TERMINAL EVALUATION REPORT

of the

UNDP-GEF Medium Size Project

Building the Local Capacity for Promoting Energy Efficiency in Private and Public Buildings (EE Project Bulgaria)

Project number: 48788

PIMS: 2940

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1. Evaluation team

The terminal evaluation team consisted of two evaluators, an international one and a national evaluator.

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2. Acknowledgements

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We would like to express our thanks specifically also to the Project Director, Mr. Zdravko Genchev, and members of the project management unit Mr. Pavel Manchev, Ms. Marta Stoilova, and other staff of EnEffect, the project implementing partner, who provided all requested information and organized meetings with local project stakeholders. The cooperation with the project implementing partner EnEffect during the terminal evaluation was effective, and the evaluation team received all information requested in advance as well as per ad hoc requests.

Thanks go also to the UNDP office in Bulgaria, namely Ms. Maria Zlatareva, Ms. Elena Panova and Ms. Nevena Alexieva for their support during the evaluation mission in Bulgaria and preparation of the terminal evaluation report.

3. Abbreviations and acronyms

APR	Annual Project Review
BEEF	Bulgarian Energy Efficiency Fund
EBRD	European Bank for Reconstruction and Development
EE	Energy Efficiency
EEA	Energy Efficiency Agency
GEF	Global Environment Facility
ICT	Information and Communication Technologies
MEP	Municipal Energy Efficiency Program/Municipal Energy Plan
MRDPW	Ministry of Regional Development and Public Works
MSP	Medium Sized Project
NGO	Non-Government Organization
PIR	Project Implementation Review
SME	Small and Medium Enterprises
ToR	Terms of Reference
UACG	University for Architecture, Construction, and Geodesy
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development Assistance
VTICC	Virtual Training, Information and Consultancy Centre
WB	World Bank

4. Executive summary

4.1 Brief description of project

The goal of the project is to reduce greenhouse gas emissions in Bulgaria through improved energy efficiency of existing/new public buildings, private residential and service sector buildings, and premises of local SMEs.

Specifically, the project objective is to promote energy efficiency market in buildings by:

i. enhancing the awareness and capacity of local architects and engineers to better adopt energy efficiency aspects into the design of new buildings and retrofit of the existing ones;
ii. raising the awareness and building the capacity of the targeted end users to develop and structure financing for economically and financially feasible energy efficiency projects, thereby creating a sustainable demand for energy efficiency equipment, materials and related services in the buildings market;
iii. incorporating the energy efficiency aspects more strongly into the ongoing efforts to renovate the existing building stock in general, including the UNDP funded activities to support the renovation of public buildings and private residential and service sector buildings;
iv. building the capacity of the local energy service providers to effectively market their services and to meet the requirements of the targeted financiers to finance energy efficiency projects; and by
v. facilitating effective replication and dissemination of the results and institutionalizing further support needed for the promotion of energy efficiency measures in public and private buildings through applicable legal and regulatory measures and organizational arrangements.

This GEF/UNDP project is an NGO executed project, Project Implementing Partner is EnEffect, Bulgaria.

The project had a total budget of 7,248,100 USD, with a GEF cash contribution of 975,000 USD.

The budgeted co-financing included the UNDP (USD 2.5 million cash and USD 0.5 million in kind), the Bulgarian-Dutch Sustainable Housing Management Programme (USD 0.45 million) and private sector investment (USD 2.8 million) mainly in the form of pilot projects.

The project was scheduled to last for 4 years (March 2006 - March 2010). The actual implementation started on June 1, 2006, after a signature of the cooperation agreement between UNDP and EnEffect. A 6 months no-cost extension was approved with a scheduled project end in October 2010.

4.2 Context and purpose of the evaluation

The project terminal evaluation is a requirement of UNDP-GEF and has been initiated by the UNDP office in Bulgaria. The terminal evaluation has been requested to take place three months before the final project closure which is scheduled to finish in October 2010.

UNDP-GEF is primarily interested in analysis of how successful implementation of the project has been, what impacts it has generated, if the project benefits will be sustainable in the long-term and what are the lessons learnt for future interventions in Bulgaria, and other regions where UNDP-GEF provides its assistance.

A mid-term evaluation of this project has been performed and a report submitted to UNDP in October 2008.

4.3 Main conclusions, recommendations and lessons learned

The capacity building project has been designed in line with the country climate mitigation goals, and development priorities. Energy efficiency is one of the main priorities of the country as stated in its policy documents.

A proper *timing* for project implementation was selected, because financing, including specialized energy efficiency financial facilities have been in place already to provide financing for project implementation.

The *major impact* of the 1 million USD (incl. the PDF A facility) capacity building project lies in a development of a long-term sustaining capacity of local professionals in municipal energy planning and in design of low-energy buildings. The project delivered in the country unique and so far first intensive professional training of local architects in sustainable building design (organized in cooperation with Chamber of Architects), and produced a series of unique guides, books, best practices and training materials in Bulgarian language on energy efficient, sustainable building design (partly to be finalized by the end of the project). The key deliverables of this project include Guide on Municipal Energy Planning, Green Vitruvius Book on Sustainable Building Design, 10 Books on Green Architecture, and a Catalogue of 100 Best Practices printed both as hard copies and published and maintained on a project web site. These educational materials have a potential to serve as a primary educational source for both post-graduate studies of practicing architects as well as for university students of architecture and civil engineering in energy efficiency and sustainable building design, and for trainings of municipal officers. Based on reactions of local professionals, we believe that these project deliverables might serve as a critical sustainable catalyst in capacity development in energy efficiency building design in Bulgaria over a next decade.

In addition to these educational materials, during its implementation the project has developed tens of energy efficiency building retrofit projects for financing and implementation. The direct and indirect investment leveraged for energy efficiency building retrofit due to the project reached dozens of millions USD; the project influenced energy efficiency reconstruction of residential buildings/individual apartments with a total investment of 18 mil. USD, other 10 million USD were the total investment costs spent for energy efficiency reconstruction of public buildings and buildings in the SME sector assisted by a project and financed by the Bulgarian Energy Efficiency Fund only. Another larger energy efficiency reconstruction projects mainly in the public sector developed with assistance received from the project obtained financing from the EU structural funds.

The project transferred state-of-the-art international experience and know how in designing energy efficiency buildings re/construction. Leading international experts delivered highly appreciated training for local professionals and architects.

During its implementation the project has faced significant problems with attracting third-party investors to finance new pilot energy efficiency building projects to be constructed within the project period as originally planned in a project document. After the project mid-term evaluation and based on its recommendation, the logical framework matrix has been thoroughly redesigned and the originally planned pilot projects - construction of new low-energy buildings and energy efficient reconstruction of existing buildings - have been reformulated to cover pilot design of new buildings or retrofit design of existing buildings only. However, two designed pilot energy efficiency retrofit projects have been already implemented, one multiapartment building and one private building in the SME sector.

During project implementation (mainly its first phase) the project faced several changes in a position of a Project Manager. In a second half of project implementation the situation has stabilized, and the project manager received also on-going support from EnEffect project management unit. The cooperation between EnEffect and UNDP was effective; UNDP played a critical role in effective project implementation, and it supported effective implementation of an adaptive management of the project, and flexibly approved required changes in project design and implementation, including the update of the project logframe as recommended by the mid-term evaluation.

The project leveraged financial and technical support from other projects implemented in the country and internationally in the region. The key projects with which the project has cooperated included mainly the GEF co-funded financial facility BEEF, The Bulgarian Energy Efficiency Fund, and the UNDP/Ministry of Regional Development and Public Works demonstration project for the renovation of multifamily buildings.

The costs of the project have been kept within the budget; no budget overrun is expected at the end of the project.

By the time of the project terminal evaluation in July 2010, three months before the project is scheduled to end, eighteen (18) indicators out of total of 27 have met or exceeded the defined targets. Additional two (2) indicators have met the defined target as well; however, these targets are defined as an estimation of the situation in 2020 and thus do not reflect properly the *current* status of project achievements. Deliverables of five (5) indicators were available during the evaluation period as drafts only; they all are planned to be finalized according to the plan by the end of the project in October 2010.

Two targets 4f) and 6c) have not been fulfilled. The activity of the target 4f) “On-site study of advanced international practices” has been cancelled. The study tour was not included in the original Project Document, Work Plan and budget. It was proposed by EnEffect and included to the project activities when the logframe has been updated in the middle of the project implementation period. The study tour, preliminarily planned for ca 10 experts, was intended as a potential instrument for increasing effectiveness of the training of professionals, and it was planned to be co-financed together with the Union and the Chamber of Architects. The project budget thus did not include full costs for the study-tour. Since none of these two institutions could contribute financially to the organization of the study tour, the project implementing partner focused its effort jointly with the Chamber of Architects and international lecturers on the preparation of more cost-effective class training with international lecturers. In total 63 instead of originally planned 30 design offices have been trained in sustainable building design. The delivered set of training courses has received very high ranking from participants and the Chamber of Architects, and it was more effective both from professional and from financial point of view than the planned on-site study tour.

The Target 6c) “Draft standards for low energy/passive/0-energy buildings proposed” has not been fully met, because no new standards have been proposed. However, low-energy and passive house standards have been checked, analyzed and recommended for use in Bulgaria, arguments for the development of such new standard have been provided, alternative building designs were made, and a comparative analysis of pilot project results is under development in order to evaluate investment costs necessary to reach different level of energy efficiency, and the analysis – once finalized – is planned to be submitted to the Energy Efficiency Agency and the Ministry of Regional Development and Public Works for review and potential future proposal of more energy efficient norms.

The evaluation team assessed that project non-compliance with a target 4f) – “on-site study” did not affect fulfillment of the overall project goal and objective. This target 4f) – corresponds basically to one project activity, not to a project outcome itself, and it even supports the respective project indicator only partially. The Indicator 4 is defined as: “Networks of skilled specialists built … who could make the difference towards low-energy buildings”. The project did not organize the on-site international study trip, but leading international experts delivered trainings to local professionals in Bulgaria, so state-of-the-art experience and information on energy efficient building design has been transferred in an efficient and effective way.

The target 6c) to develop and propose for implementation new, stricter energy efficiency norms in a country with no or only limited practical experience with construction of new low-energy buildings and energy efficiency buildings retrofits, was on the other hand rather ambitious. The current energy efficient norms are EU harmonized and correspond in our view well with the current status of market development in Bulgaria. More urgent issue than developing new, stricter energy efficiency norms are nowadays perhaps attempts to increase compliance rate of the existing norms and standards, and to improve the quality of construction, especially the details that might have effect on energy performance of buildings.

Should the project deliver all remaining deliverables as planned by the end of the project in October 2010 (targets 7a, 10b, 12, 13b, and 13c), the evaluation team considers that the project will meet all its planned goals and objectives, and thus we will not propose any corrective actions.

In order to disseminate the projects results more widely within a country and internationally as well, and to have real case study data available based on hard facts, we propose to implement the following recommendations, and to obtain financing for their implementation.

4.3.1 Recommendations

Based on the terminal evaluation of the project and its analysis, the evaluation team recommends to:

- Maintain and update the project web site with all key project documents (books, training materials, and guides) at least for next ca 5+ years.
- Translate key project guides and books into Russian (and English) for utilization also in other countries primarily in Balkan, Eastern Europe and Central Asia.
- If not included in the Best Practices Catalogue to be finalized, evaluate the results and improvements of the energy efficiency pilot projects based on *metered data of actual energy consumption* (especially the energy efficiency retrofit project of the multiapartment residential block 17 in Blagoevgrad). Disseminate the results of the energy efficiency pilot projects to key

policy and decision makers and a general public (owners and potential investors of energy efficiency retrofit).

4.3.2 Lessons learned

Based on the project analysis, the evaluation team suggests the following lessons learned to be taken into account when preparing, approving and implementing similar projects in other countries of GEF/UNDP operation:

- Do not rely on a third-party co-financing, if it is not contractually bound before the project document is approved. This concerns specifically a potential third party investor into construction of a new low-energy building and/or retrofit of existing building – if the investor is not contractually bound to finance such construction, the project implementation is in a high risk, which can be effectively minimized by a binding contractual arrangements.
- Apply a step-by-step approach in similar energy efficiency pilot projects according to a level of a local market; start with relatively minor and less demanding energy efficiency retrofit technologies and practices of "more-than-usual" energy efficient buildings, and focus on advanced technologies and concepts of new "passive houses/zero-energy houses" only after the market is rather advanced and basic energy efficiency experience is relatively well established, and the quality of construction works, including energy efficiency details, is fairly good.
- Develop a detail market study during the project preparatory phase if necessary to analyze concrete situation in individual market segments, including for example an analysis and preparation of a preliminary pipeline of potential investment projects to be implemented, or a list of potential third-party investors, etc.
- Pay a special attention to the development of a comprehensive and truly logical project logical framework matrix, including definition of project outcomes, outputs, activities, indicators, baselines, targets, method and sources of verification. Develop a logframe as a tool for an actual daily project management, not just a formal burden.
- Asses impacts on project targets when changing project outputs/activities
- Define the indicators to properly reflect actual status of key project activities, outputs and outcomes during the actual project implementation. Do not base indicators on future assumptions, what will happen in 10+ years etc. Indicators should be easily measurable based on hard-fact evidence. Utilization of "soft" indicators, whose evaluation needs to be based on estimates, should be minimized if not eliminated.
- At the beginning of the project, transform the project financial plan (budget), and timeschedule (activities, deliverables) into a concrete calendar/fiscal year plans, according to the actual date of project start.
- Do not rely on the GEF/UNDP required project plans and progress reports as the only tool for daily project management. Utilize more flexible tools and techniques that allow having easily a daily overview and control of the actual up-to-date status of the project – budget vs. actual expenditures, deadlines and planned activities vs. their actual status and delivery, etc.
- Proposal for GEF/UNDP: Develop a standard easy to use project management and management accounting software tools customized for specific requirements and reporting

needs of GEF/UNDP, and make these tools (perhaps also as a web based application) available for project implementing parties. Develop and make available a web based training in project management and management accounting tools.

- Support on-going activities to establish legal entities responsible for the whole condominium building as a prerequisite for effective financing of the building level reconstructions – and as a keystone model of a local democratic institution.

5. Introduction

5.1 Purpose of the evaluation

This terminal evaluation has been performed on a request of UNDP office in Bulgaria three months before final completion of the project. According to the UNDP-GEF Monitoring & Evaluation Policy, the 2009 Handbook on Planning, Monitoring and Evaluating for Development Results, and as specified by the Terms of Reference of the project terminal evaluation, the terminal evaluation has four objectives:

i. Monitor and evaluate results and impacts;
   Analyze and evaluate effectiveness of the results and impacts that the project has been able to achieve against the objectives, targets and indicators stated in the project document;

ii. Provide a basis for decision making on necessary amendments and improvements;
   Assess effectiveness of the work and processes undertaken by the project as well as the performance of all the partners involved in the project implementation;

iii. Promote accountability for resource use;
   Provide feedback and recommendations for subsequent decision making and necessary steps that need to be taken by the national stakeholders in order to ensure sustainability of the project's outcomes/results; and

iv. Document, provide feedback on, and disseminate lessons learned.
   Reflect on effectiveness of the available resource use; and document and provide feedback on lessons learned and best practices generated by the project during its implementation.

5.2 Key issues addressed

The following key issues have been addressed in the terminal evaluation:

Relevance of the project with national development priorities, and its appropriateness,
Effectiveness of the development project and partnership strategies,
Contribution and worth of the project to national development priorities
Key drivers and success factors enabling successful, sustained and scaled-up development initiatives, alternative options and comparative advantages of UNDP
Efficiency – cost-effectiveness of funds spent to reach project objectives and results
Risk factors and risk management strategies
Sustainability - level of national ownership and measures to enhance national capacity for sustainability of results
Impact of the project implemented on human development

Specifically, the terminal evaluation assessed the following aspects:

Relevance of the project to:

a) Climate mitigation
b) Development priorities at the local and national level
c) Direct beneficiaries - government, local authorities, public services, utilities, residents
d) UNDP mission to promote SHD by assisting the country to build its capacities in the focal area of environmental protection and management.

Technical Performance - the technical progress that has been made by the project relative to the achievement of its immediate objective, outcomes and outputs.

a) Quality of technical inputs national and international - how sound and pragmatic they were;
b) Effectiveness - extent to which the objective have been achieved and how likely it is to be achieved;
c) Efficiency – cost-effectiveness;
d) Adaptability – has the project been adaptable in the face of technical challenges or changing circumstances.

Management Performance focused on project implementation

a) General implementation and management
b) Executing agency, Project, and UNDP CO – their roles, capacities and effectiveness of the key project management players

Overall success of the project with regard to the following criteria:

a) Results
b) Sustainability
c) Contribution to capacity development
d) Leveraging financial or technical support

Synergy with other similar projects, funded by the government or other donors.

Recommendations, lessons learned and best practices accumulated during the project

5.3 Methodology of the evaluation

The evaluation has been carried out by the team consisting of one international and one national evaluator in the following steps:

i. **Documentation review** (desk study): The documentation review had three phases: ex-ante review of key project documents, on-site and ex-post review of other relevant project documentation. The list of documentation reviewed is included in Appendix E, and it includes the project document, updated project logical framework matrix, project reports, project Steering Committee minutes and decisions, Management Board minutes, project budgets, project work plans, progress reports, PIRs, project files, UNDP guiding documents, national legislation relevant to the project, project deliverables – publications, training materials, guides and books.
ii. **Interviews** have been held with key project stakeholders and beneficiaries, namely with:
    - UNDP Bulgaria
    - Project Administration (Project Management Unit)

- National Project Director
- Project Steering Committee members
- Governmental agencies and Ministries – Energy Efficiency Agency of the Ministry of Economy, Energy and Tourism, Ministry of Regional Development and Public Works
- Professionals trained – architects, designers
- Municipalities involved – mayors and municipal energy efficiency officers
- Participating organizations and NGOs: UACG University, Bulgarian Housing Association, Bulgarian Chamber of Architects

iii. **Field Visits** have been organized to two project sites of a complex energy efficient reconstruction of a multiapartment building in Sofia and in Blagoevgrad.

iv. **Semi-structured interviews** – two types of interviews with project stakeholders and beneficiaries have been hold: face-to-face interviews, and telephone interviews. List of persons interviewed is attached in Appendix C. The interviews followed a basic interview sketch with questions prepared in advanced, and each interview has been supplemented with specific ad hoc questions raised as a reaction to the information provided. The interviewed persons were also asked to express their general opinion on project impact and benefits, and the context of the project, and relevant remaining barriers/issues to be solved. A priority was given to a spontaneous response of interviewed persons, rather than to strictly keep them to follow the sequence of questions prepared in a formal way.

v. **Questionnaires** – A general set of questions has been prepared in advance, before the interviews, and it was supplemented by specific questions for each of the interviewed party. However, the evaluation team did not provide the formal questionnaire to interviewed persons in advance in order to eliminate a formal response. The evaluation team rather led the interviews as an informal discussion, in order to obtain authentic answers and opinion. A general set of questions is included in Appendix F.

The project terminal evaluation took place in July 2010, three months before the project implementation ends.

The terminal evaluation thus took into account actual project progress, budget spending and deliverables that were delivered and which materialized until July 2010. Remaining activities and deliverables that are planned to be implemented and produced until the end of the project in October 2010, were reviewed in their draft form, where available, as of July 2010.

5.4 Structure of the evaluation

This terminal evaluation follows the structure of the terminal evaluation report as specified in its Terms of Reference and according to the evaluation template of the 2009 Handbook on Planning, Monitoring and Evaluating for Development Results.

A specific attention and focus have been paid also to the evaluation of the implementation of recommendations of the mid-term evaluation, and to lessons learned and recommendations applicable also for other GEF/UNDP projects in other countries and regions of operation.

6. The project and its development context

6.1 Project start and its duration

The project document was signed and formally launched on March 31, 2006, and the actual project implementation started on June 1, 2006, when the Cooperation Agreement between EnEffect as a project implementing partner, and UNDP Country Office Bulgaria was signed. The project was planned to last 4 years, till the end of March, 2010. The project Steering Committee approved on September 17, 2009 a 6-month no-cost project extension till October, 2010.

6.2 Problems that the project seeks to address

The objective of the project, as stated in the project document, is to reduce greenhouse gas emissions associated with the energy use of private and public buildings in Bulgaria (including the premises of the local SMEs) by improving the efficiency of their energy use.

Typically, energy efficiency in countries with economies in transition has a significant cost-effective potential. The cumulative CO_2 reduction potential by improving efficiency of the energy use of private and public buildings in Bulgaria has been estimated in the project document to be 10 million tons of CO_2 by 2020. However, even such a large potential would remain often untapped due to the following main barriers:

- Insufficient financial solvency of investors, especially in owner-occupied residential buildings
- Legal and institutional barriers – mainly missing legal entity responsible for the whole multiapartment residential building such as housing association, housing cooperative etc.
- Lack of affordable financial sources for financing energy efficiency
- Lack of awareness of energy efficiency opportunities, and a lack of technical and financial capabilities to develop bankable energy efficient projects for financing

With the economic growth in Bulgaria, the financial solvency of investors, even in case of individual apartment owners, has grown significantly, and a growing number of them are already in a position to accumulate debt financing.

The major institutional barrier for financing retrofits of old multiapartment buildings – non-existing legal entity responsible for the whole building – has not yet been removed. However, the problem is already fully recognized by the policy makers, and several activities exist to find and implement a feasible solution – including for example activities of the Bulgarian Housing Association. Currently a legal basis is already in place to establish at least voluntary housing associations – Law on Condominium Management (2009).

Specific financial facilities targeted at energy efficiency projects that provide preferential financing as well as some technical assistance have been already implemented in Bulgaria before and during project implementation period. These financial facilities focused on financing residential energy efficiency projects include primarily BEEF - The Bulgarian Energy Efficiency Fund, and REECL – The EBRD Residential Energy Efficiency Credit Line. Additional, and the most significant source of co-financing of building retrofits especially in public sector, are EU Structural Funds.

However, even with specific energy efficiency financing facilities in place, there is typically a problem with developing sufficient portfolio of bankable energy efficient projects due to lack of awareness and lack of technical and financial capacity to develop financial sound, bankable energy efficiency projects. This was also the case of Bulgaria.

This GEF-UNDP funded project "Building the Local Capacity for Promoting Energy Efficiency in Private and Public Buildings" addresses this remaining gap and focuses on public and private building sectors, where the lack of capacity to develop bankable energy efficiency projects is typically more substantial than in other industries.

6.3 Goal, objective and outcomes of the project

The ***goal*** of this capacity building project is a reduction of greenhouse gas emissions associated with energy use in public buildings, private residential and service sector buildings and premises of the local small and medium sized enterprises (SMEs).

General project ***objective*** is to support market transformation towards energy efficient new building design and retrofit of the existing building stock.

The project document defined five project ***outcomes*** focused on energy efficiency awareness and capacity development among building designers, investors, and energy efficiency service providers (implementing energy efficiency building retrofits and construction). The project focuses on energy efficiency capacity development during a building design stage, before and during actual building re/construction, as well as on creating demand for energy efficiency investment into buildings in three sectors: public, private residential and private service sectors.

Outcome 1: Enhanced awareness and capacity of the local architects and building engineers to adopt energy efficiency aspects into the building design

Outcome 2: Sustainable demand for energy efficiency investments in public buildings created

Outcome 3: Sustainable demand for energy efficiency investments in private residential buildings created

Outcome 4: The demand for energy efficiency investments in private service sector buildings with the initial focus on tourism facilities (hotels etc.) increased

Outcome 5: The capacity of the local service providers to effectively market and implement their services increased

6.4 Main stakeholders

The project was NGO executed (EnEffect) and designed to work closely with a number of stakeholders from governmental agencies, municipalities, and private sector, including:

- Governmental institutions
- Ministry of Economy and Energy
- Energy Efficiency Agency

- Ministry of Regional Development and Public Works
- Ministry of Environment and Water
- Ministry of Labor and Social Policy
- Municipalities
- Bulgarian Housing Association – NGO
- International financial institutions and donors – such as World Bank, USAID, EBRD
- Private sector including building and apartment owners, consumer associations, associations of producers/industry/private service providers, equipment manufacturers and dealers, ESCOs and other energy efficiency service providers, commercial banks etc.

During the project implementation the actual scope of stakeholder participation was extended and included primarily:

Governmental bodies:

- Ministry of Economy and Energy
- Energy Efficiency Agency
- Ministry of Regional Development and Public Works
- Ministry of Environment and Water

Municipalities:

- EcoEnergy - Municipal Energy Efficiency Network
- Chief Municipal Architects
- Municipal Energy Managers
- Municipal officers of Energy Efficiency Focal Points
- Decision makers in municipalities

Universities:

- University of Architecture, Civil Engineering and Geodesy – professors and students
- Higher School of Transport
- European University

NGOs:

- Bulgarian Housing Association
- Chamber of Architects in Bulgaria
- Union of Architects in Bulgaria
- Bulgarian Hotel and Restaurant Association

Financial institutions:

- BEEF – The Bulgarian Energy Efficiency Fund

Private sector:

- Practicing architects and building designers
- Building investors and developers in residential buildings, hotels, industry (SME)

- Construction and engineering companies
- General public – apartment owners
- Local media

International activities:

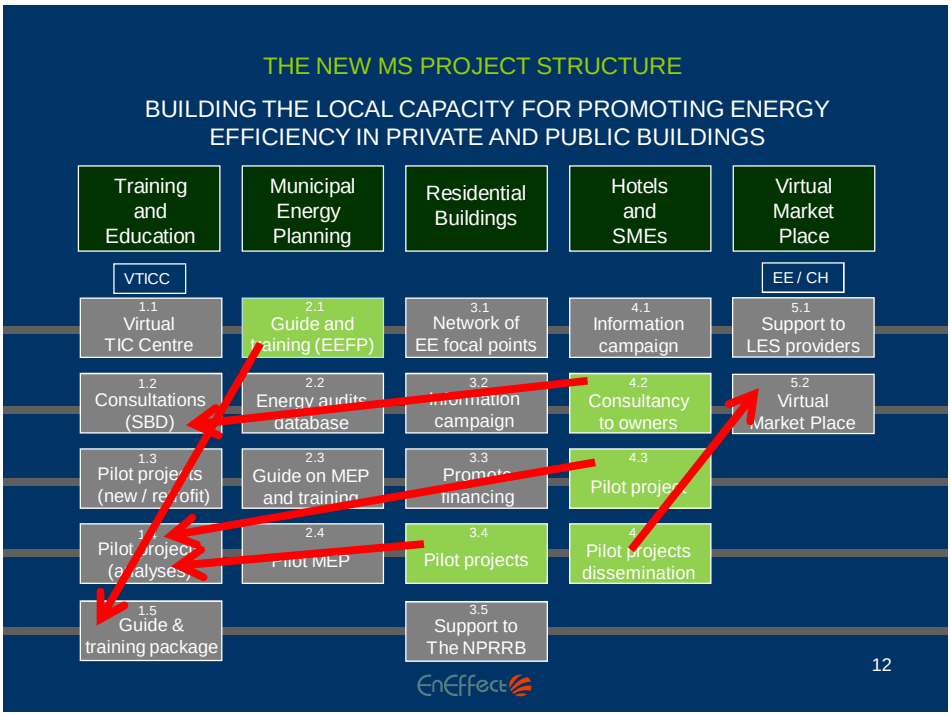
- US AID
- EU – Intelligent Energy Europe

6.5 Results expected

The project results were specified in the project document – see original project logframe in Appendix G as approved in the project document. The mid-term evaluation found project indicators inadequate and recommended to review and update the project logical framework matrix. The indicators were found either too general or rather specific and difficult to evaluate due to problems with collecting adequate data for verification. The logical framework matrix has been revised and subsequently approved by a Project Steering Committee on September 17, 2009. The revised logical framework matrix (see Appendix H) did change several project outputs, activities and indicators. Some of the project outputs were joined so that the original output matrix was changed and reduced, eliminating duplicity. The general project goal and individual project outcomes remain unchanged. The project Steering Committee and Management Board also approved several ad hoc changes in project activities as a response to actual development on the Bulgarian market.

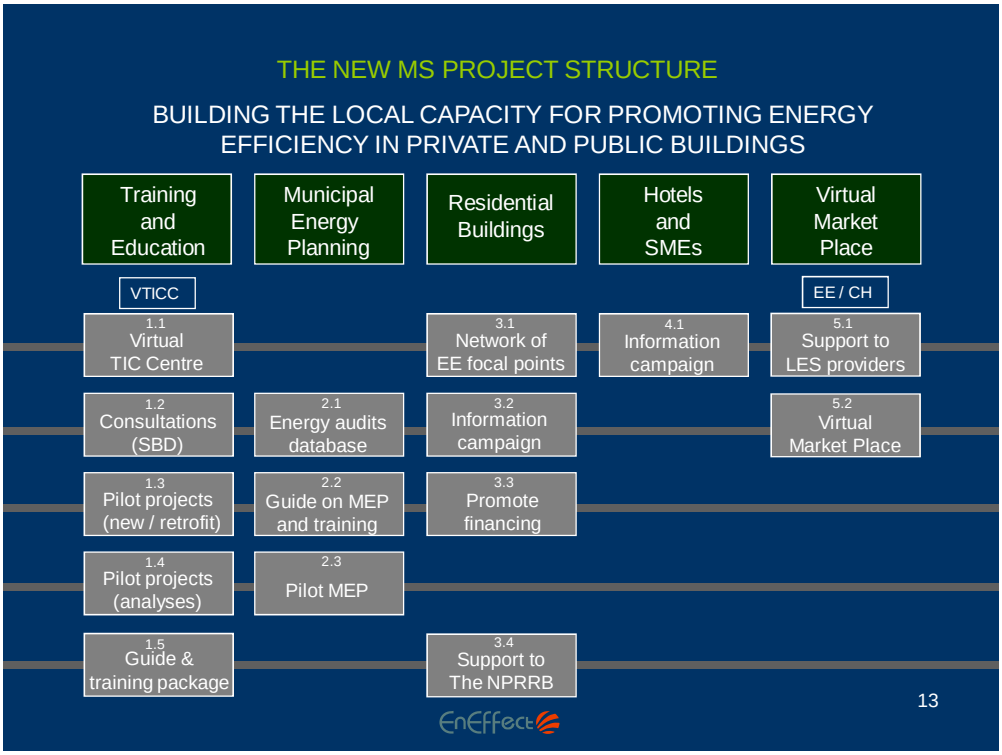
The principal changes in project outputs illustrate the following Table 1. The green marked outputs (2.1, 3.4, 4.2, 4.3, and 4.4) were merged with other outputs as indicated by the red arrow.

Table 1: Changes in project outputs – original project outputs



The revised matrix of project outputs illustrates Table 2. Please note changed numbering of project outputs. For a detail comparison of the original and revised logical framework matrixes please see Appendices G and H.

Table 2: The final updated project outputs



The overall project goal, objective, outcomes and key project results remained unchanged.

The project results, as specified in project outcomes, are focused on capacity building in the field of energy efficient design of new buildings and/or energy efficient retrofit of existing buildings and creating sustainable demand for energy efficiency investment in public, private residential, and private commercial (SMEs) buildings. The project capacity building activities target building design professionals (architects, engineers), energy efficiency service providers implementing energy efficiency re/construction of buildings, and building investors and developers.

The project results have two main components:

- First component addresses capacity building in municipal energy planning – methodology and development of municipal energy planning case studies that should result in preparation of a pipeline of energy efficiency projects in public sector for investment.
- The second main project component focuses on energy efficiency capacity development of architects, engineers, owners/investors/developers and service providers to design energy efficient building re/construction projects as a technically and financially sound and bankable projects for implementation.

As a direct result of the project, the original project document has defined a target to facilitate energy efficient investments at the minimum amount of USD 15 million by the end of the project, with the resulting CO_2 reduction of 125 000 tons of CO_2 over the next 20 years. The revised logical framework, defined a target 11b) as an amount of investments leveraged for energy efficiency retrofits in *private residential* buildings reaching 10 million USD by the end of the project, and a stricter target of 125 000 t CO_2 emission reductions from buildings influenced by project activities over their lifecycle to 2020.

7. Findings

7.1 Project formulation

Since the collapse of a socialist centrally planned economy 20 years ago, Bulgaria has undergone a significant but difficult development and market transformation. During this period the country has experienced both political and economic drops and ups, namely:

- A major economic crisis resulting in a financial default in 1996/1997. After elections a new pro-reform government was installed and strict economic and fiscal reforms were implemented with assistance of the International Monetary Fund.
- In the following 10 years Bulgaria has implemented significant reforms, which initiated economic development and growth.
- On January 1, 2007 Bulgaria became officially a new member of the European Union, which further accelerated economic development.
- Bulgarian economic boom has been heavily affected by the 2008 world economic crises, with negative impacts both in the construction as well as in tourist industry.

The project idea has been developed in early/mid 2000s when the economy was still underdeveloped as a result of the 1997 crisis, but the trends and expectations were positive as the country headed to join the European Union. During the project implementation period the country experienced the maximum of its economic boom after the country became a member of the EU, but it experienced also a negative economic decline as an effect of the 1998 world economic crises.

These fluctuations in economic growth had impact on both project design and project implementation. The project design counted with growing interest of investors in energy efficiency. However due to external factors and drop in economic development as a result of the 2008 world economic crisis, the interest of investors in new construction has declined significantly, as well as their willingness to invest into new energy efficient buildings. The project implementation was influenced by this unexpected market situation – difficulties to attract investors into new energy efficient buildings and energy efficient building retrofits. As a result of project adaptive management, the project plan has been adjusted accordingly and project outputs and activities have been updated and changed. However the planned project outcomes remained unchanged.

7.1.1 Conceptualization/design

As discussed in the Chapter 6.2 “Problems that the project seeks to address” the project design focused on the last untapped critical gap that prevented increasing energy efficiency in the country, specifically in the building sector. The other critical factors – solvency of investors (individual investors/owners of apartments) and adequate financing available for energy efficiency improvements have been addressed and solved by implementing economic reforms in the country (followed by economic growth), and by establishing of several specialized financial instruments (such as the BEEF – Bulgarian Energy Efficiency Fund, REECL - EBRD Residential Energy Efficiency Credit Line), as well as by availability of loans from commercial banks, and from grant funding from EU Structural Funds.

The third critical factor – lack of legal entities (housing associations, cooperatives) responsible for the whole multiapartment building is widely recognized by the government; however the problem has not yet been solved due to legal problems.

The focus of this project – energy efficiency project development capacity - was thus critical for effective improvement of energy efficiency in building sector in the country, as well for successful operation of the energy efficiency financial facilities implemented in Bulgaria (including BEEF, a GEF co-financed financial facility).

The project idea was initiated and developed by EnEffect, Bulgarian energy efficiency NGO, which has 18 years experience in energy efficiency, working locally in the country as well as internationally, and thus knowing in detail actual local, country specific needs in this field, as well as best international practices.

The project design was developed with assistance of international consultants under a PDF A facility. The international consultants brought additional international experience and especially knowledge of the GEF/UNDP specific requirements. The deep insight of EnEffect in energy efficiency activities in the country and the region, together with international expertise of external consultants, helped to incorporate experience and lessons learned from other energy efficiency projects implemented in Bulgaria, as well as in other countries. Also results and experience from the GEF/UNDP funded project "Energy Efficiency Strategy to Mitigate GHG Emissions - Energy Efficiency Demonstration Zone in Gabrovo", which was implemented by Eneffect in 1998-2004, were implemented into this project design – such as cooperation with Municipal Energy Efficiency Network EcoEnergy.

A critical issue in applying international experience is to properly assess the actual level of a local market, economy and policy development, and thus to apply in an appropriate way the lessons learned internationally. What worked well in one country, does not necessarily work the same way in another situation in another country.

The project intervention strategy was properly selected to address the key untapped problems in the country and the scope of planned activities was comprehensive and rather complex including both design and construction of new energy efficient buildings as well as energy efficient building retrofits. Originally, the project was designed as a full-scale project, however during project preparation it was decided to submit it for GEF financing as a mid-size project in order to have better chances to obtain funding. However, the extent of activities remained in that project design period practically unchanged.

A logical framework matrix was used in the project design, which specified project outcomes, outputs, indicators, baselines, targets, sources of verification and assumptions used. However, during the project implementation, the original logical framework matrix turned out to need to be updated and revised. Some of the originally planned project outputs were found to be rather difficult and impossible to reach during the project implementation. This is especially the case of the originally planned Outputs 1.1-1.3 concerning design and actual construction and operation of a new energy efficient building, and cooperation with external investor who would provide full investment costs for the building construction. This approach, relying on ad hoc attracting of investor, who should provide financing for investment to the construction of a new energy efficient building, was found to be too risky and did not materialize during the project implementation.

According to updated logical framework matrix and revised project outputs as approved by a Steering Committee, instead on focusing on construction and design of a new energy efficient building (and retrofitted buildings), the project then focused on designing "*new and/or existing*" energy efficient pilot buildings. In practice this meant that in line with project outputs and indicators, no new energy efficient building had to be constructed during the project implementation.

Due to a relative long period between the initial project idea was formulated in early/mid 2000s, and project implementation that lasts till 2010, and also due to different situation on the market than originally envisaged (incl. impacts of the world economic crisis), the project has experienced also need for several ad hoc changes in specific project activities that would allow to effectively reach the general project goal and outcomes. An effective adaptive management was implemented, especially in the second half of project implementation, after the mid-term evaluation, including the establishment of a flexible Management Board consisting of UNDP and the project implementing partner EnEffect. Management meetings of the project Management Board were held regularly on a monthly basis.

Indicators specified in the original logical framework matrix in the project document have been found during the project implementation to be inadequate and the mid-term evaluation recommended them to be reviewed and updated. The revised project logical framework matrix with revised indicators has been prepared by an external international consultant and approved by the Steering Committee on September 17, 2009. The revised indicators then served to monitor project results and remained unchanged.

The terminal evaluation team finds these revised set of indicators and targets to be more appropriate and better designed than the original set of indicators. However, even some of the revised indicators and targets are still difficult to evaluate due to unclear definition, baseline, method or source of verification. For this reason, calculation of several project achievements/indicators is and must be based only on estimates. This concerns mainly the following indicators:

Indicator 2: A target of this indicator is based on evaluating its status by 2020. By definition any indicator/target that is not based on the actual achievement that has materialized by the present status, but is derived from a future situation, must be based only on assumptions and for that reason such indicator/target *is not appropriate for project evaluation*.

In several cases the source of verification is not properly defined, or the source of verification simply does not exist, or it would be too costly to collect such data. That is why the actual achievements of those indicators´ targets have been estimated only. For example, this is the case of *indicators 11b), and 13a).*

The terminal evaluation team has reviewed methods used for calculation of indicators achievements, as well as assumptions and estimates used for these calculations. The methods and estimates used have been found reasonably fair and adequate for this purpose.

Assessment of the Conceptualization/Design

The evaluation team finds the focus of this project and its timing to very suitably fit with actual needs and priorities of the country in its stage of development – and thus finds it to be ***VERY SATISFACTORY***.

However, due to the need to substantially revise project outputs and project indicators/targets during project implementation (after the mid-term evaluation), and because even the updated project logframe revised by the international consultants did not define properly all project indicators and targets (see discussion above), the evaluation team assesses the rating of this criterion ***Conceptualization/Design*** to be ***MARGINALLY SATISFACTORY***.

Highly Satisfactory	Satisfactory	**Marginally Satisfactory**	Unsatisfactory

7.1.2 Country-ownership/Driveness

The project idea was developed by EnEffect, a local Bulgarian energy efficiency NGO, with support of UNDP and international consultants, and it fully reflects national development plans, and is in line with national policies and legislation, specifically with:

- *National Climate Change Action Plan* (2000), which specifies energy efficiency improvements as a relevant instrument for decreasing greenhouse gas emissions;
- *Energy Strategy of Bulgaria* (2002) and the National Energy Conservation Program until 2010, which have identified energy efficiency as a priority activity to address both energy and environment issues;
- *Energy Law* (2003) and the *Energy Efficiency Acts* (2004, 2008) developed in line with the related EU legislation, including the EU Directive 2002/91/EC on the energy performance of buildings
- *First National ESD - Action Plan on Energy Efficiency* (FNAPEE) 2008 - 2010
- *National Long-Term Programme for Energy Efficiency* until 2015
- *National Short-Term Programme for Energy Efficiency*
- *Bulgarian Energy Strategy* by 2020
- *Energy Efficiency Plan and Action Plan* SEETEC, 2003
- *National Dwelling Strategy* of Republic of Bulgaria
- *National Program for Renovation of Dwellings of Republic of Bulgaria* - January 2005
- *Act on Environmental Protection* - 2002
- And other national bylaws and regulations.

Assessment of the Country-ownership/Driveness

The development of the project idea, lead by the Bulgarian NGO EnEffect, as well as project implementation, was 100% country driven and fully in line with Bulgarian national policies and legislation. The evaluation team assesses the rating of this criterion ***Country-ownership/Driveness*** to be ***HIGHLY SATISFACTORY***.

Highly Satisfactory	Satisfactory	Marginally Satisfactory	Unsatisfactory

7.1.3 Stakeholder participation in the design phase

The project idea was developed primarily by the Bulgarian NGO EnEffect which applied its knowledge of and experience in energy efficiency development in the country from its long-term

activities on the local market. During the project design phase EnEffect used also inputs and experience from other national stakeholders and potential project beneficiaries, especially municipalities, local professionals (architects), and universities. The inputs of external consultations, including international consultants, needed to be aligned with the actual situation in this field in Bulgaria and with the core project idea, in order to keep the project design focused.

However, as the project implementation showed, a more detailed market analysis would have been useful, especially in the area of potential role of investors and their capacity to invest into new low-energy buildings and energy efficiency building retrofits.

Assessment of the Stakeholder Participation in the Design Phase

Based on the analysis of the project design phase and project implementation, the evaluation team assesses the rating of this criterion ***Stakeholder Participation in the Design Phase*** to be ***SATISFACTORY***.

Highly Satisfactory	**Satisfactory**	Marginally Satisfactory	Unsatisfactory

7.1.4 Replication approach

The focus of the project on capacity development in energy efficiency building re/construction perfectly matched with local needs and priorities. Also the timing for implementation of such a project in Bulgaria was adequate, with increased solvency of building/individual apartment owners as investors, and with energy efficiency financial instruments in place (BEEF, REECL). However, the still non-existing legal entities (housing associations, cooperatives, etc.) responsible for the whole residential multiapartment building effectively decreased the potential for immediate replication of complex energy efficient retrofits in the residential sector.

Critical success factor was a strong local project ownership and a country driven approach based on detailed knowledge of the local market and policy conditions, specific local needs and priorities, and ability of local market and project beneficiaries to accept best international approaches.

Another critical factor is a detailed and realistic analysis of local market situation and assessment of a capacity of the local market to absorb proposed project activities, and to produce planned project outputs and outcomes. This can be illustrated by difficulties to attract investors to join the project as external investor for construction of new energy efficient buildings and energy efficiency retrofits of existing buildings.

Last, but not least, a strong project ownership since the early stages of project idea formulation, together with strong capabilities of project implementing partner in standard project management techniques, including adaptive management skills (as opposed to only ad hoc reactions) is another critical success factor.

A successful development strategy is based on a step-by-step approach, focusing first on addressing the key basic issues and priority problems, and development of adequate skills and capacities step-by-step among all stakeholders. In case of energy efficient buildings, this means first focus on energy efficient retrofits of existing building stock to a level that is appropriate, affordable, and which takes into account also local usual compliance with technical and energy efficiency norms and standards. And only if the market is developed in a way that there exists sufficient experience with implementing

basic energy efficiency measures in retrofitting of existing buildings/construction of new buildings, a next step is to focus on developing more energy efficient new buildings/energy efficiency building retrofits. A compliance rate with existing norms and the level of energy efficiency required by existing norms, can both serve as an essential indicator of the market development in this field. The "energy efficient" buildings should be defined according to local climate conditions, as well as to local market development. This means to focus development activities first on design and construction of "more" energy efficient buildings than what is local business-as-usual standard, and only as a second step to focus on more advanced "low-energy buildings". "Passive houses" and "zero-energy buildings" require additional advanced skills both of architects/designers/engineers, as well as of construction companies, and thus they are suitable only for rather advanced markets.

In case of this Bulgarian energy efficiency building project, it faced significant problems with attracting investors to finance new energy efficient buildings as well as to finance energy efficiency retrofit of existing buildings. But due to significant economic and market development over the last decade in Bulgaria, and as a new EU member country, it was possible to adapt the project activities to meet the planned project goals and outcomes. The situation in other, less developed countries with economies in transition, where similar energy efficiency projects are proposed/implemented, the risk of inadequate project design and goals that do not correspond with a level of development of local markets, might cause critical problems with successful project implementation.

In countries with generally low level of compliance with norms and standards, including energy efficiency, an implementation of stricter and compulsory energy efficiency norms might even increase a risk and potential for corruption.

7.1.5 Other aspects

The project management arrangements were designed as an NGO-executed. The EnEffect NGO served as a Project Implementing Partner and received managerial and technical support from UNDP. Project Cooperation Agreement that was signed at the project implementation kick-off detailed the management, financial and reporting responsibilities of both partners.

This project management arrangement seems to be properly chosen, because EnEffect is a recognized leading energy efficiency organization in Bulgaria, with a detailed and proven expertise in energy efficiency in a country, as well as in implementing international projects, including GEF/UNDP funded projects. UNDP on the other hand has a solid expertise in development project management, and project monitoring. UNDP provided management oversight and support on a regular basis as a member of a Steering Committee, and a Project Advisory Board, and in the second period of project implementation as a member of the Management Board as well. In addition to this institutionalized forms of cooperation, UNDP provided also ad hoc inputs and support, and provided linkage to other projects as well. Specifically, it offered one residential building (Block No.17 in the Zapad residential complex in Blagoevgrad) which was planned to be reconstructed under another UNDP/MRDPW project "Demonstration Project for the Renovation of Multifamily Buildings" to join this energy efficiency project and to serve as a pilot for complex energy efficiency reconstruction of a multiapartment residential building.

The project management arrangements were properly defined during the project design phase, and due to effective adaptive management, both UNDP and EnEffect were able to intensify the cooperation as needed during the project implementation.

7.2 Project implementation

7.2.1 Implementation approach

7.2.1.1 The use of the logical framework as a management tool

During the project implementation the project logical framework matrix has been used as a primary management tool. However, the effectiveness of using this management tool was significantly increased after the mid-term evaluation, which recommended updating the project logical framework and indicators, as well as methodology to calculate the project CO_2 emissions reductions. The updated logical framework matrix better reflected the actual situation on the market – lack of investors in new energy efficient buildings - and reformulated concrete project outputs to effectively reach the project goals and objectives. Updated indicators were defined in order to better indicate projected outputs, as well as to allow for appropriate verification. However, even some of the revised indicators and targets, as updated by an international consultant, are still difficult to evaluate due to unclear definition, baseline, or method or source of verification – see discussion in Chapter X Conceptualization/Design.

During project implementation, the project implementing partner EnEffect became more familiar with the logic of the LogFrame matrix as a management tool, which made its use more effective in a daily project operation, project management and project monitoring.

Based on the experience of the evaluation team also from other GEF/UNDP projects, the project logical framework matrix provides a useful tool for structuring the project activities, outputs, and outcomes, and indicators, including targets and baseline, and source of verification – which helps to effectively manage the project implementation. However, critical is that such logical frame is properly designed and defined in a consistent way, and that it reflects all key project aspects, activities and deliverables. On the other hand, sometimes it might be difficult to translate the project logic and its "natural" more complex structure into a usual logframe structure (which typically has a simple tree structure and consists of several outcomes, each of them of several outputs, which are divided into several activities).

In some cases a more complex tool, or a tool that allows for a more complex project structure, might be useful. Such a standard project management tool (see the discussion in the next paragraph) could be useful for example in cases with more complicated project structure, where individual project activity supports several project outcomes/outputs, or in cases with numerous changes and updates of the originally planned project activities, etc. Also it might be helpful to support effective project management with a tool that would allow to track easily on a daily basis critical path of project implementation (deadlines of project activities and deliverables etc.), as well as actual project spending against planned budget.

7.2.1.2 Other elements that indicate adaptive management

The project implementing partner has prepared on a regular basis and with assistance of UNDP when required, all standard project reports, such as Inception Report, Annual Work Plans including budget reviews and revisions, Annual Reports, Monthly Progress Reports, Quarterly Progress Reports, Quarterly Project Review Reports, Project Implementation Reviews, Project Results and Resources Frameworks. In addition to standard reporting formats, some ad hoc reports were developed in certain

phases of the project implementation as per request of UNDP, such as specific Terms of Reference for each of the project activities.

Except for the change and update of the project logical framework matrix that have been prepared and approved based on recommendation of the mid-term evaluation report, there have been also several changes proposed to the Steering Committee and the Management Board in the form of regular work plans, which changed several individual project activities as well as individual budget lines and budget allocations among different project outputs and activities.

These rather substantial and frequent updates and changes in details of planned activities and their individual budget lines testify that adaptive management has been widely used during the project implementation both by the project implementing partner, as well as by the UNDP, which approved the proposed changes as a member of a Steering Committee and later also as a member of the Management Board.

The originally planned project outcomes and the total project budget have not been changed since the project document approval.

As observed also in other GEF/UNDP projects, the rather extensive reporting, as required by the GEF/UNDP rules, is quite time-consuming, and it requires allocation of sufficient and rather substantial human resources by the project implementing partner. On the other hand, this rather time-consuming and quite large amount of reports in different formats provides only ***fragmented*** information on the project status and implementation. No comprehensive, updated information that reflects the whole project life-cycle is easily to be read from the standard reporting formats.

Because of these fragmented reports on project development and status, it is difficult and time consuming to track the actual progress and up-to-date status of the project implementation from this source of information. It is time consuming for project evaluators. But the evaluation is only a one-time activity (implemented twice during the whole project implementation – the mid-term and terminal evaluation), and thus it is not such a critical burden for the evaluating team.

What is more critical, is that for this reason – fragmented project reports and information - it is rather difficult to use effectively all the reports for daily management of the project. Often (as witnessed in other projects), the required reports are seen as a burden and formality, rather than a helpful tool for effective project management.

Typically, the organization that implements GEF/UNDP project does not have any standard project management tool at their disposal, nor any tailored management accounting tool (except for the general accounting system of course). And usually also the experience of project implementing agencies in advanced project management techniques and management accounting tools is rather limited. The reports are often prepared ad hoc as an independent project deliverable, with limited linkage to actual daily project management.

Nowadays, there are number of different professional software tools available for effective project management as well as different management accounting systems. These software applications can be also web based, which could make the project management and control more effective also for interaction with UNDP and GEF. Of course, any software product itself is not a sufficient guarantee for more effective project operation. In any way, the software tools should specifically address the needs and requirements of GEF/UNDP as well as of project implementing partners. And the project implementing partners should be trained in how to use such project management software tool and a

tailored management accounting system (as a support, not as a goal per se) for effective daily project management.

7.2.1.3 The project's use/establishment of electronic information technologies

The project extensively used information and communication technologies (ICT).

The ICT was utilized daily in a routine office work; basically all project materials and communication have been prepared using ICT. A specialized software program has been used for calculation of energy demand of buildings for different energy efficiency scenarios, software for building design has been utilized, an internet web page has been created (but at the time of evaluation not yet fully operational) as an information platform for project information dissemination, training and experience exchange, ICT has been used as tool for training of professionals as well as for awareness rising and promotion of project. Key project outputs have been/will be printed as books and will be available also electronically from the project web page.

As mentioned above, neither specialized software tool for project management, nor software tool for management accounting has been used during the project implementation by the project implementing partner.

On the other hand, UNDP provided to the project implementing partner upon request outputs from its internal software management and accounting tools (Annual Performance Review, Project Implementation Report, Ledger, Combined Delivery Report with Encumbrance, …), which helped the project implementing partner in their daily project management, for example to track total actual project expenditures by budget lines and outcomes against the planned budget.

7.2.1.4 The general operational relationships

The general operational relationships between the project implementing partner - EnEffect, UNDP, Steering Committee, governmental institutions involved and other project stakeholders (municipalities, building and civil engineering professionals, general public) were effective and consist one of the strengths of the project. The good positioning of EnEffect as a recognized energy efficiency leader in the country with established good personal contacts to key partners in the country (Energy Efficiency Agency, municipalities, professionals, local financing facility BEEF, …) allowed for effective and often informal relationships among institutions involved. From reactions of all stakeholders interviewed it was obvious that the cooperation and operational relationships with the project implementing partner were smooth and effective. This was also thanks to past activities of EnEffect in this field, when it established good reputation and contacts in the country, incl. for example the former GEF/UNDP funded project “Energy Efficiency Strategy to Mitigate GHG Emissions - Energy Efficiency Demonstration Zone in Gabrovo”, and the EcoEnergy - Municipal Energy Efficiency Network.

UNDP provided valuable support in terms of project management as a member of a Steering Committee, Management Board, UNDP provided also informal ad hoc advice and supported daily project management and operation, such as summary of actual total budget spent etc.

UNDP also became a critical partner for successful project implementation when one of the pilot projects – energy efficiency retrofit of a multiapartment residential building in Blagoevgrad – was selected in cooperation with UNDP and Ministry of Regional Development and Public Works project

"Demonstration Project for the Renovation of Multifamily Buildings". The complex energy efficiency reconstruction of this building was financed from the budget of this parallel UNDP/MRDPW project.

7.2.1.5 Technical capacities

A critical role in project development, management and implementation had the implementing partner EnEffect, who has an advanced knowledge and experience in energy efficiency as well as a good knowledge of country specific market conditions, policies and legislation, including energy efficiency barriers. EnEffect possesses an excellent technical and financial expertise in energy efficiency, and is experienced in project management, including international projects and GEF/UNDP financed projects.

Assessment of the Implementation Approach

Based on the analysis of the project implementation, the evaluation team assesses the rating of this criterion ***Implementation Approach*** to be ***SATISFACTORY***.

Highly Satisfactory	**Satisfactory**	Marginally Satisfactory	Unsatisfactory

7.2.2 Monitoring and evaluation

During the project implementation period the project has been subject to regular monitoring according to GEF/UNDP standards. Work schedules, project activities, outputs have been reviewed on a regular basis and monthly, quarterly and annual progress reports were submitted for review to UNDP and the Steering Committee, and later also to the newly established Management Board as well. Accordingly, if needed, the work plans have been revised and updated.

Two external evaluations have been organized during the project implementation period. The mid-term evaluation took place in 2008, and this terminal evaluation in July 2010, two/three months before the project is scheduled to finish.

Results and recommendations of the mid-term evaluation report have been taken into account and implemented, namely:

1. ***Ensure Expertise and Capacity for Adaptive Project Management***

…„subcontracted project manager of international capacity and familiar with UNDP/GEF requirements and procedures be integrated immediately"

The fluctuation in the position of a Project Manager has been eliminated after the mid-term evaluation report, a new Project Manager has been appointed, and a discontinuity in project management was prevented when the former Project Manager took another position in EnEffect, and the Project Manager was supported by both the former Project Manager and also by the Project Director, Mr. Zdravko Genchev, Executive Director, and Mr. Pavel Manchev, Deputy Director of EnEffect. The Steering Committee decided to establish a project Management Board (see below), consisting of UNDP and EnEffect, that met on a monthly basis to monitor frequently the project implementation, and to provide an additional support for the Project Manager.

2. ***Careful review and adaptation of the Project's Logical Framework Matrix***

An external international consultant has been hired to update project Logical Framework Matrix that reviewed project outputs and redefined project indicators, baselines and targets.

3. ***A clear CO_2 emission reduction calculation specific to the project outcomes***

An external international consultant has been contracted to develop a project specific methodology for CO_2 emission reduction calculations, and actual CO_2 emission reduction calculations.

4. ***Establish a monitoring and evaluation team***

The function of the monitoring and evaluation team was performed by the Management Board, which consists of UNDP and EnEffect staff.

5. ***Frequent Steering Committee meetings for the next 6 to 8 months***

In addition to a Steering Committee, a new Management Board has been established from representatives of the UNDP and EnEffect, which met on a monthly basis to oversee project implementation regularly and frequently in-between regular meetings of the Steering Committee.

6. ***Establish links with industry partners***

Key industry partners have been invited to join the project activities and actively participated in the training of architects delivered by the project, and in some information activities.

7. ***Concentrate training of architects and engineers to the 30 most active architectural practices***

The training of architects received a notable interest of the architects, the number of trained architects has been increased, but still limited, and a total of 63 architectural practices were trained.

8. ***Provide municipalities with clear guidelines how to realize EE investments in municipal buildings***

The methodology of Municipal Energy Planning has been revised and updated and new Municipal Energy Plans developed, that focused on practical output of the planning process to develop a pipeline of bankable energy efficiency projects.

9. ***Involve service providers to produce models for renovation of multi-storey residential buildings***

The project teamed up with another UNDP and Ministry of Regional Development and Public Works project “Demonstration Project for the Renovation of Multifamily Buildings“ and helped to implement complex energy efficiency reconstruction of a multi-apartment building in Blagoevgrad, as one of the first model cases in the country.

The project monitoring and evaluation has been intensified and improved since the mid-term evaluation recommendations have been implemented. A significant role in regular project monitoring and evaluation played UNDP, which provided its expertise and guidance, as well as participated in monthly Management Board meetings, and provided additional assistance upon request.

As discussed earlier, the project monitoring and evaluation would be easier, less time consuming and less demanding, and thus more effective, should there be any suitable project management tool and management accounting tool available for a daily use.

Assessment of the Monitoring and Evaluation

Based on the analysis of the project implementation, and an improvement in project monitoring and evaluation after the project mid-term evaluation, the evaluation team assesses the rating of this criterion ***Monitoring and Evaluation*** to be ***SATISFACTORY***.

Highly Satisfactory	**Satisfactory**	Marginally Satisfactory	Unsatisfactory

7.2.3 Stakeholder participation

7.2.3.1 The production and dissemination of information generated by the project

Since the terminal evaluation took place three months before the project ends, not all deliverables have been already finalized and disseminated – see the project achievements overview in Chapter 7.3 – Project Results. However, as per July 2010, extensive project information has been delivered to participating project beneficiaries and also produced in electronic format to be published on the project web site, which was during the terminal evaluation under development.

Specifically the following project information has been produced and disseminated by July 2010:

- Book of Regulations for the web based Training Center, developed after discussions with the University for Architecture, Construction and Public Works
- Four municipal energy efficiency focal points (one-stop information centers) prepared and opened, 4 offices equipped and opened, information materials and leaflets developed and provided, moving exhibition provided
- 8 experts trained who work in 4 energy efficiency local focal points in Lom, Dobrich, Pazardjik and Gabrovo municipality, an internet site has been developed and regularly updated at www.ee-infocenters.net
- 172 municipal energy officers from 60 municipalities trained in Municipal Energy Planning: 25-26 June 2007, Sofia; 28-29 June 2007, Dobrich; 1-2 October 2007, Sofia; 27-28 March 2008, Sofia; 28 January 2009, Varna; 29 January 2009, Bourgass; 23 June 2009, Rousse; and 24 June 2009, Lom
- A printed Guide on Municipal Energy planning in Bulgarian and in English, and translated in 8 European languages and in Ukrainian, a digital version has been uploaded on the project site and 1000 copies were printed for dissemination.
- A two-part training in low-energy building design for 76 designers from 63 companies (first training - December 2009) and 63 designers from 56 companies (second training - March 2010)
- Training seminar on Sustainable building design for chief municipal architects was conducted on 26 June 2008: 35 chief municipal architects from 33 municipalities and 6 representatives of other organizations have been trained

- Training of 160 university students of architecture in Low-energy building design, the training program was incorporated in students' curricula so that at least 320 students will be trained by 2020
- A guide on energy efficient building design "Green Vitrovius" published, 10 books for Green Architecture (in 4 volumes), Best Practices Catalogue, and a digital version of the guide developed as a draft
- Consultations (incl. energy audits) provided to investors/designers/builders of 52 new/retrofits of existing buildings
- Consultations and alternative building designs for 3 pilot existing buildings for energy efficient retrofit,
    - 4 alternative designs for residential block 17 in Blagoevgrad
    - 4 alternative designs for students' hostel 35 in Sofia
    - Alternative designs for a SMS enterprise building in Pravetz
- Technical design and consultations for 3 pilot new energy efficiency buildings to be constructed
    - Technical design for a low-energy residential building in Tzarevo, Boyana/Sofia, and Bistritza/Sofia
- Comparative analysis carried out
- A comprehensive handbook / guide on energy efficient building design developed, dedicated software developed, tested and implemented for the design of the comprehensive multifunctional website
- Targeted training programs on sustainable building design and municipal energy planning
- Assistance and data exchange with the EEA, for the development of a national energy efficiency database.
- A study has been carried out (in cooperation with the the EEA and EcoEnergy network) of municipal energy programs, updated during the project implementation to assess how they address investment projects for energy efficiency and recommend improvements. A final report with analysis has been developed.
- A study of the existing incentives for energy efficiency and their impact and proposal for new ones (in cooperation with the AEE and the BEEF) has been developed. The existing legislation was reviewed and analyzed and recommendations were made.
- Technical, financial and organizational consultations have been provided to 119 municipalities, citizens and companies
- Municipal energy programs have been developed for 5 pilot municipalities – Smolian, Madan, Gabrovo, Dobrich, and Lom
- Information campaigns performed through the local EE focal points
- Municipal exhibition Intelligent Energy Days organized and performed
- Moving exhibition organized and promoted
- Information broadcasted by local TV and Radio stations
- A set of best energy efficiency practices and selected best practices on sustainable/energy efficiency buildings developed, disseminated in electronic format, and included in the catalogue of 100 practices. Digital version containing 100 best practices was uploaded on the project website and the hard copy containing 30 best practices has been printed.
- A Manual on financing of residential buildings improvements has been developed, periodically updated, and published on Internet

- Study on the barriers to the renovation of the existing residential buildings has been carried out and an analytical report developed
- An electronic reference book for energy efficiency in hotels with a set of best practices for energy efficiency improvements in hotels developed and disseminated to 4,000 hotel owners / managers, electronic version has been uploaded on the project web site
- Seminars and presentations for hotel managers have been organized
- Promotional / information brochures for energy efficiency in hotels have been prepared and disseminated in cooperation with a dedicated website of the BHRA
- A database of market players in energy efficiency has been developed and regularly updated on internet

In addition to these "official" project products, a number of outreach information has been produced and disseminated among local audience. A list of additional project materials and information dissemination activities includes:

Low energy buildings. Article in the magazine "Kashtata" (The House). Authors: Zdravko Genchev, Petar Kamburov, Pavel Manchev, Dimitar Dukov (2008)

EcoEnergy before its annual conference. Interview with Zdravko Genchev, published in the weekly newspaper "Straitelstvo. Gradat" (Construction. The City).

Presentation of project outcomes at the annual conferences of EcoEnergy municipal network (2006, 2007, 2008, 2009) – Zdravko Genchev, Kalinka Nakova, Pavel Manchev, Petar Kamburov

Presentation of project outcomes at periodical meetings of EcoEnergy municipal specialists (2006, 2007, 2008, 2009 – twice a week). Zdravko Genchev, Kalinka Nakova, Pavel Manchev, Petar Kamburov

Presentation of project outcomes at regional meetings of the Energy Efficiency Agency (2007-2010). Kalinka Nakova, Pavel Manchev, Zdravko Genchev

Presentation of project outcomes at Intelligent Energy Days exhibition in Lom, Gabrovo, Dobrich, Krividol, etc. Kalinka Nakova, Pavel Manchev, Zdravko Genchev

Movable exhibition "IMAGINE" (Imagine the future of your city). Exposed in several cities of the Municipal Energy Efficiency Network EcoEnergy

Presentations at the Energy Efficiency Regional Forums in Vratza, Shumen, Blagoevgrad, Plovdiv, Bourgas, etc. Pavel Manchev, Dimitar Dukov, Zdravko Genchev

Publications in the website of the Bulgarian Hotel and Restaurant Association (BHRA) and dissemination of printed promotional materials to BHRA members

Presentations during the tourist burse at the National Palace of Culture and during the meetings of BHRA in Sofia, Veliko Tarnovo and Dobrich

Publications in the website of the Association for Renovation and Condominiums

Series of publications in the dedicated newspaper "Stroitrlstvo-Gradat" – articles, interviews, information

Series of information leaflets on energy efficiency in hotels, residential buildings, appliances, etc.

The information dissemination and communication strategy of EnEffect has been quite intensive and effective. The information produced by the project was disseminated to all project stakeholders and beneficiaries, the stakeholders were actively involved in project results outreach, and the major project products – guides and books as well as training should be available electronically on the project web site after the project closure for any other interested party as well.

7.2.3.2 Local resource users and NGOs participation

The project was NGO implemented and other NGOs did actively participate in project implementation as well, including Bulgarian Housing Association, Chamber of Architects in Bulgaria, Union of Architects in Bulgaria, and Bulgarian Hotel and Restaurant Association.

Other local stakeholders – municipalities, universities, professional groups, industry representatives, and general public were actively involved in the project as well, and targeted by the project information dissemination activities.

A project Advisory Committee that consisted of recognized experts and professionals in energy efficiency provided an input for project implementations. Meetings of the Advisory Committee were held on an ad hoc basis. The following organizations were represented in the project Advisory Committee: UNDP, Energy Efficiency Agency, Ministry of Regional Development and Public Works, University of Architecture, Civil Engineering and Geodesy, Union of Architects in Bulgaria, Bulgarian Energy Efficiency Fund, Bulgarian Housing Association, and EnEffect.

The involvement of local stakeholders, project beneficiaries, and NGOs in a project, which was lead and implemented by the EnEffect NGO, has been evaluated to be effective and adequate. Sufficient external feedback has been collected during project execution, and at the same time the project management remained focused and responsibility stayed clearly with the project implementing partner.

7.2.3.3 The establishment of partnerships

The project effectively utilized existing professional networks that were in place in the country already, including the EcoEnergy municipal network (established earlier through another GEF/UNDP funded project), networks of members of Union and Chamber of Architects, and of Bulgarian Hotel and Restaurant Association. The partnerships established and/or strengthened during project implementation were developed on a local level with concrete investors/owners of building facilities, on a municipal level with individual municipalities as well as with municipal network EcoEnergy, and on a national level with governmental agencies, professional associations, and key industry representatives.

During the project implementation, the project implementing partner has disseminated and applied the experience developed during project implementation also in several other international projects already, namely in the following projects:

MODEL (Management Of Domains related to Energy in Local authorities)

Financed by the EU "Intelligent Energy Europe" programme (2007-2010). Total project costs: about €1.8 mil. Contribution: the Municipal Energy Planning (MEP) methodology was adapted for implementation in all new EU member states and translated in 8 European languages. 43 pilot municipalities of 8 countries tested the MEP methodology. EnEffect provided training to selected energy managers from 8 new EU member states. The methodology was recommended as a tool for municipal energy programs in the municipalities - signatories of the Covenant of Mayors.

Municipal District Heating Reform Project - Ukraine

Financed by the US Agency for International Development (2009-2012). Project costs about €0.5 mil. for MEP development and training. Contribution of GEF project: The MEP methodology was accepted for implementation in Ukraine and the Guide on MEP was translated in Ukrainian language, and disseminated in participating cities. Profound training on MEP was provided by EnEffect to energy managers, financiers and elected officers from 20 Ukrainian cities. EnEffect provides technical assistance to the development of 20 MEPs.

MODEL – 2

Financed by the EU (2010-2012). Participating countries: Georgia, Moldova, Armenia and Ukraine. Project leader: Energy-Cites. EnEffect provides training on MEP for municipal energy managers (about €13,000 for training only). Training materials and MEP methodology will be translated in Moldavian, Georgian and Armenian language and disseminated in those countries for use and implementation.

Financing Investments for Energy Efficiency and Renewable Energy Sources

Financed by GEF/UNEP/UNF/FFEM/WBC through UNECE (2009-2012). Participating countries: 12 European non-EU member countries and Bulgaria. MEP methodology is used for the identification and development of EE and RES projects for financing by a newly established dedicated Fund.

National Energy Efficiency Action Planning for Building Sector (NEEAPBS)

Financed by USAID through IRG (2009-2010). Participating countries: 5 countries from South-East Europe, and Moldova and Ukraine as observers. MEP methodology has been used for the estimations of investments, energy savings, and emission reduction etc. in the process of the development of NEEAP for Building sectors of participating countries. EnEffect provided trainings in 2 training sessions and delivered 16 presentations related to EE potential in building sector and the development of NEEAPBS and business plans.

Bulgaria Energy Efficiency Fund

Financing: GEF/World Bank, Austrian government, Bulgarian government, private donors (about €15 mil. in total). EnEffect participates as a Fund co-manager. Energy audits performed by the project were submitted to the Fund for financing and subsequent implementation. Energy audits and applications were reviewed and assessed for financing with technical assistance from EnEffect. Close cooperation and data exchange between the project and the Fund.

The partnerships established on a local and national level helped to effectively implement the project – develop and strengthen energy efficiency capacity among the national project beneficiaries, and to develop local energy efficiency building retrofit projects for financing and implementation. The

opportunity of international cooperation allowed for additional project results and experience dissemination abroad mainly to countries of the Central and Eastern Europe.

7.2.3.4 Involvement of governmental institutions in project implementation, the extent of governmental support of the project.

The governmental institutions were actively involved in the project implementation both as members of the Steering Committee and of the Advisory Board, and they also provided in-kind support and cooperated in project implementation.

The project cooperated with the Energy Efficiency Agency and focused mainly on Municipal Energy Planning (MEP), energy audits, calculation of CO_2 emission reductions from energy efficiency building retrofits, review of energy efficiency norms for buildings, exchange of data of designed energy efficiency alternatives, and development of energy efficiency database. The specialists of the Energy Efficiency Agency participated in training on Municipal Energy Planning and provided overall support for the project implementation.

The cooperation with the Ministry of Regional Development and Public Works included review of results of energy efficiency retrofits for potential revision of energy efficiency norms and regulations for buildings, and participation in project trainings. The project also teamed up with the UNDP/MRDPW program "National Program for Renovation of the Building Stock" and selected one of the condominium buildings in Blagoevgrad from this program to serve as a first pilot building for implementing complex energy efficiency retrofit in the whole building.

Local governments have played a crucial role in project implementation as one of key project beneficiaries. They have also contributed to the project implementation in two ways: individually and collectively through the Municipal Energy Efficiency Network EcoEnergy.

EcoEnergy financed the annual network Conferences, where project outcomes have been presented, discussed and promoted.

Pilot municipalities contributed in-kind in the development of their Municipal Energy Plans, in the organization of municipal exhibition Energy Efficiency Days/ Energy Efficiency Week, in the opening and maintaining of the Local Energy Efficiency Focal Points. Nine municipalities have joined the Covenant of Mayors, an EU climate change initiative; most of them were directly influenced by the project.

7.2.4 Financial planning

7.2.4.1 The actual project cost by objectives, outputs, activities

The financial plan as stated in the project document includes total budget divided per six project outcomes (including output 6 – project monitoring and evaluation) and individual budget lines (Atlas budgetary account code) for each of the four years of the planned project duration.

The project was launched on June 1, 2006, and thus the financial plans and records cover period of five calendar years from June 2006 till March 2010. After the 6-month no-cost extension was approved, the financial records for 2010 cover the period till October 2010.

The original four year budget plan was not transformed into the five calendar year budget June 2006-October 2010.

Instead, the practice was that each year a revised version of a budget for next year has been prepared. Since these annual budget plans were prepared taking into account actual project progress and expenditures spent in the past, and the remaining budget balance, the simple sum of planned budgets for each year, as developed in Annual Project Reports and Annual Project Work Plans in different years, does not provide accordingly for the total budget planned in project document.

The total of updated annual budgets for each calendar year for 2006-2010, as reported in Annual Project Reports and Annual Project Work Plans, is 1,089,063 USD. This is 114,063 USD higher than the total project budget of 975,000 USD which has not been changed. This is due to delays in project implementation and delayed/postponed project expenditures compared to originally planned budget. The positive balance remaining (or a certain part of it) was then moved to the next year budget – thus the new budgets cumulate the positive balance from the past.

Because of this, it is not possible to reconstruct a total budget plan per each calendar year, which would have an exact total as the whole project budget.

However, the actual total budget remained unchanged at the level of 975 000 USD, and the project management work routinely with annual budgets.

The budgets in Annual Project Reports and Annual Project Work Plans include breakdown of planned budget expenditures for each year divided per project outcomes, outputs, activities and budget lines.

The actual project expenditures are tracked in two systems:

i. The project implementing partner (EnEffect) reports its each project related individual expenditure in the so called Ledger format, where the expenditures are allocated for each month to a specific project Outcome. However these data do not include project expenditures paid directly by the UNDP office.
ii. UNDP tracks all expenditures, including the UNDP incurred costs in their internal system CDR - Combined Delivery Report with Encumbrance per Outcome and budget line for each year. The expenditures reported here include also additional project costs paid directly by the UNDP (such as international consultants etc).

The four-year budget on the other hand has a single version which includes all project costs and does not have separated budget lines for expenditures to be spent by EnEffect and by UNDP separately.

The summary of budgets and actual project costs (expenditures) is shown in the following tables.

Table 3: 2010 Budget vs. Expenditures as of June 30, 2010 (in USD)

	DONOR	BUDGET 2010 (USD)	EXP 2010 (USD)	BALANCE
Outcome 1		**62 450,00**	**54 821,81**	**7 628,19**
71200 - International Consultants	GEF	0,00	16 400,00	-16 400,00
71300 - Local Consultants	GEF	22 500,00	26 591,17	-4 091,17
71600 – Travel	GEF	500,00	4 525,00	-4 025,00
72100 - Contractual Services-Companies	GEF	39 450,00	7 268,95	32 181,05
74500 – Miscellaneous	GEF	0,00	36,69	-36,69
Outcome 2		**5 500,00**	**7 481,49**	**-1 981,49**
71300 - Local Consultants	GEF	5 500,00	1 380,37	4 119,63
72100 - Contractual Services-Companies	GEF	0,00	6 101,12	-6 101,12
Outcome 3		**3 300,00**	**0,00**	**3 300,00**
71300 - Local Consultants	GEF	2 250,00	0,00	2 250,00
72100 - Contractual Services-Companies	GEF	1 050,00	0,00	1 050,00
Outcome 4		**9 500,00**	**0,00**	**9 500,00**
71300 - Local Consultants	GEF	6 000,00	0,00	6 000,00
72100 - Contractual Services-Companies	GEF	3 500,00	0,00	3 500,00
Outcome 5		**30 200,00**	**5 668,89**	**24 531,11**
71300 - Local Consultants	GEF	5 200,00	5 668,89	-468,89
72100 - Contractual Services-Companies	GEF	25 000,00	0,00	25 000,00
Outcome 6		**81 889,01**	**30 395,24**	**51 493,77**
71200 - International Consultants	GEF	25 000,00	0,00	25 000,00
71300 - Local Consultants	GEF	0,00	0,00	0,00
71400 - Contractual Services-Individuals	GEF	40 478,00	18 907,44	21 570,56
71600 – Travel	GEF	2 600,00	0,00	2 600,00
72100 - Contractual Services-Companies	GEF	1 000,00	0,00	1 000,00
73400 - Rental & Maintenance-Equipment	GEF	1 890,00	2 095,97	-205,97
74100 – Audit	GEF	0,00	3 000,00	-3 000,00
74500 – Miscellaneous	GEF	10 921,01	6 391,83	4 529,18
	TOTAL	**192 839,01**	**98 367,43**	**94 471,58**

Note: Outcome 6 is Monitoring and Evaluation
Total expenditures include combined EnEffect and UNDP incurred costs
Source: UNDP

Table 4: Project Budget and EnEffect Expenditures per Outcome as of June 30, 2010 (in USD)

	EnEffect Expenditures per Outcomes							Annual Budgets	
Year	1	2	3	4	5	6	**Total**	APR, AWP	**Balance**
2006	27 302	12 623	11 329	3 873	1 337	3 525	**59 989**	63 398	3 409
2007	42 615	32 385	13 621	15 402	14 796	72 028	**190 847**	311 200	120 353
2008	60 868	23 755	58 359	12 678	12 605	74 003	**242 267**	282 655	40 388
2009	69 938	24 548	12 142	4 943	17 059	83 510	**212 140**	238 971	26 831
2010 (I-VI)	35 262	7 481	0	0	5 669	33 746	**82 158**	192 839	110 681
Total	235 984	100 793	95 450	36 896	51 466	266 812	**787 401**	1 089 063	
Budget (PD)	146 750	170 000	288 310	159 440	80 000	130 500	**975 000**		
Balance	-89 234	69 207	192 860	122 544	28 534	-136 312	187 599		

Source: Ledger 2006-2010 for expenditures, summary developed by EnEffect; Project Document, APRs, AWPs for budget information, own calculations
Note: Annual Budgets include balance from previous years, thus their total is higher than total project budget. Expenditures and Balance in 2010 are as of June 30

Table 5: Project Budget and UNDP+EnEffect Expenditures as of June 30, 2010 (in USD)

	Initial Budget	Year	Annual Budget (APR, AWP)	Annual Expenditures (CDR)	Annual Balance
Year 1	223 070	2006 (VI-XII)	63 398	62 642	756
Year 2	340 000	2007	311 200	199 633	111 567
Year 3	238 380	2008	282 655	280 915	1 740
Year 4	173 550	2009	238 971	235 770	3 201
		2010 (I-IX)	192 839	98 367	94 472
Total	**975 000**		*(1 089 063)*	**877 328**	**97 672**

Source: Project Document, APRs, AWRs, CDRs, own calculations

Note: Total of Annual Budgets from APRs and AWPs is higher than Total Budget of 975 000 USD (see comments above)
Annual Expenditures and Annual Balance in 2010 is as of June 30, 2010
Total Balance (yellow box) is for the total project as of June 30, 2010
Annual Expenditures are taken from the CDR Report – UNDP Combined Delivery Report with Encumbrance

Since the updated annual budgets (AWP) do not include a separate budget line for direct UNDP expenditures charged to the project costs, the project implementing partner does not have in its own records up-to-date information on actual balance remaining. For this reason, UNDP provides to EnEffect upon request information on actual balance remaining from its internal financial system.

The remaining balance as of June 30, 2010 compared to the 2010 budget is 94 472 USD (and 97 672 USD compared to the total project).

The system of financial planning used did not separate EnEffect and UNDP incurred project expenditures, and thus does not allow the project implementing partner to track exactly the actual total project expenditures and actual balance remaining. For this reason, the project implementing partner and the UNDP work closely together and UNDP provided EnEffect its records of total project expenditures spent by Outcomes on an ad hoc basis. However, the ad hoc feedback information on actual project costs spent does not allow the project implementing partner to track the exact actual financial results of the project on a daily basis.

The information on actual project expenditures divided by project outputs and activities is not available.

7.2.4.2 The cost-effectiveness of achievements

The project is focused on capacity building, on development skills of local architects to design energy efficient buildings, and to assist project developers and investors to develop such energy efficiency projects.

According to the opinion of the Project Director, the most important results/deliverables of the project, besides assisting development and actual investment in energy efficiency projects, are mainly the following project products:

- Updated methodology for Municipal Energy Planning
- “Green Vitruvius” - A Guide on Energy Efficiency Buildings Design

- Compilation of 10 Books on Green Architecture (to be finalized and published)
- 100 Best Energy Efficiency Practices catalogue – to be finalized
- Trainings of professionals and students in energy efficiency design
- Alternative energy efficiency designs developed for reconstruction of three existing pilot buildings (two of them implemented) and for three new energy efficient buildings

The trainings provided and the materials (guides, books) developed do have a significant potential to serve as an effective catalyst to speed up energy efficiency building retrofit and development in Bulgaria in the future.

The original project document planned, besides others, to develop and construct new energy efficient building with competitive investment costs, and thus to developed hands-on experience from the design, construction, as well as operation of such new energy efficiency building (see chapter Execution and Implementation Modalities bellow for more details). Because the project did not succeed to attract investor for financing such energy efficiency building, the project outputs have been revised and adjusted to more realistic plan. One may thus rise a question how adequate is the total project financing from GEF in the amount of 975 000 USD (which has not been changed) to produce the above mentioned major achievements – mainly trainings, guides and books (partly still to be finalized).

On the other hand, however, the project has implemented numerous activities that do support energy efficient development and reconstruction of buildings. Besides the 6 pilot projects, of which 2 energy efficient retrofits have been implemented so far, there have been other activities which mobilized investment for actual energy efficiency reconstruction of buildings.

BEEF, the Bulgarian Energy Efficiency Fund, a financial facility (co-financed by GEF with a 10 mil. USD investment), implemented by the end of September 2009 in total 74 energy efficiency retrofit projects with a total investment of 30.8 mil BGN (ca 22 mil USD), of which were 31 municipal projects with a total investment of 14.5 mil BGN (ca 10.4 mil USD). As confirmed by Mr. Dimitar Doukov, Executive Director of BEEF, majority of these municipal projects have been implemented with assistance from EnEffect.

Specifically, EnEffect assisted 19 municipalities to develop 22 municipal energy efficiency building retrofit projects, which were financed by BEEF and implemented by 2010, with a total investment of 11.4 mil BGN (8.1 mil USD), and additional 6 commercial/SME building retrofit projects with a total investment of 2.7 mil BGN (1.9 mil USD). Only these already implemented municipal and SME building retrofit projects financed by BEEF, have a combined investment of ca 10 mil. USD.

In another words, about 70% of municipal energy efficiency projects that were implemented by 2010 with BEEF financing, have been initiated, developed, and/or assisted by EnEffect within this project, and these projects count for about 80% of total investment costs of municipal projects co-financed by the BEEF facility. This illustrates the scope of impact the project generated already within its duration on implementing energy efficiency and generating verifiable CO_2 emission reductions. Other energy efficiency retrofit projects assisted through this GEF/UNDP capacity building project were implemented and received financing from other financial facilities (often also from EU Structural Funds).

During its implementation, the project has assisted investors to develop and acquire financing for implementation of energy efficiency retrofits in residential buildings with a total investment of 18 mil. USD, including energy efficiency retrofits of single apartments in multiapartment buildings.

From this perspective, the project has managed to significantly leverage its costs to actual investment of energy efficiency projects in the country already during its implementation.

7.2.4.3 Financial management

Financial management, planning and control, did follow all UNDP requirements, including reporting and approvals. Regular independent financial audits of the project have been performed, which found the project financial records to fully comply with the GEF/UNDP requirements. The evaluation team had access to all financial files as requested. No disbursement problems have been observed.

The financial planning was performed on an annual basis, and, as discussed earlier, the project implementing partner had to heavily rely on cooperation with UNDP to obtain information on actual expenditures spent. This is due to the fact that the project budget did combine budget lines/expenditures under EnEffect control with those under UNDP control (such as project international consultants, and capital items). Although the cooperation between UNDP and EnEffect was quite effective, for the project implementing partner it was rather inflexible arrangement for a daily financial management and expenditure control. Another issue is that any financial planning and controls were done ad hoc manually, which is rather time-demanding, inflexible and creates additional risk of a typing error.

As discussed earlier, the project implementing partner did not utilize any management accounting system, nor a project management tool – (except of the standard accounting system). And as a result of this, the financial management was rather one-time, manual, time-demanding activity, rather than an on-going, daily standard process.

Three months before project closure, the remaining balance to be spent is almost 100 000 USD. The project implementing partner still plans to spend all this balance for the remaining project activities, namely for finalizing the 10 Books on Green Architecture, and other guides/manuals, and for printing of all these books – about 2 000 copies per book are planned.

7.2.4.4 Co-financing

With the project budget of 975 000 USD from GEF, and 25 000 USD spent for project preparation (PDF A), the project document envisaged to attract a total co-financing of 6 273 100 USD, and thus to have a total budget of 7 273 100 USD.

Of this total budget a 2 523 100 USD cash contribution was planned from UNDP (TRACK), and additional 3 250 000 USD cash co-financing were planned from project partners – investors into energy efficiency projects.

An in-kind contribution was budgeted to be received from UNDP in the amount of 500 000 USD.

As of end of June 2010, an estimated total project disbursement, as indicated in the Project Implementation Report, and 2010 Annual Project Review, was 32 355 930 USD.

Of this total project disbursement a major part comes from parallel financing. And a major part of the parallel financing comes from the BEEF, The Bulgarian Energy Efficiency Fund, an energy efficiency financial facility established and financed with a contribution of GEF in the amount of 10 mil USD. Other parallel financing includes EU funded projects Model, Model-2 implemented internationally in several European countries, US AID funded projects in South-East Europe and in Ukraine, and a UNECE financed support for energy efficiency and renewable energy investment.

In addition to the in-kind contribution of UNDP (JOBS) in the amount of 500 000 USD, EnEffect contributed in-kind with an amount of 172 830 USD for the project director salary and a part of overhead costs.

Total cash co-financing is estimated to be 7 495 000 USD, of which a major part of 6 800 000 USD comes from municipalities, which invested in energy efficiency retrofits in public/municipal buildings. This significant amount of unplanned co-financing from municipalities more than offset a smaller than planned co-financing from private investors and bilateral programs.

The following table provides an overview of the total project budget and estimated total disbursement, including co-financing, parallel financing and in-kind financing.

Table 6: Overview of co-financing and parallel financing

	Project Preparation	Budget as in Project Document	Estimated Total Disbursement
GEF	$25 000	$975 000	$975 000
UNDP (TRACK)		$2 523 100	$2 523 100
Partners			
Private		$2 800 000	$625 000
Bilateral		$450 000	$70 000
Municipalities			$6 800 000
In-Kind Contribution			
UNDP (JOBS)		$500 000	$500 000
EnEffect			$172 830
Parallel financing			
EU funds			$190 000
US AID			$500 000
GEF/UNECE			$20 000 000
Total	$25 000	$7 248 100	$32 355 930

Source: 2010 Annual Project Review, Project Implementation Report

7.2.5 Sustainability

Sustainability of project benefits has been integrated into the focus of the project - on capacity building. The training materials developed, and those for architectural design in particular, are tailored mainly for use in universities, both for students and for training of post graduate practicing architects. The guide on Municipal Energy Planning itself is already used in the educational process for students in urbanism. The trained professional groups in Bulgaria, and the books and guides on Green

Architecture, Energy Efficiency Buildings Design, Municipal Energy Planning and other that were developed/are to be finalized by the project will also serve for the future preparation of energy efficiency projects.

Practical experience with developing energy efficiency building retrofit projects for financing and implementation have been developed already within the GEF/UNDP project duration.

Pilot projects in energy efficient reconstruction of multiapartment buildings have been implemented; however a major barrier still exists in this field – lack of legal entities responsible for the whole multiapartment building. This is the ultimate task for the government how to solve this legislative problem in compliance with the Bulgarian law system and the Constitution. However, the policy makers are already fully aware of this critical problem, and there exist already few examples how the building retrofits are financed and implemented when such a legal entity (housing association) was established on a voluntary basis. One of the discussed options is financial incentive for establishing voluntary housing associations. Financial facilities are already in place and have provided financing for energy efficiency projects in several sectors.

7.2.6 Execution and implementation modalities

The project has faced a significant number of implementation modalities. Some of them were motivated by more effective project implementation, the others were forced by external factors, such as the market development and inability of the project to attract investors to finance and construct planned pilot energy efficient residential building with competitive costs. All project implementation modalities were approved in revised Annual Project Plans by the Steering Committee and additional modalities were approved ad hoc by the project Management Board.

A major change in project was implemented based on recommendation of the mid-term evaluation report. This change included major revision of several project outputs and activities, as well as project indicators, and development of an updated project logical framework matrix. An effective adaptive management “learning-by-doing” has been implemented by the project implementing partner, with the support of the UNDP and the Steering Committee.

The project faced especially in its early stage of implementation certain delays in delivering the project activities according to the planned schedule. This was partly influenced by the fluctuation of personnel serving as a Project Manager. In the second part of project implementation, the situation has been stabilized, and a single Project Manager served in his position till the originally planned project end, but he has left his position before the extended project implementation ended. Despite this, the management of the project implementing partner was able to effectively substitute his role by more active involvement of other EnEffect staff, including the Project Director, former Project Manager, and other EnEffect senior managers.

During the project implementation there have been also staff changes in the UNDP office in Bulgaria which affected the project, however the overall cooperation and assistance provide by the UNDP office was effective and quite intensive, including active participation in regular monthly meetings of the project Management Board.

The project modalities and changes in project logframe did not affect the general project goal and project objectives, nor project outcomes definition. However, the definitions of project outputs, indicators and their targets have been significantly changed.

In some cases, the indicators updated after the project mid-term evaluation by an external consultant, do not properly measure the specific outcome objective, which remained unchanged. This could be illustrated best on Outcome 4.

General objective of the Outcome 4 is defined as: "Demand for energy efficiency investments in private service sector buildings with the initial focus on tourism facilities (hotels etc.) increased". However, the project indicator does not measure if the demand for energy efficient investment in hotels has changed/increased. The definition of Output 4.1 – the single output of this Outcome 4 – still count the demand for investment; and the output reads: "Interest for energy efficiency investments increased through targeted public awareness raising". However, the relevant indicator 12, measuring achievements of Output 4.1 and the Outcome 4, evaluates already just the information availability, but not the actual level of investment spent in hotels (as it was originally the case). The Indicator 12 is defined as: "Increased availability of information necessary for developing energy efficiency projects in target groups" and the target is specified as: "Development of an electronic reference book … with set of best practices…disseminated to hotel managers".

This means, that although the updated target of the indicator 12 has been fulfilled and met, the achievement measured by this indicator does not provide any information if and how this respective Outcome 4 has been fulfilled – ie. if and how the demand for energy efficiency investments in hotels has changed.

The project actually has implemented extensive activities targeted to hotel owners/managers, much more than just development of an electronic reference book, as stated in the revised target. The electronic reference book (draft to be finalized by the end of the project) will be supplemented by the "Guide on Sustainable Hotels Design and Management". In addition to this, numerous consultations with hotel owners were held, energy efficient retrofits of hotels have been prepared, actual designs developed and optimized, financing scheme proposed, and the owners of the hotels were ready to apply for financing. One of major sources of financing for projects in hotels was envisaged to be the EU Structural Fund, specifically the Operational Program "Competitiveness". However, as hotels and tourist industry have been excluded from this program at the end, the hotel owners have decided to postpone and reduce the scope of their investment. The developed energy efficiency retrofit projects in hotels will – most probably – be implemented in some way, perhaps over a longer period of time, in several phases, and perhaps with a reduced scope. Based on the knowledge of the local market and its analysis, both the project implementing partner EnEffect and the evaluation team believe that the designed energy efficiency projects in hotels will be implemented in the future.

However, the updated logframe matrix and indicators do not provide detailed information overview of all these activities implemented in the hotel sector, and only the summarized information is reflected indirectly and in an aggregated form.

7.3 Project results

7.3.1 Attainment of outcomes/achievement of objectives

As discussed above, the logframe indicators do not cover in detail all activities that have been implemented during the project implementation. However, in this section we focus on project achievements measured by the updated project logical framework matrix, and specifically on project indicators, baseline, targets, and actual achievements.

The achievements were verified according to the source of verification as specified in the updated logframe. In addition to this project deliverables such as guides, books, training materials etc., have been reviewed, and method of calculation of key numerical targets has been reviewed as well. In cases were assumptions has been used, these assumptions were reviewed and their feasibility was assessed.

The following overview provides information on each indicator as specified in the updated logical framework matrix, the baseline, target and actual achievements as of July 2010, two months before project closure.

General project objective:

To support market transformation towards energy efficient new building design and retrofit of the existing building stock

Indicator 1:
Tons of CO_{2eq} emission reductions from buildings influenced by project activities (over their lifecycle to 2020)

Baseline: 0 t CO_{2eq}
Target: 125 000 t CO_{2eq}
Achievement: 144 741 t CO_{2eq}

Indicator 2:
Conditions assured for the adoption of the recommendations made in the frame of the project into the design of new buildings and retrofit of existing buildings

Baseline: Obligatory building codes in force for new buildings. Voluntary "best practices" for energy efficient building design not adequately adopted by the local professionals yet
Target: Project trainees include best practice project recommendations in 40 % of all new constructions and in retrofit of existing buildings they are involved by 2020
Achievement: estimated ca 40% by 2020

Indicator 3
Number of m^2 of the floor area in public buildings, private residential buildings, and private service sector buildings influenced by the project

Baseline: 0 m^2 floor area
Target: 132 000 m^2 floor area by the project close
Achievement: 264 030 m^2 floor area

OUTCOME 1:

Enhanced awareness and capacity of the local architects and engineers to adopt energy efficiency aspects into the building design

Output 1.1

A Virtual Training, Information and Consultancy Centre (VTICC) established in cooperation with UACEG and other relevant institutions

Indicator 4
Networks of skilled specialists built in municipalities and in the building design society, who could make difference in local energy policies and building design towards sustainable local development and low-energy buildings

Baseline: The local professionals lack awareness and capacity on energy efficiency aspects of building design
Target 4.a): Consulting teams of at least 3 EE local focal points
Achievement: Four consulting teams of 4 municipal energy efficiency local focal points established, and 8 municipal energy efficiency consultants trained

Target 4.b): At least 150 municipal officers of at least 60 municipalities trained in MEP
Achievement: 172 officers of 60 municipalities trained and certified in MEP

Target 4.c): Practicing architects/engineers of 30 design offices trained on sustainable building design
Achievement: 76 practicing designers of 63 design offices trained

Target 4.d): At least 30 chief municipal architects approached/trained on sustainable building design
Achievement: 35 chief municipal architects trained

Target 4.e): At least 150 students approached/trained on sustainable building design by the end of the project and at least 300 by 2020
Achievement: 160 students trained, 300+ approached by short term training during project implementation, another 300+ students planned to be trained by 2020

Target 4.f): On-site study of advanced international practices
Achievement: Not implemented – the study tour was cancelled by the decision of the Management Board

Output 1.2

Provided consultations for the design and financing of new energy efficient pilot buildings and the design of existing building retrofit with competitive costs and the design finalized

Indicator 5:
Consultations (incl. energy audits) provided to investors / designers / builders for new and/or retrofitted buildings (summarized and documented)

Baseline: Key participants in the investment process have poor awareness on basic principles of energy efficient building design and on financing of energy efficient projects. Only 10% of projects could obtain consultancy from other sources
Target: Consulting practices well established in the VTICC and 40 consultations performed
Achievement: 52 consultations provided to investors and designers

Output 1.3

Energy efficient pilot buildings designed (new buildings for construction and/or existing buildings for retrofit)

Output 1.4

Results and lessons learnt from the design and/or construction of the new /retrofitted pilot buildings

Indicator 6 – combined indicator for Output 1.3 and 1.4
Pilot buildings designed (new buildings for construction or existing buildings for retrofit) and analyzed.
Draft standards for EE buildings proposed

Baseline: No concrete showcases on the adoption of best energy efficiency practices into the design of new buildings and the retrofit of existing buildings. Draft standards for low energy buildings and knowledge of cost consequences very low or not available at all
Target 6.a): At least 6 EE designs executed for at least 12 000 m2 of floor area by the project end
Achievement: Energy efficiency designs developed for 6 pilot buildings with 14 066 m2 of floor area

Target 6.b): At least 8 000 tons of CO_2 emissions reduced by 2020
Achievement: 14 944 tons of CO_2 emissions to be reduced by 2020

Target 6.c): Draft standards for low energy / passive / 0-energy buildings proposed
Achievement: No new standards developed

Note: Alternative low energy/passive energy design performed, analytical report on costs of various energy efficiency standards to be developed by the end of the project and submitted to the governmental Energy Efficiency Agency for review and potential strengthening of existing energy efficiency norms.

Output 1.5

A handbook and training programs for energy efficient building design (new buildings for construction and/or existing buildings for retrofit)

Indicator 7
Available training instruments for EE building design

Baseline: No comprehensive clearinghouse for energy efficient design available
Target 7.a): A comprehensive handbook/ guide on energy efficient building design
Achievement: Guide on MEP in English, Bulgarian, in 10 languages,
Concept of a EE portal web page – to be finalized and put on-line by the end of project,
10 books on Green Architecture – several drafts, to be finalized and printed

Target 7.b): Targeted training programs on sustainable building design
Achievement: Green Vitruvius guide for the SBD training developed, printed and disseminated

OUTCOME 2:
Creating sustainable demand for energy efficiency investments in public buildings

Output 2.1

A database of energy audits leading to actual implementation, with the associated incentives to encourage the adoption of the recommendations made

Indicator 8
Assistance to the central and local authorities to promote and enforce the actual implementation of EE measures, thus shortening of implementation period of energy efficiency measures

Baseline: No monitoring of energy audits in terms of to what extent they lead to actual implementation of proposed EE measures, Poor incentives and/or enforcement for building owners to carry out energy audits and implement the recommended energy efficiency measures
Target: Shorten the path between completion of energy audits of buildings and actual EE improvements implementation from currently estimated 6 years to 3 years required by law, thus resulting in increase in EE investment by $ 3.5 million by year 2020
Achievement: The period between completed energy audits and implementation was shorten to less than 11 months at implemented projects, and EE investments increased by $15.6 mil USD by 2020

Output 2.2

Improved guidelines for developing municipal energy plans and investment programs distributed

Output 2.3

The existing municipal energy plans upgraded to concrete, implementation oriented investment programs, including the improvement of energy efficiency of public buildings

Indicator 9 – combined indicator for Output 2.2 and 2.3
Existing guidelines for municipal energy planning (MEP) updated and upgraded to reflect the current political and economic situation

Baseline: Existing guidelines do not fully correspond to current conditions in the country after its accession to the European Union. Mandatory requirements for municipalities to prepare municipal energy plans, do not necessarily lead to actual investments, thus zero CO2 reduction achieved

Target 9.a): A guide on MEP and a set of "best practices" developed and disseminated

Achievement: New guide on MEP with good practices published and disseminated

Target 9.b): MEPs for 5 selected pilot municipalities, based on the updated guidelines developed and updated

Achievement: 5 new MEPs developed in 5 pilot municipalities

OUTCOME 3:
Sustainable demand for energy efficiency investments in private residential buildings created

Output 3.1

Establishing an initial network of local focal points that are able to act as a "one-stop" support center to encourage and support the residents of private residential buildings to: (i) establish housing associations or other applicable forms of co-operation, (ii) develop and implement investment projects for improving the energy efficiency and refurbishment of the buildings in general; and (iii) structure financing for the projects

Output 3.2

Interest in EE investments increased through targeted public awareness raising campaigns

Output 3.3

The available financing and associated public support and incentive schemes evaluated and, as applicable, further developed in co-operation with the project's envisaged financing partners

Indicator 10 – combined indicator for Outputs 3.1 - 3.3
Instruments to increase awareness of local building home owners / managers and the interest to EE building retrofit

Baseline: Inadequate support available for private home owners and housing associations to provide sustainable building management, investment in energy efficiency, financing schemes, and incentives

Target 10.a): (3.1) Three energy efficiency focal points (one-stop information offices) established

Achievement: Four local energy efficiency focal points established within existing municipal information centers in 4 municipalities

Target 10.b): (3.2) A set of best practices developed, disseminated in electronic format

Achievement: A set of best practices included to the catalogue 100 successful practices – to be finalized, printed and available on-line

Target 10.c): (3.3) A Manual on Financing of residential buildings for publication in Internet

Achievement: Manual developed and published on internet

Output 3.4

Institutionalizing the future support needed, including synergy with the National Program for Refurbishment of Residential Buildings

Indicator 11
Amount of investments into EE retrofits in private residential buildings

Baseline: Newly adopted National Program for Refurbishment of Residential Buildings still not initiated
Target 11.a): Study on the barriers to the renovation of the existing residential buildings – analytical report
Achievement: Developed and published in cooperation with the Bulgarian Housing Association

Target 11.b): Amount of investments leveraged for EE retrofits in private residential buildings reaching $ 10 million by the end of the project
Achievement: 18,044,820 mil USD investments leveraged in energy efficiency retrofits in residential sector

OUTCOME 4:
The demand for energy efficiency investments in private service sector buildings with the initial focus on tourism facilities (hotels etc.) increased

Output 4.1

Interest for EE investments increased through targeted public awareness raising

Indicator 12
Increased availability of information necessary for developing energy efficiency projects in target groups

Baseline: Very limited investments in EE retrofit of private service sector buildings. Low awareness / interest among the owners of private service sector buildings to invest in energy efficiency
Target: Development of an electronic reference book for energy efficiency in hotels with a set of best practices for energy efficiency improvements in hotels, disseminated to 4000 hotel owners / managers
Achievement: Draft of the Electronic reference book, and Guide on sustainable hotels design and management under development, to be finalized

Outcome 5:
Increasing the capacity of the local service providers to effectively market and implement their services

Output 5.1

Supporting the existing Associations of Energy Service Providers, like the Association for Energy Analysis and the Chamber of Companies Performing Energy Audits and Certification

Output 5.2

An internet based, virtual market place, information clearing house and training facility to support the business development of the local energy service providers in the energy efficiency field

Indicator 13 – combined indicator for Outputs 5.1 and 5.2
Easy to use source of comprehensive information about the design of new EE buildings and the retrofit of existing ones and about the leading national and international practices developed

Baseline:	Newly established associations do not have enough capacity to represent local energy service providers to facilitate information dissemination, organization of training, networking etc.
Target 13.a):	5% additional reduction of energy consumption achieved as a result of implemented architectural and structural EE measures, promoted by the project
Achievement:	Estimated 6% additional reduction of energy consumption achieved
Target 13.b):	4 catalogues of “best practices” published and disseminated
Achievement:	100 Best Practices Catalogue to be printed by the end of the project
Target 13.c):	An energy efficiency portal in Internet established and regularly updated and, as applicable, upgraded
Achievement:	Energy efficiency portal under development (www.ee-build.eneffect.bg) – to be finalized by the end of the project

7.3.2 Summary overview of target achievements

Table 7: Summary overview of target achievements

Target #	Target	Achievement
1	125 000 t CO_2 reductions from existing buildings by 2020	144 741 t CO_2 reductions
2	40% by 2020	40% by 2020
3	132 000 m^2	264 030 m^2
4a	Consulting team of ≥3 EE Focal Points	4 consulting teams established and trained
4b	150 officers/60 cities trained in MEP	172 officers/60 cities trained in MEP
4c	30 design offices trained in SBD	63 design offices trained in SBD
4d	30 chief muni architects trained	35 chief muni architects trained
4e	150 students trained/300 by 2020	160/300 students trained during project
4f	On-site study on best international practices	Cancelled
5	40 consultations provided	52 consultations provided
6a	≥6 EE designs for ≥12 000 m2	6 EE designs for 14 066 m2
6b	≥8 000 t CO_2 reduced by 2020	14 944 t CO_2 reduced by 2020
6c	Draft standards for EE/passive design	No new standards developed
7a	Guide on EE building design	Books/guides to be finalized
7b	Training programs on SBD	Green Vitruvius guide published
8	From 6 to 3 years from EA to implementation	The period shorten to <1 year
9a	MEP guide and best practices developed	MEP guide and best practices developed
9b	5 MEPs developed	5 MEPs developed
10a	3 EE Focal Points established	4 EE Focal Points established
10b	Best practices developed	Best practices to be finalized
10c	Manual on Financing of residential buildings	Manual developed and published
11a	Study on barriers of residential buildings retrofit	Study developed and published
11b	10 mil. USD investment for residential EE	18 mil. USD leveraged in residential sector
12	EE guide for hotels	Guide to be finalized
13a	5% additional EE reductions implemented	6% EE reductions implemented
13b	4 catalogues of “best practices” published	100 Best Practices Catalogue to be finalized
13c	EE portal in Internet established	Internet EE Portal to be finalized

The target has been achieved
The target by 2020 is expected to be achieved
Drafts available, to be finalized
Not implemented

The logframe defined a total of 27 indicators.

Eighteen (18) indicators, which have met or exceeded the defined targets, are displayed in a green box.

Additional two (2) indicators which are displayed in a blue box have met the defined target as well; however, the target is defined as an estimation of the situation in 2020. Since achievements of this indicator must be based on estimates of future development and thus they do not reflect exactly the

current status of project achievements, it is displayed in a blue color, although they have met the target.

Deliverables of five (5) indicators were available in July 2010 as drafts only, but they are planned to be finalized according to the targets by the end of the project – ie. by October 2010. These indicators' achievements are displayed in a yellow box.

Two (2) indicators have not been accomplished and are displayed in a red box. The Target 4f) "On-site study of advanced international practices" was preliminarily planned for ca 10 professionals and it was envisaged that it would be co-financed by the Union and the Chamber of Architects. Since none of these two institutions could contribute financially to the organization of the study tour, the project implementing partner focused its effort jointly with the Chamber of Architects and international lecturers on the preparation of more cost-effective class training with international lecturers. In total 63 instead of originally planned 30 design offices have been trained in sustainable building design.

The Target 6c) "Draft standards for low energy/passive/0-energy buildings proposed" has not been fully met, because no new standards have been proposed. However, low-energy and passive house standards have been checked, analyzed and recommended for use in Bulgaria, arguments for the development of such new standard have been provided, alternative building designs were made, and a comparative analysis of pilot project results is under development in order to evaluate the investment costs necessary to reach different level of energy efficiency, and the analysis – once finalized – is planned to be submitted to the Energy Efficiency Agency and the Ministry of Regional Development and Public Works for review and potential future proposal of more energy efficient norms.

The evaluation team assessed that project non-compliance with a target 4f) – "on-site study" did not affect fulfillment of the overall project goal and objective.

The target 6c) was rather ambitious. The current energy efficient norms are EU harmonized and correspond in our view well with the current status of market development in Bulgaria. More urgent issue than developing new, stricter energy efficiency norms are nowadays perhaps attempts to increase compliance rate of the existing norms and standards, and to improve the quality of construction, especially the details that might have effect on energy performance of buildings.

Achievement of targets of some indicators can be based only on estimates, not on hard-fact evidence, since no appropriate statistics or another source of information for verification is available. This applies for example for targets 11b), and 13a). The method and estimates used for calculation of achievements of these indicators' targets have been reviewed and found to be realistic and appropriate. However, an explanatory power of these targets is lower than of those targets, which evaluation does not need to be based on estimates.

7.3.3 Key project impacts

The capacity building project was designed to produce training materials and guides, (incl. class training, distance learning and training by doing), information dissemination campaigns, and demonstration projects. Support provided by the project for development, financing and implementation of energy efficiency projects had immediate measurable impact.

Two products of this project required unique efforts that have not been experienced before in the country and delivered key impact to current practices. One of them is the Guide on Municipal Energy

Planning, which has been already internationally recognized and utilized in several projects in other countries, and the second one is the set of guides on sustainable building design, namely "Green Vitruvius" book, "10 Books on Green Architecture" and a catalogue of "100 Best Practices", that will be available also electronically from the project web site.

As indicated by several architects and project stakeholders interviewed, these books and guides have a potential to change thinking and behavior of architects, students, other professionals, decision makers, and investors in the country in the long-term.

7.3.4 Sustainability

The project was focused on developing and strengthening local capacity in designing and developing energy efficiency building re/construction and to create sustainable demand for investment into such projects. The core of the project lays in capacity development and training. The project delivered the training and by the closure of the project implementation the key project deliverables – books, guides and training packages on energy efficient building design - are planned to be printed and made available on internet for use in universities for students as well as for training of practicing architects. Since the project was designed on development of local capacity, and the local capacity has been developed and strengthened, the sustainability of these project results is guaranteed.

The second focus of the project on creating demand for investment in energy efficient buildings in different sectors might be a subject of fluctuations due to external factors, such as economic development. But even if the actual investment in energy efficient building re/construction would be delayed, the local knowledge and capacity has been built that would allow to develop such energy efficient building effectively also in the future.

The benefits of the project will continue even after the project closure. The project served as a catalyst for actual construction of energy efficient buildings, and an implementation of knowledge and experience gained will continue even after the project is finished without need for additional external financing.

7.3.5 Contribution to upgrading skills of the national staff

The capacity building project was designed specifically to develop and upgrade skills of national personnel; it was targeted at local professionals, investors and decision makers in Bulgaria. Advanced international practices were incorporated into the local trainings, guides and books. Leading European experts in energy efficient buildings design were hired to lead the training seminars for local professionals.

Although the project was designed to build and develop the local capacity in Bulgaria, during project implementation the project implementing partner EnEffect had several opportunities also to disseminate the experience gained to other countries in the region.

8. Conclusions

8.1 Relevance of the project

8.1.1 Climate mitigation and development priorities

The capacity building project "Building the local capacity for promoting energy efficiency in private and public buildings" has been designed to be in line and truly relevant with the country climate mitigation goals, and development priorities both on a national and a local level. Energy efficiency is one of the main priorities of the country as stated in its policy documents and translated into its national legislation. The value of the project lies not only in its high relevance with the development and climate change mitigation goals, but also the *timing* for project implementation was very well selected. During the project implementation the country has entered the EU and has experienced economic growth and a boom on the building construction market, financing for energy efficiency re/construction of buildings became available, including financial facilities specifically targeted on promoting energy efficiency. One of these facilities is also a GEF co-financed Bulgarian Energy Efficiency Fund - BEEF. The capacity building project was a valuable complement that supported effective operation of these financial facilities, including the BEEF and the EBRD Residential Energy Efficiency Credit Line.

8.1.2 Direct beneficiaries

The project directly served and supported local beneficiaries and developed and enhanced capacities to design and develop energy efficiency projects for financing and implementation among local professionals and architects, investors, municipalities, residents – owners of apartments, and delivered new results based experience in energy efficiency also for policy makers on municipal and governmental level.

8.1.3 UNDP mission to promote SHD

UNDP brought into effect its mission to promote Sustainable Human Development by its active assistance to the country in building the local capacity in energy efficiency and by supporting both the project design phase and project implementation.

8.2 Technical performance

8.2.1 Technical quality

The project transferred state-of-the-art international experience and know how in designing energy efficiency buildings re/construction and adjusted it properly for local conditions. Leading international experts delivered highly appreciated training for local professionals and architects, and learning materials, guides and books on municipal energy planning, sustainable housing development and energy efficiency building have been prepared based on available international best practice information.

8.2.2 Effectiveness and adaptability

The project has reached its main stated goals and objectives, although it faced significant problems with attracting third-party investor in construction of new low-energy building, and specific project outputs and activities have been revised and changed during project implementation. The project has adapted to actual situation on the market, and instead of construction of a new low-energy building, more attention has been paid to developing and implementing energy efficiency building retrofits and development of design of new energy efficient buildings.

8.2.3 Efficiency - cost-effectiveness

The key deliverables of this 1 million USD (incl. the PDF A facility) capacity building project are the training of professionals, series of training materials, books, guides and best practices printed both as hard copies and published and maintained on a project web site (to be finalized by the end of the project) which have a potential to serve as a primary source of information for post-graduate studies of professionals as well as university students of architecture and civil engineering in energy efficiency and sustainable building design in Bulgaria. The real impact of these key project deliverables, complex trainings materials, books, guides and best practices, can be today only estimated. But based on the reactions of local professionals and experts and evidence of impact of those materials developed and disseminated already during the project implementation, we believe that these project deliverables might serve as a critical catalyst in developing and applying practical skills in energy efficiency building design in Bulgaria over a next decade.

In addition to these educational materials, during its implementation the project has developed dozens of energy efficiency building retrofits projects for financing and implementation, mainly in public sector, and it has influenced and provided information on energy efficiency retrofit for general public as well. A total investment leveraged and influenced by the project in energy efficiency retrofits of existing individual apartments in condominium buildings is estimated to be 18 mil. USD. Only the total investment spent in municipal and small and medium enterprise (SME) sectors for implementation of energy efficiency building retrofit projects supported by the project and financed by the GEF co-financed BEEF reached 10 mil. USD.

8.3 Management performance

8.3.1 General implementation and management

The project was NGO executed. EnEffect, Bulgarian energy efficiency NGO, is a local leader in promoting and implementing energy efficiency, and has established long-term effective collaborative relations and networking with municipalities, governmental agencies, and professional groups. It has also experience with implementing international projects, including GEF financed project. EnEffect also is a co-manager of the BEEF, the Bulgarian Energy Efficiency Fund. The good knowledge of the local energy efficiency market and a wide network of contacts helped EnEffect to effectively implement the project in a good quality.

During project implementation (mainly its first phase) the project faced several changes in a position of Project Manager. After the mid-term evaluation the situation has stabilized, and the project manager received also on-going support from EnEffect project management unit.

During project implementation there have been observed some delays in delivering several project outputs and activities, partly due to a situation on the market, and partly due to coincident sequence of several parallel activities. If necessary, the time schedule has been adjusted accordingly.

The costs of the project have been kept within the budget; no budget overrun is expected at the end of the project, and according to the project implementing partner, the remaining funds are expected to spend by the end of the project.

8.3.2 Executing agency and UNDP

The cooperation between EnEffect and UNDP was effective, although both parties experienced during project implementation changes in project relevant positions.

UNDP played a critical role in effective project implementation. It supported the project implementing partner not only by regular participation in a Steering Committee and on an ad hoc basis as requested by the project implementing partner. UNDP actively supported project design by selecting international consultants that helped to design the project document and update the logical framework matrix during the project execution. Especially in a second half of project implementation UNDP supported the project implementation and management on a more frequent basis by participating in monthly meetings of the Management Board, and it provided support also for a daily management of the project, including up-to-date information on actual project costs spent. The UNDP also actively supported effective implementation of an adaptive management of the project, and flexibly approved required changes in project design and implementation, as a result of recommendation of mid-term evaluation and actual development of the Bulgarian market.

8.4 Overall success of the project

The capacity building project was originally designed as a rather ambitious set of activities; including teaming up with a third party investor to finance and construct new low-energy building, as well as with investors to energy efficiency retrofits of existing buildings. Attracting an external investor for the construction of the low-energy building turned out to be more difficult than envisaged, and this activity did not materialize. In response to this, the project logical matrix has been redesigned and updated, and the activities focused in this field more on cooperation with investors in energy efficiency building retrofits in public and private sectors. Due to continuing lack of legal entities responsible for the whole multiapartment building, which effectively blocks commercial investment in complex energy efficiency retrofits of the whole multiapartment residential buildings, the project focused on support of individual apartment owners investing in energy efficiency reconstruction of their individual apartment. In addition to this and in cooperation with UNDP a pilot condominium building has been selected and a model energy efficiency reconstruction of a block of apartments has been financed and implemented. The direct and indirect investment leveraged for energy efficiency building retrofit due to the project reached dozens of millions USD; the project influenced energy

efficiency reconstruction of residential buildings/individual apartments with a total investment of 18 mil. USD, other 10 million USD were the total investment costs spent for energy efficiency reconstruction of public buildings and buildings in the SME sector influenced by the project and financed by the BEEF facility only. Another larger energy efficiency reconstruction projects mainly in the public sector obtained financing from the EU structural funds.

However, the *major impact of the project* lies in strengthening and development of a long-term sustaining capacity of local professionals in municipal energy planning and in design of low-energy buildings. The project delivered in the country unique and so far first intensive professional training of local architects in sustainable building design (organized in cooperation with Chamber of Architects), and produced a series of unique guides, books, best practices and training materials in Bulgarian language on energy efficient, sustainable building design (partly to be finalized by the end of the project, including electronic version on a project web page). These educational materials have a potential to serve as a primary educational source for both post-graduate studies of practicing architects as well as for university students of architecture and civil engineering, and municipal officers, and thus to serve as a sustainable catalyst of capacity development in a country in energy efficiency in buildings.

The project implementation established effective synergy and took advantage also of leveraging financial and technical support from other projects implemented in the country and internationally in the region. The key projects with which the project has cooperated include mainly the GEF co-funded financial facility BEEF, The Bulgarian Energy Efficiency Fund, and the UNDP/Ministry of Regional Development and Public Works demonstration project for the renovation of multifamily buildings.

8.4.1 Summary of project indicators and achievements

The updated project logical framework matrix, has defined 27 project indicators and targets.

Twenty targets have been met. Five out of 27 targets have not been fully met so far (only drafts of the deliverables are available as of July 2010), but are expected to met by the end of the project.

Two targets 4f) and 6c) have not been fulfilled. Target 4f) “On-site study of advanced international practices” has been cancelled. The study tour was not included in the original Project Document, Work Plan and budget. It was proposed by EnEffect and included to the project activities when the logframe was updated in the middle of the project implementation period. The study tour, preliminarily planned for ca 10 experts, was intended as a potential instrument for increasing effectiveness of the training of professionals, and it was planned to be co-financed together with the Union and the Chamber of Architects. The project budget thus did not include full costs for the study-tour. Since none of these two institutions could contribute financially to the organization of the study tour, the project implementing partner focused its effort jointly with the Chamber of Architects and international lecturers on the preparation of more cost-effective class training with international lecturers. In total 63 instead of originally planned 30 design offices have been trained in sustainable building design. The training course provided, was more effective both from professional and from financial point of view.

The Target 6c) “Draft standards for low energy/passive/0-energy buildings proposed” has not been fully met, because no new standards have been proposed. However, low-energy and passive house standards have been checked, analyzed and recommended for use in Bulgaria, arguments for the development of such new standard have been provided, alternative building designs were made, and a

comparative analysis of pilot project results is under development in order to evaluate investment costs necessary to reach different level of energy efficiency, and the analysis – once finalized – is planned to be submitted to the Energy Efficiency Agency and the Ministry of Regional Development and Public Works for review and potential future proposal of more energy efficient norms.

The evaluation team assessed that non-compliance with a target 4f) – "on-site study" did not affect fulfillment of the overall project goal and objective. This target 4f) – corresponds basically to one project activity, not to a project outcome itself, and it even supports the respective project indicator only partially. The Indicator 4 is defined as: "Networks of skilled specialists built … who could make the difference towards low-energy buildings". The project did not organize the on-site international study trip, but leading international experts delivered trainings to local professionals in Bulgaria, so state-of-the-art experience and information on energy efficient building design have been transferred in a more efficient and effective way.

The target 6c) to develop and propose for implementation new, stricter energy efficiency norms in a country with no or only limited practical experience with construction of new low-energy buildings and energy efficiency buildings retrofits, was on the other hand rather ambitious. The current energy efficient norms are EU harmonized and correspond in our view well with the current status of market development in Bulgaria. More urgent issue than developing new, stricter energy efficiency norms are nowadays perhaps attempts to increase compliance rate of the existing norms and standards, and to improve the quality of construction, especially the details that might have effect on energy performance of buildings.

Should the project deliver all remaining deliverables as planned by the scheduled end of the project by October 2010 (targets 7a, 10b, 12, 13b, and 13c), the evaluation team considers that the project will meet all its planned goals and objectives, and thus we will not propose any corrective actions.

9. Recommendations

- **No corrective actions suggested, if remaining project deliverables will be developed**

Because the Terminal Evaluation took place during the project implementation, about two months before the project is scheduled to end, the actual work on project implementation was still ongoing and not all project deliverables and products have been finalized by the time of the evaluation. The evaluation team has reviewed drafts of the remaining project products to be finalized, and has no reasons to doubt, that the remaining products will not be achieved.

If the remaining project deliverables will be produced by the end of the project implementation as planned and the respective targets met[1], the evaluation team finds that the project will in general meet its goal, objectives, and outcomes as described in the project logical framework matrix and in the original project document, and we will not suggest any corrective actions.

The deliverables to be finalized by the end of the project comprise following project targets:

Target 7a): A comprehensive handbook/ guide on energy efficient building design

Target 10b): A set of best practices developed, disseminated in electronic format

Target 12: Development of an electronic reference book for energy efficiency in hotels with a set of best practices for energy efficiency improvements in hotels, disseminated to 4000 hotel owners / managers

Target 13b): 4 catalogues of “best practices” published and disseminated

Target 13c): An energy efficiency portal in Internet established and regularly updated and, as applicable, upgraded

- **Continue to maintain and update the project portal** Knowledge for Sustainable Building Development, specifically the catalogue of best practices.

The project web page/project portal is to be finalized by the end of the project and is designed to include key project deliverables – Guide on Municipal Energy Planning, Green Vitruviy book, 10 Books on Green Architecture in 4 volumes, 100 Best Practices in Energy Efficiency, and a training material. These publications have a potential to serve as a key information source for further training of local professionals as well as university students. The mission of this project will be entirely fulfilled only if this webpage will be kept operational and updated even after the project will finish and be closed – for a period until the energy efficiency retrofits/design of new buildings will become a common practice. We estimate that the web page should be maintained operational for at least next 5 years.

Since complex energy efficiency retrofits of multiapartment buildings still face a significant barrier that prevents for a larger scope of replication of several pilot projects implemented so far in Bulgaria,

[1] Subject to a mandatory ex-post monitoring and quality assurance role of UNDP.

due to lack of legal entity responsible for the whole residential building (housing associations, etc), we recommend to continue to maintain and update especially the catalogue of best practices, and to include further case studies of future complex energy efficiency retrofits of multiapartment buildings, as well as designs and constructions of new energy efficiency buildings built in the country and in the region (both single family houses and multiapartment buildings).

- **Translate key project products into Russian (and English)**

The evaluation team finds the content of the project portal Knowledge for Sustainable Building Development, subject to finalization, specifically its Guides, 10 Books, Catalogue, and trainings materials to be very relevant for energy efficiency capacity strengthening and trainings also in other countries of the region, such as other Balkan countries, and countries of Eastern Europe and Central Asia. It is not only the content itself, but its complexity, and the compilation and structure of the information collected on energy efficiency buildings design. Such a well structured compilation of information is not generally easily available especially in the Russian speaking countries.

We suggest, that the content of the project portal Knowledge for Sustainable Building and its Guides, training materials and catalogue will be translated into Russian, and perhaps also in English, so that the project deliverables would be made available even to a significant larger group of interested parties in countries of UNDP/GEF operation.

However, before the translation would be financed and started, we recommend performing a detailed internet survey, if perhaps by that time similar information is not already publically available on internet in Russian.

- **Evaluate the results of energy efficiency pilot projects based on *metered data of actual energy consumption***

If not included in the Best Practices Catalogue to be finalized, evaluate the results and improvements of the energy efficiency pilot projects based on *metered data of actual energy consumption* (especially the energy efficiency retrofit project of the multiapartment residential block 17 in Blagoevgrad). Install additional heat/energy meters if necessary. Disseminate the results of the energy efficiency pilot projects to key policy and decision makers and a general public (owners and potential investors of energy efficiency retrofit).

10.Lessons learned

- **Avoid the project to critically depend on third parties that are out of direct control of the project**

Development projects are typically implemented in a close interaction with other third-parties, and project implementation results heavily depend on their activities. This specifically concerns cooperation with governmental bodies, in a development and adoption of legislation, technical norms, and energy efficiency standards, and with third-parties and investors who should provide co-financing for the project outputs and deliverables, such as investors in new energy efficiency buildings, and/or energy efficiency retrofit of existing buildings.

The still non-existent legal entities (except for few exceptions) responsible for the whole multiapartment residential building (housing association, cooperative, etc) is a major legal barrier preventing investment and utilization of debt financing for energy efficiency as well as other reconstruction of such condominium buildings.

Underestimation of a market situation, or an unexpected decline in economic development due to financial crises, lead to inability to attract investors in new low-energy buildings.

Dependence on these external factors might critically influence success of development projects.

Where possible, do not rely on a third-party co-financing, if it is not contractually bound before the project document is approved. This concerns specifically a potential third party investor into construction of a new low-energy building and/or retrofit of existing building – if the investor is not contractually bound to finance such construction, the project implementation is in a high risk, which can be effectively minimized by a binding contractual arrangements.

If it is not possible to contractually bind a third party, such as government/parliament to pass certain legislation, or another international or private financial source to provide co-financing, an alternative solution should be developed and alternative activities defined in the project document already that would allow to reach project goals and objectives if the envisaged third-party activities and/or co-financing will not materialize.

- **International best practices and know-how should be carefully selected for transfer to fit the local market conditions/situation**

Not all international best practices are suitable for specific conditions in a certain phase of country development. A careful analysis of appropriateness of a transfer of international know-how, technologies and best practices should be performed and only those measures transferred that fit local culture, phase of development, and economic (and political) situation.

In case of a design of energy efficiency buildings for re/construction, a step-by-step approach is suitable as applied in this project, which means to start with relatively basic and less demanding energy efficiency technologies and practices in case the market is not yet advanced enough to effectively adopt highest energy efficiency standards. The focus on more advanced technologies and concepts, such as designing and constructing new “passive houses/zero-energy houses” can effectively

succeed only if the market is rather advanced and basic energy efficiency experience is relatively well established, and the quality of construction works, including energy efficiency details, is rather good.

- **Develop a detailed market study during the project preparatory phase if necessary**

A detailed knowledge of a local market, situation and practices is critical for successful design of a development project and effective involvement of third-party stakeholders in the project implementation. When designing the project proposal, a detailed insight, knowledge and understanding of local situation, practices, market, and culture is essential for planning realistic and feasible activities to be specified in a project document. Short term assignment of international consultants might not be sufficient to fully understand the local situation. The local consultants/stakeholders that are involved in project development might not have a full insight in all aspects and market segments of the project activities in a full scope.

A detailed market study might thus be necessary to be developed during the project preparatory phase, if the knowledge of the local market is limited.

In case of local private co-financing in energy efficiency projects the market study might include for example an analysis and preparation of a preliminary pipeline of potential investment projects to be implemented, and a list of potential investors interested to co-finance energy efficiency projects.

- **Planned budgets should be transferred into budgets for calendar/fiscal year**

Project budget, as it is usually proposed and approved in the Project Document, is planned for Year 1, 2 etc, because it is not clear, when exactly the project will start, if approved. On the other hand, for proper project management and financial planning, including planning of cash expenditures of GEF/UNDP, it is necessary to have financial budgets specified and adjusted for each concrete calendar/fiscal year.

If the GEF/UNDP project does not start at the beginning of the calendar/fiscal year, we recommend to transfer the initial annual budgets into concrete calendar/fical year budget, and to include it for approval with the Inception Report at the very beginning of the project implementation.

The same applies also for the whole work plan time schedule, where it would be useful to transfer the format from relative timing to concrete calendar dates, so that the plan would be more transparent and easily to use.

- **Logframe indicators and targets should be properly designed and reflect achievements by the end of the project implementation**

Special attention should be paid to development of a consistent and truly logical project logframe including indicators and their targets that are easily verifiable and measure key project results.

The project set of indicators combines two types of indicators: those that should be fulfilled by the end of project implementation, and those that are estimated to be fulfilled by 2020 - see a target for indicator 2 for example. Since calculation of any indicator target that should materialize in the future

(by 2020) must be based on assumptions, its verification cannot be based on hard facts, but just on revision of assumptions used and methodology used for its calculation. Achievement of such indicator is thus speculative by definition and does not properly reflect achievements reached during the project implementation but estimate its potential future impact. Estimation of future project impact should be clearly separated from achievements of project implementation.

In any way, project indicators should realistically measure originally planned project results, be measurable, and easy to verify based on hard facts evidence. Utilization of "soft" indicators, whose evaluation needs to be based on estimates, should be minimized if not eliminated.

The project logframe including its indicators does not serve only to evaluate project results and to provide a feedback to project funding agencies, but if properly defined and implemented, it primarily helps project management to effectively manage the project on a daily basis.

- **Asses impacts on project targets when changing project outputs/activities**

The period between the initial project idea, development of the project document and actual project implementation lasts typically several years, 5 to 7 years are not exceptions. In today's rapidly changing world, and especially in countries with economies in transition and in developing countries, during this period the local situation might change significantly and it will require updating the originally planned project activities. Thus we consider updates and changes of originally planned project outputs and activities, as specified in annual work plans, to be integral and natural part of project implementation. However, on the other hand the changes in project outputs and activities might signal, that the project was not carefully prepared, or that the project faces troubles in its implementation. In some cases the changed project outputs/activities might even negatively influence the originally planned project goals, objectives and outcomes. In order to minimize potential negative impacts of the project changes to overall project objectives and outcomes, we suggest, when submitting proposals for changes in project activities/outputs for approval, to always evaluate impacts of those changes on originally planned project indicators and objectives. The same applies when updating the whole logical framework, including project indicators and targets. The evaluation scale might be simply just negative/neutral/positive, or it can be more detailed and include also numerical expressions where relevant.

- **An easy to use transparent overview of updated project activities, deliverables, time schedule, and financial plan helps project management**

A typical period before initial project idea and completion of project implementation is 5+ years. It is only natural that during this time period the project environment changes and the project thus needs to update and change details of its planned activities, deliverables, time of delivery, and budget in order to meet its stated goal and objective effectively. If all these changes are tracked only in standard project reports such as individual and separate AWP, APR, Quarterly and Monthly Reports etc, it is extremely time consuming and almost impossible to have an up-to-date information on the actual status of the project, and thus to have an effective control of the project.

As in any other project which requires professional project management, all planned project activities, deliverables, (logframe), time schedule, and financial plan (what-when-how much) should be easily available and up-to-date, including all the changes approved, for a daily use.

The same as for plans applies also for actual implementation. The information on what-when-how has been delivered and spent should be tracked in a transparent way, on a up-to-date basis, so that the information on actual status of progress and effectiveness of project implementation would be available, and the project manager may take any corrective actions necessary as soon as possible.

Relying only on the standard UNDP/GEF project reports (AWP, APR, monthly report) does not allow to manage a mid-size project effectively, especially if the project is rather complex and includes several changes/modalities compared to originally planned and approved activities.

- **Use of adequate project management tools and management accounting tools**

If the project management relies only on the GEF/UNDP required formats of reporting, including project plans and progress reports as the only tool for daily project management, it is difficult, if not impossible, to have easy to use overview and control of project development and status. For more complex projects it would be critical for effective project implementation and management to utilize more flexible tools and techniques that allow for having easily accessible, daily overview and control of the actual up-to-date status of the project, including budget vs. actual expenditures, deadlines and planned activities vs. their actual status and delivery, etc.

Standard commercial project management and management accounting tools can be utilized that are suitable for specific complexity of a concrete project.

- **GEF/UNDP to prepare standard project management tools and management accounting tools tailored for specific needs of their projects**

Standard commercial software project management tools and management accounting tools are nowadays widely available also by download from internet. However, the shift from a “manual” project management to a software tools supported project management requires usually a certain “critical mass” of projects under implementation. It is not yet common, that a single governmental or non-governmental entity that implements GEF/UNDP funded project is familiar with such tools and utilizes them in their project management.

Once such project management tools and management accounting tools are utilized, all details of project work plans should be incorporated in the tools, and the tools might be effectively used also to generate required GEF/UNDP reports. However, it would be rather costly if each individual project implementing/executing agency should customize their various software tools for specific GEF/UNDP reporting formats individually.

The GEF/UNDP might thus consider providing such standard professional software project management and management accounting tools for agencies implementing projects with GEF funding. The proper usage of such tools, if well selected, and correctly used, might significantly reduce the time burden spent on reporting, and at the same time – and which is more important – also to improve the quality and effectiveness of project management. Also any updates in required format of GEF/UNDP

reporting might be prepared centrally and the report templates then easily downloaded for application by each implementing agency.

If GEF/UNDP decides to develop and provide such project management and management accounting tools to project implementing parties, a web-based training on how to use these tools might be effective way how to support project implementing parties in developing/strengthening their project management skills.

- **Support on-going activities to establish legal entities responsible for the whole condominium building**

Most of the countries in Central, South-East, and Eastern Europe, and in Central Asia have privatized individual apartments in multiapartment buildings to its tenants, without creating legal entities responsible for the whole building. This creates a critical obstacle for financing building level reconstruction and maintenance, including energy efficiency upgrades. Since some of the countries have realized already that this is a crucial problem, some attempts exist already to establish such legal entities on a compulsory and/or voluntary basis, to provide financial incentives to do so, etc.

UNDP, GEF and all other international development and financial organizations should use all their authority to support national governments in solving this legislative problem according to national constitution and rule of law.

Creation of such legal entities (housing associations, cooperatives, etc.) responsible for the whole building is not only a prerequisite for successful building reconstruction and improvements in energy efficiency, but it is truly a keystone for strengthening democracy. Based on the personal experience, we have learned how difficult, but necessary for the apartment owners is to learn how to effectively cooperate and to find consensus, how to persuade neighbors and enforce rational initiatives. Organizations such as housing associations and cooperatives force people to learn how to make decisions in a democratic institution. And without such experience from democratic institutions on a local level it is difficult to implement effective democratic governance on a national level.

11. Annexes to the Terminal Evaluation Report

12. Appendix A: Evaluation Terms of Reference

TERMS OF REFERENCE FOR FINAL EVALUATION

Building the Local Capacity for Promoting Energy Efficiency

in Private and Public Buildings (EE Project)

(PIMS 2940, Project 48788, UNDP-GEF Medium Size Project)

1. INTRODUCTION

1.1. UNDP-GEF MONITORING & EVALUATION POLICY

The Monitoring and Evaluation (M&E) policy at the project level in UNDP-GEF has four objectives: (i) to monitor and evaluate results and impacts; (ii) to provide a basis for decision making on necessary amendments and improvements; (iii) to promote accountability for resource use; and (iv) to document, provide feedback on, and disseminate lessons learned.

In accordance with UNDP-GEF M&E policies and procedures, all regular and medium-sized projects supported by the GEF should undergo a final evaluation upon completion of implementation.

Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. It will also identify/document lessons learned and make recommendations that might improve design and implementation of other UNDP-GEF projects.

UNDP-GEF Monitoring & Evaluation (M&E) policy is available on-line at: http://www.undp.org/gef/05/monitoring/policies.html

1.2. BUILDING THE LOCAL CAPACITY FOR PROMOTING ENERGY EFFICIENCYIN PRIVATE AND PUBLIC BUILDINGS

1.2.1. PROJECT SUMMARY

The goal of the project under evaluation is to promote energy efficiency market in buildings by (i) enhancing the awareness and capacity of local architects and engineers to better adopt energy efficiency aspects into the design of new buildings and retrofit of the existing ones; (ii) raising the awareness and building the capacity of the targeted end users to develop and structure financing for economically and financially feasible EE projects, thereby creating a sustainable demand for energy efficiency equipment, materials and related services in the buildings market; (iii) incorporating the energy efficiency aspects more strongly into the ongoing efforts to renovate the existing building stock in general, including the UNDP funded activities to support the renovation of public buildings and

private residential and service sector buildings; (iv) building the capacity of the local energy service providers to effectively market their services and to meet the requirements of the targeted financiers to finance EE projects; and (iv) facilitating effective replication and dissemination of the results and institutionalizing the further support needed for the promotion of EE measures in public and private buildings through applicable legal and regulatory measures and organizational arrangements.

Entering the final stage of its lifecycle the project went through important changes designed to facilitate meeting the overall project objective. Mid-term evaluation (MTE) was carried out and some important recommendations were made. Based on the MTE Report a detailed "Management Response" document has been elaborated by the project and with the support of UNDP. Part of it was the up-date of the strategic project documents including Project Logical Framework. Project indicators, targets and baselines were redesigned according to these recommendations in order to achieve relevant, efficient and informative calculations of project results and better impact for effective adaptive management use. Logical Framework has been thoroughly reviewed and modified to correctly reflect the current situation in the building sector caused primarily by the substantial economic downturn and significant slowdown.

The focus is on public buildings owned/managed by the municipalities, private residential and service sector buildings and premises of the local small and medium size enterprises, which together cover about 85% of the total energy use of Bulgaria's building stock.

The project is NGO-executed. EnEffect (NGO) is the Project Implementing Partner. The Project Implementing Partner receives managerial and technical support from UNDP. The originally planned duration of the project was 4 years, from March 2006 till March 2010. However, decision was made for no-cost extension with 6 months till the end of September 2010. Cash budget of the project is 975 000 USD allocated by GEF.

2. OBJECTIVES OF THE FINAL EVALUATION

2.1. WHO INITIATED THE EVALUATION?

The Terminal evaluation is a requirement of UNDP-GEF and thus is principally initiated by the UNDP in Bulgaria as part of its implementation responsibilities

2.2. WHY IS THE EVALUATION BEING UNDERTAKEN?

UNDP-GEF is primarily interested in analysis of how successful implementation of the project has been, what impacts it has generated, if the project benefits will be sustainable in the long-term and what the lessons learnt are for future interventions in the country, region and other parts of the globe where UNDP-GEF provides its assistance.

2.3. WHAT WILL THE EVALUATION TRY TO ACCOMPLISH?

This evaluation will provide professional assessment of the project implementation successfulness against the set objective and indicators, including contribution of the project to achieving global environmental benefits. The evaluation will also collate and analyze lessons learn and best practices obtained during the period of the project implementation that can be further taken into consideration during development and implementation of other GEF projects.

2.4. WHO ARE THE MAIN STAKEHOLDERS OF THE EVALUATION?

The report of the Terminal Evaluation will be disseminated for review to the executing and implementing agencies, national stakeholders and other partners of the project and after finalization will be forwarded to UNDP-GEF coordination offices and ultimately to GEF Evaluation office for capitalizing the gained experience and feeding it in formulation of the GEF policies and decision making. The complete list of stakeholders includes:

National:

1. UNDP Country Office
2. Energy Efficiency Agency
3. Ministry of Regional Development and Public Works
4. Ministry of Economy, Energy and Tourism
5. Ministry of Environment and Water
6. University of Architecture, Civil Engineering and Geodesy
7. Union of Architects in Bulgaria
8. Chamber of Architects in Bulgaria
9. Bulgarian Energy Efficiency Fund
10. Higher School of Transport
11. Bulgarian Municipalities
12. National Association of Municipalities in the Republic of Bulgaria
13. Municipal Energy Efficiency Network EcoEnergy
14. Energy Service Companies (ESCOs)
15. Bulgarian Housing Association
16. Private Sector

International

17. Regional UNDP-GEF office in Bratislava
18. Other International Donors, such as World Bank, EBRD, USAID etc.

The final evaluation report will also be available for wide public at www.undp.bg

2.5. WHAT IS THE PURPOSE OF THIS EVALUATION?

Specifically the present terminal evaluation has the following objectives:

i. to analyze and evaluate effectiveness of the results and impacts that the project has been able to achieve against the objective, targets and indicators stated in the project document;
ii. to assess effectiveness of the work and processes undertaken by the project as well as the performance of all the partners involved in the project implementation;
iii. to provide feedback and recommendations for subsequent decision making and necessary steps that need to be taken by the national stakeholders in order to ensure sustainability of the project's outcomes/results;
iv. to reflect on effectiveness of the available resource use; and
v. to document and provide feedback on lessons learned and best practices generated by the project during its implementation.

3. PRODUCTS EXPECTED FROM THE TERMINAL EVALUATION

The final product of the evaluation will be the Terminal Evaluation Report.

3.1. INDICATIVE OUTLINE OF THE TERMINAL REPORT:

The evaluation report outline should be structured along the following lines with possible deviations agreed among the evaluation mission and the implementing parties of the project:

1. Executive summary

1.1. Brief description of the project

1.2. Context and purpose of the evaluation

1.3. Main conclusions, recommendations and lessons learned

2. Introduction

2.1. Purpose of the evaluation

2.2. Key issues addressed

2.3. Methodology of the evaluation

2.4. Structure of the evaluation

3. The project and its development context

3.1. Project start and its duration

3.2. Problems that the project seeks to address

3.3. Goal, Objective and outcomes of the project

3.4. Main stakeholders

3.5. Results expected

4. Findings and Conclusions

4.1. Project formulation

4.2. Project Implementation

4.3. Project Results

5. Recommendations

6. Lessons learned

7. Annexes

7.1. Itinerary

7.2. List of persons interviewed

7.3. Summary of filed visits

7.4. List of documents reviewed

7.5. Questionnaire used and summary of results

7.6. Comments by stakeholders

More detailed breakdown of the evaluation report into sections and ratings is given in Annex 1.

3.2. ADDITIONAL NOTES ON THE TERMINAL REPORT

Formatting:	Times New Roman – Font 11; single spacing; paragraph numbering and table of contents (automatic); page numbers (centred); graphs and tables and photographs (where relevant) are encouraged.
Length:	maximum 60 pages in total excluding annexes
Timeframe of submission:	first draft by the end of the mission and the final report within 10 days after completion of the country mission
Should be submitted to:	UNDP Country Office - Bulgaria

Should be circulated for comments to: all key stakeholders and participants of the project including governmental agencies involved in the project implementation, UNDP country office, project team and other partners.

If there are discrepancies between the impressions and findings of the evaluation team and the aforementioned parties these should be explained in an annex attached to the final report.

4. METHODOLOGY OR EVALUATION APPROACH

An outline of the evaluation approach is provided below. However, it should be made clear that the evaluation team is responsible for revising the approach as necessary. Any changes should be in line with international criteria and professional norms and standards as adopted by the UN Evaluation Group[2]. They must also be cleared by UNDP before being applied by the evaluation team. The evaluation should provide as much gender disaggregated data as possible.

The evaluation will be carried out by the team through:

i. **Documentation review** (desk study): the list of documentation is included in Annex 2. All the documents will be provided in advance by the Project Implementation Unit and by the UNDP Bulgaria Country Office; The evaluator should consult all relevant sources of information, including but not limited to the following list of documentation: the project document, project reports, PSC minutes and decisions, MB minutes, project budgets, project work plans, progress reports, PIRs, project files, UNDP guiding documents, national legislation relevant to the project and any other material that they may consider useful

ii. **Interviews** will be held with the following organizations and persons as a minimum:
   - UNDP Bulgaria
   - EE Project Administration (Project Management Unit)

[2] http://www.uneval.org

- National Project Director
- Project Steering Committee members

iii. **Field Visits** should be made to number of project sites.

Semi-structured interviews – the team should develop a process for semi-structured interviews to ensure that different aspects are covered. Discussions with representatives of project beneficiaries will be held as deemed necessary by the evaluation team. Interviews with municipality representatives and experts trained within project are necessary.

iv. **Questionnaires** – any questionnaires that will help to better reflect the impacts of the project are welcomed and encouraged.

Although the evaluator should feel free to discuss with the authorities concerned all matters relevant to his/her assignment, they are not authorized to make any commitment on behalf of UNDP or GEF or the project management.

v. **Participatory techniques** and other approaches for the gathering and analysis of data.

5. COMPOSITION OF THE EVALUATION MISSION

The equivalent of one international evaluator and one national evaluator has been budgeted for this evaluation team.

The team is required to combine international caliber evaluation expertise, the latest thinking in climate change mitigation management, sustainable use of energy and knowledge of the regional context. The consultants will be hired by UNDP, following the UNDP rules and procedures.

Team Qualities:

- Recent experience with result-based management evaluation methodologies
- Experience applying participatory monitoring approaches
- Experience applying SMART indicators and reconstructing or validating baseline scenarios
- Recent knowledge of the GEF Monitoring and Evaluation Policy
- Recent knowledge of UNDP's results-based evaluation policies and procedures
- Competence in Adaptive Management, as applied to conservation or natural resource management projects
- Recognized expertise in the management and sustainable use of natural resources in Europe is an asset
- Demonstrable analytical skills
- Work experience in relevant areas for at least 10 years
- Project evaluation experiences within United Nations system will be considered an asset
- Excellent English communication skills

The consultants will be responsible for preparing the terminal evaluation report and its completion in accordance with UNDP Monitoring and Evaluation guidelines.

Individual consultants are invited to submit applications together with their CV for a position. Applications are welcome from anyone who feels they can contribute to the team because they possess five or more of the listed qualities. Obviously the more qualities that can be demonstrated, the better the chance of selection.

The evaluation will be undertaken in-line with GEF principles[3]:

- Independence
- Impartiality
- Transparency
- Disclosure
- Ethical
- Partnership
- Competencies and Capacities
- Credibility
- Utility

The evaluators must be independent from both the policy-making process and the delivery and management of assistance. Therefore applications will not be considered from evaluators who have had any direct involvement with the design or implementation of the project. This may apply equally to evaluators who are associated with organizations, universities or entities that are, or have been, involved in the project. Any previous association with the project, UNDP Bulgaria or other partners/stakeholders must be disclosed in the application. This applies equally to firms submitting proposals as it does to individual evaluators.

If selected, failure to make the above disclosures will be considered just grounds for immediate contract termination, without recompense. In such circumstances, all notes, reports and other documentation produced by the evaluator will be retained by UNDP.

If individual evaluators are selected, UNDP Bulgaria will appoint one Team Leader. The Team Leader will have overall responsibility for the delivery and quality of the evaluation products. Team roles and responsibilities will be reflected in the individual contracts. If a proposal is accepted from a consulting firm, the firm will be held responsible for the delivery and quality of the evaluation products and therefore has responsibility for team management arrangements.

6. IMPLEMENTATION ARRANGEMENTS

6.1. MANAGEMENT ARRANGEMENTS

The principal responsibility for managing this evaluation lies with UNDP Bulgaria. UNDP Bulgaria will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. EE Project Administration will be responsible for logistical arrangements of the field visits, liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, etc. These Terms of Reference follow the UNDP-GEF policies and procedures, and together with the final agenda will be agreed upon by the UNDP-GEF Regional Coordinating Unit and UNDP Country Office.

[3] See p.16 of the GEF's Monitoring and Evaluation Policy

Prior to approval of the final report, a draft version shall be circulated for comments to project team and UNDP CO and UNDP/GEF Bratislava.

Although the final report must be cleared and accepted by UNDP before being made public, the UNDP Evaluation Policy is clear the evaluation function should be structurally independent from operational management and decision-making functions in the organization. The evaluation team will be free from undue influence and has full authority to submit reports directly to appropriate levels of decision-making. UNDP management will not impose restrictions on the scope, content, comments and recommendations of evaluation reports. In the case of unresolved difference of opinions between any of the parties, UNDP may request the evaluation team to set out the differences in an annex to the final report.

6.2. TIMEFRAME, RESOURCES, LOGISTICAL SUPPORT AND DEADLINES

The total duration of the evaluation will be 23 working days, timeframe for submission of the final report will be 5 weeks upon signing of the contract and evaluation should be completed by the end of July 2010.

Preparation before field work: (3 days):

- Acquaintance with the project document and other relevant materials with information about the project (PIRs, Project Steering Committee reports, Mid-term Evaluation report, etc);
- Familiarization with overall development situation of Bulgaria (based on reading of CCA and other agency reports on the country).
- Detailed mission program preparation in cooperation with the UNDP Country office and the Project team.
- Initial telephone discussion with UNDP-GEF Regional Technical Advisor

Field mission:

Sofia (3 days)

- Meeting with UNDP Country office team;
- Visit to the office of the Executing Agency and briefing with the project management and technical staff;
- Meetings with other relevant national partners and stakeholders in Sofia;
- Interviews with subcontractor representatives if available;
- Joint review of all available materials with focused attention to project outcomes and outputs

Project sites (4 days)

- Observation and review of 3 pilot buildings, visit of minimum 2 EE Local focal points, visit of municipalities involved with the project
- Interviews with key beneficiaries and stakeholders, including representatives of local authorities, local stakeholders, etc.

Sofia (3 days):

- Final interviews / cross checking with UNDP CO, Executing agency and Project staff.
- Drafting of report in proposed format

- Presenting and discussion of the draft report outline with UNDP CO and Project to agree on the format and emphasis.

After the field mission – home office (10 days)

- Telephone review of major findings with UNDP CO and UNDP-GEF Regional Coordinator
- Completing of the draft report and presentation of draft report for comments and suggestions
- Presentation of final evaluation report

7. SCOPE OF THE EVALUATION – SPECIFIC ISSUES TO BE ADDRESSED

The Final Evaluation will assess the following aspects:

Relevance of the project to:

a) Climate mitigation
b) Development priorities at the local and national level
c) Direct beneficiaries - Government, local authorities, public services, utilities, residents
d) UNDP mission to promote SHD by assisting the country to build its capacities in the focal area of environmental protection and management.

Technical Performance - assess the technical progress that has been made by the project relative to the achievement of its immediate objective, outcomes and outputs.

a) Quality of technical inputs – have the technical inputs (national and international) been both sound and pragmatic in the context of the countries development circumstances and field conditions found;
b) Effectiveness - extent to which the objective have been achieved and how likely it is to be achieved;
c) Efficiency – the extent to which the results have been delivered with the least costly resources possible (cost-effectiveness).
d) Adaptability – has the project been adaptable in the face of technical challenges or changing circumstances.

Management Performance focused on project implementation

a) General implementation and management - assess the project in terms of quality and timeliness of inputs and activities, with particular reference to financial and human resources management;
b) Executing agency, Project, and UNDP CO – assess the relative roles, capacities and effectiveness of the key project management players, with particular regard to UNDP CO obligations derived from the IA Fee.

Overall success of the project with regard to the following criteria:

a) Results – the positive and negative and the foreseen and unforeseen, changes to and effects produced by the GEF intervention. This includes direct project outputs, outcomes, objective and longer term impact including the global environmental benefits, replication effects, etc.
b) Sustainability - assessment of the prospects for potential replication of the project positive results after termination of UNDP support; static sustainability which refers to the continuous

flow of the same benefits to the same target groups; dynamic sustainability use and/or adaptation of the projects' results by original target groups and/or other target groups; the sustainability should be assessed in terms of ecological, social, institutional and financial sustainability;

c) Contribution to capacity development - extent to which the project has empowered target groups and have made possible for the government and local institutions to use the positive experiences; ownership of projects' results;
d) Leveraging – any additional relevant financial or technical support to the project area.

Synergy with other similar projects, funded by the government or other donors.

Recommendations, lessons learned and best practices accumulated during the project for achieving sustainability of the project objective, impacts and mechanisms, including future support of project initiated interventions by the Government and other stakeholders. The evaluation should also reflect on the following aspects:

- Any key limitations in the original project proposal / project document;
- Any key lessons (positive and negative) in terms of both the technical and administrative implementation of the project;
- Any key factors in terms of the development environment that impacted the project;
- Any key lessons in terms of the quality of support provided by UNDP as the GEF Implementing Agency;
- The major implications of any of the above for current or future GEF projects generally, and specifically those in the country / sub-region in which UNDP is acting as GEF IA;
- Specific recommendations on any or all of the above.

Annex 1. Preliminary content of the terminal evaluation report

1. Executive summary

- Brief description of project
- Context and purpose of the evaluation
- Main conclusions, recommendations and lessons learned

2. Introduction

- Purpose of the evaluation
- Key issues addressed
- Methodology of the evaluation
- Structure of the evaluation

3. The project(s) and its development context

- Project start and its duration
- Problems that the project seeks to address
- Immediate and development objectives of the project
- Main stakeholders
- Results expected

4. Findings and Conclusions

In addition to a descriptive assessment, **all criteria marked with (R) should be rated** using the following divisions: Highly Satisfactory, Satisfactory, Marginally Satisfactory, Unsatisfactory

4.1. Project Formulation

- Conceptualization/Design (R). This should assess the approach used in design and an appreciation of the appropriateness of problem conceptualization and whether the selected intervention strategy addressed the root causes and principal threats in the project area. It should also include an assessment of the logical framework and whether the different project components and activities proposed to achieve the objective were appropriate, viable and responded to contextual institutional, legal and regulatory settings of the project. It should also assess the indicators defined for guiding implementation and measurement of achievement and whether lessons from other relevant projects (e.g., same focal area) were incorporated into project design.
- Country-ownership/Driveness. Assess the extent to which the project idea/conceptualization had its origin within national, sectoral and development plans and focuses on national environment and development interests.
- Stakeholder participation (R) Assess information dissemination, consultation, and "stakeholder" participation in design stages.
- Replication approach. Determine the ways in which lessons and experiences coming out of the project were/are to be replicated or scaled up in the design and implementation of other projects (this also related to actual practices undertaken during implementation).
- Other aspects to assess in the review of Project formulation approaches would be UNDP comparative advantage as IA for this project; the consideration of linkages between projects

and other interventions within the sector and the definition of clear and appropriate management arrangements at the design stage.

4.2. Project Implementation

Implementation Approach (R). This should include assessments of the following aspects:

i. The use of the logical framework as a management tool during implementation and any changes made to this as a response to changing conditions and/or feedback from M and E activities if required.
ii. Other elements that indicate adaptive management such as comprehensive and realistic work plans routinely developed that reflect adaptive management and/or changes in management arrangements to enhance implementation.
iii. The project's use/establishment of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
iv. The general operational relationships between the institutions involved and others and how these relationships have contributed to effective implementation and achievement of project objectives.
v. Technical capacities associated with the project and their role in project development, management and achievements.

Monitoring and evaluation (R). Including an assessment as to whether there has been adequate periodic oversight of activities during implementation to establish the extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan; whether formal evaluations have been held and whether action has been taken on the results of this monitoring oversight and evaluation reports.

Stakeholder participation (R). This should include assessments of the mechanisms for information dissemination in project implementation and the extent of stakeholder participation in management, emphasizing the following:

i. The production and dissemination of information generated by the project.
i. Local resource users and NGOs participation in project implementation and decision making and an analysis of the strengths and weaknesses of the approach adopted by the project in this arena.
ii. The establishment of partnerships and collaborative relationships developed by the project with local, national and international entities and the effects they have had on project implementation.
iii. Involvement of governmental institutions in project implementation, the extent of governmental support of the project.

Financial Planning: Including an assessment of:

i. The actual project cost by objectives, outputs, activities
ii. The cost-effectiveness of achievements
iii. Financial management (including disbursement issues)
iv. Co-financing

Sustainability**.** Extent to which the benefits of the project will continue, within or outside the project domain, after it has come to an end. Relevant factors include for example: development of a

sustainability strategy, establishment of financial and economic instruments and mechanisms, mainstreaming project objectives into the economy or community production activities.

Execution and implementation modalities. This should consider the effectiveness of the UNDP counterpart and Project Co-ordination Unit participation in selection, recruitment, assignment of experts, consultants and national counterpart staff members and in the definition of tasks and responsibilities; quantity, quality and timeliness of inputs for the project with respect to execution responsibilities, enactment of necessary legislation and budgetary provisions and extent to which these may have affected implementation and sustainability of the Project; quality and timeliness of inputs by UNDP and other parties responsible for providing inputs to the project, and the extent to which this may have affected the smooth implementation of the project.

4.3. Results

Attainment of Outcomes/ Achievement of objectives (R): Including a description and rating of the extent to which the project's objectives (environmental and developmental) were achieved using Highly Satisfactory, Satisfactory, Marginally Satisfactory, and Unsatisfactory ratings. If the project did not establish a baseline (initial conditions), the evaluators should seek to determine it through the use of special methodologies so that achievements, results and impacts can be properly established.

This section should also include reviews of the following:

Sustainability: Including an appreciation of the extent to which benefits continue, within or outside the project domain after GEF assistance/external assistance in this phase has come to an end.

Contribution to upgrading skills of the national staff

5. Recommendations

- Corrective actions that need to be undertaken in order to retain and strengthen achieved results, in design of the future GEF supported projects, implementation, monitoring and evaluation of the projects
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives

6. Lessons learned

This should highlight the best and worst practices in addressing issues relating to relevance, performance and success.

7. Evaluation report Annexes

- Evaluation TORs
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Questionnaire used and summary of results
- Comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions)

- Others

Annex 2: List of documents to be reviewed by the evaluators

- The following documents are essential reading for the evaluators:
- Project Document and any revisions
- Mid-term Evaluation report
- Websites –www.undp.org/gef/ 05/monitoring/policies.html
- M & E Operational Guidelines, all monitoring reports prepared by the project
- Annual Reports, Quarterly and Monthly Progress Reports
- Project Implementation Reviews
- Minutes of Steering Committee, Management Board meetings and other project management meetings
- Combined Delivery Report
- Atlas Reports (such as the AWP and Project Budget Balance report)
- Project Implementation Reviews
- Inception Report
- Other relevant policy and legal documents requested by evaluator.

Other products and reports produced by the Project including:

- Publications
- Studies
- Audit reports
- Consulting reports

13.Appendix B: Itinerary

AGENDA and ITINERARY

of the terminal evaluation mission
of the GEF/UNDP project "Building the local capacity for promoting energy efficiency in private and public buildings".

Project evaluators: Jiri Zeman and Dimitar Baev

Time	Event	Where	Topics/subject of discussions	Who participates
July 26, Monday				
14:30	Arrival			Mr. Jiri Zeman
15:30 – 18:30	Introductory meeting	EnEffect's office	Preliminary agenda discussion and coordination Presentation of evaluators' responsibilities	Mr. Jiri Zeman and Mr. Dimitar Baev* Zdravko Genchev, Pavel Manchev
18:00 – 19:00	Working meeting	EnEffect's office	Project's impact on energy efficiency projects by provision of adequate financing	Mr. Dimitar Doukov, Executive Director Pavel Manchev, Zdravko Genchev
July 27, Tuesday				
09:00 – 12:30	Working meeting	EnEffect's office	Overall project presentation	Zdravko Genchev, Pavel Manchev EnEffect's team
14:00 – 16:30	Working meeting	EnEffect's office	Review of the project implementation by outcomes	Zdravko Genchev, Pavel Manchev EnEffect's team

16:30 – 17:00	Meeting	EnEffect's office	Impact of the project implementation on the Bulgarian architects practices	Arch. Petko Simeonov, member of the Managing Board of the Bulgarian Chamber of Architects Zdravko Genchev
Time	Event	Where	Topics/subject of discussions	Who participates
July 28, Wednesday				
09:00 – 09:30	Meeting	EnEffect's office	Impact of the project implementation on the training programs of the University of Architecture, Construction and Geodesy (UACG)	Ass. Prof. Elena Dimitrova, Prof. Yordan Radev, UACG Zdravko Genchev
09:30 – 12:00	Meeting	EnEffect's office	Review of lessons learnt Review of the project's Clearing house Review of the project implementation by success indicators	Pavel Manchev, Zdravko Genchev, EnEffect's staff
13:30 – 14:00	Telephone interview	EnEffect's office	Impact of the project implementation and trainings for architects on the design work of an architectural bureau	Mr. Ivo Pantaleev, ADA Ltd., architectural bureau
14:00 – 15:00	Meeting	EnEffect's office	Impact of the project implementation on the rehabilitation of residential buildings	Mr. Georgy Georgiev, Bulgarian Housing Association
15:00 – 15:30	Telephone interview	EnEffect's office	Impact of the Municipal EE info centre of Lom on public behaviour and on the policy of the municipality in the field of energy saving	Mayor of Lom Mrs. Penka Penkova and Mr. Ivan Ivanov, energy efficiency officer working for the Lom EE info centre
15:30 – 16:00	Telephone	EnEffect's office	Impact of the project implementation and trainings for	Mrs. Elitza Panayotova, Scitza Ltd.,

	interview		architects on the design work of an architectural bureau	architectural bureau
16:00 – 16:30	Telephone interview	EnEffect's office	Impact of the project on the regulatory framework development in the energy efficiency area	Mrs. Violeta Angelieva, Ministry of Regional Development and Public Works
16:30 – 17:00	Telephone interview	EnEffect's office	Impact of the project on the activities of the MEEN EcoEnergy concerning the capacity building in municipal energy planning of municipal experts	Mr. Petar Doulev, Mayor of Belene, Chairman of the MEEN EcoEnergy
Time	Event	Where	Topics/subject of discussions	Who participates
16:30 – 19:00	Meeting	EnEffect's office	Private discussion of the project evaluators	Mr. Jiri Zeman, Mr. Dimitar Baev
July 29, Thursday				
09:00 - 12:00	Working meeting	EnEffect's office	General discussion. Questions and answers	EnEffect's team
14:00 – 14:30	Telephone interview	EnEffect's office	Impact of the Municipal EE info centre of Dobrich on public behaviour and on the policy of the municipality in the field of energy saving	Mayor of the City of Dobrich Mrs. Nikolova and Mrs. Anastasova, energy efficiency officer working for the Dobrich EE info centre
14:30 – 15:00	Meeting	EnEffect's office	Impact of the project implementation on the training programs of the University of Architecture, Construction and Geodesy, UACG	Prof. Dimitar Nazarski, UACG Zdravko Genchev
15:30 – 16:30	Meeting	Agency for Energy efficiency	Collaboration with the Agency during the implementation of the project	Mrs. Snejana Todorova, Deputy Director Pavel Manchev

17:00 – 19:00	Meeting	EnEffect's office	Private discussion of the project evaluators	Mr. Jiri Zeman, Mr. Dimitar Baev
July 30, Friday				
09:00 – 10:30	Final meeting	EnEffect's office	Summary of the mission results	EnEffect's team
11:00 – 12:30	Meeting	UNDP office	Discussion on the preliminary conclusions and results of the mission	Mr. Jiri Zeman and Mr. Dimitar Baev Mrs. Maria Zlatareva, Mrs. Elena Panova, Mrs. Nevena Alexieva
14:00 – 15:30	Visit of a pilot site	Sofia	Visit of a rehabilitated block of flats No 10 in Zaharna Fabrika residential complex	Mr. Georgy Georgiev, Bulgarian Housing Association Pavel Manchev
Time	Event	Where	Topics/subject of discussions	Who participates
16:00 – 17:00	Wrap-up meeting	EnEffect's office	Summary and final discussion	Mr. Jiri Zeman Mr. Dimitar Baev EnEffect's team
July 31, Saturday				
07:00	Departure			Mr. Jiri Zeman
August 4, Wednesday				
07:00	Visit of a pilot site	Blagoevgrad	Visit of a retrofitted residential block of flats no: 17	Mr. Dimitar Baev, Mr. Anton Todorov (EnEffect)

*/ Both evaluators Mr. Jiri Zeman and Mr. Dimitar Baev have been participating in all events during the mission.

14.Appendix C: List of persons interviewed

EnEffect

Zdravko Genchev, Executive Director, Project Director

Pavel Manchev,Deputy Director, member of the Project Management Unit

Marta Stoilova, former Project Manager, member of the Project Management Unit

UNDP

Mrs. Maria Zlatareva-Pernishka, Head of Office

Mrs. Elena Panova, Programme Officer

Mrs. Nevena Alexieva, Programme Associate

Ministry of Regional Development and Public Works

Mrs. Violeta Angelieva, Director of Technical Rules and Regulations Department

Energy Efficiency Agency

Mrs. Snezhana Todorova, Head of Directorate “Programs, Projects and International Cooperation”

Mrs. Boriana Koeva-Uzunova, Head of Department “International Cooperation and European integration”

BEEF: Bulgarian Energy Efficiency Fund

Mr. Dimitar Doukov, Executive Director

Bulgarian Chamber of Architects

Arch. Petko Simeonov, Chair of the Committee for Professional Education, Member of the Managing Board

University of Architecture, Civil Engineering and Geodesy

Prof. Yordan Radev, Faculty of Architecture

Ass. Prof. Elena Dimitrova, Department of Urban Planning

Prof. Dimitar Nazarski, Head of “Construction materials and insulation” department

Bulgarian Housing Association

Mr. Georgy Georgiev, Manager

Lom municipality

Mrs. Penka Penkova, Mayor

Mr. Ivan Ivanov, energy efficiency officer working for the Lom energy efficiency information center

Belene municipality

Mr. Petar Doulev, Mayor, Chairman of the Municipal energy efficiency network EcoEnergy

Dobrich municipality

Mrs. Nikolova, Mayor of the City of Dobrich

Mrs. Anastasova, energy efficiency officer working for the Dobrich energy efficiency information center

Skica Studio Ltd., architectural bureau

Mrs. Elitsa Panayotova, Head architect manager

ADA Ltd., Architectural & Design Agency

Mr. Ivo Pantaleev, Head Architect

15. Appendix D: Summary of field visits

Field visit Residential Block 10, Zaharna Fabrica, Sofia

Date of the visit: 30.07.2010

Visiting team: Jiri Zeman, Dimitar Baev (evaluators), Pavel Manchev (EnEffect), George Georgiev, Bulgarian Housing Association

Object: block of flats No: 10 in Zaharna Fabrika residential complex, Sofia

Project implementation: Bulgarian Housing Association in cooperation with Foundation Housing+, Netherlands, and others.

Energy saving measures implemented:

- Thermal insulation of external walls;
- Whole reconstruction of the attic and construction of two new apartments;
- Water proofing and thermal insulation of roof;
- New double glazed windows with PVC frames;
- Thermal insulation of basement ceiling
- Improvement of heating system – balance, pipe insulation

Monitoring of the savings: 162.6 kWh/m^2 per year for space rating decreased to 60.2 kWh/m^2 per year after energy efficiency reconstruction

Findings: The team conducted a visual inspection of the object. A pilot voluntary housing association has been established and registered that applied for a 20 year loan from a Dutch bank. Total investment 104 750 BGN, the monthly payment is 700 BGN. Half of the payment comes from the rent of newly built apartments in the attic.

Pictures of the renovated residential block 10, Zaharna Fabrika, Sofia:

Photo: Jiří Zeman

Field visit Residential Block 17, District West, Blagoevgrad

Date of the visit: 04.08.2010

Visiting team: Dimitar Baev (evaluator), Anton Todorov (EnEffect)

Object: Residential block of flats, bl. 17, district West, Blagoevgrad

Related outputs:

Ouput 1.3: New energy efficiency buildings / existing buildings retrofitted

Output 1.4 Results and lessons learned from the design, construction and early operation processes for the new / retrofitted buildings as they are complied

Energy audit: conducted by the Consortium "E+M" – certified for energy audits in building sector.

Energy saving measures proposed and Implemented - supported by UNDP / MRDPW Project:

- Building envelop insulation (6 cm insulating material type ESP)
- Installation of new windows frames (PVC double window frame);
- Roof insulation (10 cm mineral wadding)
- Floor insulation (10 cm mineral wadding)
- Monitoring of the savings: not conducted

Findings: The team conducted a visual inspection of the object. All measured are implemented according the requirements of the energy audit. Interviews with 4 apartment owners were carried out. All of them confirmed the efficiency of the provided measured. The estimations of the obtained energy savings varied from 30% to 40%. Some observations indicated that after 2-3 days without heating the drop of the internal temperatures is not more than 1-2 degrees C. This pilot project has motivated the owners of a number of other residential block buildings to implement similar measures based on the market approach.

Pictures of the renovated residential block 17:

Photo: Dimitar Baev

16. Appendix E: List of documents reviewed

UNDP M&E Operational Guidelines and Policies
2009 Handbook on Planning, Monitoring and Evaluating for Development Results
Project Document
Strategic Results Framework for the Project, revision 3, March 2009
Mid-Term Evaluation Report
Annual Project Reports 2006-2008
Quarterly Project Review Reports 2006-2010
Annual Project Work Plans 2009, 2010
Quarterly Progress Reports 2008 – 2010
Combined Delivery Report with Encumbrance 2006-2009
Inception Report
Minutes of the meetings of the Management Board
Minutes of the Steering Committee and Advisor Board meetings
Monthly Progress Reports IX/2006-VI/2010
Project Implementation Report, Annual Performance Report – 2008-2010
Project Implementation Review
Project Results and Resources Framework
Terms of Reference of each of the individual activities
Project Budget Balance report and Expenditures status – 2006-2010
National Programme for the renovation of the panel buildings in the Republic of Bulgaria
Sample of project files

Project deliverables:

Green Vitruvius book
Municipal Energy Planning guide
Draft of the 10 books on Green Architecture
100 Best Practices
List of energy audits performed, sample of energy audits
List of consultations provided, sample of consulting reports
Sample of alternative pilot building designs
Project information materials
Project web sites online and offline under development

17. Appendix F: Questionnaire used and summary of interviews

Questionnaire:

The following areas of questions have been asked during the interviews with project stakeholders:

- What was your/your organization role in the project?
- How did you participate?
- How would you evaluate the recent development of the Bulgarian market and an interest of investors to finance energy efficiency building projects?
- How did the project activities influence the situation and development of the Bulgarian market?
- How do you find the trainings/information provided? How will you utilize the information gained?
- Are there any remaining barriers that should have been addressed? And how?
- How would you evaluate the project benefits and impact?
- What will happen after the project will end up? Will the project results sustain, or will there be a need for additional actions? Can the follow up activities be organized and financed locally, or do they need international support?
- How would you evaluate in general the cooperation with EnEffect during the project?
- How do architects cooperate with civil engineers and heating (HVAC) engineers during the building design phase? How effective is such cooperation? Do they create one team from the very beginning, or is it rather sequential process and the design studio subcontracts engineers to deliver inputs?
- Do the engineers have access to the information provided by the project as well?

Summary of Interviews

Mr. Dimitar Dukov – Executive Director if the Bulgarian Energy Efficiency Fund (BEEF)

Operation and management structure of the BEEF – managed by a consortium of 3 organizations, including EnEffect. Eneffect is involved in expertise and assessment of the projects.

Financing of EE Projects
Near or below the current interest rates
Easy application procedures. Management Board meetings for estimation of the applications – every month.
No cost consultancies
Payback period of projects less than 5 years

Cooperation with the Project:

Audits from the Project are addressed to BEEF for financing. Majority of the BEEF financed municipal projects are initiated by the Project

Projects from municipalities influenced by the Project to BEEF: For instance, Dobrich municipality as one of the 6 pilot programs obtained financing of the EE Program from BEEF. 4 projects for EE in hotels were financed, influenced by the Project

Transition from single energy saving measures to programs, supported by the Project. Average number of proposed energy saving measures by project 5-6

Reduction of the time period from energy audit to application for financing – from more than 6 months at the beginning to 1-3 months now

Reduction of the time period from the approval of financing to the implementation of the measures, including verification of the savings – average no more than 3-5 months.

Mr. Petko Simeonov – Chair of the Committee for Professional Education, Member of the Managing Board of the Bulgarian Chamber of Architects

Involvement of the Chamber of Architects in the Project and estimation of the benefits

Mr. Simeonov is responsible for the training of the architects after University graduation. The goal of the Project is in line with the goals of the Chamber – regular training on important problems and topics, including energy efficiency. 76 architects from 63 offices were trained. The response is very positive as the 2 seminars were the first in this field. The capacity of municipalities for successful application to European funds is very low. The Management Board of the Chamber decided to encourage regional branches to help municipalities in such applications. In this sense the training seminars were very useful and additional training courses will be highly appreciated. If the topics of the training are actual and interesting, the members are ready to cover the costs. In the period of crisis, when the number of projects is reduced, it is time for additional concentration on EE training. Until now these issues were ignored by most of architects, leaving them to HVAC engineers.

Needs for financing of additional training

The budget of the Chamber is distributed to the regional organizations. The requirements for passive buildings are not well known and training in this field is needed. The real construction of EE building depends very much on the architecture of the building. Chamber is able to organize such courses in the future on their own. The architects should be able to explain to investors that investment in EE building could be profitable business.

Integrated design

There are no common forums for architecture and engineers. Usually discussions are inside the offices where projects are developed. The opened web site of EnEfect will be very useful in exchange of knowledge and experience.

Ass. Prof. Elena Dimitrova, UACG

Involvement in development of the training materials and in the process of training

We have a long term cooperation with Eneffect in this field. Optional training modules for sustainable development, including EE were introduced. New program Urbanity was developed, including EE as part of municipality level planning. The training seminars for municipality chief architects and architects from the private business were very useful. New information and contacts and useful feedback could be considered as a result. Benefits for the students – very important and dynamic topics, well structured materials, easy for usage. Very positive response both from professionals and students. In addition, Internet applications will help to support updated information and keep continuity of the process. Trained students in urban planning – about 35. Trained students in sustainable development – about 10. For some of the students the energy efficiency training brings additional value and gives them initial motivation to work in this field.

Prof. Yordan Radev, UACG

Involvement in development of the training materials and in the process of training

Starting from this year training in the field of EE is regular for about 250 students. Materials are very useful also for future trainings/studies, the number of copies available is limited. Such training is implemented not only in UACG, but in 3-4 other universities as well. Seminars are organized by the Union of architects and the Chamber of architects with involvement of EnEffect. Requirements of the existing legislation are one part of the problem. Other very important part is the requirements of the market, which is not well organized in Bulgaria. Investors are not ready for EE. They are not interested in maintenance of the buildings as they do not plan to do this.

Interaction with engineers

Integrated way of design from the very beginning of the project is very important. One of the training books covers this field. Usually EE part is developed after architectural design. Interaction between architectures and engineers is required. Students are interested to learn more in EE.

Mr. Ivo Panteleev – ADA Ltd. architectural bureau, vice president of the Chamber of architects, participant of 2 training courses for architects

Estimation of the training courses

These courses could be considered as part of continuous process of education of the members of the Chamber and valuable opportunity to learn more on energy efficiency. The responses from the participating members are very positive. This was confirmed from the Management Board of the

Chamber too. The personal evaluation of Mr. Panteleev – very well systemized information (comprising all processes from planning to implementation), especially concerning sustainable development. The team of lecturers was very professional. The materials are very satisfying. Useful meetings and discussions added value to the results.

Position of the investors

The energy efficiency market is still emerging. It is time to attract the attention of the investors now to sustainable development as a marketing tool. Proper education of the investors is needed. Our bureau expects 1-2 projects with parameters of passive house in the next year.

Interaction with engineers

The cooperation with engineers is a policy of our company. We do not have engineering department, but we do have good relations and cooperation with engineering companies. Our understanding is that such contacts should be activated from the very beginning of the project.

Mr. Georgy Georgiev – Bulgarian Housing Association

Participation of the Bulgarian Housing Association (BHA) in the project

Bulgarian Housing Association is NGO focusing on housing (legislation, pilot projects, renovation of buildings (joint project with partner organization from Netherland). Participation of BHA in the Project:

Funding and implementation of the renovation of the panel block in district Zaharna Fabrika, Sofia

Study on barriers to the implementation of the National Housing Program

Participation of the BHA in the Project was in line with its activities for development of the new Law of condominium management, especially in parts related with creation of voluntary associations of home owners and their possibilities to apply for funding for renovation of the buildings.

The existing National Renovation Program has not been supported by the Budget since 2005. The first step was supported by UNDP Project for pilot buildings. Now expectations are for successful applications to the EU Operational Programs.

Ms. Elitza Panayotova – Scitza Ltd., architectural bureau

Estimation of the training courses

We participated in 2 training courses – very useful and well organized, with good practical examples. I have revised my opinion in some important parts related with energy efficiency and passive buildings. My impression is that the other trainees are satisfied too.

Potential investors and cooperation with engineers

Practically there is limited number of small scale investors. We expect transition from small scale investors to large scale investors in the field of energy efficient buildings in the future. When this will happen, cooperation with engineers will be needed. Our company cooperates with engineers as subcontractors. This is the most common case. Engineering companies should be trained too.

Ms. Penka Penkova – Mayor of Lom

Participation of the Municipality in the project

We are satisfied from the participation of our municipality in the Project. For our municipality this participation is very important. Energy efficiency is a long term policy for us. Our participation and opening of the information center has been a logical step in this direction. We were preliminary prepared for this participation. We understood how important is to have an energy manager in our structure. Important results from the Project are well developed Energy Efficiency Program, improved cooperation with private business, citizens and governmental institutions. Our EE program is updated in the beginning of 2010 and is published in the web site of the municipality.

One of the results is our participation in the Covenant of Mayors. Lom is one of the first 5 Bulgarian municipalities - founders of the Covenant of Mayors. There is our representative in the National association of the municipalities.

Other benefits from the Project

Regular intelligent energy days, attracting more and more people, have been organized. Special attention is given in attraction of children and young people in energy efficiency related initiatives. Good energy planning is a precondition for a successful application for Operating Programs.

Ms. Violeta Angelieva – Member of the Steering Committee, Ministry of Regional Development and Public Works

Estimation of the Project as a Member of the Steering Committee

I am satisfied from the Project. My participation was related with the promotion of the norms for energy efficiency in buildings among the architectures and engineers. Very impotent was the feedback from the participants and the possibility to learn more from their ideas. We all expect that this process will be continued since the harmonization will continue too. I am satisfied from the printed materials too. The level of the lectures was very high.

The members of the Steering Committee worked in good cooperation and partnership.

Comparison of the new norms with the old ones

The new norms imply more strict requirements. The reference norms are stronger. Methodologies for determination of the specific consumption include cooling too. The methods for calculation of the indicators are very complex and special software is required for their proper using. Additional steps for improvement of the norms are needed. We need more information from implemented projects, including form other European counties in order to improve our norms and standards.

Funding of the pilot projects and of the National Programs

We expect in 2011 to have financed Program with accent to the renovation of the existing panel blocks.

Mr. Petar Dulev – Mayor of Belene, Chairman of the Municipality energy efficiency network EcoEnergy

Estimation of the benefits from the Project

This was one more successful project, marking a new step in motivation of the municipality mangers for efficient energy planning. The pilot municipalities improved their plans. The products of the Project were successfully accepted by participants. As a result – trained energy managers were employed and good analysis of energy consumption was produced. Our municipality was one of the first with position of energy manager. The contacts with the financial experts were improved. We expect that the energy audits already conducted will help us in more successful application for the financing from the Operational programs or for signing effective ESCO contracts. Special attention is given to promotion of energy efficiency in different media – local newspapers, TV, special events, etc.

Ms. Detelina Nikolova – Mayor of Dobrich, member of the Management of the National Association of the Municipalities, Vice President of the Municipality energy efficiency network EcoEnergy

Estimation of the benefits from the Project

We have long term partnership with EnEffect in the field of energy efficiency. We developed our programs for energy efficiency before the adoption of the Energy Efficiency Law. Our experience helped the process of the development of a common energy efficiency policy of the EcoEnergy network. Many of our experts were trained and after that they took part in the training of experts from other municipalities. We play an active role in other network - of Black See municipalities (useful partnership in implementation of energy saving measures in kindergartens).

Regular intelligent energy days have been organized for 7 years. The Information center is very popular and effective partnership with other organization and private business has been established. According to Ms. Elena Atanasova – the manager of the Center, they receive strong support from EnEfect and the response from the activities of the Center is very positive. The municipality is going to take measures for further development of the Center after the Project ending. Dobrich is one of the first 5 Bulgarian municipalities - founders of the Covenant of Mayors. The EE policy of the municipality has been presented on invent of the Covenant of Mayors. The municipality plays an active role in the Association of municipalities of Southeast Europe. The Project MODEL for Intelligent Energy was awarded as a winner among 42 participating projects.

We appreciate the constant support of our activities from EnEffect, including in the development of the web site, which was awarded too. We are going to continue our collaboration with the BEEF and to promote ESCO type contracts, including with electricity distribution company EON. The participation of the municipality in the Project definitely will be helpful for more successful application to the Operational Programs.

Ms. Snezhana Todorova – Energy Efficiency Agency (EEA), Head of Directorate "Programs, projects and International Cooperation", Member of the Steering Committee

Estimation of the Project

This is a very ambitious Project. The main results are in changing the way of thinking. A lot of useful information have been exchanged. These results are not measurable, but are very important. EEA cooperates with the Project mainly in exchange of useful information in both directions. The National Information System is almost ready for public access. Now a process of data loading is going on. Information for municipality energy plans and implemented energy saving measures has been received from the Project. Most of the municipalities participating in the Project have already sent their obligatory annual reports to the EEA. The percentage and the quality of these reports are higher than the average for the country. AEE appreciates the activities and the partnership of EnEffect with the municipalities. These are first, but very important steps.

Other forms of cooperation

Participation in national conferences, seminars and other events

Development of related national legislation

Participation in training seminars

Common trips to country regions

Determination of individual targets for energy savings (by owners, municipalities and buildings)

Proposals:

Continuation of common activities in the field of energy efficiency in building sector

Additional measures for training of the energy managers are required

Updating and real support of the Program for renovation of the buildings are required

18. Appendix G: Original project logframe from the project document

Strategic Results Framework for the Project – original Logical Framework as stated in the project document

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
Objective: To support market transformation towards energy efficient new building design and retrofit of the existing building stock	Adoption of the recommendations made in the frame of the project into the design of new buildings. Amount of financing leveraged and used for implementing EE measures in existing building stock. Annual sale of EE related materials and equipment used for EE retrofits.	Obligatory building codes in force for new buildings. Voluntary "best practices" for energy efficient building design not adequately adopted by the local professionals yet. Limited demand of available EE financing. The annual sale of energy efficiency materials and appliances increasing with an average annual rate of 15%.	Recommendations made in the frame of the project to improve the energy efficient design of new buildings adopted as "best practices" by the local professionals Increasing demand for available EE financing. The annual sale of energy efficiency materials and appliances increasing with an average annual rate of 20%.	Building permit applications and the associated design documents of new buildings Project monitoring and evaluation reports and related surveys. Sale statistics of EE related materials and equipment.	Economic and financial feasibility of the investments and financing modalities promoted. Continuing commitment of the key project partners, including relevant public entities, project financiers and key interest groups to co-operate and work towards meeting the project objectives.
<u>Outcome 1</u> Enhanced awareness and capacity of the local architects and engineers to	Awareness of the local architects and engineers on best EE practices in new building design.	The majority of the local architects and engineers are not fully aware of and are not	All graduating students and, as applicable, other professionals are aware of and have been trained to adopt best EE practices into new	Project monitoring reports.	Co-operation with UACG and adoption of EE aspects more strongly into its curriculum. Mutual interest and co-operation

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
adopt energy efficiency aspects into the building design.		trained to adopt the available "best" EE practices into new building design.	building design.		with local architects, building engineers and the associations representing them.
Output 1.1 A Training and Information Centre strengthened in the Centre of Postgraduate Studies of the University of Architecture, Construction and Geodecy (UACG).	Level and content of training organized. Level and content of information disseminated.	The Training and Information Centre of UACG not fully equipped and capacitated to raise the awareness and train the local professionals on energy efficiency aspects of building design.	The Training and Information Centre of UACG better equipped and capacitated to raise the awareness and train the local professionals on energy efficiency aspects.	Project monitoring reports.	See above
Output 1.2 A contract for the design of new energy efficient pilot buildings with competitive costs signed and the design finalized.	Signed Contract Finalized design of the buildings	No concrete showcases on the adoption of best EE practices into the design of new buildings.	Contract signed for the design of new energy efficient pilot buildings and the design finalized.	Project monitoring reports	Identifying an investor to share the cost of the design and to construct the buildings
Output 1.3 New energy efficiency buildings constructed	Buildings constructed	See above	Buildings constructed	Project monitoring reports.	See above
Output 1.4 Results and lessons learnt from the construction and early operation of the new	A report on the results and lessons learnt from the construction and early operation of the two new buildings.	The results and lessons learnt from the construction and early operation of the two new	The report on the results and lessons learnt published and disseminated, including	Project monitoring reports.	See above

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
buildings compiled and analyzed		buildings not documented.	through Internet.		
Output 1.5 A handbook and a training package for energy efficient design of new buildings.	A handbook and training package for the targeted local professionals available and adopted into the curriculum of UACG and other relevant educational centers.	No good handbook for the energy efficient design of new buildings available.	The handbook and training package for the targeted local professionals developed and adopted into the curriculum of UACG and other relevant educational centers.	Project monitoring reports. UACG curriculum.	See above
Outcome 2 Sustainable demand for energy efficiency investments in public buildings created	Amount of EE investments in public buildings. Implementation rate of the recommendations made by energy audits.	Obligatory energy audits and municipal energy plans, which, however, often are not leading to actual investments.	Leveraged EE investments at the amount of USD 3.5 million and the implementation rate of the recommendations made by energy audits in public buildings show an accelerating trend.	Reports of the municipalities (including use of the Municipal EE Network). A database to be established as a part of the project (see output 2.2)	Close co-operation and recognition of areas of mutual interest with the local municipalities, EEA and related UNDP and other donor initiatives
Output 2.1 Improved guidelines and associated training of certified energy auditors for preparing more "marketing oriented" energy audits.	Guidelines adopted and auditors trained.	No guidelines and training available for preparing more "marketing oriented" energy audits.	Guidelines adopted and 120 registered energy auditors trained for preparing more "marketing oriented" energy audits.	Project monitoring reports.	See above
Output 2.2 A database of	Database established and	No monitoring of energy audits	A database established,	Project monitoring	See above

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
energy audits leading to actual implementation, with the associated incentives to encourage energy auditors to promote the adoption of the recommendations made.	regularly updated.	in terms of to what extent they lead to actual implementation of recommended measures. No incentives for the energy auditors to promote the actual implementation of the recommendations made.	published and regularly updated to monitor the "success rate" of energy audits leading to actual implementation of recommended measures.	reports.	
Output 2.3 Improved guidelines for developing municipal energy plans and investment programs distributed + associated training of public authorities.	Guidelines adopted and distributed. Number of public authorities trained.	Inadequate guidelines and training for developing more "implementation oriented" municipal energy plans and investment programs available.	Improved guidelines for developing more implementation oriented municipal energy plans and investment programs distributed and associated training provided for public authorities from at least 150 municipalities.	Project monitoring reports.	See above.
Output 2.4 The existing municipal energy plans upgraded to concrete,	Number of municipal energy plans upgraded to actual investments programs and new residential town plans drafted..	Mandatory requirements for municipalities to prepare municipal energy plans, which, however, do not necessarily lead	The existing municipal energy plans upgraded to concrete, implementation oriented	Project monitoring reports.	See above

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
implementation oriented investment programs, including the improvement of energy efficiency of public buildings and new residential town plans drafted as per the National Program for Refurbishment of Residential Buildings..		to actual investments.	investment programs developed and adopted by at least 100 municipalities.		
Outcome 3 Sustainable demand for energy efficiency investments in private residential buildings created	Amount of investments into EE retrofits in private residential buildings.	Very limited EE investments in private residential buildings.	Amount of investments leveraged for EE retrofits in private residential buildings reaching 10 million by the end of the project.	Project monitoring reports. Amount of loans or other financing obtained for EE investments.	Close co-operation and recognition of areas of mutual interest with relevant public authorities, private sector and related UNDP and other donor initiatives.
Output 3.1 Establishing an initial network of local focal points that are able to act as a "one-stop" support center to encourage and support the residents of private	Network of focal points / advisory centres established.	Inadequate support available for the owners of the private residential apartments / housing associations to promote sustainable building	Establishing an initial network of local focal points at least in four cities, which are able to act as a "one-stop" support center.	Project monitoring reports.	See above

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
residential buildings to: i) establish housing associations or other applicable forms of co-operation, ii) develop and implement investment projects for improving the energy efficiency and refurbishment of the buildings in general; and iii) structure financing for the projects. [4]		management			
Output 3.2 Interest for EE investments increased through targeted public awareness raising campaigns and cost-sharing of energy audits. [5]	Level of interest created among the owners of private residential apartments to invest in energy efficiency. Letters of Intent received from targeted clients.	Low awareness / interest among the owners of private residential apartments to invest in energy efficiency.	EE investments initiated in at least 2,500 private residential houses and apartments (targeting whole blocks of flats) through different public awareness raising and marketing efforts (including, as applicable, initial walk- through	Project monitoring reports.	See above

[4] While the UNDP Panel Block project as well as the activities of the Bulgarian-Dutch Sustainable Housing Management project will support the establishment of such initial focal points in Sofia, the UNDP/GEF project will explore the options to establish these initial focal points in other three cities, relying on lighter and relatively low cost institutional set-ups such as existing NGOs, municipal structures etc.

[5] Again, while the focus of the UNDP Panel Block project activities will be in Sofia, the UNDP/GEF project is envisaged to initiate measures in other cities of Bulgaria by building on the ongoing co-operation and good contacts created in the frame of the UNDP/GEF Gabrovo demonstration project.

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
			energy audits)		
Output 3.3 The available financing and associated public support and incentive schemes evaluated and, as applicable, further developed in co-operation with the project's envisaged financing partners.	A sustainable financing and the associated public support and incentive schemes in place	The financing scheme(s) and associated public support and incentive schemes to support EE investments in private residential buildings still inadequate to address the specific needs of the buildings market.	Sustainable financing and the associated public support (including applicable social support) and incentive schemes in place to support the first pilot projects and to leverage increasing private sector financing for the targeted follow-up investments.	Project monitoring reports.	See above. The resources for the capitalization of the financing schemes can be covered by other than UNDP/GEF project resources.
Output 3.4 The implementation of the first pilot projects finalized and the results and lessons learnt documented, analyzed and disseminated.	The implementation of the first pilot projects finalized and the results and lessons learnt documented, analyzed and disseminated.	Lack of good and replicable "showcases" on sustainable implementation and financing of EE investment in private residential buildings.	The implementation of the first pilot projects finalized and the results and lessons learnt documented, analyzed and disseminated.	Project monitoring reports.	See above. The actual financing of the first pilots to be covered by other than UNDP/GEF project resources.
Output 3.5 Institutionalizing the future support needed, including synergy with the National Program for Refurbishment of Residential Buildings.	Adoption of the results, recommendations and lessons learnt into the National Program for Refurbishment of Residential Buildings and other institutionalisatio	Newly adopted National Program for Refurbishment of Residential Buildings under development.	Adoption of the results, recommendations and lessons learnt into the National Program for Refurbishment of Residential Buildings and other institutionalisatio	Final project evaluation.	See above

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
	n of the future support needs.		n of the future support needs.		
Outcome 4 The demand for energy efficiency investments in private service sector buildings with the initial focus on tourism facilities (hotels etc.) increased	Amount of investments into EE retrofits in private service sector buildings. Annual sale of EE related materials used for EE retrofits in private service sector buildings.	Very limited EE investments in private service sector buildings.	Amount of investments leveraged for EE retrofits in private service sector buildings reaching a volume of USD 1,5 million by the end of the project as a direct results of the project activities	Project monitoring reports. Sale statistics of EE materials Amount of loans or other financing obtained for EE retrofits.	Close co-operation with the relevant public authorities, private sector as well as the related UNDP and other donor initiatives.
Output 4.1 Interest for EE investments increased through targeted public awareness raising campaigns and cost-sharing of initial energy audits.	Letters of Interest to implement recommended EE measures.	Low awareness / interest among the owners of private service sector buildings to invest in energy efficiency.	EE investments initiated in at least 12 private service sector buildings, with the initial focus on tourism facilities.	Project monitoring reports.	See above.
Output 4.2 Supporting the owners/managers of the targeted service sector buildings to develop concrete investment proposals and to structure financing for the projects.	Concrete investment proposal with financing structure in place.	Lack of capacity of the owners/managers of the targeted service sector buildings to develop concrete investment proposals and to structure financing for the projects.	A pipeline of concrete investment proposal with preliminary financing structure in place, corresponding to the investment volume of at least USD 2 million .	Project monitoring reports.	See above.
Output 4.3 Facilitating	Signed agreements for	Lack of good and replicable	Agreements for the investment	Project monitoring	See above.

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
successful implementation of the first investment projects through required technical assistance (quality control etc.).	the implementation of the first investment projects.	"showcases" on sustainable implementation and financing of EE investment in private service sector buildings.	projects signed corresponding to investment volume of at least USD 1,5 million.	reports.	
Output 4.4 Documenting and disseminating the results and lessons learnt from the implementation of the first investment projects.	A report documenting the results and lessons learnt from the implementation of the first investment projects.	The results and lessons learnt from the first investments projects not documented and disseminated.	A report documenting the results and lessons learnt from the implementation of the first investment projects finalized and disseminated, including through Internet.	Project monitoring reports.	See above.
Outcome 5 The capacity of the local service providers to effectively market and implement their services increased .	The annual turnover of the local EE service providers, including ESCOs.	Limited growth and capacity of the local EE service providers to effectively market and implement their services.	The annual turnover of the local EE service providers increasing with the average annual rate of 10%..	Annual reports of the local service providers. Project monitoring reports	Initial interest of the local energy service providers to benefit from the proposed activities.
Output 5.1 Supporting the existing Associations of Energy Service Providers, like the Association for Energy Analysis and the Chamber of	Increasing the membership and capacity of the Associations of Energy Service Providers.	Newly established associations do not have enough capacity to represent local energy service providers to facilitate	Increasing the membership and capacity of the Associations of Energy Service Providers.	Project monitoring reports	See above.

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
Companies Performing Energy Audits and Certification.		information dissemination, organisation of training, networking etc.			
Output 5.2 An internet based, virtual market place, information clearing house and training facility to support the business development of the local energy service providers in the energy efficiency field.	The web-site established and regularly updated and, as applicable, upgraded. Additional information dissemination and training activities provided, as needed.	Limited capacity and information on the opportunities and resources available to local energy service providers to expand their market.	Access of local energy service providers to the information supporting their market development needs improved.	Project monitoring reports. Questionnaires / surveys about the "value added" of the service.	See above.

19.Appendix H: Updated project logframe approved on September 17, 2009

Revised strategic results framework for the project – revised logical framework (revision 3 of March 2009, approved by a steering committee of September 17, 2009)

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
General project objective:	Indicator 1: tCO2eq emission reductions from buildings influenced by project activities(over their lifecycle to 2020)	0 tCO2eq	125,000 tCO2eq	Project annual evaluations of emission reductions resulting from project intervention	Economic and financial feasibility of the investments and financing modalities promoted Continuing commitment of the key project partners, including relevant public entities, project financiers and key interest groups to co-operate and work towards meeting the project objectives
To support market transformation towards energy efficient new building design and retrofit of the existing building stock	Indicator 2: Conditions assured for the adoption of the recommendations made in the frame of the project into the design of new buildings and retrofit of existing buildings	Obligatory building codes in force for new buildings. Voluntary "best practices" for energy efficient building design not adequately adopted by the local professionals yet	Project trainees include best practice project recommendations in 40 % of all new constructions and in retrofit of existing buildings they are involved by 2020	Project monitoring and evaluation reports and related surveys Pilot design documentation	

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
	Indicator 3 m2 of the floor area in public buildings; private residential buildings; and private service sector buildings influenced by the project	0 m2 floor area	132,000 m2 floor area by the project close	Project annual evaluations of floor area resulting form project intervention	
OUTCOME 1: GENERALOBJECTIVE: Enhanced awareness and capacity of the local architects and engineers to adopt energy efficiency aspects into the building design					
Output 1.1 A Virtual Training, Information and Consultancy Centre (VTICC) established in cooperation with UACEG and other relevant institutions	Indicator 4 Networks of skilled specialists built in municipalities and in the building design society, who could make difference in local energy policies and building design towards sustainable local development and low-energy buildings	The local professionals lack awareness and capacity on energy efficiency aspects of building design	(a) consulting teams of at least 3 EE local focal points; (b) At least 150 municipal officers of at least 60 municipalities trained on MEP (c) Practicing architects / engineers of 30 design offices trained on sustainable building design (d) At least 30 chief municipal architects	Project monitoring reports and training certificates issued Register of households / municipal officers / practicing designers / students affected by project activities	Co-operation with UACEG, UAB, CAB[6] and other relevant institutions established

[6] University of Architecture, Civil Engineering and Geodesy, Chambers of architect in Bulgaria and Union of architect in Bulgaria

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
			approached / trained on sustainable building design (e) At least 150 students approached / trained on sustainable building design by the end of the project and at least 300 by 2020 (f) on-site study of advanced international practices		
Output 1.2 Provided consultations for the design and financing of new energy efficient pilot buildings and the design of existing building retrofit with competitive costs and the design finalized	Indicator 5: Consultations (incl. energy audits) provided to investors / designers / builders for new and/or retrofitted buildings (summarized and documented)	Key participants in the investment process have poor awareness on basic principles of energy efficient building design and on financing of energy efficient projects. Only 10% of projects could obtain consultancy from other sources	Consulting practices well established in the VTICC and 40 consultations performed	Project monitoring reports Register of provided consultations	Demand for targeted consultations exists
Output 1.3 Energy efficient pilot buildings designed (new buildings for construction and/or existing buildings for retrofit)	Indicator 6 Pilot buildings designed (new buildings for construction or existing buildings for retrofit) and analyzed. Draft standards for EE buildings proposed	No concrete showcases on the adoption of best energy efficiency practices into the design of new buildings and the retrofit of existing buildings. Draft standards for low energy buildings and knowledge of cost	(a) At least 6 EE designs executed for at least 12,000 m2 of floor area by the project end (b) At least 8,000 tons of	Project monitoring reports Design documentation Draft standards	Available investors to share the cost of the design

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
Output 1.4 Results and lessons learnt from the design and/or construction of the new /retrofitted pilot buildings		consequences very low or not available at all	CO2 emissions reduced by 2020 (c) Draft standards for low energy / passive / 0-energy buildings proposed		
Output 1.5 A handbook and training programmes for energy efficient building design (new buildings for construction and/or existing buildings for retrofit)	Indicator 7 Available training instruments for EE building design	No comprehensive clearinghouse for energy efficient design available	(a) A comprehensive handbook/ guide on energy efficient building design (b) Targeted training programmes on sustainable building design	Project monitoring reports Guides Training agenda	Capable team of local and international consultants established
OUTCOME 2: GENERAL OUTCOME OBJECTIVE: CREATING SUSTAINABLE DEMAND FOR ENERGY EFFICIENCY INVESTMENTS IN PUBLIC BUIULDINGS					
Output 2.1 A database of energy audits leading to actual implementation, with the associated incentives to encourage the adoption of the recommendations made	Indicator 8 Assistance to the central and local authorities to promote and enforce the actual implementation of EE measures, thus shortening of implementation period of energy efficiency measures	No monitoring of energy audits in terms of to what extent they lead to actual implementation of proposed EE measures Poor incentives and/or enforcement for building owners to carry out energy	Shorten the path between completion of energy audits of buildings and actual EE improvements implementation from currently estimated 6 years to 3 years required by law, thus resulting in increase in EE investment by $ 3.5 million by year 2020	Project monitoring reports EEA implementation data	EE Agency makes a progress in the development of the general energy database (EU funded project), where this project makes a contribution

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
		audits and implement the recommended energy efficiency measures			
Output 2.2 Improved guidelines for developing municipal energy plans and investment programs distributed	Indicator 9 Existing guidelines for municipal energy planning (MEP) updated and upgraded to reflect the current political and economic situation	Existing guidelines do not fully correspond to current conditions in the country after its accession to the European Union. Mandatory requirements for municipalities to prepare municipal energy plans, do not necessarily lead to actual investments, thus zero CO2 reduction achieved	(a) A guide on MEP and a set of "best practices" developed and disseminated (b) MEPs for 5 selected pilot municipalities, based on the updated guidelines developed and updated	Project monitoring reports A set of "best practices" available Guide and pilot MEP documented	Need of updated guidelines on MEP and demand from Bulgarian municipalities for technical assistance for MEP implementation exists
Output 2.3 The existing municipal energy plans upgraded to concrete, implementation oriented investment programs, including the improvement of energy efficiency of public buildings					
OUTCOME 3: GENERAL OUTCOME OBJECTIVE: Sustainable demand for energy efficiency investments in private residential buildings created					

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
Output 3.1 Establishing an initial network of local focal points that are able to act as a "one-stop" support center to encourage and support the residents of private residential buildings to: (i) establish housing associations or other applicable forms of co-operation, (ii) develop and implement investment projects for improving the energy efficiency and refurbishment of the buildings in general; and (iii) structure financing for the projects	Indicator 10 Instruments to increase awareness of local building home owners / managers and the interest to EE building retrofit	Inadequate support available for private home owners and housing associations to provide sustainable building management, investment in energy efficiency, financing schemes, and incentives	(a) 3 EE focal points (one-stop information offices) established (re: 3.1) (b) A set of best practices developed, disseminated in electronic format (re: 3.2) c) A Manual on Financing of residential buildings for publication in Internet (re: 3.3)	Project monitoring reports Register of provided consultations A set of "best practices" Updated guide for sustainable financing	Support from hosting municipalities available Interest in the best practices and financing opportunities available
Output 3.2 Interest in EE investments increased through targeted public awareness raising campaigns					

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
Output 3.3 The available financing and associated public support and incentive schemes evaluated and, as applicable, further developed in co-operation with the project's envisaged financing partners					
Output 3.4 Institutionalizing the future support needed, including synergy with the National Program for Refurbishment of Residential Buildings	Indicator 11 Amount of investments into EE retrofits in private residential buildings	Newly adopted National Program for Refurbishment of Residential Buildings still not initiated	(a) Study on the barriers to the renovation of the existing residential buildings – analytical report (b) Amount of investments leveraged for EE retrofits in private residential buildings reaching $ 10 million by the end of the project	Project monitoring reports Model for refurbishment of residential buildings	The Model addressed to the National Programme, when initiated, assuming that the plan is not cancelled or otherwise derailed
OUTCOME 4: GENERAL OUTCOME OBJECTIVE: The demand for energy efficiency investments in private service sector buildings with the initial focus on tourism facilities (hotels etc.) increased					

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
Output 4.1 Interest for EE investments increased through targeted public awareness raising	Indicator 12 Increased availability of information necessary for developing energy efficiency projects in target groups	Very limited investments in EE retrofit of private service sector buildings. Low awareness / interest among the owners of private service sector buildings to invest in energy efficiency	(a) Development of an electronic reference book for energy efficiency in hotels with a set of best practices for energy efficiency improvements in hotels, disseminated to 4000 hotel owners / managers	Project monitoring reports Guides and website (counters of visits/users)	Demand for such support from target groups exists Cooperation established with hotel and industrial associations
Outcome 5: GENERAL OUTCOME OBJECTIVE: Increasing the capacity of the local service providers to effectively market and implement their services					
Output 5.1 Supporting the existing Associations of Energy Service Providers, like the Association for Energy Analysis and the Chamber of Companies Performing Energy Audits and Certification	Indicator 13 Easy to use source of comprehensive information about the design of new EE buildings and the retrofit of existing ones and about the leading national and international practices	Newly established associations do not have enough capacity to represent local energy service providers to facilitate information dissemination, organisation of training, networking etc.	(a) 5% additional reduction of energy consumption achieved as a result of implemented architectural and structural EE measures, promoted by the project (b) 4 catalogues of “best practices” published and	Project monitoring reports (a) Targeted surveys (b) Catalogues of “best practices” (c) Internet Portal	Initial interest of the local energy service providers to benefit from the proposed activities

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Assumptions
Output 5.2 An internet based, virtual market place, information clearing house and training facility to support the business development of the local energy service providers in the energy efficiency field	developed		disseminated (c) An energy efficiency portal in Internet established and regularly updated and, as applicable, upgraded		

20.Appendix I: Comments by stakeholders