

Mid-Term Evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154



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1. Executive summary

Section 1.01 Brief description of the project

The project document for the “UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154” (herein referred to as “the project”) was signed and registered on the 10th of August 2012. The project is one of over 15 projects that UNDP is implementing in the Europe & CIS region to promote EE in residential buildings. The timeframe for the project’s implementation is January 1, 2012 – December 30 2016. The Department on Energy Efficiency Under the State Committee on Standardization of Belarus is the executing agency for this project. The UNDP is the implementing agency. The financing of US\$ 32,200,000 shall be provided in the form of:

- A. Project budget US\$ 4,900,000
 - a. Regular UNDP US\$ 400,000
 - b. GEF US\$ 4,500,000
- B. Other co-financing:
 - a. Gov’t Cash US\$ 1,700,000
 - b. Other (Cash) US\$ 23,000,000
 - c. Gov’t in-kind US\$ 2,600,000

The project effectively commenced operations in December 2012 when the Project Manager was hired on the 17th of December 2012.

The objective of the project is to reduce the energy consumption and related GHG emissions with the focus on new residential buildings by introducing new performance based building design and construction standards with related energy certification scheme(s), and to ensure their effective implementation. GEF approval of the project was made contingent on the written commitment of the Government to introduce legislation to promote new EE building standards at a level which is compatible with the EU Energy Efficiency Performance Buildings Directive (EEPBD). By this, the energy consumption of new buildings is sought to be cut by at least 70% compared to existing building stock constructed before 1993 and by 40% compared to the buildings erected in accordance with the current construction norms and thermal standards in place.

In order to reach this Objective 4 Outcomes were defined:

1. Outcome 1: Strengthened legal and regulatory framework and mechanisms to enforce the legislation for improving the energy efficiency of the building sector with the focus on new residential buildings
2. Outcome 2: Enhanced capacity of the Belarusian specialists to implement and effectively enforce new energy efficiency standards and norms with the initial focus on new residential buildings.
3. Outcome 3: Demonstrated energy and cost-saving potential of new energy efficient measures in at least three new residential buildings in two Belarusian cities

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4. Outcome 4: Documented, disseminated and institutionalized project results providing a basis for further replication.

This report contains the main findings of the Mid-Term Evaluation (hereinafter: MTE) of the project that was carried out following the overall guidelines for outcome evaluation methodologies as provided in the UNDP Handbook on Monitoring and Evaluation for Results.

For the purposes of this report, the period of January 2012 until October 2014 will be taken into account.

(i) Story of the project

In spite of the fact that the project officially was supposed to take place in January 2012 the project effectively commenced operations in December 2012 when the Project Manager was hired on the 17th of December 2012. According to UNDP Country Office in Minsk the delay is attributed to the lengthy mandatory Governmental project registration process. Starting December 2012 the project ran into a delay at the kick off seminar because of difficulties with the intended amount of co-financing from the side of the Ministry of Environment. The postponed Inception Seminar was not an “additional” delay to project implementation. The ADWP-2013 was signed in Feb 18, 2013 and duly came into effect since the first PSC meeting (Apr 2, 2013). The Project proceeded to implementing the ADWP long before the Inception Workshop. By June 28, 5 local and international consultants were hired, 5 seminars and international conferences were supported and attended, 9 business trips to pilot sites were conducted, 12 technical reports were issued by project consultants and almost 35% of total 2013 budget planned was disbursed. In spite of these delays a draft of ADWP-2013 and expected outcomes along with project strategy for 2014-2016 were first presented and discussed in two meetings of stakeholders and high level officials held in Jan 29 and Feb 18, 2013. The final version of ADWP-2013 was adopted on April 2nd, 2013 at the first PSC meeting. The kick off seminar took place June 28th, 2013, seven months after the start of the project. Typically, inception workshops for UNDP projects are supposed to take place no longer than 3 months after the start of the project.

A draft of the 2013 detailed working plan (ADWP-2013) and expected outcomes along with the project strategy for 2014-2016 were first presented and discussed in two meetings of stakeholders/partners (Jan 29 and Feb 18, 2013). These discussions revealed lack of stability of intentions of the Ministry of Environment to construct one of the three project pilot buildings. The ADWP-2013 final version was adopted in Apr 2, 2013 during the first meeting of the PSC although the said partner was still not quite firm with regard to construction of the pilot building. The PSC meeting decides to hold the Inception Seminar late in May 2013 and requested the Ministry of Environment to reconfirm its initial commitments in writing before the seminar. In May there was still no formal response from the Ministry, and the seminar was to be postponed until later date (June 28, 2013) when the Ministry informed the PSC about their stern design and formally confirmed it in writing two months later in its letter of Aug 29, 2013. (On Nov 8, 2013, this partner eventually withdrew all its commitments).

The project manager made changes in 2013 and 2014 related to budget and timing. The reason for this was that a 5-year project has to be implemented in a 4 year period unless an extension is granted.

The changes were drafted in January 2013, suggested by PIU and discussed in PSC meetings in April 2, 2013, June 28, 2013 and Nov 18, 2013, and it was adopted as follows:

- 1) As early as in April 2, 2013, in line with PIU suggestions, the PSC meeting adopted a decision to elaborate a standby option to be proceeded if MinEnvironment would fail.
- 2) In Nov 2013, the risk concerning MinEnvironment was materialized. By that time, the PIU had already the standby option prepared. This option came into effect after the PSC meeting held in Nov 18, 2013.
- 3) Somehow the PIU predicted this situation early in 2013, and therefore the project manager has planned the budget allocated for 2013 in the amount, which is to be adequate to the situation.
- 4) All activities and budget pursuant to ProDoc for 2012 and 2013 were incorporated in one ADWP-2013 with some deviations concerning the design services procurement for pilot buildings (it was to begin with two buildings instead of three ones).
- 5) The activities and budget for ADWP-2014 were planned as initially foreseen in ProDoc with some deviations with regard to equipment procurement for pilot buildings (300 kUSD instead of 500 kUSD stated in ProDoc).

At the moment of completion of the MTE it became clear that some of the risks indicated in the earlier drafts of this MTE have materialized. The GrodnoGrazhdanProject informed the project manager that under the condition of rental housing modality they will not be able to provide sustainable financing of the pilot house in Grodno. The two other partners confirmed their financial commitments in writing, proven by corresponding Oblast authorities, and submitted timeframes for design and construction of our pilot buildings in Minsk and Mogilev. The project manager and UNDP CO have, in cooperation with the Head of EE Department, approached the Grodno authorities to settle this issue. As a result, possibly another builder, namely GrodnoPromStroj JSC, is ready to take over the initiative and commit itself to provide necessary financing of the construction in Grodno. The project is currently waiting for a formal letter and will visit Grodno shortly after.

Section 1.02 Context and purpose of the evaluation

(a) Context

The project started in December 2012 (Per ProDoc the 1st of January 2012) and is due to be completed on the 30th of December 2016. As of the total of 5 years for the project implementation over 2.8 years have already passed the overall results achieved up to date and the perspective for the remaining 2.2 years require evaluation in accordance with UNDP requirements for monitoring and reporting for all GEF projects.

(b) Purpose

The evaluation is being conducted to provide a comprehensive and systematic appraisal of the performance of the ongoing project by assessing the project design, process of implementation, achievements vis-à-vis project objectives endorsed by the GEF including any agreed changes in the outputs/activities during project implementation which resulted from previous project evaluations, if any.

The evaluation report is intended mainly for the UNDP Country Office in Belarus, including Senior Management and the Program Unit staff and UNDP-GEF Istanbul Regional Centre and UNDP management in New York.

The information contained in the evaluation report is needed to determine, as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the project.

The information contained in the evaluation report will be used to provide a stock-taking and assess the achievements of the project against its objectives and to examine the relevance of the objectives and of the project design including the revised design following the project evaluations.

It will also identify factors that have facilitated or impeded the achievement of the project objectives.

The purpose of the evaluation is to make recommendations to strengthen the project over the remaining 2.2 years of the project's duration.

The evaluation has the following complementary purposes:

1. To promote accountability and transparency, and to assess and disclose levels of project accomplishments and assess their sustainability;
2. To synthesize lessons learned that may help improve the selection, design and implementation of future UNDP/GEF energy-efficiency projects
3. To provide feedback on issues that are recurrent and need attention, and on improvements regarding previously identified issues;
4. Provide appraisal on the validity/relevance of the outcome for UNDP supported interventions, and the extent to which the set objectives and outcomes have been achieved;
5. Identify gaps/weaknesses in the current Project design and provide recommendations as to their improvements in similar projects;
6. Identify lessons learnt from previous and ongoing interventions in this area;
7. Assess the role of the Project in building local leadership capacities at the local levels;
8. Review and assess the Project's partnership with the government bodies, civil society and private sector, international organizations in Project implementation and comment on its sustainability;
9. Review and assess the efficiency of implementation and management arrangements of the Project;

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10. Support UNDP in identifying the future interventions of Environment and Sustainable Development Projects, aligning it with the national priorities, UNDP's mandate and expertise.

Section 1.03 Main conclusions, recommendations and lessons learned

• Project Component or Objective	Rating
Ratings of Relevance, Efficiency and Effectiveness* (6 - Highly Satisfactory, 5 - Satisfactory, 4 - Marginally Satisfactory, 3 - Marginally Unsatisfactory, 2 - Unsatisfactory, 1 - Highly Unsatisfactory)	
Project Formulation	
Overall Project Formulation (Relevance)	<u>5</u>
- Conceptualization/design	<u>5</u>
- Stakeholder participation	<u>5</u>
Project Implementation	
Implementation Approach (Efficiency)	
- Use of the logical framework	<u>5</u>
- Adaptive management	<u>4</u>
- Use/establishment of information technologies	<u>4</u>
- Operational relationships between the institutions involved	<u>5</u>
- Technical capacities	<u>5</u>
Monitoring and Evaluation	<u>5</u>
Stakeholder Participation	<u>5</u>
- Production and dissemination of information	<u>5</u>
- Local resource users and NGOs participation	<u>5</u>
- Establishment of partnerships	<u>5</u>
- Involvement and support of governmental institutions	<u>5</u>
Project Results	
Overall Achievement of Objective and Outcomes (Effectiveness)	
- Objective	<u>NA</u>
- Outcome 1	<u>4</u>
- Outcome 2	<u>4</u>
- Outcome 3	<u>4</u>
- Outcome 4	<u>4</u>
Sustainability Ratings** • (4 - Likely, 3 - Moderately Likely, 2 - Moderately Unlikely, 1 - Unlikely)	
Sustainability	
- Financial sustainability	<u>3</u>
- Institutional sustainability	<u>3</u>
- Socio-economic sustainability	<u>3</u>
- Ecological sustainability	<u>3</u>
Overall Project Achievement and Impact	<u>5</u>

(a) Main conclusions

The overall impression of the project is that the project rates as satisfactory.

The project rates S in terms of:

- Financial administration
- Project administration
- Execution of task related to developing regulations, standards and legislation.
- Procurement procedures
- Stakeholder involvement
- PR

The project rates MS in terms of:

- Effectiveness of execution of activities in terms of tangibility of results
- Impact of activities and outputs

The project rates MU in terms of:

- Timeliness of Implementation
- Likelihood of achievement of Objective and Outcome 1 and Outcome 3

The main conclusions:

1. When the official starting date of 01-01-2012 is the point of reference for the MTE then one can rather safely assume that most of the outcomes will not be met by the project end date of 30-12-2016. The main concern is the timing. For a proper audit of the EE performance of the buildings the buildings need to be finished and occupied. For a proper audit, the buildings need to go through a full heating cycle (from autumn till spring). For none of the buildings construction has started yet¹ so it is safe to assume that before the start of the heating season 2015 the buildings will not be finished and occupied yet. This means that a proper audit cannot start in autumn 2015. A proper audit and lessons learned and implementation of lessons learned in EE practices and legislation is a key element of the project. Multiplication of the pilot projects is another key element of the project. The target for the end date of the project is:

"At least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m²"

¹ According to the project partners (developers / owners of our pilot buildings), who have already committed in writing their co-financing, they have already spent about 220 kUSD, sites for the pilot buildings have been selected, all necessary permission have been acquired and the sites have been bulldozed and fenced. The design company for the development of parts of design documentations related to engineering installations for energy efficiency improvement measures has been contracted. The design documentations for two pilot buildings have been already prepared for the State Expertise, while the design documentation for the third building is underway.

2. When the project finishes with simply three pilot buildings being built but without the pilot buildings being used for further purposes of multiplication then the effect of the project will be decreased considerably. That is why a project extension makes sense. Maintaining the original end date is also possible but then one has to agree that the quality of the project outcomes will be compromised. In such a case the overall assessment of the project would be unsatisfactory. When however the real starting date of the project (hiring of the PM on 17-12-2012) is taken then the project rates mildly satisfactory to satisfactory. But even when taking the real starting date it doesn't change the fact that most outcomes will not be achieved by 30-12-2016. If the project will be prolonged with one year then the likeliness of outcomes being achieved will increase considerably. An 18 months prolongation would do justice to the project objective and goal but even then, although the outcomes will most likely be fully achieved, there is a risk that the project objective will not be fully achieved.

Objective's measurable indicators	Achievement in case of no project extension	Achievement in case of 12 month extension	Achievement in case of 18 month extension	Comments
At least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m2.	Unlikely	Unlikely	Moderately Unlikely	As explained above, in case of no project extension it will be physically impossible to achieve this target.
“Lifetime” reduction of 220,000 tons of CO2eq resulting from the energy saving in buildings, for which the construction has started or which have adopted into their design new energy efficiency elements that reduce the energy consumption for heating and hot water in the residential buildings below the current thermal standards in force.	Moderately Unlikely	Moderately Unlikely	Moderately Likely	
Outcomes measurable indicators				
Revised minimum energy performance standards adopted for new construction and reaching a status of a law by the end of the project with a target of reducing the energy consumption of new	Moderately likely	Moderately likely	Likely	In case of no project extension the standards would not be revised on the basis of lessons

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<p>residential buildings for space heating and hot water together below 60 kWh/m².</p> <p>An energy performance certification and labelling scheme for both new and existing buildings adopted and under implementation by the end of the project</p>				<p>learned from the three pilot projects.</p>
<p>Integrated, energy efficient building design approach together with buildings’ overall energy performance based design principles adopted into the work of at least 30% of all local design institutes as well as into the curricula of all educational institutes in Belarus educating new architects and building construction and HVAC engineers.</p> <p>By the end of the project, at least 50 experts from each key professional group (see outputs 2,2-2.6) and 200 university students have taken and successfully passed courses on energy efficient building design and construction. Key public authorities responsible for supervision and enforcement of the planned new norms and regulations trained,</p>	Moderately likely	Moderately likely	Likely	<p>In case of no project extension the new design approach would not be devised on the basis of lessons learned from the three pilot projects.</p>
<p>Each of the 3 demonstration buildings constructed on schedule and reaching the target for annual external energy demand for space heating and hot water equal or less than 60 kWh/m², and their energy consumption and other performance (living comfort etc.) monitored for at least one full year.</p> <p>The baseline costs of the 3 demo buildings is covered in full by the project’s co-financing resources and the GEF financing for incremental EE measures won’t exceed 15% of the total construction costs of each demo building.</p>	Unlikely	Moderately likely	Likely	

<p>Planned public outreach activities successfully completed.</p> <p>An entity to follow up and, as applicable, to continue the activities initiated by the project has been designated with adequate resources to perform its work.</p> <p>At least 100 hits and 20 downloaded documents per month from the project website by outside visitors.</p>	<p>Moderately unlikely</p>	<p>Moderately likely</p>	<p>Likely</p>	<p>At least the public outreach concerning the pilot buildings (which is a crucial component) will be MU in case of no project extension.</p>
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3. The Prodoc is well written and situation analysis, context and global significance are still relevant to date. The baseline, barriers and current energy policy to address the root causes and threats have not changed much since the drafting of the Prodoc (in 2010). The institutional framework and stakeholder analysis is correct. The project strategy and project objective, outcomes and outputs are the right ones to reach the Country Programme Outcome as defined in CPAP or CPD: 3.1: Country’s capacity to mitigate and adapt to the climate change strengthened. Project indicators, risks and assumptions are relevant. The expected global, national and local benefits are likely to be achieved but maybe not in the scale that is expected². There is a strong project rationale and the project is conforming to GEF policy. Country Ownership is evident. Financial modality and cost-effectiveness may be different from the Prodoc in the sense that some co-financing partners are different than in the Prodoc and in the sense that the cost per tons of CO2 reduced may be higher as a result of a lower overall CO2 reduction within the timeframe of the project. The reason for this is the doubtfulness of 80 buildings having their design started during the last year of the project and are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m2.
4. Sustainability of the project results and financial sustainability are a point of concern, taking into account cross-subsidy schemes still exercised in Belarus, current tariff policy and absence of PPP regulations (the latter is important to realize effective ESCO approaches).
5. Replication effect of the project results will be high but it will depend of the sustainability of project and of the financial sustainability whether the project results will be widely replicated.
6. The project results framework is well set up and sufficient to aid in achieving the project outcomes and objective.
7. Total budget and work plan are in good order.
8. Management Arrangements are exemplary with a small core team of 4 FTEs and a large group of experts (4 international and 11 national) that are employed on a case by case basis.
9. Monitoring framework, reporting and evaluation are up to standard.

² The scale is defined as follows: “At least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m2”

10. Taking into account the delay in project kick off the project implementation is well on its way to being successful.
11. Adaptive management has been applied by the project manager but more adaptive management may be needed.
12. The project boasts strong partnerships with the stakeholders.
13. The MTE advises to develop specific strategies to enforce and ensure:
 - a. Enforcement
 - b. Capacity building
 - c. Sustainability
14. A financial audit of the project has not been done yet.

(b) Main achievements of the project after 2.8 years under implementation are:

1. The integrated approach to the energy performance monitoring and calculation became a basis for most of amendments proposed and supported by the Project for current norms and standards, understood by authorities and incorporated into the approved official State List of Technical Norms and Standards to be adopted in 2014-2015. Owing to the Project actions and elaborations, the development of the Technical Building Energy Efficiency Code (harmonized with Directive 2010/31/EU) along with national addendums has been also included in the said list.
2. The first (in Belarus) methodology for energy audit of residential buildings was drafted, disseminated and actually used. The methodology, which also includes some adapted elements of International Performance Measurement and Verification Protocol, has been included in the State List of Technical Norms and Standards to be adopted in 2014-2015.
3. The Project succeeded to incorporate most of the best technical solutions into pre-design simulations and design documentations for three different pilot residential buildings of mass construction. The solutions are to assure the building HVAC energy performance of less than 25 kWh/m² per year. They are based on the best practices taking also into account local operational capacity and baseline designs of the buildings.
4. The Project has become a sort of technical council and supporter for national building design communities while advising and teaching on energy efficiency policy, standards, engineering solutions, and building a bridge between best EU practices and local experience.
5. The Project engaged best national experts and institutions and utilized their best experiences.
6. The Project established strong relationship with relevant international partners, e.g., Austrian Energy Agency, DENA, International Passive House Institute, IWO, etc. The Project is effectively utilizing these ties.
7. The information disseminated by the Project through, inter alia, its website is very popular, timely, easy accessible and in demand.

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Item to be assessed	Achievements	Likelihood of completion by end 2016
Objective / Outcome / Output / Activity		
<p>Objective: At least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m².</p> <p>And</p> <p>"Lifetime" reduction of 220,000 tons of CO₂eq resulting from the energy saving in buildings, for which the construction has started or which have adopted into their design new energy efficiency elements that reduce the energy consumption for heating and hot water in the residential buildings below the current thermal standards in force.</p>		
<p>Outcome 1: Strengthened legal and regulatory framework and mechanisms to enforce the legislation for improving the energy efficiency of the building sector with the focus on new residential buildings.</p>		<p>Out of 7 Outputs, 2 may not be completed.</p>
<p>Output 1.1: A formally adopted and endorsed methodology for</p>	<p>Based on critical analysis of the best available methodologies and practices the Project drafted methodological guidelines for energy performance</p>	<p>Likely to be completed.</p>

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<p>buildings' energy performance monitoring and calculation in line with contemporary European norms or other applicable international standards.</p>	<p>monitoring and calculation as well as recommendations based on the international IPMV-protocol for energy audit in residential buildings with due account of national provisions. A round table was organized and held that has agreed with provisions of the presented methodology and recommended it for the further process of approval and adoption. Taking into account stakeholders' comments after round-table discussions, amendments to GOST EN 15217 "Energy Efficiency of Buildings. Methods of Characterization of Energy Performance" with inclusion of the methodological guidelines for energy performance monitoring and calculation applicable to different types of residential buildings has been submitted to the EE Department, Ministry of Architecture and Construction and Gosstandard.</p> <p>The Output is to be completed in 2015</p>	
<p>Output 1.2: At least 50 completed energy audits providing information on factual energy consumption and energy balance of different type of existing residential buildings of different age and using different construction techniques.</p>	<p>Based on critical analysis of existing international and domestic practices for energy audit in residential buildings the Project drafted methodological guidelines for energy audit of residential buildings along with relevant training materials for buildings' energy audits submitted to the DEE and disseminated among partners. Based on the methodology and applicable instrumental methods the Project has procured all necessary equipment and conducted energy audits of five multi-storey buildings. Based on this exercise the methodological guidelines have been corrected and used in some applications.</p> <p>First, it was introduced as a curricular material for the training courses organized and provided by the project. Until now three two-day training sessions for approx. 70 trainees has been organized and held. During the workshops, a survey was conducted with a view of assessment of lacking knowledge and further training needs. According to its results, about 77% of the audience (who are professional energy auditors) have never conducted energy audits of residential buildings. The remaining part has only either limited or general notions about this.</p> <p>Second, the methodological guidelines was used to develop a ToR along with selection criteria and to prepare a list of buildings to be subject for energy auditing (25 buildings as for the first run). The action plans for energy auditing of the selected buildings was prepared and energy audits during 2014-2015 heating</p>	<p>Likely to be completed.</p>

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	<p>season has been started.</p> <p>The Output is to be completed in 2015-2016</p>	
<p>Output 1.3: A completed review and cost-efficiency analysis of different technical options to improve buildings’ energy efficiency and the use of renewable energy sources, including an analysis of the cost-efficiency of different heat supply and distribution methods to serve low or close to zero energy buildings.</p>	<p>Actual data were collected and analyzed as to different construction techniques, appropriate construction materials, design arrangements, heat supply and distribution schemes and special technical options to improve energy efficiency of various types of residential buildings. The cost-efficiency analysis of different technical options and practices applicable to the Belarusian civil construction industry with a focus on different types of residential buildings has been conducted. The recommendations have been drafted as to building performance taking into account the least possible capital and O&M costs. The recommendations are intended to be tested during development of the pilot buildings and will be included in national technical regulations and standards.</p> <p>The Output is to be completed in 2015-2016</p>	Likely to be completed.
<p>Output 1.4: A completed analysis of the impact of the new low energy buildings on the feasibility of different heat supply systems typically used in Belarus and the buildings’ central water heating + radiator scheme connected to district heating, in particular, with related recommendations for future development.</p>	<p>Actual data were collected and analyzed, and recommendations concerning different technical options and practices have been compiled for developers with a focus on energy efficiency improvement of residential buildings. The results of these studies were used for practical recommendations and general provisions when preparing an RfP, ToR and technical specifications for a corresponding tender of designers and when designing three pilot energy efficient buildings.</p> <p>The round-table for about 70 representatives of stakeholders was organized and held to discuss the results of cost-efficiency analysis of district heat and power supply systems with a view to evaluate a potential impact of low energy housing and account it in relevant development programmes.</p> <p>The Output is to be completed in 2015-2016</p>	Likely to be completed.
<p>Output 1.5: A finalized draft with related stakeholder consultations for revised national energy performance based norms and standards for newly constructed buildings and, as applicable, those going</p>	<p>Draft texts based on the energy performance general provisions elaborated by the Project have been prepared to revise some of national technical codes and standards and submitted to relevant organizations. Some of recommendations have been already incorporated in the technical norms submitted for adoption (GOST EN 15217 “Energy Efficiency of Buildings. Methods of Characterization of Energy</p>	Likely to be completed.

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<p>through a major renovation with the initial focus on residential buildings.</p>	<p>Performance”; amendments to TKP 45-2.04-43-2006 “Construction Heat Engineering. Design Norms”; amendments to TKP 45-2.04-196-2010 “Thermal Insulation of Building”, the Complex Programme for Development of Energy Efficient Construction, Reconstruction and Modernization of Residential Buildings in 2013-2015 and up to 2020). The road map has been prepared and discussed at a roundtable with stakeholders along with the list of standards based on project recommendations to introduce provisions for integral regulatory framework harmonized with EU standards in the field of residential building construction and operation. The Project has drafted the National Technical Code on Energy Efficiency in Buildings and corresponding amendments for relevant national regulations. Based on this initiative the Council of Ministers assigned the Ministry of Construction and State Standardization Committee to include these documents in the State Standardization Plan of the Republic of Belarus for 2014-2015 (approved by the Chairman of the State Standardization Committee as of 01.07.2014) and the Complex Programme for Development of Energy Efficient Construction, Reconstruction and Modernization of Residential Buildings in 2013-2015 and up to 2020.</p> <p>The Output is to be completed in 2015-2016</p>	
<p>Output 1.6: Elaborated and by the Government of Belarus adopted practical procedures for the establishment of a mandatory system of EE certification of buildings, including issuing of EE passports and a system of monitoring and compliance checking with related on-site spot-checks.</p>	<p>Based on the results of critical analysis of the best European and other internationally recognized approaches, methodologies, regulations and practices for the energy efficiency certification system applicable to residential buildings and with due account of the Belarusian norms for energy efficiency passportization, recommendations for basic requirements and provisions for the energy efficiency certification system including have been drafted and discussed at a round-table with ca. 40 representatives of stakeholders.</p> <p>The Output is to be completed in 2015-2016</p>	<p>May not be completed by the end of the project.</p>
<p>Output 1.7: Further developed and adopted quality standards and a system of EE certification for the construction materials, accessories and appliances used in the</p>	<p>The Output is to be implemented in 2015-2016</p>	<p>Likely to be completed.</p>

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construction sector.		
Outcome 2: Enhanced capacity of the Belarusian specialists to implement and effectively enforce the new energy efficiency building standards and construction norms.		Based on the assessment below almost all the outputs are likely to be achieved. It is likely that this outcome will be achieved.
Output 2.1: Developed, published and disseminated stakeholder group specific technical guides, handbooks, guidelines and other related training materials on energy efficiency design and construction of new buildings to support the implementation of the envisaged new construction norms, including dissemination of this information through the internet based energy platform and the project's own Internet site.	<p>The capacity building action plan has been formulated based on the results of capacity need analysis. Based on the capacity building action plan the Project have prepared and disseminated online a set of specific technical information materials (handbooks) for different target groups, as follows: "Design of Energy Efficient Building Envelope", "Design of HVAC Systems for Energy Efficient Multi-storey Residential Buildings" and "Design, Practice and Construction Principles for Energy Efficient Buildings".</p> <p>The Output is to be completed in 2015-2016</p>	Likely to be completed.
Output 2.2: New courses on integrated building design and building energy efficiency included into the curricula of all key Belarusian universities educating architects and building engineers and at least 200 students have passed these new courses by the end of the project	<p>Based on the results of critical analysis of curricula of different relevant Belarusian universities the proposals for its improvement and updating have been prepared and discussed at a round table of 60 representatives of stakeholders. The topical area was how to enhance current education process to facilitate introduction of energy efficiency improvement principals, approaches and techniques in development, construction and operation of residential buildings. The list of suggested university courses and respective ToRs have been prepared.</p> <p>The Output is to be completed in 2015-2016</p>	Moderately likely to be completed.
Output 2.3: At least 50 experts from different state and municipal entities dealing with construction policies, norms and standards are trained on the most recent	Relevant training materials have been prepared by the Project, and about 50 specialists in the field of standardization and energy efficiency improvement policy trained during a 2-day training session on construction policies, norms and standards.	Likely to be completed.

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<p>international developments, experiences and lessons learnt on building energy efficiency and environmentally sustainable construction.</p>	<p>The Output is to be completed in 2015-2016</p>	
<p>Output 2.4: At least 50 architects and other buildings designers from the leading design institutes and professional associations are trained on the: i) most recent international developments in the area of energy efficient buildings from the technical and policy perspective; ii) integrated, energy efficient building design principles and techniques; iii) implications in the practical design work when moving from prescriptive norms to buildings' overall energy performance based construction norms; iv) available technical options and cost-effective design principles for optimizing buildings' energy performance; and v) presentation of the available, state of the art software to support integrated, energy efficient building design and training for its use.</p>	<p>Relevant training materials have been prepared by the Project, and about 50 architects and other buildings designers from design institutes and professional associations were trained during a two-day training workshop on the most recent developments, design principles and techniques including software, implications of new construction norms in the practical design work, and available cost-effective technical options for optimizing buildings' energy performance.</p> <p>The Output is to be completed in 2015-2016</p>	<p>Likely to be completed.</p>
<p>Output 2.5: At least 50 construction inspectors from the main regional and district centers trained on methodologies for assessing buildings' energy performance and the correct installation of</p>	<p>Scheduled for Nov 2014.</p> <p>The Output is to be completed in 2015-2016</p>	<p>Likely to be completed.</p>

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the materials and equipment used.		
Output 2.6: At least 50 supervisors of the leading construction companies trained on the correct installation of the materials and equipment used and provision of other advice for private construction companies on how to integrate elements of energy efficient design in their investment projects throughout the project cycle from the design to construction and building management.	The Output is to be implemented in 2015-2016	Likely to be completed.
Output 2.7: A two-week training seminar for professional designers, representatives of the state expertise and building supervision in order to familiarize the group with the experiences of energy-efficient building design, construction and governance (including the role of municipal authorities) in EU countries and visiting the facilities (25 people).	<p>Fourteen Belarusian specialists raised their knowledge and skill with regard to the best existing practice in design, construction, operation and governance of energy efficient residential buildings while taking part in a study tour to Austria coupled with a training workshop.</p> <p>The Output is to be completed in 2015-2016</p>	Likely to be completed.
Output 2.8: Other required training, networking and exchange of knowledge and lessons learnt by building on co-operation with other international initiatives promoting energy efficient and environmentally sustainable building construction.	Different opportunities for cooperation with other relevant international initiatives have been evaluated and discussed with project international consultants, DEE, project partners and other stakeholders. On this basis, plans for forthcoming international events and study visits have been prepared. Based on the plans, about 40 Belarusian specialists and decision-makers participated in 5 study visits and 6 international events abroad dedicated to energy efficient and environmentally sustainable building construction and operation. The visitors have become acquainted with legal framework, standards and policies exercised in three leading European countries with regard to design, construction and operation of energy efficient	Likely to be completed.

	<p>residential buildings. As a result, they recommended activities intended for promoting and facilitating energy efficiency measures in national housing.</p> <p>Informational support (project briefs, topical areas, objectives and outcomes, current implementation status and achievements) has been provided to DEE, project experts and some of the project partners to meet and discuss with specialists and experts of several UNDP projects for energy efficiency improvement in housing (e.g., Kazakhstan, Georgia, Croatia, Northwest Russia).</p> <p>The Output is to be completed in 2015-2016</p>	
<p>Outcome 3: Demonstrated energy and cost-saving potential of new energy efficiency measures in at least three new residential buildings in three Belarusian cities.</p>		<p>Full completion of this outcome without project extension is moderately unlikely (because of monitoring).</p>
<p>Output 3.1: Finalized background studies for and design of the selected demo buildings by applying integrated building design principles and taking into account new technologies and approaches for meeting the HVAC needs of those buildings in a most energy and cost efficient way.</p>	<p>Three sites for pilot projects have been finally identified and approved by the PSC. The project have investigated baseline architecture and engineering characteristics intended for two pilot buildings and suggested space-and-planning parameters, selected the most cost-effective performance, formulated other technical and design solutions, which include inter alia renewable energy technologies, in order to reduce heat and power consumption of the buildings at least by two times. Based on the results of these developments, the project has compiled RfP, ToR and technical specifications for the services concerning design of techniques, installations and equipment for energy efficiency improvement, prepared and conducted a tender, and selected a developer, which would be assigned for provision of the said services. The contract has been signed with NIPTIS, the leading Belarusian developer.</p> <p>The design & construction documentations along with full-scale design of tools, hardware, installations and equipment for energy efficiency improvement, general provisions and instructions for techniques of construction and assembling works, building operation and maintenance works of the pilot building in Grodno were submitted to the state expertise for approval. The same milestone for the pilot building in</p>	<p>Likely to be completed.</p>

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	<p>Minsk is expected to be completed shortly. The project has begun preconstruction simulations and exploratory designs of measures, technological methods, installations and equipment for energy efficiency improvement of the third pilot building (in Mogilev).</p> <p>The Project has proceeded to procurement of equipment specified in the design documentations for the building in Grodno.</p> <p>The Output is to be completed in 2015</p>	
Output 3.2: Finalized construction of the demo buildings by ensuring that the construction and all installation are made in accordance with the proposed or adopted quality standards and guidelines.	The Output is to be implemented in 2015-2016	Some risks exist.
Output 3.3: A monitoring report on the construction of the demonstration buildings documenting the experiences and lessons learnt from procuring, installing and testing the new energy efficient materials, construction techniques and appliances.	The Output is to be implemented in 2015-2016	Some risks exist.
Output 3.4: A monitoring report on the energy performance of the demonstration buildings documenting the actual energy and financial savings and GHG emission reduction from each building as a whole and from each specific energy efficiency measure and appliance tested.	The Output is to be implemented in 2015-2016	Most likely will not be completed without project extension.
Output 3.5: At least 30 private showings of the new buildings organized	The Output is to be implemented in 2015-2016	Most likely will not be completed without

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<p>for local architects, designers, builders and other decision makers, including half-day training sessions with an objective to promote the solutions adopted for the demonstration projects in additional buildings.</p>		<p>project extension.</p>
<p>Outcome 4: Documented, disseminated and institutionalized project results providing a basis for further replication.</p>		<p>If the documented, disseminated and institutionalized project results should be based on the results of the three buildings being built then completion of this Outcome without project extension is unlikely.</p>
<p>Output 4.1: Developed and published public awareness raising materials and completed nation-wide awareness and information campaign advocating the benefits of energy efficiency measures in new buildings, including economic, social, health, environmental and aesthetical aspect and also addressing the GEF/UNDP visibility requirements.</p>	<p>Thirteen interviews have been given to different national and international mass-media, 21 press-releases and briefs, and more than 30 printed materials including 9 brochures and hand-books have been prepared, published and disseminated.</p>	<p>Likely to be completed.</p>
<p>Output 4.2: Agreed methodology and sustainable institutional arrangements for annual market monitoring keeping track on buildings constructed each year as well as the sale of key building materials, accessories and appliances together with their energy performance</p>	<p>The Output is to be implemented in 2015-2016</p>	<p>Likely to be completed.</p>

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characteristics.		
Output 4.3: Fully mandated and capacitated state agency with a responsibility to monitor the energy savings and CO2 emission reductions in residential and other buildings, together with the agreed procedures and interagency agreements for compiling the required primary data.	A report with preliminary recommendations for institutional system and procedures for monitoring, reporting and verification of the energy savings and GHG emission reductions in the construction sector has been prepared and discussed with specialists in DEE and Climate Change Division of the Ministry of Natural Resources and Environmental Protection. The Output is to be completed in 2015-2016	Likely to be completed.
Output 4.4: An approved national energy audit program (including the required funding for its implementation) for promoting larger number of energy audits of residential and other buildings and including a mechanism for using the audit results for elaboration of the energy efficiency strategies for the building sector at the national level.	The Output is to be implemented in 2015-2016	Likely to be completed.
Output 4.5: Energy-efficiency aspects integrated into the regional and local plans for territorial development being developed by the Institute of Urban and Regional Planning (IRUP).	The Output is to be implemented in 2015-2016	Likely to be completed.
Output 4.6: An International conference on energy efficiency in residential sector held in Belarus, including a field visit to the pilot demonstration sites and coordination with other UNDP/GEF building	Six International Conferences on best practice in energy efficiency improvement in residential buildings (including the Project Inception Seminar, which was organized and held also under international format) have been organized and held with informational and financial support from the project. In average about 115 participants from eight countries have attended each conference and received knowledge and information with opportunity to	Completed.

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energy-efficiency projects.	discuss about the best practices and policies exercised in Western and Eastern Europe, Russia and Ukraine in the field of design, construction and operation of the energy efficient buildings.	
Output 4.7: Regularly updated project website with a link to an Expanded Energy Platform.	The project website (www.effbuild.by) was launched late in Dec 2013. From that date, monthly average, the outside visitors made about 120 hits and 1190 downloads of project materials. The Output is to be completed in 2016	Likely to be completed.
Output 4.8: Annual market monitoring reports for new building construction with the emphasis on energy efficiency aspects.	The Output is to be implemented in 2015-2016	If not to be based on the lessons learned from the 3 pilot buildings then likely to be completed.
Output 4.9: Final project report consolidating the results and lesson learnt from the implementation of the proposed project components and recommendations for the required next steps.	The inception stage study has been completed, the inception seminar held, and Inception Report was issued in June 2013. The desk-review stage of the project mid-term evaluation has been completed and a draft of MTE Report has been compiled. The Output is to be completed in 2016	If not to be based on the lessons learned from the 3 pilot buildings then likely to be completed.

(c) Risks & Recommendations

1. One of the main risks that the project faces is the likeliness of the three buildings actually being built. This is a short term risk as it should become clear by the end of 2014 (possibly mid 2015) whether or not the buildings will start to be built. The MTE recommends clarifying this issue as soon as possible and if they are not going to be built seeking a replacement of building(s) as soon as possible. At the moment of completion of the MTE it became clear that some of the risks indicated in the earlier drafts of this MTE have materialized. The GrodnoGrazhdanProject informed the project manager that under the condition of rental housing modality they will not be able to provide sustainable financing of the pilot house in Grodno. The two other partners confirmed their financial commitments in writing, proven by corresponding Oblast authorities, and submitted timeframes for design and construction of our pilot buildings in Minsk and Grodno. The project manager and UNDP CO have, in cooperation with the Head of EE Department, approached the Grodno authorities to settle this issue. As a result, possibly another builder, namely GrodnoPromStroj JSC, is ready to take over the initiative and commit itself to provide necessary financing of the construction in Grodno. The project is currently waiting for a formal letter and will visit Grodno shortly after.
2. Another risk pertains to timing and the delayed start of the implementation of the project. Effectively the project started in December 2012. This means that for implementation of the project there will be effectively only four years. If the finalization date of the project remains at 30 Dec 2016 there may be too little time to finalize all project activities and in particular the demonstration projects and especially monitoring of the pilot buildings energy performance. When one considers that the construction of the buildings has not started yet the question arises if the construction, audits, incorporation of lessons learned and dissemination are realistic targets for the deadline of 30 December 2016. The logframe identifies this risk as: "All the required agreements concluded and the design of the demo buildings completed in schedule during the first 18 months of project implementation and the construction completed by the end of the third year of project implementation". It is safe to say that this risk has materialized.
The MTE recommends drafting a realistic time planning and prolong the project with 18 months provided that co-financing partners have all been secured on or before 30 June 2016³. This would give a remaining one and a half year for the project's implementation.

³ First, co-financing is assured with already implemented activities being conducted by three project partners (land allocation permissions acquired, construction sites are dozed and prepared, design developments for two buildings are close to be accomplished, the developer of the third buildings has already contracted design services, etc.). Second, the three developers have already disbursed about 220 kUSD (to be confirmed in writing). Third, the three developers provided flow charts approved by the PSC meeting in Apr 23, 2014 (to be updated in Dec 5, 2014). All this provides certain confidence that the buildings will be contracted. In view of the said delays the buildings will be erected in the first half of 2016, the latest, i.e. 1.5 years behind the schedule foreseen in the ProDoc.

3. Timing also influences the sustainability of the project. Lessons learned from the constructed buildings will need to be incorporated into the regulations to be amended/ or developed based on the results of monitoring of pilot buildings energy performance and operation which if this is to happen successfully will mean that the project will need to be extended.
4. The ProDoc specifically mentions enforcement. The MTE recommends paying more attention to institutional capacity building of the public authorities to ensure effective enforcement of this regulatory framework. In the absence of financial motivations for construction companies to stimulate the construction of energy efficient buildings and home buyers strict enforcement of new mandatory minimum energy performance standards together with the adoption of a new energy certification and labeling system for buildings should reduce the need for complementary financial incentives. Belarusian legislation regards any standards as voluntary ones, therefore the project should continue elaboration and development of the Building Energy Efficiency Performance Technical Code (a nationally adopted version of Directive 2010/31/EU along with necessary national addendums), which according to the legislation is a mandatory legal act.
5. By most estimates energy management and maintenance programs can reduce energy use in individual buildings as much as 40%. In fact, the U.S. Department of Energy (DOE) publishes a rule of thumb that operation and maintenance (O&M) programs targeting energy efficiency can save 5%–20% on energy bills with little capital investment at all. The MTE recommends paying more attention in the project to energy management. Consideration could be given to transferring the highly successful energy management information system (EMIS) developed by UNDP in Croatia to Belarus.
6. The MTE recommends developing a particular project strategy aimed at maximizing sustainability of the project results. It will already be difficult to build the three buildings, do the audits and incorporate lessons learned in the building regulations within the project’s time frame. The expectation that the project target: “at least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m²” will be met by the end of the project seems unrealistic, let alone that long term sustainability of the project results will be guaranteed.
7. Develop a replication approach foreseeing to establish knowledge transfer, expansion of demonstration projects, capacity building and training. This replication approach should receive specific focus and attention during the last 12-18 months of the project.

8. Although there is no reason to doubt the accuracy of financial reporting by the PMU it would be advisable to have an annual or at least bi-annual financial audit of the project⁴.
9. The private sector could be involved more actively in the project. Further actions must be undertaken in order to enhance cooperation with the private sector. As to new buildings, the private sector may need some help to practice new technical and design solutions explored and introduced within the project. The project should pay more attention to trainings and wide dissemination of project materials and experience among building developers and construction companies. As to existing housing, and in particular it is recommended to explore the possibilities to support the development of a private sector ESCO market in Belarus for energy efficiency improvement of buildings under operation in Belarus, possibly through the establishment of a loan guarantee fund (LGF) to reduce risk to investors of ESCO investments who plan to finance energy efficiency of buildings through ESPC schemes.
10. The likelihood of public financial and economic resources being available once the GEF assistance ends is moderate. The likelihood of the private sector or income generating activities being the source of post-project funding is moderately unlikely unless the country establishes mandatory minimum EE standards for residential buildings. The MTE advises to devise a strategy to maximise the likelihood of post-project private (co-) financing for replication of the pilot projects.

(i) Main intervention: Extension of project duration

Project implementation is delayed by one year because of the delay in project approval/registration by the Government. It is safe to assume that in order to guarantee a good project delivery an extension of the project duration beyond its planned lifetime of five years will be needed.

There are various arguments in favour of an 18 month project extension:

1. The project was started with a one year delay as the PM was hired only at the end of 2012.
2. In the best case scenario the construction of the three pilot buildings will be completed in the first quarter of 2016 (at the time of writing none of the building permits have been received yet, let alone construction started). It will be practically impossible to conduct a proper energy audit of the buildings by December 2016 (the current project termination date). This would mean that the results of the pilot project cannot be included project outputs and outcomes. Moreover, the lessons learned in the three pilot projects could not be

⁴ Only projects that have NEX advances should undergo mandatory financial auditing and only of this advanced funds. UNDP CO arranges financial audits of projects if donor requires. As for other UNDP projects, we have periodic corporate audits and this audit selects project to be audited. They can select this one. However, as stated above there are no concerns related to this project. Nevertheless, in the ProDoc in the M&E section audit is mentioned with respective budget allocated.

included in the design of 80 new buildings. For a proper audit of the EE performance of the buildings:

- a. the buildings need to be inhabited
 - b. the buildings need to go through a full heating cycle (from autumn till spring)
3. An extension of the project with 18 months should contribute to a successful completion of the project. Conditions for granting an extension would be:
1. an adjusted time planning
 2. an adjusted budget planning
 3. clear implementation strategies for guaranteeing
 - a. sustainability of the project results,
 - b. enforcement of regulations and standards,
 - c. focus at building (energy) management practices,
 - d. replication of project results.
4. All co-financing for the demo projects should have materialized (in writing and confirmed) on or before 30 June 2016 or the project may face the situation of requesting a second and then a third extension which, if possible, should be avoided. The Project Manager should make a plan outlining the conditions under which it is reasonable to apply for extension of the project (such as for example all co-financing is in place by date X and construction of all demo pilots has started by date Y). An extension can be justified for this project but there should be certain milestones that need to be met in order for the extension to be triggered. In other words, it should not be automatic.

(d) Lessons learned

1. Develop a Plan B earlier on in the project lifetime and set a deadline for going with Plan B if co-financing fails to materialize;
2. In the case of a delayed start of a project make budget and timing adaptations right from the start of the project
3. For a project with large capital expenditure build in flexibility with regard to CAPEX as opposed to OPEX.
4. Take the project unit set-up with 4 FTEs and 15 experts as an example
5. Set a benchmark for future project websites of projects in general.
6. Project designs that involve changes in legislation should set modest targets. Legislative changes require ample time to implement, possibly outside the timeframe of the Project.
7. Build in contingency planning in budgets, project-timing and ADWPs for factors that lie outside of the direct scope of control of the project, such as:
 - a. Co-financing commitments
 - b. Receipt of permits (like construction permits)
 - c. Delayed project start
8. Carry out MTE exactly at mid-term (i.e. 2.5 years of a 5 year term) and not later (i.e. 2.8 years of a 5 year term which is already closer to 3 years).
9. Implement an accumulative Project Review document. I.e. one document with all the actions planned over the entire term of the project and with reporting on them for the entire passed

project period. This will make it easier to build a proper linear project narrative. Now for a proper evaluation one needs to:

- a. Take Logframe
- b. Take yearly ADWPs that differ on a yearly basis
- c. Take APRs that differ on a yearly basis
- d. Take PIRs that differ on a yearly basis

2. Introduction

This report contains the findings of the Mid-Term Evaluation conducted during the months of September, October and November 2014 of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154. The timeframe for project implementation is 2012-2016. The Department on Energy Efficiency under the State Committee on Standardization of Belarus is the executing agency for this project.

The objective of the project is to reduce the energy consumption and related GHG emissions with the focus on new residential buildings by introducing new performance based building design and construction standards with related energy certification scheme(s), and to ensure their effective implementation.

Section 2.01 Project background

Belarus lacks domestic energy resources, and has thereby to import around 90% of energy consumed in the country. The housing stock consumes over 40% of the total amount of energy used for heating and hot water supply. In the beginning of 2014, the Belarus’ housing stock totals almost 250 million square meters of residential buildings, including about 170 million square meters of old buildings which were constructed before 1994 according to the old Soviet practices and norms when annual specific consumption of heat energy varied from 150 to 200 kWh/m².

Since that time, the housing construction standards changed significantly, and for the time being energy efficiency improvement measures in this sector resulted in reduction of annual heat energy specific consumption by about 100 kWh/m² in newly constructed buildings. The recent national standards stipulate annual specific consumption of energy for heating to be not higher than 60 kWh/m². To facilitate construction of residential buildings in line with the said new standard, Belarus started production of new for the country energy efficient insulating materials, new thermal energy regulators and meters and introduced new types of window design to be used in construction of new buildings. Under this practice 5-6 million square meters of new residential buildings are annually put into service in the country in the past few years.

Nevertheless, as indicated by many experts and acknowledged by the Government of Belarus, the applied measures only partially removed existing barriers and the 60 kWh/m² standard does not reflect the energy saving potential in the housing construction sector, whilst many EU countries are developing new regulatory documents, which envisage transition to construction of buildings with space-heating energy consumption of less than 30 kWh/m² a year with the best achieved engineering solutions leading to about 15 kWh/m² a year. Therefore, the Ministry of Architecture and Construction with support of the State Standardization Committee’s Department for Energy Efficiency have implemented a couple of pilot projects to demonstrate that there is still large energy savings potential while introducing some other state-of-the-art techniques into building construction practice.

According to these projects and best European practices, the energy efficiency improvement solutions can be found in innovative building design principles, such as the optimal constructive-technological and space-and-planning solutions based on integrated energy performance of a building, the combination of heating and ventilating functions with forced ventilation and heat recovery up to 80% from the exhaust air, the heat recovery from drainage waters, the solar water heating and PV-panels, the utilization of ground heat by a heat pump, the automatic regulation of heat and hot water consumption, the use of thorough thermo-vision study to identify actual heat-shielding characteristics of the building envelope, and other applicable energy efficiency improvement technologies and approaches.

Today, the Belarusian Government sets the objective to move towards mass construction of energy efficient buildings in Belarus that is consistent with the new EU standards. Today almost 80% of national standards in housing have been harmonized with EU relevant technical regulations. Nevertheless, despite the availability of technical means and materials and capacities to apply new technologies, there are still certain technical, legislative, institutional, economic and technological barriers to improving energy efficiency in residential buildings in Belarus. Most of national standards have been aligned with the EEPB Directive (2010/31/EU). On the other hand, Belarus needs a specific technical code which would be to some extent a replica of Directive 2010/31/EU equipped with national addendums. This is one of the expected outputs under Outcome 1.

This project aims to overcome these barriers by reducing the energy consumption and related GHG emissions with the focus on new residential buildings by introducing new performance based building design and construction standards governed by a technical code on energy efficiency performance of buildings harmonized with Directive 2010/31/EU with related energy certification scheme(s), and to ensure their effective implementation. By this, the energy consumption of new buildings is sought to be cut by at least 70% compared to existing building stock constructed before 1993 and by 40% compared to the buildings erected in accordance with the current construction norms and thermal standards in place.

Section 2.02 Purpose and scope of the evaluation

(a) Purpose

This Mid Term Evaluation (MTE) is initiated by the UNDP Country Office in Belarus as the Implementing Agency for this project, in order to assess the overall project progress, make sure the project is on track to deliver the agreed outcomes, produce recommendations on any adjustments needed, as well as to strengthen the adaptive management and monitoring function of the project and suggest strategy and policy options for more effective achievement of the project's expected results within the project timeframe and their further replication.

The MTE aims to provide managers (at the Project Implementation Unit, UNDP country Office in Belarus and UNDP-GEF Istanbul Regional Centre) with concrete recommendations aimed at adjusting the projects strategy and activities in order to better achieve the projects overall objectives and outcomes.

The MTE also provides the basis for learning and accountability for managers and stakeholders and for adjusting and approving the project strategy during the second half of the project.

The evaluation is conducted at this particular point in time because the project has reached its mid-way point.

The information contained in the evaluation report is needed to determine, as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the project.

The information contained in the evaluation report will be used to assess the achievements of the project against its objectives and to examine the relevance of the objectives and of the project design including the revised design following the project evaluations.

It will also identify factors that have facilitated or impeded the achievement of the project objectives.

The evaluation has the following complementary purposes:

1. To promote accountability and transparency, and to assess and disclose levels of project accomplishments and assess their sustainability;
2. To synthesize lessons learned that may help improve the selection, design and implementation of future UNDP/GEF energy-efficiency projects
3. To provide feedback on issues that are recurrent and need attention, and on improvements regarding previously identified issues;
4. Provide appraisal on the validity/relevance of the outcome for UNDP supported interventions, and the extent to which the set objectives and outcomes have been achieved;
5. Identify gaps/weaknesses in the current Project design and provide recommendations as to their improvements in similar projects;

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6. Identify lessons learnt from previous and ongoing interventions in this area;
7. Assess the role of the Project in building local leadership capacities at the local levels;
8. Review and assess the Project’s partnership with the government bodies, civil society and private sector, international organizations in Project implementation and comment on its sustainability;
9. Review and assess the efficiency of implementation and management arrangements of the Project;
10. Support UNDP in identifying the future interventions of Environment and Sustainable Development Projects, aligning it with the national priorities, UNDP’s mandate and expertise.

(b) Scope

The evaluation will be done against the ProDoc that is the basis of the project: UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Section 2.03 Key issues to be addressed

1. Findings with the rating on performance;
2. Conclusions drawn;
3. Lessons learned concerning best and worst practices in producing outputs;
4. A rating on progress towards outputs.

Section 2.04 The outputs of the evaluation and how will they be used

The outputs of the in-depth evaluation are expected to lead to detailed recommendations and lessons learned for the future.

Section 2.05 Methodology of the evaluation

The methodology of the evaluation follows the overall guidance on outcome evaluation methodologies as provided in the UNDP Handbook on Monitoring and Evaluation for Results.

The evaluation method selected allows for rigor in producing empirically based evidence to address the evaluation criteria and respond to the evaluation questions.

The comprehensive and systematic evaluation of the completed project will focus on:

1. The tangible outcomes and on the way these outcomes were achieved;
2. Whether the outcomes were achieved in the most effective and efficient way;
3. The lessons learned.
4. Recommendations for improving the project over the second half of the project lifetime.

For collecting the data for the evaluation the focus will be on desk research relevant documents, discussions with senior management and program staff of the UNDP Country Office in Belarus, in depth interviews with the project team, partners and stakeholders.

Subjects of the completed project evaluation:

1. Outcome status: are the desired preliminary project outcomes achieved?

- a) Revised project design
- b) Process of implementation
- c) Achievements vis-à-vis project objectives
- d) Identification of Improvements

2. What are the underlying factors, beyond the project team control, that influenced the preliminary outcomes of the project?

3. What is the role and effect of the UNDP contribution?

4. Were the appropriate partners selected?

The projects results will be evaluated on a 6 point scale:

- 1. HS: Highly Satisfactory
- 2. SA: Satisfactory
- 3. MS: Moderate Satisfactory
- 4. MU: Moderate Unsatisfactory
- 5. US: Unsatisfactory
- 6. HU: Highly Unsatisfactory

The methodology is as follows:

The evidence needed to address the evaluation questions includes:

1. Feedback on the project from stakeholders;
2. Feedback from UNDP project office;
3. Statements (answers to questions) by Project Manager;
4. Statements by Project Staff;
5. Documentary paper evidence such as:
 - a. Reports;
 - b. Business plans;
 - c. Training materials;
 - d. Financial and administrative documents.
6. Electronic files;
7. Press and media reports.

The data collection methods that will be used to address the evaluation criteria and questions are:

1. Interviews
2. Desk research
3. Stock taking
4. Analysis
5. Cross verification of information received through previous 4 methods for consistency.

These methods are chosen because they are the only ones available given the resources allocated to the assignment.

Data collection will take place during one field visit and several telephone/skype interviews.

The data in electronic and paper form will be acquired at the project office.

Instead of simple sampling the evaluation will include a stock taking against every single project

output and outcome.
Analysis of the information collected and interpretation and reporting of the findings will take place during the period of 24/09/14 and 30/10/14.
Project reports will be submitted in draft form to the Project manager and UNDP project office for comments and revision.

Section 2.06 Structure of the evaluation:

This evaluation report is presented as follows:

1. An overview of project implementation from the commencement of operations till the current date;
2. Review of preliminary project results based on project design and execution;
3. Conclusions and recommendations that can increase the probabilities of a successful project completion; and
4. Lessons learned from implementation of the project to date

The report is proposed to adhere to the following components:

1. Executive summary
 - Brief description of project
 - Context and purpose of the evaluation
 - Main conclusions, recommendations and lessons learned
2. Introduction
 - Project background
 - Purpose of the evaluation
 - Key issues to be addressed
 - The outputs of the evaluation and how will they be used
 - Methodology of the evaluation
 - Structure of the evaluation
3. The project and its development context

J.N. Ketting, 31/12/2014

- Project start and its duration
- Implementation status
- Problems that the project seeks to address
- Immediate and development objectives of the project
- Main stakeholders
- Results expected
- Analysis of the situation with regard to outcomes, outputs and partnership strategy

4. Findings and Conclusions

4.1 Project formulation

- Project relevance
- Implementation approach
- Country ownership
- Stakeholder participation
- Replication approach
- Cost-effectiveness
- Sustainability
- Linkages between project and other interventions within the sector
- Management arrangements

4.2 Project implementation

- Financial management
- Monitoring and evaluation
- Management and coordination
- Identification and management of risks (adaptive management)

4.3 Results

- Attainment of outputs, outcomes and objectives
- Project Impact
- Prospects of sustainability

5. Conclusions and recommendations

- Findings
- Corrective actions for the design, duration, implementation, monitoring and evaluation of the project which may be for similar project in the future
- Actions to strengthen or reinforce benefits from the project
- Proposals for future directions underlining main objectives
- Suggestions for strengthening ownership, management of potential risks

6. Lessons learned

- Good practices and lessons learned in addressing issues relating to effectiveness, efficiency and relevance

7. Annexes

- Evaluation TOR
- List of persons interviewed
- List of documents reviewed
- Questionnaire used (if any) and summary of results
- Comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions)

8. Other relevant materials

3. The project and its development context

Section 3.01 Project start and its duration

The project document for the “UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154” (herein referred to as the “project”) was signed and registered on the 10th of August 2012. The project commenced operations in December 17th, 2012 with the hiring of the project manager. The main delay with project implementation was governmental approval.

The timeframe for the project implementation is January 1, 2012 till December 30, 2016. The Department on Energy Efficiency Under the State Committee on Standardization of Belarus is the executing agency for this project. The UNDP is the implementing agency. The financing of US\$ 32,200,000 shall be provided in the form of:

- A. Project budget US\$ 4,900,000
 - a. Regular UNDP US\$ 400,000
 - b. GEF US\$ 4,500,000
- B. Other co-financing:
 - a. Gov’t Cash US\$ 1,700,000
 - b. Other (Cash) US\$ 23,000,000
 - c. Gov’t in-kind US\$ 2,600,000

Section 3.02 Implementation status

The project reaches its completion date in December 30th, 2016. Up to now 57% of the Project duration has expired. However, only 23% of the project budget has been spent.

The project started with a pure one year delay when the project manager was hired on the 17th of December 2012.

(a) Main achievements of the project after 2.8 years under implementation are:

1. The integrated approach to the energy performance monitoring and calculation became a basis for most of amendments proposed and supported by the Project for current norms and standards, understood by authorities and incorporated into the approved official List of Technical Norms and Standards to be adopted in 2014-29015. Owing to the Project actions and elaborations, the development of the Technical Building Energy Efficiency Code (harmonized with Directive 2010/31/EU) along with national addendums has been also included in the said list.

2. The first (in Belarus) methodology for energy audit of residential buildings was drafted and actually used. The methodology, which also includes some adapted elements of International Performance Measurement and Verification Protocol, has been included in the State List of Technical Norms and Standards to be adopted in 2014-2015.
3. The Project succeeded to incorporate most of the best technical solutions into pre-design simulations and design documentations for three different pilot residential buildings of mass construction. The solutions are to assure the building HVAC energy performance of less than 25 kWh/m² per year. They are based on the best practices taking also into account local operational capacity and baseline designs of the buildings. Sites for the pilot buildings have been selected, all necessary permission have been acquired and the sites have been bulldozed and fenced. The Project contracted very experienced design company for the development of parts of design documentations related to engineering installations for energy efficiency improvement measures, and the design documentations for two pilot buildings have been already prepared for the State Expertise, while the design documentation for the third building is underway.
4. The Project has become a sort of technical council and supporter for national building design communities while advising and teaching on energy efficiency policy, standards, engineering solutions, and building a bridge between best EU practices and local experience.
5. The Project engaged best national experts and institutions and utilized their best experiences.
6. The Project established strong relationship with relevant international partners, e.g., Austrian Energy Agency, DENA, International Passive House Institute, IWO, etc. The Project is effectively utilizing these ties.
7. The information disseminated by the Project through, inter alia, its website <http://www.effbuild.by/> is very popular, timely, easy accessible and very much called-for (monthly average, there are 170 visits and 1.8 thousand downloads).

Section 3.03 Problems that the project seeks to address

Belarus lacks domestic energy resources, and has thereby to import around 90% of energy consumed in the country. The housing stock consumes over 40% of the total amount of energy used for heating and hot water supply. In the beginning of 2014, the Belarus' housing stock totals almost 250 million square meters of residential buildings, including about 170 million square meters of old buildings which were constructed before 1994 according to the old Soviet practices and norms when annual specific consumption of heat energy varied from 150 to 200 kWh/m².

Since that time, the housing construction standards changed significantly, and for the time being energy efficiency improvement measures in this sector resulted in reduction of annual heat energy specific consumption by about 100 kWh/m² in newly constructed buildings. The recent national standards stipulate annual specific consumption of energy for heating to be not higher than 60 kWh/m². To facilitate construction of residential buildings in line with the said new standard, Belarus started production of new for the country energy efficient insulating materials, new thermal energy regulators and meters and introduced new types of window design to be

used in construction of new buildings. Under this practice 5-6 million square meters of new residential buildings are annually put into service in the country in the past few years.

Nevertheless, as indicated by many experts and acknowledged by the Government of Belarus, the applied measures only partially removed existing barriers and the 60 kWh/m² standard does not reflect the energy saving potential in the housing construction sector, whilst many EU countries are developing new regulatory documents, which envisage transition to construction of buildings with space-heating energy consumption of less than 30 kWh/m² a year with the best achieved engineering solutions leading to about 15 kWh/m² a year. Therefore, the Ministry of Architecture and Construction with support of the State Standardization Committee’s Department for Energy Efficiency have implemented a couple of pilot projects to demonstrate that there is still large energy savings potential while introducing some other state-of-the-art techniques into building construction practice.

According to these projects and best European practices and policies, including Directive 2010/31/EU, the energy efficiency improvement solutions can be found in innovative building design principles, such as the optimal constructive-technological and space-and-planning solutions based on integrated energy performance of a building, the combination of heating and ventilating functions with forced ventilation and heat recovery up to 80% from the exhaust air, the heat recovery from drainage waters, the solar water heating and PV-panels, the utilization of ground heat by a heat pump, the automatic regulation of heat and hot water consumption, the use of thorough thermo-vision study to identify actual heat-shielding characteristics of the building envelope, and other applicable energy efficiency improvement technologies and approaches.

Today, the Belarusian Government sets the objective to move towards mass construction of energy efficient buildings in Belarus that is consistent with the new EU standards. Today almost 80% of national standards in housing have been harmonized with EU relevant technical regulations. Nevertheless, despite the availability of technical means and materials and capacities to apply new technologies, there are still certain technical, legislative, institutional, economic and technological barriers to improving energy efficiency in residential buildings in Belarus. New generalized and comprehensive technical code on energy efficiency performance of buildings harmonized with Directive 2010/31/EU is crucially needed.

Section 3.04 Immediate and development objectives of the project

OBJECTIVE

The objective of the project is to reduce the energy consumption and related GHG emissions with the focus on new residential buildings by introducing new performance based building design and construction standards with related energy certification scheme(s), and to ensure their effective implementation. By this, the energy consumption of new buildings is sought to be cut by at least 70% compared to existing building stock constructed before 1993 and by 40%

compared to the buildings erected in accordance with the current construction norms and thermal standards in place.

Section 3.05 Main stakeholders

The main stakeholders of the project include:

1. Department on Energy Efficiency under the Gosstandard
2. Gosstandard
3. Gostroexpertisa (building permit issuer)
4. Gostroinadzor (compliance and enforcement agency)
5. Ministry of Natural Resources & Environment
6. Ministry of Economy of Belarus
7. Ministry of Architecture and Construction of Belarus
8. RUE “StrojTechNorm”
9. Republican Unitary Enterprise “Institute of Housing NIPTIS named after S. Ataev” (<http://niptis.mas.by>).
10. Unitary Design Enterprise “GrodnoGrazhdanProject Institute” (<http://www.ggp.by>).
11. MAPID JSC (<http://mapid.by>).
12. Unitary Enterprise “Mogilevsky UKS” (<http://uks.mogilev.biz>).
13. International public organization “Ecoproject Partnership” (www.ecoproject.by).
14. Renewable Energy Association (www.energy-aven.by).

Section 3.06 Results expected

Objective:

- At least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m².
 - “Lifetime” reduction of 220,000 tons of CO₂eq resulting from the energy saving in buildings, for which the construction has started or which have adopted into their design new energy efficiency elements that reduce the energy consumption for heating and hot water in the residential buildings below the current thermal standards in force.
1. Outcome 1: Strengthened legal and regulatory framework and mechanisms to enforce the legislation for improving the energy efficiency of the building sector with the focus on new residential buildings.
 - a. Output 1.1: A formally adopted and endorsed methodology for buildings’ energy performance monitoring and calculation in line with contemporary European norms or other applicable international standards.

- b. Output 1.2: At least 50 completed energy audits providing information on factual energy consumption and energy balance of different type of existing residential buildings of different age and using different construction techniques.
 - c. Output 1.3: A completed review and cost-efficiency analysis of different technical options to improve buildings’ energy efficiency and the use of renewable energy sources, including an analysis of the cost-efficiency of different heat supply and distribution methods to serve low or close to zero energy buildings.
 - d. Output 1.4: A completed analysis of the impact of the new low energy buildings on the feasibility of different heat supply systems typically used in Belarus and the buildings’ central water heating + radiator scheme connected to district heating, in particular, with related recommendations for future development.
 - e. Output 1.5: A finalized draft with related stakeholder consultations for revised national energy performance based norms and standards for newly constructed buildings and, as applicable, those going through a major renovation with the initial focus on residential buildings.
 - f. Output 1.6: Elaborated and by the Government of Belarus adopted practical procedures for the establishment of a mandatory system of EE certification of buildings, including issuing of EE passports and a system of monitoring and compliance checking with related on-site spot-checks.
 - g. Output 1.7: Further developed and adopted quality standards and a system of EE certification for the construction materials, accessories and appliances used in the construction sector.
2. Outcome 2: Enhanced capacity of the Belarusian specialists to implement and effectively enforce the new energy efficiency building standards and construction norms.
- a. Output 2.1: Developed, published and disseminated stakeholder group specific technical guides, handbooks, guidelines and other related training materials on energy efficiency design and construction of new buildings to support the implementation of the envisaged new construction norms, including dissemination of this information through the internet based energy platform and the project’s own Internet site.
 - b. Output 2.2: New courses on integrated building design and building energy efficiency included into the curricula of all key Belarusian universities educating architects and building engineers and at least 200 students have passed these new courses by the end of the project.
 - c. Output 2.3: At least 50 experts from different state and municipal entities dealing with construction policies, norms and standards are trained on the most recent international developments, experiences and lessons learnt on building energy efficiency and environmentally sustainable construction.
 - d. Output 2.4: At least 50 architects and other buildings designers from the leading design institutes and professional associations are trained on the: i) most recent international developments in the area of energy efficient buildings from the technical and policy perspective; ii) integrated, energy efficient building design principles and techniques; iii) implications in the practical design work when moving from

- prescriptive norms to buildings’ overall energy performance based construction norms; iv) available technical options and cost-effective design principles for optimizing buildings’ energy performance; and v) presentation of the available, state of the art software to support integrated, energy efficient building design and training for its use.
- e. Output 2.5: At least 50 construction inspectors from the main regional and district centers trained on methodologies for assessing buildings’ energy performance and the correct installation of the materials and equipment used.
 - f. Output 2.6: At least 50 supervisors of the leading construction companies trained on the correct installation of the materials and equipment used and provision of other advice for private construction companies on how to integrate elements of energy efficient design in their investment projects throughout the project cycle from the design to construction and building management.
 - g. Output 2.7: A two-week training seminar for professional designers, representatives of the state expertise and building supervision in order to familiarize the group with the experiences of energy-efficient building design, construction and governance (including the role of municipal authorities) in EU countries and visiting the facilities (25 people).
 - h. Output 2.8: Other required training, networking and exchange of knowledge and lessons learnt by building on co-operation with other international initiatives promoting energy efficient and environmentally sustainable building construction.
3. Outcome 3: Demonstrated energy and cost-saving potential of new energy efficiency measures in at least three new residential buildings in three Belarusian cities.
- a. Output 3.1: Finalized background studies for and design of the selected demo buildings by applying integrated building design principles and taking into account new technologies and approaches for meeting the HVAC needs of those buildings in a most energy and cost efficient way.
 - b. Output 3.2: Finalized construction of the demo buildings by ensuring that the construction and all installation are made in accordance with the proposed or adopted quality standards and guidelines.
 - c. Output 3.3: A monitoring report on the construction of the demonstration buildings documenting the experiences and lessons learnt from procuring, installing and testing the new energy efficient materials, construction techniques and appliances.
 - d. Output 3.4: A monitoring report on the energy performance of the demonstration buildings documenting the actual energy and financial savings and GHG emission reduction from each building as a whole and from each specific energy efficiency measure and appliance tested.
 - e. Output 3.5: At least 30 private showings of the new buildings organized for local architects, designers, builders and other decision makers, including half-day training sessions with an objective to promote the solutions adopted for the demonstration projects in additional buildings.

4. Outcome 4: Documented, disseminated and institutionalized project results providing a basis for further replication.
 - a. Output 4.1: Developed and published public awareness raising materials and completed nation-wide awareness and information campaign advocating the benefits of energy efficiency measures in new buildings, including economic, social, health, environmental and aesthetical aspect and also addressing the GEF/UNDP visibility requirements.
 - b. Output 4.2: Agreed methodology and sustainable institutional arrangements for annual market monitoring keeping track on buildings constructed each year as well as the sale of key building materials, accessories and appliances together with their energy performance characteristics.
 - c. Output 4.3: Fully mandated and capacitated state agency with a responsibility to monitor the energy savings and CO2 emission reductions in residential and other buildings, together with the agreed procedures and interagency agreements for compiling the required primary data.
 - d. Output 4.4: An approved national energy audit program (including the required funding for its implementation) for promoting larger number of energy audits of residential and other buildings and including a mechanism for using the audit results for elaboration of the energy efficiency strategies for the building sector at the national level.
 - e. Output 4.5: Energy-efficiency aspects integrated into the regional and local plans for territorial development being developed by the Institute of Urban and Regional Planning (IRUP).
 - f. Output 4.6: An International conference on energy efficiency in residential sector held in Belarus, including a field visit to the pilot demonstration sites and coordination with other UNDP/GEF building energy-efficiency projects.
 - g. Output 4.7: Regularly updated project website with a link to an Expanded Energy Platform.
 - h. Output 4.8: Annual market monitoring reports for new building construction with the emphasis on energy efficiency aspects.
 - i. Output 4.9: Final project report consolidating the results and lesson learnt from the implementation of the proposed project components and recommendations for the required next steps.

4. Findings and Conclusions

Section 4.01 Project formulation

(a) Project relevance

The project and its outputs and outcomes are consistent with national Belarus Government policies and priorities and address the needs of intended beneficiaries.

The overall assessment of the Project’s relevance is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(b) Implementation approach

This MTE has shown that the implementation of the project in terms of quality is satisfactory and in terms of timeliness of inputs mildly satisfactory. In terms of efficiency and effectiveness of activities carried out the project is satisfactory.

The project has run into considerable delays as a result of reasons beyond the control of the project management. First of all the project was started with a one year delay. Secondly the project, once commenced ran into a delay of several months because of a lack of clarity in the position and involvement of one of the stakeholders; the Ministry of Environment⁵. This negatively affected the rating on timeliness.

The stakeholder interviews carried out in the framework of this MTE (see annex for list of stakeholders interviewed) showed that all interviewed stakeholders are fully aware of the project and wholly support its objective and intended outcomes, activities and outputs. This points to a high effectiveness of the activities carried out.

Also, the effectiveness of management as well as the quality and timeliness of monitoring and backstopping seem to be satisfactory. The Project manager uses adaptive management in the project implementation but adaptive management could have been more anticipatory in relation to the time horizon for construction of the three pilot buildings. The project’s outline and timing as described in the logframe of the Prodoc are properly followed while taking on board impulses

⁵ This was beyond immediate project control. The Ministry kept confirming their commitments. The project identified this risk from the beginning and start looking for a substitution pilot. Representatives from Mogilev (potential substitution at that stage) was invited to the project inception workshop Project Board meetings as observer. And preliminary negotiations were conducted with the respective Mogilev authorities on their interest and ability (co-financing).

and information from the surrounding (stakeholder) environment. During this MTE project management gave proof of using feedback from the evaluation for purposes of adaptive management. The project management seems to use lessons from other relevant projects for incorporation into current project implementation

The Implementation Approach is satisfactory in terms of adaptive management and in terms of establishing partnerships with relevant stakeholders in implementation arrangements and overall project management but adaptive management could have been more anticipatory in relation to the time horizon for construction of the three pilot buildings.

The overall assessment of the Implementation Approach is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(c) Country ownership

The project is relevant to the Belarus national development and environmental agendas. The Energy Efficiency Department and the Ministry of Construction are committed to the project. The Project Concept is embedded within the framework of activities and national sector and development plans of the main Belarus Governmental stakeholders.

Outcomes from the project, such as developed standards and regulations are in the process of being adopted by the Belarus Government and the relevant regulatory frameworks are being adopted, partly in line with the project’s objectives.

Relevant country representatives such as governmental officials and representatives of civil society are actively involved in the Project’s implementation. The key ministries, i.e. Department for Energy Efficiency of Gosstandard and Ministry of Architecture and Construction have maintained financial commitment to support some of the project’s activities especially in the field of developing related standards, as well as in-kind contribution to provide free-of-charge project office.

The overall assessment of the Country Ownership is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(d) Stakeholder participation

On the three related, and often overlapping processes: information dissemination, consultation, and “stakeholder” participation the project shows a satisfactory picture. The individuals, groups, institutions and other bodies that have, or could have an, interest or stake in the outcome of the

project are regularly involved in the project through PR activities, publications and seminars and conferences.

The project’s main activities in terms of outreach and public awareness campaigns still have to take place. Information about the project is being disseminated. The project has a website that contains much information although one could question the extent to which the website is user friendly. The website contains much information but the information is largely presented on the website in the form of large bodies of linear text. Consequently the site requires considerable navigation and extensive consultation in order to be able to receive a good overview of the project. This may be good for specialists who search for specific information but it is not an accessible site for the general public. All in all it is a 20th century website that does not conform to the standards and demands for a website in 2014.

The project is satisfactory in engaging NGOs, the community and local groups, the private and public sectors, and academic institutions in the design, implementation, and evaluation of project activities. In this area, the project coordinates its activities and cooperates with a number of entities, such as:

Republican Unitary Enterprise “Institute of Housing NIPTIS named after S. Ataev”. The company possesses extended experience in design of energy efficiency improvement measures and equipment in new residential multi-storey buildings in Belarus, Kazakhstan and Russia, experienced staff and advanced design tools, knowledge of international and Belarusian building construction and operation policy, standards and requirements, long-term professional ties with and previous design work for most of well-known prime-designers and builders in Belarus. The project has contracted this company to provide design works for the two project pilot buildings in Grodno and Minsk.

Unitary Design Enterprise “GrodnoGrazhdanProject Institute”. The company is the first design and construction institution in Belarus that applies new design approaches to construction of energy efficient buildings. They have unique experience in design, construction and operation of a multi-family house with annual energy consumption for space heating less than 40 kWh/m², the first multi-storey house build under energy efficient format. The company performs as a developer and prime-designer of one of the project pilot buildings (in Grodno).

MAPID JSC. The company is the biggest design and construction company in Belarus. With its staff of 8 thousand professionals, the company occupies the biggest part of construction market for multi-storey residential buildings. They also have an experience in construction of an energy efficient building, so far the only one in the series of precast large-panel construction structures. The company performs as a developer and prime-designer of one of the project pilot buildings (in Minsk).

Unitary Enterprise “Mogilevsky UKS”. The company is one of the biggest design and construction company in Mogilev City. The company performs as a developer of one of the project pilot buildings (in Mogilev).

Austrian Energy Agency. The Austrian Energy Agency is the national centre of excellence for energy. New technologies, renewable energy, and energy efficiency are the focal points of its scientific activities. The cooperation of the project with this agency involves activities related to capacity building and training in the relevant fields. The agency was a guest of a number of project events, such as the Inception Seminar and four international conferences held in Minsk. The agency also hosted already two study visits organized by the project in Austria.

Unitary Enterprise “ExpoForum”. The project cooperates with this company when organizing and conducting a number of conferences and seminars of high level. Four International seminars dedicated to energy efficiency improvement in residential buildings were held with sufficient assistance provided this organization.

International public organization “Ecoproject Partnership”. The project cooperates with this NGO in the field of capacity building and knowledge transfer. The project takes active part in their training campaigns. Another sphere of cooperation is the development and promotion of a mandatory system of energy efficiency certification of buildings.

Renewable Energy Association. This is a non-commercial organization, and the field of mutual interests where the project cooperates with this association is introduction of renewable energy sources into design and technical solutions to be adopted in residential buildings. The association’s experts are always invited in roundtables and seminars organized by the project, and vice versa.

The project also cooperates with dozens of other private companies that are potential producers / suppliers of equipment for the three project pilot buildings. Most of them are always present in the project events and special workshops where the professionals discuss issues related to design and procurement of techniques, installations and equipment for the project pilot buildings.

Most of the stakeholders have sufficient knowledge of the project and know how they could engage with the project.

The project has built effective partnerships among the different stakeholders of the project.

The private sector could be involved more actively in the project in the manner explained in the section Risks & Recommendations above. Further actions must be undertaken in order to enhance cooperation with the private sector.

The dissemination of project information to partners and stakeholders is satisfactory.

The overall assessment of the Stakeholder Participation is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(e) Replication approach

It is too early to talk about any lessons and experiences coming out of the project that can be replicated or scaled up in the design and implementation of other projects. One of the justifications of this statement is that in spite of the fact that one or more of the three pilot buildings may not be constructed within the timeframe of the project no strategy is foreseen to guarantee replication in the case not all the project results will be achieved.

The overall assessment of the Replication Approach is Moderately Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(f) Cost-effectiveness

The detailed Project Expenses Table can be found in ANNEX 5.02

The detailed Co-financing Table can be found in ANNEX 5.04

The ratio of budget versus outputs and results appears to be cost effective.

The achievement of the environmental and developmental objectives as well as the project’s outputs seems to be in proper relation to the inputs and costs. When considering implementing time and budget spent then the relations runs askew with 57% of the implementing time of the project passed and only 23% of the project’s budget having been spent⁶. However, the bulk of funds is planned for pilots which are likely to be constructed within the upcoming two years. Nevertheless, the delay in spending was incurred mainly during the project’s first year of inactivity.

⁶ Pursuant to the LogFrame of ProDoc, this percentage of total project’s budget spent by the end of 2014 should constitute 37%. Thus, the project has spent by ca. 14% behind the budget disbursement plan for 2012-2014. When the final MTE report was submitted this budget disbursement lag showed further reduction down to 7%, so that by the end of 2014 the project spent about 30% of its total budget.

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

ATLAS Budget Description	Total (USD)	C Actual Expenses (CDR) Year 2012	E Actual Expenses Year 2013	Approved budget 2014	Disbursed budget 2014 as of Oct 28, 2014	Planned Budget for 2015	Planned Budget for 2016	Total (USD) - 2012-2016
TOTAL GEF	4,500,000	1,739	476,422	987476	552595	2,089,773	944,590	4,500,000
TOTAL UNDP	400,000	0	36,659	94524	67117	83,319	185,498	400,000
TOTAL	4,900,000	1,739	513,081	1,082,000	619712	2,173,092	1,130,088	4,900,000
% of total budget		0.04	10	22	13	44	23	100
% of total budget as per ProDoc		5	10	22		44	19	100

The financing of the Project also seems to be in compliance with the incremental cost criteria as it is safe to assume that the project would not have taken place without GEF funding. Also co-funding has been assured through the commitments letters provided by the stakeholders as follows:

- Department for Energy Efficiency of Gosstandard
- Ministry of Architecture and Construction
- Ministry of Natural Resources and Environmental Protection (on Nov 8, 2013 the Ministry of Environment eventually withdrew its initial commitment)
- Unitary Design Enterprise “GrodnoGrazhdanProject Institute”
- MAPID JSC
- Unitary Enterprise “Mogilevsky UKS”

The Project is behind schedule in executing the planned activities but in the activities executed the Project has met the expected outcomes in terms of achievement of Global Environmental and Development Objectives according to schedule, and as cost-effective as initially planned;

The Project does not use a benchmark approach or a comparison approach.

The overall assessment of the cost-effectiveness is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(g) Sustainability

The extent to which the benefits of the project will continue, within or outside the project scope, after it has come to an end is hard to assess at this point of time. There are no clear indications yet about the level of commitment of the government to support the initiative beyond the life time of the project.

The fact that the project is strongly embedded in the stakeholder environment increases the likeliness of persistence of project outcomes.

- a. **Financial resources:** The likelihood of public financial and economic resources being available once the GEF assistance ends is moderate. The likelihood of the private sector or income generating activities being the source of post-project funding is low unless the Government adopts mandatory energy performance standards for residential buildings.
- b. **Socio-political:** There are no social or political risks that may jeopardize the sustainability of project outcomes. The various key stakeholders interviewed see that it is in their interest that the project benefits continue to flow but clear understanding and sufficient public / stakeholder awareness in support of the long term objectives of the project is an area the project should work on.
- c. **Institutional framework and governance:** There is no reason to assume that there are legal frameworks, policies and governance structures and processes at play that may pose risks that may jeopardize sustenance of project benefits.
- d. **Environmental:** There are no environmental risks that may jeopardize sustenance of project outcomes.

The overall assessment of the sustainability is Moderately Likely.

Likely	Moderately Likely	Moderately Unlikely	Unlikely
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(h) Linkages between the project and other interventions within the sector

The project demonstrates close cooperation with other initiatives funded either by the Government or unilateral and multilateral donors, e.g., the project includes some of its activities related to standardization into the Action Plan in the Field of Energy Efficiency and Energy Conservation in Construction Sector for 2014-2017, and coordinates its activities with EU project “Energy Saving Initiative in the Building Sector”, EU/UNDP project “Developing an Integrated Approach to a Stepped-Up Energy Saving Program”, EU project “INOGATE Technical Secretariat and Integrated Programme in support of the Baku Initiative and the Eastern Partnership Energy Objectives”, EU project “Standardization Strengthening in the Field of Energy Efficiency of Consumer Goods and Industrial Products”, EU/UNDP project “Support to the development of a comprehensive framework for international environmental cooperation in the Republic of Belarus”, EU project “Support to the Implementation of a Comprehensive Energy Policy for the Republic of Belarus”, Ministry of Foreign Affairs of the Republic of Poland’s project “Multi-stakeholder Cooperation for Development of Energy Efficiency in Belarus – Promotion of Energy Certification of Buildings”, etc. Also the new UNDP GEF Sustainable Green Cities: Polotsk/Novopolotsk and Novogrudok project could be linked to the EE residential buildings project as it should start in 2015.

The overall assessment of the linkages between project and other interventions within the sector is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(i) Management arrangements

The project roles were properly assigned during the project design. The project roles are in line with UNDP and GEF programming guidelines.

The overall assessment of the Management Arrangements is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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Section 4.02 Project implementation

(a) Project Execution

Project Execution seems to have been moderately satisfactory up to now. Adaptive management was done starting early 2013. Adaptive management focused at mitigating the negative effects of the delayed start of the project by trying to make up for lost time. However, adaptive management could have been more effective in dealing with future risks arising from the delay. No scenario planning or contingency planning was done and in a project which exercises such a considerable delay and very tight timeframes good contingency planning is of the essence. In the execution of the project proper priority of focus is given to Goal, Objective, Outcomes, Outputs and Activities. There seems to be an overall, strategic approach to the project.

The assessment of the project execution component of the implementation approach is Moderately Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(b) Project implementation

The MTE has shown that the implementation of the project in terms of quality and timeliness of inputs and efficiency and effectiveness of activities carried out is moderately satisfactory. Main reason for the “moderately satisfactory” rating is that because of the project’s delay and tight

timeframe several risks have appeared that have not been mitigated yet. These risks are mainly related to the construction of the three pilot buildings.

The effectiveness of management as well as the quality and timeliness of monitoring and backstopping by all parties to the project is satisfactory.

The Project team’s use of adaptive management in project implementation is moderately satisfactory.

The assessment of the Project Implementation component of the implementation approach is Moderately Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(c) Project administration

Project administration appears to be satisfactory. The MTE has not performed a review of the internal control system but the general MTE impression is that the internal control system complies with objectives and tasks and ensures effective use of the Project funds. As no annual audit was done and the scope of this MTE does not include such an audit the MTE recommends to consider this project during the regular corporate audit of UNDP office (once in 4-5 years).

The assessment of the project administration component of the implementation approach is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(d) Project planning

The use of routinely updated work plans is satisfactory and they are properly communicated to project stakeholders.

The use of electronic information technologies to support implementation, participation and monitoring, as well as other project activities is moderately unsatisfactory and can be improved at least already by improving the project website. The project has a website that contains much information although one could question the extent to which the website is user friendly. The website contains much information but the information is largely presented on the website in the form of large bodies of linear text. Consequently the site requires considerable navigation and extensive consultation in order to be able to receive a good overview of the project. This may be good for specialists who search for specific information but it is not an accessible site for the

general public. All in all it is a 20th century website that does not conform to the standards and demands for a website in 2014.

Work planning processes are result-based while keeping project strategy, goal, objective and outcomes in mind. Work planning is in strict logical alignment with project strategy, goal, objective and outcomes.

The assessment of the Project Planning component of the implementation approach is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(e) Financial Management

A general overview gives the impression that the financial management of the project has been effective and prudent over the duration of the project. However no audit of Financial Reports in accordance with International Standards on Auditing has taken place. With 57% of the project’s duration passed and only 23% of the project’s budget spent one can say that the interventions were cost-effective. The results that have been delivered seem to have been delivered with the least costly resources possible.

Budget expenditure:

The total budget (UNDP/GEF) of the project is: USD 4900000

Of that budget on the total delivery in 2012-2014: USD 1.134.586 was spent by October 20, 2014, which represents only 23% of the entire project budget, while the Project Document stipulates 37% of total funds to be disbursed in 2012-2014. It is clear that project disbursements needs to improve significantly over the remaining timeframe of the project.

Expenses according to the project administration:

2012 – USD 1.739

2013 – USD 513.081

2014 – USD 619.712 as of October 20, 2014 (USD 932.390 by the end of 2014, according to the project management unit)

The Remaining budget until the end of project: USD 3.765.414

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ATLAS Budget Description	Total (USD)	C Actual Expenses (CDR) Year 2012	E Actual Expenses Year 2013	Approved budget 2014	Disbursed budget 2014 as of Oct 28, 2014	Planned Budget for 2015	Planned Budget for 2016	Total (USD) - 2012-2016
TOTAL GEF	4,500,000	1,739	476,422	987476	552595	2,089,773	944,590	4,500,000
TOTAL UNDP	400,000	0	36,659	94524	67117	83,319	185,498	400,000
TOTAL	4,900,000	1,739	513,081	1,082,000	619712	2,173,092	1,130,088	4,900,000
% of total budget		0.04	10	22	13	44	23	100
% of total budget as per ProDoc		5	10	22		44	19	100

The detailed Project Expenses Table can be found in ANNEX 5.02

The detailed C-financing Table can be found in ANNEX 5.04

The assessment of the financial management component of the implementation approach is moderately satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(f) Monitoring and evaluation

There are sufficient monitoring tools employed in the project such as: regularly updated ADWPs, quarter travel plans and travel reports, site visits, etc.

Project Steering Committee meetings are the main monitoring tool employed by the project and are regularly convened (2 to 3 per year). Most key partners are present at the Steering Committee meeting. Project Steering Committee participants have a good idea what the project is doing.

During the project duration 2 meetings with officials (ministerial level) and 2 meetings with stakeholders took place.

Also quarterly narrative reports, annual reports (PIRs), delivery monitoring and discussions with the project team/project director are employed.

The logical framework was not changed and seems to be used as a management tool during implementation.

UNDP has been tracking the performance of the project through various tools and already applied some adaptive management/fixing project management. Some examples are as follows:

1) When drafting the annual work plan for 2013, it was recognized that (a) activities and budgets of 2012 and 2013 should be merged in one year 2013; (b) there were some risks related to Ministry of Environment as a partner in spite of the fact that the Ministry was still insisting in writing upon its commitments, and the reason of my doubt was the fact that the Ministry was not able to clearly demonstrate either sources and schemes of financing, or exact location; (c) similar risk was emerged with regard to MAPID’s site, for they did not have a land allocation permission and was not clear with building parameters by that time; (d) space-and-planning parameters of both buildings were similar – one-entrance 19-20-storey houses that would not provide necessary variety of design options.

2) Based on the above information and a number of consultations with leaders of the Ministry and MAPID, the PIU made a decision with regard to ADWP-2013 as follows: (a) to leave alone the idea about beginning design works for three buildings simultaneously that minimizes the risk of sufficient under-delivery of the 2013 budget; (b) to continue alarming both partners with regard to their timely contributions of necessary clarifications; (c) to prepare a reserve option for substitution of at least one of the potentially failed pilot projects.

3) First draft of ADWP-2013 based on the said approach was prepared in the end of January 2013. It contains the budget of 600 kUSD (80% of the ProDoc’s 2012-2013 budgets in aggregate). The ADWP-2013 and reasons behind it were discussed in two meetings involving all relevant authorities, partners and stakeholders, and UNDP Programme Officer. It happened as early as in Jan 29 and Feb 18, 2013. The ADWP was duly signed in Feb 18, 2013, and the project proceeded in accordance with this plan.

4) The PIU investigated possibilities of the reserve option (a potential pilot project site in Mogilev City) and it was presented first time at the first PSC meeting in Apr 2, 2013, further elaborated and presented also at the second PSC meeting in June 28, 2013. In its letter of Aug 29, 2013, the Ministry of Environment confirmed in writing its commitments and provided necessary evidences of its serious intention to build the pilot building. Therefore, the Mogilev’s option remained standing by.

5) The risk as to the Ministry of Environment’s failure was materialized in Nov 8, 2013, when this partner eventually withdrew all its commitments. As early as in Nov 18, 2013, the third PSC meeting adopted the Mogilev’s option to substitute the Ministry of Environment’s pilot project.

6) Thus, the PIU efforts have resulted in implementation of almost all activities scheduled in ADWP-2013 and showed the ADWP-2013 budget delivery rate of 87% (or 70% of the aggregate budget envisaged by the ProDoc for 2012-2013).

7) The ADWP-2014 budget was scheduled in the amount of 1060 kUSD, of which 932 kUSD are likely to be disbursed by the end of the year, i.e. the ADWP-2014 budget delivery rate is 88%. In total, during 2012-2014, the project disbursed about 80% of the aggregate budget envisaged by the ProDoc for 2012-2014.

The assessment of the monitoring and evaluation component of the implementation approach is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(g) Management and coordination

A project of this size and complexity requires strategic, decisive and strong management. This MTE has shown that management and coordination of the project are up to standard.

The assessment of the Management and coordination component of the implementation approach is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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(h) Identification and management of risks (adaptive management)

(i) Risk management

The risks identified in the project document and PIRs are the most important and appropriate.

(ii) Reporting

Adaptive management changes made by the project management are as follows:

In the inception stage of the project, in view of new project time frame, when two-year activities should be implemented in just one year, the PIU was to accelerate performance of all activities, especially those preceding the design and construction of three energy efficient pilot buildings. The project budget for 2013 was to plan relatively big and its full utilization was doubtful. To resolve the issue the project had, in due time, to engage all needed local consultants, organize and conduct all travels and trainings/seminars planned and perform an energy audit campaign. The crucial issue was to select a design company capable to develop design and construction documents for the pilot buildings. In spite of the tight schedule and long decision-making as to which modality would be appropriate for the potential developer (the NEX or a tender), the PIU succeeded to complete an international tender and contracted the company before the budget closure that improved delivery of 2013 budget. As of Dec 31, 2013, the project utilized and committed 87% of its budget allocated for activities in 2013.

For the project budget in 2014, the total sum was adopted by the PSC on March 25, 2014 in the amount of nearly to what was envisaged by the ProDoc. By Oct, 2014 the project utilized almost

55% of the planned 2014 budget being somewhat ahead of the initially envisaged delivery rate for the said period. The PIU and PSC took into account the delay which well might happen in design and construction of the third pilot building due to the late decision-making by one of the project’s partner, namely the Ministry of Environment, with regard to co-financing of the building. The PSC on its fourth meeting of April 23, 2014 approved a preliminary progress schedule for design works in view of timely construction of three pilot buildings in Grodno, Minsk and Mogilev. At the same time, RUE “Mogilev UKS”, the building construction owner does not have a legally binding contract with a prime-developer yet. The delayed negotiation between the RUE “Mogilev UKS” and a prime-developer affects the project implementation period. The scheduled date of completion of design documentations is unlikely to be met. The PIU was to eliminate any causes that may further lead to delay of design work for the pilot building in Mogilev. The project suggests considering an option of contracting NIPTIS, the developer of pilot buildings in Grodno and Minsk, based on direct contracting modalities. This modality helps shorten issuing contract and avoid thereby usually long-lasting international tender process.

Lessons derived from the adaptive management process have been documented. They been shared with key partners and have been internalized by partners.

(iii) Delays

The start of the project implementation was delayed with over one year and the project, due to finish in Dec 2016, is likely to require an extension beyond its planned lifetime of five years. The reasons for the delay is the delayed project start.

Once the project gathered steam during the second quarter of 2013 project progress has been up to standard.

The delay has not yet affected the quality of achievement of project outcomes and/or sustainability but has caused problems in timeliness of achievement of the project outcomes. If adaptive action isn’t taking in 2014 the project may not deliver upon crucial outcomes before the end date of the project in December 2016.

An extension granted in close consultation with project stakeholders should contribute to a successful completion of the project – but the extension needs to take place on the clear understanding that co-financing has been secured for the demo’s to take place.

The assessment of the Adaptive management component of the implementation approach is Moderately Satisfactory because more could have been done to mitigate potential risks for the project outcome arising from the limited timeframe for the construction of the three pilot buildings. This assessment would have rated as Satisfactory if adaptive action – in the form of project prolongation and adjustment of budget and work planning - would have been undertaken at the actual start of the project in December 2012 and if a Plan B for the demonstration projects

had been developed earlier in the project lifetime. If from the beginning of a project it is clear that the time left, after a delayed start of the project, will not be sufficient to finalise all project outcomes then it would seem reasonable to deal with that at the beginning of the project and not after more than two years.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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Section 4.03 Results

The outputs, outcomes and impact achieved by the project so far are in general Moderately Satisfactory.

The Sustainability of project results is Moderately Likely.

The implementation of the project has been inclusive enough of relevant stakeholders and has fostered collaboration between different partners in a satisfactory way.

The project has had no significant unexpected effects, either of beneficial or detrimental character.

The project’s Objective and Outcomes are consistent with the GEF focal areas/operational program strategies and country priorities.

The actual project outcomes correspond with the project objective.

The project has been cost effective, partly thanks the absence of activity in the first year of the project. It is hard to analyze if the project is the least cost option but it is clear that within the remaining budget the project outputs and outcomes should be able to be established.

The project implementation is delayed but it did not seem to affect cost-effectiveness.

(a) Progress towards Results

There are no major changes in development conditions. The project outcomes still contribute to national development priorities and plans, such as advancing the related national legal framework and standards in order to approximate them towards relevant EU Directives and best design/construction practices.

For example, about 40 decision-makers and specialists participated in 5 study visits and 6 international events abroad organized and supported by the project that helped the visitors to become acquainted with legal framework, standards and policies exercised in four leading European countries (Germany, Austria, England and France) in the field of energy efficient

housing. Training sessions on different issues related to energy efficiency in housing helped more than 150 specialists to advance their knowledge and skill in the field of energy efficient buildings design and operation, technical solutions and technologies, and standards.

The project has elaborated a rationale for the National Technical Code on Energy Efficiency in Buildings harmonized with Directive 2010/31/EU and submitted it to the Ministry of Construction and GosStandard. As a result, elaboration of the said Technical Code was included into the State Standardization Plan of the Republic of Belarus for 2014-2015. The project was asked to prepare a draft of the Technical Code along with necessary national applications. The draft was prepared and disseminated among stakeholders for comments.

Project has taken a key role in a number of PR initiatives, while, e.g., organizing and holding the “EnergMarathon” Republican Contest among pupils and students dedicated to energy conservation in schools.

The key progress towards results of the project is mentioned above under Results.

(b) Project strategy:

The likelihood that the Activities lead to the desired Outputs and the Outputs lead to the desired Outcomes is high. There is no reason to question to what extent the overall project Objective will be reached when maintaining the current project strategy.

The current logframe provides the proper project strategy for achieving the project objectives.

(c) Project Management

The MTE discerned a positive impact that project management has on the project strategy and on the progress of the project towards meeting results. Apart from some potential for improvement in Adaptive Management the MTE has discerned no noticeable areas for improvement in Project Management.

(d) Attainment of outputs, outcomes and objectives

See under Main Achievements above.

(e) Project Impact

See under Main Achievements above.

(f) Contribution of Implementing and Executing Agencies

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The roles of UNDP and the Department on Energy Efficiency under the State Committee on Standardization of Belarus have been co-operative and facilitating.

Activity	Rating
Field visits	S
Participation in Steering Committee meetings;	S
Project reviews, PIR preparation and follow-up;	S
GEF guidance;	UA
Operational support.	S
Assess the contribution to the project from UNDP and the Department on Energy Efficiency Under the State Committee on Standardisation of Belarus in terms of “soft” assistance (i.e. policy advice & dialogue, advocacy, and coordination).	S
Suggest measures to strengthen UNDP’s and EE Department’s soft assistance and support to the project management.	UA

5. **Annexes**

Section 5.01 Logical Framework

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: 3.1: Country’s capacity to mitigate and adapt to the climate change strengthened

Country Programme Outcome Indicators:

GHG emission (tons of CO2 equivalent) into the atmosphere.

Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy OR 2. Catalyzing environmental finance OR 3. Promote climate change adaptation OR 4. Expanding access to environmental and energy services for the poor.

Applicable GEF Strategic Objective and Program: GEF’s Strategic Programme #1 of GEF-4 on “Promoting Energy-Efficient Buildings and Appliances”.

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Project Objective⁷ To reduce the energy consumption (imported fuel) and related GHG emissions with the focus on new residential buildings.	Number of buildings designed and constructed in accordance with the new energy efficiency standards.	0	At least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m ² .	Project monitoring reports and final evaluation. As applicable, post project market monitoring and evaluations	Suggested EE measures are adopted by the design institutes and construction companies into the design of new buildings.
	Amount of reduced CO ₂ emissions compared to the projected baseline	0	“Lifetime” reduction of 220,000 tons of CO ₂ eq resulting from the energy saving in buildings, for which the construction has started or which have adopted into their design new energy efficiency elements that reduce the energy consumption for heating and hot water in the residential buildings below the current thermal standards in force.	Project monitoring reports and final evaluation.	See above

⁷ Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

<p>Outcome 1⁸ Strengthened legal and regulatory framework and mechanisms to enforce the legislation for improving the energy efficiency of the building sector.</p>	<p>Status of the national laws and other regulatory documents controlling the energy consumption of the newly constructed buildings.</p>	<p>Prescriptive thermal standards adopted in 2010 defining minimum mandatory U-values for the building envelope, corresponding to the average annual heat demand of 60 kWh/m² for space heating of typical multi-apartment buildings and 120-130 kWh /m² together with sanitary hot water preparation.</p>	<p>Revised minimum energy performance standards adopted for new construction and reaching a status of a law by the end of the project with a target of reducing the energy consumption of new residential buildings for space heating and hot water together below 60 kWh/m². An energy performance certification and labelling scheme for both new and existing buildings adopted and under implementation by the end of the project</p>	<p>Official government publications and assumptions</p>	<p>Continuing commitment of the Government of Belarus to proceed with the suggested legislation.</p>
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⁸ All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.

<p>Outcome 2 Enhanced capacity of the Belarusian specialists to implement and effectively enforce new energy efficiency standards and construction norms with the initial focus on new residential buildings.</p>	<p>Demonstrated capacity of the Belarusian building sector specialist to integrate new EE approaches and measures into the design of the buildings and to implement them in practice.</p>	<p>Non-integrated design of the buildings just complying with the current prescriptive thermal standards in force. Lack of capacity of the public authorities to effectively supervise and enforce the implementation of the planned new, overall energy performance based norms and standards.</p>	<p>Integrated, energy efficient building design approach together with buildings’ overall energy performance based design principles adopted into the work of at least 30% of all local design institutes as well as into the curricula of all educational institutes in Belarus educating new architects and building construction and HVAC engineers.</p> <p>By the end of the project, at least 50 experts from each key professional group (see outputs 2.2-2.6) and 200 university students have taken and successfully passed courses on energy efficient building design and construction. Key public authorities responsible for supervision and enforcement of the planned new norms and regulations trained,</p>	<p>The curricula of the Belarusian educational institutes training architects and building construction and HVAC engineers.</p> <p>Design documents of new buildings submitted for review of the state authorities.</p> <p>Surveys and interviews conducted during project implementation.</p>	<p>Demonstrated value added of the suggested new approaches to the targeted professional groups.</p>
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<p>Outcome 3: Implementation of demonstration projects for energy efficient buildings.</p>	<p>Status of the demonstration projects.</p>	<p>N/A</p>	<p>Each of the 3 demonstration buildings constructed on schedule and reaching the target for annual external energy demand for space heating and hot water equal or less than 60 kWh/m², and their energy consumption and other performance (living comfort etc.) monitored for at least one full year.</p> <p>The baseline costs of the 3 demo buildings is covered in full by the project's co-financing resources and the GEF financing for incremental EE measures won't exceed 15% of the total construction costs of each demo building.</p>	<p>Monitoring reports of the demonstration projects.</p>	<p>All the required agreements concluded and the design of the demo buildings completed in schedule during the first 18 months of project implementation and the construction completed by the end of the third year of project implementation.</p>
<p>Outcome 4: Documented, disseminated and institutionalized project results providing a basis for further replication.</p>	<p>Status of the planned public outreach activities.</p> <p>Status of the entity to follow up and continue the activities initiated by the project.</p> <p>Number of visit and downloads from the project website.</p>	<p>N/A</p>	<p>Planned public outreach activities successfully completed.</p> <p>An entity to follow up and, as applicable, to continue the activities initiated by the project has been designated with adequate resources to perform its work.</p> <p>At least 100 hits and 20 downloaded documents per month from the project website by outside visitors.</p>	<p>Final project report.</p> <p>Number of hits and downloads from the project website.</p>	<p>Project implementation successfully concluded.</p>

Section 5.02 Finance – Project expense table

Mid-term evaluation of the UNDP/GEF project: "Improving Energy Efficiency in Residential Buildings in the Republic of Belarus" No. 00077154.

GEF Outcome/Atlas Activity	Responsible Party (Implementation)	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Total (USD)	C Actual Expenses (CDR) Year 2012	E Actual Expenses Year 2013	Approved budget 2014	Disbursed budget 2014 as of Oct 28, 2014	Planned Budget for 2015	Planned Budget for 2016	Total (USD) - 2012-2016				
OUTCOME 1: Strengthened legal and regulatory framework and mechanisms to enforce the legislation for improving the energy efficiency of the building sector with the focus on new residential buildings		62000	GEF	71200	International Consultants	120,000	0	55,877	99502	99642	0	0	155,379				
				71300	Local Consultants	84,000	0	40,492	38541	42112	0	0	79,033				
				71600	Travel	23,000	0	54	9960	958	4,000	3,000	17,014				
				72100	Contractual services – companies	100,000	0	5,785	71879	45196	10,000	15,000	102,665				
				72200	Equipment	48,000	0	0	0	0	0	0	0				
				72300	Materials & Goods	0	0	26,310	632	641	0	0	26,942				
				74200	Printing and publication costs	6,000	0	0	300	0	1,200	1,200	2,700				
				74500	Miscellaneous	9,000	0	126	250	147	1,800	1,800	3,976				
				75700	Training workshops and meetings	15,000	0	0	0	0	8,000	8,000	16,000				
				76125	Realized Loss					11	0			11			
76135	Realized Gain					-13	0			-13							
TOTAL OUTCOME 1						405,000	0	128,642	221065	188696	25,000	29,000	403,707				
OUTCOME 2: Enhanced capacity of the Belarusian specialists to implement and effectively enforce the new energy efficiency building standards and construction norms		62000	GEF	71200	International Consultants	96,000	0	18,197	39870	40087	12,000	12,000	82,067				
				71300	Local Consultants	62,000	0	6,983	35347	41504	15,000	7,000	64,330				
				71600	Travel	22,000	0	39,344	70289	35635	0	0	109,633				
				72100	Contractual services – companies	0	0	0	16711	3048	0	0	16,711				
				72200	Equipment	50,000	0	0	0	0	0	0	0				
				74200	Printing and publication costs	20,000	0	0	4264	1181	4,000	3,000	11,264				
				74500	Miscellaneous	10,000	0	7	170	50	2,000	2,000	4,178				
				75700	Training workshops and meetings	50,000	0	0	0	3369	12,000	12,000	24,000				
				Sub-total GEF						310,000	0	64,532	166652	124874	45,000	36,000	312,184
					04000	UNDP	71200	International Consultants	0	0	0	0	2170				
71300	Local Consultants	20,000	0				599	3880	1515	2000	6000	12,479					
71600	Travel	40,000	0				17,818	48500	30439	0	0	66,318					
72100	Contractual services – companies	40,000	0				0	2500	0	4000	25994	32,494					
74500	Miscellaneous							3	50	14		53					
Sub-total UNDP						100,000	0	18,420	54930	34138	6,000	31,994	111,344				
TOTAL OUTCOME 2						410,000	0	82,952	221582	159012	51,000	67,994	423,528				

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OUTCOME 3: Demonstrated energy and cost-saving potential of new energy efficiency measures in at least three new residential buildings in two Belarusian cities	62000	GEF	71200	International Consultants	96,000	0	10,380	11113	11113	10,000	19,620	51,113
			71300	Local Consultants	44,000	0	17,506	48300	41437	10,000	8,000	83,806
			71400	Contractual services – individuals	100,000	0	0	0	0	20,000	20,000	40,000
			71600	Travel	22,000	0	993	9400	604	2,000	2,000	14,393
			72100	Contractual services – companies	575,000	0	145,000	95323	72934	350,000	38,000	628,323
			72,200	Equipment	2,400,000	0	0	265401	637	1,521,978	649,470	2,436,849
			74200	Printing and publication costs	8,000	0	0		0	2,000	3,000	5,000
			74500	Miscellaneous	15,000	0	32	250	247	3,000	3,000	6,281
			75700	Training workshops and meetings	10,000	0			0	2,000	4,000	6,000
TOTAL OUTCOME 3					3,270,000	0	173,910	429786	126972	1,920,978	747,090	3,271,764
OUTCOME 4: Documented, disseminated and institutionalized project results providing a basis for further replication	62000	GEF	71200	International Consultants	128,000	0	16,705	65297	24328	28,295	43,000	153,297
			71300	Local Consultants	30,000	0	20,764	22111	24769	4,000	8,000	54,875
			71400	Contractual services – individuals	69,600	0	3,756	9593	7654	11,000	11,000	35,349
			71600	Travel	27,000	0	2,979	6000	0	4,000	10,000	22,979
			72100	Contractual services – companies	0	0	1,922		722	0	0	1,922
			72400	Communication		0	105		58			105
			72500	Office supplies			7		0			7
			72800	Information Technology costs				41	0			41
			74200	Printing and publication costs	8,000	0	1,980	7793	2018	2,000	2,000	13,773
			74500	Miscellaneous	8,400	0	59	182	99	1,600	1,600	3,441
			75700	Training workshops and meetings	19,000	0	0		0	2,000	11,000	13,000
			Sub-total GEF					290,000	0	48,276	111017	59648
04000	UNDP	71300	Local Consultants	30,000	0	1,752	2500	1450	7,000.00	16,000.00	27,252	
		72100	Contractual services – companies	50,000	0	4,525	8524	9891	5,000.00	26,000.00	44,049	
		72700	Hospitality/Catering			3,817		41			3,817	
		72800	Information Technology Equipmt			3,000		41			3,000	
		74200	Audio Visual&Print Prod Costs			757		2377			757	
		74500	Miscellaneous			12	23	8			35	
		75700	Training workshops and meetings	20,000	0	0		0		18,000.00	18,000	
		76125	Realized Loss			0		0			0	
		76135	Realized Gain			0		0			0	
Sub-total UNDP					100,000	0	13,863	11047	13808	12,000	60,000	96,910
TOTAL OUTCOME 4					390,000	0	62,139	122064	73456	64,895	146,600	395,698

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PROJECT MANAGEMENT	62000	GEF	71300	Local Consultants	0	0	1,319	1239	638	1,500	1,500	5,559	
			71400	Contractual services – individuals	182,000	1,155	45,292	46521	39332	40,200	40,200	173,369	
			71600	Travel	5,000	0	217		0	500	500	1,217	
			72100	Contractual services – companies	0	0	33		61	0	0	33	
			72200	Equipment	6,000	0	491	1600	1633	0	0	2,091	
			72300	Materials & Goods		0	283		0			283	
			72400	Communication	10,000	0	1,430	1492	1544	1,500	1,500	5,921	
			72500	Office supplies	10,000	0	1,446	6708	7652	1,500	1,500	11,154	
			72800	Information Technology Equipmt	0	583	2,505	1146	1154			4,235	
			73100	Rental & Maintenance-Premises			784		0			784	
			73400	Rental & Maint of Other Equip		0	8		0			8	
			74200	Printing and publication costs			6,606		8			6,606	
			74500	Miscellaneous	12,000	0	653	250	182	700	700	2,303	
			75700	Training workshops and meetings					200				
			76125	Realized Loss			1		0			1	
	76135	Realized Gain			-7		0			-7			
	Sub-total GEF					225,000	1,739	61,062	58957	52404	45,900	45,900	213,557
	04000	UNDP	71200	International Consultants	20,000	0			0				0
			71300	Local Consultants				3000	1029				3,000
			71400	Contractual services – individuals	75,000	0		14000	10618	15,000.00	30,000.00		59,000
			71600	Travel	8,000	0		1500	308	1,000.00	2,000.00		4,500
			72100	Contractual services – companies	34,000	0		1536	31	36,319.00	14,000.00		51,855
			72400	Communication			22		18				22
			73100	Rental & Maintenance-Premises			3,507	6901	6659				10,408
			73400	Rental & Maint of Other Equip	5,000	0	377	1500	461	1,000.00	2,000.00		4,877
			74500	Miscellaneous	58,000	0	381	110	47	12,000.00	45,504.00		57,995
			75700	Training, Workshops and Confer			95		0				95
76125			Realized Loss			0		0				0	
76135			Realized Gain			-5		0				-5	
Sub-total UNDP					200,000	0	4,376	28547	19171	65,319	93,504	191,746	
TOTAL PROJECT MANAGEMENT					425,000	1,739	65,438	87504	71576	111,219	139,404	405,303	
TOTAL GEF					4,500,000	1,739	476,422	987476	552595	2,089,773	944,590	4,500,000	
TOTAL UNDP					400,000	0	36,659	94524	67117	83,319	185,498	400,000	
TOTAL					4,900,000	1,739	513,081	1,082,000	619712	2,173,092	1,130,088	4,900,000	

Section 5.03 RATE TABLES

Table 1. STATUS OF OBJECTIVE / OUTCOME DELIVERY AS PER MEASURABLE INDICATORS

Objective	Measurable indicators from Project Logframe Matrix	Mid-term target	Risks and assumptions	Means of verification	Status of delivery *	Rating **
To reduce the energy consumption (imported fuel) and related GHG emissions with the focus on new residential buildings.	At least 10% (around 80 buildings) of all new residential multi-storey buildings, for which the design is started during the last year of the project are integrating new EE measures into their design with the target of reducing their combined, annual energy demand for space heating and hot water below 60 kWh/m2.	N/A	Suggested EE measures are adopted by the design institutes and construction companies into the design of new buildings.	Project monitoring reports and final evaluation. As applicable, post project market monitoring and evaluations		
	“Lifetime” reduction of 220,000 tons of CO2eq resulting from the energy saving in buildings, for which the construction has started or which have adopted into their design new energy efficiency					

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	elements that reduce the energy consumption for heating and hot water in the residential buildings below the current thermal standards in force.					
Outcomes	Measurable indicators from Project Logframe Matrix	Mid-term target	Risks and assumptions	Means of verification	Status of delivery *	Rating **
Outcome 1 Strengthened legal and regulatory framework and mechanisms to enforce the legislation for improving the energy efficiency of the building sector.	Revised minimum energy performance standards adopted for new construction and reaching a status of a law by the end of the project with a target of reducing the energy consumption of new residential buildings for space heating and hot water together below 60 kWh/m2. An energy performance certification and labelling scheme for both new and existing buildings adopted and under implementation by the end of	N/A	Continuing commitment of the Government of Belarus to proceed with the suggested legislation.	Official government publications and assumptions		

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	the project					
Outcome 2 Enhanced capacity of the Belarusian specialists to implement and effectively enforce new energy efficiency standards and construction norms with the initial focus on new residential buildings.	<p>Integrated, energy efficient building design approach together with buildings’ overall energy performance based design principles adopted into the work of at least 30% of all local design institutes as well as into the curricula of all educational institutes in Belarus educating new architects and building construction and HVAC engineers.</p> <p>By the end of the project, at least 50 experts from each key professional group (see outputs 2,2-2.6) and 200 university students have taken and successfully passed courses on energy efficient building design and construction.</p> <p>Key public authorities responsible for supervision</p>	N/A	Demonstrated value added of the suggested new approaches to the targeted professional groups.	<p>The curricula of the Belarusian educational institutes training architects and building construction and HVAC engineers.</p> <p>Design documents of new buildings submitted for review of the state authorities.</p> <p>Surveys and interviews conducted during project implementation</p>		

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	and enforcement of the planned new norms and regulations trained,					
Outcome 3 Implementation of demonstration projects for energy efficient buildings	Each of the 3 demonstration buildings constructed on schedule and reaching the target for annual external energy demand for space heating and hot water equal or less than 60 kWh/m2, and their energy consumption and other performance (living comfort etc.) monitored for at least one full year. The baseline costs of the 3 demo buildings is covered in full by the project’s co-financing resources and the GEF financing for incremental EE measures won’t exceed 15% of the total construction costs of each demo building.	N/A	All the required agreements concluded and the design of the demo buildings completed in schedule during the first 18 months of project implementation and the construction completed by the end of the third year of project implementation	Monitoring reports of the demonstration projects.		
Outcome 4 Documented,	Planned public outreach		Project implementation	Final project		

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<p>disseminated and institutionalized project results providing a basis for further replication.</p>	<p>activities successfully completed. An entity to follow up and, as applicable, to continue the activities initiated by the project has been designated with adequate resources to perform its work. At least 100 hits and 20 downloaded documents per month from the project website by outside visitors.</p>		<p>successfully concluded.</p>	<p>report. Number of hits and downloads from the project website.</p>		
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*** STATUS OF DELIVERY:**

GREEN / COMPLETED
YELLOW
RED

- = Indicators show successful achievement
- = Indicators show expected completion by end of project
- = Indicators show poor achievement - unlikely to be completed by end of Project

Section 5.04 Co-financing and leveraged resources

Co-financing:

Co-financing (Type/Source)	IA own financing (MUSD)		Government (MUSD)		Other * (MUSD)		Total (MUSD)		Total disbursement (MUSD)	
	planned **	actual	planned	actual	planned	actual	planned	actual	planned	actual
Grants	0.400	0.132	1.700	0.712 ⁹			2.100	0.844		
Loans / Concessional (compared to market rate)										
Credits										
Equity investments					23.000	0.038 ¹⁰	23.000	0.038		
In-kind support			2.600	0.050 ¹¹			2.600	0.050		
Other types ***										
Totals	0.400	0.132	4.300	0.762	23.000	0.038	27.700	0.932		

* Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

** Planned stands for co-financing proposed at CEO endorsement.

*** Please briefly describe other types of co-financing identified.

Leveraged Resources:

No leveraged resources have been mobilized yet.

(Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, NGO's, foundations, governments, communities or the private sector. Please briefly describe the resources the project has leveraged since inception and indicate how these resources are contributing to the project's ultimate objective

⁹ Major expenses were as follows: for research and development to support introduction of new materials, technologies and corresponding regulations under SSTP 2011-2015 “Building Construction Structures, Materials and Technologies” funded in 2013-2014 through the State Budget of the Republic of Belarus and the Innovation Fund of the Ministry of Architecture and Construction (0.712 MUSD).

¹⁰ Major expenses were as follows: for development of design documentations intended for baseline construction of the pilot buildings by the Project's partners (0.038 MUSD)

¹¹ Major expenses were as follows: for payment of rent of the Project's office (0.032 MUSD); for co-financing of international conferences supported by the Project (0.018 MUSD).

Section 5.05 Evaluation TOR



<i>Section 5.06 UNDP BELARUS</i>													
<i>Section 5.07 TERMS OF REFERENCE</i>													
Position title:	Consultant for Project Mid-Term Evaluation												
Position type:	International Consultant, IC												
Office/Project:	UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154												
Conditions of work:	Home-based with missions to Belarus												
Duration of contract:	Sep 1, 2014 – Dec 15, 2014 30 working days (including two missions to Belarus of 8 days total)												
Requirement for travel:	One 6-day mission and one 2-day mission to Belarus												
Conditions of payment:	<p>The total payment for the assignment will be a lump sum fee paid in 3 installments as specified in the table below:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th><i>Installation No.</i></th> <th><i>Milestone No. (see Section 8 below) and timeframe</i></th> <th><i>% of total contract amount</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">1 (5 days)</td> <td style="text-align: center;">30</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">2 and 3 (15 days)</td> <td style="text-align: center;">40</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">4 and 5 (10 days)</td> <td style="text-align: center;">30</td> </tr> </tbody> </table> <p>Each of the installments shall be paid within 10 days after completion and approval of the reports as required in Section 8 - “Milestones and Deliverables” below. Travel expenses shall be included in the lump sum.</p>	<i>Installation No.</i>	<i>Milestone No. (see Section 8 below) and timeframe</i>	<i>% of total contract amount</i>	1	1 (5 days)	30	2	2 and 3 (15 days)	40	3	4 and 5 (10 days)	30
<i>Installation No.</i>	<i>Milestone No. (see Section 8 below) and timeframe</i>	<i>% of total contract amount</i>											
1	1 (5 days)	30											
2	2 and 3 (15 days)	40											
3	4 and 5 (10 days)	30											
Qualifications:	<ul style="list-style-type: none"> • Advanced university degree (at least the Master level) in any of the following fields: engineering, economics or business. • Practical experience (within last five years) in mid-term or final performance evaluation of at least one international and/or regional projects funded by multilateral agencies. • Experience in performance evaluation of such projects in CEE or/and FSU countries is preferred. • Extended knowledge of UNDP and GEF monitoring and evaluation policy demonstrated by performance evaluation of at least one other UNDP project. • Solid knowledge, demonstrated by at least 3 relevant publications and/or evidences in professional experience records (e.g., certifications, awards, inventions, membership of professional associations and ad-hoc panels, lecturing, training, participation in exhibitions and professional events, presentations, etc.), about principles, best international policy, best investment practice, project cycle and monitoring / auditing, applicable to energy efficiency improvement of residential buildings is preferred. • Familiarity with regulations in EU and CIS region in the field of energy efficiency is preferred. • Familiarity with relevant Belarusian regulations and standards is an asset. 												

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	<ul style="list-style-type: none"> • Excellent written and spoken English is a must. • Working knowledge of written and spoken Belarusian or Russian is an advantage.
Competencies:	<ul style="list-style-type: none"> • Strong report writing skills and experience in writing and presenting reports to a high professional level (which includes graphs, pictures, diagrams, figures and other illustrative tools to enhance the reporting quality).
Direct supervisor:	<p>Throughout the assignment the Consultant will work in close collaboration with the UNDP Country Office in Minsk with support from Regional Technical Advisor, UNDP Bratislava Regional Centre.</p> <p>S/he will report on his/her work to:</p> <p>Mr. Igar Tchoulba <igar.tchoulba@undp.org>, Programme Analyst, UNDP Country Office in Minsk,</p> <p>Dr. Alexandre Grebenkov <alexandre.grebenkov@undp.org>, UNDP/GEF Project Manager, and</p> <p>Mr. John O'Brien <john.obrien@undp.org>, Regional Technical Advisor, UNDP Bratislava Regional Centre.</p>

1. General background information on the context of the assignment

1.1. Project background information

UNDP Belarus supports the Government of the Republic of Belarus in a wide range of areas. They all fall within the National Sustainable Socio-Economic Development Strategy till 2020, which was approved by the Government on 22 June 2004. UNDP plays an important role as a partner to the Government of Belarus in energy efficiency improvement policy and programs. In particular, UNDP has supported the Government of Belarus through capacity building and expert advice to achieve its GDP energy intensity reduction target through the project “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” funded by GEF under its Climate Change Focal Area Strategy.

Belarus lacks domestic energy resources, and has thereby to import around 90% of energy consumed in the country. The housing stock consumes over 40% of the total amount of energy used for heating and hot water supply. In the beginning of 2014, the Belarus’ housing stock totals almost 250 million square meters of residential buildings, including about 170 million square meters of old buildings which were constructed before 1994 according to the old Soviet practices and norms when annual specific consumption of heat energy varied from 150 to 200 kWh/m².

Since that time, the housing construction standards changed significantly, and for the time being energy efficiency improvement measures in this sector resulted in reduction of annual heat energy specific consumption by about 100 kWh/m² in newly constructed buildings. The recent national standards stipulate annual specific consumption of energy for heating to be not higher than 60 kWh/m². To facilitate construction of residential buildings in line with the said new standard, Belarus started production of new for the country energy efficient insulating materials, new thermal energy regulators and meters and introduced new types of window design to be used in construction of new buildings. Under this practice 5-6 million square meters of new residential buildings are annually put into service in the country in the past few years.

Nevertheless, as indicated by many experts and acknowledged by the Government of Belarus, the applied measures only partially removed existing barriers and the 60 kWh/m² standard does not reflect the energy saving potential in the housing construction sector, whilst many EU countries are developing new regulatory documents, which envisage transition to construction of buildings with space-heating energy consumption of less than 30 kWh/m² a year with the best achieved engineering solutions leading to about 15 kWh/m² a year. Therefore, the Ministry of Architecture and Construction with support of the State Standardization Committee’s Department for Energy Efficiency have implemented a couple of pilot projects to demonstrate that there is still large energy savings potential while introducing some other state-of-the-art techniques into building construction practice.

According to these projects and best European practices, the energy efficiency improvement solutions can be found in innovative building design principles, such as the optimal constructive-technological and space-and-planning solutions based on integrated energy performance of a building, the combination of heating and ventilating functions with forced ventilation and heat recovery up to 80% from the exhaust air, the heat recovery from drainage waters, the solar water heating and PV-panels, the utilization of ground heat by a heat pump, the automatic regulation of heat and hot water consumption, the use of thorough thermo-vision

study to identify actual heat-shielding characteristics of the building envelope, and other applicable energy efficiency improvement technologies and approaches.

Today, the Belarusian Government sets the objective to move towards mass construction of energy efficient buildings in Belarus that is consistent with the new EU standards. Nevertheless, despite the availability of technical means and materials and capacities to apply new technologies, there are still certain technical, legislative, institutional, economic and technological barriers to improving energy efficiency in residential buildings in Belarus.

1.2. Project overview

The aim of the project, planned for 5 years, is to reduce energy consumption during the construction and operation of residential buildings and a corresponding reduction in greenhouse gas emissions. The focus of the project will be devoted to develop and ensure effective implementation of new methods of designing of residential buildings and construction standards with related energy efficiency certification schemes.

In particular, the project will help achieve the following objectives:

- Provide support to strengthen the legal and regulatory framework, as well as mechanisms to enforce the legislation for improving the energy efficiency in the building sector;
- Facilitate the development of enhanced capacity of the Belarusian specialists to implement and effectively enforce the new energy efficiency building standards and construction norms;
- Implement pilot projects to demonstrate the energy and cost-saving potential of new energy efficiency measures on the example of three residential buildings;
- Ensure awareness of industry experts and the general public on energy efficiency in the residential sector;
- Establish monitoring mechanisms and replication to ensure the reproduction of the results of the project in Belarus and abroad.

2. Objectives of the assignment

In line with the said UNDP-GEF M&E guidelines, this Mid-Term Evaluation (MTE) is initiated by UNDP Country Office in Belarus, as the GEF Implementing Agency for this project, in order to assess the overall project progress, make sure the project is on track to deliver the agreed outcomes, produce recommendations on any adjustments needed, as well as to strengthen the adaptive management and monitoring function of the project and suggest strategy and policy options for more effective achievement of the project's expected results within the project timeframe and their further replication.

The evaluation has the following complementary purposes:

- To promote accountability and transparency, and to assess and disclose levels of project accomplishments and assess their sustainability;
- To synthesize lessons learned that may help improve the selection, design and implementation of future UNDP/GEF energy-efficiency projects
- To provide feedback on issues that are recurrent and need attention, and on improvements regarding previously identified issues;
- Provide appraisal on the validity/relevance of the outcome for UNDP supported interventions, and the extent to which the set objectives and outcomes have been achieved;
- Identify gaps/weaknesses in the current Project design and provide recommendations as to their improvements in similar projects;
- Identify lessons learnt from previous and ongoing interventions in this area;
- Assess the role of the Project in building local leadership capacities at the local levels;
- Review and assess the Project's partnership with the government bodies, civil society and private sector, international organizations in Project implementation and comment on its sustainability;
- Review and assess the efficiency of implementation and management arrangements of the Project;
- Support UNDP in identifying the future interventions of Socio-Economic Development and Community-based Projects, aligning it with the national priorities, UNDP's mandate and expertise.

Respective activity is included in the Project Detailed Work Plan for 2014, Outcome 4: Documented, disseminated and institutionalized project results providing a basis for further replication, and poses the following activities:

- 4.9.1 – Conduct a Mid-Term Project Evaluation Study by means of collecting and analyzing actual data of Project's results and comparing them with the objectives, targets, baseline scope and requirements stipulated in the Project Document.
- 4.9.2 – Compile and present a Mid-Term Evaluation Report describing the progress of the Project and proving necessary recommendations for adjustment of the Project's implementation strategy.

This assignment has an objective to provide consultation and advice to the PIU, UNDP Belarus Country

Office, Energy Efficiency Department of the State Standardization Committee (National Implementing Agency), members of the Project Steering Committee, project partners, district authorities and other relevant stakeholders as follows:

- (i) To assess overall performance against the project objective and outcomes as set out in the Project Document, project's Logical Framework, and other related documents;
- (ii) To assess the effectiveness and efficiency of the project;
- (iii) To analyze critically the implementation and management arrangements of the project;
- (iv) To assess the progress to date towards achievement of the outcomes;
- (v) To review planned strategies and plans for achieving the overall objective of the project within the timeframe;
- (vi) To assess the sustainability of the project's interventions;
- (vii) To list and document initial lessons concerning project design, implementation and management;
- (viii) To assess project relevance to national priorities;
- (ix) To provide guidance for the future project activities and, if necessary, for the implementation and management arrangements;
- (x) To provide lessons learned for the future.

This assignment must provide a comprehensive and systematic evaluation of project performance by assessing project design, process of implementation, achievements vis-à-vis project objectives endorsed by the GEF including any agreed changes in the objectives/activities during project inception stage or previous project evaluations.

3. Evaluation requirements

3.1. Standard UNDP/GEF monitoring and evaluation requirements

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. A combination of tools should be used to ensure effective project M&E. These might be applied continuously throughout the lifetime of the project – e.g. periodic monitoring of indicators, or as specific time-bound exercises such as mid-term review, audit reports and independent evaluations.

In accordance with UNDP/GEF M&E policies and procedures, all projects with long implementation period are strongly encouraged to conduct a mid-term evaluation (MTE). In addition to providing an independent in-depth review of implementation progress, this type of evaluation is responsive to GEF Council decisions on transparency and better access to information during implementation.

The MTE is intended to identify potential project design problems, assess progress towards the achievement of objectives, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP/GEF projects), and to make recommendations regarding specific actions that might be taken to improve the project. It is expected to serve as a mean of validating or filling the gaps in the initial assessment of relevance, effectiveness and efficiency obtained from monitoring.

The MTE provides the opportunity to assess early signs of project success or failure and prompt necessary adjustments.

This evaluation is to be undertaken taking into consideration the GEF Monitoring and Evaluation policy (<http://www.thegef.org/gef/node/4184>) and the UNDP/GEF Monitoring and Evaluation Policy (<http://www.undp.org/gef/monitoring/policies.html>).

3.2. Particular MTE requirements

In particular, this evaluation shall assess progress in establishing the information baseline, reducing threats, and identifying any difficulties in project implementation and their causes, and recommend corrective course of action. Effective action to rectify any identified issues hindering implementation should be a requirement prior to determining whether further implementation should proceed as before.

Project performance should be measured based on Project's Logical Framework Matrix (see **Annex 1**), which provides clear performance and impact indicators for project implementation along with their corresponding means of verification.

Success and failure should be determined in part by monitoring changes in baseline conditions. If during the inception period the Logical Framework Matrix was updated along with indicators, the evaluation should consider its revised version to render more clarity and rigidity to the system.

The evaluation team is expected to work with key project stakeholders, including UNDP Country Office in Belarus, Energy Efficiency Department, project beneficiaries and partners, project experts and members of the Project Steering Committee.

The evaluation should determine, as systematically and objectively as possible, the relevance, efficiency,

effectiveness, impact and sustainability of the project. The evaluation should assess the achievements of the project against its objectives, including examination of the relevance of the objectives and of the project design including its revised design following the project inception report. It should also identify background factors that have facilitated or impeded the achievement of the project objectives. While a review of the baseline information when project starts is in itself very important, the in-depth evaluation of its evolution is expected to lead to detailed recommendations and lessons learned for the future.

The evaluation shall provide to the GEF Secretariat with complete and convincing evidence in support its findings/ratings. The Consultant should thereby prepare specific ratings on specific aspects of the project, as described in Section 4 “Scope of Work” below and **Annex 2** of this Terms of Reference. Particular emphasis should be put on the current project results and the possibility of achieving the objective and outcomes in the established timeframe, taking into consideration the speed, at which the project is proceeding.

4. Scope of work

The evaluation shall cover the following project aspects:

Project Concept and Design: The Consultant will review the problem addressed by the project and the project strategy, encompassing an assessment of the appropriateness of the objectives, planned outputs, activities and inputs as compared to cost-effective alternatives. The executing modality and managerial arrangements should also be judged. The Consultant will assess the achievement of indicators and review the work plan, planned duration and budget of the project.

Project Implementation: The evaluation will assess the implementation of the project in terms of quality and timeliness of inputs and efficiency and effectiveness of activities carried out. Also, the effectiveness of management as well as the quality and timeliness of monitoring and backstopping by all parties to the project should be evaluated. In particular, the evaluation is to assess the Project team’s use of adaptive management in project implementation.

Project outputs, outcomes and impact: The evaluation will assess the outputs, outcomes and impact achieved by the project as well as the likely sustainability of project results. This should encompass an assessment of the achievement of the immediate objectives and the contribution to attaining the overall objective of the project. The evaluation should also assess the extent to which the implementation of the project has been inclusive of relevant stakeholders and to which it has been able to create collaboration between different partners. The evaluation will also examine if the project has had significant unexpected effects, either of beneficial or detrimental character.

The evaluation shall judge the following project implementation features:

4.1. Progress towards results

a. Changes in development conditions

- Are project outcomes contributing to national development priorities and plans in accordance with relevant state and local energy conservation programmes and strategies?
- How and why project outcomes and strategies contribute to the achievement of the expected results?
- Did the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in project activities?
- Is the project on track to meet the global environmental benefits in terms of tones of CO₂ reduced by the end of the project as defined in the project document?

b. Measurement of change

Progress towards results should be based on a comparison of indicators before and after (so far) the project intervention, e.g. by comparing current conditions for building energy efficiency (legal and regulatory frameworks, results of energy efficiency and energy conservation activities, etc.) to the baseline ones.

The evaluation should specifically look into:

- Adequacy of the level of existing regulations on energy conservation and energy efficiency improvement;
- Adequacy of the level and proposed modes of enforcement of the regulatory and programmatic documents developed within the project for creation of an enabling environment for energy efficiency improvement in housing funded from the target state and local programmes and private sector;
- Timeliness of the existing energy efficiency oriented curricula for the initial training (University courses);
- Tones of CO₂e reduced (direct and indirect emissions);
- Whether the project has effectively learned lessons from other countries in which UNDP GEF has had projects aimed at energy efficiency in the residential sector?
- Verification of legislation monitoring results;
- Adequacy and effectiveness of the developed project awareness raising products on energy efficiency

in buildings:

- Project's web-site;
- Communication and promotion strategy.

c. Project strategy

- How and why outcomes (listed as outputs in the project document) and strategies contribute to the achievement of the expected results?
- Do the changes suggested during the inception phase still represent the best project strategy for achieving the project objectives? Consider alternatives.
- Has the project been effectively undertaking adaptive management in order to respond to changing conditions?

d. Sustainability

- Assess the extent to which the benefits of the project will continue, within or outside the project scope, after it has come to an end; commitment of the government to support the initiative beyond the project.
- The Consultant may look at factors such as mainstreaming project objectives into the broader development policies and sectoral plans and economies.

The sustainability assessment will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes. In particular, the evaluation should focus on the sustainability of efforts to address energy-efficiency at the Oblast level and whether or not resources will continue to be available for such investments at the end of the project. The sustainability assessment should also explain how other important contextual factors that are not outcomes of the project will affect sustainability.

Each sustainability dimension of the project outcomes should be rated. The following four dimensions or aspects of sustainability should be addressed:

- Financial resources: Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood of financial and economic resources not being available for increased investments in energy-efficiency once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project's outcomes)?
- Socio-political: Are there any social or political risks that may jeopardize the sustenance of the project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?
- Institutional framework and governance: Do the legal frameworks, policies and governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems for accountability and transparency, and the required technical know-how are in place.
- Environmental: Are there any environmental risks that may jeopardize sustenance of project outcomes? The evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

4.2. Project's adaptive management framework

a. Monitoring systems

- Assess the monitoring tools currently being used:
 - o Do they provide the necessary information?
 - o Do they involve key partners?
 - o Are they efficient?
 - o Are additional tools required?
- Assess the use of the logical framework as a management tool during implementation and any changes made to it.
 - What impact did the retro-fitting of impact indicators have on project management, if such?
 - Assess whether or not M&E system facilitates timely tracking of progress towards project's objectives by collecting information on chosen indicators continually; annual project reports are complete, accurate and with well justified ratings; the information provided by the M&E system is used to improve project performance and to adapt to changing needs.

b. Risk Management

- Validate whether the risks identified in the project document and PIRs are the most important and whether the risk ratings applied are appropriate. If not, explain why.
- Describe any additional risks identified and suggest risk ratings and possible risk management strategies to be adopted.
- Assess the project's risk identification and management systems:
 - o Is the UNDP-GEF Risk Management System appropriately applied and if not what needs to be

done?

- o How can the UNDP-GEF Risk Management System be used to strengthen the project management?

c. Work Planning

- Assess the use of routinely updated work plans.
- Assess the use of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
- Are work planning processes result-based? If not, suggest ways to re-orientate work planning.

d. Financial/Project management

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions. (Cost-effectiveness: the extent to which results have been delivered with the least costly resources possible.). Any irregularities must be noted.
 - Is there due diligence in the management of funds and financial audits?
 - Assess the effectiveness of the Project Management arrangements as put in place at the start of the project.
- Did promised co-financing materialize (please fill out the co-financing form provided in **Annex 3**) and if not what needs to be done in order to improve the situation?

e. Reporting

- Assess how adaptive management changes have been reported by the project management.
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.
- Assess the reduction of greenhouse gas emissions since project start (please fill out the Climate Change Mitigation Tracking Tool form provided in **Annex 4**).

f. Delays

- Assess if there were delays in project implementation and what were the reasons.
- Did the delay affect the achievement of project's outcomes and/or sustainability, and if it did then in what ways and through what causal linkages?

4.3 Contribution of implementing and executing agencies

- Assess the role of UNDP and the Energy Efficiency Department of the State Committee on Standardization of the Republic of Belarus against the requirements set out in the UNDP Programme and Operations Policies and Procedures. Consider:

- o Field visits;
- o Participation in Steering Committee meetings;
- o Project reviews, PIR preparation and follow-up;
- o GEF guidance;
- o Operational support.

- Consider the new UNDP requirements outlined in the UNDP Programme and Operations Policies and Procedures, especially the Project Assurance role, and ensure they are incorporated into the project's adaptive management framework.

- Assess the contribution to the project from UNDP and the Energy Efficiency Department of the State Committee on Standardization of the Republic of Belarus in terms of “soft” assistance (i.e. policy advice & dialogue, advocacy, and coordination).

- Suggest measures to strengthen UNDP's assistance to the project management if necessary.

4.4. Stakeholder participation, partnership strategy

- Assess whether or not and how local stakeholders participate in project management and decision-making. Include an analysis of the strengths and weaknesses of the approach adopted by the project and suggestions for improvement if necessary.

- Does the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in the implementation and evaluation of project activities?

- Consider the dissemination of project information to partners and stakeholders and if necessary suggest more appropriate mechanisms.

- Identify opportunities for stronger partnerships.

4.5. Rating

The range of aspects described above should be provided with the assessment based on rating of achievements. The applicable rating criteria are as follows:

HS: Highly Satisfactory: no shortcomings

S: Satisfactory: minor shortcomings

MS: Moderately Satisfactory: moderate shortcomings

MU: Moderately Unsatisfactory: significant shortcomings

U: Unsatisfactory: major problems

HU: Highly Unsatisfactory: severe problems

Ratings for sustainability assessment are as follows:

LS: Likely sustainable: negligible risks to sustainability

MLS: Moderately Likely sustainable: moderate risks

MUS: Moderately Unlikely sustainable: significant risks

US: Unlikely sustainable: severe risks.

Additional ratings may be also relevant:

N/A: Not Applicable

U/A: Unable to Assess

All ratings given should be properly substantiated.

To determine the level of achievement of project outcomes and objectives the following three criteria should be assessed according to the ratings provided above:

- **Relevance:** Are the project's outcomes consistent with the GEF focal areas/operational program strategies and country priorities?

- **Effectiveness:** Are the actual project outcomes commensurate with the original or modified project objectives? In case the original or modified expected results are merely outputs/inputs then the Consultant should assess if there are any real outcomes of the project and if yes then whether these are commensurate with the realistic expectations from such a project.

- **Efficiency:** Is the project cost effective? Is the project the least cost option? Is the project implementation delayed and if it is, does that affect cost-effectiveness? Wherever possible, the Consultant should also compare the cost-time vs. outcomes relationship of the project with that of other similar projects.

5. Methodology for evaluation approach

The Consultant should seek guidance for his/her work in the following materials, which could be found at www.undp.org/gef:

- UNDP Handbook on Monitoring and Evaluation for Results;
- UNDP Evaluation Policy kit.

It is recommended that the evaluation methodology include the following:

- Documentation review (desk study), to include Project Document, Inception Report, annual GEF Project Implementation Reports, Minutes of the Steering Committee meeting, GEF quarterly project updates (for more details see **Annex 5**);

- Interviews with PIU and key project stakeholders, including UNDP Belarus, Energy Efficiency Department of the State Committee on Standardization, Ministry of Architecture and Construction, other beneficiaries and project partners, such as RUE “NIPTIS”, RUE “GrodnoGrazhdanProiekt”, RUE “Mogilevsky UKS” and JSC “MAPID”, relevant administrations of Grodno, Minsk and Mogilev Oblasts, relevant legislative bodies, Oblast Energy Efficiency Divisions, technical universities, etc.;

- In-country visits of project pilot sites, if necessary.

The evaluation must provide evidence-based information that is credible, reliable and useful. It must be easily understood by project partners and applicable to the remaining period of the project.

6. Evaluation report

The core product of the Mid-Term Evaluation will be the Mid-Term Evaluation Report that will include:

- Executive summary;
- Introduction;
- Findings and conclusions in relation to issues to be addressed identified under the Scope of Evaluation section of this TOR;

- Recommendations;
- Lessons Learned;
- Annexes.

The draft and final report will be written in the format outlined in **Annex 6** of this TOR. The expected length of the report is around 50 pages in total, not including annexes. The first draft of the report and a final report are expected to be submitted to the UNDP Belarus within deadlines stipulated in Section 8 below. The first draft shall include the results of the in-country mission and subsequently circulated to the key project stakeholders for comments. Any discrepancies between the interpretations and findings of the Consultant and the key project stakeholders shall be explained in an annex to the final report.

The reports shall be submitted both electronically and in printed version, in Russian and English. The reports shall be supplemented by rate tables (**Annex 2**).

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7. Duties and responsibilities

The Consultant shall work in a team with a local consultant on energy efficiency in buildings and also in close coordination with other PIU members who are to assist him/her in collecting necessary information requested by the Consultant and in communicating with all stakeholders. The Consultant must not have restrictions for off-hour work and should not have participated in preparation and/or implementation of this very project and should not have conflict of interest with project related activities.

8. Milestones and deliverables

The following table defines the main milestones, as per the activities stipulated in the Section “**Scope of work**” above, for which formal reports are required. These reports are to be submitted to the PIU, UNDP, Energy Efficiency Department and, when appropriate, the Ministry of Architecture and Construction for review before the deadlines specified below. Approval of these reports by the UNDP Country Office will govern payment under the contract for this assignment.

Prior to approval of the final report, a draft version shall be circulated for comments to the PIU, UNDP CO and stakeholders. The PIU, UNDP CO and the stakeholders will submit comments and suggestions within 10 working days after receiving the draft. All comments and suggestions (if any) shall be addressed and the report will be considered as the final deliverable as soon it is accepted by UNDP CO.

The final version of the evaluation report should be submitted in electronic format (MS Word) to UNDP CO (igar.tchoulba@undp.org), PIU (alexandre.grebenkov@undp.org) and UNDP Bratislava Regional Centre (john.obrien@undp.org) no later than **November 17, 2014**.

<i>No</i>	<i>Milestone</i>	<i>Report type and size</i>	<i>Deadline</i>
1	Evaluation methodology compiled and desk review completed	Report of 20 pgs.	Sep 22, 2014
2	Mission to Belarus conducted, including briefings by PIU and UNDP CO, in-country field visits, all necessary interviews, data collection, and de-briefings for UNDP CO	Report of 10 pgs.	Oct 10, 2014
3	Drafting of the evaluation report completed, and the draft sent for comments	Report of 50 pgs.	Oct 24, 2014
4	Circulation and other types of feedback mechanisms for reviewing and commenting on the draft completed, and comments received	List of comments and summary of 10 pgs.	Nov 3, 2014
5	Finalization of the evaluation report (incorporating comments received on the draft report)	Report of 50 pgs.	Nov 17, 2014

Supervisor

Supervisee

Section 5.08 **List of persons interviewed**

Project Mid-term Evaluation (MTE) First Mission

Mission dates: Wednesday, Sep 24, 2014 – Friday, Sep 26, 2014

Visitor: Jeroen Nicolaas Ketting, Director of Lighthouse Russia B.V., Project MTE International Consultant

Mission Agenda

Wednesday, Sep 24, 2014

Time	Activity	Participants	Responsible person / Reporter
10:30 – 11:00	Transfer from MSQ to Project Office	(SU 1830, arrival 10:05)	Natallia Labaznova <i>Project AFA</i>
11:00 – 12:00	Meeting with Project Staff. Introduction to the Project: objectives, expected outcomes, results achieved.	Jeroen Ketting <i>Project MTE Expert</i> Alexandre Grebenkov <i>Project Manager</i> Natallia Labaznova <i>Project AFA</i> Alexei Chistodarsky <i>Project PR</i> Uladzimir Shtaida <i>Project Procurement</i>	Alexandre Grebenkov <i>Project Manager</i>

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12:00 – 13:00	Presentation of the results of MTE Desk Review. Interview with Project Staff. Q&A.	Jeroen Ketting <i>Project MTE Expert</i> Alexandre Grebenkov <i>Project Manager</i> Natallia Labaznova <i>Project AFA</i> Alexei Chistodarsky <i>Project PR</i> Uladzimir Shtaida <i>Project Procurement</i>	Jeroen Ketting <i>Project MTE Expert</i>
13:00 – 14:00	Lunch. Transfer from Project Office to UNDP CO		Alexandre Grebenkov <i>Project Manager</i>
14:00 – 15:00	Meeting with UNDP Programme Analyst. Discussion on MTE methodology and schedule. Presentation of the results of MTE Desk Review. Interview with UNDP Programme Analyst. Q&A.	Igar TCHOULBA <i>Programme Analyst</i> Alexandre Grebenkov <i>Project Manager</i> Jeroen Ketting <i>Project MTE Expert</i>	Jeroen Ketting <i>Project MTE Expert</i>
15:00 – 15:30	Transfer from UNDP CO to Energy Efficiency Department		Alexandre Grebenkov <i>Project Manager</i>
15:30 – 16:30	Meeting with Project National Director. Discussion on MTE methodology and schedule. Presentation of the results of MTE Desk Review. Interview with Project National Director. Q&A.	Andrew Minenkov <i>Project National Director, Head of Division</i> Igar TCHOULBA <i>Programme Analyst, UNDP Belarus CO</i> Alexandre Grebenkov <i>Project Manager, UNDP/GEF Project</i> Jeroen Ketting <i>Project MTE Expert</i>	Jeroen Ketting <i>Project MTE Expert</i>
16:30 – 17:00	Transfer from UNDP CO to Ministry of Construction		Alexandre Grebenkov <i>Project Manager</i>

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17:00 – 18:00	Meeting with Project Partners (Ministry of Construction). Presentation of the results of MTE Desk Review. Interview with relevant representatives. Q&A.	Galina Pavlova <i>Member of PSC, Chief of the Principal Department</i> Alexandre Grebenkov <i>Project Manager, UNDP/GEF Project</i> Jeroen Ketting <i>Project MTE Expert</i>	Jeroen Ketting <i>Project MTE Expert</i>
18:00 – 18:30	Transfer from Ministry of Construction to Renaissance Hotel		Alexandre Grebenkov <i>Project Manager</i>

Thursday, Sep 25, 2014

Time	Activity	Participants	Responsible person / Reporter
9:00 – 9:30	Transfer from Renaissance Hotel to RUE “StrojTechNorm”		Alexandre Grebenkov <i>Project Manager</i>
9:30 – 10:30	Meeting with Project Partners (RUE “StrojTechNorm”). Presentation of the results of MTE Desk Review. Interview with relevant representatives. Q&A.	Iryna Yakovleva <i>Member of PSC, Head of Department</i> Olga Kudrevitch <i>Project Expert, Deputy Director</i> Alexandre Grebenkov <i>Project Manager, UNDP/GEF Project</i> Jeroen Ketting <i>Project MTE Expert</i>	Jeroen Ketting <i>Project MTE Expert</i>
10:30 – 11:00	Transfer from RUE “StrojTechNorm” to RUE “NIPTIS”		Alexandre Grebenkov <i>Project Manager</i>

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

11:00 – 12:00	Meeting with Project Partners (RUE “Institute of Housing – NIPTIS”). Presentation of the results of MTE Desk Review. Interview with relevant representatives. Q&A.	Leonid Danilevsky <i>Project Expert, Deputy Director</i> Sergei Terekhov <i>Head of Division</i> Alexandre Grebenkov <i>Project Manager, UNDP/GEF Project</i> Jeroen Ketting <i>Project MTE Expert</i>	Jeroen Ketting <i>Project MTE Expert</i>
12:00 – 13:00	Meeting with Project Staff. Brief on outcomes of the interviews.	Jeroen Ketting <i>Project MTE Expert</i> Alexandre Grebenkov <i>Project Manager</i> Natallia Labaznova <i>Project AFA</i> Alexei Chistodarsky <i>Project PR</i> Uladzimir Shtaida <i>Project Procurement</i>	Jeroen Ketting <i>Project MTE Expert</i> Alexandre Grebenkov <i>Project Manager</i>
13:00 – 14:00	Lunch		Alexandre Grebenkov <i>Project Manager</i>
14:00 – 18:00	Desk study with documents and data.	Jeroen Ketting <i>Project MTE Expert</i> Alexandre Grebenkov <i>Project Manager</i> Natallia Labaznova <i>Project AFA</i> Alexei Chistodarsky <i>Project PR</i> Uladzimir Shtaida <i>Project Procurement</i>	Jeroen Ketting <i>Project MTE Expert</i> Alexandre Grebenkov <i>Project Manager</i>
18:00 – 18:30	Transfer from Project Office to Renaissance Hotel		Alexandre Grebenkov <i>Project Manager</i>

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Friday, **Sep 26**, 2014




















Time	Activity	Participants	Responsible person / Reporter
9:00 – 9:30	Transfer from Renaissance Hotel to Project Office		Alexei Chistodarsky <i>Project PR</i>
9:30 – 13:00	Desk study with documents and data.	Jeroen Ketting <i>Project MTE Expert</i> Alexei Chistodarsky <i>Project PR</i> Uladzimir Shtaida <i>Project Procurement</i>	Jeroen Ketting <i>Project MTE Expert</i>
13:00 – 14:00	Lunch. Transfer from Project Office to Training Venue		Alexandre Grebenkov <i>Project Manager</i>
14:00 – 15:00	Visit of Project Training Workshop Venue (training of energy auditors). Interview with participants.	Jeroen Ketting <i>Project MTE Expert</i> Alexandre Grebenkov <i>Project Manager</i> Natallia Labaznova <i>Project AFA</i> Alexei Chistodarsky <i>Project PR</i>	Jeroen Ketting <i>Project MTE Expert</i>
15:00 – 15:30	Transfer from Training Venue to Energy Efficiency Department		Alexandre Grebenkov <i>Project Manager</i>

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

15:30 – 17:00	Meeting with major stakeholders. Discussions on findings and conclusions of the 1 st MTE Mission. Q&A.	<p>Sergei SEMASHKO <i>Deputy Chairman of Gosstandard, Director of Energy Efficiency Department</i></p> <p>Andrew Minenkov <i>Project National Director, Head of Division</i></p> <p>Igar TCHOULBA <i>Programme Analyst, UNDP Belarus CO</i></p> <p>Alexandre Grebenkov <i>Project Manager, UNDP/GEF Project</i></p> <p>Jeroen Ketting <i>Project MTE Expert</i></p>	<p>Jeroen Ketting <i>Project MTE Expert</i></p> <p>Alexandre Grebenkov <i>Project Manager</i></p>
17:00 – 17:30	Transfer from Energy Efficiency Department to Renaissance Hotel		Alexandre Grebenkov <i>Project Manager</i>
17:30 – 18:30	Transfer from Renaissance Hotel to MSQ	(SU 1833, departure 20:35)	Natallia Labaznova <i>Project AFA</i>

Section 5.09 List of documents reviewed

I. Study materials

Name	Date modified	Type	Size
Files Currently on the Disc (16)			
 Принципы проектирования энергоэффективных зданий	9/17/2014 3:50 PM	Adobe Acrobat D...	2,452 KB
 Экономическая эффективность схем отопления и ГВС	5/19/2014 4:04 PM	Adobe Acrobat D...	780 KB
 Расчет энергоэффективности в ЕС. Основные положения	4/30/2014 1:12 PM	Adobe Acrobat D...	438 KB
 Рекомендации по отоплению и ГВС	4/30/2014 11:52 AM	Adobe Acrobat D...	377 KB
 Европейский опыт проектирования	4/30/2014 11:31 AM	Adobe Acrobat D...	1,256 KB
 Рекомендации по ТНУ	4/25/2014 3:45 PM	Adobe Acrobat D...	190 KB
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 Брошюра_Гелионагреватели	4/16/2014 3:42 PM	Adobe Acrobat D...	7,653 KB
 Брошюра_энергоэффективный-жилой-дом	1/28/2014 2:38 PM	Adobe Acrobat D...	9,212 KB
 Рекомендации по солнечным нагревателям	1/3/2014 11:11 AM	Adobe Acrobat D...	1,703 KB
 Брошюра_Проектирование-оболочки-здания	12/26/2013 12:54 ...	Adobe Acrobat D...	6,285 KB
 Брошюра_Международный протокол	12/11/2013 11:14 ...	Adobe Acrobat D...	15,997 KB
 Обзор по ТНУ	12/6/2013 2:48 PM	Adobe Acrobat D...	347 KB
 Анализ методик расчета энергоэффективности	12/6/2013 2:16 PM	Adobe Acrobat D...	707 KB
 Методические рекомендации по расчету энергоэффективности	12/6/2013 2:13 PM	Adobe Acrobat D...	251 KB
 Рекомендации по теплоснабжению	12/6/2013 2:06 PM	Adobe Acrobat D...	645 KB
Name	Date modified	Type	Size
 Пособие по энергоаудиту	8/26/2014 7:15 PM	Adobe Acrobat D...	671 KB
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 Методология_рекомендации_Энергоаудит	12/15/2013 9:19 PM	Adobe Acrobat D...	770 KB

II. Presentations

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Name	Date modified	Type	Size
Files Currently on the Disc (12)			
Danilevsky-2	9/16/2014 3:48 PM	Adobe Acrobat D...	7,684 KB
Danilevsky-1	9/17/2014 4:46 PM	Adobe Acrobat D...	4,820 KB
Danilevsky-5	9/17/2014 5:34 PM	Adobe Acrobat D...	1,926 KB
Danilevsky-3	9/17/2014 6:33 PM	Adobe Acrobat D...	550 KB
Zhydovitch-1	9/17/2014 6:34 PM	Adobe Acrobat D...	1,314 KB
Grebenkov_1	9/17/2014 6:35 PM	Adobe Acrobat D...	880 KB
Pokotilov-1	9/17/2014 6:36 PM	Adobe Acrobat D...	2,432 KB
Pokotilov-2	9/17/2014 6:37 PM	Adobe Acrobat D...	1,089 KB
Pokotilov-3	9/17/2014 6:38 PM	Adobe Acrobat D...	2,683 KB
Jaunzems-1	9/17/2014 6:43 PM	Adobe Acrobat D...	1,321 KB
Jaunzems-2	9/17/2014 6:44 PM	Adobe Acrobat D...	845 KB
Jaunzems-3	9/17/2014 6:46 PM	Adobe Acrobat D...	371 KB

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Alfio_Galata_EnergyAudit_Trends_Sept2014	9/25/2014 4:15 PM	Adobe Acrobat D...	675 KB
Alfio_Galata_IPMVP_Sept2014	9/25/2014 4:16 PM	Adobe Acrobat D...	785 KB
Molochko_26-09-2014_1	9/25/2014 4:17 PM	Adobe Acrobat D...	751 KB
Molochko_26-09-2014_2	9/25/2014 4:23 PM	Adobe Acrobat D...	1,983 KB
Molochko_26-09-2014_3	9/25/2014 4:22 PM	Adobe Acrobat D...	1,446 KB

III. *Materials of other trainings*

1. Energy audit training (2009)

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Name	Date modified	Type	Size
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Головкин Н.Н., Анализ инвестиционных проектов	7/25/2011 2:46 PM	Adobe Acrobat D...	1,180 KB
Головкин Н.Н., Основы проектного анализа	7/25/2011 2:40 PM	Adobe Acrobat D...	1,488 KB
Мамонов А.М., Методика обследования систем теплоснабжения	7/25/2011 2:40 PM	Adobe Acrobat D...	482 KB
Мамонов А.М., Методы обследования систем электроснабжения	7/25/2011 2:38 PM	Adobe Acrobat D...	704 KB
Мамонов А.М., Опыт мобильной лаборатории при энергоаудите	7/25/2011 2:45 PM	Adobe Acrobat D...	1,171 KB
Мамонов А.М., Опыт мобильной лаборатории при энергоаудите-2	7/25/2011 2:37 PM	Adobe Acrobat D...	1,167 KB
Мамонов А.М., Программно-методический комплекс энергоаудита	7/25/2011 2:37 PM	Adobe Acrobat D...	1,392 KB
Мурылева О.Н., Обзор "Project Expert"	7/25/2011 2:36 PM	Adobe Acrobat D...	810 KB
Мурылева О.Н., Пример расчета финансовой эффективности проекта	7/25/2011 2:34 PM	Adobe Acrobat D...	725 KB
Мурылева О.Н., Программное обеспечение бизнес-планов проектов	7/25/2011 2:36 PM	Adobe Acrobat D...	456 KB
Мурылева О.Н., Разработка финансовых отчетов	7/25/2011 2:36 PM	Adobe Acrobat D...	654 KB
Мурылева О.Н., Таблица анниuityта	7/25/2011 2:42 PM	Adobe Acrobat D...	288 KB
Севостьянов А.А., Инструментальное обследование котельных установок	7/25/2011 2:44 PM	Adobe Acrobat D...	450 KB
Севостьянов А.А., Приборная база при энергоаудите	7/25/2011 2:43 PM	Adobe Acrobat D...	1,808 KB
Севостьянов А.А., Тепловизионное обследование зданий и сооружений	7/25/2011 2:41 PM	Adobe Acrobat D...	2,395 KB

2. Energy management training (2011)











Name	Date modified	Type	Size
▲ Files Currently on the Disc (4)			
Пособие по энергоаудиту - зарубежный опыт	8/2/2012 8:42 PM	Adobe Acrobat D...	3,838 KB
Все презентации-Окт-2010	7/31/2011 1:21 AM	Adobe Acrobat D...	36,058 KB
Пособие по энергоаудиту и энергоменеджменту	7/28/2011 4:38 PM	Adobe Acrobat D...	5,587 KB
Программа семинара-тренинга	7/21/2011 3:13 PM	Adobe Acrobat D...	104 KB

3. Energy audit training (2013)

Name	Date modified	Type	Size
▲ Files Currently on the Disc (9)			
Краткое_пособие_Энергаудит-зданий	12/16/2013 2:25 PM	Adobe Acrobat D...	608 KB
Презентация_Энергаудит-зарубежный-опыт_Eng	12/16/2013 12:42 ...	Adobe Acrobat D...	917 KB
Презентация_Энергаудит-структура-методы	12/16/2013 12:33 ...	Adobe Acrobat D...	4,154 KB
Презентация_инструмент-ееMeasure_Eng	12/16/2013 12:07 ...	Adobe Acrobat D...	176 KB
Презентация_Международный-протокол-IPMVP_Eng	12/16/2013 12:04 ...	Adobe Acrobat D...	527 KB
Agenda_Training_Audit_2013-Dec-19_Rus	12/16/2013 11:21 ...	Adobe Acrobat D...	81 KB
Galata_Методологические рекомендации_Европейский оп...	12/15/2013 9:25 PM	Adobe Acrobat D...	3,875 KB
Методологические рекомендации_Европейский опыт_ENG	12/15/2013 9:25 PM	Adobe Acrobat D...	3,875 KB
Брошюра_Международный протокол	12/11/2013 11:14 ...	Adobe Acrobat D...	15,997 KB

IV. Reports and articles of the UNDP projects

























1. Energy Efficiency in the state sector

Name	Date modified	Type	Size
▲ Files Currently on the Disc (10)			
 Пособие по энергоаудиту	8/2/2012 8:42 PM	Adobe Acrobat D...	3,838 KB
 Пособие по бизнес-модели	3/28/2012 12:34 AM	Adobe Acrobat D...	2,825 KB
 Отчет_1.4.2	11/25/2011 2:58 PM	Adobe Acrobat D...	266 KB
 Отчет_3.1.1	11/25/2011 2:45 PM	Adobe Acrobat D...	788 KB
 Отчет_2.3.1	11/25/2011 2:44 PM	Adobe Acrobat D...	1,811 KB
 Рекомендации по НПА	10/26/2011 12:39 ...	Adobe Acrobat D...	538 KB
 НПА по стимулированию инвестиций	10/26/2011 12:37 ...	Adobe Acrobat D...	828 KB
 Рекомендации по инвестированию	10/26/2011 12:35 ...	Adobe Acrobat D...	1,629 KB
 Отчет_2.1.3_часть-1	10/26/2011 12:31 ...	Adobe Acrobat D...	865 KB
 Пособие по энергетическому менедж...	7/28/2011 3:38 PM	Adobe Acrobat D...	5,587 KB



























2. Energy Efficiency in the residential sector

1.1. Component 1: Laws – Standards-Recommendations

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.











Name	Date modified	Type	Size
Files Currently on the Disc (50)			
 Technical_Code_Draft-v1	9/15/2014 12:35 PM	Adobe Acrobat D...	318 KB
 Molochko_1-2-3_Results	8/29/2014 3:39 PM	Adobe Acrobat D...	186 KB
 Molochko_1-2-3_Criteria	8/29/2014 3:38 PM	Adobe Acrobat D...	183 KB
 Molochko_1-2-3	8/29/2014 3:18 PM	Adobe Acrobat D...	336 KB
 Molochko_1-2-4	8/27/2014 11:15 AM	Adobe Acrobat D...	345 KB
 Molochko_1-2-6_Manual	8/26/2014 7:15 PM	Adobe Acrobat D...	671 KB
 Отчет_1-1-1_2014	8/20/2014 1:56 PM	Adobe Acrobat D...	327 KB
 Lari_1-6-1_2014_Rus	8/20/2014 11:56 AM	Adobe Acrobat D...	1,389 KB
 Sokolovsky_1-1-1_2014	7/13/2014 7:27 PM	Adobe Acrobat D...	400 KB
 Sokolovsky_1-5-2_2014	7/9/2014 1:29 PM	Adobe Acrobat D...	307 KB
 Schellhardt_1-3-3	5/19/2014 4:04 PM	Adobe Acrobat D...	780 KB
 Schellhardt_1-5-1	4/30/2014 1:22 PM	Adobe Acrobat D...	393 KB
 Schellhardt_1-1-1	4/30/2014 1:12 PM	Adobe Acrobat D...	438 KB
 Schellhardt_1-4-1_1-4-2	4/30/2014 11:52 AM	Adobe Acrobat D...	377 KB
 Molochko_1-2-2_1	4/28/2014 12:12 AM	Adobe Acrobat D...	2,152 KB
 Molochko_1-2-1_4	4/27/2014 11:47 PM	Adobe Acrobat D...	739 KB
 Molochko_1-2-1_3	4/27/2014 11:39 PM	Adobe Acrobat D...	1,038 KB
 Molochko_1-2-2_2	4/27/2014 11:28 PM	Adobe Acrobat D...	880 KB
 Zhidovitch_1-3-3	4/25/2014 3:50 PM	Adobe Acrobat D...	123 KB
 Zhidovitch_1-3-2	4/25/2014 3:45 PM	Adobe Acrobat D...	190 KB
 Naumovets_1-3-3_2	4/25/2014 12:23 PM	Adobe Acrobat D...	140 KB
 Naumovets_1.3.3_1	3/25/2014 12:03 PM	Adobe Acrobat D...	138 KB
 Gritsenko_1-3-3_2	3/24/2014 4:47 PM	Adobe Acrobat D...	267 KB
 Pokotilov_1-4-2	2/18/2014 2:01 AM	Adobe Acrobat D...	758 KB

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

 Danilevsky_1-5-1_2	1/21/2014 5:47 PM	Adobe Acrobat D...	415 KB
 Gritsenko_1-3-3_1	1/3/2014 5:17 PM	Adobe Acrobat D...	279 KB
 Gritsenko_1-3-2	1/3/2014 5:16 PM	Adobe Acrobat D...	268 KB
 Gritsenko_4-9-1	1/3/2014 5:15 PM	Adobe Acrobat D...	226 KB
 Pokotilov_1-3-1_1-3-3	1/3/2014 11:11 AM	Adobe Acrobat D...	1,703 KB
 Galata_1-2-2	12/18/2013 5:50 PM	Adobe Acrobat D...	2,724 KB
 Naumovets_1-3-1_1-3-2	12/16/2013 12:54 ...	Adobe Acrobat D...	347 KB
 Danilevsky_1-4-2	12/15/2013 10:26 ...	Adobe Acrobat D...	506 KB
 Molochko_Методологические рекомендации	12/15/2013 9:19 PM	Adobe Acrobat D...	770 KB
 Molochko_1-2-1_1	12/6/2013 4:00 PM	Adobe Acrobat D...	377 KB
 Molochko_1-2-1_2	12/6/2013 3:59 PM	Adobe Acrobat D...	318 KB
 Molochko_1-1-1	12/6/2013 3:58 PM	Adobe Acrobat D...	209 KB
 Sokolovsky_4-9-1	12/6/2013 3:03 PM	Adobe Acrobat D...	314 KB
 Sokolovsky_1-5-2	12/6/2013 3:03 PM	Adobe Acrobat D...	786 KB
 Zhidovitch_1-3-1	12/6/2013 2:48 PM	Adobe Acrobat D...	347 KB
 Galata_1-2-1_2	12/6/2013 2:45 PM	Adobe Acrobat D...	203 KB
 Galata_1-2-1_1	12/6/2013 2:38 PM	Adobe Acrobat D...	251 KB
 Galata_1-1-1_1-2-1_Rus	12/6/2013 2:37 PM	Adobe Acrobat D...	3,174 KB
 Pilipenko_1-3-2_1-4-2	12/6/2013 2:29 PM	Adobe Acrobat D...	315 KB
 Pilipenko_1-3-1	12/6/2013 2:22 PM	Adobe Acrobat D...	253 KB
 Danilevsky_1-1-1_1	12/6/2013 2:16 PM	Adobe Acrobat D...	707 KB
 Danilevsky_1-3-2	12/6/2013 2:14 PM	Adobe Acrobat D...	321 KB
 Danilevsky_1-1-1_2	12/6/2013 2:13 PM	Adobe Acrobat D...	251 KB
 Danilevsky_1-5-1_1	12/6/2013 2:12 PM	Adobe Acrobat D...	261 KB
 Danilevsky_1-4-1	12/6/2013 2:06 PM	Adobe Acrobat D...	645 KB
 Danilevsky_1-3-3	12/6/2013 2:03 PM	Adobe Acrobat D...	185 KB


























1.2. Component 2: Improving the potential

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Name	Date modified	Type	Size
Files Currently on the Disc (10)			
 Danilevsky_2-1-1	12/6/2013 2:07 PM	Adobe Acrobat D...	156 KB
 Danilevsky_2-1-2	1/3/2014 4:49 PM	Adobe Acrobat D...	199 KB
 Danilevsky_2-2-1	12/6/2013 2:08 PM	Adobe Acrobat D...	149 KB
 Danilevsky_2-2-2	12/30/2013 11:50 ...	Adobe Acrobat D...	209 KB
 Danilevsky_2-3-1	8/27/2014 1:16 PM	Adobe Acrobat D...	464 KB
 Galata_2-1	4/25/2014 4:33 PM	Adobe Acrobat D...	264 KB
 Galata_2-2_1	4/25/2014 4:37 PM	Adobe Acrobat D...	166 KB
 Galata_2-2_2	4/25/2014 4:39 PM	Adobe Acrobat D...	476 KB
 Molochko_2-2-1	8/27/2014 10:33 AM	Adobe Acrobat D...	205 KB
 Schellhardt_2-8-1	4/30/2014 12:57 PM	Adobe Acrobat D...	25,670 KB

1.3. Component 3: Pilot buildings

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Name	Date modified	Type	Size
▲ Files Currently on the Disc (25)			
 Bedunko_3-1-1	9/15/2014 12:14 PM	Adobe Acrobat D...	968 KB
 Bedunko_3-1-4_Grodno	9/16/2014 11:09 AM	Adobe Acrobat D...	170 KB
 Bedunko_3-1-4_Minsk	9/16/2014 11:18 AM	Adobe Acrobat D...	159 KB
 Danilevsky_3-1-1	12/6/2013 2:10 PM	Adobe Acrobat D...	197 KB
 Danilevsky_3-1-2_1	12/6/2013 2:14 PM	Adobe Acrobat D...	1,062 KB
 Danilevsky_3-1-2_2	12/6/2013 2:17 PM	Adobe Acrobat D...	380 KB
 Danilevsky_3-1-3	12/6/2013 2:05 PM	Adobe Acrobat D...	358 KB
 Danilevsky_PM1	1/3/2014 4:52 PM	Adobe Acrobat D...	196 KB
 Jaunzems_3-1-5_1	8/27/2014 11:48 AM	Adobe Acrobat D...	274 KB
 Jaunzems_3-1-5_2	9/15/2014 12:07 PM	Adobe Acrobat D...	349 KB
 Naumovets_3-1-1	4/25/2014 12:36 PM	Adobe Acrobat D...	609 KB
 Pilipenko_3-1-1_3-1-3	4/25/2014 4:09 PM	Adobe Acrobat D...	151 KB
 Pokotilov_3-1-1	1/24/2014 2:53 PM	Adobe Acrobat D...	1,683 KB
 Pokotilov_3-1-2	8/13/2014 2:38 PM	Adobe Acrobat D...	493 KB
 Pokotilov_3-1-2-2	1/9/2014 4:46 PM	Adobe Acrobat D...	170 KB
 Pokotilov_3-1-5	8/13/2014 2:36 PM	Adobe Acrobat D...	1,042 KB
 Pokotilov_3-1-6	8/13/2014 2:37 PM	Adobe Acrobat D...	1,021 KB
 Pokotilov_3-1-7	8/13/2014 2:37 PM	Adobe Acrobat D...	310 KB
 Schellhardt_3-1-5_2014	8/27/2014 11:47 AM	Adobe Acrobat D...	459 KB
 Zhidovitch_3-1-1	1/3/2014 4:45 PM	Adobe Acrobat D...	774 KB
 Zhidovitch_3-1-3_1	2/17/2014 1:06 PM	Adobe Acrobat D...	609 KB
 Zhidovitch_3-1-3_2	4/25/2014 4:02 PM	Adobe Acrobat D...	778 KB
 Zhidovitch_3-3	6/2/2014 4:41 PM	Adobe Acrobat D...	446 KB
 Zhydovitch_3-1-2	8/27/2014 5:59 PM	Adobe Acrobat D...	283 KB
 Zhydovitch_3-1-5_2014	8/20/2014 10:57 AM	Adobe Acrobat D...	1,611 KB

1.4. Component 4: Dissemination of experience

Name	Date modified	Type	Size
Files Currently on the Disc (11)			
Bertosh_CarbonFP_UNDP	8/29/2014 3:13 PM	Adobe Acrobat D...	513 KB
Danilevsky_4-3-1	12/15/2013 2:28 PM	Adobe Acrobat D...	644 KB
Danilevsky_4-9-1	12/6/2013 2:16 PM	Adobe Acrobat D...	304 KB
Inception_Report_4.9.1-4.9.3_v1	8/27/2014 8:05 PM	Adobe Acrobat D...	1,833 KB
Pokotilov_Брошюра_Гелионагреватели	4/16/2014 3:42 PM	Adobe Acrobat D...	7,653 KB
Schellhardt_4-3-1	5/19/2014 4:01 PM	Adobe Acrobat D...	402 KB
Schellhardt_4-9-1	4/30/2014 11:31 AM	Adobe Acrobat D...	1,256 KB
Zhidovitch_Брошюра_ТНУ	4/18/2014 11:38 AM	Adobe Acrobat D...	1,254 KB
Брошюра_Международный протокол	12/11/2013 11:14 ...	Adobe Acrobat D...	15,997 KB
Брошюра_Проектирование-оболочки...	12/26/2013 12:54 ...	Adobe Acrobat D...	6,285 KB
Брошюра_энергоэффективный-жилой...	1/28/2014 2:38 PM	Adobe Acrobat D...	9,212 KB
Files Currently on the Disc (5)			
Проект-ПРООН-ГЭФ_Отчеты-2013-2014_перечень	9/16/2014 11:22 AM	Adobe Acrobat D...	239 KB

V. *Conferences and seminars of the UNDP project*

1. IV International conference 17 October 2013

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Name	Date modified	Type	Size
Files Currently on the Disc (28)			
Schellhardt_Rus	11/19/2013 7:18 PM	Adobe Acrobat D...	2,212 KB
Semashko	11/19/2013 7:00 PM	Adobe Acrobat D...	14,138 KB
Sokolovsky_paper	10/16/2013 2:11 PM	Adobe Acrobat D...	162 KB
Galata_Rus	10/15/2013 4:24 PM	Adobe Acrobat D...	644 KB
Galata_Eng	10/15/2013 4:18 PM	Adobe Acrobat D...	437 KB
Lechner_Eng (2)	10/15/2013 4:17 PM	Adobe Acrobat D...	1,013 KB
Scharnowski_Eng	10/15/2013 4:16 PM	Adobe Acrobat D...	2,788 KB
Schellhardt_Eng	10/15/2013 4:12 PM	Adobe Acrobat D...	1,897 KB
Molochko	10/15/2013 4:09 PM	Adobe Acrobat D...	1,134 KB
Voitekhovitch	10/15/2013 4:07 PM	Adobe Acrobat D...	163 KB
Scharnowski_Rus	10/15/2013 4:06 PM	Adobe Acrobat D...	2,868 KB
Sudilovsky	10/15/2013 4:05 PM	Adobe Acrobat D...	1,522 KB
Lechner_Rus	10/15/2013 4:02 PM	Adobe Acrobat D...	1,076 KB
Galata_paper_Rus	10/15/2013 3:57 PM	Adobe Acrobat D...	544 KB
Terekhov_Danilevski_Pilipenko	10/15/2013 2:43 PM	Adobe Acrobat D...	2,202 KB
Grebenkov	10/15/2013 7:51 AM	Adobe Acrobat D...	2,029 KB
Krushanov_paper	10/14/2013 10:05 ...	Adobe Acrobat D...	205 KB
Sudilovski_Dashkov_paper	10/14/2013 9:32 PM	Adobe Acrobat D...	168 KB
ПРОГРАММА_конференции_17-10-2013	10/10/2013 3:57 PM	Adobe Acrobat D...	122 KB
Gritsenko_paper	10/10/2013 3:54 PM	Adobe Acrobat D...	201 KB
Zhidovitch	10/10/2013 2:28 PM	Adobe Acrobat D...	10,545 KB
Galata_Eng (2)	10/10/2013 11:26 ...	Adobe Acrobat D...	831 KB
Kovalev	10/10/2013 11:24 ...	Adobe Acrobat D...	472 KB
Gritsenko	10/10/2013 11:21 ...	Adobe Acrobat D...	794 KB
Kucheriavy	10/10/2013 11:18 ...	Adobe Acrobat D...	5,888 KB
Semenkevitch_Paper	10/10/2013 11:09 ...	Adobe Acrobat D...	101 KB
Lechner_Eng	10/9/2013 6:57 PM	Adobe Acrobat D...	1,941 KB
Melnikov_Paper	10/1/2013 12:28 PM	Adobe Acrobat D...	467 KB

2. International conference and round table_ 18 December 2013

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Name	Date modified	Type	Size
Files Currently on the Disc (9)			
Danilevsky	9/15/2014 10:57 AM	Adobe Acrobat D...	425 KB
Danilevsky_Методологические рекомендации	12/6/2013 2:13 PM	Adobe Acrobat D...	251 KB
Danilevsky_Рекомендации_Учебные-курсы	12/16/2013 2:42 PM	Adobe Acrobat D...	209 KB
Galata_eeMeasure_Rus	9/15/2014 10:56 AM	Adobe Acrobat D...	252 KB
Galata_IPMVP	9/15/2014 10:54 AM	Adobe Acrobat D...	609 KB
Grebenkov_18-dec-2013	9/15/2014 10:55 AM	Adobe Acrobat D...	1,185 KB
Molochko_Методологические рекомендации	12/15/2013 9:19 PM	Adobe Acrobat D...	770 KB
ПРОГРАММА_конференции_18-12-2013	9/15/2014 10:50 AM	Adobe Acrobat D...	169 KB
Тезисы докладов	8/13/2014 7:16 PM	Adobe Acrobat D...	8,537 KB

3. International seminar_ 22 May 2014

Name	Date modified	Type	Size
Files Currently on the Disc (18)			
01.Колесник	9/15/2014 10:42 AM	Adobe Acrobat D...	2,095 KB
02.Володин,Кунтыш	9/15/2014 10:44 AM	Adobe Acrobat D...	732 KB
03.Гюнтер Паурич	9/15/2014 10:41 AM	Adobe Acrobat D...	1,444 KB
04.Ледницкий, Леонов	9/15/2014 10:43 AM	Adobe Acrobat D...	6,035 KB
05.Левченко	9/15/2014 10:43 AM	Adobe Acrobat D...	173 KB
06.Шаид	9/15/2014 10:45 AM	Adobe Acrobat D...	143 KB
07.Богомолов	9/15/2014 10:46 AM	Adobe Acrobat D...	506 KB
08.Сухоцкий	9/15/2014 10:44 AM	Adobe Acrobat D...	559 KB
09.Тимофеев	9/15/2014 10:46 AM	Adobe Acrobat D...	274 KB
10.Шипуль	9/15/2014 10:44 AM	Adobe Acrobat D...	821 KB
11.Данилевский	9/15/2014 10:46 AM	Adobe Acrobat D...	5,284 KB
12.Молочко	9/15/2014 10:45 AM	Adobe Acrobat D...	2,328 KB
13.Покотилов	9/15/2014 10:40 AM	Adobe Acrobat D...	1,285 KB
14.Васильев	9/15/2014 10:41 AM	Adobe Acrobat D...	2,365 KB
15.Жидович	9/15/2014 10:41 AM	Adobe Acrobat D...	1,103 KB
16.Ходин	9/15/2014 10:39 AM	Adobe Acrobat D...	2,648 KB
17.Измествев	9/15/2014 10:40 AM	Adobe Acrobat D...	1,390 KB
ПРОГРАММА_семинара_22-05-2014	5/8/2014 11:44 AM	Adobe Acrobat D...	218 KB

4. Seminar and round table _ 18 July 2014


















Name	Date modified	Type	Size
▲ Files Currently on the Disc (9)			
1 Гребеньков - Grebenkov_Grodno	9/15/2014 12:57 PM	Adobe Acrobat D...	656 KB
2 Данилевский - ГРОДНО_2_ПОКОЛЕНИЕ	9/15/2014 12:58 PM	Adobe Acrobat D...	5,554 KB
3 Терехов 2014_07_17	9/15/2014 12:58 PM	Adobe Acrobat D...	1,301 KB
4 Цибульников - ПРЕЗЕНТАЦИЯ	9/15/2014 12:57 PM	Adobe Acrobat D...	5,278 KB
5 Соколовский - ГРОДНО	9/15/2014 12:56 PM	Adobe Acrobat D...	696 KB
6.1 Покотилов - Гелио 18 июля 2014г.	9/15/2014 12:58 PM	Adobe Acrobat D...	3,975 KB
6.2 Жидович - Семинар ГРОДНО июль 2014	9/15/2014 12:56 PM	Adobe Acrobat D...	444 KB
Круглый стол	9/15/2014 12:56 PM	Adobe Acrobat D...	274 KB
ПРОГРАММА семинара_Гродно_18-07-2014	7/2/2014 6:00 PM	Adobe Acrobat D...	181 KB

5. Inception seminar _ 28 June 2013

Name	Date modified	Type	Size
▲ Files Currently on the Disc (9)			
Danilevsky	10/10/2013 1:35 PM	Adobe Acrobat D...	4,170 KB
Galata	10/10/2013 1:37 PM	Adobe Acrobat D...	1,442 KB
Grebenkov-1	10/10/2013 1:33 PM	Adobe Acrobat D...	322 KB
Grebenkov-2	10/10/2013 1:34 PM	Adobe Acrobat D...	594 KB
Grebenkov-3	10/10/2013 1:34 PM	Adobe Acrobat D...	288 KB
Molochko	10/10/2013 1:36 PM	Adobe Acrobat D...	1,102 KB
Pilipenko	10/10/2013 1:38 PM	Adobe Acrobat D...	628 KB
Schellhardt	10/10/2013 1:28 PM	Adobe Acrobat D...	2,624 KB
ПРОГРАММА_семинара_28-06-2013	9/15/2014 12:50 PM	Adobe Acrobat D...	156 KB

VI. MTE Desk Review

Mid-term evaluation of the UNDP/GEF project: “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” No. 00077154.

Name	Date modified	Type	Size
▲ Files Currently on the Disc (18)			
 UNDP-GEF-EE-Project_Seminars_List	9/24/2014 11:40 AM	Adobe Acrobat D...	169 KB
 UNDP-GEF-EE-Project_Reports_List_v2	9/23/2014 6:49 PM	Adobe Acrobat D...	240 KB
 UNDP-GEF-EE-Project_Publications_List	9/3/2014 12:43 PM	Adobe Acrobat D...	133 KB
 Project_Consultants_2014_data	8/31/2014 5:53 PM	Adobe Acrobat D...	200 KB
 UNDP-GEF-EE-Project_Meetings_List	8/29/2014 5:29 PM	Adobe Acrobat D...	161 KB
 77154_ADWP-2013_Eng-Rus	8/23/2014 10:51 PM	Microsoft Excel 97...	214 KB
 4290_Logs_15-07-2014	8/23/2014 10:42 PM	Adobe Acrobat D...	72 KB
 4290_PIR_Report_2014	8/23/2014 10:21 PM	Adobe Acrobat D...	952 KB
 4290_Inception_Report	8/23/2014 9:00 PM	Adobe Acrobat D...	2,234 KB
 MinEcon_Report_Jan-June_2014	7/15/2014 4:31 PM	Microsoft Word 9...	103 KB
 Заключение с подписями	6/13/2014 4:04 PM	Adobe Acrobat D...	1,074 KB
 77154_ADWP-2014_Eng-Rus	5/11/2014 4:00 PM	Microsoft Excel 97...	286 KB
 77154_APR-2013_Eng	2/10/2014 6:46 PM	Microsoft Excel 97...	156 KB
 MinEcon_Report_July-Dec-2013	1/8/2014 5:59 PM	Microsoft Word 9...	102 KB
 MinEcon_Report_Jan-June_2013	7/17/2013 2:00 PM	Microsoft Word 9...	87 KB
 MinEcon_Report_July-Dec_2012	1/14/2013 4:34 AM	Microsoft Word 9...	88 KB
 4290_ProDoc_Eng	1/4/2013 7:10 PM	Adobe Acrobat D...	1,467 KB