

## 1. Project Data

Summary project data			
GEF project ID		3479	
GEF Agency project ID		3829	
GEF Replenishment Phase		GEF 4	
Lead GEF Agency (include all for joint projects)		UNDP	
Project name		CO-EFFICIENCY: Improving Energy Efficiency in Buildings in Colombia through Synergies between Environmental Conventions	
Country/Countries		Colombia	
Region		LAC	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		Strategic Objective 1: "To promote energy-efficient technologies and practices in the appliance and building sectors Strategic Program 1: "Promoting energy efficiency in residential and commercial buildings".	
Executing agencies involved		Ministry of Mines and Energy	
NGOs/CBOs involvement		None noted.	
Private sector involvement		Planned for, but did not materialize.	
CEO Endorsement (FSP) / Approval date (MSP)		October 2009	
Effectiveness date / project start		November 2009	
Expected date of project completion (at start)		October 2012	
Actual date of project completion		September 2013	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding	0.025	.025
	Co-financing		
GEF Project Grant		0.975	0.975
Co-financing	IA own (UNDP)	0.150	0.150
	Government	0.965	1.226
	Other multi- /bi-laterals	1.0	0.8
	Private sector	2.33	0.0
	NGOs/CSOs	NA	NA
Total GEF funding		1.0	1.0
Total Co-financing		4.455	2.176
Total project funding (GEF grant(s) + co-financing)		5.45	3.176
Terminal evaluation/review information			
TE completion date		October 2013	
Author of TE		Leonardo José Ramírez Leiva, German Andrés Pernett Feria	
TER completion date		January 24, 2016	
TER prepared by		Dania Trespalacios	
TER peer review by (if GEF IEO review)		Molly Watts	

## 2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	S	SS*	N/A	MS
Sustainability of Outcomes	MU	SL**	N/A	MU
M&E Design		S	N/A	MS
M&E Implementation		S	N/A	MS
Quality of Implementation	MS	S	N/A	MS
Quality of Execution	MS	S		S
Quality of the Terminal Evaluation Report	--	--	--	HS

\*SS- Somewhat Satisfactory (TE p. 9, 80)

\*\*SL- Somewhat Likely (TE p. 9)

## 3. Project Objectives

### 3.1 Global Environmental Objectives of the project:

The Global Environmental Objective of this project is to reduce greenhouse gas emissions from the building sector in Colombia through the implementation of a comprehensive package of activities to improve the energy efficiency of commercial, public and residential buildings. An associated goal is to reduce emissions of ozone depleting substances from CFC-based centrifugal chillers. (PD p. 7) The project will promote the replacement of 13 large inefficient, CFC-using chillers under a government programme with financial support from the Multilateral Fund for the Protocol of Montreal on ozone-depleting substances. The project would result in the direct reduction of approximately 62,000 tons of CO<sub>2</sub> equivalent and indirect emission reductions estimated at 274,000 tons of CO<sub>2</sub> over a period of 20 years. (PD p. 1)

### 3.2 Development Objectives of the project:

The Development Objective of this project is to promote energy efficiency in buildings by removing the institutional, legal and regulatory, capacity and technical barriers that limit its widespread adoption. (PD p. 7) The project will promote the transformation of energy efficiency markets in buildings in Colombia by removing the institutional, policy and technical capacity barriers that presently limit its widespread adoption. (PD p. 1)

### 3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

There were **no changes** to the Global Environmental and Development Objectives of the project.

## 4. GEF IEO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings. Please justify ratings in the space below each box.

4.1 <b>Relevance</b>	Rating: <b>Satisfactory</b>
----------------------	-----------------------------

The project aims to overcome barriers to energy efficiency in buildings in Colombia and create the appropriate market conditions to promote investment in energy efficiency in the existing stock of buildings. The project is fully in line with GEF-4 Strategic Objective 1: “To promote energy-efficient technologies and practices in the appliance and building sectors”, and the Strategic Program 1, “Promoting energy efficiency in residential and commercial buildings”.

The project is well aligned with Colombia's strategies and priorities as defined in the National Energy Plan 2006-2025 and fits into national policy developments from 2001 onwards. Colombia is committed to controlling green house gas emissions. To counter the increased share of thermal-based power as a result of the rapidly increasing energy demand, the Government aims at energy conservation and the use renewable energy sources (mainly ethanol and wind power) to diversify the country's energy mix. (Request for CEO Endorsement p. 4)

Colombia’s “Law for the Promotion of Energy Efficiency and Renewable Energy”, passed in 2001, established Energy Efficiency as a national priority. Among other things, this Law provides the framework to design and implement the “National Program for the Rational and Efficient Use of Energy and for Renewable Energies”: the Law requires the State to: (i) establish conducive legal, technical, economic and financial conditions, including financial incentives (ii) promote energy efficiency and renewable energy projects, (iii) foster research on energy efficiency; and (iv) develop strategies to create awareness on energy efficiency among citizens. (PD p. 4)

4.2 <b>Effectiveness</b>	Rating: <b>Moderately Satisfactory</b>
--------------------------	--

The TE reports that the project contributed towards the institutional strengthening related with energy efficiency in buildings, the development of new national regulations for energy efficiency, and the development of technical skills and knowledge on this topic in the market players. Although many of the barriers to energy efficiency present at the start of the project still persist, the project has made significant contributions to mitigate these barriers, and it has provided Colombia with a clear strategy to continue to remove these barriers. (TE p. 10) However, the project falls short of many of its expected outcomes, thus project efficiency is rated Moderately Satisfactory.

This project aimed to reduce greenhouse gas emissions from the building sector in Colombia through activities that would improve the energy efficiency of commercial, public and residential buildings, and by removing the institutional, legal and regulatory, capacity and technical barriers that limit the widespread adoption of energy efficiency measures. The project had five outcomes, and several corresponding outputs (PD p.8-10):

**Outcome 1-** Strengthening of government institutions responsible for promoting energy efficiency, including the establishment of a project group within the government’s Mines and Energy Planning Unit (UPME), and the design of a national energy efficiency agency

**Outcome 2-** Development and implementation of national policies, regulations and standards to promote energy efficiency in buildings, including the strengthening of the existing Program for Rational and Efficient Use of Energy and Renewable Sources (PROURE)

**Outcome 3-** Enhancement of technical knowledge and capacity among key stakeholders, including the implementation of a technical assistance program for the replacement of inefficient, CFC-using chillers

**Outcome 4-** The replacement of 13 inefficient chillers

**Outcome 5-** Implementation of a monitoring and evaluation plan

A comparison of the Project Document's Strategic Results Framework with the Terminal Evaluation's "Annex 12: Indicators, targets and results achieved by the Project" reveals that the project successfully achieved Outcome 3, only partly achieved Outcomes 1, 2 and 5 (the TE assigns "compliance percentages" between 25% and 67%), and failed to achieve Outcome 4 almost in its entirety. (PD p.17-19, TE p 192-201) The TE assigns a rating to each of the project's expected outputs and outcomes, ranging from very satisfactory to very unsatisfactory, and concludes that the overall effectiveness of the project is somewhat satisfactory. (TE p. 78-80)

The TE lists the main achievements of the Project as: the research and definition of a proposal for the creation of a National Energy Efficiency Agency; the preparation of a proposal for RETEVIS (Technical regulations for energy efficiency in social interest housing); a study of the energy characteristics of materials, and a guide for the replacement and selection of chillers; contributions to the definition of the Colombian Environmental Seal for Sustainable Buildings and the Code of Sustainable Construction; the formulation of financing schemes and new financial products for energy efficiency and renewable energy projects; support to the Tripartite Agreement Mexico-Colombia –Germany; and training events and energy audits in large buildings. (TE p. 11)

However, many important project milestones were not achieved, or were achieved late and thus affected the final project results, including: the creation of a National Energy Efficiency Agency (Outcome 1); the issuance of new rules and regulations (Outcome 2); the restructuring of Outcome 4 (replacement of chillers); and the execution of the Mid-Term Evaluation (Outcome 5). (TE p.7) The project developed the legal aspects of a new National Energy Efficiency Agency, and promoted discussion among different public and private institutions on how to create it, which resulted in a MOU- agreed upon, but not yet signed- between MME and ANDI for the creation of this agency. However, the agency has not been created yet, and it is not clear how it will be funded, or how it will include all relevant sectors. (TE p. 58) Regarding new rules and regulations for energy efficiency, the Project has helped launch a proposal for a Technical Regulation of Energy Efficiency in Social Interest Housing (RETEVIS), and has aided discussions on the draft Code for Sustainable Construction of the Ministry of Housing, and on the Environmental Seal for Sustainable Buildings of the Ministry of Environment. However, neither of these proposals was finalized at Project end, and no specific regulations or national standards were issued to develop energy audits for the certification of professionals in energy efficiency and the operation of ESCO companies in the country. (TE p. 58)

The project did not implement the pilot project for replacement of chillers, for a variety of reasons. There was significant confusion within the Project Team regarding this action point. The TE reports that Outcome 4 was very poorly designed, and that despite the early identification of changing conditions, the implementation of an alternative plan was delayed, in part because of poor design, in part because of the confusion existing between various team

members, in part because of bureaucratic paperwork, and in part because of “ever-changing environment in the Management of the UPM”, which rotated three leaders within the first two years of the project. (TE p. 62) Many of the old chillers were replaced by their owners without the intervention of the project- in some cases the Project helped determine the potential energy savings from the replacement of the chillers. (TE p. 6)

<b>4.3 Efficiency</b>	Rating: <b>Satisfactory</b>
-----------------------	-----------------------------

The TE rates the efficiency of this project as Satisfactory, based on both the execution of project budget and activities, and the execution of the monitoring and evaluation plan. (TE p. 9) The TE notes that project start-up was delayed by seven months, and that the project closing date was extended by 13 months, but notes that the project extension was justified. (TE p. 80) In total, the project was extended by nine months, but this extension was judged important for the satisfactory completion of the project. The TE rates the execution times of the project as Somewhat Satisfactory, stating that there was a serious delay during the first two years of the project. (TE p. 84)

The TE also reports that the budget was executed in alignment with the original plan outlined in the Project Document, and that the project extension was important with this budget compliance, since by the Midterm Evaluation of October 2012, only 40% of the original budget had been executed. (TE p. 81) The TE rates the execution of the budget plan as Very Satisfactory. (TE p. 84) Finally, the TE rates the effectiveness of the implementation of resources as satisfactory, stating that the execution levels of the GEF and co-financing funds are high if eliminating the financing from the private sector destined for Outcome 4. (TE p. 84). Due to minor shortcomings, project efficiency is rated satisfactory.

<b>4.4 Sustainability</b>	Rating: <b>Moderately Unlikely</b>
---------------------------	------------------------------------

The TE rates each of the four sustainability categories, and concludes a final sustainability rating of project outcomes of Somewhat Likely. (TE p. 9) This TER concludes that, due to the uncertain future of financial resources for the project activities, the sustainability of project achievements beyond the project end is Moderately Unlikely.

#### **Financial Sustainability- Moderately Unlikely**

The TE rates financial sustainability as Somewhat Likely. (TE p. 9) The TE discusses at length the options for the financial sustainability of a government agency for energy efficiency, and concludes that “the financial sustainability of the agency is unlikely unless public funds are obtained to cover much of its costs. This, for now, does not appear to be achieved.” (TE p. 89) The TE concludes that it is highly probable that the National Energy Efficiency Agency will not be created as it was planned in the original project design, and that the current MOU is very preliminary and partially attainable. The budgets projected in the design studies are very ambitious and a solid and permanent source of funding is not yet in sight. (TE p. 90)

#### **Sociopolitical Sustainability – Moderately Likely**

The TE rates sociopolitical sustainability as Somewhat Likely. (TE p. 9) The TE states that there are no socio-economic risks that threaten the sustainability of the Project: the current economic situation of Colombia is strong, with one of the highest economic growth rates of Latin America.

However, the TE reports that there are political risks that threaten the sustainability of the Outcomes of the Project, especially the lack of a strong decision made by the high-levels of the Government beyond the UPME to consolidate a national energy efficiency agency with permanent financing. (TE p. 90)

#### **Sustainability of Institutional Frameworks and Governance – Moderately Likely**

The TE rates the sustainability of institutional frameworks and governance as Somewhat Likely. (TE p. 9) The TE recounts that the campaign on energy audits involved public buildings from national, departmental, municipal sectors, and autonomous regional corporations. Various government ministries and departments have benefitted from Project activities, including the Ministry of Housing, the Colombian Standardization Institute, the Ministry of Environment and Sustainable Development, and the Ozone Technical Unit in the Ministry of Environment, Housing and Territorial Development. However, without the creation of a permanent institution dealing with all matters related to energy efficiency in Colombia (the expected National Energy Efficiency Agency that never materialized), it will be difficult for the Project's achievements to continue beyond the life of the project. (TE p. 86) The signing of a MOU is a significant step forward, but it is insufficient for the creation of an institution with the characteristics that were defined as part of the Project. (TE p. 87) The TE concludes that it cannot be confirmed that the political and institutional barriers that existed at the beginning of the Project have been eliminated or sufficiently mitigated up to the date of conclusion of the Project. (TE p. 91)

#### **Environmental Sustainability- Likely**

The TE rates environmental sustainability as Likely. (TE p. 9) The TE reports that there are no environmental threats that endanger the sustainability of the Project. (TE p. 91)

## **5. Processes and factors affecting attainment of project outcomes**

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The project initially projected a total co-financing of US \$4,445,000, but by project end, only US \$2,175,623 had materialized. An expected US \$2,330,000 from the private sector was not delivered. The Government of Colombia attempted to make up for this shortfall by providing an additional US \$260,623, but the total amount of financing that materialized was still more than US \$2 million short of the expected quantity. (TE p. 5-6) Most of the co-financing from the private sector was to be used for the replacement of chillers, outlined in Outcome 4. However, many of the chillers were replaced by their owners without the intervention of the project. (TE p. 6) The TE reports that, apart from Outcome 4, the project spent all of its planned budget according to the original plans of the Project Document. (TE p. 80-82) So it seems that the co-financing destined for Outcome 4 that failed to materialize did not affect the project outcomes or sustainability. The fact that the owners were able to replace the chillers on their own, raises questions on some of the activities included in the project design.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The TE notes that project start-up was delayed by seven months, and that the project closing date was extended by 13 months, but notes that the project extension was justified. (TE p. 80) In total, the project was extended by nine months, but this extension was judged important for the satisfactory completion of the project. The TE rates the execution times of the project as Somewhat Satisfactory, stating that there was a serious delay during the first two years of the project, but noting that for the remainder of the project, execution was timely. (TE p. 84)

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

According to the Project Document, the project was designed with the active participation of three key players: Colombia's Ministry of Mines and Environment and the Mines and Energy Planning Unit; the Ozone Technical Unit; and UNDP. The TE reports that there were other important stakeholders who should have participated more actively in the design and monitoring of the Project in order to ensure project success, including the Ministry of Housing (regarding regulations for residential buildings), the Ministry of Environment and Sustainable Development (regarding regulations for environmentally sustainable buildings). The TE notes the relatively low participation of the private sector during project execution, clearly evident in the amount of co-financing that failed to materialize from this sector. (TE p. 7) It seems that the government ministries that were directly engaged in this project from the start demonstrated strong ownership of the project, but that many relevant government sectors were not included from the start, which ultimately reduced the project's outcomes and sustainability. It seems also that there was great potential for the involvement of the private sector and civil society, but that these did not materialize, possibly because of a lack of engagement from the project management.

## 6. Assessment of project's Monitoring and Evaluation system

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: <b>Moderately Satisfactory</b>
-------------------------	--

The TE rates M&E Design as Satisfactory. However, due to the considerable shortcomings outlined below, M&E Design is rated Moderately Satisfactory.

The Strategic Results Framework outlined in the Project Document provides SMART performance and impact indicators with their corresponding means of verification. (PD p. 17) The Project Document specifies a budget for M&E activities in Outcome 5. The TE reports that the Monitoring and Evaluation design, as part of Outcome 5, is considered to be "well articulated", but that it could have been applied more effectively if the Logical Framework had established intermediate milestones and deadlines for compliance, as well as clearer goals. Most of the indicators to measure progress towards achievement were judged adequate by the TE, except for a few indicators for Outcome 2. (TE p. 54)

The TE reports a few key errors in project design that specifically related to the M&E design, which ultimately affected the achievement of outcomes (TE p. 5):

- 1- The lack of intermediate milestones with corresponding dates for compliance that would have enabled better control of the progress towards achievement.
- 2- The lack of mitigation plans in the event that some outcomes failed to run according to plan. These mitigation plans were important, considering that at project start, major political risks had been identified.
- 3- A poor design of the outputs and indicators for Outcome 2, which created confusion during implementation.
- 4- Inappropriate design of Outcome 4, in part due to the lack of intermediate milestones and deadlines, and the lack of a mitigation plan.

<b>6.2 M&amp;E Implementation</b>	Rating: <b>Moderately Satisfactory</b>
-----------------------------------	--

The TE rates the implementation of the M&E plan as Satisfactory. The TE reports that all 5 of the planned Steering Committee meetings were held, and 9 of 13 Quarterly Monitoring meetings were held. (TE p. 82) Most of the expected plans, project reports and workshops were delivered during the life of the project. (TE p. 83) The TE notes that there is evidence that the M&E reports were discussed during the Project Steering Committee and Quarterly Monitoring meetings, and that the PIRs and the Mid Term Evaluation were taken into account by the Project Management, especially to define the activities for the last year of the Project. (TE p. 54)

However, a few important shortcomings should be mentioned. The Mid Term Review took place when the project was meant to be closed, and therefore led to a project extension, and the quality of the Mid Term Review was poor. The TE reports that part of the delay in performing the Mid Term Review was because of lack of qualified candidates, and also because the project had spent less half of its budget- these are not justifiable excuses for a delayed Mid Term Review that ultimately affected the achievement of outcomes. (TE p. 103). The delay to complete the Mid Term Review almost at the expected end of the project affected the ability of the project management unit to take corrective action based on the Mid Term Review's recommendations. The TE reports that some ratings in the PIRs are overestimated, and that many planned M&E quarterly meetings did not occur. (TE p. 54) Due to these significant shortcomings, M&E Implementation is rated Moderately Satisfactory.

## **7. Assessment of project implementation and execution**

Please justify ratings in the space below each box.

<b>7.1 Quality of Project Implementation</b>	Rating: <b>Moderately Satisfactory</b>
--	--

The implementing agency for this project was the UNDP. The TE rates the quality of the UNDP's project implementation as satisfactory, stating that the quality of supervision and the technical support to the project team was adequate.

However, there is sufficient evidence to merit a lower rating. The Project began late: the management team was completed a year later after the Project Document was signed. This is one of the reasons why the project required an extension to complete the expected activities.



The TE states that the UNDP was slow on paper work required to approve and disburse the funds related to some applications that were run by the Executing Agency.

From the project start, there were political risks that would affect the creation of a national energy efficiency agency, but the UNDP did not adequately identify this risk in the Project Document, and did not develop an adequate contingency plan to mitigate this risk, neither at the design stage of the Project Document, nor during project implementation, when the risk materialized. The TE also notes the poor project design and planning behind Outcome 4, both during the Project Document stage and during project implementation. The TE states that the two most significant problems that arose during implementation were: 1) the lack of interest of the Government to create a national energy efficiency agency and to implement the regulations that the project proposed; and 2) the change of the baseline for Outcome 4. On both of these issues, the UNDP planned poorly, and responded slowly. (TE p. 55-56) For these shortcomings, the quality of project implementation is rated moderately satisfactory.

<b>7.2 Quality of Project Execution</b>	Rating: <b>Satisfactory</b>
---	-----------------------------

The executing agency for this project was Colombia's Ministry of Mines and Energy, through its planning unit UPME (*Unidad de Planeación Minero Energética*). The TE rates the quality of project execution as satisfactory.

The TE reports that, although the Project Management Unit and the UPME sought to achieve the project's original objectives, many of the necessary decisions of this unit were delayed, in part due to the changing of the General Director of UPME three times during the first two years of the Project. (TE p. 7) The TE also states that some decisions were taken too slowly, and a better planning of some activities on the part of the Executing Agency was needed. (TE p. 56) Despite the clear lack of leadership during the first two years of the project, problematic project planning for some components on the part of the UNDP, and tasks that were at times overambitious and at times poorly designed, the UPME managed to achieve most of the elements of four of the five expected outcomes. Thus, this TER rates the quality of project execution as Satisfactory.

## **8. Assessment of Project Impacts**

**8.1 Environmental Change.** Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE reports that, if the implementation of the measures of energy savings identified in the 31 energy audits is carried out, the project would reduce a total of 154,500 MWh, and avoid the emission of a total of 104,727 tons of CO<sub>2</sub> over the lifetime of the measures. Assuming a marginal Emissions Factor, the potential of avoided CO<sub>2</sub> emissions if all the saving measures recommended in the audits were implemented, would be superior to the original target from the replacement of the 13 chillers. This is because the audits looked at energy savings measures additional to the replacement of chillers, and because they correspond to 31 buildings and not only to 13 chillers. To verify compliance of this alternative target, UPME would have to perform

a follow-up to the implementation of the energy saving projects identified in the energy audits, subsequent to the termination of the Project. (TE p. 8)

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE does not record any socioeconomic changes.

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. "Capacities" include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. "Governance" refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities- The TE reports the following changes in capacity:

- The project contributed to increasing the technical skills of the institutions related to energy efficiency, especially at UPME. (TE p. 73)
- Public and private institutions increased their expertise in EE in buildings, including the Ministry of Housing, Ministry of Environment, the Colombian Standardization Institute, the Intersectoral Commission for Rational and Efficient Use of Energy and Non-conventional Energy Sources, the Colombian Association of Air-conditioning and Refrigeration, and 32 public and private institutions that received energy audits. (TE p. 74)
- A total of 388 technical experts were trained on energy efficiency in buildings, in social interest housing, and on financial mechanisms and instruments for energy efficiency. (TE p. 75)
- The Project developed four guides and tools and distributing them among public and private institutions, including a technical guide for the replacement of chillers, the document "Proposals on financial schemes applicable to projects on energy efficiency and non-conventional sources of energy", the guide "Methodology for the formulation of a NAMA for existing buildings", and a MS Excel software tool to enable the implementation of RETEVIS. (TE p. 76)

b) Governance - The TE did not report changes in governance.

The project was expected to develop and implement specific regulations for energy efficiency in buildings, including regulations on: provision of energy services to public and private buildings; energy audits; certification of professionals in energy; and energy service companies. However, these goals were not achieved, with the exception of the development of RETEVIS (Regulation of Technical Energy Efficiency for Social Interest Housing), and a few contributions to the Sustainable Construction Code of the Ministry of Housing, Cities and Territory and the Environmental Seal for Sustainable Buildings of the Ministry of Environment and Sustainable Development. (TE p. 77)

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

The TE does not describe any unintended impacts.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

- **Replication- Initiated.** The proposal for a Regulation of Technical Energy Efficiency for Social Interest Housing (RETEVIS) Regulation is in the process of validation and once it has been discussed and approved, it could be taken as a basis for reference or replicated in other countries. This regulation presents a novel approach based on the combination of an index of consumption and a comfort index (lighting, temperature, air movement and noise). (TE p. 7-8)
- **Replication- Initiated.** Some actions of replication in the industrial sector could be achieved, under the new agreement that is expected to be signed between the MME and ANDI. (TE p. 8)
- **Replication- Initiated.** Replicability could be expected from the implementation of energy saving projects identified in the energy audits (for instance, the Thermal Project District of Alpujarra in Medellin). (TE p. 8)
- **Replication & Mainstreaming- Initiated.** Replication & Mainstreaming- Adopted. Triangular Cooperation Agreement between Germany, Mexico and Colombia, in sustainable housing in the area of energy efficiency and environment, which aims to replicate the “Green Mortgage” program of INFONAVIT Mexico in Colombia, as well as a new program for EE in buildings.
- **Mainstreaming- Initiated.** Memorandum of Understanding (still to be signed) between MME and ANDI, for shaping the industrial section of the National Energy Efficiency Agency. (TE p. 8)

## 9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects. 9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE aggregates key lessons and recommendations (TE p.101-105):

- Add intermediate milestones with deadlines to the Logical Framework; for example, for the outputs related to the creation of the NEEA and the ones related to the emission of regulations, it would be advisable to separate them into two phases.
- Add mitigation actions that would allow the Project to accomplish a similar desired outcome or a partial outcome in case that, for any reasons, the original action could not be executed at all. This could have been useful to fix the problem on the lack of political support for the creation of the NEEA or the change of baseline for Outcome 4.

- To obtain tangible outcomes on the issue of reduction of GHG emissions, avoid the complete dependence of the Project on other institutions different from the executing agency.
- Avoid the establishment of goals based on outdated information.
- In designing proposals to stimulate the market, confirm that a balance between the development of rules and regulations, on one hand, and the introduction of economic and financial incentives on the other hand, really exists. Otherwise, there is a risk of loading regulations on the supply side agents without actually stimulating the market.
- For projects that seek to have influence on more general issues, placing too much emphasis on a single technology is not advisable. The opportunity to achieve progress in other technologies was missed out.
- Faster situational analysis at the start of the Project, making it possible to identify changes in the baseline and assumptions of the Project Document, and then making alternative proposals and present them for approval by the PSC.
- Incorporate a consultant or adviser on political issues and inter-ministry affairs, who will support UPME in the process of convincing the other ministries and public agencies.
- Even when the Project Document did not establish milestones and intermediate deadlines, they could be placed in the Project work plan (AOPs), identifying those activities that required to be divided into two main phases, Formulation and Implementation, with balanced deadlines appropriate for the total term of the Project.
- Even when 50% of execution of the Project budget had not been reached, it is preferable that the Mid-Term Evaluation be executed sooner, precisely because the low execution level could be a signal of the need to make changes to the Project. This process was delayed due to a lack of qualified candidates to perform this MTE.
- It is necessary to ensure the appropriate institutional and financial support for the creation of a strong, general-oriented agency; starting with the MOU between the MME and ANDI, but looking for the early induction of other public and private stakeholders, as anticipated in the design proposed for the PPP.
- Confirming the reduction of GHG emissions that would be accomplished if the energy-saving measures referred to in the energy audits were actually implemented. This implies a follow-up process, for which the UPME would be responsible of (as a result of the process of strengthening of the institution), to find out what building owners (almost all governmental) will carry out the measures, which of these measures are being implemented, and what was the impact on the reduction of energy consumption. The latter would allow estimating the reduction of emissions once the energy bills prior to the change are compared with the new ones.
- Ensuring the beginning of the process of discussion, consultation, and final approval of the RETEVIS as a mandatory regulation in Colombia, which needs to be a jointly effort between MVCT and UPME/MME.
- Submitting the final outcomes of the Project at a meeting of the CIURE, and look for the support of that instance to follow up on the activities that were pending, such as the creation of the NEEA and the consultation and approval of the new regulations.
- Seeking a closer connection with Bancoldex by taking advantage of the launch of the new line of US\$50 million that the bank has contemplated for early 2014, to address the financing of EE projects in the hotel and hospital sectors, as well as support for ESCO-type companies.
- Follow up of the activities of the Tripartite Agreement (Mexico-Colombia-Germany), especially for the creation of a mechanism of green mortgages for the residential sector, similar to what exists in Mexico, and for the designing of a new program for EE in buildings, which is part of the scope of the agreement.

- Training programs and professional exchanges should be sought to ensure not to repeat mistakes in the incorporation of a policy of energy efficiency in the country.
- If a new project on EE in buildings is executed, it is necessary to try to give the private sector greater participation, given that this project focused mainly on the public and residential sector, and very little in the private, industrial, and commercial sector. This pilot project should have the following goals: To validate the guides, technical materials, and proposals for regulations that were produced by the Project, as well as confirm the feasibility of new ESCO-type financing mechanisms. It could be structured with Bancoldex, as part of the placement of their new credit line for hotels and hospitals.
- It is important and essential in the incorporation of EE policies for buildings in Colombia, to establish cooperative agreements with the construction and design industries by showing them the important economic, commercial, and environmental benefits of implementing sustainable and bioclimatic strategies in their projects.
- Conduct training workshops for companies and suppliers of materials to show the economic and commercial benefits of promoting eco-friendly materials lines.
- Continue with the idea of establishing a procedure for certification of professional EE specialists, but by coordinating it and being led by the respective professional associations.
- Making agreements with universities and the Ministry of Education to promote training sessions and engage concepts and energy efficiency topics in their study programs.
- The Project did not propose much to implement financial-economic incentives to stimulate the EE market in buildings, only the formulation of a document of possible incentives, as an input for UPME to define policies. It is now necessary that UPME continues defining what new policies for EE in buildings will pursue, particularly those for public buildings.
- The Project should define, among its goals, standards for the implementation of energy audits. In practice, what the Project defined were Reference Terms for the implementation of the energy audits campaign, which should be turned into a "Protocol for the implementation of energy audits in public buildings of Colombia".
- As part of the restructuring of UPME expected for late 2013, a staff group should be set to continue working on issues related to EE in buildings; it should incorporate the monitoring of the outcomes of this project and the continuation of the pending activities in their work plans for 2014.

## 10. Quality of the Terminal Evaluation Report

Criteria	GEF IEO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	A comparison of the Project Document's Strategic Results Framework, with the Terminal Evaluation's "Annex 12: Indicators, targets and results achieved by the Project" reveals that the TE thoroughly reported on each of the specific indicators and targets, and provided accurate measures for these. (PD p.17-19, TE p 192-201)	HS
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The TE is internally consistent, the evidence presented is quite comprehensive, and all of the ratings are well substantiated, despite the fact that the TER reviewer disagrees with some of these ratings.	HS
To what extent does the report properly assess project sustainability and/or project exit strategy?	The TE assess sustainability along each of the four key parameters considered by this TER, and provides adequate information for each sustainability rating.	HS
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned and recommendations given are very specific, comprehensive, and supported by the evidence in the TE.	HS
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The TE includes project costs by activity, by financing source, by dates when money was spent. This TE is more comprehensive than most in reporting on project finances.	HS
Assess the quality of the report's evaluation of project M&E systems:	The TE adequately reported on the project's M&E system, including the planned M&E components, and the performance of the project in comparison to those components.	HS
<b>Overall TE Rating</b>		<b>HS</b>

## 11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

No additional sources of information were used in the preparation of this TER, other than PIRs, TE, and PD.