## 1. Project Data

| Summary project data   |                              |   |   |  |  |
|--|------------------------------|---|---|--|--|
| GEF project ID   |                              | 2554  |   |  |  |
| GEF Agency project ID 3230   |                              | 3230  |   |  |  |
| GEF Replenishment Phase  |                              | GEF-3   |   |  |  |
| Lead GEF Agency (inc   | lude all for joint projects) | UNDP  |   |  |  |
| Project name   |                              | National Program of an Energy Efficiency in Residential Buildings Code and improvement of energy efficiency in commercial buildings and hospitals in Morocco. |   |  |  |
| Country/Countries  |                              | Morocco   |   |  |  |
| Region   |                              | Africa - MENA   |   |  |  |
| Focal area   |                              | Climate Change  |   |  |  |
| Operational Program<br>Priorities/Objectives   | or Strategic                 | OP5: Removal of Barriers to Ener<br>Conservation  | OP5: Removal of Barriers to Energy Efficiency and Energy Conservation |  |  |
| Executing agencies involved  |                              | National Agency for the Development of Renewable Energies and Energy Efficiency (ADEREE) Ministry of Housing and Urban Development                            |   |  |  |
| NGOs/CBOs involvement None   |                              |   |   |  |  |
| Private sector involve   | ement                        | As beneficiaries of trainings   | As beneficiaries of trainings   |  |  |
| CEO Endorsement (F   | SP) /Approval date (MSP)     | May 1, 2009   | May 1, 2009   |  |  |
| Effectiveness date /   | project start                | June 26, 2009   |   |  |  |
| Expected date of pro   | ject completion (at start)   | June 30, 2013   |   |  |  |
| Actual date of projec  | t completion                 | March 31, 2015  |   |  |  |
|  |                              | Project Financing   |   |  |  |
|  |                              | At Endorsement (US \$M)   | At Completion (US \$M)  |  |  |
| Project Preparation  | GEF funding                  | 0.28  | 0.27  |  |  |
| Grant  | Co-financing                 | 0.05  | 0.05  |  |  |
| <b>GEF Project Grant</b>   |                              | 3.00  | 2.57  |  |  |
|  | IA own                       | 0.20  | 0.30  |  |  |
|  | Government                   | 14.33   | 1.42  |  |  |
| Co-financing   | Other multi- /bi-laterals    | 1.20  | 14.91   |  |  |
|  | Private sector               | 0   | 0   |  |  |
|  |                              | •   | •   |  |  |
|  | NGOs/CSOs                    | 0   | 0   |  |  |
| Total GEF funding  | NGOs/CSOs                    |   |   |  |  |
| Total GEF funding Total Co-financing   | NGOs/CSOs                    | 0   | 0   |  |  |
|  |                              | 0 3.28  | 0 2.84  |  |  |
| Total Co-financing Total project funding   | ancing)                      | 0<br>3.28<br>15.78  | 0<br>2.84<br>16.68  |  |  |
| Total Co-financing Total project funding   | ancing)                      | 0<br>3.28<br>15.78<br>19.06   | 0<br>2.84<br>16.68  |  |  |
| Total Co-financing Total project funding (GEF grant(s) + co-fin                                  | ancing)                      | 0 3.28 15.78 19.06  valuation/review information  | 0<br>2.84<br>16.68  |  |  |
| Total Co-financing Total project funding (GEF grant(s) + co-fin TE completion date               | ancing) Terminal ev          | 0 3.28 15.78 19.06 /aluation/review information June 10, 2015   | 0<br>2.84<br>16.68  |  |  |
| Total Co-financing Total project funding (GEF grant(s) + co-fin TE completion date Authors of TE | ancing) Terminal ev          | 0 3.28 15.78 19.06  /aluation/review information June 10, 2015 Pierre Baillargeon & Yvan Gravel   | 0<br>2.84<br>16.68  |  |  |

## 2. Summary of Project Ratings

| Criteria                                  | Final PIR | IA Terminal<br>Evaluation | IA Evaluation Office Review | GEF IEO Review   |
|---|-----------|---------------------------|-----------------------------|------------------|
| Project Outcomes                          | N/R       | Moderately                | N/R                         | Moderately       |
|   |           | satisfactory              |                             | satisfactory     |
| Sustainability of Outcomes                | N/R       | Likely                    | N/R                         | Likely           |
| M&E Design                                | N/R       | Highly                    | N/R                         | Satisfactory     |
|   |           | satisfactory              |                             |                  |
| M&E Implementation                        | N/R       | Satisfactory              | N/R                         | Highly           |
|   |           |                           |                             | satisfactory     |
| Quality of Implementation                 | N/R       | Satisfactory              | N/R                         | Unable to assess |
| Quality of Execution                      | N/R       | Satisfactory              | N/R                         | Satisfactory     |
| Quality of the Terminal Evaluation Report | -         | -                         | N/R                         | Satisfactory     |

#### 3. Project Objectives

#### 3.1 Global Environmental Objectives of the project:

The global Environmental Objective of the project was "to reduce Morocco's energy-related CO2 emissions by mitigating the demand for energy in the country's housing and service sectors through the introduction of an EE building code for new construction and renovation of existing building stock" (ProDoc, p. 15).

Morocco energy imports increased at a steady pace over the last decades and now represent 97% of the country energy consumption. By the time the project was being prepared (2006-2008), the oil price at the international market as well as the exceptional level of the demand increase put lots of pressure on public finances.

Enforcement decrees of the National Energy Efficiency Policy were lacking along with a proper regulatory and institutional framework. This hindered the development of a comprehensive national EE program. This problem was particularly acute in the housing and service sectors which represented 25% of the country's energy requirements. In the electricity sector, the growth in demand exceeded the most aggressive forecasts of the Ministry of Energy and Mines (MEM). (ProDoc, p. 5).

While a number of EE programs was put in place with donor assistance for Morocco's industrial sector, the housing and service sectors had not received much attention.

#### 3.2 Development Objectives of the project:

The Development Objective (DO) of the project was "to improve the energy efficiency of buildings in Morocco through the introduction of an EE building code for Morocco, the development of technical standards, and the reinforcement of private sector capabilities to incorporate EE measures in building construction/renovation projects" (ProDoc. p. 15)

The intervention strategy also presented five expected outcomes that were supposed to contribute to the achievement of the DO. The expected outcomes were formulated as follows:

- Setting up an EE Building Code Unit at the national level, and reinforcing compliance at the municipal level. This outcome will focus on: (i) providing technical assistance to set up an EE Building Code Unit within the CDER; and (ii) strengthening the institutional and operational capabilities of municipal code enforcement agencies.
- Sizing the Energy Efficiency Potential in New Construction: Outreach, demonstration and knowledge sharing activities. This outcome will focus on: (i) mobilization, outreach and training activities; (ii) demonstration projects; and (iii) project development services for the private sector.
- Drafting and implementing an EE building code for residential buildings. This outcome will focus on: (i) designing and drafting the EE Building code legislation and regulations; and (ii) preparing the necessary regulatory framework for implementation and enforcement mechanisms.
- Developing and disseminating standards and guidelines for professionals. This outcome will
  focus on: (i) preparing EE standards for building design, building envelope, and heating,
  ventilation and air conditioning (HVAC); (ii) preparing technical guides for professionals; and (iii)
  implementing a testing and monitoring program to evaluate the impact of proposed EE
  standards.
- Public and private sector energy efficiency investments.

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

According to the project document the regulation that the project was supposed to develop was about EE in the residential sector, however, the regulation actually developed covered the tertiary sector in the addition to the residential sector.

## 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 |
|---------------|----------------------|
|---------------|----------------------|

The TE rated relevance as "Highly relevant." This TER uses a different scale and rates relevance as "Satisfactory."

The EEBC project is fully consistent with the political vision and energy efficiency strategy of the Moroccan Government, which aims at reducing the country energy dependence. This is important since Morocco imports 97% of its energy consumption. Moreover, the country energy demand is constantly increasing. When the project was drafted the building sector alone represented more than 25% of the country energy consumption.

The Energy Efficiency Act promulgated in 2009 describes energy efficiency as an effective mean to reduce energy dependency. Thus, it fixed objectives to achieve energy savings of 15% in 2020 and 25% in 2030. This is perfectly in line with objectives and outcomes of this project. During the implementation period the relevance of the project was further reinforced by government's development of the National Strategy for Energy Efficiency for 2030. This strategy estimated that 72% of achievable savings in the building sector would come from residential and tertiary building regulations, minimum equipment performance standards, solar water heaters, energy saving light bulbs, renovation works and raising awareness among households. The project is directly targeting these measures via regulatory aspects, communication or demonstration projects, thus addressing a wide range of building related subjects.

The project is relevant since it addresses three main problems: (i) the country's energy dependence; (ii) lack of energy considerations in the design, construction, equipment use, and management of buildings; (iii) significant energy costs, which are due to the quality of buildings and comfort expectations.

The project also contributes to the UNDAF 2012-2016 and the UNDP 2014-2017 objectives mainly by capacity building in the field of climate change mitigation and by making the measures of energy efficiency improvements in buildings mandatory.

| 4.2 Effectiveness | Rating: Moderately satisfactory |
|-------------------|---------------------------------|
|-------------------|---------------------------------|

The TE rated effectiveness as "Moderately satisfactory" and this TER agrees with that rating.

For the first outcome the project was expected to establish an energy efficiency (EE) code unit within CDER (Center for the Development of Renewable Energy). This was completely achieved since an EE code unit was established within ADEREE (Agency for the Development of Renewable Energies and Energy Efficiency), which replaced the old CDER. The Project also envisaged that at least three municipal technical agencies would have applied the Energy Efficiency Building Code (EEBC). The municipalities whose staffs were trained by the project largely exceeds the three municipalities initially planned. However, municipalities could not apply the EEBC before the formal project completion because the EEBC came into force in November 2015 (after the project formal completion). The TE noted that everything that could have been implemented by the project to ensure the implementation of the EEBC was done.

For the second outcome the project planned to implement at least ten demonstration projects, to organize trainings and to provide technical support to energy efficiency projects and auditing. A call for

proposal of demonstration projects (incorporating EE measures) was launched with funds from the European Union to select construction projects incorporating energy efficiency measures. Nine projects were selected, however four were abandoned for various reasons (and included two resorts, a head office and a low cost residential). For the training component, more than 70 training workshops about the building code were organized, thus training 1,900 persons in total. For the technical support and audit component, 16 energy audits were conducted. Also, various studies on the evaluation of the potential in energy efficiency were conducted (they included studies on the characterization of the Moroccan market for heating, ventilation and air conditioning systems, inventory and characterization of buildings construction and thermal insulation materials, and analyses of the lighting market in the residential, tourism, health and national education sector).

For the third outcome the project was supposed to develop an EE building draft code and to submit it to the parliament for approval. The codes for to the passive (thermal regulation) and active (electromechanical systems) energy parts were developed and submitted to the competent government authorities. The thermal regulation was adopted and published in the Government Official Journal in November 2014. It will become effective from November 2015. This result exceeds the target indicator, which was limited to the submission of the draft decree to the parliament (without consideration to the formal approval of the decree). In addition, according to the project document the code would have covered the residential sector only, however the approved code covered the whole tertiary sector in addition to the residential sector. Again, the actual result exceeds the planned result.

For the fourth outcome the project planned to develop and to field test a comprehensive set of standards. 180 standards were developed and adopted on a voluntary basis to support the establishment of the thermal building regulation. The necessary activities were carried out by the Moroccan Institute of Standardization (IMANOR), which oversees the work of technical committees of standardization (CTN). The standards were transposed from ISO or EN standards and were published as Moroccan standards, thus covering the standardization of terminology, the specifications of various insulating materials, and the calculation methods of thermal and mechanical performance, of heat transfer and thermal bridges, and of heating and air conditioning charges. More specifically 92 standards on isolation were adopted along with 55 standards on sustainable design, 23 standards on doors and windows and 18 standards on glazing. The project also envisaged to test the effect of standards. However, no real field test took place (TE, p. 47). This was mainly because the demonstration operations were not at a sufficiently advanced stage. However, the evaluation team was not convinced of the relevance of the field testing activities. This is because the results obtained by measuring the effects of standards on a few new buildings cannot be enlarged to a wider scale, since a large number of houses is initially built in Morocco without heating or air conditioning system. Instead of in situ measurements, the project carried out a series of tests on materials, although this activity was not initially planned. These studies and laboratory tests made it possible to characterize construction materials offered on the Moroccan market. The TE considers this activity more relevant than in situ measurements to improve calculations quality for designers.

For the fifth outcome the project envisaged that investments worth at least 10 million USD would have been mobilized by the private and public sector as a result of the EE Building Code. For this outcome the

project did not meet the expectations, since the amounts mobilized for the investments represented only 10% of the target and all investments were made by the public sector, with not private sector contribution (TE, p. 49).

| 4.3 Efficiency | Rating: Satisfactory |
|----------------|----------------------|
|----------------|----------------------|

The TE rated efficiency as "Satisfactory". This TER agrees with that rating. Efficiency is considered satisfactory mainly because the cost of GHG reduction provoked by the project is low in the long term, that is, when the effects of the regulations supported by the project are fully deployed.

In terms of GHG emissions the project direct impact (calculated in March 2015) represents an emission reduction of 1,787 tCO<sub>2</sub>. If compared to the GEF budget actually spent of USD 3,109,735, the production cost would stand at 1,740 USD per ton, which is extremely high. This result is mainly due to the few achievements of efficient new construction projects during the project period. On the other hand, when comparing the project costs to the estimated 1.16 million tCO<sub>2</sub> (which will be achieved by 2035, when the effect of the regulations promoted by the project will be fully in place), the cost per ton would be reduced to 2.68 USD per tCO<sub>2</sub>, which is extremely low.

The financial audits developed during the project life conclude that the program was managed in a satisfactory manner. They also specify that the accounting records accurately reflect disbursements made and actions takes and that in general terms, the accounting system was adequate (TE, p. 34).

| 4.4 Sustainability | Rating: Likely |
|--------------------|----------------|
|--------------------|----------------|

The TE rated sustainability as "Likely" and this TER agrees with that rating.

Financial sustainability was rated as "Likely" by the TE and this TER agrees with that statement. The government has approved the Energy Efficiency Building Code. One of the effects is that from November 2015 the financing of the implementation of EE measures becomes a requirement for all relevant buildings.

The TE rated Socio-political sustainability as "Likely". This TER agrees with that rating. No political or social risks were identified by the TE. In addition, the ownership of the project among government authorities seems very good. In addition, the regulation promoted by the project implies the creation of additional jobs in the energy efficiency sector. Also, energy savings will reduce households' energy consumption expenditures.

The TE rated the sustainability of the institutional framework and governance as "Likely" and this TER agrees with that rating. A unit in charge of Energy Efficiency Building Code (EEBC) management and supervision was permanently established within ADEREE (i.e. the project executing agency). In addition, according to EEBC building permit applications need to include architectural plans and coherently with

the EEBC, the National Council of Architects established a monitoring mechanism to enforce the application of the EEBC.

Some municipal technical authorities did not take part in the project activities. This may make the conformity verification more difficult once the EEBC is fully implemented. However the project developed different training materials that can be used to train technicians in charge of conformity verification. Another project funded by the Fonds Français pour l'Environment Mondial (FFEM) and steered by ADEME (i.e. the French Agency for the Environment and Energy Management) also developed training modules on the same topic and built a network of trainers who can be called upon.

Environmental sustainability was rated as "Likely" by the TE and this TER agrees with that rating. The project did not provoke any environmental risk. On the contrary, by promoting energy efficiency the project contributed to the reduction of GHG emissions and to the consumption of non-renewable energy sources.

#### 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?

At the end of the project total actual co-financing slightly exceeded total planned co-financing (of about 5%). The great contribution of co-financing was from funds mobilized by ADEREE through international partners. Of the total co-financing the contributions of international partners (EU, GIZ, FFEM) was almost 90%. This represents an important difference with what was planned in the project document. In fact, the project's original budget included 14.33 million USD of co-financing from the Moroccan government, and only 1.2 million USD from ADEREE. However at the end of the project the contribution of the Moroccan government amounted to about 10% of what was originally planned while the contribution of ADEREE (which mainly consisted in grants from international donors) was 14.91 million USD, that is twelve times more than the planned value. On the basis of the available information there is no reason to believe that these differences will affect the outcomes and or the sustainability of the project.

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 ended one year and nine months later than originally planned. The main reason for this delay was the replacement of the project team. Hiring the new ADEREE's project team took several months. The mid-term evaluation was conducted later the expected, however the delay did not affect the usefulness of the mid-term review.

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 implementation of the energy efficiency act and the promulgation of the decree on EE in new residential and commercial buildings are clear indicators of country ownership along with the establishment of a permanent unit for the Building Code within ADEREE.

In addition, a project steering committee was formed and met regularly to provide orientations on project implementation. It brought together representatives from key Governmental departments (i.e. finance, energy, health, housing, tourism, and environment), government technical agencies (i.e. the Moroccan Service of industrial standardization), professional associations (e.g. National Order of architects) and representatives of the power sector (e.g. National Office of electricity). This also contributed to ownership.

#### 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: Satisfactory |
|-------------------------|----------------------|
|-------------------------|----------------------|

The TE rated the M&E Design at entry as "Highly satisfactory" while this TER downgrades that rating to "Satisfactory". This is because the main target of the development objective was not achievable and consequently its relevant indicators cannot be considered SMART.

The target was the reduction in emissions of 3.5 million tons of CO2. This target was based on an estimated 100,000 houses built (by the government) in compliance with the code standards for each of the four years of the project. The calculation method of the avoided emissions was therefore based on the assumption that at day one of the project all the houses built by the government would respect the requirements set in the Code, which was obviously an impossible target.

Moreover, the target was inconsistent with the project performance indicators of outcome 1, which were aiming for the submission of the draft decrees to the parliament before the end of year 3. After the submission of decrees to parliament, decrees require a certain period of time before they are adopted and promulgated. They also incorporate an additional adaptation period for relevant agents to adapt. Therefore, a regulation, even if it were submitted to the government in three years, would not be applied before the end of the project in the construction market.

As a consequence the decrees promoted by the project were not effective during the project period. The only possible effect of the project on avoided emissions during the project life would be through voluntary energy efficiency measures. This is another reason why the initial target of avoided CO2 emissions was too ambitious.

In any case, the project document correctly included an M&E plan, which included annual monitoring to be conducted through annual tripartite reviews and a tripartite terminal review along with annual project reports, project implementation reviews, and quarterly progress reports. The ME& plan included a mid-term evaluation and a final evaluation and audits. The total budget for M&E was indicated but it did not specify the cost of the different components of the plan.

| 6.2 M&E Implementation | Rating: Highly satisfactory |
|------------------------|-----------------------------|
|------------------------|-----------------------------|

The TE rated M&E implementation as "Satisfactory" and this TER upgrades that rating to "Highly Satisfactory". This is because the recommendations provided in the mid-term evaluations were used for adaptive management.

The mid-term evaluation highlighted some concerns about the limited number of resources dedicated to the project and the lack of means available for the coordinator. It had also made recommendations for an increased communication effort. All the recommendations of the mid-term evaluation were integrated in the project.

In addition, all indictors were properly measured and the M&E plan was properly implemented.

### 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: Unable to assess |
|---------------------------------------|--------------------------|
|---------------------------------------|--------------------------|

The TE rated the Quality of Project Implementation as "Satisfactory". This TER is unable to assess the quality of project implementation because no relevant information are included in the TE and in the other accompanying documents.

The TE rated Quality of Project Execution as "Satisfactory" and this TER agrees with that rating.

The project executing agency was ADEREE (formerly CDER). It provided a leadership role during the project preparation and kick-off by gathering several ministries and professional organizations around a common goal - the introduction of mandatory standards to improve EE in the building sector.

Since the project start, ADEREE recruited a national coordinator of the project with the support of UNDP. The coordinator was supported by a five-staff team. The project team provided an effective support for the project activities.

In order to sustain the results of the EEBC within ADEREE in 2012 ADEREE adopted a new structure and a new organization whereby EE in buildings was treated by an independent department. The project team was then entirely renewed and the activities of the Building Energy Unit (BERU) were fully merged with those of ADEREE. The replacement of the project team caused a temporary interruption of activities More specifically the delivery of technical and monitoring studies contracted to consulting firms were affected by delays along with the organization of trainings

One important shortcoming of the new organization was that ADEREE did not have fully dedicated staff to the project. This was solved in February 2013 through the recruitment of a national coordinator.

## 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.

The main environmental change caused by the project is a substantial reduction of CO2 emissions from the building sector. The direct reduction in CO2 emissions caused by the project amounted to 1,787 tons. However the total estimated reduction of CO2 emissions is likely to be 1.16 million tons by 2035 as a consequence of the energy regulation developed by the project. This is because the regulation is effective from November 2015.

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 investments in EE interventions made by the public sector amounted to USD 1,024,000. The total value of investments is below expectations (see analysis for outcome 5 reported above) however it is likely that higher investment levels will be achieved once the EE Building Code becomes fully effective, that is, from November 2015.

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

Fifteen of ADEREE technical and management resources participated in the development of the EEBC in drafting standards and in disseminating results. By participating in all these activities the ADEREE team has developed an important know how that will be of value also in the future. In fact ADEREE team will not be dismissed after the project end and will keep working on EE issues (TE, p. 41).

A series of workshops were organized in Marrakech, Rabat, Agadir, Fez, Oujda-Al Houceima, Tangier, and Casablanca. Code requirements, the software program for compliance audit and some case studies were presented in those workshops to more than 30 representatives from urban and rural communities (TE, p. 41).

Other workshops were organized and included the information and consultation seminars on the EE Building Code with institutions and trade professionals (HVAC, lighting and sanitary hot water), one seminar for the national school of architecture students (which involved 150 students), as well as the participation in 3 exhibitions on the EE thematic in buildings (Batimat, Bativert, Batinov.) In total the project trained 1,900 persons on issues related to the EEBC.

#### b) Governance

The project strongly improved the governance of the EE building sector. A decree on thermal regulation of buildings in Morocco was developed by the project and was formally published in November 2014, thus becoming effective one year later. The approved decree applies both to the residential buildings and to the tertiary sector.

Energy audits were carried out in the health sector for the implementation of the Energy Upgrade Project of the University Hospital Ibn Rushd in Casablanca, as part of a partnership between ADEREE and the Italian Ministry of Environment. The energy audit of the hospital Ibn Tofail in Marrakech was also conducted. In addition, the Ministry of Health introduced a provision encouraging the introduction of a High Environmental Quality (HEQ) design among its special conditions for the construction of buildings. This HEQ design also included energy efficiency. However these provisions are not mandatory and the introduction of energy efficiency measures is decided on a case-by-case basis by the managers of construction projects.

During the project implementation ADEREE adopted a new structure and a new organization with the purpose of better sustaining the results of the project within ADEREE. The activities of the Building Energy Regulatory Unit were merged with those of ADEREE and all EE issues are now managed by an independent department.

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.

One important positive unintended impact was that the regulation supported by the project also cover the tertiary sector while, according to the project document, it was supposed to cover only the residential sector.

No unintended negative impacts were registered.

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.

As mentioned the regulation supported by the project was supposed to improve energy efficiency in the residential sector however the decree approved by the government also include the tertiary sector. So the EE measures that will be introduced as a consequence of the regulation is applied to a much large sector and a greater number of buildings than originally expected.

Demonstration projects applying EE measures were funded by the European Union. More specifically, 10 million Euros were initially allocated to fund the additional costs of EE measures through a call for proposals mechanism launched by ADEREE.

#### 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.

The most significant lesson is that co-funding from the project partner ministries should be confirmed during the project conception phase and should not be based on letters of support showing no details of contributions.

9.2 Briefly describe the recommendations given in the terminal evaluation.

Most significant recommendations are:

- The formulation of targets goals and outcomes should be based on realistic hypotheses. A Careful check of hypothesis is required for future projects
- At project design stage special attention should be paid to the description of the regulation adoption process. More specifically targets should clearly specify the relevant institution to approve the regulation promoted by the project (i.e. the parliament or the government). Performance indicators should be chosen on the basis of a proper analysis of the legal and regulatory context.
- A General public communication campaign should start a few months before the regulation becomes effective, that is, when a large number of industry actors are trained and when professionals, products suppliers and manufacturers start marketing energy efficiency products.

## 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 TE correctly analyzes relevance, outcomes, and achievement. Assessments are coherent and supposed by convincing considerations  | HS     |
| To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?         | The TE internally consistent. Evidence is clear and convincing.   | HS     |
| To what extent does the report properly assess project sustainability and/or project exit strategy?   | The analysis of sustainability is satisfactory. An analysis of the exit strategy is not provided  | MU     |
| To what extent are the lessons learned supported by the evidence presented and are they comprehensive?                                      | The TE does not include valuable lessons.   | ни     |
| Does the report include the actual project costs (total and per activity) and actual co-financing used?                                     | The TE actual project costs. In addition to the actual costs the TE also include costs per outcome.  The report also include actual data on co-financing however the way they are presented is not very clear | MS     |
| Assess the quality of the report's evaluation of project M&E systems:   | The assessment of the M&E system is correct and substantiated by relevant analyses and considerations   | S      |
| Overall TE Rating   |   | S      |

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