

Terminal Evaluation Review form, GEF Independent Evaluation Office, APR 2018

1. Project Data

Summary project data			
GEF project ID		2941	
GEF Agency project ID		3665 (UNDP)	
GEF Replenishment Phase		GEF-4	
Lead GEF Agency (include all for joint projects)		UNDP (lead), IDB (secondary)	
Project name		Market Transformation for Energy Efficiency in Buildings	
Country/Countries		Brazil	
Region		LAC	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		CC-SP1-Building EE	
Executing agencies involved		Ministry of Environment (Brazil)	
NGOs/CBOs involvement		None	
Private sector involvement		None	
CEO Endorsement (FSP) /Approval date (MSP)		7/29/2009	
Effectiveness date / project start		3/2010	
Expected date of project completion (at start)		8/2016	
Actual date of project completion		5/18/2018	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding	.25	.25
	Co-financing	.08	.08
GEF Project Grant		13.5	5
Co-financing	IA own	16	16
	Government	.4	2
	Other multi- /bi-laterals		
	Private sector	106.4	21.6
NGOs/CSOs			
Total GEF funding		13.8	13.8
Total Co-financing		122.8	39.6
Total project funding (GEF grant(s) + co-financing)		136.3	53.4
Terminal evaluation/review information			
TE completion date		9/2018	
Author of TE		Remi Rijs	
TER completion date		1/7/2019	
TER prepared by		Cody Parker	
TER peer review by (if GEF IEO review)		Molly Sohn	

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	MS ¹	MS		MS
Sustainability of Outcomes		ML		MU
M&E Design		MS		MU
M&E Implementation		S		MS
Quality of Implementation		S/UA ²		MU
Quality of Execution		S		MS
Quality of the Terminal Evaluation Report				MS

3. Project Objectives

3.1 Global Environmental Objectives of the project:

While no Global Environmental Objective was presented, the “overall goal” of the project was “to influence, transform, and develop the market for energy-efficient building operations in Brazil and move towards a less carbon-intensive and more sustainable energy consumption path in the country” (PD, p. 1).

3.2 Development Objectives of the project:

The Development Objective was to foster energy efficiency investments in private and public buildings by addressing the technical and financial barriers which persisted despite past public and private sector initiatives in this domain. This was to be achieved through four project components:

1. Capacity building for energy efficiency in public and private sector buildings,
2. Public building initiative to improve access to energy efficiency services and commercial financing for public sector buildings,
3. Replacement of energy-inefficient CFC-using chillers,
4. Energy Efficiency Guarantee Mechanism to stimulate energy efficiency investment through energy service companies.

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

There were no changes to the Objectives. However, the project underwent a Substantive Revision following the recommendations in the midterm review. The closing date was extended from August 2016 to December 2017; under the second component, some indicators were added and some targets scaled down. The TE reports that the third component, “Replacement of energy-inefficient CFC chillers”, became a separate UNDP project of its own, “Integrated Management for the Chillers Sector”, and it is

¹ This represents the Development Objective rating. The Implementation Progress rating was MU.

² The implementing agencies were rated separately: S for UNDP, UA for IDB as the evaluator was unable to fully ascertain the role of IDB in the project, cf. section 7.1 (TE, p. 25).

excluded from evaluation except for reporting the TE ratings for the separate project. No GEF funds were allocated to either the original Chiller component or the separate UNDP 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.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 Relevance	Rating: Satisfactory
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The Project was aligned with GEF OP5, *“Removal of Barriers to Energy Efficiency and Energy Conservation”*, as it aimed to remove barriers to the large-scale application, implementation, and dissemination of cost-effective, energy-efficient technologies and practices that would result in the reduction of greenhouse gas emissions in Brazil. Specifically, the Project supported GEF-4 Strategic Objective CC1, *“Promote energy-efficient buildings and appliances”*, through capacity building of market actors in energy efficient building activities, stimulating market activity around the development and implementation of energy efficiency projects in the buildings sector, and designing an innovative energy efficiency Guarantee Mechanism. The Project was also aligned with the Brazilian Government’s interest in improving energy efficiency, as evidenced by various other Government programs and policies enacted in this area over the past two decades, including some, such as the Brazilian Electricity Regulatory Agency’s Energy Efficiency Procedures Program, which collaborated with this project. Relevance is therefore rated as Satisfactory.

4.2 Effectiveness	Rating: Moderately Unsatisfactory
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The TE rates overall project effectiveness as Moderately Satisfactory. This TER rates effectiveness as Moderately Unsatisfactory, mostly due to the low achievement of global environmental benefits and the failure of the project’s centerpiece, the Energy Efficiency Guarantee Mechanism, to effect market transformation as expected.

In terms of direct GHG emissions avoided, the project met only 54% of its goal, and only 14% of its indirect, post-project goal. The latter gap is mostly attributable to the failure of the Energy Efficiency Guarantee Mechanism to continue and replicate as expected in initial project documents.

Component 1: Capacity building in public and private sector buildings. This was the project’s most successful component. Although one of the indicators underperformed (2,000 of 5,000 professionals from building sector trained), other indicators on training and awareness-raising overperformed and

their effectiveness was enhanced through partnerships with other national agencies and programs. Furthermore, the TE reports a level of capacity and enthusiasm generated among Brazilian building professionals that indicates further energy efficiency projects will arise and continue without the need for further GEF support (TE, p. 34).

Component 2: Public Building Initiative. The original project documents envisioned the creation of an initiative to tackle existing barriers to the uptake of energy efficiency projects in public buildings through the promotion of energy performance contracting in the public sector (PD, p. 15). Specifically, the initiative would undertake revisions and amendments to the legal and contractual framework as well as capacity building activities. The midterm review, while conceding that the underlying Public Building Initiative idea was useful, found this component to be overly ambitious given the nascent state of energy service companies in Brazil, and recommended a downgrading of targets and activities which were subsequently implemented in the Substantive Revision (MTR, p. 61).

While few of the ambitious original targets were met (e.g., 15 requests for proposals per year from public sector, 30 energy service companies provided with technical assistance to develop public energy efficiency projects), this component did succeed in pushing forward one of the first demonstrations of energy performance contracting in the public sector through its retrofitting of the Brazilian Electricity Regulatory Agency main building (TE, p. 36). The revised targets, largely achieved, were successful in developing the groundwork for a public building energy efficiency program, as a number of barriers to contracting modalities, including energy performance contracting as well as explored alternatives such as public-private-partnerships have been greatly reduced or removed. However, “pipeline development is still limited to opportunities in the vicinity of the key project partners [Ministry of Environment and Electricity Regulatory Agency]” and it is still too early to speak of any broader development of a public sector energy efficiency market (TE, p. 37).

Component 3: Replacement of energy-inefficient CFC-using chillers. As part of the Substantive Revision, this component was separated from the project and became a separate UNDP project (“Integrated Management for the Chillers Sector”). No GEF funding was allocated for the CFC chiller component either under the original project or the separate UNDP project. The TE for that project rated its effectiveness as Satisfactory, noting that despite delays caused by issues with the dis-integration from this project, its outcomes were “fully achieved”, providing satisfactory economic and environmental results as well as knowledge generation and dissemination. It further affirms that the results of the UNDP Chillers project formed a basis for the continuing improvement of information aimed at reducing the impact of harmful substances on the environment (TE BRA/12/G77, pp. 14-16).

Component 4: Energy Efficiency Guarantee Mechanism. The initial PD envisioned at least 250 energy efficiency projects being facilitated through the Guarantee Mechanism; even compared to the 35 targeted by the revised results framework, the project fell short, only providing six projects with guarantees at a total guarantee amount of \$4.6M. (ER, p. 13; TE, p. 28). Despite an industry association having been established in 1997, the number of energy service companies (the primary targets of the Guarantee Mechanism) in Brazil was still fairly low at the time of the project, most of them small engineering consulting firms, with only a few large ones (generally associated with utilities) actually

taking on energy efficiency projects to any significant degree (TE, p. 12). This may explain the lower-than-expected market demand for the Guarantee Mechanism. Nonetheless, the demand for funding for energy efficiency projects was made clear by the number applications received – that final six was out of a pipeline of 100. The rest ultimately decided not to use the Guarantee Mechanism, either because negotiations between energy service companies and financial institutions were interrupted (35%), or because another financing source (15%) or own capital (10%) was used; for 40% of the cases, no reason was given (TE, p. 45). Another factor to be considered is the adverse market situation under which the project unfolded: the initial project design was based on an outlook of economic growth that could not have accounted for the financial crisis of 2007-8 (TE, p. 13).

The main obstacle that the Guarantee Mechanism was meant to overcome was lack of access to debt financing for energy service companies. However, in hindsight, this was only one of several barriers, and not necessarily the most relevant, compared with others such as inflexible public procurement modalities and the lack of integrated retrofit solutions provided by the energy services sector (TE, p. 45). Therefore, even under more positive economic conditions, it is not clear that the Guarantee Mechanism would ever have been the game-changer envisioned in the original project design. Overall, although it was successful in implementing a small portfolio of energy efficiency projects, the Guarantee Mechanism was not effective in inducing market transformation as planned (TE, p. 40).

4.3 Efficiency	Rating: Moderately Satisfactory
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The TE rates project efficiency as Satisfactory. This TER rates efficiency as Moderately Satisfactory, largely due to the high volume of unspent GEF resources allotted to Component 4 by project end.

Project management costs were high (15% of GEF budget) but expenditures stayed within this budget. The TE notes that the technical assistance activities delivered could likely have been executed within four years rather than seven, which would have increased overall efficiency (TE, p. 29).

While the Guarantee Mechanism did not take off as expected, it was able to leverage about \$17.5M of energy efficiency investments at a cost of slightly over \$1M, which the TE points out is 2 to 3 times better than typical ratios for GEF climate change projects (TE, p. 45). However, the GEF grant for the Guarantee Mechanism was about \$10M, meaning 90% of GEF resources invested in this component were unspent. Better adaptive management could have redirected these funds to support the project objectives in other ways once it became clear that demand for the Mechanism was lower than expected (TE, p. 41). Meanwhile, Components 1 and 2 spent 92% of allocated GEF funds, showing better results in terms of developing the capacity and laying the groundwork for a more comprehensive public buildings energy efficiency program in the future.

4.4 Sustainability	Rating: Moderately Unlikely
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The TE rates overall sustainability as Moderately Likely. Sustainability is not evaluated in detail in the TE, with only a rating and one-sentence assessment given for each dimension. Sustainability is rated here as

Moderately Unlikely, based mostly on an unfavorable political climate and the discontinuation of the project's largest output, the Energy Efficiency Guarantee Mechanism.

Financial Resources: The economic crisis that affected the world in 2008 has been followed by a grim economic situation in Brazil for the past few years, suggesting that until growth is regained, investment in general will probably continue to focus on prospects more familiar and perceived to be safer than energy efficiency. Following the lackluster performance of the Energy Efficiency Guarantee Mechanism, IDB indicated that it would not continue beyond the six projects already funded. As the largest outcome of this project, the inability of the Guarantee Mechanism to sustain itself inherently compromises the sustainability of project outcomes. Meanwhile, the future of the groundwork laid under Component 2 for energy efficiency projects in public buildings is unclear, but for institutional reasons outlined in the next section it seems unlikely that funding for such initiatives will be a priority in the public sector going forward.

Institutional Framework and Governance: The final PIR notes that "changes in the Brazilian Government would delay or hamper the implementation of some activities of the project given political instability" (PIR 2017, p. 23). Indeed, Brazil's new President has promised to essentially destroy the Ministry of Environment by joining it to the Ministry of Agriculture, meaning the project's executing agency may not have the resources to continue capitalizing on the momentum in energy efficiency investment this project managed to create.³ Moreover, the sharply pro-fossil fuel stance of the incoming government casts a dark cloud over national-level energy efficiency programs that synergized well with the successful components of this project. Institutional sustainability is rated as Unlikely.

Sociopolitical: As noted above, the TE reports that the capacity-building and awareness-raising activities succeeded in generating enthusiasm and knowledge about energy efficiency projects among beneficiaries. Although the Mechanism did not prove to be the game-changer it was expected to be, other energy efficiency projects in Brazil are likely to be positively affected by the lessons learned and capacity built by this one. Sociopolitical sustainability is rated as Moderately Likely.

Environmental: There are no apparent environmental risks to the sustainability of the project, and environmental sustainability is rated as Likely.

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?

Government co-financing, planned at \$0.4M in-kind, is estimated in the TE as around \$2M-3M in-kind, reflecting high commitment to the project within the Ministry of Environment; this commitment is

³ [The Guardian, November 2018](#)

noted as having contributed to the implementation and results of the project (although to what areas and what results is not specifically indicated.) (TE, pp. 29-30).

The bulk (86%) of the co-financing anticipated at the CEO Endorsement stage was to be in the form of investment by banks, energy service companies, and end users in the form of investment in energy efficiency projects through the Energy Efficiency Guarantee Mechanism established under Outcome 4. In fact, this highly optimistic expectation was based on a best-case scenario dependent on many factors beyond the ability of the Project to directly control, given the variety of project types, technologies, scales and baseline uses among the foreseen activities facilitated by the Energy Efficiency Guarantee Mechanism (TE, p. 18). It is therefore unsurprising that only about 20% of this co-financing was realized.

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 project suffered considerable delays in start-up. Although an Inception Workshop was held in March 2010, virtually no activities had started until early 2012, when the National Project Manager was hired (MTR, p. 57). This delay seems to have mostly been due to difficulties in project administration and governance. The National Project Steering Committee, to be composed of senior representatives from the Ministries of Environment, Mines and Energy, Finance, and Public Planning, as well as various banks and private sector interests, was never established, despite the advocacy of the Ministry of Environment and UNDP. The reason for this is not clear, but the TE speculates it may have been due to the Committee's proposed composition clashing with Brazilian conflict-of-interest laws, as well as a loss of interest from the Ministry of Mines and Energy, which had been planned to partner with the Ministry of Environment in executing the project (TE, p. 15). After the midterm review, a Technical Advisory Committee was established in lieu of the Steering Committee. Nonetheless, the delays had already made it clear that results could not be achieved within the originally planned framework (PIR 2015, p. 20). Barriers to the formation of the Steering Committee, legal or otherwise, should have been identified and mitigated before the start of the project. Following recommendations in the midterm review, the project closure date was extended to December 2017, but the PIR from that year makes it clear that even with the extension the project was not on track to finalize activities and disburse the remainder of GEF funds; an additional 6-month extension was recommended and appears to have been granted (PIR 2017, p. 3).

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:

The final PIR notes that the executing partner, the Ministry of Environment, recognizes the role of the project as an agent to promote energy efficiency in Brazil, and that "the Project appears to respond positively to nationally defined priorities" (PIR 2017, p. 28). The TE reports country ownership as being high, citing the "very substantial and ... high quality" work contributed by public employees as evidence

of the Government’s strong commitment to the project goals (TE, p. 30). However, it is also noted that “a more active role of the Government could have ensured more adequate coordination between the GEF Agencies” (TE, p. 19).

6. Assessment of project’s Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: Moderately Unsatisfactory
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The TE rates M&E design at project start as Moderately Satisfactory.

The Project Document lays out a fairly robust M&E plan, including specifications for the Inception Workshop and Report, Annual Work Plans, day-to-day and periodic monitoring, midterm and terminal evaluation, responsible parties for each of these, etc. (PD, pp. 31-34).

While the logframe presented in the PD is mostly adequate, some indicators especially at the outcome level are not SMART (e.g., “[Energy efficiency] offer fully functional in private building sector”). Furthermore, the PD logframe set only end-of-project targets rather than including any annual targets, making it more difficult to keep the project on track once initial delays set in (TE, p. 24). The inclusion of annual tri-partite meetings, as opposed to the final end-of-project one planned in the PD, could also have improved coordination between the UNDP, IDB and Ministry of Environment. Finally, a joint (UNDP-IDB) evaluation plan was not in place towards project closure as indicated by GEF guidelines (TE, p. 46). Overall, a lack of detailed planning for UNDP-IDB coordination and deficiencies in the logframe justify a Moderately Unsatisfactory rating for M&E design.

6.2 M&E Implementation	Rating: Moderately Satisfactory
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The TE rates M&E implementation as Satisfactory. While the Ministry of Environment lacked adequate understanding of M&E standards, a strong effort was made to provide adequate reporting of project results. Overall, considering issues with M&E design, M&E implementation is rated as Moderately Satisfactory.

The project’s executing agency was the Ministry of Environment. The TE notes that the reports produced by project staff and subcontractors were of high quality and in line with their Terms of Reference, and that inputs from Atla (the consulting firm managing the Guarantee Mechanism) and IDB were sent to UNDP to feed into the PIRs. Contrarily, the TE also reports that Ministry of Environment staff were not well-versed with UNDP and GEF standards for monitoring and evaluation, and as a result project

products and evidence submitted to the TE were not structured along the vertical logic of the project; achievements and output indicators were not aggregated and consolidated by the time of the TE (TE, p. 26). It is therefore unclear which “high quality” reports the TE refers to above. In any case, IAs should ensure that EA staff are trained in established M&E procedures before project start.

The PIRs are relatively thorough, and a web portal makes project results available, though it lacks analysis and conclusions on the development of the energy efficiency market in Brazil (TE, p. 46)..

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 Quality of Project Implementation	Rating: Moderately Unsatisfactory
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The project’s lead implementing agency was UNDP, with IDB as the implementing agency for Component 4, the Energy Efficiency Guarantee Mechanism. The TE rates UNDP’s performance as Satisfactory, and IDB’s as Unable to Assess. This TER rates quality of project implementation for UNDP and IDB jointly as Moderately Unsatisfactory, mostly due to an unrealistic project design, inadequate coordination between the agencies, and inefficient use of project funds.

Project design was overambitious and relied on key assumptions which proved to be false, such as the relevance of debt financing for energy service companies being a key barrier that would be solved through the Guarantee Mechanism, as well as the readiness of the Brazilian energy market for such a mechanism. Later studies mention this project as having been premature given the underdeveloped state of the energy efficiency market in Brazil at the time (TE, p. 17).

The TE points out that the final Project Review Sheet, just prior to GEFSEC approval, contains several comments raising fundamental issues with project assumptions, including the actual relevance of energy service companies, performance of related projects, etc. Although the comments were apparently addressed satisfactorily, the fundamental nature of the points raised in terms of the project’s basic intervention logic means the updates made to the ER were essentially cosmetic (TE, p. 16). In hindsight, this should have been a warning sign that the project was not addressing the right question, and an indication to re-examine the project’s assumptions and rationale. Development of demand and capacity should have been carried out prior to the introduction of an Energy Efficiency Guarantee Mechanism (TE, p. 16).

The one-day Inception Workshop and three-page Inception Report did not meet the standards set out in the Project Document and did not finalize an Annual Work Plan or even formally conclude, instead

leading into a rudderless two-year limbo as the proposed Steering Committee struggled to be formed (TE, p. 21, p. 46). Adaptive management was displayed in some regards, on the UNDP side through the installation of a Technical Advisory Committee to compensate for the absence of a National Project Steering Committee and the Substantive Revision undertaken to address the recommendations made in the MTR, and on the IDB side through the adjustment of the Partial Credit Guarantee to make it applicable to a larger range of energy efficiency projects (TE, p. 22). Nonetheless, there could have been more attention paid to the application of GEF funds, especially as those put into the Energy Efficiency Guarantee Mechanism remained largely unused; better implementation could have redirected these funds to more effectively achieve GEBs when it became clear that the Guarantee Mechanism was underperforming.

The TE was unable to assess IDB’s role as IA, as in 2016 the governance of the Energy Efficiency Guarantee Mechanism was transferred to IDB Invest, which operates under the Inter-American Investment Corporation. Questions posed to IDB Invest to understand how the project was monitored as part of the IDB’s GEF portfolio and to clarify its guidelines for evaluation given the institutional restructuring were not answered. Neither UNDP nor the Government seem to know the entry point to coordinate with IDB Invest (TE, p. 25).

IDB’s exit strategy for the Guarantee Mechanism was insufficient and did not attempt to provide answers to initial questions regarding the relevancy and potential for such mechanisms in Brazil, instead simply confirming that the initial assumptions were incorrect and the specified arrangement did not work. This ignores the body of expertise developed by the project and by related ongoing work by the IDB itself (TE, p. 25).

The TE concludes that UNDP and IDB made a “reasonable effort” to follow up on project implementation progress (TE, p. 22). Nonetheless, the targets set out in the project design made successful execution practically impossible, and poor coordination on project management led to large delays in project start-up. Project implementation for UNDP and IDB jointly is therefore rated Moderately Unsatisfactory.

7.2 Quality of Project Execution	Rating: Moderately Satisfactory
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The project’s lead executing agency was the Ministry of Environment, whose performance is rated as Satisfactory by the TE.

Knowledge of GEF and UNDP procedures could have been stronger among Ministry staff, which, along with human resources limitations, negatively affected reporting and the delivery of project products (TE, p. 26). Part of the problem rests with Brazilian federal law, which prohibits the deployment of an externally-funded Project Management Unit inside a federal Ministry. As noted above, stronger political support from higher levels would have facilitated the integration of project activities a more active role of the Government could have ensured more adequate coordination between the GEF Agencies and the Ministry of Environment.

Nonetheless, the Ministry displayed strong ownership of the project, devoting more time and resources than expected at project endorsement -- the TE estimates an in-kind contribution of around \$2-3M compared with \$400,000 in the ER (TE, p. 29). In addition, the Ministry was effective in engaging a large number of stakeholders (TE, p. 26). Overall, most of the project's problems are attributable to excessive optimism and ambition in the original project design, and the Ministry of Environment's execution is rated as Moderately Satisfactory.

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

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.

No significant changes in environmental stress or status were noted as a result of the project (TE, p. 42). Greenhouse gas emissions reductions are estimated at 260,000t, falling fall short of the original target of 2Mt but a significant impact nonetheless (TE, p. iii).

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.

No significant socioeconomic changes are mentioned as a result of the project.

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 training and capacity building activities under Component 1 were largely successful, as noted in section 4.2, training over 3,500 professionals in the building sector on energy efficiency practices. These activities were made even more effective by collaboration with existing complementary government programs. The project also adapted new energy efficiency tools and methodologies to the Brazilian context and began integrating them into national energy efficiency policy and programs (TE, p. 45). Overall, the project was successful in building capacities for further energy efficiency work in Brazil.

b) Governance

Beyond the general raising of capacity outlined above, no significant changes in governance are noted as a result of the project.

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.

No unintended impacts affecting ecological or social aspects are reported as a result of the project.

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.

None of the project's initiatives are noted as having been replicated or scaled up by project end. Despite significant efforts, "no [financial institution] made changes in corporate strategies, staffing or internal procedures" in anticipation of a growing energy efficiency market, which is largely due to inertia in the financial sector resulting from the economic downturn in Brazil (TE, p. 45). As noted above, the Energy Efficiency Guarantee Mechanism also failed to gain traction, and the barrier it was meant to address – access to debt financing for energy service companies – was eventually seen as second-tier compared to others such as inflexible public procurement modalities (TE, p. 45).

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.

- Proposed solutions to development problems should always be carefully scrutinized using all existing information, and alternatives considered. This project was biased toward the Guarantee Mechanism solution from the start, even though a thorough examination of existing analyses

and road maps of the energy efficiency situation in Brazil would have cast doubt on its potential efficacy (TE, p. 48).

- The appointment of the Technical Advisor greatly improved liaison capacity and direct support to MMA and the Project. The position of a Technical Advisor in future projects is worthy of consideration by GEF project designers, especially when Government oversight is fragmented or roles are unclear (TE, p. 24). The arrangement under which the National Project Coordinator, Technical Advisor and UNDP staff took charge of day-to-day management while the Technical Advisory Committee served as a platform ensuring broad consensus among key public stakeholders and fine-tuning of ideas of proposals was highly effective and may serve as an example for other projects (TE, p. 48).

9.2 Briefly describe the recommendations given in the terminal evaluation.

1. The UNDP, IDB and Government should initiate a dialogue on the project in order to address unresolved questions on how relevant the Guarantee Mechanism is to Brazil, how it should be shaped, and to whom it should be handed over.

2. Atla Consulting, the service provider contracted to manage the Guarantee Mechanism, should be advised by IDB on all relevant information for making opportune business decisions, given its role as a financial agent for a product that is no longer being supported by its supplier, IDB.

3. An exit strategy for Components 1 and 2 should be devised through engagement between the Ministry of Environment and UNDP in order to avoid losing the benefits of the Project's role in overseeing and catalyzing the market; one suggestion could be that the Technical Advisory Committee continue as a consultative body for related energy efficiency programs in Brazil.

4. UNDP and the Ministry of Environment should undertake a wrap-up exercise to systematize the results and experiences produced, ideally devising a road map to better understand to what extent the energy efficiency market is ready now and what challenges remain.

5. UNDP, IDB and the Ministry of Environment should devise an explicit knowledge management system for the project, involving continuous management, resources, and a business model.

6. The Ministry of Environment and Ministry of Mines and Energy should consider integrating a renewable energy/energy efficiency into the Brazilian Electricity Regulatory Agency's Energy Efficiency Procedures Program, creating an information repository that can speed up project pipeline development and increase proposal quality.

7. UNDP should periodically consolidate applicable guidelines, manuals, etc., to ensure that information is offered to executing agencies in a consistent manner. An annual workshop or webinar for project coordinators may be considered, possibly to be held in the months prior to PIR delivery and organized by the regional UNDP-GEF office. (TE, pp. 48-49).

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

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?	The report assesses outcomes and impacts adequately. Some discussion on the progress of Component 3 prior to its separation into a separate project would have been appropriate.	MS
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is thorough and mostly consistent, but some ratings seem high relative to their justification in the text.	MS
To what extent does the report properly assess project sustainability and/or project exit strategy?	Sustainability is rated on the four-point scale across the four dimensions, but each is accompanied by only a cursory sentence that does not substantively justify the rating.	U
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned are comprehensive and supported by evidence.	S
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The report includes project costs and co-financing.	S
Assess the quality of the report's evaluation of project M&E systems:	Assessment of M&E is not very thorough, and sometimes conflates M&E design with M&E implementation and both with project design and execution.	MU
Overall TE Rating		MS

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

In addition to the TE, PIRs, MTR, PD, and ER for this project, the TE for related UNDP project BRA/12/G77 ("Integrated Management for the Chillers Sector") was consulted to establish clarity on this project's structure and effectiveness, and a news source (The Guardian) was consulted to provide current information impacting the institutional sustainability of the project.