE criteria in the selection and contracting of LED technology for public lighting, including specific criteria and minimum technical requirements for LED technology providers, contractors and consultants participating in EE projects; (b) reviewing and improving the existing methodology for the structuring of EE projects; (c) defining the technical characteristics required to implement effective EE projects in municipalities participating in the Project, responsible for the operation of their public lighting; (d) carrying out an analysis of the different public and private stakeholders in the market, as well as the conditions and agreements necessary for the adequate promotion of the credit line aimed towards public lighting and EE of FINDETER; (e) strengthening the technical capacity of FINDETER, in order to coordinate and promote the EE project funding strategy, including their eligibility analysis and evaluation and the design of an information system for their monitoring and for the validation of their results; (f) strengthening the legal advice and advisory of projects through FINDETER; (g) identifying the contractual roles and conditions that must be met by market stakeholders participating in the development and monitoring of the Project; and (h) designing the operational guidelines and mechanisms by means of which Project participants will benefit from financial tools."

"Component 2: Financial mechanisms. This component shall fund activities with the object of mitigating risks in order to encourage the participation of municipalities, concessionaires, and/or investors in the large-scale replacement of efficient light fixtures in all cities concerned, including the following, among other activities: (a) adjusting the conditions of the credit line existing in FINDETER to the specific needs of the Project; (b) developing innovative financial mechanisms, including savings assurance systems for municipalities, against any potential breach by suppliers of an EE project or other financial incentives; (c) developing specific guidelines and operative systems to make the funding strategy of FINDETER functional and to assure market operators that the risks assumed by these are acceptable; (d) provide technical assistance for the identification of a series of fundable public lighting EE projects; and (e) providing technical support for the development of alternative business models, including alternative energy supply channels, standard payment contracts, project and supplier quality control, development of the capacity of local public financial institutions, among others."

"Component 3: Validation, monitoring, and evaluation mechanisms. This component shall fund activities with the object of mitigating risks during the Project´s implementation, including the following, among other activities: (a) providing technical assistance to improve operative mechanisms and the systems required to monitor results/benefits of the credit line of FINDETER; (b) coordinating and controlling the correct utilization of methodologies for the evaluation of EE projects eligible under the Project, presentation of results indicators, and monitoring of the scope of intended objectives; (c) designing specific methods to gather and maintain relevant data for the evaluation of the expected results of the credit line of FINDETER; and (d)

supporting the data management process required to disseminate the results of the Project through computing platforms."

"Component 4: Communications and capacity development. This component shall fund activities aimed towards the implementation of a dissemination and promotion strategy for the products and an exchange of knowledge, resulting from the execution of the Project with key stakeholders in the market, including, among other activities, the development of a web platform to disseminate performance results, co-benefits, and the impacts of investments in EE projects implemented for public lighting, backed and financed by FINDETER in various municipalities."

Execution Model

FINDETER was planned to execute all the activities of the Project and to be responsible for carrying out all fiduciary and operational functions required for the implementation of the Project, including financial management, resource management, and procurement tasks, according to the provisions under the TC Agreement.

FINDETER was also responsible for the technical support and maintenance of the web platform under Component 4 of this Project throughout the Project´s duration.

Audit expenses required for the Project were financed employing resources of FINDETER.

The project has a website which provides information related to the developed methodology, such as the pilot municipalities and funding procedures, among other data, namely: https://www.findeter.gov.co/alumbradopublicoled/index.html

5 FINDINGS

This "Findings" chapter carries out an evaluation in the dimensions of relevance, effectiveness, efficiency, impact, and sustainability, as well as a comparison of the design of the project and its execution, in matters such as project alignment with development problems, linkage to the national and international legal regulations, results and risks, monitoring and evaluation, relevant stakeholders and coordination, use of resources, impact and sustainability.

5.1 Relevance

*This project was rated as **Moderately satisfactory (MS)**, as even though it harmonized the needs and priorities of beneficiaries and local/regional stakeholders, and the results are clearly linked to development problems and the national and international legal regulations, it suffered some restrictions when adapting to changes in context; furthermore, the design did not contemplate impact indicators or public contracting restrictions. Similarly, it did not match the expectations created for FINDETER, especially in terms of the credit line.*

5.1.1 Theory of change

Design analysis

The theory of change of the GEF-FINDETER project indicates the intention of supporting the design of a strategy to mitigate and reduce the main barriers and risks associated to the financing of LED Energy Efficiency in Public Lighting projects (EFAP LED, in Spanish) and creating market conditions aimed towards stimulating the demand. The project intended to achieve this objective through the following causal pathways[8] (project objectives and components, as well as the execution model described in Chapter 4) (IDB 2016, IDB 2016, GEF 2015):

- *The Colombian Government established a national goal to reduce the consumption of electrical energy in commercial sectors (including public lighting), through a unilateral action, by 2.7% for year 2015 (Resolution 18-918 of 2010 issued by the Ministry of Mines and Energy). In this vein, in line with other national and international policies and commitments linked to the climate action and green growth, and to contribute towards the national objective of reducing electricity consumption, the FINDETER deployed in 2014 a special credit line to finance investment in EEAP. Parallelly, FINDETER, as a second-tier bank, would grant loans to local financial institutions (LFIs), which would use these resources to finance loans for final beneficiaries. This special credit line was designed to support efforts aimed towards replacing the use of high-pressure sodium vapor (HPSV) lamps with more efficient light-emitting diode (LED) technologies, to modernize and expand lighting services in Colombia. Beneficiaries of this line would be public and private enterprises, and the local government (e.g., municipalities). In addition to a reduction in electricity consumption, projects of this credit line were expected to reduce costs for Colombian municipalities, generating significant cash flows thanks to the savings experienced, as well as supporting their sustainability and growth plans.*
- *A set of mechanisms had to be parallelly implemented in order to address EEAP funding barriers and unleash the potential of the FINDETER credit line for local and global benefits, which had to address: (i) the abovementioned knowledge gaps, (ii) any actual or perceived risk gap, and (iii) the need for the results of financed projects to be reflected in the restricted legal and contractual*

[8] "*Causal pathways*".

framework of PPPs (Public-Private Partnerships) among stakeholders, in energy savings and in a reduction of GHG emissions.

The object of the GEF FINDETER project was to support the design of a four-axis/components strategy to reduce and mitigate many of the identified barriers and risks associated to the existing EEAP funding schemes, which were hindering the success of the investment and the credit line and, at the same time, generating market conditions that would stimulate demand in municipalities and in the private sector, also generating trust among involved stakeholders. Overcoming these limitations was expected to create greater EE financing demand, which would allow FINDETER to place at least 25 million USD in loans for municipalities/financial brokers/energy utility providers for the conversion into more efficient AP systems, generating a subsequent reduction in GHG emissions of at least 11,521 tons of CO_{2eq} per year. The strategy would be implemented in each one of the four components by developing tools aimed towards addressing technological and performance risks, as well as risks associated to energy service companies. No comprehensive program, such as the one proposed, has existed in Colombia; therefore, this project would set the tone for the structuring of an integral AP project funding program. The elements of this bundle would include: technical support in guaranteed energy savings and energy savings insurance, standardized contracts, third-party validation and verification, and capacity development. The specific aim of the four components of the project was to achieve the results described below:

- Component 1: Addressing technical and legal obstacles, as well as risks related to the execution of EE projects in AP. To this end, providing EE criteria in the selection and contracting of LED technology, revising and improving the existing methodology to structure EE projects, defining technical characteristics to implement effective EE projects, analyzing market stakeholders and conditions/agreements required to promote a credit line, strengthening the technical capacity of FINDETER (analysis and evaluation of eligibility and design of an information system to monitor and validate results), strengthening the legal advice and structuring of projects, identifying contractual roles and conditions to be followed by stakeholders and designing operational guidelines and mechanisms for the benefit of financial tools by participants.
- Component 2: Mitigating risks to promote participation of municipalities, concessionaires, and investors in the large-scale replacement of efficient lamps, by adjusting the conditions of credit lines existing in FINDETER to the specific needs of project stakeholders, developing innovative financial mechanisms, developing specific operative systems and guidelines to make the funding strategy of FINDETER functional and to guarantee market operators that the risks undertaken are acceptable, providing technical assistance to identify eligible EEAP projects, and providing technical support for the development of alternative business models.
- Component 3: Mitigating risks during the project´s implementation by providing technical assistance to enhance the operative mechanisms and systems required to monitor the results of the FINDETER credit line, adequate use of methodologies for the evaluation of eligible EE projects, designing specific methods for the gathering of data of relevance for the impact assessment of the FINDETER credit line, and supporting data management to share the results of the project by means of computing platforms.
- Component 4: Executing a dissemination and promotion strategy of products and exchange of the knowledge resulting from the execution of the Project with the key market stakeholders, among other persons, by developing a web platform.

Execution analysis

A summary of how the causal pathways described above were partially implemented by the project, based on the interviews conducted during the field work and the review of the project information, is detailed below:

- *Component 1: the project defined the technical, legal, and financial methodology structuring for FINDETER for AP systems. The developed methodology was to be applied in many pilot*

municipalities; however, this application could not be achieved due to lack of time in the extension of the contract. Due to this, part of what the application of the methodology entailed was delivered: the characterization, diagnosis, and business model of its AP systems.

- *Component 2: the financial mechanisms better suited to the products and services of FINDETER were identified and analyzed, in order to continue supporting Public Lighting Modernization projects in Colombia. The project was contractually barred from granting the expected subsidy at the interest rate for placing credits towards EEAP in municipalities by FINDETER, and the expected credit line could not be deployed due to the delays in the project´s implementation, the limited time remaining after the extension and the occurrence of the pandemic.*
- *Component 3: a FINDETER-funded EE project evaluation strategy was design, as well as the monitoring and evaluation system (loaded in the Business Intelligence (BI) board, IT tool of FINDETER)*
- *Component 4: a comprehensive EEAP project communication and dissemination strategy was designed and implemented.*

5.1.2 Alignment of the project to development problems

Design analysis: context

The *"Request for CEO Endorsement"* (GEF 2015) clearly identified the development problems aimed for resolution, to which the initial design of the project was aligned (Chart 6).

Chart 6 Identification of development problems that gave rise to the design of the project

PROBLEM	CLARITY IN DIAGNOSIS	OBJECTIVE OF THE CT?	EXPLANATION
Colombia displayed a trend in increasing the use of thermal energy for electricity production: from 46% in 2000 to 49% in 2013	VC	Yes The use of LED technology in AP reduces energy consumption and cost	According to the UPME (*Mining and Energy Planning Unit, in Spanish*) of the Ministry of Mines and Energy, the electricity consumption in the country for 2013 amounted to 64,686 GWh/year, with a 49% increase between 2000 and 2013 (annual growth average of 5%).
The use of AP energy in Colombia approximately represents 3% of the use of electricity in the country, according to the electricity use of 2012 of 59,508 GWh (UPME. Universidad Nacional. External AP)	VC		This consumption amounts to 1,785 GWh/year, or 214,228 tons of carbon dioxide equivalent ($tCO2_{eq}$). This energy costs approximately 290 million USD per year, mostly borne by the municipalities, which in Colombia are responsible for providing public lighting. The country has approximately 1,400,000 public lighting lamps, from which 610,000 (or 44%) are covered under concession contracts. Most of these lamps (70%) use high pressure sodium vapor (HPSV).
The credit line launched in 2014 by FINDETER to replace light fixtures was not employed in an effective way, since the market demonstrated that there are still barriers	VC	Yes The project envisaged technical and financial assistance, as well as dissemination	Based on the initial market evaluation studies, carried out by FINDETER and the IDB, related to opportunities and barriers for the funding of EE in AP, it was found that LED lamps have a high potential for reducing energy consumption, increasing the quality of public lighting, and due to their service life, also reduce operating expenses. Nevertheless, initial capital investment costs of LED technologies are still very high and would require long-term recovery periods, especially because LED technology was imported in most cases. Market studies carried

PROBLEM	CLARITY IN DIAGNOSIS	OBJECTIVE OF THE CT?	EXPLANATION
hindering the successful implementation of the EEAP.			out by the IDB demonstrated that international suppliers of LED technology (such as LG, Sylvania, MVDlight, Phillips Schreder and BYD, among others) would be willing to produce LED lamps at a local level and considerably reduce lamp costs if a sufficient level of investment in new lamps was actually materialized. These studies also identified that many of the barriers to access the credit of a potential funding strategy for EE projects related to (i) lack of technical knowledge to assess technologies and their performance among LFIs[9] and final beneficiaries (e.g., lack of technical knowledge to assess technologies and projects led by the bodies in charge of municipalities; lack of trust of investors in the performance of EE projects); (ii) lack of knowledge with respect to the risks and returns of LED EEAP projects (e.g., lack of trust by investors in LED project suppliers, high levels of investment combined with low level of solvency of municipalities interested in making this type of investment); and (iii) lack of a clear legal framework for PPPs (e.g., prior contractual commitments, specifically administration, operation, and maintenance (AOM) concession contracts of municipal AP systems; changes in management of municipalities)

Note: VC= Very Clear C= Clear NC= Not clear NM= Not Mentioned

Source *GEF 2015 and interviews 2020-21.*

This project was widely discussed with FINDETER during its design.

Execution analysis: Change in context

The initial objectives of the projects were not modified, according to most respondents with knowledge regarding this subject; however, socioeconomic, and environmental changes occurred in the country, which affected the project, namely:

- *According to the interviews conducted, a change occurred in 2016 towards a more legalist behavior by officials of FINDETER, not related to this project, which lead to a careful review of any contracting procedure, which generated delays in this project.*
- *The national presidential change also entailed changes in the management of FINDETER in 2018, which also generated a change in the internal contracting procedures, particularly with a "Contracting Committee" comprised of members at the highest level.*
- *Changes in local (mayor offices) and regional (governor offices) governments entailed changes of officials at all levels, which required dissemination efforts by the project.*
- *The COVID-19 Pandemic situation paralyzed all the field work in some municipalities for a few months between March and August. This work was resumed with some limitations by the end of the project, which caused delays, especially in terms of georeferencing[10].*
- *The Colombian Peso was devalued[11], which caused an exchange-type affectation when returning unused resources to the IDB.*

9 *Local Financial Institutions*

10 *Under normal conditions, without COVID, georeferencing is performed on-site; however, the mobilization restrictions imposed by health authorities prevented this work in its traditional fashion.*

11 *The exchange rate changed from $1,871.49 per dollar on 1-11-2011 to $3.717,25 on 10-09-2020 (BCC 2018, http://www.banrep.gov.co/es/trm).*

5.1.3 Connection of the project with national and international legal regulations

This project adapted to national and international regulations. The second national communication of Colombia to the United Nations Framework Convention on Climate Change (UNFCCC) indicates the Energy Sector as one of the priority sectors in Colombia. This sector has many GHG reduction plans and programs, mainly related to the rational use of energy, energy efficiency, use of renewable sources and distributed generation for remote areas. The electricity system in Colombia is dominated by hydroelectric generation. In 2011, hydroelectric energy accounted for 64% of the installed capacity and 78% of the total power generation. The Government of Colombia committed itself to reduce the energy intensity of its economy and establish incentives and alternatives aimed towards reducing the carbon footprint in the country. Furthermore, the country developed the National Energy Plan 2006-2025, which highlights the need to work in promoting EE in the country as a key element in reducing CO_2 emissions. Energy policy guidelines with a long-term vision were also established, to ensure energy supply, including a Program for Rational and Efficient Energy Use and Non-Conventional Energy Sources (PROURE, in Spanish). In accordance with Resolution 180919 of June 1, 2010, the Ministry of Mines and Energy adopted an Indicative Action Plan 2010-2015 to implement the PROURE program.

In order to promote more efficient and low-carbon sectors, the Government of Colombia (GoC) promoted renewable energies and energy efficiency, making progress in three aspects: the regulation and implementation of Law 1715 of 2014 on non-conventional renewable energy sources and efficient energy management; a scheme of incentives aimed towards fostering investment in non-conventional sources of renewable energy and energy efficiency; and the Fund for Non-Conventional Energy and Efficient Energy Management (FENOGE, in Spanish).

The National Development Plan (NDP) 2014-2018, Law 1753 of 2015, established in article 191 a new legal framework on public lighting services, modifying the nature of the levy from a tax into a specific contribution, which aimed ensuring that the provision of this service had fiscal sustainability. Similarly, the new legal framework intended promoting the improvement of expansion levels through the implementation of public lighting system modernization in the municipalities of the country. In this sense, it is worth mentioning that these policy lines presented in the NDP 2014-2018 "*Together for a New Country*" should be consistent with any project funding initiative structured to modernize public lighting systems. In this sense, initiatives implemented by entities of the National Government, should incorporate concepts such as energy efficiency, fiscal sustainability, financial sufficiency, and quality in service provision, in accordance with the regulatory developments performed by the government (IDB 2016).

During the Paris COP21 2015, Colombia committed itself to reduce its greenhouse gas (GHG) emissions by 20% as of 2030, and in December 2020, the country updated its goal to 51%[12]. The country committed itself in terms of funding, capacity enhancement, as well as a science and technology agenda. In terms of funding, the GoC announced that it would work with the financial sector to solve climate change mitigation and adaptation challenges, contemplating the use of market instruments to provide effectiveness to climate change mitigation, ensuring principles of transparency and environmental integrity, as well as utilizing this opportunity to mobilize national and international public and private financial resources to achieve this (FINDETER 2021).

The "*Colombian Low-Carbon Development Strategy"* (ECDBC, in Spanish) was proposed in line with the National Green Growth strategy, which represents a short, medium, and long-term

[12] https://www.wwf.org.co/?uNewsID=365418

development planning program, led by the Ministry of the Environment and Sustainable Development (MADS, in Spanish), through the Climate Change Directorate, with support from the National Planning Department (DNP, in Spanish) and the Sectoral Ministries of Colombia.

The Government of Colombia, led by the Ministry of the Environment and Sustainable Development (MADS), also deployed a Low-Carbon Development National Strategy (LCDNS) with public-private support, based on the national policy document CONPES 3700 "*Institutional Strategy to Articulate Climate Change Policies and Actions in Colombia", 2011*), aimed towards identifying the Greenhouse Gas (GHG) Emissions mitigation potential of the country and GHG mitigation projects and measures that should be undertaken by the productive sectors, without compromising long-term growth prospects of the economy. The challenge of the LCDNS was find, by implementing competitiveness plans of productive sectors, alternatives that would prevent the fast growth of GHG emissions, utilizing the support from International Climate Finance, the funding from the public and private sector, as well as carbon markets.

To enhance growth prospects of the economy in the medium and long-term, the GoC, through its National Competitiveness and Productivity Policy (PNCP), adopted a series of measures aimed towards enhancing competitiveness of sectors with high growth potential, such as tourism, energy, and agriculture, in order to attract new investments, compete in global markets, generate formal jobs, and fight poverty and inequality. The PNCP also envisaged the strategic articulation of environmental topics as critical factors to improve the competitiveness of the country.

5.1.4 Analysis of environmental and social safeguards

In the design

The proposed project was classified, according to the Environment and Safeguards Compliance Policy (OP-703, B3) as Category C[13] – no environmental and social impacts or minimum impacts, based on the environmental and social safeguard policy filters of the Bank (IDB 2014).

All the information related to the Project was intended to be made available to the public through a dedicated webpage, and in accordance with the transparency and access to information policies of the IDB. Similarly, the information related to the Project would also be made available in the webpages of the IDB dedicated to national development banks (NDBs), e.g., Klave Finanzas Verdes and a community of practice for financial institutions on green finance. All the webpages mentioned above are free and available to the public.

In the execution

Conducting environmental and social studies (EAS) was not a requirement in accordance with Classification C and the operational policies of the IDB; nevertheless, the project was compliant with national regulations and multilateral environmental agreements (B2).

As a result of Consultancy 5, the results of Consultancies 1, 2, and 4 were disseminated through the "*mini-site*" of FINDETER, which gave local administrations more instruments to define how the transition into EEAP projects could be achieved using LED light fixtures. The general objective of the Program was disseminated through the communications component, thus

[13] *Operations that do not cause negative environmental impacts, including associated social impacts, or those with minimum impacts, shall be classified as Category C. These operations do not require an environmental or social analysis beyond the screening and scoping analysis for determining the classification. However, where relevant, these operations will establish safeguard, or monitoring requirements (IDB 2007).*

creating awareness among local authorities in the country with respect to the importance of making progress in the implementation of EEAP projects (FINDETER 2021).

The project also included information in the following website *https://www.iadb.org/en/financial-innovation-lab/financial-innovation-lab-promoting-private-investments-street-lighting*

5.1.5 Framework of identified risks and results

In the design

The results framework (matrix) displays a vertical logic: products responded to results, both to components, and components to the project´s general objective. The intended objective, components, results, and products were feasible; however, the results matrix was general and populated at a qualitative scale, employing qualitative criteria to be filled in at the discretion of the person in charge of the project before the IDB.

The objective of the Project was *to support the design of a strategy, to mitigate and reduce the main barriers and risks associated to the financing of EEAP LED projects, and creating market conditions that would stimulate the demand for this type of investment projects by municipalities and the private sector, as well as increasing trust in involved stakeholders.* The idea of Component 1 "*Technical assistance and legal mechanisms"* was to solve the technical and legal obstacles, as well as the risks related to the execution of EEAP projects. The goal of Component 2 "*Financial mechanisms"* was to mitigate risks in order to encourage participation of municipalities, concessionaires, and/or investors in the large-scale replacement of efficient lamps (more information in Chapter 4). The object of Component 3 "*Validation, monitoring, and evaluation mechanisms*" was to mitigate risks during the implementation of the Project. And the aim of Component 4 "*Communications and capacity development"* was to execute a dissemination and promotion strategy related to the products, as well as an exchange of the knowledge resulting from the execution of the Project with the key stakeholders in the market, including the development of a web platform to communicate performance results, co-benefits and impacts of investments in EE projects implemented for AP, supported and funded by FINDETER in different municipalities, among other things.

The risks identified in the "*GEF-6 Request for One-Step Medium-Sized Project Approval"* were logical and coherent with the development problems, and provide thoughtful inputs for determining the activities to be developed by the project (*Chart 7*).

Chart 7: Risks identified in the design of the project

RISK	RATING	RISK MITIGATION STRATEGY
Ineffective organization and coordination of concerned parties, such as government agencies, energy service suppliers, LED producers, research institutions, experts, and end users	M	The project development team will assign support with specific technical capacity and coordination of activities during the implementation of the project
Ineffective coordination in terms of the content of research and periods of execution	M	The project team will ensure a clear comprehension of the requirements (schedule and budget) for each planned activity
Low level of participation of energy service suppliers	L	Ensuring participation of energy service suppliers from the project design stage, dissemination of the most recent information

RISK	RATING	RISK MITIGATION STRATEGY
		through adequate channels, and identification of needs and demands through continuing dialogue
Low level of government support in the effective application of proposed policies and regulations	L	Incorporation of the interventions needed to formulate the EEAP initiative, as well as improvement of institutional arrangements for the implementation of proposed EE standards/protocols
Low-quality results if the technical work is not adequately controlled	M	The IDB will provide a revision of developed products, and part of the project resources would be assigned to improve the capacity of FINDETER, in order to develop the project and consultations with EE service suppliers and municipalities, prior to the final results of the components, to make sure that these reflect the needs of the concerned parties and ensure their high quality.

Note: H= High M= Medium L= Low

Source *GEF 2015.*

In the execution

The project objectives were adequately defined and adequately responded to the national development problem identified, as well as the results, products, and goals.

Chart 8: Updated risks in the execution of the project by AI

RISK	CLASSIFICATION P*I= R	RISK MITIGATION STRATEGY [*Indicator*]	COMMENT FROM TERMINAL EVALUATION
6. Interinstitutional Coordination: Lack of coordination with beneficiary entities may cause delays in the implementation of the Program	M*M= M	Strengthening of interinstitutional relations based on constant communication (email, calls), that will allow for the beneficiary entity to understand the scope and importance of this project, taking into account that these are cooperation resources and considering their implications.	The risk dropped since the coordination monitored the execution of scheduled activities with beneficiaries.
7. Operational risks: Decline in processes due to proposal quality or scheduling matters	M*M= M	Presentation of resolution alternatives in the event the processes called are declared cancelled. [Number of solutions presented over the number of declined processes.]	The risk was maintained and materialized with the C3, an alternative was implemented, which consisted in changing from the contracting of a firm for individual consultants, with a lower unit cost. Coordination with the technical areas and the Financial Vice-Presidency to submit solution alternatives for processes that may be declined, forecasting the new timeline and deadlines and viable budget.
8. Risk of catastrophic or epidemiological events: Materialization of a catastrophic or epidemiological event	M*M= M	Performance of risk mitigation protocols [*Number of Protocols established to mitigate risks*]	The risk materialized with the COVID-19 pandemic. Coordination with the risk area as Operating Entity, establishment of risk protocols.
9. Macroeconomic: Abrupt change in the TRM (Representative Market Rate)	L*M= L	Resources received in Dollars are monetized as soon as the TRM is favorable. [*Monetization record*]	The risk materialized; therefore, FINDETER suffered a loss when performing the transaction to return amounts not utilized by the project. Monitoring the TRM with support from the Trading Desk.
10. Technical/Legal: Potential delay in the implementation of the Program due to issues with the contractor	M*M= M	Application of strict evaluation criteria during the contract selection process and permanent monitoring of the quality of deliverables. [*Half-yearly reports evidencing compliance with acquired contractual commitments*]	The risk was maintained by handled correctly during the execution of consultancies. Monitoring the delivery schedule and the quality of deliverables provided by the consultant.

Note: P= Probability H= High I= Impact M= Medium R= Risk L= Low

Source *FINDETER 2021 and interviews 2020-21.*

The risk matrix identified potential limitations that may arise from the beginning of the project. The same updated during the monitoring carried out by the Implementing Agency (AI), as a monitoring and evaluation tool (*Chart 8*) (FINDETER 2021).

Adaptative management in the project design

The design of the project foresaw a way to adapt to the needs of the context in a restrictive fashion, specifically in terms of contracting (IDB 2016):

> *Article 10. Selection and contracting of different consultancy services, acquisition of goods, and selection and contracting of consultancy services." "(d) The Bank will review selection, contracting, and acquisition processes, according to what has been established in the Procurement Plan. At any time during the Project´s execution, the Bank may change the revision modality of those processes, notifying the Beneficiary or Executing Body in advance. Changes approved by the Bank shall be reflected in the Procurement Plan."*

However, the design of the project did not foresee a way to deal with the expectation generated in terms of subsidizing the rate for the funding of EEAP projects, matter that should have been clearly defined as such in the signed agreement.

Adaptative management in the execution of the project

According to the interviews conducted, the provisions of Article 10 broadly applied during the execution of the project. The adjustments to the Procurement Plan were constant, in accordance with the situation in the different phases of the project. There were no objections to FINDETER´s requests for modifications, even though there were delays in their response. With respect to consultancy 3, the project adapted by declaring the contracting of the firm that was going to implement the methodology invalid, and modifying the contracting method for individual consultancies, in order to make progress in aspects, as shown in subsection 5.3.1 product 1.2.

According to the interviews conducted, the subsidy could not have been contemplated in a Procurement Plan or been protected under Article 10, because such figures (subsidies) are not acquisitions, but instead are managed as investment expenditures. This type of expenditure was not explicitly included in the design of the project; therefore, the same were not taken into account in the signed agreement, which subsequently rendered the execution of this figure impossible.

5.1.6 Monitoring and evaluation

In the design

The design of the Project included a components and products matrix, and a general results indicators matrix. It was established that FINDETER would submit the following reports to IDB: (i) progress reports every six months, within sixty (60) days, counted from the end of the six-year period; and (iii) a final report within six months after the conclusion of the last activity of the project carried out. The content of the reports would be jointly agreed between the Bank and FINDETER. The executor would also deliver the project´s financial statements within 90 days after the date established for the latest disbursement, which would be audited by a selected independent auditing firm (IDB 2016).

In the execution

The project employed the following instruments to monitor and evaluate its activities and results.

- *Results matrix and risk matrix that used to be updated approximately every six months.*
- *Technical cooperation Monitoring (TCM): which gathers progress-related information in the project´s products and results every six months.*
- *Procurement Plan (PA): updated at least every 6 months, providing administrative monitoring of the project´s goods and services.*

- *Consultancy reports: contracts have the terms of reference and the non-objection by the Bank, in accordance with the Agreement.*
- *Project Implementation Report (PIR).*
- *External Audits (2)*
- *Follow-up meetings with IDB*

The instruments described were employed by the project, which enabled monitoring its activities, financial implementation, and acquisitions, among other aspects. Nevertheless, it is worth highlighting that after two years of execution, as of October 2019, the project displayed very little progress (16%) and the instruments described above did not serve as basis for early decision-making activities, that would improve its performance.

It is worth clarifying that this project did not have an operations manual, which according to the interviews conducted, is uncommon for this type of projects with financial institutions.

With respect to the audits, two were conducted, generating the following recommendations *(FINDETER 2021):*

1. *Audit 1: Establishing procedures to ensure compliance with acquired commitments, monitoring and controlling the implementation of resources, as well as operating activities, in order to fulfill the objectives under the agreement".*
2. *Audit 2: FINDETER adequately applied the procedures under the Non-Refundable Technical Cooperation Agreement No. ATN/FM15632-CO, the Policies for the Selection and Contracting of Consultants Funded by the Bank, the Policies on the Acquisition of Goods Funded by the Bank, the procedures based on the International Standard on Assurance Engagements ISAE 3000. During the audit, no breaches of Law, of the procedures under the Bank Policies or of the terms of the Loan Contract were found.*

5.1.7 Relevant stakeholders and project coordination by FINDETER, the IDB and beneficiaries

In the design of the project

The Request for Project Approval (GEF 2015) highlighted that the development and implementation of this project, with the various mechanisms, would require the establishment of alliances and coordination of efforts with various public and private bodies. In this context, FINDETER, in its capacity as orchestrator of these mechanisms, would play a crucial role in the construction and articulation of these alliances and efforts, as well as in the generation of the necessary trust required among the various players expected to interact (*Chart 9*).

Chart 9: Relevant stakeholders of the project

STAKEHOLDER	ROLE	RESPONSIBILITY
Government (for instance, national focal point of climate change and personnel of the national/regional climate change offices/departments; ministry of the environment, planning and economy and related institutions) Ministry of Mines and Energy, UPME, MADS, DNP, Ministry of Foreign Affairs	Consultation	The government shall be the target of activities related to the dissemination of knowledge, co-financing of EE projects and the strengthening of technical capacities
National and regional institutions (e.g., institutions or organizations of the energy sector, universities, schools, and NGOs) ASOCARS (Association of Regional Autonomous and	Consultation and	Consultations with concerned parties involved in the development of similar

STAKEHOLDER	ROLE	RESPONSIBILITY
Sustainable Development Corporations), ANDI (National Business Association of Colombia), ANDESCO (National Association of Public Enterprises of Colombia). Services and Communications), US Agency for International Development (USAID), Universidad de Santander, Universidad de los Andes, Escuela Colombiana de Ingeniería Julio Garavito, Pontificia Universidad Bolivariana	communication	activities, which could also cooperate in a synergetic fashion to avoid duplication of effort
Financial institutions and the private sector (e.g., suppliers/developers of technology and public utilities; project developers, project engineers, private banks, foundations and other financing sources); contracting and procurement law firms, and trust companies		
Insurance companies (Fiduprevisora, Fiduciaria Bancolombia, Sur-Americana de Seguros, etc.)		

Source *GEF 2015.*

In the execution

The relevant stakeholders of the project were FINDETER, the pilot municipalities and the IDB. The following work meetings were conducted in order to coordinate the execution and operative matters, among other activities:

- *Internal technical coordination meetings, at least once per month, where the implementation status was evaluated, the general work plan was performed, and monthly work plans were adjusted.*
- *Meetings with municipalities to create awareness, allying them with the project, and determining future actions.*
- *Permanent missions with the IDB, virtually or on-site, when requested: updates were provided in these missions regarding the achievement of objectives, goals and products, and rising operational problems were resolved.*

The project and the pilot municipalities signed cooperation agreements (Annex 3) within the framework of the project execution, in order to achieve the proposed objectives, products and results in a more effective fashion, building synergies. The GEF FINDETER project continues coordinating activities with different stakeholders.

Consultancy 6 (C6) was hired to coordinate the general execution of the Program financed with resources from the Non-Refundable Technical Cooperation Agreement ATN/FM-15632-CO, ensuring compliance with the functions and obligations established therein, which would allow for the achievement of proposed goals, when and as established. During the development of this consultancy, the consulting firm helped the International Banking Director of FINDETER in her function as general coordinator of the IDB-GEF Cooperation Program and accompanied during transversal processes (which involved the various technical teams of the Entity), as well as dialogue and liaising processes with the IDB.

Chart 10: ***Relevant stakeholders during the execution of the project***

STAKEHOLDER	ROLE/PERFORMANCE	COMMENTS
Government (listed in the preceding chart)	Passive stakeholders, only were given	Invited to some dissemination activities and knew about the project, but

STAKEHOLDER	ROLE/PERFORMANCE	COMMENTS
	information regarding the project	did not have an impact on the execution.
National and regional institutions (listed in the preceding chart)		No consultations as such, but some participated in some dissemination events
Financial institutions and private sector (listed in the preceding chart)		
Insurance companies (listed in the preceding chart)		
FINDETER	Executor	Directly responsible for the execution of the project and encountered some delays in the approval and execution of activities, mainly due to the public contracting requirement
Pilot municipalities	Implementors of EEAP projects, very cooperative and committed to the project	The bottleneck lied in the delivery of required information
IDB	Implementing Agency	Provided non-objection to requests from the AE and encountered some delays in terms of communication

Source *Adapted from GEF 2015.*

5.2 Impact/results

*The rating of this impact is **Moderately Unsatisfactory (MU)**, since it achieved a transformational change in beneficiaries, as well as in involved institutions and partners, in addition to the development of an EEAP project structuring methodology for local and regional governments, which may be replied in other projects at a national and international level. However, the intended final impact of the project was to finance the replacement of more efficient LED lamps leading to energy savings of 30,804 MWh, which was not achieved as the expected credit line could not be deployed during the execution of the project. Nevertheless, it is worth mentioning that FINDETER is still working by itself in structuring EEAP projects and financing the change.*

In its design, the project did not foresee impact or results indicators as inputs for planning, monitoring, and adaptative management purposes with respect to the project, which would be employed by the executing agency. Nonetheless, during its execution, the IDB employed the following general results indicators, which were assessed in a qualitative fashion by the person in charge of the project – of the IDB – in order to provide the ratings described below:

Chart 11 ***Fulfillment of results indicators of the project***

RESULTS INDICATOR	BASE LINE (2016)	GOAL	CURRENT FULFILLMENT	%	COMMENTS
Statement of results: The object of the TC is to support the design of a strategy aimed towards mitigating and reducing many barriers and risks associated to the two main types of funding schemes for EE LED public lighting projects.					

RESULTS INDICATOR	BASE LINE (2016)	GOAL	CURRENT FULFILLMENT	%	COMMENTS
Performance rating of the GEF: general *Indicator 0.1* Rating of probability of achieving the global environmental objective (OD) of the project *(# of Government Agencies)*	1	N/A	2018= 1 2019= 3 2020= 3	N/A	
Performance rating of the GEF: progress *Indicator 0.2* Implementation progress rate (IP) *(Scale: 1 - 6, where 1 = Highly satisfactory [HS] y 6 = Highly unsatisfactory [HU])*	1	N/A	2018= 1 2019= 3 2020= 4	N/A	Performance decreased progressively
Performance rating of the GEF: risk *Indicator 0.3* Rating of general risk that may affect the performance of the project (risk) (Scale 1 - 4, where 1 = High risk [H] y 4 = Low risk [L])	4	N/A	2018= 4 2019= 3 2020= 2	N/A	The performance affectation risk increased progressively

Source *IDB 2020, interviews 2020-21.*

According to the interviews, there were some impacts related to the project, which are listed below:

- *Generated awareness regarding the importance of this matter at a local, regional, and national level, both in terms of municipalities, mayor offices, as well as at the level of FINDETER and some institutional stakeholders and the public in general, in addition to the awareness regarding the opportunity of reducing the costs of AP, whether reducing the payment by taxpayers or using the savings in other projects that will increase the wellbeing of the population.*
- *Transformational change was achieved with respect to the benefit of lower carbon emissions, and an increase in safety, thus increasing the possibility of sports and recreation activities, increase in commercial activity and a decrease in traffic accidents, among other factors.*
- *The existence of great demand for EEAP projects in local governments of Colombia was identified once they get to know about the subject.*
- *FINDETER has continued working in this matter and structuring EEAP projects, thanks to the methodology developed in the project; therefore, the future impact will be even greater in terms of the topics mentioned above. FINDETER and the pilot municipalities have certain degree of knowledge (learning curve), which is being put into practice in other EEAP projects (Annex 4).*

5.3 Effectiveness

*This project has been rated as **Moderately satisfactory (MS)** in terms of effectiveness, since the product targets are lined to the project´s objective, which was not achieved in full; nevertheless, it achieved most of the product targets, exceeded two and not achieving one.*

This section analyzes the fulfillment of product indicators, in accordance with the Non-Reimbursable Technical Cooperation Agreement (IDB 2016) and "*GEF-6 Request For One-Step Medium-Sized Project Approval"* (GEF 2015).

The original comments in the documents referenced in the preceding paragraph are presented in *semitransparent italics in blue*. The comments of the evaluator are quoted in normal font, according to the interviews conducted and the information provided.

5.3.1 Effectiveness of the products of component 1

All the product targets in this component have been achieved: one of the three indicators exceeded the target

Chart 12 shows the results for each one of the product indicators of Component 1, results obtained between 2017 and 2020.

- *Product indicator 1.1:*
  - Consultancy 1 Methodology: The products in this consultancy resulted in a methodology guide to technically, legally, and financially structure its energy efficiency systems in Public Lighting Systems (SALP, in Spanish). The specific products are detailed below:
    - *i. Diagnosis of the international contexts in terms of business models for the implementation of EEAP projects, including self-financing models, "utility financing", ESE model, "forfaiting", leasing, revolving funds.*
    - *ii. Diagnosis of technologies and identification of methodologies to implement EEAP projects, and their adaptation to the national context.*
    - *iii. Revision of the regulatory matter and project prioritization model.*
    - *iv. Definition of the technical structure of EEAP projects, including the identification of suppliers and equipment, services, minimum technical requirements, characterization of concessionaires, present schemes in the national market, and potential interested municipalities.*
    - *v. Analysis of the regulations, normativity, regulatory barriers, and settlement mechanisms.*
    - *vi. Business models for AP.*
    - *vii. Financial structuring of EE projects.*
    - *viii. Standard model of benefits generated by an EEAP-type project and determination of a model and a methodology used to measure its environmental impact.*
- *Product indicator 1.2:*
  - Consultancy 3 Pilots: The methodology (C1) was intended for trial in many municipalities; however, this was rendered void because a direct contracting alternative of consultants was implemented, namely:
    - *i. For the first product of consultancy 3, consisting in the characterization of the technical, legal, and financial diagnosis, as well as the business model of the AP system in five pilot municipalities: Paipa, Popayán, Nariño (Cundinamarca), Fusagasugá, and Saravena (C10, C11, C12, C13, and C14).*
      - *C10 Legal:* revision, analysis, legal diagnosis, and determination of the business model for the AP, from the regulatory and normative scope of the five (5) pilot municipalities, to diagnose their status, identifying improvement alternatives and utilizing regulatory advantages for the provision of their service, also performing the business model selection matrix in the legal-regulatory area. Furthermore, the application of the

legal-regulatory component for the first phases of the methodology developed by C1: collection of information and characterization of the regulatory status for each one of the five pilot municipalities.

- *C11 Legal:* legal diagnosis of the AP service in the five pilot municipalities, revision of contracts signed by the municipality and revision of legal alternatives to sign new or better contracts, employing what has been indicated in the methodology developed by C1 as basis, to propose a legally viable business model.
- *C12 & C13 Financial:* Financial diagnosis of the AP system of the five pilot municipalities, to identify a business model that would improve the financial conditions of this service (revision of lighting tax rates, costs borne, and financing necessities and financial risks).
- *C14 Engineering:* ensuring that the information gathered and georeferenced by the firm in charge of the inventory of light fixtures in the three municipalities has the regulatory conditions demanded to this end.

ii. Contracting the service for the gathering of information regarding light fixtures using georeferencing, for the three municipalities: Paipa, Nariño, and Saravena (denominated new consultancy 3).

- Consultancy 7: to support the execution of Consultancy 3, technical coordination of the Pilot Consultancy, among other aspects, in the following activities: i) Preparing the terms of reference for the contracting of Consultancy 3, adjusting these to the needs of the IDB-GEF Cooperation Project; ii) Identifying the municipalities that could become beneficiaries of Consultancy 3; iii) Diagnosing identified municipalities that were susceptible to participating in the IDB-GEF Program or receiving subsequent financial support, by FINDETER, in order to advance in their public lighting modernization project.
- Consultancy 8: to supervise the products that would make progress in the diagnosis and business model of pilot municipalities, providing technical supervision of the execution of consultancies C3, C10, C11, C12, C13, and C14 of the delivered products.

- *Product indicator 1.3*:
  - Consultancy 1: product 7 was obtained, which relates to the methodology explained in C1 (methodology for integral structuring: technical, legal, and financial structuring of its energy efficiency systems in Public Lighting Systems – SALP).

Chart 12 Fulfillment of product indicators of component 1

INDICATOR #	BASE LINE	GOAL	FULFILLMENT	%	COMMENTS
COMPONENT 1: TECHNICAL ASSISTANCE AND LEGAL MECHANISMS					
1.1 Created technical notes (quantity)	0	2	2	100	*Comments:* *a) Preparing a document on EE criteria in the selection and contracting of LED lighting technology for public lighting, including specific criteria and minimum technical requirements for LED technology suppliers, contractors, and consultants participating in EE projects*

INDICATOR #	BASE LINE	GOAL	FULFILLMENT	%	COMMENTS
					c) defining the technical characteristics required to implement effective EE projects in the municipalities participating in the Project, responsible for operating their AP This goal was fulfilled
1.2 Contemplated diagnostics and evaluations (quantity)	0	2	3	150	*Comments:* *b) revising and improving the existing methodology for the structuring of EE projects* *d)performing an analysis with the various public and private stakeholders in the market and of the conditions and agreements required for the adequate promotion of the credit line for AP and EE of FINDETER* *g) identifying the roles and contractual conditions that must be met by the market stakeholders participating in the development and monitoring of the Project* This goal was exceeded
1.3 Designed/strengthened methodologies (quantity)	0	1	1	100	*Comments:* *e) strengthening the technical capacity of FINDETER to coordinate and promote the funding strategy of EE projects, including the analysis and evaluation of their eligibility and the design of an information system to monitor and validate their results.* *f) strengthening the legal structuring and advice of the project through FINDETER* *h) designing operational guidelines and mechanisms by means of which Project participants will benefit from financial tools* This goal was fulfilled

Note: Color indicates a warning sign regarding fulfillment, in accordance with the information provided.
Color indicates that the goal was exceeded, and displayed fulfillment beyond what was expected.
Comments in italics, smaller font and in blue in the last column correspond to the TOR of the Agreement.

Source *FINDETER 2021, interviews 2020-21, IDB 2016.*

5.3.2 Effectiveness of the products of component 2

Only one of the two goals proposed in the indicators of component 2 was fulfilled, and the other one did not show any progress.

Chart 13 shows the fulfillment of the product indicators of Component 2, namely:

- *Product indicator 2.1*: This product was achieved through C2.
  - Consultancy 2: The objective of this consultancy was identifying and analyzing the financial mechanisms best suited for the products and services of FINDETER, in order to establish, socialize, and support their implementation to promote AP Modernization projects. The specific products are detailed below:
    - *i. Methodology to be implemented based on the identification and analysis of advances and results of C1, including the intervention financial tools to be evaluated, which aligned the business models (C1) with the financial mechanisms (C2).*
- *Product indicator 2.2*: This product was not executed.

Chart 13 ***Fulfillment of product indicators of component 2***

PRODUCT INDICATOR	BASE LINE	GOAL	FULFILLMENT	%	COMMENTS
COMPONENT 2: FINANCIAL MECHANISMS					
2.1 New financial mechanisms (quantity)	0	1	1	100	*Comments:* *a) adjusting the conditions of the credit line existing in FINDETER to the specific needs of the Project* *b) developing innovative financial mechanisms, including, among others, including savings assurance systems for municipalities, against any potential breach by suppliers of an EE project or other financial incentives.* *c) developing specific guidelines and operating systems to make the funding strategy of FINDETER functional, and assuring market operators that the risks assumed by them are acceptable.* *d) providing technical assistance for the identification of a series of fundable EEAP projects* This goal was fulfilled
2.2 Identification of completed PPPs[14] projects (quantity)	0	2	0	0	*Comments:* *e) providing technical support for the development of alternative business models, including alternative energy supply channels, standard payment contracts, quality control for projects and suppliers, development of capacity for local public financial institutions, among others* This goal was not fulfilled

Note: Color indicates a warning sign regarding fulfillment, in accordance with the information provided.
Color indicates that the goal was exceeded, and displayed fulfillment beyond what was expected.
Comments in italics, smaller font and in blue in the last column correspond to the TOR of the Agreement.

Source *FINDETER 2021, interviews 2020-21, IDB 2016.*

5.3.3 Effectiveness of the products of component 3

The two goals proposed in the indicators of component 3 were fulfilled

Chart 13 shows the fulfillment of product indicators of Component 2, namely:

Chart 14 ***Fulfillment of product indicators of component 3***

PRODUCT INDICATOR	BASE LINE	GOAL	FULFILLMENT	%	COMMENTS
COMPONENT 3: VALIDATION, MONITORING, AND EVALUATION MECHANISMS					
3.1 Developed operations manuals (quantity)	0	1	1	100	*Comments:* *b) Coordinating and controlling the adequate utilization of methodologies for the assessment of EE projects eligible under the Project, presentation of results indicators, and monitoring the scope of established objectives* This goal was fulfilled
3.2 Designed monitoring and evaluation systems (quantity)	0	1	1	100	*Comments:* *a) Providing technical assistance to improve operative mechanisms and systems required to monitor results/benefits of the FINDETER credit line* *c) Designing specific methods to gather and maintain relevant data for the evaluation of the expected impact of the FINDETER credit line*

[14] Public-Private Partnerships

PRODUCT INDICATOR	BASE LINE	GOAL	FULFILLMENT	%	COMMENTS
					d) Supporting the data management processes required to share the results of the Project through computer platforms This goal was fulfilled

Note: Color indicates a warning sign regarding fulfillment, in accordance with the information provided.
Color indicates that the goal was exceeded, and displayed fulfillment beyond what was expected.
Comments in italics, smaller font and in blue in the last column correspond to the TOR of the Agreement.

Source *FINDETER 2021, interviews 2020-21, IDB 2016.*

- *Product indicator 3.1*: This product was achieved through the C4.
  - Consultancy 4: The object was designing an evaluation strategy for EE projects fundable by FINDETER:
    - *i. Diagnosis, theoretical framework, Impact Assessment methodology selection strategy and indicators.*
    - *ii. Data gathering strategy and procedure and the methodology chosen for two EE projects structured by FINDETER was implemented. What was proposed to this date was tested, and potential results were identified. A base data matrix required for regression exercises in Stata was also built.*
    - *iii. Impact Assessment Methodology technical guide, which allows for a future replication of the exercise in other municipalities. As an additional product, the Technology Directorate of FINDETER is working in a "Business Intelligence" board, which will allow reporting data from evaluations in a didactic and consolidated fashion.*
- *Product indicator 3.2*: This product was fully completed.

5.3.4 Effectiveness of the products of component 4

All product goals of component 4 were fulfilled and one exceeded the goal.

Chart 13 shows fulfillment of the product indicators of Component 2, namely:

Chart 15 ***Fulfillment of product indicators of Component 4***

PRODUCT INDICATOR	BASE LINE	GOAL	FULFILLMENT	%	COMMENTS
COMPONENT 4: COMMUNICATIONS AND CAPACITY DEVELOPMENT					
4.1 Designed strategies (quantity)	0	1	1	100	*Comments:* *Executing a dissemination and promotion strategy for products and exchange of knowledge resulting from the execution of the Project with key market stakeholders, including the development of a web platform to disseminate performance results, co-benefits, and impact of investments in EE projects implemented for public lighting supported and funded by FINDETER in the various municipalities, among other activities* This goal was fulfilled
4.2 Organized workshops (quantity)	0	1	11	1.100	*Comments:* *Idem comment 4.1* This goal was exceeded

PRODUCT INDICATOR	BASE LINE	GOAL	FULFILLMENT	%	COMMENTS
4.3 Designed virtual platforms (quantity)	0	1	1	100	*Comments:* *Idem comment 4.1* This goal was fulfilled

Note: Color indicates a warning sign regarding fulfillment, in accordance with the information provided.
Color indicates that the goal was exceeded, and displayed fulfillment beyond what was expected.
Comments in italics, smaller font and in blue in the last column correspond to the TOR of the Agreement.

Source *FINDETER 2021, interviews 2020-21, IDB 2016.*

- *Product indicators 4.1* & 4.3. These products were achieved through C5.
  - Consultancy 5: For the design and execution of a comprehensive EEAP project communication and dissemination strategy:
    - *i. Diagnosis, theoretical framework, and Impact Assessment selection strategy and indicators.*
    - *ii. The benefits of public lighting modernization were positioned in interest groups, the methodology of FINDETER for the structuring of this type of projects was socialized, the accompaniment provided by FINDETER to the municipalities in their lighting modernization projects was offered, among other activities. This was achieved thanks to the execution of the following activities:*
      - 11 dissemination events with participation from 400 attendees from different interest groups;
      - Management of *"free press"*, achieving 25 effective interviews and 59 publications in media outlets from the entire country;
      - Development of a *"mini-site"* for the project, which received more than 4,500 visits thanks to the publication of more than 100 graphic pieces in social media (Twitter 37,369 interactions; Facebook publications were shared 198 times and 7 comments and 776 "*likes*" were received; 797 "*clicks*" in LinkedIn, 510 recommendations and publications were shared 70 times).
- *Product indicator 4.2*:
  - Consultancy 9: "La Ruta de Desarrollo Sostenible" [*The Sustainable Development Pathway*] was created, training and formation space that gathered over 150 local leaders, aimed at informing them about methodological tools and key data available (Consultancy 1 and 2), to allow municipalities to plan, structure, and execute EEAP projects in their territory:

5.4 Efficiency: comparison of physical achievements and budget/implementation

*This project was rated as **Unsatisfactory (U)** in terms of efficiency, since it suffered significant deficiencies in the budget implementation (including co-financing), and achievement of its objectives, related to delays in implementation, mainly during the first two years, complexity of administrative contracting processes, in addition to the occurrence of the COVID-19 pandemic, at the end of the project.*

The budget and budget implementation of the project are displayed in Chart 17, which has included certain modifications in the budgets of the products (Chart 16), without modifying the amount assigned to the total amount of the project of USD 1,999,725 granted by the GEF. Nevertheless, some aspects are worth mentioning, namely:

- *The project was only implemented with 30% of the GEF funds assigned, as explained in the preceding subheading.*
- *Component 2, financial mechanisms, presents the lowest implementation rate, as significant savings occurred in C2 and the resources assigned to identify PPP projects were not implemented.*
- *The USD 25 million co-financing was not implemented, as the credit line planned in the project was finally not opened; however, FINDETER is carrying out additional projects in this respect. Only 45% of the co-financing in kind (USD 850,000) was implemented (Chart 18).*

For more details regarding the budgetary reclassification of the project, refer to Annex 5.

Chart 16 ***Budget exchange between the project´s components as of October 13, 2020 (USD)***

COMPONENT	ORIGINAL BUDGET	TRANSFER	MODIFIED BUDGET
Component 1:	730 000	244 151	974 151
Component 2:	849 999	-140 597	709 402
Component 3	230 000	-166 679	63 321
Component 4	94 500	38 367	132 867
Coordination and Administration	95 226	24 758	119 984
PROJECT TOTALS	**1 999 725**	0	**1 999 725**

Source *IDB 2021.*

With regards to the FINDETER Co-financing for the sum of USD 25 million, there was not enough time to deploy an exclusive credit line for the remaining of the project execution period. Due to time constrains in the execution and given that the extension of the TC did not exceed 12 months, it was agreed upon not opening this credit line. Nonetheless, according to the interviews conducted, FINDETER is currently offering credit lines to finance projects in EEAP, which have begun to employ tools developed by this technical cooperation.

FINDETER also offered within the agreement (IDB 2016) co-financing in kind for the sum of USD 850,000: by late June 2020, FINDETER implemented USD 382,288 in components 1, “Technical assistance and legal mechanisms”; 2, “Financial mechanisms”; 3, “validation, monitoring and evaluation mechanisms” and project management costs (more details in Chart 17, planned local contribution column).

Chart 17 ***Comparison between the budget planned in the agreement and the budget implemented by the project as of October 13, 2020 (USD)***

PRODUCT	PLANNED BUDGET 2016	IMPLEMENTED AS OF OCTOBER 13, 2020	PERCENTAGE	PLANNED LOCAL CONTRIBUTION	LOCAL CONTRIBUTION	PERCENTAGE	COMMENTS
	USD	USD	%	USD	USD	%	
Component 1: TECHNICAL ASSISTANCE AND LEGAL MECHANISMS	730 000	356 517	49%	500 000	148 787	30%	
1.1 Created technical notes	292 000	292 000	100%		148 787		C1: Technical, legal, and financial structuring methodology for EEAP projects
1.2 Contemplated diagnostics and evaluations	292 000	51 432	18%		0		C3: Testing the methodology of C1. C10, C11, C12, C13 & C14
1.3 Designed/strengthened methodologies	146 000	13 085	9%		0		Product 7
Component 2: FINANCIAL MECHANISMS	849 999	20 987	2%	25 000 000	26 357	0%	
2.1 New financial mechanisms developed	283 333	20 987	7%		26 357		C2: Identifying and analyzing the financial mechanisms that best suited for the products and services of FINDETER to promote EEAP projects
2.2 Identification of contemplated PPP projects	566 666	0	0%		0		
Component 3 VALIDATION, MONITORING AND EVALUATION MECHANISMS	230 000	54 038	23%	300 000	36 748	12%	
3.1 Developed operations manuals	115 000	32 423	28%		36 748		C4: Evaluation strategy for EE projects fundable by FINDETER
3.2 Designed M&E Models	115 000	21 615	19%				
Component 4: COMMUNICATIONS AND CAPACITY DEVELOPMENT	94 500	109 469	116%	10 000	0	0%	
4.1 Designed strategies	31 500	33 560	107%		0		C5: Comprehensive communication and dissemination strategy for EEAP projects
4.2 Organized workshops	31 500	42 349	134%		0		Dissemination events with local stakeholders from pilot municipalities.

PRODUCT	PLANNED BUDGET 2016	IMPLEMENTED AS OF OCTOBER 13, 2020	PERCENTAGE	PLANNED LOCAL CONTRIBUTION	LOCAL CONTRIBUTION	PERCENTAGE	COMMENTS
	USD	USD	%	USD	USD	%	
							C9: Dissemination strategy for the "La Ruta Desarrollo Sostenible" [*The Sustainable Development Pathway*]
4.3 Designed virtual platforms	31 500	33 560	107%		0		Idem C5
Coordination and administration	95 226	59 956	63%	40 000	170 396	426%	C6: Int. Banking head Consultant C7: In. Banking Management Consultant C8: Investment Banking Management Consultant, Support C3 Travel expenses No breakdown of the use of co-financing resources is specified
PROJECT TOTALS	**1 999 725**	**600 967**	30%	25 850 000	382 288	1%	

Note: Color indicates a warning sign regarding fulfillment, in accordance with the information provided.

***** Budget modified in accordance with the budget exchange described in Chart 16.

Source *FINDETER 2021, IDB 2016, GEF 2015, interviews 2020-21.*

Chart 18 ***Co-financing sources and amounts (as of October 13, 2021)***

CO-FINANCING SOURCES [1]	NAME OF CO-FUNDER	CO-FINANCING TYPE [2]	CONFIRMED/APPROVED	DISBURSEMENT AS OF THE PROJECT CLOSURE [3]	
			(USD)	(USD)	(%)
National Government	Financiera de Desarrollo Territorial (FINDETER)	Other	25 000 000	0	0
National Government	FINDETER	In kind	850 000	382 288	45
		TOTAL	**25 850 000**	**382 288**	1,5

Note: Color indicates a warning sign regarding fulfillment of the goal.

[1] Co-financing sources may include: Bilateral Aid Agencies, Foundations, GEF Agency, Local Government, National Government, Civil Society Organizations, other multilateral agencies and the Private Sector, among others.

[2] The co-financing type may include: donations, soft loans, hard money loans, guarantee and in kind, among others.

[3] Figures correspond to the implementation as of June 30, 2020.

Source *FINDETER 2021, IDB 2016, GEF 2015, interviews 2020-21.*

5.5 Sustainability

*This project was rated **Probable (P)** in terms of sustainability, as there is significant demand for EEAP projects in local governments, and FINDETER is convinced of its benefits and is applying the structuring methodology developed.*

The objective of the GEF FINDETER project is to "*support the design of strategy to reduce and mitigate the main barriers and risks associated to the funding of EEAP LED projects and generating market conditions that would stimulate demand for this type of investment projects by municipalities and the private sector, also generating trust among involved stakeholders", therefore, this investment donation used the following strategies to promote sustainability (FINDETER 2021, IDB 2016, GEF 2015). This chapter analyzes the updated risks described in* Chart 8, page 22.

5.5.1 Social and institutional sustainability

With respect to risk #1 (lack of coordination with beneficiary entities), FINDETER now has specific tools to promote and support EEAP projects, as well as to assess their impact on the society. The following achievements are particularly evidenced, which had repercussions in the mitigation of risk # 2 (operation) and risk # 5 (technical-legal):

- *Through Consultancy Nº. 1 (C1), a methodology was developed which allows for the technical, legal, and financial structuring of public lighting modernization projects in the municipalities of Colombia. This methodology has been applied by FINDETER; therefore, it has become a fundamental tool to promote EEAP projects in the various regions of the country.*
- *Furthermore, innovative financial mechanisms were identified by means of Consultancy No. 2 (C2), which could encourage investment in EEAP projects throughout national territory.*
- *Consultancies No. 1 & 2 also addressed existing information gaps and the lack of knowledge regarding EEAP projects in Colombia.*

LED technology provides better light quality (brightness), which generates a positive impact in public security at night, especially in terms of gender-related security, as well as a lower probability of accidents. Within the framework of the project, a replacement for LED would generate social benefits in terms of job creation in the country, based on the replacement of at least 17,857 low-efficiency HPS lamps in Colombia. The replacement process requires at least a four-men crew (one driver, one supervisor, and two operators), capable of gradually incorporating an average of 25 lamps per day, generating 571 direct jobs/day per year. Indirect jobs would also be generated, related to the management and audit of projects, as well as in the follow-up and savings monitoring stages.

Social and economic benefits are generated for the national industry, which relate to lamp assembly processes, considering a production model in which LED elements are imported and then are assembled in the country, in order to satisfy the created demand.

Furthermore, job positions are created in the local industry for recycling and disposition of the materials generated by the replacement of the lamps. Part of the waste will be considered hazardous in accordance with local laws and must be treated by companies with certified facilities for adequate disposal.

The improved performance in public lighting systems has demonstrated positive effects in the security of the cities where it has been implemented. In addition to the energy savings, municipalities of Colombia are particularly interested in enhancing their security levels in zones with high rates of theft and homicides. Even though the research on the effect of an enhanced public

lighting in this type of criminal activities is not complete, the analysis of eight different studies showed that improving street lighting, whether by increasing the number or the intensity of lights, reduced the crime rates by 7% on average (GEF 2015).

According to some studies, AP does more than preventing crime. Enhancing lighting makes communities feel safer, vehicles can operate in a safer fashion at night, reducing accidents and improving traffic flow. Similarly, businesses that operate at night are promoted, increasing nighttime pedestrian traffic, which makes the zone subject to the project more active and enjoyable.

In terms of risk #3 (catastrophic events), the arrival of the COVID-19 pandemic made FINDETER adopt the corresponding protocols, in accordance with the instructions by the health authorities of the country, resulting in continuing operation, even though activities slowed down at first (March – August). The same dynamism was subsequently achieved and maintained to this date; unfortunately, practically most of the extension granted to the project (from October 13, 2019 – October 12, 2020) was immersed under the peak of deceleration of activities.

5.5.2 Ecological sustainability

As a result of the GEF FINDETER project, an increase in the demand for FINDETER funding has occurred for EE in public lighting. If at least 89,286 light fixtures with inefficient lamps are replaced for more efficient light-emitting diode (LED) lamps, there would be a contribution towards global environmental benefits due to an increased EE in AP, which would correspond to a direct reduction of emissions of approximately 11,521 tons of CO_{2eq} per year, and energy savings of 30,803 MWh per year. The total direct and indirect benefits are estimated at 100,804 metric tons of mitigated CO_{2eq} (GEF 2015).

5.5.3 Financial sustainability

It has been estimated that the replacement of inefficient bulbs for LED lamps would increase energy efficiency between 15% and 50%, as well as a reduction in maintenance, recycling, and solid and special waste disposal costs. In general, changing to this type of lighting technology would reduce energy costs for the municipalities of Colombia, generating significant cash flows, which eventually may be utilized to expand the AP network.

The project entails an investment of USD 25 million to achieve a reduction of 100,804 tons of CO_{2eq} in 10 years of operation, which makes the specific investment approximately USD 354 per reduced ton. According to the project´s financial analysis, the internal rate of return (IRR) of investments in 10 years will range between 9.6% and 33.8%, depending on the investment cost and the maintenance cost of the lamps employed. These returns were achieved based on the funding of projects with annual rates of 5.13%.

Furthermore, the project was expected to provide energy savings to the municipalities of Colombia for 30,804 MWh per year, with an average cost of nearly USD 3.5 million; therefore, the return on investment in high efficiency systems for public lighting could be achieved in less than five years. In 10 years, the project would have generated savings of USD 658 per ton of CO_2 reduced. The profitability of the funding by the GEF would be USD 21.7 per ton of CO_2.

With respect to risk #4 (abrupt change in the TRM (Representative Market Rate)), FINDETER had to offset the fact of a devaluation in the Colombian Peso when returning unutilized resources in Dollars, which had been monetized at the official exchange rate at the second disbursement, which generated a loss for the institution. In the future, it is important to seek a legal-technical solution that would reduce the exchange rate risk, considering holding the

resources in an account in Dollars, or seeking another viable mechanism, in accordance with the legal regulations.

6 LESSONS, CONCLUSIONS AND RECOMMENDATIONS

This chapter first identifies the lessons learned in the project for the design and relevance, effectiveness and efficiency, impact, and sustainability dimensions, based on this evidence and drawing conclusions and suggesting relevant recommendations.

6.1 Regarding design and relevance

1 Project design:

- *Lesson Learned (LL):* The agreement that serves as framework for the intended activities and objectives of the project must clearly define their theory of change and viability, in accordance with the legal regulations of the bank and the executing body/beneficiary.
- *Conclusion*: The design of the project did not clearly specify in the agreement what part of the GEF funding was going to be employed to subsidize the interest rate of the credit line that FINDETER would launch; therefore, this could not be carried out. Nonetheless, the expectation in this respect was created and expressed to FINDETER. Similarly, due to its nature, the project did not have an operation manual or a correct impact/results matrix.
- *Recommendation*: The project design must clearly specify the causal pathway to achieve the proposed objectives and be in line with the created expectations; furthermore, it shall have the instruments required to govern it, such as intended impacts/results.

2 Inclusion of local and regional organizations/governments:

- *LL:* The project design requires involvement of the final implementers of the proposed measures, in order to incorporate their points of view and enhance the execution.
- *Conclusion*: The design of this project included consultations with FINDETER, but not directly with final implementers of the intended measures.
- *Recommendation*: The design of the project should include consultation with key stakeholders, especially those that are ultimately responsible for implementing proposed activities, in this case, mayor offices and governor offices.

3 Political cycle in mayor offices and governor offices:

- *LL*: The project design must do planning taking into account the electoral cycle of local governments, every 4 years.
- *Conclusion*: In its design, this project did not consider that the electoral cycle of local governments in Colombia concludes every four years; therefore, new mayors began their functions in early 2020.
- *Recommendation*: The project design must take into account the cycle of new mayoral offices in its planning, and design a strategy to carry out activities before the start of the new administration, such as the EEAP project structuring and evaluation methodology applicable to this project.

6.2 Regarding effectiveness and efficiency

4 Adaptative management:

- *LL:* The technical leadership for this type of projects is indispensable for good performance.
- *Conclusion*: This project received support from highly trained professionals; however, they held different occupations in FINDETER, which generated a lack of exclusive dedication, reducing its priority. Due to this, direct support (consultants) was subsequently contracted to support the project´s activities.
- *Recommendation*: A team must be defined in order to create an executing unit, responsible for carrying out the activities of the project with a clear scheme of cooperation with the various units within the organization, and with a clearly defined planning scheme employing goals, persons in charge, and delivery times.

5 Project administration:

- *LL*: The public procurements and administration figure is very complex and time consuming; therefore, it is preferable to seek an easier alternative. Similarly, the AI must streamline the communication and non-objection process related to requests from the AE.
- *Conclusion*: Public procurement and purchasing processes (applied by FINDETER) respond to an extremely complex and time-consuming legal normativity, which becomes a limiting factor for the adequate implementation of this type of projects. Furthermore, there are administrative processes that involve deals, for instance, this project took a very long time (nearly one year) to meet the prior conditions, especially in terms of the VAT exemption before the DIAN [*National Tax and Customs Administration*] (which required a declaration of "public service funds", which had to be issued by the governing ministry) and the IDB granted its non-objection to directly contract Consultancy 3, but FINDETER could not accept this, as public contracting procedures had to be followed, which took way too long and finally was declared void. The situation aggravated in 2016, due to the impact of an extreme legalist behavior of officials, which delayed the projects operation.

  According to the interviews conducted, the AI took too long in some crucial times with respect to responses and express requests from the AE, especially during the first two years of cooperation.
- *Recommendation*: It is necessary for the AE to revise and streamline its administrative procedures, tracking the various processes and their duration, in order to identify "*bottlenecks*" and seek solutions that obey the needs of the technical component of the project, or seek an alternative for its implementation, for instance, direct execution by the IDB. For its part, the AI must track the entry of requests and their response time, in order to be assertive with respect to the needs of the AE.

6.3 Regarding impact and sustainability

6 Sustainable prepared products of high technical quality:

- *LL*: Products prepared by the project support the activities of FINDETER.

- *Conclusion*: Pilot municipalities are contracting the consultancy required to continue with EEAP projects using their own funds, based on the input from the initial diagnosis derived by the GEF FINDETER.
- *Recommendation*: EEAP projects are profitable by themselves; therefore, local governments require awareness, technical assistance, accompaniment, and a special credit line for their development.

  With proper structuring it is easier to find funding. FINDETER may carry out a project pipeline for funding.

  It is also important work with concessionaires, where applicable, and extend this program to other public entities such as hospitals, schools, and other entities that provide services to citizens.

  Other key stakeholders for sustainability purposes are municipalities, associations of municipalities, local banks and public utility companies, among others, which may be important when developing public-private partnerships (PPP).

7 Benefits of EEAP projects:

- *LL*: EEAP projects provide multiple environmental, social, and economic benefits.
- *Conclusion*: According to the interviews conducted, EEAP projects not only provide economic benefits for their lower maintenance and operation costs, but also provide social benefits in terms of security, especially gender-based security, a lower number of accidents, an increase in physical and recreational activities, and economic benefits such as an increase in commercial activity, among others.
- *Recommendations*: It is imperative to develop a higher number of EE projects that carry out a cost-benefit study/analysis in terms of their implementation.

8 Close monitoring and decision making:

- *LL*: Close monitoring of the project must alert about potential delays for quick and correct decision-making purposes.
- *Conclusion*: This project had a significant delay, but the monitoring was not enough to allow for quick corrective measures that would correct its performance. For instance, in April 2019 when the new International Banking Director of FINDETER the general coordinator of the project, arrived, the execution rate was only 16%, 2.5 years after its initiation, and its expected period of execution was 36 months (3 years).
- *Recommendation*: The project should have carried out a Mid-term Evaluation/Revision, which may be carried out at 50% of implementation of funds or in the middle of the period of execution, in order to clarify limitations and provide recommendations for its execution. The AI should have employed the monitoring of the project to trigger alarms sufficiently in advance.

9 Trained personnel in FINDETER and individual consultants:

- *LL*: The project left staff members trained in EE project structuring and evaluation.
- *Conclusion*: The personnel that helped during the development of the EE project structuring and evaluation methodology still works in FINDETER. Similarly, there

are national individual consultants who also participated in the development of this methodology.

- *Recommendation*: The personnel that participated in the development of the project´s products could cooperate in escalating this project and satisfying the unsatisfied demand for EE projects.

10 Public nature of the project´s products:

- *LL*: It is important for the products developed in this project to be available to the general public and published in electronic media.
- *Conclusion*: The products obtained with the project must serve as input for other organizations/institutions seeking sustainable development and the provision of EE services.
- *Recommendation*: All products obtained must be published in the WEBPAGE of FINDETER.

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8 ANNEXES

Annex 1
INTERVIEW QUESTIONNAIRE

TE: "Financing Mechanisms for Investment in Energy Efficient (EE) Public Lighting, Promoting the Replacement of Low-Efficiency Street Lighting with More Efficient LED Lighting "

Respondent (Name, contact, organization, position): _____

Date: _____. Interview method (telephone, in person, etc.): _____

INTRODUCTION
The IDB is carrying out the TE of the MFIEEAP project. The idea is to perform a critical evaluation of the performance obtained, providing a complete and systematic analysis from the Project design, the implementation process, and the attainment of products, results, and potential impacts.
What has been your role in the development of the project? (Date, period)
I. RELEVANCE
1. What are the main stakeholders of the project? What has been their role? How did they relate?
2. How does the project relate to the main objectives of the area of concern and with the environmental and development priorities at a local, regional, and national level?
3. Was the problem well identified at the beginning? (Relevant background information) Has the design and implementation of the project been adequate with respect to the national reality and existing capacity? Explain
4. Did the problems targeted by the project improve or worsen? Why?
5. Was there coherence between the needs of concerned parties vs. FINDETER-IDB? Between the internal logic of the project and the expected products/results? Between the design and its implementation approach? Was there collaboration and complementarity of the Project with partners and local stakeholders: commitments and responsibilities?
6. During the execution of the project, what internal and external factors influenced the fulfillment of planned objectives? What changes were necessary with respect to what had been proposed (technical, financial, economic, and institutional matters) and what was the reasoning behind those changes to ensure the achievement of the objectives? Or were significant adjustments introduced to maintain the relevance of the project?
7. Lessons learned?
II. EFFECTIVENESS
8. Which components/products of the project were achieved? What was the base line? Planned? Which products were fully achieved? Which ones were partially achieved? Which were not achieved? Timeline?

9. Did the indicators establish describe the progress of expected and planned products adequately? Lessons learned.
10. What were the main risks (and assumptions) that affected the effective development of the project? Were these properly identified? Were they mitigated? How? LL?
11. Were bonds with institutions or organizations fostered?
12. What other unplanned goals were achieved with the project? Strengths and weaknesses (*OAA*)?
13. Was the objective achieved? In retrospect, what would you have done differently? What worked well and what did not? Gender strategy?
14. For future agreements, what was learned after the execution of the project?
III. EFFICIENCY
15. Did the expenses of each component/activity/product match the budget estimates and were these sufficient? Was it necessary to make adjustments (in deadlines, resources, etc.)?
16. How adequate was the time assigned to the execution of each product/component of the project?
17. Which key problems occurred? Strengths and weaknesses in financial implementation (*OAA*)?
18. What would you do if there were more economic resources for the project at this moment?
19. How could the project have been executed in a more efficient fashion? Lessons learned?
IV. IMPACT
20. Which innovative services, methodologies, processes, or experiences have risen or were adopted? Have these been successful? Which activities promoted innovation?
21. What are the impacts or potential impacts of the Project (environmental, income level, socioeconomic matters)?
22. Did the project contribute towards any unplanned impact? Under what context and implementation conditions would the project have achieved the proposed impacts?
23. How could the project have developed on its successes and learned from its weaknesses? Lessons learned?
V. SUSTAINABILITY
24. Is there a sustainability strategy in place? What are the key activities? How are they funded?
25. Have the investments made been sustainable?

26.	Have the products/results or scopes/benefits of the project been sustainable?
27.	In your opinion, is the project sustainable? If yes, which factors do you believe have contributed towards its sustainability? From a technical and institutional point of view? Why?
28.	What are the weaknesses of the project?
29.	Who are the beneficiaries, partners, and local stakeholders of the project? How many? Have they taken ownership of it? Which commitments have they undertaken? Have they collaborated? How have they complemented each other? Which activities have been assumed by the counterpart and other stakeholders?
30.	Collaboration and complementarity with other projects or initiatives in Colombia or at an international level? What commitments were acquired? Did they collaborate? How did they complement each other? Products with added value?
31.	In your opinion, what are the key stakeholders in terms of ensuring the sustainability of results/benefits of the project? What are the key activities aimed towards strengthening key stakeholders?
32.	What are the main challenges regarding the project´s sustainability? Were these challenges addressed? What potential measures could be adopted? Lessons learned?
VI. MONITORING AND EVALUATION	
33.	What instruments were used to monitor and evaluate the project? (Midterm, final reports, Inspection Visits, PMR/PCR, Evaluation Reports, etc.). What indicators were employed?
34.	How was the supervision? What could be improved?
35.	Was a results-based management approach employed? Explain
36.	How often were monitoring instruments applied (periodicity)? Lessons learned?

Annex 2:

LIST OF INTERVIEWED INDIVIDUALS AND ORGANIZATIONS

Chart 19 ***Interviewed individuals/organizations, from November 16, 2020 to February 4, 2021***

NAME	INSTITUTION/ORGANIZATION	POSITION	DATE
Omar Villacorta	IDB	Senior Specialist in Financial Markets	16-11-2020 28-12-2020
Alexandra Vélez	FINDETER	Professional in International Banking Management and procurement support	3-12-2020
Erik Dávila	FINDETER	Support for consultancies 1 and 2	15-12-2020
Juliana Chaves Echeverri	FINDETER	International Banking Director and General Project Director	16-12-2020
Mónica Palomino	FINDETER	Director of Economic Studies, Planning Vice-President	16-12-2020
Nora Patricia Pardo	GEF-FINDETER PROJECT	Coordinator	16-12-2020[15]
Lilly Torres	FINDETER	Budget management and project monitoring support	16-12-2020
Bertha Cordero	GEF-FINDETER PROJECT	Procurement support	22-12-2020
Rodrigo Almeida	FINDETER	Investment banking manager	22-12-2020
Richard Martínez	FINDETER	Financial Vice-President	23-12-2020
Sandra Garzón	GEF-FINDETER PROJECT	Methodology Preparation and Application	07-01-2021
Jairo Rodríguez	GEF-FINDETER PROJECT	Technical Coordination	07-01-2021
Freddy Restrepo	FINDETER	Communications, Marketing, and Social Responsibility Manager	15-01-2021
Mónica Charry	IDB	Operations Analyst	2-2-2021
Ximena Jaramillo	IDB	Project support consultant	2-2-2021
Óscar Espinel	Office of the Mayor of Fusagasugá	Technical Director	4-2-2021

15 *Partial Interview.*

Annex 3:

COOPERATION AGREEMENTS SIGNED BY FINDETER WITH THE MUNICIPALITIES, WITHIN THE FRAMEWORK OF IMPLEMENTATION OF THE PROJECT

Chart 20 ***Agreements signed within the framework of the GEF-FINDETER project***

MUNICIPALITY	AGREEMENT No.	OBJECT	START DATE	END DATE
Fusagasugá, Cundinamarca	0321	FINDETER will provide the characterization, diagnosis, and selection of the business model for the AP service to the municipality, which shall contain the following, as a minimum: • *Gathering of information and diagnosis of the AP system* • *Diagnosis of the current system and opportunities* • *Application of the methodology developed by FINDETER to propose 5 AP service provision schemes for the municipality* • *Presentation of the results from the diagnosis of models to the municipality, in order to determine which is the best fit, in accordance with their needs, so that the structuring of the selected scheme can be subsequently carried out*	13-07-2020	30-11-2020
Popayán, Cauca	0022			
Nariño, Cundinamarca	0018	FINDETER will provide the characterization, diagnosis, and selection of the business model for the AP service to the municipality, which shall contain the following, as a minimum: • *Gathering of information and diagnosis of the AP system* • *Diagnosis of the current system and opportunities* • *Application of the methodology developed by FINDETER to propose 5 AP service provision schemes for the municipality* • *Presentation of the results from the diagnosis of models to the municipality, in order to determine which is the best fit, in accordance with their needs, so that the structuring of the selected scheme can be subsequently carried out* • *Georeferenced survey of the AP-SALP system of the municipality*	13-07-2020	30-11-2020
Saravena, Arauca	0010			
Paipa, Boyacá	0009		25-07-2020	

Source *FINDETER 2021.*

Annex 4:

EEAP-RELATED PROJECTS PERFORMED BY FINDETER

According to FINDETER, “Due to the impossibility of an extension exceeding 12 months to conclude the implementation of Cooperation Agreement ATN/FM-15632-CO, it was not possible to open an exclusive credit line (for the sum of 25 million USD), financed by FINDETER. Even though this line was planned in the Agreement signed by the parties, the public lighting modernization projects susceptible to funding using said line depended on its prior structuring, using the methodology developed by the temporary union Deloitte-Concol.

Nevertheless, between 2017 and 2020, and in response to FINDETER´s commitment to the funding of energy efficiency in public lighting projects, different initiatives of this nature were financed in many municipalities of Colombia, including: Mahates (Bolívar), Pasto (Nariño), and Rionegro (Antioquia), among others. These projects mainly consisted in the modernization, renewal, and/or expansion of the public lighting system with LED technology, thus achieving a significant reduction of greenhouse gas (GHG) emissions, which is one of the fundamental objectives of the Cooperation Agreement.

The projects funded by FINDETER through different credit lines are listed below:

Project	Department	Municipality	Financing Program	*Amount pr Project in COP
Modernization and expansion of the public lighting system in the municipality of Rionegro, in its rural and urban areas, employing LED technology, monitored via remote management	Antioquia	Rionegro	*Reactiva Colombia* Credit Line (Section 3)	$26,000
Creation of infrastructure and renewal of LED Public Lighting, Municipality of Pasto	Nariño	Pasto	Ciudades Sostenibles y Competitivas, Emblemáticas, Diamante Caribe Special Line [*Emblematic Cities, Diamante Caribe, Sustainable and Competitive Cities,*]	$6,000
Investment in Public Lighting, municipality of Mahates	Bolívar	Mahates	Ordinary Resources, Automatic rediscount	$2,000
TOTAL				$34,000

Figures expressed in millions of Colombian Pesos

Source *FINDETER 2021.*

Annex 5:

BUDGETARY RECLASSIFICATION OF THE PROJECT (Analysis carried out by Mónica Charry, IDB project officer)

Chart 21 ***Project components budgetary reclassification***

COMPONENTS	Consultancies by Component	Original Budget USD	Breakdown of Original Budget USD	RECLASSIFICATION 1 Feb. 8, 2019	Breakdown of Reclassification No. 1 USD	RECLASSIFICATION 2 Oct. 29, 2019	Breakdown of Reclassification No. 1 USD	PARTIAL CANCELLATION Oct. 13, 2020	RECLASSIFICATION MINUS CANCELLATION
C1 Technical Assistance and Legal Mechanisms	Consultancy 1. Technical, Legal, and Financial Consultancy for the Structuring of AP Projects (Stage I)	$730,000.00	$365,000.00	$667,521.00	$302,521.00	$974,151.3	$305,084.75	$61,266.7	$912,884.7
	Consultancy 3. Technical, Legal, and Financial Consultancy for the Structuring of AP Projects (Stage II)		$365,000.00		$365,000.00		$669,066.57		
C2 Financial Mechanisms	Consultancy 2. Consultancy to define the Funding Structure of the AP Project	$850,000.00	$50,000.00	$850,000.00	$20,987.00	$709,402.3	$20,986.77	$688,415.5	$20,986.8
	Financial Mechanisms		$800,000.00		$829,013.00		$688,415.49		
C3 Validation, Monitoring, and Evaluation Mechanisms	Consultancy 4. Consultancy in the Design, Development, and Management of Computer Infrastructure in EEAP	$230,000.00	$230,000.00	$230,000.00	$230,000.00	$63,321.2	$63,321.24	$8,925.9	$54,395.4
C4 Communications and Capacity Development	Consultancy 5. Consultancy in Promotion and Dissemination in EEAP	$94,500.00	$94,500.00	$156,979.00	$156,979.00	$132,866.7	$132,866.69	$17,489.9	$115,376.8
Management Costs	Management Costs	$95,225.00	$95,225.00	$95,225.00	$95,225.00	$119,983.55	$119,983.50	$46,651.70	$73,331.8
TOTAL		**1,999,725.00**	**$1,999,725.00**	**$1,999,725.00**	**$1,999,725.00**	**$1,999,725.0**	**$1,999,725.00**	**$822,749.6**	**$1,176,975.4**

Source *IDB 2021.*

RECLASSIFICATION Nº. 1

- Increasing Component 4 (USD 62,479), as a result of the transfer of Component 1 "Technical Assistance and Legal Mechanisms" into Component 4 "Communications and Capacity Development" due to savings in the contracting of Consultancy 1. The intention of FINDETER at the time was to strengthen this component in order to increase the promotion and dissemination of the program, with the object of achieving better results.

RECLASSIFICATION Nº. 2

- Has several transfers:
  - Component 1: Increased (USD 306,630) with additional resources from:
    - Component 3 – Consultancies 4: USD 116,678 (It was decided to reduce C3, since at the time the IDB team was informed that no tool and/or software was going to be developed since FINDETER performed an own development for the validation, follow-up, and monitoring of the program)
    - Component 2 – Financial Mechanisms USD 107,050 (Due to delays, it was difficult to achieve the implementation proposed in the design for component 2).
    - Component 4 – Consultancy 5 USD 30,339 (It was decided to reduce the promotion and dissemination in order to obtain more results for consultancy 3 (Stage II) pilots); furthermore, a transfer of $2,563 was made due to human error in the calculation of the monetization rate of the contract, corresponding to Consultancy 1, which had been reported in the previous reclassification.
  - Component 2: Reduced (USD 140,597.7), by transferring resources to Components 1 and 4, as well as to the Program Management, as shown below:
    - Component 1: Transfer of USD 107,050 to Consultancy 3 (to increase pilots)
    - Program Management Component: Transfer of USD 24,758.5
    - Component 4: Transfer of USD 8,789.2 to finance part of the Ruta del Sol Event (Event intended to disseminate the program with municipal mayors, in order to increase the pilots to be contracted during the extension).
  - Component 3: Reduced (USD 166,678), as a result of the transfer of resources to component 1
  - Component 4: Reduced (USD 24,112) as a result of movements between component 1 and component 2, which we explained above.
  - Management Component: Increased (USD 24,758.5) with the transfer of part of component 2 – Financial Mechanisms