

# FINAL EVALUATION REPORT

Final Evaluation of the UNDP/GEF Project:  
Removing Barriers to Energy Efficiency  
Improvements in the State Sector in Belarus.

UNDP project: Energy Efficiency № 50819



# Как сэкономить 1000 кВт·ч в год?

## ПРОСТЫЕ СОВЕТЫ ДЛЯ БЕРЕЖЛИВОЙ СЕМЬИ

**СОВЕТ 1**

Замените обычные лампочки на энерго-сберегающие!

Вы сэкономите около **800 кВт·ч/год** (200 000 рублей!)

при замене 10 лампочек

Энерго-сберегающая лампочка служит в 10 раз дольше обычной!

Обычная лампочка накаливания

Энергосберегающая лампочка (компактная люминесцентная лампа)

Мощность, Вт	Потребление электроэнергии, кВт·ч/год*	Стоимость электроэнергии, кВт·ч/год**	Экономия в год, кВт·ч/год	Годовая экономия, руб.
40	9	80	18	19 080
60	11	120	22	28 620
100	20	200	40	47 700
150	30	300	60	71 550

\*При работе лампочки 6 часов в сутки.  
\*\*При стоимости 1 кВт·ч электроэнергии 238,5 рублей.

А сколько лампочек в Вашей квартире? Посчитайте свою экономию!

**800 кВт·ч**

**СОВЕТ 2**

Выключайте бытовые приборы из сети!\*

Вы сэкономите около **200 кВт·ч/год** (50 000 рублей!)

Например, телевизор с пультом ДУ работает кругло-суточно, ожидая сигнала на включение, а это минус 25 кВт·ч/год на Вашего бюджета, или 6 000 рублей.

Годовая экономия семейного бюджета

Устройство в режиме ожидания, кВт·ч/год, рублей

Устройство	Потребление, кВт·ч/год	Стоимость, руб.
Персональный компьютер	50	12 000
DVD-проигрыватель	40	10 000
Телевизор	25	6 000
Микроволновая печь с таймером	25	6 000
Духовой шкаф с таймером	25	6 000
Зарядное устройство	20	5 000
Капюшон	15	4 000
ИТОГО	200	~ 50 000

\*Усредненное значение

Теперь вы будете выключать устройства из сети? Посчитайте свою экономию!

**+200 кВт·ч**

**СОВЕТ 3**

Погасите технику с низким классом энерго-потребления: А или В

Хотите сэкономить еще больше?

Низкий расход электроэнергии

Высокий расход электроэнергии

Устройство	Потребление, кВт·ч/год
Электрочайник	400
Морозильник	250
Холодильник	235
Стиральная машина	195
Телевизор	145

\*Усредненное значение

Экономьте энергию – и сэкономьте **1000 кВт·ч в год** (250 000 рублей!)

**1000 кВт·ч**



\*Бытовые приборы потребляют электроэнергию даже в режиме ожидания!

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## 1. Executive summary

### *Section 1.01 Brief description of project*

The project document for “Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus” (herein referred to as the Project) was signed in December 2006. The Project commenced operations in January 2007 with the Inception Mission and workshop. The Objective of the project was to increase the Influx of internal investment in energy efficiency projects in the state sector as the result of the project’s implementation. In order to reach this Objective 3 Outcomes were defined:

- a. Outcome 1. Increased incentives for state organizations to invest in energy efficiency
- b. Outcome 2. Financial resources made available by the state sector for energy efficiency investment are used more efficiently
- c. Outcome 3. Project successes sustained and replicated throughout Belarus

This report contains the main findings of the Final Evaluation that was carried out of the project along the UNDP guidelines for outcome evaluation methodologies as provided in the UNDP Handbook on Monitoring and Evaluation for Results.

For the purposes of this report, the Project is divided into two Phases. Phase I (2007 – mid 2010) where the project achieved very little results, and Phase II (mid-2010 to end 2012) where the project made significant progress and achieved several key results. Three key factors in the project making significant progress during its second phase were the:

1. Revision of the Prodoc and the Logframe to eliminate inconsistencies;
2. Revision of the Prodoc and the Logframe to bring them in line with the changed circumstances in Belarus;
3. Change of Project Manager.

Phase	Project Manager	Period (month/year)
1	Sergei Prokazov	January 2007 – January 2010
2	Alexandre Grebenkov	June 2010 – December 2011

### ***Section 1.02 Context and purpose of the evaluation***

The project “REMOVING BARRIERS TO ENERGY EFFICIENCY IMPROVEMENTS IN THE STATE SECTOR IN BELARUS” was completed in December 2011 and the overall results upon its completion require evaluation.

Upon the Mid-Term Project Evaluation of the project in August 2009 it became clear that during the course of the project’s implementation, deviations from its budget, planning and delivery of results occurred, that outcome 1 was not going to be able to be achieved and that the Project Team needed new ideas and direction to ensure a successful outcome for the project.

During the 2<sup>nd</sup> quarter of 2010 a Report was commissioned for the Evaluation of the UNDP/GEF Project: “Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus” and for providing Suggestions for Continuation of the Project (delivered in June 2010). In essence, this was like a second mid-term evaluation building on the findings of the first mid-term evaluation which were not properly implemented.

The evaluation reports suggested a substantive revision of the Project Document and Logframe in order to reflect the abovementioned shortcomings and remedy the project performance. This meant that some outputs and respective targets were improved and the management of the Project was changed.

Moreover, as sufficient time was needed to successfully complete the implementation of all outstanding project tasks the revised Project Plan and new Project Logframe foresaw the extension of the UNDP/GEF Project until December 31, 2011 without changes in the budget. All revised outputs and budget deliverables were expected to be finalized by that time.

#### **(a) Scope**

The evaluation will be done against the revised project plan that was adopted on the basis of the Substantive Revision of the project: “Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus #00050819 – dated 22 September 2010.

#### **(b) Purpose**

The evaluation is being conducted to provide a comprehensive and systematic appraisal of the performance of the completed project by assessing its 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 implementation which resulted from previous project evaluations.

### ***Section 1.03 Main conclusions, recommendations and lessons learned***

#### **(a) Main conclusions**

Considering the Objective of the project to increase the influx of internal investment in energy efficiency projects in the state sector as the result of the project's implementation one can in general say that the project was Satisfactory. If one looks at the three outcomes that were defined then none of the three outcomes have been fully realized.

- a. Outcome 1. Increased incentives for state organizations to invest in energy efficiency
- b. Outcome 2. Financial resources made available by the state sector for energy efficiency investment are used more efficiently
- c. Outcome 3. Project successes sustained and replicated throughout Belarus

If one looks at the project from a practical point of view and one would define the primary objective as: the increase in internal investments in EE projects in the state sector then one can observe that the project contributed in a meaningful way to this objective.

During its second phase, the project seriously addressed the legal and regulatory barriers to increased incentives for state organizations and other internal investors to invest in EE of the state sector. A number of the regulatory documents were drafted by the project and six of these documents were adopted by the government (for reference to these and other documents see: paragraphs 3.0.7 and 7.0.6 and 7.0.9). However, the project was not capable of reducing or eliminating these barriers because of legislative and economic reasons outside of the project's control such as adverse economic conditions (high inflation) and changing government priorities.

During both phases of the project, the project was instrumental in attracting and leveraging loan funds for several EE projects in Belarus' state sector and can show a good track record in this area. For the four pilot sites established during Phase I a total amount 15.652.800 USD was invested (based upon information provided by A. Grebenkov).

For the fifteen new investment projects elaborated by the Project during Phase II a total amount of 46.296.900 USD has been invested. Out of the latter amount, a total of 7.353.000 USD has been used already by the project owners for purchasing and mounting the installations while (for reference to the exact figures please see paragraph 3.0.7 and 7.0.4).

With support from the project, the International Energy Centre was established as a CJSC on September 6, 2010 as a self-supporting consulting and/or engineering institution and the project contributed to defining its business development strategy. The Project in cooperation with the IEC created a pipeline of EE projects for implementation after project closure. This new EE Investment Program for the EE Department includes, as of Oct 15 2011, at least 25 sites. About USD 120 million of loans to be allocated to this Program have been committed by one of the IEC's shareholders, Belvneshekonombank. The amount of 120 MUSD is the investment committed but not attributed/disbursed to concrete projects). The remaining loan commitment from other potential investors amounts to 17.630.000 USD.

Thus, 137.6 MUSD committed (including 120 MUSD by IEC's shareholders), out of which 46.3 MUSD invested in concrete projects, out of which 7.4 MUSD already utilized. As of Jan 1, 2012.

The IEC at this moment is an instrument between bank financing on one hand and large project holders on the other hand. At the moment bank financing will dry up or cease then special attention should be paid to guaranteeing its long term sustainability. At this moment the IEC is a commercial, profit driven enterprise not so different from a number of similar companies operating in the Belarus market. The Project has thus aided in establishing another commercial enterprise that has no special social and public function. The International Energy Centre (IEC) is an instrument to be used for (i) benchmarking typical cycles for EE projects and EE investments; (ii) sharing knowledge and experience with Project's stakeholders; (iii) providing learning-by-doing; (iv) testing new EE investment schemes, e.g. through SPAs; (v) assisting in developing EE investment project pipeline; (vi) raising actual investments.

According to the interviews with the IEC (a review of the IEC's activities was not included in this assignment) and A. Grebenkov the IEC is a for-profit engineering and consulting company, experienced in development, investment, performing and monitoring energy efficiency projects. Today the IEC earns its fees mainly from owning and operating power installations. It is paid by its clients to whom the IEC sales electricity, heat, energy savings, and provides services. So far, in order to implement large energy efficiency projects (e.g., mini-CHP), the IEC uses mainly the following simple scheme: loan or long lease financing using its shareholder's resources, build, own and operate under undisclosed or simple partnership agreements with its client. Quite similar to the ESCO-model for Belarusian conditions.

List of support measures and contributions from the Project's end is as follows (efforts of the Project staff members are not included<sup>1</sup>):

Who contributed	Support measures	Amount paid, in kUSD
International consultant	Market Appraisal of Services in the Field of Energy Efficiency in Belarus / TAWI Corp., May, 2008, - 71 pgs.	23.00
International consultant	Business Plan of Energy Center / TAWI Corp., November, 2008, - 65 pgs.	27.15
Professional legal services	Negotiation with shareholders. Preparation of the IEC Charter. Preparation of the Provisions for Board of Directors. Draft of a sample of Investment Agreements. Drafts of a sample of Simple Partnership Agreements. Draft of a sample of Cooperation Agreements. Other legal consulting.	2.02

Capacity building through trainings, seminars and presentations at conferences has received ample attention during Phase II of the project. The project can boast good results in this area during Phase II. For sustainability of the capacity actually built much will depend of the EED's further activities and on the question whether the NEEP will be established or not.

The project over-performed in PR and public awareness related activities (this also pertains to the period of the extension of the project) and it was clearly a good idea of the project to hire a PR manager. Special attention should be paid to keeping the information developed and accumulated during the project updated and accessible to a wide audience. As part of this process, the Project Manager is preparing a Lessons Learned report to showcase the lessons learned by this project.

Project management and PMU team performance left much to be desired during Phase I of the project under the leadership of the initial Project Manager and in the period where the Project

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<sup>1</sup> - e.g., the report concerning strategy and action plan for further expansion of the IEC as a self-sustained company: Среднесрочная стратегия и план действий СЗАО «Международный энергетический центр» с дополнительными направлениями его деятельности для обеспечения перехода на самофинансирование после завершения Проекта / Проект ПРООН/ГЭФ № 00050819 «Устранение препятствий в повышении энергетической эффективности предприятий государственного сектора Беларуси» // Минск, апр. 2011. – 53 стр.

Manager position was vacant but after June 2010, under the new project manager the PMU in its entirety appears to have functioned in an exemplary manner.

The only area where the project could and should have done better is in the establishment of the NEEP internet platform. The NEEP should have been crucial in securing the sustainability of the projects activities. There are virtually no results achieved related to the NEEP and one can only hope that the budget spent on activities related to the NEEP will prove not to have been spent in vain.

The project has met its targets in the area of GHG emission reductions as the calculations made by the PMU have shown. Four industrial organizations of the State sector are partners of the Project were the Project initiated, grounded, raised and adopted investments of \$15.36 million USD. Monitoring of EE investment projects implemented in these organizations is being conducted on a regular basis. The cumulative GHG emission reductions, resulted from operation of these pilot sites since their commissioning, are approx. 74.84 thousand tons of CO<sub>2</sub>eq. During the reporting period (June 30, 2010 through June 30, 2011), GHG emission reduction achieved at each of pilot sites are as follows:

**“Keramika” JSC** (Vitebsk): installation of 2.8 MW power plant with gas reciprocating engine, commissioned on July 12, 2008 - 4,600 tons; installation of variable frequency blow fans, commissioned on February 2, 2008 - 334 tons; replacement of liquid-packed ring vacuum pumps with oil pumps, commissioned on January 15, 2008 – 369 tons; installation of automated burners in furnaces, commissioned on May 10, 2009 – 509 tons;

**“KrasnoselskStroymaterialy” JSC**: conversion of the boiler house to mini-CHP plant with installed power generation capacity of 4.86 MW, commissioned on March 1, 2009 - 9,056 tons;

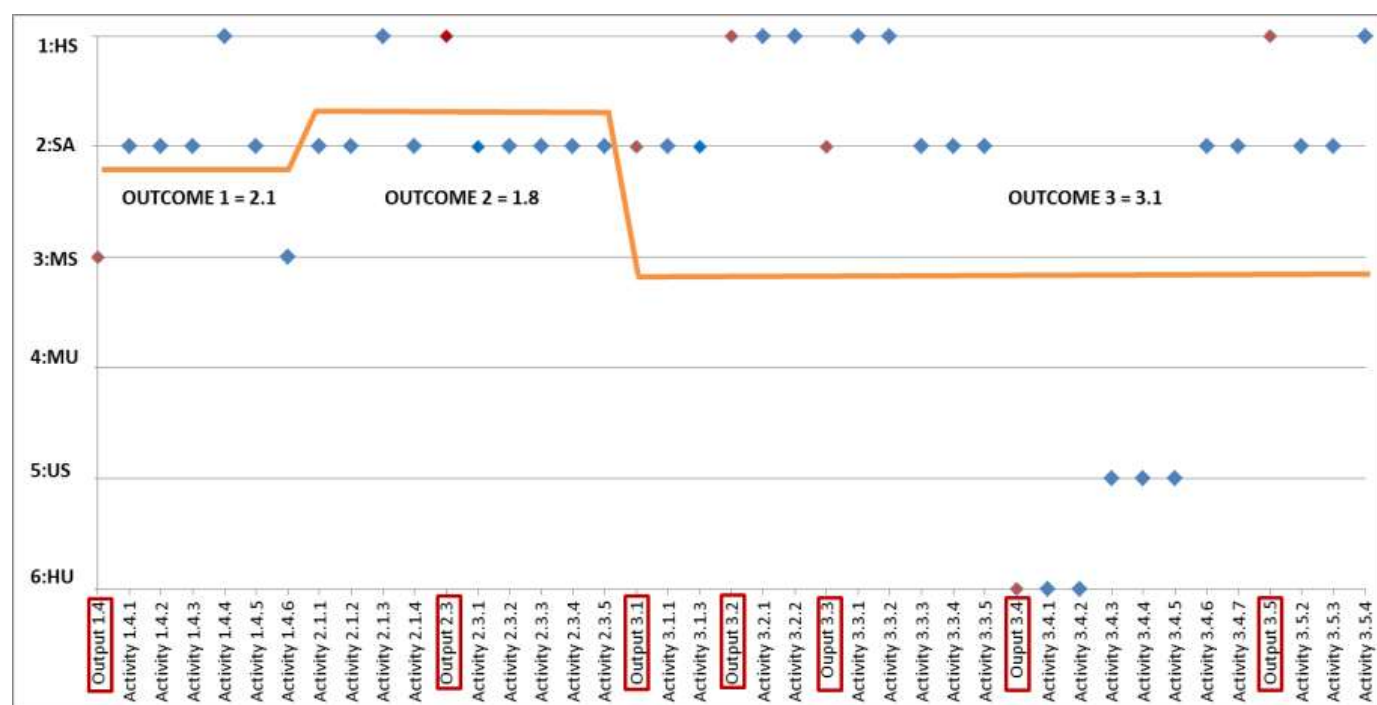
**Ivatesevichi Town Utility**: replacement of pumps at the boiler house and the water supply point and installation of variable frequency drives at the water supply point, commissioned by April 30, 2008, installation of temperature regulators for hot water supply at the boiler house and central heat supply station, commissioned by April 30, 2008, use of gas analyzer at boiler house to optimize combustion, commissioned by April 30, 2008 - 340 tons;

**“BeriozaStroymaterialy” JSC**: installation of one 1.0 MW gas reciprocating engine for power generation, commissioned on August 1, 2008 - 2,236 tons; isolation of the furnace and installation of energy efficient furnace burners, commissioned on July 15, 2008 - 0 tons (the furnace was decommissioned and removed since Aug 25, 2010).

Expected lifecycle (15 years since Jan 2011) emission reductions from the above investments are estimated at around 374,100 tons of CO<sub>2</sub>e.

John O'Brien asked about the results of Outcome 2.2. As Outcome 2.2 was removed from the project extension it was not part of this evaluation. Nevertheless, Alexander Grebenkov stated the following concerning Outcome 2.2:

<p><b>Output 2.2. Increase the portion of loans compared to grants, offered by the state for energy efficiency</b></p>	<p>Activities have already been implemented and targets have already been accomplished. There are a couple of governmental (departmental) resolutions the Project initiated to this end (The whole list of different initiatives for legal and institutional arrangements proposed by the Project is included in this report). The 4th National Energy Saving Programme 2011-2015, which has been already adopted by Government, has incorporated a number of the initiatives developed under Outcome 2.2.</p>
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These negative factors bring down the overall project evaluation to Satisfactory only despite the great results the project has generated.

Highly Satisfactory	<b>SATISFACTORY</b>	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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## **(b) Recommendations**

1. Project design should be based on a recent and fresh analysis of the needs of the actual and current barriers and opportunities in EE in Belarus through consultations with state officials, bankers, financiers, EE specialists, lawyers.
1. Several market players have voiced their concern that the IEC (a private company) was established with public funds. One should be careful that the UNDP's projects do not create these concerns among commercial companies that did not have the benefit of the UNDP's support.
2. In future cases during the conception of the project design the terminology used in the Logframe should be defined more accurately. Inconsistencies in used terminology create problems and confusion during the project execution.
3. The economic and legal environment in countries like Belarus change continuously. Designing projects with a running length of 4 years makes it very difficult to foresee all the risks and changes that may arise. Therefore adaptive management should take place on a continual basis throughout the project, not only just after the mid-term evaluation. In this project, much time was lost while the project waited for the mid-term evaluation before any changes to the project strategy or project team were made.
4. The Logframe should define clear targets for outputs and outcomes. Open ended or vague targets should be avoided.
5. Upon commencement of the project it is advisable that the project manager and responsible person from the UNDP country office discuss, agree on the meaning of the project's Objective and the Outcomes. Monitoring needs to be ongoing and consistent.
6. Resulting from the discussion of the project's Objectives and Outcomes the project manager and the UNDP country office should adjust the outputs and activities where necessary.
7. Special care should be taken by the project manager and responsible person from the UNDP country office that the work plans are harmonized with the Logframe. The Logframe should be modified, as required, as early as the Project Inception workshop.
8. Monitoring and evaluation of the project results during the project should focus more at real on and quantitative results instead of solely focusing at whether the formal administrative requirements are met. This will allow for more stringent measurement and control of project outputs.

9. It should be made sure that the members of the Project Steering Committee are actually interested in the project and see themselves as stakeholders of the project. There should also be a fixed schedule for obligatory stakeholder meetings as one stakeholder meeting per year is not frequent enough to guarantee strong stakeholder involvement.

### **(c) Dissemination**

Continue dissemination of generic business/revenue models for EE projects in Belarus including:

1. Financial models
2. Technical descriptions
3. Contractual frameworks
4. Typical project cycles for EE projects
5. Best practices in EE audits

The NEEP (if and/or once established) and the EED should/could play crucial roles in the continuing dissemination of the project results. It would be recommendable to engage in a discussion with the stakeholders to find a solution for continued dissemination. If the status quo will be left as it is, then the dissemination of the project result as well the effect of this dissemination will be negligible.

### **(d) NEEP**

The NEEP (National EE Platform) does not exist yet. The initial idea was that the National Energy Efficiency Platform engages in:

1. Increasing public awareness about EE in Belarus
2. Collecting and providing information about EE in Belarus
3. Providing Training on EE related issues in Belarus
4. Providing a national and international networking platform
5. Lobbying EE stakeholder interests
6. Transfer state of the art EE know how and methodologies
7. Inform about EE equipment
8. Supporting Belarus ESCOs and EE organizations in EE audits
9. Mobilize EE financing by providing information to State Sector organizations on financing options. Example of internet platform is <http://www.buildup.eu/home>.
10. Creating a web-based platform where technology, finance, legislation, projects and stakeholders come together

11. Attracting members for an annual membership fee to ensure sustainability beyond the life of the project.

In spite of the resources spent on the NEEP establishment there is no final result yet.

In total, 107.000 USD was spent on acquisition and installation of hardware and software, designing the user interface and on the salary of the Project IT Expert.

There is a functional Beta version although it should be debugged, tested after moving the NEEP to new premises.

At the time of writing of this report the Project Manager was in the process of writing a strategy plan for the continuation of the establishment of the NEEP. One of the ideas is to transfer the NEEP to an EC funded project.

Some indication of the strategy for continuation of the NEEP is written down in the: Minutes of the bilateral meeting concerning the issue of handing over the equipment and software of the National Energy Efficiency Platform established within the framework of the UNDP/GEF Project “Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus”, Minsk, March 2, 2011, signed by UNDP and Energy Efficiency Department.

### **(e) IEC**

To increase the sustainability of the International Energy Center, one could consider developing the IEC’s activities beyond the gas-fired power generation projects it has been mainly involved in. The IEC could also build capacity in EE in the built environment, EE appliances and labeling, EE motors, EE lighting systems for industries and public facilities, and other EE activities that are economically feasible with short payback periods. One concrete example concerns EE in supermarkets where with relatively simple technology with less than 2-year payback periods you can easily save between 15% and 30% of consumed electricity. As the IEC is a commercial legal entity, independent of the UNDP or EED, it has no reason, nor obligation to follow any suggestions made by UNDP or EED.

At this moment the IEC is a commercial, profit driven enterprise not so different from a number of similar companies operating in the Belarus market. The Project has thus aided in establishing another commercial enterprise that has no special social and public function. However, the

distinction between the IEC and its competitors is that the IEC was established with the help of public funds as opposed to pure economic enterprise and risk.

The original logframe referred to the IEC in the following terms:

<b>Output 3.1. Create an Energy Centre to provide on-going support to state organizations for realizing more energy efficiency investments</b>
Activity 3.1.1. Developing a mid-term strategy and action plan for the Energy Centre with additional directions of its activity in order to ensure a smooth transition to financial self-sufficiency after project closure.
Activity 3.1.3. Setting up contacts between the Energy Centre and energy saving institutions and similar organizations (energy centers, ESCOs) in Belarus, the EU and CIS states.

This clearly implies that the IEC (or Energy Centre) was envisaged to provide ongoing support to state organization and to develop itself as an energy saving institution (or energy center, ESCO) in Belarus, the EU and the CIS. This implication goes well beyond the establishment of just another commercial ESCO.

This raises three questions:

1. To what extent is it justified that public funds are benefiting one specific company in comparison with its peers in the market?
2. Is the final form of the IEC in conformity with the spirit of the original logframe?
3. Why was a social and public function of the IEC not envisaged (as this would have justified receiving the benefits of public funding)?

#### **(f) Lessons learned**

1. It is absolutely critical to hire a dynamic, experienced Project Manager with the right skills and experience (Phase II results were much better than Phase I)
2. Agree before hand on the frequency, form and channels for dissemination of the intermediate and final project results.
3. For increased relevance have regular and meaningful stakeholder consultations.
4. When projects include the establishment of electronic and / or media platforms then these outputs should be planned in the beginning and not in the end of the project.
5. Procurement procedures for national and international specialists should be in conformity with current market conditions so that the required quality can be attracted and recruited.
6. In this project substantial delays were incurred as a result of the offices that were chosen (lack of telephone and internet connections). Co-locating new projects in the offices where

Executing Agencies (i.e. EED in the case of this project) or existing UNDP projects are located will increase effectiveness and budget efficiency.

7. Increased involvement of international experts, from the outset of the project, who bring state of the art know how, international best practices, approaches and methodologies to the project in an early stage of the project will increase the effectiveness of the project. This also concerns international study tours and fact finding trips.
8. When project outcomes include the establishment of commercial organizations, special attention should be given to maintain a level playing field. Several Belarus commercial companies, identical in nature and activities to the IEC, have complained to the project manager (Phase II) about the UNDPs exclusive assistance to the IEC. These sensitivities are something that should be taken into account in future projects.
9. Press and media monitoring should be an integral part of the project.
10. Project website should be established in an early stage of the project and be updated on a regular basis.

An extended Lessons Learnt Report will be made in Jan-Feb 2012. An international consultant from the UNDP Expert Roster will be hired.

## 2. Introduction

This report contains the findings of the Final Evaluation conducted during the months of October and November 2011 for the project “Removing Barriers to Energy Efficiency Improvements for the State Sector in Belarus” (herein referred to as the “Project”) implemented by the United Nations Development Program (UNDP), PIMS 2426 and with financing support from the Global Environment Facility (GEF). The Project Document (Prodoc) provides details on the progress of removing key barriers to energy efficiency improvements for state sector assets in Belarus. Project activities include:

- Increasing incentives for state sector organizations to invest in energy efficiency;
- Improving the efficiency of fund utilization from and by the state sector for energy efficiency improvements; and
- Ensuring energy efficiency project successes in Belarus are sustained and replicated.

### *Section 2.01 Project background*

Following the economic recession in the early 1990s, the Government of the Republic of Belarus implemented far reaching measures to reduce the country’s energy intensity. In spite of these measures the level of energy efficiency in Belarus is still lower than in other industrialized countries with a similar climate. The state sector in Belarus represents 68% of the country's total energy and fuel consumption. That is why the Government needed to investigate new policy measures in order to increase energy efficiency in the state sector, including effective financing mechanisms.

There are a number of barriers that block incentives for investment in energy efficiency in the State sector. Consequently, the Project Document had as a primary Project objective to increase internal investments in energy efficiency projects in the state sector through targeted assistance in the areas of application of energy norms to energy planning, introduction of staff incentives and settlement accounts for accruing energy savings, improving audit standards, increasing share of loan funds compared to grants in energy efficiency financing. In the Project Document it was envisaged that this goal would be achieved by (i) addressing the legal and regulatory barriers in

order to provide incentives for state organizations and other internal investors to invest in energy efficiency in the state sector, (ii) attracting and leveraging loan funds for several energy efficiency projects in Belarus' state sector, and (iii) establishing an Energy Centre as a self-supporting consulting/engineering institution and securing its capitalization in order to provide sustainability and replication of the results of the Project.

It was supposed that the Project if fully implemented will attract several stakeholders and partners for developing a state sector energy efficiency investment program and catalyzing investments in this sector of no less than USD 8 million from different sources including USD 2.9 million from the Energy Efficiency Department. The investment program should result in a reduction and offset of fossil fuel consumption in Belarus by the state sector that in turn will lead to a reduction of GHG emission of 350 thousand tons of CO<sub>2</sub>eq during 15 years. In addition, the Project should create a pipeline of energy efficiency investments for implementation after the project's closure with at least USD 10 million committed by investors.

The project was implemented by UNDP/GEF. The Project Document was signed and the project was registered and launched in Dec 20, 2006. The inception mission and the inception workshop kicked off the project's activities in Jan 2007. In the course of inception stage of the Project, 4 state-owned organizations (hereinafter referred to as target organizations) were initially selected for and then were committed to being the project's partners. These organizations participate in the project's activities as pilot sites where a set of pilot energy efficiency measures (a pilot EE Investment Program) were to be implemented.

### **(a) Original Project Activities**

As per the adopted Project Document it was initially supposed that the Project would be conducted in line with the following Outcomes and Outputs:

Outcome 1: Increased incentives for state organizations to invest in energy efficiency

*Output 1.1: Budget organizations use energy norms in estimating their annual budget*

*Output 1.2: Budget organizations deposit their energy savings into settlement accounts*

*Output 1.3: Budget organizations issue incentives to staff responsible for increasing their investments in energy efficiency*

Outcome 2: Financial resources made available by the state sector for energy efficiency investment are used more efficiently

*Output 2.1: Build the capacity of state organizations to audit and identify cost effective energy efficiency investments*

*Output 2.2: Increase the portion of loans compared to grants, offered by the state for energy efficiency*

*Output 2.3: Build the capacity of state organization to secure credit (as opposed to grants) for energy efficiency investment*

*Output 2.4: USD 8 million in energy efficiency project investments secured*

Outcome 3: Project successes sustained and replicated throughout Belarus

*Output 3.1: Create an Energy Centre to provide on-going support to state organizations for realizing more energy efficiency investments*

*Output 3.2: Create a pipeline of energy efficiency investments for implementation after project closure*

*Output 3.3: Expand the number of budget organizations using energy norms for annual budgeting, settlement account for energy savings, and providing incentives to staff for expanding the level of investment in energy efficiency*

*Output 3.4: Project Management and Monitoring*

### **(b) Project Intervention of 2010**

After the Mid-Term Project Evaluation Report (MTE) of August 2009 it became clear that during the course of the project's implementation, deviations from its budget, planning and delivery of results occurred. During the 2<sup>nd</sup> quarter of 2010 a Report was commissioned for the Evaluation of the UNDP/GEF Project: "Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus" and for providing Suggestions for Continuation of the Project (delivered in June 2010).

By the end of 2009 the following results had been achieved:

1. 11 million \$ had been attracted in loans from banks and 4.13 million \$ has been invested from the companies' own capital" (in accordance to PIR-2009). Later additional own capital was invested of about 0.4 million \$ (see the table in Annex 7.0.4), so that the total

- equity invested was approx 4.5 million \$ during phase 1. No money had yet been invested by the State as result of the project.
2. 4 concrete EE projects were financed and implemented and a project pipeline with 11 potential energy-efficiency investment projects in the State Sector had been developed.
  3. Consultations about various legislative issues had been provided to regional and federal authorities and organizations about:
    - a. Settlement accounts;
    - b. Staff Incentives;
    - c. Possibilities to increase the share of loans in state financing of EE projects.
  4. Some training sessions had been held.
  5. The Energy Centre was close to being established with support from the project. Its majority shareholder Belvnesheconombank was identified.
  6. An internet site had been established and a concept for a more extensive internet platform had been developed

The latter report (June 2010) identified the following main shortcomings:

1. Management and oversight from the side of PMU and UNDP could have been better.
2. PR and dissemination of the project and project results have received insufficient attention.
3. Project design is not good enough.
4. Project execution has not taken into account the changing circumstances in Belarus.
5. Insufficient involvement of International experts.
6. The inconsistencies and differences in the yearly work plans year on year and the lack of harmonization with the logframe are neither conducive to effective management, nor to effective measurement and verification of project results.

A revision was proposed according to the following lines:

Final Evaluation of the UNDP/GEF Project: Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus. № 50819

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Project Outcome	Recommendation: Build on the concrete results and successes of the project up to date by enforcing the three project Outcomes through the following activities:↓
1. Increased incentives for state organizations to invest in energy efficiency	<ul style="list-style-type: none"> <li>a. PMU to investigate the discrepancies between the practice of SPAs on one hand and the reality of tax and accounting regulations and their enforcement on the other hand.</li> <li>b. PMU to write a manual on how to best use SPAs for EE projects.</li> <li>c. PMU to disseminate knowledge about SPAs within the EE community in Belarus.</li> <li>d. Establishment of web based energy balance analysis tool helping the Belarus government to better analyze the Belarus energy balance and better focus regulatory and technical interventions and optimize budget spending.</li> </ul>
2. Financial resources made available by the state sector for energy efficiency investment are used more efficiently	<ul style="list-style-type: none"> <li>a. Mobilizing co-financing from banks and other investors</li> <li>b. Create generic business/revenue models for EE projects in Belarus including: <ul style="list-style-type: none"> <li>1. Financial models</li> <li>2. Technical descriptions</li> <li>3. Contractual frameworks</li> <li>4. Typical project cycles for EE projects</li> <li>5. Best practices in EE audits</li> </ul> </li> </ul>
3. Project successes sustained and replicated throughout Belarus	<ul style="list-style-type: none"> <li>a. Creation of the National Energy Efficiency Platform active in: <ul style="list-style-type: none"> <li>a. Increasing public awareness about EE in Belarus</li> <li>b. Collecting and providing information about EE in Belarus</li> <li>c. Providing Training on EE related issues in Belarus</li> <li>d. Providing a national and international networking platform</li> <li>e. Lobbying EE stakeholder interests</li> <li>f. Transfer state of the art EE know how and methodologies</li> <li>g. Inform about EE equipment</li> <li>h. Supporting Belarus ESCOs and EE organizations in EE audits</li> <li>i. Mobilize EE financing by providing information to State Sector organizations on financing options. Example of internet platform is <a href="http://www.buildup.eu/home">http://www.buildup.eu/home</a>.</li> <li>j. Creating a web-based platform where technology, finance, legislation, projects and stakeholders come together</li> <li>k. Attracting members for an annual membership fee to ensure sustainability beyond the life of the project</li> <li>l. Coordinate and integrate EE Platform with new UNDP GEF EE Residential Buildings project</li> </ul> </li> <li>b. Establishment the independent, financially sustainable Energy Center existing under the auspices of the Energy Efficiency Department</li> </ul>

The evaluation report further suggested a substantive revision of the Project Document and Logframe in order to reflect the abovementioned shortcomings and remedy the project performance. This meant that some outputs and respective targets were improved and the management of the Project was changed.

Moreover, as sufficient time was needed to successfully complete the implementation of all outstanding project tasks the revised Project Plan and new Project Logframe foresaw the no-cost extension of the UNDP/GEF Project until December 31, 2011. All revised outputs and budget deliverables were expected to be finalized by that time.

The outputs removed from the revised Logframe are as follows:

<b>Output 1.1. Budget organizations use energy norms in estimating their annual budget</b>	The expected output and targets are outdated. All state organizations already use energy norms to estimate their annual energy budget. All necessary methodologies to evaluate and fix energy norms are already standardized, published and made widely available.
<b>Output 1.2. Budget organizations deposit their energy savings into settlement accounts</b>	Otherwise, a revision of the State Budget Code is required that is beyond the Project's scope and capability. In order to increase incentives in the state sector for EE measures, a framework based on simple partnership agreements (SPA) has been proposed by the Project (see Output 1.4 in the revised LogFrame below).
<b>Output 1.3. Budget organizations issue incentives to staff responsible for increasing their investments in energy efficiency</b>	In the state sector, neither bonuses nor other monetary-based stimulus for EE investments using savings from EE measures can be established under existing legislation.
<b>Output 2.2. Increase the portion of loans compared to grants, offered by the state for energy efficiency</b>	Activities have already been implemented and targets have already been accomplished.
<b>Output 2.4. USD 8 million in new cost effective energy efficiency investments secured</b>	Activities have already been implemented and targets have already been accomplished.

### **(c) Principal recommendations in the revised Logframe**

The principal recommendations reflected in the revised Logframe were as follows:

#### ***Outcome 1: Increased incentives for state organizations to invest in energy efficiency***

The Project should examine and propose other institutional and legal frameworks instead of those mentioned in the Project Document related to the deposits of energy savings into settlement accounts (special accounts for incentives) for staff incentives to increase EE investments in state budgetary organizations. Actually, the state organizations should be split into different types: (i) state budgetary organizations, whose principal activity, as well as energy and fuel consumption, are fully funded by the budget, (ii) state owned unitary enterprises, whose principal activity can be only partially funded by the state budget, and (iii) JSCs with main state-owned stock share. Under existing legal framework, which regulates provisions for formation and allocation of state budget, the state budgetary organizations are not eligible to allocate independently their budget resources including investments in EE.

As suggested by the Project recently and endorsed in the two mid-term evaluation reports, the remaining resources should be re-allocated to strengthen the pilot demonstration of simple partnership agreements (SPAs) between state organizations (especially budgetary and quasi-budgetary<sup>2</sup> organizations) and ESCOs. Demonstration of some other incentive schemes, which are currently under investigation by Project experts in support of EE investment in the state sector, was expected. These schemes seem also to be a means to increase incentives for the implementation of EE measures by state-owned unitary enterprises, in particular under communal ownership.

It was important to underscore that without changing the policy in the field of energy norms and tariffs it would not be possible to attract investors, and therefore, the SPA scheme may not work properly for some categories of EE projects. Legal acts that establish provisions on energy norms without changes during EE project payback period plus one year, provisions on feed-in tariffs for EE projects, as well as provisions on compensation of a part of bank interests on loans by the State, etc. would also help increase efficiency of investments through SPAs or similar

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<sup>2</sup> The example of a quasi-budgetary organization is a state unitary enterprise under communal ownership which profit in its sufficient part consists of subsidies and donations from the state budget. Most of enterprises in the sphere of housing and communal services are quasi-budgetary organizations.

schemes for state-owned unitary enterprises and JSCs. For the time being, energy norms in the state sector are fixed only for the duration of one year. If any organization in the state sector achieves certain level of reduction of energy or fuel consumption today by using EE measures, the norms would be established at this achieved level for the next year, so that the organization would not be able to do any savings. This does not provide any incentives to reduce consumption of energy or fuel. The tariffs can also be a tool to ensure feasibility of the SPAs, e.g., establishing a special feed-in tariff for electricity and heat being produced as a result of EE project would increase EE investment incentives.

Thus, these three main issues, i.e. the SPAs (or other similar schemes), energy norms and tariffs should be addressed, and the resources of Outcome 1 should be redirected to them. The revised Project Plan and new Project Logframe (see below) elaborated hereafter include the study, testing and dissemination of the SPA concept proposed by the Project. Due to modest experience in the SPA and ESCO schemes in Belarus<sup>3</sup>, it was important to engage international consultants and organize study tours of Belarusian relevant specialists abroad if needed. It was foreseen to receive and discuss information from the first hands of EE policy-makers, regulatory bodies, ESCOs and SPAs, and to get other stakeholders' opinions from some of the EU countries. It was also important to establish contacts and exchange views directly, especially for representatives of the EE Department.

Provisions in the area of EE investments in the state sector would be drafted using SPAs, ESCOs or similar investment schemes and further submitted to the EE Department for further processing through conciliation procedure established by law. Then a round table (ad-hoc meeting) on legal and institutional framework for EE investments using SPAs or similar schemes would be organized as a part of conciliation process for adoption of the Provisions.

To implement these recommendations the 12-month project extension until at least December 31, 2011 was necessary.

***Outcome 2: Financial resources made available by the state sector for energy efficiency investment are used more efficiently***

The Project, as already mentioned above, was lacking for documented monitoring and verification of the results achieved. This does not provide visualization required from the Project

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<sup>3</sup> Only one SPA for EE investments has been established in Belarus so far. A cogeneration mini power plant of 2 MW has been built and is successfully operated under a SPA signed by the Communal Unitary Enterprise "Lidskoye Housing & Communal Services" and "BelInvestESCO" JSC; the latter was a majority investor (75%). Annual net profit is about USD 25 thousand.

and makes it difficult to assess cost-effectiveness and results. This also does not provide a solid ground for evaluation of the EE projects already invested to help verify effectiveness of investments and potential GHG emission reduction, i.e. to help verify implementation of the Project targets and achievement of outcomes. The evaluation of existing EE investment projects was also deemed important in order to provide "lessons learned", elaboration of generic EE investment business framework and preparation of training materials and guidelines on existing EE investment practices.

Under this Outcome, the Project should closely monitor EE investments developed based on allocated Project resources. The selected organizations are Project partners where investments have already been made and EE projects are under implementation, i.e. at least four organizations for the moment. As the number of organizations continues to grow, new organizations would be involved in the monitoring process. The revised Project Plan and new Project Logframe should envisage recruitment of several local consultants to provide detailed monitoring of the EE investment, payback terms, actual payments, energy baseline, energy used and saved by the EE investment and level of GHG reductions achieved.

The hands-on experience received by the Project during its implementation and the results of other best practices, both domestic and international, should be utilized in a form of generic business framework for EE projects in Belarus to be elaborated and disseminated by the Project until its completion. Such framework would include financial schemes, contractual rules and modalities, and typical project cycles for major EE project categories in Belarus. The idea here was to guide project owners, developers and investors through a typical project and investment cycles for EE projects in Belarus including description of all steps and typical documents that are necessary at all the stages, i.e., (i) project concept, (ii) audit (+ baseline), (iii) project design, feasibility and financing, (iv) tendering and contracting, (v) implementation, (vi) measurement and verification, (vii) preparation of bankable proposals, (viii) preparation of loan application, and (ix) business cycle of carbon financing. To create such a framework the Project should hire international and local consultants to conduct an analytical study including objectives and tasks, evaluation and analysis of several practices, synthesis of these practices and benchmarking with situation and practices in Belarus; as a result an analytical report should be prepared by the consultants. (see paragraphs 3.0.7 and 7.0.6)

Afterwards, guidelines would be prepared and disseminated. They would summarize analytical part mentioned above in a form of manual, which would guide the Belarusian EE business community through the generic EE business framework proposed. These guidelines would focus in particular on identifying and managing cost-effective EE investments, business planning,

developing feasibility studies and preparing bankable proposals and loan applications that would help mobilize co-financing from banks and other investors.

Capacity and knowledge have to be enhanced and scaled up for state organizations in the area of energy auditing. Therefore, continuation of training of energy auditors, energy business planners and key personnel from Belarusian-based ESCOs was deemed important. In addition, guidelines on energy auditing and energy planning in the state sector based on internationally recognized practices and standards should be developed and published. The revised Project Plan should also address training of teaching staff in universities which would allow disseminating experience and knowledge among future specialists. Trainers must possess knowledge in international best practices in a wide range of EE areas.

At least two one-week training sessions on these topics are foreseen in support of both direct consultations on a demand basis and indirect consulting actions conducted through the National EE Internet Platform (NEEP).

It was expected to establish a special virtual forum under the web-oriented NEEP. The forum would be administrated by the Project. In addition, any qualified energy auditing experts, including international ones, who would be given authorization by the Project, would be responding questions on-line. Offline services would be provided on a routine basis, e.g. through post, phone calls, site visits and trainings as it usually was done by the Project team and its experts.

To implement these recommendations the project extension until at least December 31, 2011 was necessary.

***Outcome 3: Project successes sustained and replicated throughout Belarus:***

Assisting with the launch of the International Energy Centre can be seen as a significant success of the project. It was still deemed necessary to provide some minor assistance to the Energy Centre until it became a self-sustainable legal entity. It was foreseen to provide some legal support (prepare the Energy Centre's Statute, Provisions for Board of Directors, other registration documents, etc.). It was important also do develop a mid-term strategy and action plan with additional directions of the Centre's activity in order to ensure its smooth transition to financial self-sufficiency after project closure. More attention should be devoted to strengthening ties between the Energy Centre and energy saving institutions, similar organizations (other energy centers, ESCOs) and commercial banks in Belarus, the EU and CIS states. The Energy Centre would be further utilized as an important component of the Project playing several roles after its registration as a key instrument to be used for (i) benchmarking

typical cycles for EE projects and EE investments; (ii) sharing knowledge and experience with Project's stakeholders; (iii) providing learning-by-doing; (iv) testing new EE investment schemes, e.g. through SPAs; (v) assisting in developing EE investment project pipeline; (vi) raising investments; (vii) operating the NEEP (likely) under administering by the EE Department.

Development and evaluation of the new EE Investment Program (a pipeline of EE projects for EE Department) was one of the principal tasks of the Project. The Program was to be prepared for national and oblast energy saving programs and can be implemented by the Energy Centre and other ESCOs after completion of the Project. On a basis of express-audits of more than 40 potential sites conducted by the Project a preliminary pipeline of additional EE projects was elaborated, discussed and approved by the EE Department. Further actions for reviewing, amending and expanding this list should be planned under revised Project Plan. At least 10 business plans for 10 new EE projects to contribute to the new EE Investment Program was requested by the EE Department. Not all projects from the entire list would be chosen by investors or public funds. Therefore, the Project should continue screening potential sites to achieve the USD10-million raise of EE investments stipulated by one of the principal Project targets. Feasibility studies should be conducted for at least three most feasible projects to be selected by potential investors with a view of USD 10 million of non-repayable funding. The feasibility studies would be conducted by the Project (hired local consultants and/or local company). The documents would be proposed and discussed with potential investors and at least three EE investment agreements are supposed to be signed between the EE project owner and investor(s). The Project would also propose the SPA (or similar) scheme for its benchmarking under at least two of the selected EE projects.

It was of vital importance to introduce the aforementioned web-oriented National EE Platform where technology, finance, legislation, projects and stakeholders would come together. The conceptual design and info-logical structure have been elaborated and standard software tools are available. Several specific instruments like a model for calculations of hydraulic conditions of heat networks and heat losses in heat network are to be developed. Before this it was necessary to develop a NEEP business-plan and manage issues related to NEEP administration and maintenance. It was expected that the NEEP would be helpful in and allow the following:

- Increasing public awareness, collecting and providing information about EE and available EE equipment and techniques;
- Providing on-line training, EE audits, networking, transferring state-of-the-art and know-how, sharing experience and technical solutions on EE related issues in Belarus;

- Lobbying EE stakeholder interests, supporting Belarus ESCOs and producers of EE technologies, providing information on financing options and the project pipeline for potential investors and the legal framework, existing standards and best practices for developing and implementing a wide range of EE projects in the state sector for project developers;

- Coordinating / integrating NEEP with new UNDP/GEF/EE Residential Buildings Project.

The concept for management of this tool can be outlined as follows:

- The EE Department would administer and own the platform.
- The NEEP Provisions would be developed by the Project and adopted by the UNDP CO and the EE Department.
- Selection procedure would be conducted as to the Operator, which could be any company, likely an ESCO (e.g., the Energy Centre).
- The selected Operator would be authorized by the EE Department and relevant agreement would be signed.
- The equipment would then be transferred to the Operator because the Administrator (i.e., the EE Department) even being an owner would not be able to maintain the equipment or to bear depreciation costs.
- Most of the information would be accessible to any user for free (news, forum, articles, reports, guidelines and training aids, list of EE equipment, typical technical designs, solutions and recommendations, typical EE investment schemes, typical project cycle and business model, relevant experience, trends, typical business plans, databases of relevant legislation, standards, project pipeline, potential EE investors, project developers, other useful contacts, etc.).
- Some information (e.g., classified or confidential data, the country energy balance module, energy and fuel consumption data from some enterprises, hydrological data and scheme of city heat supply, etc.) would be accessible for free to some limited users through authorization issued by the Administrator (i.e., the EE Department).
- Some information would be commercial (e.g. advertisements of producers and sellers of equipment, advertisements of investors and other interested parties) in order to cover the costs for maintaining and populating the platform.
- The Operator would be also allowed to develop and use a limited number of its own commercial software product in the field of EE and RES.

It was necessary to create a new concept, define a target audience and develop terms of reference for an updated informational source about the Project for an efficient information campaign. A set of hand-books, leaflets, brochures and etc. should be released by the Project that would address dissemination of the experience gained and best practices, e.g., in EE auditing, investment schemes and financial models, contractual framework, business models of

establishing ESCOs, typical EE project cycle, and designing a pipeline of commercially attractive EE projects.

To implement these recommendations the project extension at least to Dec 31, 2011 was necessary.

#### **(d) Management Arrangements and Budget**

The management arrangement of the Project would not be changed. In terms of budget, USD 740,006 of the total budget of 1.400.000 USD remained from previous years and it would be re-allocated to 3-4q 2010 budget and 2011 budget while the total budget for 2007-2011 would not be changed (see Tables below).

**(i) Table 1. Total Revised Budget**

Outcome	Output	From 2007 to 2q 2010	For revised period			TOTAL from 2007 to 2011
			For 2010 as per Initial ProDoc	From 3-4q 2010 to 2011	Difference	
		A	B	C	D=C-B	E=A+C
1	1.1-1.3	79,599	42,300	0	-42,300	79,599
	1.4	n/a	n/a	98,300	98,300	98,300
2	2.1-2.4	164,878	46,300	132,430	86,130	297,308
3	3.1-3.4	415,517	252,400	509,276	256,876	924,793
TOTAL		659,994	341,000	740,006	399,006	1,400,000

**(ii) Table 2. Revised Annual Work Plan for 3-4q 2010**

Outcome	Budget line	Budget Description	Amount USD
Outcome 1: Increased incentives for state organizations to invest in energy efficiency	71200	International Consultants	18 300
	71300	Local Consultants	9 700
	71400	Contractual Services - Individuals	7 800
	71600	Travel	39 100
	74200	Audio Visual & Print Prod Costs	450
	74500	Miscellaneous Expenses	130
Outcome 2: Financial resources made available by state organizations for energy efficiency investment are used more efficiently	71300	Local Consultants	100
	71400	Contractual Services - Individuals	7 800
	71600	Travel	1 900
	74500	Miscellaneous Expenses	150
Outcome 3: Project successes throughout Belarus sustained and replicated	71200	International Consultants	5 300
	71300	Local Consultants	73 700
	71400	Contractual Services - Individuals	34 200
	71600	Travel	23 950
	72100	Contractual Services - Companies	8 300
	72200	Equipment and Furniture	1 100
	72400	Communic & Audio Visual Equip	1 400
	72500	Supplies	700
	72800	Information Technology Equipment	63 000
	73400	Equipment Services	750
	74100	Professional Services	2 100
	74200	Audio Visual & Print Prod Costs	6 000
	74500	Miscellaneous Expenses	906
<b>Total</b>			<b>306 836</b>

**(iii) Table 3. Revised Annual Work Plan for 2011**

<b>Outcome</b>	<b>Budget line</b>	<b>Budget Description</b>	<b>Amount USD</b>
Outcome 1: Increased incentives for state organizations to invest in energy efficiency	71300	Local Consultants	4 700
	71400	Contractual Services - Individuals	15 600
	72100	Contractual Services - Companies	2 200
	74500	Miscellaneous Expenses	320
Outcome 2: Financial resources made available by state organizations for energy efficiency investment are used more efficiently	71200	International Consultants	43 700
	71300	Local Consultants	27 150
	71400	Contractual Services - Individuals	15 600
	71600	Travel	22 330
	72100	Contractual Services - Companies	10 200
	74200	Audio Visual & Print Prod Costs	3 100
Outcome 3: Project successes throughout Belarus sustained and replicated	74500	Miscellaneous Expenses	400
	71200	International Consultants	29 850
	71300	Local Consultants	103 770
	71600	Travel	38 250
	71400	Contractual Services - Individuals	69 800
	72100	Contractual Services - Companies	17 000
	72400	Communic & Audio Visual Equip	2 800
	72500	Supplies	1 600
	73400	Equipment Services	2 250
	74100	Professional Services	4 600
	74200	Audio Visual & Print Prod Costs	15 950
	74500	Miscellaneous Expenses	2 000
<b>Total</b>	<b>433 170</b>		

### **(e) Budget expenditure**

At the moment of the final evaluation the financial overview showed 57.161 USD of the total budget of 1.400.000 USD had not been spent yet. Part of this amount had already been spent but was not yet reflected in the financial administration. Part of this amount is still to be spent until the moment of the finalization of the project. These latter costs concern payments to two international consultants, last salary payments of the PMU staff and the final press conference on 14 December. It is expected that around 20.000 USD to 25.000 USD will be left over in the budget. As the sum that is expected to be left over in the budget constitutes less than 2% of the total project budget (or less than 3.4% of the project budget left over after the extension of the project), the left over sum may be considered to be negligible.

**(i) Table 4. Actual expenditure vs. Revised Annual Work Plan for 3-4q 2010**

Outcome	Budget line	Budget Description	Planned amount USD	Spent amount USD
Outcome 1: Increased incentives for state organizations to invest in energy efficiency	71200	International Consultants	18 300	0
	71300	Local Consultants	9 700	1 238.84
	71400	Contractual Services - Individuals	7 800	6 196.1
	71600	Travel	39 100	3 916.26
	74200	Audio Visual & Print Prod Costs	450	0
	74500	Miscellaneous Expenses	130	47.45
Outcome 2: Financial resources made available by state organizations for energy efficiency investment are used more efficiently	71300	Local Consultants	100	55.17
	71400	Contractual Services - Individuals	7 800	6 196.1
	71600	Travel	1 900	49.1
	74500	Miscellaneous Expenses	150	84.97
Outcome 3: Project successes throughout Belarus sustained and replicated	71200	International Consultants	5 300	0
	71300	Local Consultants	73 700	20 000.66
	71400	Contractual Services - Individuals	34 200	27 812.55
	71600	Travel	23 950	43 732.06
	72100	Contractual Services - Companies	8 300	4 339.16
	72200	Equipment and Furniture	1 100	150.62
	72400	Communic & Audio Visual Equip	1 400	961.15
	72500	Supplies	700	300.5
	72800	Information Technology Equipment	63 000	0
	73300	Rental&maintenance of IT equipment	0	298.5
	73400	Equipment Services	750	466.11
	74100	Professional Services	2 100	802.94
	74200	Audio Visual & Print Prod Costs	6 000	9 487.31
	74500	Miscellaneous Expenses	906	925.66
	74605	Prepaid Project Expenses	0	31.36

	76100	Realized Loss/Gain	0	8.69
<b>Total</b>			<b>306 836</b>	<b>127 101.26</b>

**(ii) Table 5. Actual expenditure versus Revised Annual Work Plan for 2011**

Outcome	Budget line	Budget Description	Planned amount USD	Spent amount USD
Outcome 1: Increased incentives for state organizations to invest in energy efficiency	71200	International Consultants	0	41 239
	71300	Local Consultants	4 700	21 657
	71400	Contractual Services - Individuals	15 600	15 053
	71600	Travel	0	39 737
	72100	Contractual Services - Companies	2 200	1 300
	74500	Miscellaneous Expenses	320	192
Outcome 2: Financial resources made available by state organizations for energy efficiency investment are used more efficiently	71200	International Consultants	43 700	57 420
	71300	Local Consultants	27 150	62 131
	71400	Contractual Services - Individuals	15 600	15 053
	71600	Travel	22 330	3 028
	72100	Contractual Services - Companies	10 200	19 266
	74200	Audio Visual & Print Prod Costs	3 100	0
Outcome 3: Project successes throughout Belarus sustained and replicated	74500	Miscellaneous Expenses	400	457
	71200	International Consultants	29 850	26 215
	71300	Local Consultants	103 770	39 473
	71600	Travel	38 250	47 705
	71400	Contractual Services - Individuals	69 800	82 378
	72100	Contractual Services - Companies	17 000	9 265
	72400	Communic & Audio Visual Equip	2 800	40912
	72500	Supplies	1 600	1 936
	73400	Equipment Services	2 250	445
	74100	Professional Services	4 600	994
	74200	Audio Visual & Print Prod Costs	15 950	22 096
	74500	Miscellaneous Expenses	2 000	7 792
<b>Total</b>			<b>433 170</b>	<b>555 744</b>

## ***Section 2.02 Purpose and scope of the evaluation***

### **(a) Scope**

The evaluation will be done against the revised project plan that was adopted on the basis of the Substantive Revision of the project: “Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus #00050819 – dated 22 September 2010.

### **(b) Purpose**

The evaluation is being conducted to provide a comprehensive and systematic appraisal of the performance of the completed project by assessing its 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 implementation which resulted from previous project evaluations.

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

The evaluation report is intended mainly for the UNDP Country Office in Belarus, including Senior Management and the Program Unit staff.

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;
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 Socio-Economic Development and Community-based Projects, aligning it with the national priorities, UNDP's mandate and expertise.

### ***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 Evaluation criteria and questions***

#### **(a) Criteria:**

1. The relevance of the project's goal of removing barriers to EE Improvements in the State Sector in Belarus?
2. What was the effectiveness of the project in working towards that goal?
3. What was the efficiency of the project in reaching the desired effects?
4. What is the sustainability of the effects of the project?
5. What is the impact of the project outcomes?

#### **(b) Questions:**

1. Is the desired project outcome achieved?
  - a. Was the revised project design adequate
  - b. Process of implementation
  - c. Achievements vis-à-vis project objectives
  - d. Identification of Improvements based on previous project evaluations

2. What are the underlying factors, beyond the project team control, that influenced the outcome of the project?
3. What is the role and effect of the UNDP contribution?
4. Were the appropriate partners selected?

### ***Section 2.05      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 2.06      Structure of the evaluation report***

This evaluation report is presented as follows:

1. An overview of project implementation from the commencement of operations in January 2007;
2. Review of 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

### ***Section 2.07      Proposed structure of the report:***

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
  - 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)

## ***Section 2.08 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.

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: is the desired project outcome achieved?
  - a) Revised project design
  - b) Process of implementation
  - c) Achievements vis-à-vis project objectives
  - d) Identification of Improvements based on previous project evaluations
2. What are the underlying factors, beyond the project team control, that influenced the outcome 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: Moderately Satisfactory
4. MU: Moderately 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 27/10/11 and 15/12/11.

Project reports will be submitted in draft form to the Project manager and UNDP project office for comments and revision.

### **3. The project and its development context**

#### ***Section 3.01 Project start and its duration***

The project document for “Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus” (herein referred to as the Project) was signed and launched on December 20, 2006. The Project commenced operations in January 2007 with the Inception Mission and workshop. The project is to be completed per 31-12-2011 which is one year later than its planned completion date.

#### ***Section 3.02 Implementation status***

The project reaches its completion date. Most, but not all of the targets have been met. The project has been implemented for about 80 percent.

#### ***Section 3.03 Problems that the project seeks to address***

There are a number of barriers that block incentives for investment in energy efficiency in the state sector. Therefore, one of the primary objectives the UNDP/GEF Energy Efficiency Project has been to increase internal investments in energy efficiency projects in the state sector through targeted assistance in the areas of application of energy norms to energy planning, introduction of staff incentives and settlement accounts for accruing energy savings, improving audit standards, increasing share of loan funds compared to grants in energy efficiency financing.

#### ***Section 3.04 Immediate and development objectives of the project***

The Objective of the project is to increase the Influx of internal investment in energy efficiency projects in the state sector as the result of the project’s implementation. In order to reach this Objective 3 Outcomes have been defined:

- a. Outcome 1. Increased incentives for state organizations to invest in energy efficiency
- b. Outcome 2. Financial resources made available by the state sector for energy efficiency investment are used more efficiently
- c. Outcome 3. Project successes sustained and replicated throughout Belarus

#### ***Section 3.05 Main stakeholders***

The main stakeholders on the Project include:

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1. Department of Energy Efficiency and oblast branches;
2. Ministry of Natural Resources and Environment;
3. Ministry of Economy;
4. Ministry of Housing and Public Utilities;
5. Representatives of Municipalities from the cities of Mogilev and Vitebsk; and
6. Representatives of all investment project sites.

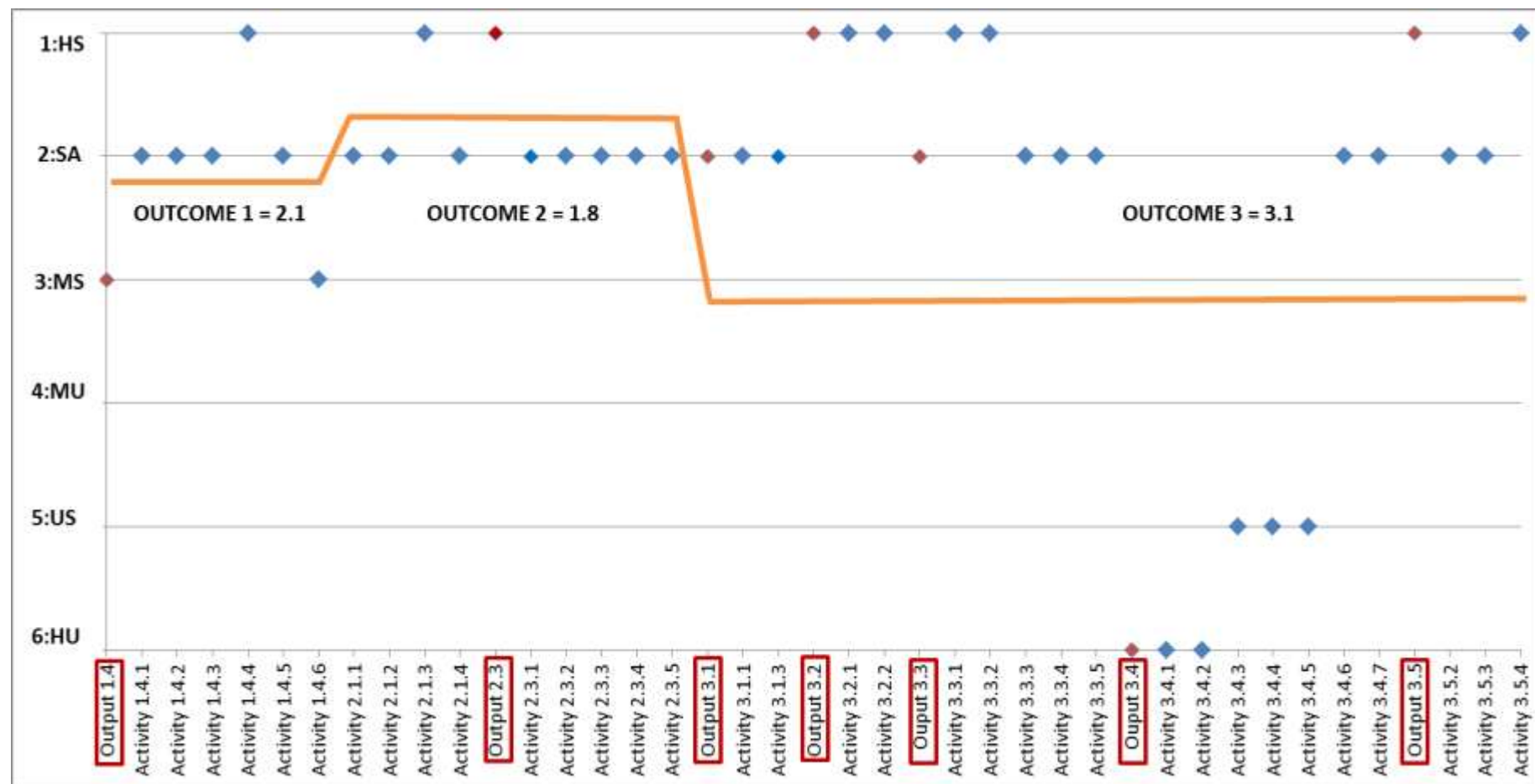
### ***Section 3.06 Results expected***

1. Outcome 1: Increased incentives for state organizations to invest in energy efficiency
  - a. Output 1.4. State organizations use best practices in the field of management of EE investments
2. Outcome 2: Financial resources made available by state organizations for energy efficiency investment are used more efficiently
  - a. Output 2.1. Build the capacity of state organizations to audit and identify cost effective energy efficiency investments
  - b. Output 2.3. Build the capacity of state organizations to secure credit (as opposed to grants) for energy efficiency investment
3. Outcome 3: Project successes throughout Belarus sustained and replicated
  - a. Output 3.1. Create an Energy Centre to provide on-going support to state organizations for realizing more energy efficiency investments
  - b. Output 3.2. Create a pipeline of energy efficiency investments for implementation after project closure
  - c. Output 3.3. The number of state organizations increasing the level of investment in energy efficiency expanded
  - d. Output 3.4. The National Energy Efficiency Internet Platform created
  - e. Output 3.5. Effective project management and monitoring ensured

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

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

*Section 3.07 Analysis of the outcomes, outputs and partnership strategy*



**(a) Evaluation of Goal versus Outcome**

Rating	Project strategy	Targets	Outcome per 30/11/11
<b>2:SA</b>	Goal: Greenhouse gas emissions are reduced. Fossil fuel consumption is reduced.	Investments by Belarusian investors in EE projects developed by the Project in cooperation with its partners will be no less than USD 8 million. The resulting annual energy savings will total approximately to 9,880 tons of coal equivalent. Annual greenhouse gas emission reductions will equal approximately 23,437 tons of CO2 equivalent. As a result of Project implementation a reduction of approximately 352,500 tons of CO2 equivalent over a 15-year period will be achieved due to energy savings.	The Project initiated, suggested design solutions, provided consultations, prepared and leveraged appropriate investments for more than ten EE projects. Four of them have been realized in 2008-2010, more (at least two) projects are under development this year. Direct GHG emission reductions achieved as a result of implementation of these projects already exceeded 25.0 thousand tCO2eq per year. Total investment attracted from loan funds and owners' equity was about USD 23 million. (So, now, as of today, we have <b>15.65</b> MUSD (previous 2007-2009) + <b>7.35</b> MUSD (2010-2011) = <b>23</b> MUSD already utilized in concrete projects. In 2010-2011, the loans and equities were allocated to concrete projects in the amount of <b>46.30</b> MUSD, of which the aforementioned <b>7.35</b> MUSD have been already utilized (construction started). Today, the Project is directing efforts to trainings, hands-on experience transfer and elaboration of a generic business model that will facilitate investments in EE in the state sector under Belarusian conditions.

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

**Evaluation of Outcome 1 and related outputs versus targets:**

Rating		Target	Outcome per 30/11/11	Verification materials and reports
<b>2.1:SA</b>	<b>Outcome 1:</b> Increased incentives for state organizations to invest in energy efficiency			
	<b>Output 1.1:</b> Budget organizations use energy norms in estimating their annual budget (This output, including activities, has been taken out as exempt from implementation in accordance with the Project Substantive Revision Document.)			
	<b>Output 1.2:</b> Budget organizations deposit their energy savings into settlement accounts (This output, including activities, has been taken out as exempt from implementation in accordance with the Project Substantive Revision Document.)			
	<b>Output 1.3:</b> Budget organizations issue incentives to staff responsible for increasing their investments in energy efficiency (This output, including activities, has been taken out as exempt from implementation in accordance with the Project Substantive Revision Document.)			
<b>3:MS</b>	<b>Output 1.4.</b> State organizations use best practices in the field of management of EE	At least 2 state organizations use SPAs or other best	2 SPAs have been signed. The development of these SPAs	See 4.0.3.b (I, ii, iii)

	investments	practice by the end of the Project.	has been assisted by the project. 3 more SPAs were drafted and prepared but are not signed yet.	
<b>2:SA</b>	Activity 1.4.1. Critical analysis and evaluation of the best practice for effective EE investments in state sector (SPA, ESCO and other advanced options) existing in Belarus and elsewhere (e.g., in Russian Federation, the EU and the USA), and preparing recommendations for application of experience of EU and CIS to Belarus with regard to raising of EE incentives in the state sector.	Report on the results of critical analysis of the best EE investment practices and management schemes in the state sector with recommendations on using the existing experience in Belarus prepared; the report approved by the EE Department and published.	A report has been drafted and submitted to the EED. This report was the basis for the PMUs suggestions for legislative changes. This year, the Project is dealing with approximation of existing national framework and domestic practice to best ones abroad to bridge existing gaps in institutional arrangements of efficient financing of EE measures, e.g. introduction of ESCOs, Simple Partnership Agreements, etc.	See annex 7.0.9 number 51
<b>2:SA</b>	Activity 1.4.2. Organizing study tours (Russian Federation, Denmark, other European country upon the results of Activity 1.4.1) devoted to the best existing practice (SPA, ESCO and other advanced options) in the field of EE investments in state sector in the field of EE investments in the state sector.	At least 3 study tours for Belarusian specialists are implemented and short reports with recommendations prepared.	2 study tours to Russia have been carried out and a 3 <sup>rd</sup> to Austria and Switzerland. A 4 <sup>th</sup> training has taken place in Budapest. Focus of these trainings was at the principles of financing of EE projects through ESCOs and	See annex 7.0.9 number 52

			management companies and financing of EE in the built environment.	
<b>2:SA</b>	Activity 1.4.3. Formulating proposals for improvement of legal and institutional framework for EE investments (through SPA, ESCO or similar advanced schemes).	Proposals on improvement of legal and institutional framework for EE investment formulated and endorsed by the EE Department. Deadline - April 30, 2011	Several proposals have been formulated and 2 of them have been accepted by the Government in 08/11. Analytical studies were conducted and reviews of existing regulations and practice in the field of EE improvement were made (e.g. for the EurAsEC Anti-Crisis Fund and EE Department), and on this basis initiated and drafted several regulatory documents, six of which have been adopted or accepted for further conciliation procedure, and some more normative acts / recommendations are currently under elaboration <sup>2</sup> .	See annex 7.0.9 number 53
<b>1:HS</b>	Activity 1.4.4. Organizing a round table (ad-hoc meeting) on legal and institutional framework for EE investments through SPA, ESCO or similar advanced schemes.	Round table with stakeholders held and a relevant minute prepared.	3 round tables were organized in Minsk, Vitebsk and Mogilevsk. Topics were Stimulation measures for EE financing by oblasts. The 3 <sup>rd</sup> round table was organized	See annex 7.0.9 number 117 and 118

			with the Austrian Energy Agency and focused at the stimulation of EE Financing.	
<b>2:SA</b>	Activity 1.4.5. Drafting provision(s) for EE investments through SPA, ECSO or similar advanced schemes.	Draft provision(s) in the field of EE investments in the state sector through SPAs, ESCOs or similar investment schemes prepared and submitted to EE Department and endorsed for further processing through conciliation procedure established by law.	Several draft provisions have been prepared and submitted.	See annex 7.0.9 number 54
<b>3:MS</b>	Activity 1.4.6. Selecting pilot EE projects (use data from the EE project pipeline as per Activities 3.2.1-3.2.2) suitable for the advanced schemes of investments, and drafting respected agreements to be signed by selected organizations.	At least two state organizations signed agreements under SPA, ESCO or other investment schemes and prepared investment portfolio.	2 SPAs have been signed. The development of these SPAs has been assisted by the project. 3 more SPAs were drafted and prepared but are not signed yet.	See 4.0.3.b (i, ii, iii)

**(b) Evaluation of Outcome 2 and related outputs versus targets:**

Rating		Target	Outcome per 30/11/11	Verification materials and reports
<b>1.8: SA</b>	<b>Outcome 2:</b> Financial resources made available by the state sector for energy efficiency investment are used more efficiently			
	<b>Output 2.1</b> Build the capacity of state organizations to audit and identify cost effective energy efficiency investments	60% of audits submitted to the EE Department meet international standards by the end of the Project.	The analysis of review of audit reports available in the EED shows that more than 60% of audits are conducted in due compliance with international practice, although among the reports examined there were no audits conducted with investment-oriented approach (Investment Grade Audit). During the 5 <sup>th</sup> session of training the Project, therefore, provided materials and lecturing on this issue.	See annex 7.0.9 number 128
<b>2:SA</b>	Activity 2.1.1 Preparing training materials, a curriculum for technical training workshops and guidelines on energy auditing in the state sector based on internationally recognized standards and practices and publishing them online and offline using the National Energy Efficiency	Training materials and curriculum for technical training workshops prepared and Guidelines on energy auditing in the state sector published (300 items of approx 150 pgs each) and	Materials and guidelines have been produced and can be downloaded from the project website. The NEEP is not functional yet.	See annex 7.0.9 number 48 and 49

	Platform (NEEP) for online publications	uploaded in NEEP.		
<b>2:SA</b>	Activity 2.1.2 Organizing a 5-day training workshop for national experts and local energy auditing firms to improve their capacity in energy auditing.	At least one 5-day seminar held. At least 30 specialists trained.	The 5 day seminar was held in July 2011.	See annex 7.0.9 number 5
<b>1:HS</b>	Activity 2.1.3 Formulating proposals for improvement of legal and institutional framework in the field of energy norms for energy and fuel consumption and tariff setting in the state sector to raise incentives for EE investments.	Proposals on improvement of norms and tariffs policy for EE incentives formulated and endorsed by the EE Department.	Both proposals on norms and tariff recommendations have been done.	See annex 7.0.9 number 55
<b>2:SA</b>	Activity 2.1.4 Providing on-going consulting services directly and online through NEEP to the Project Partners and the EE Department in the field of energy auditing, budgeting and energy planning in the state sector.	Consulting service provided offline (direct consultations) and online (through NEEP). Throughout the Project.	Many direct consultations have been provided. As the NEEP is not functional yet no online consultations have been done.	Various trip reports.
	<b>Output 2.2.</b> Increase the portion of loans compared to grants, offered by the state for energy efficiency (The Output is taken out as already implemented in accordance with the Project Substantive Revision document.)			
<b>1:HS</b>	<b>Output 2.3.</b> Build the capacity of state organizations to secure credit (as opposed to grants) for energy efficiency investment	Project partners use at least USD 1 million in loans including the EE Department's repayable funds by the end of the 4rd year of the Project.	The Project initiated, suggested design solutions, provided consultations, prepared and leveraged appropriate investments for more than ten EE projects. Four of them	See annex 7.0.9 number 58

			<p>(“Keramika” JSC (Vitebsk), “Krasnoselsk Stroymaterialy”, JSC Ivatesevichi Town Utility, “BeriozaStroymaterialy” JSC) have been realized in 2008-2010, more (at least two) projects are under development this year.</p>	
<b>2:SA</b>	Activity 2.3.1. Monitoring of implementation of the investment projects in the selected state organizations (Project partners) and preparation of analytical report with evaluation and generalization of the results and effectiveness of investments in the EE measures.	Report on the results of monitoring of EE investment effectiveness in the selected state organizations prepared and approved by the EE Department.	5 projects have been monitored and evaluated to create generic business models.	See annex 7.0.9 number 58
<b>2:SA</b>	Activity 2.3.2. Developing a generic business framework for EE projects in Belarus based on the hands-on experience, both domestic and international, in schemes of financing, contractual rules and modalities, and typical project cycles for majority of EE project categories in Belarus.	Generic business framework for EE investments elaborated and approved by the EE Department. Deadline - Aug 31, 2011	A final draft of a manual is made.	See annex 7.0.9 number 56

<b>2:SA</b>	Activity 2.3.3. Preparing training materials and a curriculum for technical training workshop on EE business planning in the state sector, as well as preparing Guidelines based on internationally recognized practices for the business framework elaborated, including best practices of EE investment schemes and project cycle, business planning, developing feasibility studies, bankable proposals and loan application, and publish them on-line (use NEEP for on-line publications).	Training materials and curriculum for technical training workshops prepared and Guidelines on EE business planning, project cycle and EE investment implementation in the state sector published (300 items of approx 150 pgs each).	Materials and guidelines have been produced and can be downloaded from the project website. The NEEP is not functional yet.	See annex 7.0.9 number 50
<b>2:SA</b>	Activity 2.3.4. Organizing a 5-day training workshop for national experts, potential investors, ESCOs and other local business planners interested in familiarization with suggested EE investment business framework and improvement their capacity and knowledge in EE investment schemes, EE project business planning, developing feasibility studies, bankable proposals and loan application.	At least one 5-day seminar held. At least 30 specialists trained.	The Project conducted four 5-day trainings on energy audit and energy management and prepared a tutorial.	See annex 7.0.9 number 129
<b>2:SA</b>	Activity 2.3.5 Providing on-going consulting services directly and online through NEEP to the Project Partners and the EE Department in the field of EE investment practice and the generic business framework in the state sector.	Consulting service provided offline (direct consultations) and online (through NEEP). Throughout the Project.	Many direct consultations have been provided. As the NEEP is not functional yet no online consultations have been done.  The ESCO model doesn't really work yet as a result of the 1 year budget cycle but the project had great influence in	See various trip reports.

			the EE community in Belarus.	
	<b>Output 2.4.</b> USD 8 million in energy efficiency project investments secured (The Output is taken out as already implemented in accordance with the Project Substantive Revision document.)			

**(c) Evaluation of Outcome 3 and related outputs versus targets:**

Rating		Target	Outcome per 30/11/11	Verification materials and reports
<b>3.1:MS</b>	<b>Outcome 3:</b> Project successes sustained and replicated throughout Belarus			
<b>2:SA</b>	<b>Output 3.1</b> Create an Energy Centre to provide on-going support to state organizations for realizing more energy efficiency investments	The Energy Centre achieves self-sustaining level by the end of the Project.	The International Energy Centre (IEC) was established as a CJSC on September 6, 2010 partly thanks to the contributions made by the project and its business development strategy was elaborated and suggested by the Project. Its long term sustainability requires additional attention.	
<b>2:SA</b>	Activity 3.1.1 Developing a mid-term strategy and action plan for the Energy Centre with additional areas of its activities in order to ensure a smooth transition to financial self-sufficiency after project closure.	A strategy and action plan for the Energy Centre developed and approved by the EE Department and other stakeholders.	This has been done	See annex 7.0.9 number 57
<b>2:SA</b>	Activity 3.1.3 Setting up contacts between the Energy Centre and energy saving institutions and similar organizations (energy centres, ESCOs)	At least 5 contacts established. Deadline - June 15, 2011	Working contacts have been established in 2011 with relevant institutions such as the Russian National Agency	See annex 7.0.9 number 116

	in Belarus, the EU and CIS states.		for Energy Saving and Renewable Energy, EurAsEC Anti-Crisis Fund, WB, Belvnesheconom Bank, BelInvest Bank, EBRD, UNECE, KEMA Inc. (Netherlands), ECONOLER Inc. (Canada), HORUS-Energia SP. Z O.O. (Poland), “GasProm EnergoHolding” Ltd. (Russia), “Gidrolat” Ltd. (Russia), “EnTerra” JSC SC (Russia), “ESCO-EcoSys” CJSC (Ukraine), “Bel-LISS” Ltd. (Belarus), EU ENPI 2007 Project “Comprehensive Energy Development Strategy for the Republic of Belarus”, “Zelonaya Set” NGO, etc.	
<b>1:HS</b>	<b>Output 3.2</b> Create a pipeline of energy efficiency investments for implementation after project closure	The new EE Investment Program adopted by the EE Department by the end of the Project and at least USD 10 million of repayable investments assured by investors.	The Project in cooperation with the IEC is currently creating a pipeline of EE projects for implementation after project closure. This new EE Investment Program for the EE Department includes, as of Oct 15 2011, at least 25 sites for which 67	See 4.0.3.b (i, ii, iii). Also see annex 7.0.9 number 116.

			million USD has been secured. These resources are a part of the credit line of USD 120 million committed to be allocated to the said Program by one of the IEC's shareholders.	
<b>1:HS</b>	Activity 3.2.1 Conducting energy audits (express-audits) and preparing business plans to finalize a new EE Investment Program for the EE Department and other agencies.	At least 10 new state organizations investigated and business plans provided for the EE Department.	IEC is currently creating a pipeline of EE projects for implementation after project closure. This new EE Investment Program for the EE Department includes, as of Oct 15 2011, at least 27 sites.	See 4.0.3.b (i, ii, iii). Also see annex 7.0.9 number 116 and number 130.
<b>1:HS</b>	Activity 3.2.2 Developing feasibility studies, preparing and signing investment agreements with new partners for the selected investment projects of the new EE Investment Program.	At least for 3 state organizations, the feasibility studies completed, funding guaranteed and investment agreements signed.	4 state organizations had feasibility studies completed, funding guaranteed and investment agreements signed.	See 4.0.3.b (i, ii, iii). Also see annex 7.0.9 number 8 and 9 and 10 and 11 and 12 and 116 a
<b>2:SA</b>	<b>Output 3.3</b> The number of state organizations increasing the level of investment in energy efficiency expanded	At least 15 new agreements (MoU) signed with state organizations for increasing their levels of investment in EE by the end of the project.	15 new agreements (MoU) have been signed with state organizations for increasing their levels of investment in EE.	See annex 7.0.9 number 116

<b>1:HS</b>	Activity 3.3.1. Informational seminars and guest seminars (at working places) concerning the experience of the Project in the field of EE investments in executive committees, ministries, departments and municipalities.	At least 6 seminars (at working places) held involving municipal authorities in oblast administrative centers.	These seminars were organized in the period from 21 till 25 November.	See annex 7.0.9 number 123 and 125.
<b>1:HS</b>	Activity 3.3.2. Carrying out an ongoing information campaign (hand-books, leaflets, brochures, interviews, press-releases, "Energy Marathon" competitions, etc.) about the project activities and best EE investment practices, including dissemination through the NEEP.	At least 5 simplified informational materials in a form of leaflets and brochures prepared and published (about the Project, on energy audit, on EE investments, on Energy Centre), 2 handbooks, 5 interviews, 5 press-releases, 1 "Energy Marathon".	The target has been met and the information campaign went beyond the target about 50 original articles in Belarusian and Russian mass-media, 7 press-releases, three brochures, two training CDs, and conducted two press-conferences. The Project organized four Republican Contests on Energy Saving among schools and enterprises.	See annex 7.0.4 and 7.0.9 number 44 and 45 and 46 and 47 and 126
<b>2:SA</b>	Activity 3.3.3. Preparing and signing agreements of cooperation (MoU) between the Project, Energy Centre, other ESCOs and state organizations and municipalities not involved in the UNDP/GEF project.	At least 15 new agreements (MoU) signed with state organizations for increasing their levels of investment in EE by the end of the project. Deadline - Dec 15, 2011	15 new agreements (MoU) have been signed with state organizations for increasing their levels of investment in EE.	See annex 7.0.9 number 116

<b>2:SA</b>	Activity 3.3.4. Organizing annual International Seminar on “Incentives and Best Practice of Investments in Energy Efficiency” under the auspices of the Project and in cooperation with the EE Department, UNDP and UNECE.	At least 1 international seminar held. At least 60 participants attended in each seminar.	The project organized and held four international conferences, one local seminar and three roundtables.	See annex 7.0.9 number 1 and 2 and 3 and 4 and 6 and 7 and 117 and 118
<b>2:SA</b>	Activity 3.3.5 Through taking part in International conferences, acquiring the best experience and practice of the EU countries in the field of investment in EE, while presenting and discussing experience of the Project and Energy Centre in investment in EE of the state sector of Belarus.	At least 5 International conferences participated by the Project Team and Belarusian specialists. Deadline - Dec 15, 2011	The project manager along with specialists from different key governmental agencies and stakeholders took part in conferences in Astana, Baku, Tbilisi, Kiev, Bratislava, Vienna, and Munich	See various trip reports.
<b>6:HU</b>	<b>Output 3.4</b> The National Energy Efficiency Internet Platform (NEEP) created	The NEEP launched and successfully operated.	No result.	See annex 7.0.9 number 40 and 41 and 42 and 43I suggest to include in Annexes the NEEP ToR and a minutes with short NEEP concept duly signed by UNDP, EED and future NEEP administrator.
<b>6:HU</b>	Activity 3.4.1. Preparing and getting approved ToR for NEEP development as a separate Internet portal with a web-oriented set of databases containing reliable, actual and complete information on modern EE equipment, EE methodological approaches, relevant legislation acts and regulations, EE standards, EE project pipeline, EE investors, training aids as well as relevant business models and engineering solutions, interface for	The ToR for development of the NEEP prepared and approved by the EE Department.	No Result	See annex 7.0.9 number 42

	networking, contacts, etc.			
<b>6:HU</b>	Activity 3.4.2. Preparing and getting approved a business plan, organizational arrangements and legal provisions for the NEEP.	Business plan and legal provisions approved by the EE Department and UNDP.	No result	See annex 7.0.9 number 40 and 41
<b>6:HU</b>	Activity 3.4.3. Equipment acquisition and installation.	Equipment: Network and database server - 4 x Intel® Xeon® Processor with peripheral equipment and standard software; DB server - 2xIntel® Xeon® Processor, 1Tb HDD, Windows Server Standard 2008 R2 64Bit x64 Russian, SQL Server Standard Edition + SQL CAL); Web-server - 1xIntel® Xeon® Processor, 500 Gb HDD, 2x Windows Server Standard 2008 R2 64Bit x64 Russian); Back-up server - 1xIntel® Xeon® Processor, 8Tb HDD, Windows Server Standard 2008 R2 64Bit x64 Russian.	Some equipment has been installed but not to the extent that the NEEP is actually in the air.	See annex 7.0.9 number 131
<b>6:HU</b>	Activity 3.4.4. Preparing and approving infological architecture and design of the user interface, and developing its HTML version.	HTML version approved.	No Result.	HTML version has been launched (see screenshots in the Annexes)
<b>6:HU</b>	Activity 3.4.5 Developing NEEP's modules and their HTML versions.	NEEP's modules developed.	No Result.	NEEP modules have been developed

<b>6:HU</b>	Activity 3.4.6. Developing and approving a NEEP prototype version.	NEEP prototype version launched.	No Result.	NEEP Prototype version has been launched
<b>6:HU</b>	Activity 3.4.7 Developing and approving a NEEP B-version and user manual.	NEEP B-version launched and a user manual prepared.	No Result.	NEEP B version has been launched and draft user manual has been prepared
<b>1:HS</b>	<b>Output 3.5</b> Effective project management and monitoring ensured	Project office successfully operated. Project plan successfully fulfilled.	Considering the troublesome history of the project the last project manager in the project has done an impressive job of turning the project around in.	
<b>2:SA</b>	Activity 3.5.2. Project monitoring and finalizing.	Final evaluation conducted and approved by the EE Department and UNDP. At least 2 SC Meetings held.	In progress.	See annex 7.0.9 number 119 and 120 and 121 and 122
<b>2:SA</b>	Activity 3.5.3. Project reporting.	All project reports submitted and approved in due time. Throughout the Project	Reporting was good.	See annex 7.0.9 numbers 65-78
<b>2:SA</b>	Activity 3.5.4. Project management and project office functioning.	Project office successfully operated. Throughout the Project	Considering the troublesome history of the project the last project manager in the project has done an impressive job of turning the project around in a positive way. The project office functioned well.	See annex 7.0.9 numbers 65-78 and 90-99 and 109

#### **(d) Partnership Strategy**

During Phase I, the Project established partnership with:

- (1) JSC “Belvneshekonombank”,
- (2) JSC “Belarusbank”,
- (3) International Sustainable Energy Development Centre, Russian Federation;
- (4) JSC “OPC Oboronprom”, Russian Federation;
- (5) “ENA Optima”, Bulgaria;
- (6) JSC “Belinvestesco”, Belarus;
- (7) JSC “NPO Rassvet-Energo”, Ukraine;
- (8) Belarusian Railway, Belarus;
- (9) Lida Region Municipality, Belarus ;
- (10) TAWI Sp. z.o.o., Poland;
- (11) JSC “Russian Bank of Space Development”;
- (12) Geninserviss Ltd., Latvia;
- (13) Mogilev Oblast Executive Committee;
- (14) Vitebsk Oblast Executive Committee.

The nature of these partnerships are a simple cooperation agreement. As an example, see attached Cooperation\_Agreement\_NAERES.pdf.

In 2011, during phase II of the project, the project significantly extended its range of partnership with organizations such as the:

1. Austrian Energy Agency,
2. Russian Energy Agency,
3. Russian National Agency for Energy Saving and Renewable Energy,
4. EurAsEC Anti-Crisis Fund,
5. WB,
6. Belvnesheconom Bank,
7. BelInvest Bank,
8. EBRD,
9. UNECE,
10. KEMA Inc. (Netherlands),
11. ECONOLER Inc. (Canada),
12. HORUS-Energia SP. Z O.O. (Poland),
13. “GasProm EnergoHolding” Ltd. (Russia),
14. “Gidrolat” Ltd. (Russia),
15. “EnTerra” JSC SC (Russia),

16. “ESCO-EcoSys”
17. CJSC (Ukraine),
18. “Bel-LISS” Ltd. (Belarus),
19. EU ENPI 2007 Project “Comprehensive Energy Development Strategy for the Republic of Belarus”,
20. “Zelonaya Set” NGO.

## 4. Findings and Conclusions

### *Section 4.01 Project formulation*

#### **(a) Project relevance**

The project and its outputs and outcomes are consistent with national Belarus EE policies and priorities and address the needs of intended beneficiaries. As far as the congruency between the perception of what is needed as envisioned by the initiative planners and the reality of what is needed from the perspective of intended beneficiaries there are some questions to be raised. Because of the time that passed between the conception and design of the project on one hand and the execution of the project on the other hand project design did not correspond to the change in legislative and economic conditions in which the project was embedded. This problem was partly remedied by the MTE and the resulting changes proposed and implemented in 2010. Responsiveness - that is, the extent to which UNDP was able to respond to changing and emerging development priorities and needs in a responsive manner – was satisfactory once the problems in the project were recognised, although the problems could have been recognised in an earlier stage.

The overall assessment of the project relevance is Moderately Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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#### **(b) Project Effectiveness**

The project's intended results (outputs and outcomes) have been largely achieved with most of the progress coming during Phase 2 of the project. The project's activities were to a large extent causal in effecting the positive changes as described in the evaluation matrix above. Most of the observed changes can be attributed in some cases to a large extent and in other cases to a lesser extent to the project activities and outputs.

The overall assessment of the project effectiveness is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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#### **(c) Stakeholder participation**

The participation of stakeholders is institutionalized in the steering committee (SC) management arrangements. The SC does not duplicate existing mechanisms and partly uses the existing

national structures and mechanisms of the EED. However the SC was set up as to constitute a group that fulfil the stakeholder participation function.

During the period from July 2010 till December 2011 only 2 Steering Committee meetings were held (one of the two SC is still to be held at the time of writing as it is planned for 16 December 2011). Probably, a higher frequency of the SC meetings will result in an increased level of stakeholder participation. It would also have been beneficial if changes to the composition of the SC could have been made during the project in accordance with the interest (or lack thereof) of the stakeholders.

The overall assessment of the stakeholder participation is Moderately Unsatisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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#### (d) Replication approach

Replication of the approach was foreseen in the establishment of the IEC and the NEEP. The extent to which these structures will prove to be sustainable is still a question.

The overall assessment of the replication approach is Moderately Unsatisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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#### (e) Cost-effectiveness

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

The overall assessment of the cost-effectiveness is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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#### (f) Sustainability

The project design is lacking a sustainability strategy and capacity development of key national stakeholders will continue to need attention in order to increase the sustainability of the project.

The overall assessment of the sustainability is Moderately Unsatisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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**(g) Linkages between project and other interventions within the sector**

Additional long term benefits may be achieved if linkages with other EE related projects will be institutionalized. For example, regarding the NEEP such an initiative is taken already.

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

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

**(a) Financial management**

Financial management of the project has been effective and prudent over the entire duration of the project.

A relatively large portion of the project budget has been spent on the Energy Center in comparison with the other outputs of the project.

The assessment of the Financial management component of the implementation approach is Satisfactory.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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**(b) Monitoring and evaluation**

During the extension of the project the results have been well documented. Many materials were well produced and published. This allowed for a reasonably well monitoring and evaluation.

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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**(c) Management and coordination**

The Steering Committee should have also included representatives of the owners, the beneficiaries and suppliers of the technical services.

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

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

Identification of risks in the original project design was done well and with some delay, the risks that materialized were managed properly.

The assessment of the Adaptive management component of the implementation approach is Moderately Satisfactory.

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

**(a) Attainment of outputs, outcomes and objectives**

The primary objectives are to increase internal investments in EE projects in the state sector through targeted assistance by implementing the following basic tasks:

- (i) Addressing the legal and regulatory barriers in order to provide incentives for state organizations and other internal investors to invest in EE of the state sector,
- (ii) Attracting and leveraging loan funds for several EE projects in Belarus' state sector, and
- (iii) Establishing an Energy Centre as a self-supporting consulting and/or engineering institution and securing its capitalization in order to provide sustainability and replication of the results of the Project.

**(i) Addressing the legal and regulatory barriers in order to provide incentives for state organizations and other internal investors to invest in EE of the state sector**

The Project conducted analytical studies and reviews of existing regulations and practice in the field of EE improvement (e.g. for the EurAsEC Anti-Crisis Fund and EE Department), and on this basis initiated and drafted several regulatory documents, six of which have been adopted or accepted for further conciliation procedure, and some more normative acts / recommendations are currently under elaboration. This year, the Project is dealing with approximation of existing national framework and domestic practice to best ones abroad to bridge existing gaps in institutional arrangements of efficient financing of EE measures, e.g. introduction of ESCOs, Simple Partnership Agreements, etc.

**(ii) Attracting and leveraging loan funds for several EE projects in Belarus' state sector**

The Project initiated, suggested design solutions, provided consultations, prepared and leveraged appropriate investments for more than ten EE projects. Four of them have been realized in 2008-2010, more (at least two) projects are under development this year. Direct GHG emission reductions achieved as a result of implementation of these projects already exceeded 25.0 thousand tCO<sub>2</sub>eq per year. Total investment attracted from loan funds and owners' equity was about USD 23 million. (So, now, as of today, we have **15.65** MUSD (previous 2007-2009) + **7.35** MUSD (2010-2011) = **23** MUSD already utilized in concrete projects. In 2010-2011, the loans and equities were allocated to concrete projects in the amount of **46.30** MUSD, of which the aforementioned **7.35** MUSD have been already utilized (construction started).

Today, the Project is directing efforts to trainings, hands-on experience transfer and elaboration of a generic business model that will facilitate investments in EE under Belarusian conditions.

**(iii) Establishing an Energy Centre as a self-supporting consulting and/or engineering institution and securing its capitalization in order to provide sustainability and replication of the results of the Project.**

The Project assisted creation of the International Energy Centre (IEC) as an instrument to be used for (i) benchmarking typical cycles for EE projects and EE investments; (ii) sharing knowledge and experience with Project's stakeholders; (iii) providing learning-by-doing; (iv) testing new EE investment schemes, e.g. through SPAs; (v) assisting in developing EE investment project pipeline; (vi) raising actual investments. The IEC was established as a CJSC on September 6, 2010 and its business development strategy was elaborated and suggested by the Project. The Project in cooperation with the IEC is currently creating a pipeline of EE projects for implementation after project closure. This new EE Investment Program for the EE Department includes, as of Oct 15 2011, at least 25 sites. About USD 120 million of investments to be allocated to this Program have been already committed as loans by one of the IEC's shareholders.

**(iv) Capacity building**

The Project conducted four 5-day trainings on energy audit and energy management and prepared a tutorial. The project organized and held four international conferences, one local seminar, three roundtables and participated (or provided participation of Belarusian specialists) in ten different conferences abroad. The Project Team prepared 8 presentations in 6 international conferences abroad and about 50 original articles in Belarusian and Russian mass-media, 7 press-releases, three brochures, two training CDs, and conducted two press-conferences. The Project organized four Republican Contests on Energy Saving among schools and enterprises. To help networking Belarusian stakeholders, the Project is currently developing a National EE Internet-Platform.

The capacity building was focused at:

1. Systemic targets:
  - a. Policy
  - b. Legislation
  - c. Business
  - d. Finance
2. Institutional targets
  - a. Government / Agencies (national and local)
  - b. Operational entities
  - c. Other stakeholders, including developers, NGOs
3. General public
  - a. Individuals
  - b. Education and communication
  - c. Incentives and motivation

#### **(v) Involvement of local and international experts**

Only during the last year of its activity (in 2011), the Project engaged 32 local experts, 4 international consultants, and 5 companies including 1 company abroad.

Among others, Mr. Tomas Dressen from Econoler International<sup>4</sup> delivered a two-day lecture course with about 160 slides pursuant to the ToR and the Agreement between UNDP and Econoler (see his photos below). The training workshop went extremely successful with more than 70 trainees. The lectures were used also during the latter stages of our project training activity, namely during training sessions organized in five Oblasts. These sessions attracted more than 80 participants.

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<sup>4</sup> - FYI: Econoler International Inc. is one of the first ESCO in the world with great experience including creation and financing ESCOs in CEE and CIS countries (Hungary, Croatia, Romania, Ukraine and Russia). They have several subsidiaries in several countries including one in the U.S.A. Total experience of the company exceeds 30 years in the ESCO business. The staff possesses extended experience in training of ESCOs in over 40 countries. Econoler is developing and managing energy efficiency funds and credit lines that lend to ESCOs in many countries including Central and Eastern Europe. Their recent experience with UNDP in the field of ESCOs includes a project in Ukraine. Its staff published several books and tutorials related to ESCO practice, which became bestsellers all over the world. For the UNDP/GEF Energy Efficiency Project the company suggested the most feasible scope of the assignment and offered one of its prominent lecturers.

#### **(vi) GHG emission reduction**

Four industrial organizations of the State sector are partners of the Project where the Project initiated, grounded, raised and adopted investments of \$15.36 million USD. Monitoring of EE investment projects implemented in these organizations is being conducted on a regular basis. The cumulative GHG emission reductions, resulted from operation of these pilot sites since their commissioning, are approx. 74.84 thousand tons of CO<sub>2</sub>eq. During the reporting period (June 30, 2010 through June 30, 2011), GHG emission reduction achieved at each of pilot sites are as follows:

**“Keramika” JSC (Vitebsk):** installation of 2.8 MW power plant with gas reciprocating engine, commissioned on July 12, 2008 - 4,600 tons; installation of variable frequency blow fans, commissioned on February 2, 2008 - 334 tons; replacement of liquid-packed ring vacuum pumps with oil pumps, commissioned on January 15, 2008 – 369 tons; installation of automated burners in furnaces, commissioned on May 10, 2009 – 509 tons;

**“KrasnoselskStroymaterialy” JSC:** conversion of the boiler house to mini-CHP plant with installed power generation capacity of 4.86 MW, commissioned on March 1, 2009 - 9,056 tons;

**Ivatesevichi Town Utility:** replacement of pumps at the boiler house and the water supply point and installation of variable frequency drives at the water supply point, commissioned by April 30, 2008, installation of temperature regulators for hot water supply at the boiler house and central heat supply station, commissioned by April 30, 2008, use of gas analyzer at boiler house to optimize combustion, commissioned by April 30, 2008 - 340 tons;

**“BeriozaStroymaterialy” JSC:** installation of one 1.0 MW gas reciprocating engine for power generation, commissioned on August 1, 2008 - 2,236 tons; isolation of the furnace and installation of energy efficient furnace burners, commissioned on July 15, 2008 - 0 tons (the furnace was decommissioned and removed since Aug 25, 2010).

Expected lifecycle (15 years since Jan 2011) emission reductions from the above investments are estimated at around 374,100 tons of CO<sub>2</sub>e.

#### **(b) Project pipeline created**

In addition, at least four other energy efficiency project sites have been investigated, business plans developed and feasibility study conducted. Sets of EE measures at **“Slutsky Meat-Packing Factory” JSC**, **“Ivatsevichy Housing & Communal Services” CUE**, **“KrichevTsementnoShifer” MRUE**, **“Minsk Integrated Plant of Silicate Products” OJSC** have been approved by EED, multilateral protocols have been signed between EED, UNDP and these organizations, investors attracted, investment agreements prepared and these sites have been included in the EED's Investment Program.

**(i) Business plans:**

1. Set of energy efficiency measures at “Slutsky Meat Processing & Packing Factory” JSC, Slutsk;
2. Set of energy efficiency measures at Boiler House No.1 of “Slutsky Housing & Communal Services” CUE, Slutsk;
3. ORC-cycle at Boiler House No.1 of “Slutsky Housing & Communal Services” CUE, Slutsk;
4. Set of energy efficiency measures at Boiler House No.2 of “Slutsky Housing & Communal Services” CUE, Slutsk;
5. ORC-cycle at “Krupki” Gas-Compressor Station, Minsk Region;
6. ORC-cycle at “Nesvizh” Gas-Compressor Station, Minsk Region;
7. Mini-CHP with gas reciprocating generators and a set of energy efficiency measures at “Volkovysky Housing & Communal Services” CUE, Volkovysk;
8. Energy-technological complex and a set of technological measures at “KrichevTsementnoShifer” MRUE;
9. Set of energy efficiency measures at “Kupalinka” JSC.

**(ii) Feasibility studies:**

1. Set of energy efficiency measures at “Ivatsevichsky Housing & Communal Services” CUE, Ivatsevichy;
2. Mini-CHP with gas reciprocating generators and a set of energy efficiency measures at Housing & Communal Services, Volkovysk;
3. Set of energy efficiency measures at “Slutsky Meat Processing & Packing Factory” JSC, Slutsk;
4. Energy-technological complex and a set of technological measures at “KrichevTsementnoShifer” MRUE;
5. Set of energy efficiency measures at “Borisov Bakery Complex” JSC, Borisov.

**(iii) Simple or Undisclosed Partnerships:**

1. “BelInvestCo” CJSC and “Lidskoye Housing & Communal Services” CUE, Lida;
2. “BelInvestCo” CJSC and “BeriozaStroyMaterialy” JSC, Berioza;
3. “Gidrolat” Ltd. and “KrichevTsementnoShifer” MRUE (pending agreement);
4. “International Energy Center” CJSC and “Volkovysky Housing & Communal Services” CUE, Volkovysk (pending agreement);
5. “International Energy Center” CJSC and “Slutsky Housing & Communal Services” CUE, Slutsk (pending agreement).

**(c) Project Impact**

It has been difficult to assess the changes in human development and people’s well-being that are brought about by the project. However, discussions with stakeholders and with expressions in the media indicate a positive impact.

#### **(d) Project Efficiency**

The resources or inputs (such as funds, expertise and time) were converted to results rather efficiently in the period between June 2010 and December 2011. Before that time the use of resources was not always appropriate and economical in producing the desired outputs. When evaluating the total UNDP investment in the project (all projects and soft assistance) toward a given development outcome then the efficiency of the resources employed is reasonably satisfactory. If from the start of the project the partnership strategy would have received more attention, then the efficiency of the project could have increased as a result of cost-sharing measures and complementary activities.

#### **(e) Prospects of sustainability**

Additional care will be required to increase the extent to which benefits of the project will continue after the project has come to an end. In all fairness one can pose the question to what extent guaranteeing sustainability of the project's effects is fully within the sphere of influence of the UNDP as the relevant social, economic, political, institutional and other conditions in Belarus are subject to continuous and unpredictable changes. It is desirable to develop financial and economic mechanisms to ensure the ongoing flow of benefits once the assistance ends.

## 5. Conclusions and recommendations

### *Section 5.01 Findings*

Considering the Objective of the project to increase the influx of internal investment in energy efficiency projects in the state sector as the result of the project's implementation one can in general say that the project was satisfactory. If one looks at the three outcomes that were defined then none of the three outcomes have been fully realized.

Outcome 1. Increased incentives for state organizations to invest in energy efficiency

Outcome 2. Financial resources made available by the state sector for energy efficiency investment are used more efficiently

Outcome 3. Project successes sustained and replicated throughout Belarus

If one looks at the project from a practical point of view and one would define the primary objective as: the increase in internal investments in EE projects in the state sector then one can observe that the project contributed in a meaningful way to this objective. The 1.4 million USD of GEF funding has helped to leverage approximately Us\$22 million in investments in energy-efficiency which significantly exceeds the target of Us\$8 million established in the project document.

The project seriously addressed the legal and regulatory barriers to increased incentives for state organizations and other internal investors to invest in EE of the state sector. A number of the regulatory documents were drafted by the project and six of these documents were adopted by the government (see Annex 7.06). However, the project was not capable of reducing or eliminating these barriers because of legislative and economic reasons outside of the project's control.

The International Energy Centre was established as a self-supporting consulting and/or engineering institution. The Charter can be found in the document: IEC\_Charter.pdf. The Board of Directors Provision can be found in the document: Provisions\_Board-of-Directors.pdf.

These documents does not say much though with regard the IEC's policy. It is only for profit in nature, but it has very tight ties with Energy Efficiency Department historically. Thus, it performs as a hybrid, providing consulting services for the Energy Efficiency Department and other stakeholders. It is also agreed that the IEC will administer the NEEP in cooperation with the Department and UNDP.

For the strategic plan, see - Среднесрочная стратегия и план действий СЗАО «Международный энергетический центр» с дополнительными направлениями его деятельности для обеспечения перехода на самофинансирование после завершения

Проекта / Проект ПРООН/ГЭФ № 00050819 «Устранение препятствий в повышении энергетической эффективности предприятий государственного сектора Беларуси» // Минск, апр. 2011. – 53 стр.

However, special attention should be given to the long-term sustainability of the IEC by increasing its range of activities. Also its public role should be enhanced.

Capacity building through trainings, seminars and presentations at conferences has received ample attention during the extension of the project. The project can boast good results in this area. As far as the long term sustainability of the capacity built is concerned it is not possible to make an assessment at this point of time.

The project also over-performed in PR and public awareness related activities (this also pertains to the period of the extension of the project). Now the challenge is to further disseminate the project results and to create and capture the benefits of the materials and approaches developed by the project. If nothing more will be done then the information accumulated during the project will become outdated, inaccessible and unfit for further use within a matter of months.

Project management and PMU team performance left much to be desired up to the extension period but after June 2010, under the new project manager the PMU in its entirety appears to have functioned in an exemplary manner.

The only area where the project could and should have done better is in the establishment of the NEEP internet platform. The NEEP should have been crucial in securing the sustainability of the projects activities. There are virtually no results achieved related to the NEEP and one can only hope that the budget spent on activities related to the NEEP will prove not to have been spent in vain.

The project has met its targets in the area of GHG emission reductions.

The overall assessment of the project outcomes is Satisfactory.

Highly Satisfactory	<b>SATISFACTORY</b>	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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***Section 5.02 Corrective actions for the design, duration, implementation, monitoring and evaluation of the project which may be for similar project in the future***

2. Project design should be based on a recent and fresh analysis of the needs of the actual and current barriers and opportunities in EE in Belarus through consultations with state officials, bankers, financiers, EE specialists, lawyers.

3. Several market players have voiced their concern that the IEC (a private company) was established with public funds. One should be careful that the UNDP's projects do not create these concerns among commercial companies that did not have the benefit of the UNDP's support.
4. In future cases during the conception of the project design the terminology used in the Logframe should be defined more accurately. Inconsistencies in used terminology create problems and confusion during the project execution.
5. The economic and legal environment in countries like Belarus change continuously. Designing projects with a running length of 4 years makes it very difficult to foresee all the risks and changes that may arise. Therefore adaptive management should take place on a continual basis throughout the project, not only just after the mid-term evaluation. In this project, much time was lost while the project waited for the mid-term evaluation before any changes to the project strategy or project team were made.
6. The Logframe should define clear targets for outputs and outcomes. Open ended or vague targets should be avoided.
7. Upon commencement of the project it is advisable that the project manager and responsible person from the UNDP country office discuss, agree on the meaning of the project's Objective and the Outcomes. Monitoring needs to be ongoing and consistent.
8. Resulting from the discussion of the project's Objectives and Outcomes the project manager and the UNDP country office should adjust the outputs and activities where necessary.
9. Special care should be taken by the project manager and responsible person from the UNDP country office that the work plans are harmonized with the Logframe. The Logframe should be modified, as required, as early as the Project Inception workshop.
10. Monitoring and evaluation of the project results during the project should focus more at real on and quantitative results instead of solely focusing at whether the formal administrative requirements are met. This will allow for more stringent measurement and control of project outputs.
11. It should be made sure that the members of the Project Steering Committee are actually interested in the project and see themselves as stakeholders of the project. There should also be a fixed schedule for obligatory stakeholder meetings as one stakeholder meeting per year is not frequent enough to guarantee strong stakeholder involvement.

### ***Section 5.03 Actions to strengthen or reinforce benefits from the project***

#### **(a) Dissemination**

Continue dissemination of generic business/revenue models for EE projects in Belarus including:

1. Financial models
2. Technical descriptions
3. Contractual frameworks
4. Typical project cycles for EE projects
5. Best practices in EE audits

The NEEP, once it exists, and the IEC should play crucial roles in the continuing dissemination of the project results.

### **(b) NEEP**

The NEEP (National EE Platform) should be established to Creation of the National Energy Efficiency Platform active in:

1. Increasing public awareness about EE in Belarus
2. Collecting and providing information about EE in Belarus
3. Providing Training on EE related issues in Belarus
4. Providing a national and international networking platform
5. Lobbying EE stakeholder interests
6. Transfer state of the art EE know how and methodologies
7. Inform about EE equipment
8. Supporting Belarus ESCOs and EE organizations in EE audits
9. Mobilize EE financing by providing information to State Sector organizations on financing options. Example of internet platform is <http://www.buildup.eu/home>.
10. Creating a web-based platform where technology, finance, legislation, projects and stakeholders come together
11. Attracting members for an annual membership fee to ensure sustainability beyond the life of the project

### **(c) IEC**

To increase the sustainability of the International Energy Center, one could consider developing the IEC's activities beyond the gas-fired power generation projects it has been mainly involved in. The IEC could also build capacity in EE in the built environment, EE appliances and labeling, EE motors, EE lighting systems for industries and public facilities, and other EE activities that are economically feasible with short payback periods. One concrete example concerns EE in supermarkets where with relatively simple technology with less than 2-year payback periods you can easily save between 15% and 30% of consumed electricity.

As the IEC is a private enterprise there is however no way anymore how influence their strategy or activities.

### ***Section 5.04 Proposals for future directions underlining main objectives***

Development of public awareness and capacity building projects that build upon the results achieved by the project.

### ***Section 5.05 Suggestions for strengthening ownership, management of potential risks***

The different actors in the project (Executing Agency, Project Steering Committee, PMU, Energy Center and stakeholders/beneficiaries) could have interacted more effectively and intensively. During the extension of the project stakeholders were involved more closely in the project but they met rarely and did not communicate directly about the project.

### ***Section 5.06        Suggestions made by Tamara Ostrovskaya, Head of Principal Directorate for Fuel & Energy Complex and Chemistry, Ministry of Economy of the Republic of Belarus.***

Mrs. Ostrovskaya of the Ministry of Economy agreed with all the points made in this evaluation report and expressed her satisfaction that the intervention in the project of 2010 was done and that it led to a successful completion of the project. Mrs. Ostrovskaya also added a number of suggestions:

1. Projects should allow for a rotation of members of the Steering Committees and their composition changes in accordance with the stage of the project and the interest of the Committee members.
2. One of the barriers to EE developments in Belarus is the lack of information. Special care should be given to keeping the information updated and accessible to a large audience.
3. The NEEP has a crucial function in safeguarding the functionality and accessibility of the information gathered during the project. But the NEEP will not function if it is kept as a static internet platform. It should become a lively community where EE stakeholders are actively involved.
4. Also the EED should make sure that the information accumulated during the project is made easily accessible on the EED website.
5. The function of the IEC leaves much to be desired. At this moment the IEC is a purely commercial organization implementing projects financed by their shareholder bank. The IEC should next to its commercial also take care that it is active in the public domain on behalf of the Belarus EE stakeholders. Information dissemination, public awareness and PR about EE and the NEEP should ideally be the responsibility of the IEC. Also the IEC should keep a library of EE related information that is accumulated in this and other EE TA projects.
6. Special attention should be given to the opportunities that exist at this point of time to contribute to and be involved in the development of the new EE Law. Especially, legislation should be developed that regulate the possibilities for using leasing and ESCOs in EE projects.
7. A point was made that international fact finding trips should be made during the early stages of projects instead of at the end of projects. These trips provide valuable information, contacts and benchmarking and the earlier they are made the better it reflects on the project's results.

## 6. Lessons learned

### *Section 6.01 Good practices and lessons learned in addressing issues relating to effectiveness, efficiency and relevance*

1. It is absolutely critical to hire a dynamic, experienced Project Manager with the right skills and experience (Phase II results were much better than Phase I)
2. Agree before hand on the frequency, form and channels for dissemination of the intermediate and final project results.
3. For increased relevance have regular and meaningful stakeholder consultations.
4. When projects include the establishment of electronic and / or media platforms then these outputs should be planned in the beginning and not in the end of the project.
5. Procurement procedures for national and international specialists should be in conformity with current market conditions so that the required quality can be attracted and recruited.
6. In this project substantial delays were incurred as a result of the offices that were chosen (lack of telephone and internet connections). Co-locating new projects in the offices where Executing Agencies (i.e. EED in the case of this project) or existing UNDP projects are located will increase effectiveness and budget efficiency.
7. Increased involvement of international experts, from the outset of the project, who bring state of the art know how, international best practices, approaches and methodologies to the project in an early stage of the project will increase the effectiveness of the project. This also concerns international study tours and fact finding trips.
8. When project outcomes include the establishment of commercial organizations, special attention should be given to maintain a level playing field. Several Belarus commercial companies, identical in nature and activities to the IEC, have complained to the project manager (Phase II) about the UNDPs exclusive assistance to the IEC. These sensitivities are something that should be taken into account in future projects.
9. Press and media monitoring should be an integral part of the project.
10. Project website should be established in an early stage of the project and be updated on a regular basis.

An extended Lessons Learnt Report will be made in Jan-Feb 2012. An international consultant from the UNDP Expert Roster will be hired.

## 7. Annexes

### *Section 7.01 Evaluation TOR*

UNDP BELARUS	
JOB DESCRIPTION	
Position title:	International Expert for Project Final Evaluation
Position type:	International Contractor, IC
Office/Project:	UNDP project: Energy Efficiency № 50819
Location:	Home-based with one 8 day mission to Belarus
Duration of contract:	12/09/2011 – 15/12/2011; 35 working days;
Requirement for travel:	One eight-day trip to Belarus with direct evaluation mission and discussion of the first draft of the Final Evaluation Report.
Conditions of Employment and Payment:	<p>Applicant must not have restrictions for off-hour work.</p> <p>The total lump sum for the assignment will be paid in three installments as indicated below:</p> <p>a) First payment – 10% of the lump sum will be paid within 20 days after presenting an evaluation methodology and submitting the structure of the Final Evaluation Report upon their approval by the Program Officer in the UNDP Country Office in Minsk.</p> <p>b) Second payment – 50% of the lump sum will be paid within 20 days after receipt of the first draft of the Final Evaluation Report, its approval by the Program Officer in the UNDP Country Office in Minsk and its presentation in a joint meeting of representatives of the Project Management Unit, Energy Efficiency Department and UNDP Country Office in Minsk.</p> <p>c) The final payment – 40% of the lump sum will be paid within 10 days after receipt of a complete version of the Final Evaluation Report and its approval by the Program Officer in the UNDP Country Office in Minsk and the UNDP Regional Technical Advisor in the UNDP Bratislava Regional Centre.</p> <p>The travel expenses are included in the total lump sum.</p>
Qualifications:	<ul style="list-style-type: none"> <li>• Advanced University degree to at least the Masters level in engineering, economics, environment, or business;</li> <li>• Practical experience within at least two last years in performance evaluation of at least one international and/or regional projects funded by multilateral agencies;</li> <li>• Experience in performance evaluation of such projects in CIS countries is preferred;</li> <li>• Extended knowledge of UNDP and GEF monitoring and evaluation policy, which</li> </ul>

	<p>includes experience in having evaluated at least one other UNDP project;</p> <ul style="list-style-type: none"> <li>• Solid knowledge of energy efficiency principles, best energy efficiency investment practice, and energy efficiency project cycle;</li> <li>• Knowledge in international best practices in a wide range of energy efficiency measures is preferred;</li> <li>• Familiarity with regulations in European and CIS region in the field of energy efficiency is preferred.</li> </ul>
Competencies:	<ul style="list-style-type: none"> <li>• Excellent knowledge of written and spoken English is the must;</li> <li>• Working knowledge of written and spoken Russian is an asset;</li> <li>• Good analytical skills, communications abilities, and teamwork;</li> <li>• Ability to meet deadlines and prioritize multiple tasks.</li> </ul>
Direct supervisor:	<p>Throughout the assignment the Consultant will work in close collaboration with the UNDP Country Office in Minsk. S/he will report on his work to Mr. Elinor Bajraktari &lt;<a href="mailto:elinor.bajraktari@undp.org">elinor.bajraktari@undp.org</a>&gt;, Assistant Resident Representative, UNDP Country Office in Minsk, and Dr. Alexandre Grebenkov &lt;<a href="mailto:alexandre.grebenkov@undp.by">alexandre.grebenkov@undp.by</a>&gt;, UNDP/GEF Project Manager, with support from Mr. John O'Brien &lt;<a href="mailto:john.obrien@undp.org">john.obrien@undp.org</a>&gt;, Regional Technical Advisor, UNDP Bratislava Regional Centre.</p>

#### **General background information on the context of the assignment**

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 (NSSDS) of the Republic of Belarus 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 development of the capacity of the Government of Belarus to achieve its GDP energy intensity reduction target through the energy efficiency project "Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus" funded by GEF.

The Republic of Belarus has implemented significant efforts and measures to reduce energy intensity in the economy. At the same time, energy efficiency results of Belarus are still lower than in other industrialized countries in Europe with a similar climate. It should be noted that the state sector in Belarus is the largest consumer of fuel and energy resources (FER) in the country. It represents 68% of the country's total FER consumption. This explains why the Government intends to explore new policy and measures in the near future in order to increase energy efficiency in the state sector.

There are a number of barriers that block incentives for investment in energy efficiency in this sector. Therefore, one of the primary objectives the UNDP/GEF Energy Efficiency Project has been to increase internal investments in energy efficiency projects in the state sector through targeted assistance in the areas of application of energy norms to energy planning, introduction of staff incentives and settlement accounts for accruing energy savings, improving audit standards, increasing share of loan funds compared to grants in energy efficiency financing. It is envisaged that this goal will be achieved by (i) addressing the legal and regulatory barriers in order to provide incentives for state organizations and other internal investors to invest in energy efficiency in the state sector, (ii) attracting and leveraging loan funds for several energy efficiency projects in Belarus' state sector, and (iii) establishing an Energy Centre as a self-supporting consulting/engineering institution and securing its capitalization in order to provide sustainability and replication of the results of the Project.

It is supposed that the Project if fully implemented will attract several stakeholders and partners for developing a state sector energy efficiency investment program and catalyzing investments in this sector of no less than USD 8 million from different sources. The investment program will result in reduction and offset of fossil fuel consumption in Belarus by the state sector that in turn will lead to GHG emission reduction of 350 thousand tons of CO<sub>2</sub>eq during 15 years. In addition, the Project will create a pipeline of energy efficiency investments for implementation after project closure with at least USD 10 million

committed by investors. The Project also envisages development and deployment of the National Energy Efficiency Internet-Platform, and continuation of training of energy auditors, business planners, power engineering specialists and key personnel from local ESCOs. It is also foreseen that guidelines (handbooks) on energy auditing, energy planning, and project and investment cycles, based on internationally recognized practices and criteria in the state sector, are to be developed and published.

#### **Project overview**

The project is being implemented by UNDP/GEF. The Project Document was signed and the Project was registered and launched in Dec 20, 2006. The Inception Mission and Inception Workshop opened the Project's activities in Jan 2007. In the course of inception stage of the Project, 4 state-owned organizations (hereinafter referred to as target organizations) were initially selected for and then were committed to being Project's partners. These organizations participate in the Project activities as pilot sites where a set of pilot energy efficiency measures (a pilot EE Investment Program) is to be implemented.

As per the Project Document it was initially supposed that the Project would be conducted in line with the following Outcomes:

**Outcome 1:** Increased incentives for state organizations to invest in energy efficiency

**Outcome 2:** Financial resources made available by the state sector for energy efficiency investment are used more efficiently

**Outcome 3:** Project successes sustained and replicated throughout Belarus

In the course of Project implementation, deviations from its budget delivery occurred, as well as inability to implement some of the activities within the scheduled timeframe was revealed, results of which were expected to be achieved by the end of 2009, especially within Outcome 1.

Starting from August 2009 two rounds of project performance evaluations were conducted and respective reports were issued, i.e., the Mid-Term Project Evaluation Report (August 2009) and Report on Evaluation of the UNDP/GEF Project: "Removing Barriers to Energy Efficiency Improvements in the State Sector in Belarus" and Suggestions for Continuation of the Project (June 2010).

Both reports have revealed that most of shortcomings of Project implementation are rooted in a number of outdated and discrepant provisions and approaches stated in the original project design and project Logframe matrix. Dissemination and PR coverage of project's results were rated as unsatisfactory and the project did not undertake adaptive management for a long time with regard to Outcome 1 which was shown at an early stage of the project not to be feasible. An opinion was also expressed that it is necessary to involve more international experience and international advice for the project to be successful. It was also determined that management of and supervision of the Project from the side of PMU and of UNDP needed improvement. In early 2010, the Project Manager was changed. While implementing the Project, changing circumstances have not always been taken into account, and this has been aggravated by inconsistencies and differences in the annual work plans and their harmonization with the Logframe. Also, the Project has lacked documented monitoring, verification, visualization, generalization and dissemination of the results achieved by the Project.

The evaluation reports above suggested substantive revision of the Project Document and Logframe in order to reflect the abovementioned shortcomings and remedy the project performance. Reset of some outputs and respective targets was recommended to improve the management of the Project, as well as extension of the UNDP/GEF Project until December 31, 2011 without changes in the budget was suggested. Since June 2010 the Project was performed in accordance with the revised Logframe and Detailed Work Plan for 2010 (Q3-Q4) and Detailed Work Plan for 2011.

#### **Objectives of the assignment**

This assignment must provide a comprehensive and systematic evaluation of the performance of the completed project by assessing its 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 implementation which resulted from previous project evaluations.

Respective activity of the Project Detailed Work Plan for 2011: Sub-activity 3.5.2 – Project monitoring and reporting.

The evaluation will aim to determine, as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the project. The evaluation will assess the achievements of the project against its objectives, including examination of 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. While a thorough review of the past is in itself very important, the in-depth evaluation is expected to lead to detailed recommendations and lessons learned for the future.

The evaluation should involve key project stakeholders, including the UNDP Country Office in Minsk, Energy Efficiency Department of the State Standardization Committee, project industrial partners, district authorities, members of the Project Steering Committee, project beneficiaries, civil society organizations, etc.

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.

### **Work Performed**

The scope of this assignment is as follows:

The expected output of the present evaluation is an Evaluation Report that includes, *inter alia*, the following components:

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

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
  - 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)

The expected length of the report is around 40 pages in total. The first draft of the report is expected to be submitted to the UNDP Country Office in Belarus. Any discrepancies between the interpretations and findings of the evaluator and the key project stakeholders will be explained in an annex to the complete version of the Final Evaluation Report.

#### **Audience**

The evaluation is intended mainly for the UNDP Country Office in Belarus, including Senior

Management, the Program Unit staff.

### **Methodology**

An overall guidance on outcome evaluation methodologies is provided in the UNDP Handbook on Monitoring and Evaluation for Results.

Based on this document, and in consultation with the UNDP Country Office in Belarus, the Consultant should develop a suitable methodology for this evaluation.

During the evaluation, the Consultant is expected to apply the following approaches for data collection and analysis:

- Desk review of relevant documents
- Discussions with senior management and program staff of the UNDP Country Office in Belarus;
- Interviews of partners and stakeholders
- Consultation meetings and interviews:
  - Interviews with relevant projects' staff
  - Interviews with partners
- The evaluators will prepare a report based on the above objectives.

### **Evaluation Team**

The Consultant should work in close cooperation with a local consultant (national expert), who is hired to assist the Consultant in collecting necessary information requested by the Consultant and in communicating with all stakeholders. The Consultant shall work under the overall supervision of UNDP Program Officer and report all outcomes to the latter.

### **Expected results:**

The following table defines the main milestones for which formal reports are required. These reports are to be submitted for their review by the UNDP Program Officer before the deadlines specified below. Approval of these reports by the UNDP Country Office in Belarus will govern payment under the contract for this assignment.

<i>Milestone</i>	<i>Report type and size</i>	<i>Deadline</i>
Methodology and Report Structure	Methodology (10 pgs)	September 15, 2011
Mission Report - Information collection	Status report (2 pgs)	October 15, 2011
Final Evaluation Report, first draft	Draft Final Evaluation Report (over 40 pgs)	October 31, 2011
Discussion of the first draft	Status report (2 pgs)	November 15, 2011
Final Evaluation Report, complete version	Status report (2 pgs)	November 30, 2011

The total duration of assignment is 35 working days during the period of August1, 2011 through December 15, 2011 including one eight-day mission to Minsk, Belarus. The Consultant will be paid a lump-sum fee upon delivery of the reports according to the Conditions of Employment and Payment defined earlier in this Terms of Reference. A lump-sum fee which includes travel/mission costs will be agreed with the selected consultant.

The assignment will be home-based (with one mission to Belarus) and will involve Internet research and telephone and e-mail communications with government officials, UNDP staff, companies, academia, local experts and other consultants as necessary.

**Supervisor**

**Supervisee**



## Section 7.02 Project Partners

### ПАРТНЕРЫ ПРОЕКТА

#### ПРООН/ГЭФ «Устранение препятствий в повышении энергетической эффективности предприятий государственного сектора Беларуси»

п/п	Наименование организации	Соглашение	Бизнес-план	Обоснование инвестиций	Календарный план-график	Примечание
1.	РУП ЖКХ г.Новогрудок				+	
2.	ОАО «Белвнешэкономбанк» и ОАО «Внешэнергосервис»	+				
3.	ОАО «Красносельскстройматериалы»		+		+	
4.	УП «Борисовский комбинат хлебопродуктов»	+		Корректировка ОИ		
5.	ОАО «Керамика»	+				Дополнительно протокол о финансировании
6.	ГУПП «Ивацевичское ЖКХ»	+	+	+		
7.	ОАО «Березастройматериалы»	+			+	
8.	Объединение «БЖД»	+				
9.	Лидский районный исполнительный комитет	+				
10.	РУП «Сморгонское ЖКХ»				+	
11.	Витебский областной исполнительный комитет	+				
12.	Могилевский областной исполнительный комитет	+				
13.	ОАО «Беларусбанк»	+				
14.	СЗАО «Белинвестэско»	+				
15.	ОАО «Слуцкий мясокомбинат»		+			
16.	КУП «Слуцкое ЖКХ» (котельная №1 и котельная №2)		++		+	
17.	ОАО «Купалинка»		+			
18.	Газоперекачивающая станция «Крупская»		+			
19.	«Национальное агентство по энергосбережению и ВИЭ»	+				
20.	ОАО «Минский комбинат силикатных изделий»	+				протокол о финансировании
21.	ПРУПП «Кричевцементношифер»	+	+		+	протокол о финансировании

						НИИ
22.	ООО «Гидролат»	+				
23.	ООО «Электрет»	+				
24.	ООО «Энеком»	+				
25.	КУП «Волковысское коммунальное хозяйство», преобразование котельной в Мини-ТЭЦ		+		+	
26.	АНАЛИЗ различных схем финансирования строительства мини-ТЭЦ на базе газопоршневых агрегатов в малом городе		+			
27.	«Строительство установки для утилизации тепловой энергии уходящих газов газовых турбин с целью производства электроэнергии на газоперекачивающей станции «Несвижская»		+			
<b>МЕЖДУНАРОДНЫЕ ПАРТНЕРЫ</b>						
28.	ЦУЭР, РФ	+				
29.	ОАО «ОПК «Оборонпром», РФ	+				
30.	ЕНА ОПТИМА, Болгария	+				
31.	Компания «Geninserviss», Латвия, и ЦУЭР, РФ	+				
32.	ОАО «НПО «Рассвет-Энерго», Украина	+				
33.	ООО «Horus», Польша	+				
34.	ЗАО «Эн Терра», РФ	+				
35.	ЗАО «ЭСКО «Экологические системы», Украина	+				
36.	ООО «ЭНТРОПОС», РФ	+				

### *Section 7.03 List of persons interviewed*

Alexander Grebenkov	Project Manager
Marharyta Ramanauna Chasnakova	Deputy Project Manager
Viktar Ivanovich Varabyou	National expert on small business

Ina Vacilievna Hrytsenka	National expert on finance
Siarhei Genrihovich Skuratovich	National expert on informational technologies
Aliaksandr Aliaksandrovich Savanovich	National expert on energy
Volha Leonidovna Samsonova	PR-specialist
Leonid Shenets	Director of the Department on energy efficiency of Gosstandart
Andrei Miniankou	Head of the Department of external economic relations of the EED
Krinitzkiy Alexander Petrovich	Director of OOO Enekom
Filenia Uladzislau Vasilievich	Director of International Energy Center
Tamara OSTROVSKAYA	Head of Principal Directorate for Fuel & Energy Complex and Chemistry, Ministry of Economy of the Republic of Belarus
Regional Advisor UNDP Bratislava Regional Centre	John O'Brien

## ***Section 7.04 Funds raised during the 1<sup>st</sup> and 2<sup>nd</sup> Phase of the project.***

Report by Alexander Grebenkov:

### **Phase I (Jan 2007 - June 2010)**

During 2007-2008, the PMU in cooperation with Oblast Units for State Control of Energy Efficiency and Fuel Consumption conducted screening of a number of local enterprises in the state sector, which had significant energy saving potential in the regions. In fact, this activity was a follow-up of the respective activity under the PDF-B implementation where almost 60 potential projects were identified and 24 of which were chosen for further consideration in the framework of the Project. The results were further used for development of a list of enterprises for conducting of express energy audits and design data collection and inclusion of respective energy efficiency measures (projects) in the Energy Efficiency Department's Investment Programme. In order to further specify and amend the said list, the Project mainly utilized PMU efforts, and in addition, two local experts were hired.

From the list, approved by the Energy Efficiency Department (EED), the PMU selected several enterprises where leaders were in favor of energy efficiency improvement and where one could find technically educated and competent specialists. The PMU provided consultations and facilitated a negotiation process between the leaders of these enterprises and potential investors to attract both sides to invest in energy efficiency measures proven by the PMU as commercially viable projects. Cooperation agreements were signed between the Project, site owners and BelVneshEconombank, BelarusBank, BelInvestBank and some Oblast and Region Executive Committees.

In case there was an interest from any end, the PMU suggested engineering solutions, develop business plans or/and perform feasibility studies. Then the PMU provided investment analyses of different financing schemes and selected the most sustainable projects, which were further considered by the EED and approved by the Project Steering Committee. Late in 2007, four pilot sites from the list were approved for investment (see table 1 below). The PMU members took part in meetings with project owners and investors where discussions were held as to the issues related to energy efficient technologies, capital budgeting and calendar progress chart and schedule.

All energy efficiency measures listed in table 1 were successfully financed, designed, installed and put in operation. The PMU contacted the site owners periodically to make a rough evaluation of the results of the performed measures. Unfortunately, no regular monitoring of implementation of the said projects was conducted until July 2010.

In 2009, the Project continued screening potential sites and objects of state sector entities to be included in the new energy efficiency investment program 2010-2015 as requested by the Energy Efficiency Department. The PMU and 11 local experts, recruited in 2009, conducted

about 40 express energy audits in a number of objects. The focus was mainly Slutsk and Ivatsevichy where the PMU and the EED suggested organizing so called energy efficiency demonstration zones that would include a number of objects of Slutsk food-processing industries, as well as Housing & Communal Services in Slutsk and Ivatsevichy. In the beginning of Jan 2010, the EED approved 18 projects for further elaboration of financing schemes including investments and partial support from repayable budget resources.

## **Phase II (June 2010 - Dec 2011)**

In 2010-2011, the Project continued screening potential sites and objects of state sector entities to be included in the new energy efficiency investment program 2010-2015 as requested by the Energy Efficiency Department. This time the PMU intended to attract investments for some other directions in the field of energy efficiency, in addition to 18 projects approved by the EED in the beginning of Jan 2010. These recently proposed projects are to introduce waste heat utilization (5 sites), energy efficiency in pump and compressor equipment (5 sites), low/medium thermal potential utilization with large/medium capacity heat pumps (12 sites).

In order to attract investments and ensure sustainability of the investment program, 16 projects were selected by the PMU, attributed with business plans and / or feasibility studies and suggested to the EED for approval (see table 2 below). In order to implement and monitor this activity the Project hired 21 local experts who are the best professionals in the relevant fields. In addition, some of key specialists from the said project sites also took part in the Project's centralized training courses and on-site trainings on business planning, energy audit and energy management.

In cooperation with the "International Energy Center" CJSC, which was established under the auspices of the Project, and its shareholders several investors were attracted and investment agreements prepared. The Energy Center's shareholders have committed at least US\$120 million of loan funds for energy efficiency projects. Four project sites signed multilateral protocols on co-financing with relevant ministries, the EED and UNDP. As of Dec 31, several projects launched already with blue-print stage and equipment acquisition. Some of the PMU members have been included in ad-hoc working groups established by local authorities to help implement some of these projects.

Table 1. Pilot sites selected for investment during Phase I under the auspices of the Project

Object or Owner	UNDP/GEF Project's impact / assistance	Time-frame of design and construction	Energy efficiency measures	Investment amount, kUSD <sup>5</sup>	Sources of financing	Loan attracted / leveraged from	Executer and scheme of investment financing
"BeriozaStroyMaterialy" JSC (Berioza, Brest Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) negotiation with investor; (iv) calendar progress chart and schedule.	Aug 2007 - Apr 2008	(i) construction of a mini-CHP with a 1.0 MW gas reciprocating engine;	1 212.8	Loan (bank credit)	"BelInvestBank" JSC	"BelInvestCo" CJSC (Simple partnership)
				396.5	Equity		
			(ii) isolation of the furnace;	278.0	Equity		
			(iii) installation of energy efficient furnace burners.	59.2	Equity		

<sup>5</sup> - Actually invested according to the results of monitoring of accounting records conducted during Phase II. Re: Мониторинг эффективности инвестиций в энергосберегающие мероприятия на примере нескольких государственных организаций-партнеров / Проект ПРООН/ГЭФ № 00050819 «Устранение препятствий в повышении энергетической эффективности предприятий государственного сектора Беларуси» // Минск, сентябрь 2011. – 93 стр.

<p>“KrasnoselskSroy-Materialy” JSC (Krasnoselsk, Grodno Oblast)</p>	<p>(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.</p>	<p>Sep 2008 - March 2009</p>	<p>(i) conversion of a boiler house into a mini-CHP with two 2.43 MW gas reciprocating engines and a 1.7 MW heat-recovery boiler.</p>	<p>7 378.0 2 402.3</p>	<p>Financial leasing Loan (bank credit)</p>	<p>“BelVnesh-EconomBank” JSC and “BelPromSroy-Bank” JSC</p>	<p>“VneshEnergo Service” CJSC (Investment and ownership by investor)</p>
<p>“Keramika” JSC (Vitebsk)</p>	<p>(i) express energy audit; (ii) technical and design solutions, consulting; (iii) negotiation with investor; (iv) calendar progress chart and schedule.</p>	<p>Sep 2007 - May 2009</p>	<p>(i) construction of a mini-CHP with two 1.4 MW gas reciprocating engines; (ii) installation of blow fan variable frequency drives; (iii) replacement of liquid-packed ring vacuum pumps with oil pumps; (iv) installation of automated burners in furnaces.</p>	<p>3 272.0  31.8 63.0 215.7</p>	<p>Equity  Equity Equity Equity</p>	<p>N/A</p>	<p>“Keramika” JSC (Ownership)</p>

“Ivatsevichi Town Utility” Communal Unitary Enterprise (Ivatsevichi, Brest Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) negotiation with investor; (iv) calendar progress chart and schedule.	Mar 2007 - Feb 2010	(i) replacement of pumps at the boiler house, central heat supply station and water supply points;	72.0	Equity	N/A	“Ivatsevichi Town Utility” Communal Unitary Enterprise (Ownership)
			(ii) installation of blow fan variable frequency drives and gas analyzer to optimize combustion at the boiler house;	111.4	Equity		
			(iii) installation of temperature regulators and plate-type heat exchangers for hot water supply at the boiler house and central heat supply station.	97.4	Equity		
				62.7	Municipal Budget		
Total				15 652.8			

Table 2. Pilot sites selected for investment during Phase II under the auspices of the Project

Object or Owner	UNDP/GEF Project's contribution / assistance	Time-frame of design and construction	Energy efficiency measures	Investment amount, kUSD <sup>6</sup>	Sources of financing	Loan attracted / leveraged from	Executer and scheme of investment financing
"Minsk Integrated Plant of Silicate Products" OJSC	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) feasibility study; (v) capital investment appraisals and capital budgeting; (vi) negotiation with investor; (vii) calendar progress chart and schedule.	Feb 2011 - 2012	(i) construction of a power technological module	5 088.0 (credit line opened, 4 580.0 utilized)  1 000.0	Loan (bank credit)  State loan	"BelPromStroy-Bank" JSC  Energy Efficiency Department	"Minsk Integrated Plant of Silicate Products" OJSC (Ownership)

<sup>6</sup> - Amount planned or actually invested according to business plans prepared, accounting records conducted, agreements and protocols signed during Phase II.

<p>“Borisov Bakery Complex” JSC (Borisov; Minsk Oblast)</p>	<p>(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) feasibility study; (v) capital investment appraisals and capital budgeting; (vi) negotiation with investor; (vii) calendar progress chart and schedule.</p>	<p>Dec 2010 - 2012</p>	<p>(i) construction of an energy-technological complex with two 1.0 MW gas reciprocating engines; (ii) set of energy efficiency measures at an all-mash palletizing module.</p>	<p>1 584.0 (credit line opened, 1 584.0 utilized)  774.0 (credit line opened, 774.0 utilized)</p>	<p>Loan (bank credit)  Equity</p>	<p>“BelarusBank” JSC</p>	<p>“Borisov Bakery Complex” JSC (Ownership)</p>
<p>“Slutsky Cheese-making Factory” JSC (Slutsk, Minsk Oblast)</p>	<p>(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) feasibility study; (v) capital investment appraisals and capital budgeting; (vi) calendar progress chart and schedule.</p>	<p>Jan 2011 – 2012</p>	<p>(i) construction of a mini-CHP with two 2.0 MW gas reciprocating engines; (ii) construction of two boiler-utilizers; (iii) replacement of recirculated water pumps and well pumps; (iv) retrofit of two drying units.</p>	<p>7 096.8 (credit line opened)  250.0 (credit line opened, 250.0 utilized)</p>	<p>Loan (bank credit)  Equity</p>	<p>“BelPromStroy-Bank” JSC “BelAgroProm-Bank” JSC</p>	<p>“Slutsky Cheese-making Factory” JSC (Ownership)</p>

“Volkovysky Housing & Communal Services” CUE (Volkovysk, Grodno Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) feasibility study; (v) capital investment appraisals and capital budgeting; (vi) negotiation with investor; (vii) calendar progress chart and schedule.	Sep 2011 – 2013	(i) construction of a mini-CHP with three 2.0 MW gas reciprocating engines	9 502.3 (credit line opened)  1 566.5 (credit line opened, 165.0 utilized)	Financial leasing  Loan (bank credit)	“BelVnesh-EconomBank” JSC	“International Energy Center” CJSC (Simple partnership)
“Slutsky Meat Processing & Packing Factory” JSC (Slutsk, Minsk Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) feasibility study; (v) capital investment appraisals and capital budgeting; (vi) negotiation with investor; (vii) calendar progress chart and schedule.	Apr 2010 – 2012	(i) construction of a triple-generation plant (combined heat, power and cold production) with two 1.8 MW gas reciprocating engines, boiler-utilizer and absorption refrigerating machine; (ii) decentralization of compressed air supply and installation of compressors with variable frequency drives; (iii) replacement of recirculated water pumps	4 044.5  844.2  250.0 (credit line opened)	Loan (bank credit)  Equity  State loan	“BelVnesh-EconomBank” JSC  Energy Efficiency Department	“Slutsky Meat Processing & Packing Factory” JSC (Ownership)

<p>“KrichevCementnoShifer” MRUE (Krichev, Mogilev Oblast)</p>	<p>(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) feasibility study; (v) capital investment appraisals and capital budgeting; (vi) negotiation with investor; (vii) calendar progress chart and schedule.</p>	<p>Nov 2011 – 2013</p>	<p>(i) construction of an energy-technological complex with two 1.95 MW gas reciprocating engines; (ii) a set of energy efficient measures in technological chain, including concurrent substitution of steam for hot water as a heat carrier in the roofing slate production lines.</p>	<p>5 166.7 (credit line opened)  500.0</p>	<p>Loan (bank credit)  State loan</p>	<p>“Enecom” Ltd.  Energy Efficiency Department</p>	<p>“Enecom” LTD (Undisclosed partnership)</p>
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<p>“Slutsky Housing &amp; Communal Services” CUE (Slutsk, Minsk Oblast)</p>	<p>(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.</p>	<p>Jan 2012 – 2013</p>	<p>(i) construction of a mini-CHP with turbo ORC-generator and two 2.0 MW gas reciprocating engines at Boiler House No.1; (ii) construction of a mini-CHP with two 2.0 MW gas reciprocating engines at Boiler House No.2; (iii) installation of new pumps with variable frequency drives at water supply points; (iv) installation of new networked pumps with variable frequency drives; (v) installation of new feed and boost pumps with variable frequency drives.</p>	<p>6 929.7 (credit line opened)  8 088,9 (credit line opened)  6 181,6</p>	<p>Loan (bank credit)  Loan (bank credit)  Equity</p>	<p>“BelVnesh-EconomBank” JSC</p>	<p>“International Energy Center” CJSC (Simple partnership)</p>
<p>“Krupskaya” Gas-Compressor Station (Minsk Region)</p>	<p>(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.</p>	<p>Jan 2012 – 2013</p>	<p>(i) installation of high temperature waste heat recuperation system after a turbocharger; (ii) installation of a turbo ORC-generator of 16.7 MW.</p>	<p>31 253.0</p>	<p>Loan (bank credit)</p>	<p>“BelVnesh-EconomBank” JSC</p>	<p>“International Energy Center” CJSC (Undisclosed partnership)</p>

“Nesvizhskaya” Gas-Compressor Station (Minsk Region)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.	Jan 2012 – 2013	(i) installation of high temperature waste heat recuperation system after a turbocharger; (ii) installation of a turbo ORC-generator of 16.7 MW.	29 108.0	Loan (bank credit)	“BelVnesh-EconomBank” JSC	“International Energy Center” CJSC (Undisclosed partnership)
“Ivatsevichi Town Utility” CUE (Ivatsevichi, Brest Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) feasibility study; (v) capital investment appraisals and capital budgeting; (vi) negotiation with investor; (vii) calendar progress chart and schedule.	March 2012 – 2013	(i) construction of a mini-CHP with a 1.5 MW gas reciprocating engine	1 466.4 464.8	Financial leasing Loan (bank credit)	“BelVnesh-EconomBank” JSC	“International Energy Center” CJSC (Simple partnership)

“Keramika” JSC (Vitebsk)	(i) express energy audit; (ii) technical and design solutions, consulting.	2012 - 2013	(i) modernization of technological process; (ii) construction of an energy-technological complex with a 1.4 MW gas reciprocating engine; (iii) installation of variable frequency electric drives; (iii) installation of automated burners in furnaces.	2 500.0  450.0	Equity  State loan	N/A  Energy Efficiency Department	“Keramika” JSC (Ownership)
“Kupalinka” JSC (Soligorsk, Minsk Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.	2012 - 2013	(i) construction of a mini-CHP with a 2.0 MW gas reciprocating engine; (ii) construction of a waste heat utilizer; (iii) replacement of recirculated water pumps and well pumps	3 712.8  1 321.7	Financial leasing  Loan (bank credit)	“BelPromStroy-Bank” JSC	“Kupalinka” JSC (Ownership)

“Bellakt” JSC (Volkovysk, Grodno Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.	2012 - 2013	(i) construction of a mini-CHP with two 1.1 MW gas reciprocating engines; (ii) construction of two waste heat utilizers; (iii) replacement of recirculated water pumps and well pumps	2 248.4  945.2	Loan (bank credit)  Direct investment	“BelVnesh-EconomBank” JSC (pending decision)	“International Energy Center” CJSC (BOT)
“Schuchinsky Butter-dairy & Cheese-making Factory” JSC (Volkovysk, Grodno Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.	2012 - 2013	(i) construction of a mini-CHP with a 1.56 MW gas reciprocating engine; (ii) construction of a waste heat utilizer; (iii) replacement of recirculated water pumps and well pumps	2 009.0  1 743.4	Loan (bank credit)  Direct investment	“BelVnesh-EconomBank” JSC (pending decision)	“International Energy Center” CJSC (BOT)

“Mosty City Boiler-house” CUE (Mosty, Grodno Oblast)	(i) express energy audit; (ii) technical and design solutions, consulting; (iii) business planning; (iv) capital investment appraisals and capital budgeting; (v) negotiation with investor; (vi) calendar progress chart and schedule.	2012 - 2013	(i) construction of a mini-CHP with a 2.0 MW gas reciprocating engine; (ii) construction of a waste heat utilizer; (iii) replacement of recirculated water pumps and well pumps	1 124.1  416.8	Loan (bank credit)  Direct investment	“BelVnesh-EconomBank” JSC (pending decision)	“International Energy Center” CJSC (Undisclosed partnership)
Total				137 630.8			
Total credit line opened as of Dec 31, 2011				46 296.9			
Total investment utilized as of Dec 31, 2011				7 353.0			

## **Section 7.05      *Background Brief by Alexander Grebenkov on IEC***

### **(a) List of support measures and contributions given by the project to the IEC**

The International Energy Center (IEC) first was established as a unit at the Energy Efficiency Department to help realize energy efficiency policy through initiating energy efficiency projects<sup>7</sup>. Under such status, the IEC was simply a collector, register and reviewer of potential projects. It was not actually capable to leverage investments, neither it was able to provide even consulting, energy auditing, engineering and business planning. Therefore, as a next approximation, it was decided to integrate the IEC into the structure of “BelInvestEnergo-Sberezheniye” RUE supervised by the Energy Efficiency Department<sup>8</sup>. This would give the IEC at least the competence to perform consulting, engineering, business planning and auditing services. There are many such organizations in Belarus. One important area of activity would be missed though. The IEC would be able to utilize and/or promote investments, but not to leverage investments neither to be a part of schemes for investment financing (e.g., ESCO).

Therefore, long and wide discussions with involvement of international consultants were held until the beginning of 2009. Final decision was made by Energy Efficiency Department and the Project Steering Committee, and in May 2010, the Council of Ministers signed a protocol of approval of establishing the IEC as a closed JSC. Since that date the IEC Statute has been elaborated and the stakeholders have been identified and committed.

The IEC was established as a closed corporation on September 6, 2011. To assure the IEC’s financial self-sufficiency, the Project has prepared and published an analytical report that includes strategy and action plan for the International Energy Centre with specification of some new feasible opportunities in energy efficiency investment business and associated risks<sup>5</sup>. Until the end of the Project the IEC performed as an instrument to be used for (i) benchmarking typical cycles for energy efficiency projects and energy efficiency investments; (ii) sharing knowledge and experience with Project’s stakeholders; (iii) providing learning-by-doing; (iv) testing new energy efficiency investment schemes, e.g. through SPAs; (v) assisting in developing energy efficiency investment project pipeline; (vi) raising actual investments and managing efficient investment financing schemes.

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<sup>7</sup> - Order No.14 of 28.03.2007 / Department for Energy Efficiency

<sup>8</sup> - Order No.29 of 09.07.2008 / Department for Energy Efficiency

Today, the IEC is a for-profit engineering and consulting company, experienced in development, investment, performing and monitoring energy efficiency projects. Today the IEC earns its fees mainly from owning and operating power installations. It is paid by its clients to whom the IEC sales electricity, heat, energy savings, and provides services. So far, in order to implement large energy efficiency projects (e.g., mini-CHP), the IEC uses mainly the following simple scheme: loan or long lease financing using its shareholder's resources, build, own and operate under undisclosed or simple partnership agreements with its client. Quite similar to the ESCO-model for Belarusian conditions.

List of support measures and contributions from the Project's end is as follows (efforts of the Project staff members are not included<sup>9</sup>):

Who contributed	Support measures	Amount paid, in kUSD
International consultant	Market Appraisal of Services in the Field of Energy Efficiency in Belarus / TAWI Corp., May, 2008, - 71 pgs.	23.00
International consultant	Business Plan of Energy Center / TAWI Corp., November, 2008, - 65 pgs.	27.15
Professional legal services	Negotiation with shareholders. Preparation of the IEC Charter. Preparation of the Provisions for Board of Directors. Draft of a sample of Investment Agreements. Drafts of a sample of Simple Partnership Agreements. Draft of a sample of Cooperation Agreements. Other legal consulting.	2.02

## **(b) Website of the IEC**

So far, the IEC does not have its own website, for it was agreed with the Energy Efficiency Department that the IEC would continue using already promoted and known website of the Project to keep it alive and functional after the Project is terminated.

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<sup>9</sup> - e.g., the report concerning strategy and action plan for further expansion of the IEC as a self-sustained company: Среднесрочная стратегия и план действий СЗАО «Международный энергетический центр» с дополнительными направлениями его деятельности для обеспечения перехода на самофинансирование после завершения Проекта / Проект ПРООН/ГЭФ № 00050819 «Устранение препятствий в повышении энергетической эффективности предприятий государственного сектора Беларуси» // Минск, апр. 2011. – 53 стр.

### **(c) Shareholders (with percentages) of the IEC**

The Statutory Fund is about \$202 341 USD divided by 1050 ordinary shares.

- Open Joint Stock Company “BelVneshEkonomBank” – 52.1%;
- Open Joint Stock Company “National Space Bank” (Moscow, Russia) – 31.8%;
- Limited Liability Company “StroiSektor” (Moscow, Russia) – 15.9%;
- Limited Liability Company “TAWI” (Warsaw, Poland) – 0.2%.

### **(d) Range of activities of the IEC**

Legally – any business activity under Belarusian legislation. Since the date of its establishing, the IEC is active in the following directions:

- energy audit;
- energy efficiency projects’ expertise;
- business planning;
- conducting feasibility study;
- consulting services;
- engineering services;
- design work;
- operating power installations;
- maintenance services.

### **(e) Sales achieved by the IEC**

Annual sales are about \$9.5 MUSD

### **(f) Business development goals of the IEC**

It is planned that the IEC will be using the energy performance contracting when the legal environment allows. So far they use the undisclosed / simple partnership schemes, if we talk about efficient investment financing in the state sector. Moreover, the Energy Efficiency Department is now using the IEC as an indicator of problems for business activity in the field of

energy efficiency. For example, the Department involved the IEC economists in different ad-hoc working groups to help elaborate a legal framework for ESCO, BOT and other schemes of financing of investments in public projects.

***Section 7.06 List of legislative acts adopted by the Government as a result of the Project's activities<sup>10</sup>:***

1. Рекомендации для бюджетных организаций по открытию специальных расчетных счетов (счетов экономического стимулирования) к постановлению Правления Национального банка Республики Беларусь от 20 июня 2007 г. N 127.
2. Проект постановления Совета Министров Республики Беларусь «О некоторых мерах по реализации Директивы Президента Республики Беларусь от 14 июня 2007г. № 3».
3. Типовые рекомендации о моральном и материальном стимулировании работников за экономию и рациональное использование топливно-энергетических и материальных ресурсов (утверждены совместным постановлением Министерства труда и социальной защиты Республики Беларусь и Государственного комитета по стандартизации Республики Беларусь от 29 октября 2008 года №132/54.)
4. Положение о порядке финансирования ежегодных региональных и республиканской программ энергосбережения за счет средств республиканского бюджета (утверждено приказом Государственного комитета по стандартизации Республики Беларусь № 80 от 31.05.2010г.)
5. Инструкция о порядке проведения конкурсного отбора энергоэффективных проектов (мероприятий) для оказания государственной поддержки из средств республиканского бюджета (утверждена приказом Департамента по энергоэффективности Госстандарта от 14 октября 2010 года №17).

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<sup>10</sup> - Re: Предложения по совершенствованию правовой и институциональной базы для стимулирования инвестиций в повышение энергоэффективности / Проект ПРООН/ГЭФ № 00050819 «Устранение препятствий в повышении энергетической эффективности предприятий государственного сектора Беларуси» // Минск, май 2011. – 68 стр. See: Приложение 4. Краткая характеристика нормативных актов, ранее предложенных Проектом ПРООН/ГЭФ (стр. 65)

6. Перечень критериев отбора энергоэффективных проектов для оказания государственной поддержки из средств республиканского бюджета согласованный Министерством экономики (утвержден приказом Департамента по энергоэффективности Госстандарта от 14 октября 2010 года №18).

### ***Section 7.07 List of PR activities - Activity 3.3.2.***

At least 5 simplified informational materials in a form of leaflets and brochures prepared and published (about the Project, on energy audit, on EE investments, on Energy Centre), 2 handbooks, 5 interviews, 5 press-releases, 1 "Energy Marathon"

**More than 50 original articles in Belarusian and Russian mass-media (with the EE Project reference):**

1. [Белорусскую молодежь обучат энергосбережению и рациональному использованию природных ресурсов](#) – декабрь 2011г.
2. [Республиканский месячник «Мы за энергоэффективность!» продолжается. Мероприятия текущей недели](#) – ноябрь 2011г.
3. [Налоговые льготы для энергоэффективных проектов](#) – ноябрь 2011г.
4. [Варианты финансирования](#) – ноябрь 2011г.
5. [Канадские и белорусские эксперты обсудят схемы инвестирования в энергосбережение](#) – ноябрь 2011г.
6. [Семинар-тренинг «Инвестиции в энергоэффективность»](#) – октябрь 2011г.
7. [В Минске пройдет семинар-тренинг «Инвестиции в энергоэффективность»](#) – октябрь 2011г.
8. [Австрийские энергетики обучат белорусских коллег эффективным схемам инвестирования в энергосбережение](#) – октябрь 2011г.
9. [Повышение энергетической эффективности предприятий государственного сектора Беларуси](#) – октябрь 2011г.
10. [ПРООН повышает энергоэффективность Беларуси](#) – октябрь 2011г.
11. [Экономика не должна зажигать](#) – октябрь 2011г.
12. [Подведены итоги самой крупной в Беларуси конференции по энергоэффективности](#) – октябрь 2011г.
13. [Государство удвоит усилия по энергосбережению](#) – октябрь 2011г.
14. [Рецепты бережливости](#) – октябрь 2011г.
15. [У ЕС и Беларуси задача общая – экономия энергоресурсов](#) – октябрь 2011г.
16. [В Беларуси с проектом ПРООН/ГЭФ будут реализованы две новые масштабные энергосберегающие инициативы](#) – октябрь 2011г.
17. [Приглашаем на II Международную конференцию по энергоэффективности](#) – октябрь 2011г.

18. [Повышение энергетической эффективности предприятий государственного сектора Беларуси](#) – октябрь 2011
19. [В Беларуси стартовал "Энергомарафон-2011"](#) – октябрь 2011
20. [Эксперты Беларуси, России и Австрии обмениваются опытом инвестирования в энергосберегающие мероприятия](#) – октябрь 2011
21. Используйте энергию с умом: вопросы энергоэффективности интересовали Постоянного представителя ПРООН/ООН Антониуса Брука и его команду, которые на днях посетили Витебск – октябрь 2011 (областная газета «Витебский рабочий»)
22. [Представительство ПРООН/ООН ознакомится с использованием энергоэффективных технологий на ОАО "Керамика"](#) – сентябрь 2011г.
23. [Новая тарифная политика в области энергосбережения: предложения эксперта](#) – август 2011г.
24. [Организация деятельности по повышению энергоэффективности в Республике Беларусь](#) – август 2011г.
25. [ПРООН повысит компетенцию белорусских специалистов в сфере энергетического менеджмента](#) – июль 2011
26. [В Минске состоится семинар-тренинг «Энергетический менеджмент и аудит»](#) – июль 2011г.
27. [В Минске обучат лучшим практикам в сфере энергоменеджмента и аудита](#) – июль 2011г.
28. [Энергамарафон набирает темпы](#) – июнь 2011г.
29. [Победителями международного конкурса энергоэффективных технологий стали белорусские предприятия](#) – май 2011г.
30. [Беларусь в 2011 году планирует начать реализацию двух энергопроектов на \\$8 млн. с участием ПРООН/ГЭФ](#) – май 2011г.
31. [Беларусь и ПРООН расширяют сотрудничество в сфере энергосбережения](#) – май 2011г.
32. [Энергобезопасность Беларуси под угрозой](#) – май 2011г.
33. ["Энергамарафон-2010": дзеці вучаць эканоміць](#) – апрель 2011
34. [В "Энергамарафоне-2010" участвовало более 1,1 тыс. проектов по экономии и бережливости в Беларуси](#) – март 2011
35. [Международный энергетический центр намерен привлечь в энергоэффективные проекты в Беларуси около \\$120 млн.](#) – ноябрь 2010г.
36. [В Минске открылся Международный энергетический центр](#) – октябрь 2010г.
37. [Беларусь переходит на энергосберегающий режим](#) – октябрь 2010г.
38. [Конференция «Энергетика и экология – обмен опытом в рамках немецко-белорусского сотрудничества». День Германии на XV Белорусском энергетическом и экологическом форуме](#) – октябрь 2010г.
39. [МГЭУ им. А.Д. Сахарова принимает участников международного семинара](#) – июль 2010г.

40. [В Минске обсудили перспективы развития альтернативной энергетики](#) – июль 2010г.
41. [Поиск альтернативы продолжается](#) – июль 2010г.
42. [Семашко С.А. принял участие в международном практическом семинаре](#) – июль 2010г.
43. [ООН поддержит Ивацевичский ЖКХ и Слуцкий мясокомбинат](#) – июль 2010г.
44. [Разработана госпрограмма развития источников возобновляемой энергии](#) – июль 2010г.
45. [Лучшими в организации работы учреждений образования по энергосбережению признаны Минск и Витебская область](#) – апрель 2010г.
46. [В Беларуси появится интернет-портал по энергоэффективности](#) – декабрь 2009г.
47. [Энергосбережение: догнать и перегнать Канаду](#) – декабрь 2009г.
48. [На светлой идее экономят бюджет и здоровье](#) – декабрь 2009г.
49. [В ПРООН заявляют о готовности российских банков финансировать реализацию в Беларуси проектов по повышению энергоэффективности](#) – декабрь 2009г.
50. [Два инновационных проекта на \\$8 млн. будут реализованы в энергетике Беларуси при поддержке ПРООН и ГЭФ](#) – декабрь 2009г.
51. [Глобальный экологический фонд готов выделить Беларуси грант в \\$4,5 млн на новый проект в области энергосбережения](#) – декабрь 2009г.

#### **8 interviews with the EE Project Manager:**

1. Интервью для Первого национального канала Белорусского радио на семинаре-тренинге «Инвестиции в энергоэффективность» – ноябрь 2011г.
2. [Разделим риски в энергетике](#) – октябрь 2011г.
3. [ООН содействует повышению энергоэффективности госпредприятий Беларуси](#) – октябрь 2011г.
4. Интервью с участием Александра Гребенькова и Андрея Миненкова для программы «Актуальный микрофон» Первого национального канала Белорусского радио в прямом эфире – октябрь 2011г.
5. [Зачем ПРООН обучает белорусских специалистов энергетическому менеджменту?](#) – август 2011г.
6. [Как вынудить белорусскую экономику потреблять меньше энергии](#) – май 2011г.
7. [Энергоэффективность в Беларуси - бег с препятствиями](#) – декабрь 2010г.
8. [Чем будет заниматься Международный энергетический центр в Беларуси?](#) – ноябрь 2010г.

#### **20 press-releases:**

1. [Началась регистрация на семинар-тренинг «Инвестиции в энергоэффективность»](#) – октябрь 2011г.
2. [Подведены итоги самой крупной в Беларуси конференции по энергоэффективности](#) – октябрь 2011г.
3. [Департамент по энергоэффективности совместно с проектом ПРООН/ГЭФ реализуют еще два масштабных энергосберегающих мероприятия](#) – октябрь 2011г.
4. [Проект ПРООН/ГЭФ приглашает на II международную конференцию по энергоэффективности](#) – октябрь 2011г.
5. [ПРООН повысит компетенцию белорусских специалистов в сфере энергетического менеджмента](#) – июль 2011г.
6. [Конкурс энергоэффективных и ресурсосберегающих технологий: победители определены](#) – май 2011г.
7. [Беларусь и ПРООН расширяют сотрудничество в сфере энергосбережения](#) – май 2011г.
8. [Международный научно-практический семинар "Энергосбережение - инновационный путь развития"](#) – май 2011г.
9. [«Энергомарафон-2010» подвел итоги](#) – апрель 2011г.
10. [Заключительный этап IV республиканского конкурса школьных проектов по экономии и бережливости «Энергомарафон-2010»](#) – март 2011г.
11. [Программа республиканского семинара «Энергосберегающая деятельность учреждений образования Гомельской области: опыт, инновации, перспективы»](#) – март 2011г.
12. [Энергомарафон – 2010](#) – январь 2011г.
13. [Международный энергетический центр начал свою работу в Беларуси](#) – октябрь 2010г.
14. [Международная конференция «Стимулирование и практический опыт привлечения инвестиций в мероприятия по повышению энергоэффективности». Секция «Энергоэффективные технологии»](#) – октябрь 2010г.
15. [Международная конференция «Стимулирование и практический опыт привлечения инвестиций в мероприятия по повышению энергоэффективности»](#) – октябрь 2010г.
16. [Международный форум по энергоэффективности в Астане](#) – сентябрь 2010г.
17. [Международный практический семинар "Развитие сектора возобновляемых источников энергии в Российской Федерации и в Странах СНГ: Перспективы межрегионального сотрудничества"](#) – июль 2010г.
18. [Республиканский конкурс «Энергомарафон - 2009» подвел итоги](#) – апрель 2010г.
19. [Первая сессия обучения белорусских специалистов](#) – июль 2009г.
20. [Ход выполнения Проекта в 2009 г.: развитие и перспективы](#) – декабрь 2009г.

**11 news for the [EE Project website](#) alone:**

1. [Эксперты проекта ПРООН/ГЭФ провели 5 обучающих семинаров-тренингов](#) – декабрь 2011г.
2. [Эксперты проекта ПРООН/ГЭФ привезли в Беларусь лучший австрийский и швейцарийский опыт в области энергоэффективности](#) – ноябрь 2011г.
3. [ПРООН способствует развитию в Беларуси рынка энергосервисных компаний](#) – ноябрь 2011г.
4. [Обучение 2009](#) – июль 2011г.
5. [Семинар-тренинг «Энергетический менеджмент и аудит: методология и стандарты, зарубежная и отечественная практика»](#) – июль 2011г.
6. [Предварительный анализ политики и мер в области повышения энергоэффективности в Республике Беларусь](#) – апрель 2011г.
7. [Программа заключительного этапа IV Республиканского конкурса школьных проектов по экономии и бережливости «Энергомарафон – 2010»](#) – март 2011г.
8. [Развитие сектора возобновляемых источников энергии в Российской Федерации и в странах СНГ: перспективы межрегионального сотрудничества](#) – июль 2010г.
9. [«Энергоэффективные технологии как фактор выполнения доведенных заданий по энергосбережению в системе жилищно-коммунального хозяйства»](#) – май 2010г.
10. [Обучение проведению энергетических обследований и разработке бизнес-планов](#) – май 2009г.
11. [Семинар-круглый стол «Стимулирование и финансирование энергосбережения в государственном секторе Беларуси»](#) – декабрь 2008г.

**Energy Marathons:**

1. V республиканского конкурса школьных проектов по экономии и бережливости «Энергомарафон-2011»
- 2, 3 IV республиканского конкурса школьных проектов по экономии и бережливости «Энергомарафон-2010», в том числе регионального тура по Минску и Минской области.
1. III республиканского конкурса школьных проектов по экономии и бережливости «Энергомарафон-2009»

**Brochures and a leaflet:**

1. Брошюра «Повышение энергоэффективности и использование возобновляемых источников энергии в Республике Беларусь» (русский, английский, немецкий языки)

- 1.1. 1-е издание – апрель 2010г. (1 000 экз.)
- 1.2. 2-е издание – ноябрь 2010г. (1 000 экз.)
- 1.3. 3-е издание – декабрь 2011г. (1 000 экз.)
2. Брошюра «7 источников финансирования энергоэффективных проектов для государственных предприятий: достоинства и недостатки» – октябрь, декабрь 2011г. (1 000 экз.)
3. Листовка «Как сэкономить 1000 кВт•ч в год? Простые советы для бережливой семьи» – ноябрь 2011г. (30 000 экз.)

## **Section 7.08      *Protocols of Steering Committee Meetings***

### **(a) PSCM 3 September 2010**

#### **Проект ПРООН/ГЭФ**

**«УСТРАНЕНИЕ ПРЕПЯТСТВИЙ В ПОВЫШЕНИИ ЭНЕРГЕТИЧЕСКОЙ  
ЭФФЕКТИВНОСТИ ПРЕДПРИЯТИЙ ГОСУДАРСТВЕННОГО СЕКТОРА БЕЛАРУСИ»**

#### **Заседание Координационного комитета проекта**

**Минск, 3 сентября 2010 г.**

**Департамент по энергоэффективности Госстандарта**

#### **Протокол заседания**

#### **Повестка дня**

1. Рассмотрение пересмотренной Логической матрицы Проекта и Плана работ и расходов по Проекту на период 3-4 кв. 2010г. – 2011г.

#### **Присутствовали:**

1. Миненков А.В., Начальник отдела научно-технической политики и внешнеэкономических связей Департамента по энергоэффективности Госстандарта, Национальный директор проекта, Председатель Координационного комитета проекта;
2. Гребеньков А.Ж., Менеджер Проекта;
3. Фарид Караханов, Заместитель Постоянного Представителя ООН/ПРООН;
4. Воробьев В.И., Национальный эксперт Проекта по малому бизнесу, Директор Энергетического центра;
5. Панкевич А.И., Начальник отдела энергосбережения Минстройархитектуры;
6. Герасименко А.Н., главный специалист отдела энергетики Мингорисполкома;
7. Островская Т.В., Начальник главного управления топливно-энергетического комплекса, химической и фармацевтической промышленности Минэкономики;

8. Шевченко В.Н., Заместитель начальника отдела по сотрудничеству с международными организациями и координации технической помощи Минэкономики;
9. Нечай А.Ф., Начальник отдела по энергетике и топлива Гродненского облисполкома.

**Приглашены:**

1. Шенец Л.В., Директор Департамента по энергоэффективности Госстандарта;
2. Чеснокова М.Р., Заместитель менеджера Проекта;
3. Скуратович С. Г., Национальный эксперт по информационным технологиям;
4. Гриценко И.В., Национальный эксперт по финансам;

**Выступили:**

1. Гребеньков А.Ж., Миненков А.В., Шенец Л.В. Пересмотренная Логическая матрица Проекта и План работ и расходов по Проекту на период 3-4 кв. 2010г. – 2011г.

**Решение:**

- 1.1 Одобрить в целом Логическую матрицу и предложенный План работ и расходов по Проекту на период 3-4 кв. 2010г. – 2011г.
- 1.2 Представить Логическую матрицу и План работ и расходов по Проекту на период 3-4 кв. 2010г. – 2011г. (прилагаются), скорректированные на основании предложенных изменений и дополнений, на утверждение.
- 1.3 Подготовить необходимые документы для продления срока выполнения работ по Проекту до конца 2011 года.

Шенец Л.В. и Островская Т.В. поручили экспертам Проекта составить Справку о достигнутых результатах Проекта и разослать всем членам Координационного Комитета.

Островская Т.В. отметила, что схема Договоров простого товарищества является сложной и трудновыполнимой задачей для некоторых категорий проектов по повышению энергоэффективности и предложила не ограничиваться только этой схемой, а расширить формулировку подзадачи 1.4.

Панкевич А.И. предложил оставить в Логической матрице и Плане работ те подзадачи из первоначального Проектного документа, которые по разным причинам не будут выполняться в 2010-2011 годах, с указанием причины (например, как выполненные или не подлежащие выполнению согласно Документу ревизии Проекта).

Островская Т.В. высказалась против пункта 3.1.1. Плана работ «Доработка и корректировка бизнес-плана Энергетического центра для обеспечения беспрепятственного перехода на самофинансирование после завершения Проекта», и по предложению Шенца Л.В. и Герасименко А.Н. данный пункт был рекомендован в следующем изложении: «Разработка среднесрочной стратегии и плана действия для Энергетического центра с дополнительными направлениями его деятельности для обеспечения перехода на самофинансирование после завершения Проекта».

Шевченко В.Н. отметил необходимость следования главной задаче Проекта и рекомендовал ускорить подготовку необходимых документов для продления Проекта до конца 2011г.

**Национальный директор Проекта,  
Миненков**

**А.В.**

**Председатель Координационного  
комитета проекта**

**Советник Постоянного Представителя ПРООН  
Э.Байрактари**

**Менеджер проекта ПРООН/ГЭФ  
Гребеньков**

**А.Ж.**

Секретарь Координационного комитета проекта

**(b) PSCM 16 December 2011**

At the time of writing of this report the Steering Committee Meeting had not taken place yet.

### ***Section 7.09 List of documents reviewed***

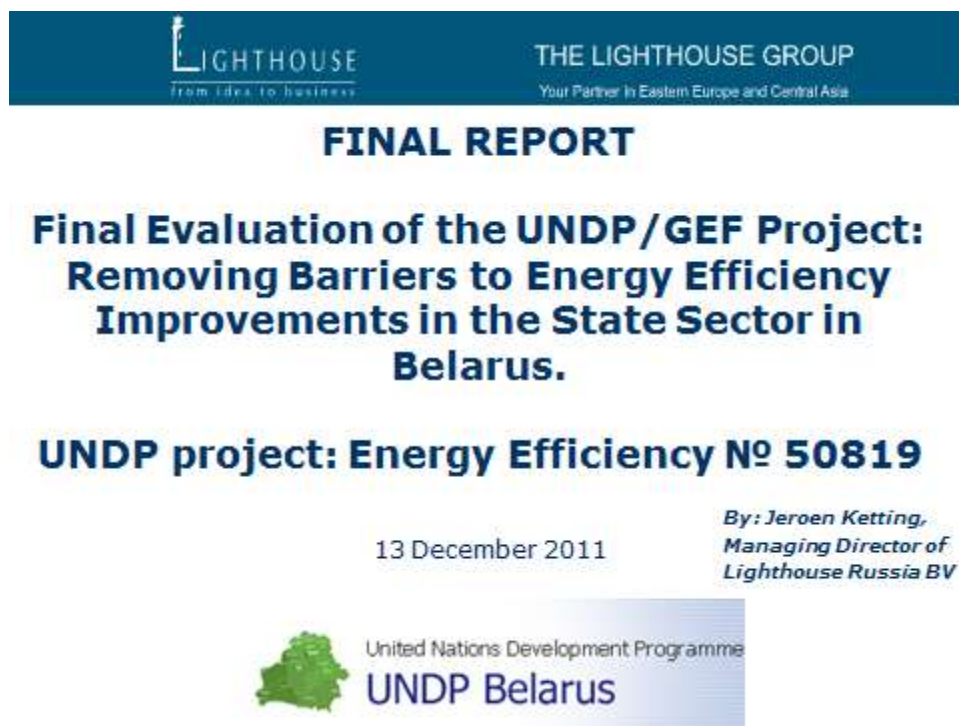
1. [Conferences\agenda conference 13.11.2011 Eng.pdf](#)
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3. [Conferences\Draft Minutes UNECE Seminar-23.07.2010V2.doc](#)
4. [Conferences\s\\_okt\\_14\\_prog\\_news\\_v\\_печать.pdf](#)
5. [Conferences\Workshop 22-23-July Agenda RUS.pdf](#)
6. [Conferences\Программа семинара 19 мая 2011.pdf](#)
7. [Conferences\список докладчиков\\_01.pdf](#)[E:\Conferences\список печать.doc](#)
8. [Different document\ПРОТОКОЛ по Кричеву 2.docx](#)
9. [Different document\ПРОТОКОЛ по ОАО МКСИ.docx](#)
10. [Different document\Протокол\(о финансировании\)Керамика.doc](#)
11. [Different document\Соглашение Гидролат Проект и Кричев.doc](#)
12. [Different document\Соглашение МЭЦ-ПРОЕКТ-ОАОМКСИ.doc](#)
13. [Galata Reports\02 M1 comparative studies.doc](#)
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18. [Galata Reports\11 M1 Comparative Studies.doc](#)
19. [Galata Reports\11 M1 Comparative Studies.pdf](#)
20. [Galata Reports\12 M2 Tutorial Handbook.docx](#)
21. [Logs\50819 EE-Project Issues-Log 20-01-2011.doc](#)
22. [Logs\50819 EE-Project Issues-Log 25-07-2011.doc](#)
23. [Logs\50819 EE-Project Lessons-Log 20-01-2011.doc](#)
24. [Logs\50819 EE-Project Lessons-Log 25-07-2011.doc](#)
25. [Logs\50819 EE-Project Risk-Log 16-08-2010.doc](#)
26. [Logs\50819 EE-Project Risk-Log 20-01-2011.doc](#)
27. [Logs\50819 EE-Project Risk-Log 25-07-2011.doc](#)
28. [Logs\50819 Monitoring LOG 25 07 2011.doc](#)
29. [Logs\ISSUES LOG 08062010.doc](#)
30. [Logs\Logframe revised 01-Sept-2010 RUS.doc](#)
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32. [Logs\Monitoring LOG 21 01 2011.doc](#)[E:\Logs\risk log 16-08-2010.doc](#)
33. [McNulty Report\DGenergy part 2 energy pocket book 2010 convert.pdf](#)
34. [McNulty Report\DGenergy part 4 energy pocket book 2010 convert.pdf](#)

35. [McNulty\\_Report\Energy Audit Comparative Study GMCN.doc](#)
36. [McNulty\\_Report\Energy Audit Methodology Report GMCN.doc](#)
37. [McNulty\\_Report\Energy Audits Tutorial Handbook gmcnulty.doc](#)
38. [McNulty\\_Report\McNulty Progress-Report-1.doc](#)
39. [McNulty\\_Report\McNulty Progress-Report-2.doc](#)
40. [NEEP\Minutes EE-Platform v1 Eng.doc](#)
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42. [NEEP\NEEP\\_20110521.doc](#)
43. [NEEP\NEEP-Существующие аналоги.docx](#)
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45. [PR-report Minsk\media monitoring energy centre 29.10.10.docx](#)
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48. [UNDP-GEF EE-Project Technical-Reports\Energy-Management Audit Tutorial v1.pdf](#)
49. [UNDP-GEF EE-Project Technical-Reports\Presentations All-July-2011.pdf](#)
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51. [UNDP-GEF EE-Project Technical-Reports\Report 1.4.1 v3.doc](#)
52. [UNDP-GEF EE-Project Technical-Reports\Report 1.4.2.doc](#)
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55. [UNDP-GEF EE-Project Technical-Reports\Report 2.1.3 part-1 v1.doc](#)
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83. AWP 2009 final ENG.xls
84. AWP 2010 3-4q ENG-RUS.xls
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86. AWP 2011 ENG-RUS.xls
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88. ISSUES LOG 08062010.doc
89. Lessons Learned Log 08 06 2010.doc
90. MinEcon Report Jan-July 2011.doc
91. MinEcon Report Jan-June 2007.doc
92. MinEcon Report Jan-June 2008.doc
93. MinEcon Report Jan-June 2009.doc
94. MinEcon Report Jan-June 2011 Final.doc
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100. Monitoring LOG 21 01 2011.doc
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102. Networking in Russian-European Context June 8 final 2011.ppt
103. PIMS 2426 Final PIR to send to GEFSEC 15-Sep-2011.xls
104. Project Extension-2011 Application-2.doc
105. Project Extension-2011 Explanation.doc
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- 109. [Project\\_premises.doc](#)
- 110. [Report\\_UNDPGEF\\_EE\\_Project\\_Belarus\\_final\\_versionafter comments by Elinor and PMU.doc](#)
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- 114. [Список оборудования Проекта.doc](#)
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- 120. [Протокол заседания ККП 15 августа 2007г - DG final \(2\).doc](#)
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- 123. [Списки участников\\_Выездных семинаров \(2\).pdf](#)
- 124. [Протокол заседания Бюро ККП 4 марта 2008г.doc](#)
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- 126. [general PR\\_report\\_list.doc](#)
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- 128. [Report\\_2\\_1\\_\(Molochko\).doc](#)
- 129. [Workshop\\_2-3-Nov\\_Agenda\\_Rus.pdf](#)
- 130. [Selected Project Pipeline and Timetable.pdf](#)
- 131. [NEEP Equipment.pdf](#)
- 132. [IEC Charter.pdf](#)
- 133. [Provisions Board-of-Directors.pdf](#)
- 134. [Cooperation Agreement NAERES.pdf](#)

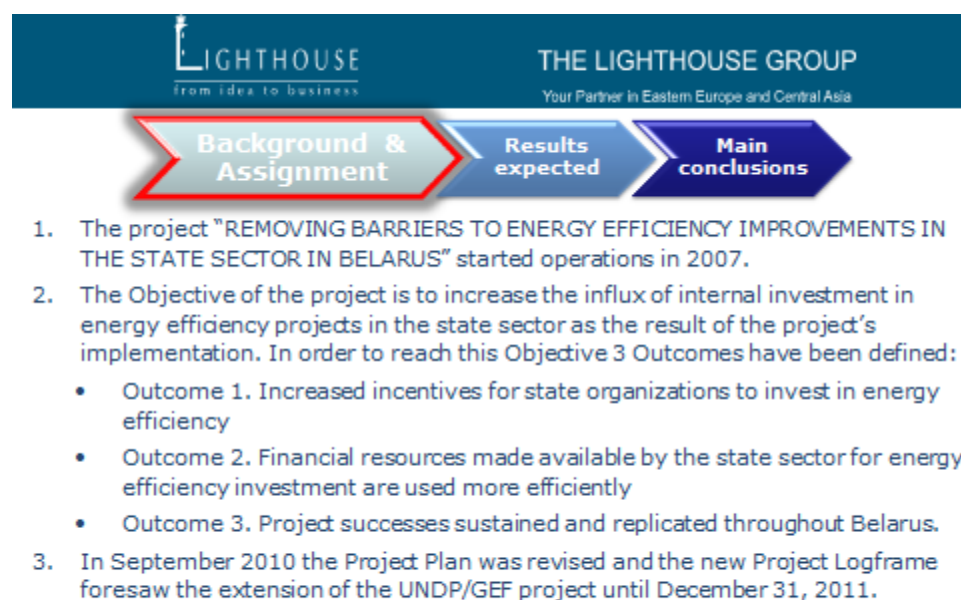
## 8. Presentations given to EED and Ministry of Economic Affairs






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Background & Assignment


Results expected

Main conclusions

1. The Final Evaluation of the Project was performed in October and November 2011.
2. The evaluation was done against the revised project plan that was adopted on the basis of the Substantive Revision of the project in September 2010.
3. The evaluation is being conducted to provide a comprehensive and systematic appraisal of the performance of the completed project by assessing its 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 implementation which resulted from previous project evaluations.
4. This evaluation report is presented as follows:
  - a) Review of project results based on project design and execution;
  - b) Conclusions and recommendations that can increase the probabilities of a successful project completion;
  - c) Lessons learned from implementation of the project to date.

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Background & Assignment

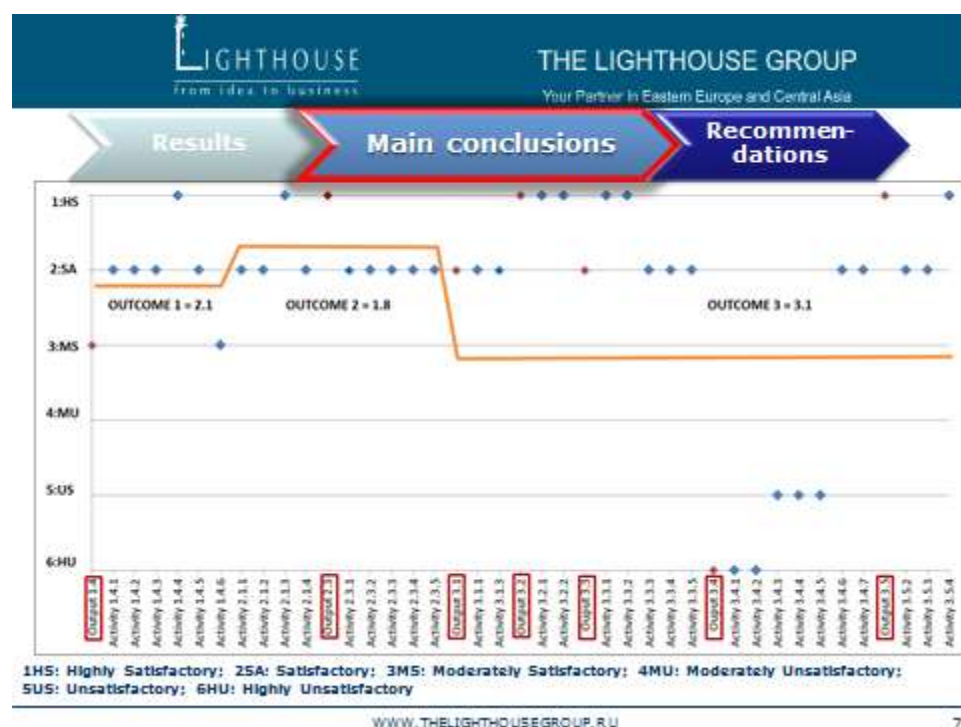
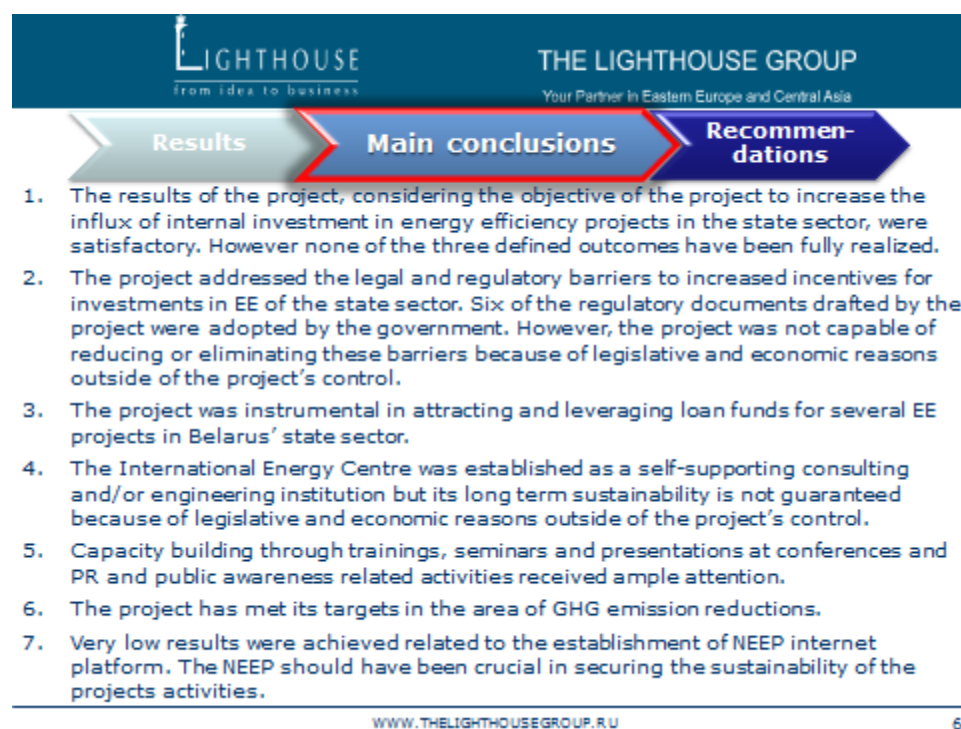
Results expected



Main Conclusions

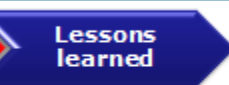


Outcome 1	Increased incentives for state organizations to invest in energy efficiency	
Output 1.4	State organizations use best practices in the field of management of EE investments	
Outcome 2	Financial resources made available by state organizations for energy efficiency investment are used more efficiently	
Output 2.1	Build the capacity of state organizations to audit and identify cost effective energy efficiency investments	
Output 2.3	Build the capacity of state organizations to secure credit (as opposed to grants) for energy efficiency investment	
Outcome 3	Project successes throughout Belarus sustained and replicated	
Output 3.1	Create an Energy Centre to provide on-going support to state organizations for realizing more energy efficiency investments	
Output 3.2	Create a pipeline of energy efficiency investments for implementation after project closure	
Output 3.3	The number of state organizations increasing the level of investment in energy efficiency expanded	
Output 3.4	The National Energy Efficiency Internet Platform created	
Output 3.5	Effective project management and monitoring ensured	

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### 1. Dissemination




Continue dissemination of generic business/revenue models for EE projects in Belarus including:

1. Financial models
2. Technical descriptions
3. Contractual frameworks
4. Typical project cycles for EE projects
5. Best practices in EE audits

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### 2. NEEP (National EE Platform)

The NEEP should be established to:

1. Increasing public awareness about EE in Belarus.
2. Collecting and providing information about EE in Belarus.
3. Providing Training on EE related issues in Belarus.
4. Providing a national and international networking platform.
5. Lobbying EE stakeholder interests.
6. Transfer state of the art EE know how and methodologies.
7. Inform about EE equipment.
8. Supporting Belarus ESCOs and EE organizations in EE audits.
9. Mobilize EE financing by providing information to State Sector organizations on financing options. Example of internet platform is <http://www.buildup.eu/home>.
10. Creating a web-based platform where technology, finance, legislation, projects and stakeholders come together.
11. Attracting members for an annual membership fee to ensure sustainability beyond the life of the project.

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Main conclusions

**Recommendations**

Lessons learned

**3. IEC**

1. Developing the IEC's activities beyond the gas-fired power generation projects in order to increase the sustainability of the International Energy Center.
2. Build capacity through the development of economically feasible EE activities with short payback periods:
  - a) EE in the built environment;
  - b) EE appliances and labeling;
  - c) EE motors;
  - d) EE lighting systems for industries and public facilities;
  - e) other EE activities.

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Recommendations

**Lessons learned**

Conclusions

1. Agree before hand on the frequency, form and channels for dissemination of the intermediate and final project results.
2. Organize regular and meaningful stakeholder consultations and Steering Committee Meetings for increased relevance.
3. Plan the establishment of electronic and / or media platforms in the beginning of the project.
4. Procurement procedures for national and international specialists should be in conformity with current market conditions so that the required quality can be attracted and recruited.
5. Co-locate new projects in the offices of existing UNDP projects in order to increase effectiveness and budget efficiency.
6. Increase the involvement of international experts who bring state of the art know how, international best practices, approaches and methodologies in an early stage of the project in order to increase the effectiveness of the project.
7. When project outcomes include the establishment of commercial organizations, special attention should be given to maintain a level playing field.

## Conclusions

3<sup>rd</sup>/4<sup>th</sup> Q 2010 and entire 2011

- The project contributed in a meaningful way to the objective of increasing the internal investments in EE projects in the state sector of the Republic of Belarus.
- The International Energy Centre was established. Additional attention should be given to its long-term sustainability under market conditions.
- Capacity building and PR were highly satisfactory.
- Project management and PMU team performance considerably improved after June 2010.
- The NEEP requires additional attention.
- The project has met its targets in the area of GHG emission reductions.
- It is advisable to pay attention to recommendations and lessons learned.



## Итоговая оценка проекта ПРООН/ГЭФ: Устранение барьеров на пути повышения энергоэффективности в государственном секторе в Республике Беларусь.

### Проект ПРООН: Энергоэффективность № 50819

13 декабря 2011

Йерун Кеттинг,  
Управляющий  
директор  
Lighthouse Russia BV



United Nations Development Programme  
**UNDP Belarus**



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**Общие положения & Задача**

**Ожидаемые результаты**

**Основные выводы**

1. Проект "Устранение барьеров на пути повышения энергоэффективности в государственном секторе в Республике Беларусь" стартовал в 2007 году.
2. Целью проекта является создание условий по увеличению объема внутренних инвестиций в проекты, направленные на повышение энергоэффективности в государственном секторе. Для достижения данной цели были сформулированы три конечных задачи:
  - Задача 1: Повышение стимулов для инвестирования в мероприятия по энергосбережению со стороны государственных организаций.
  - Задача 2: Повышение эффективности использования финансовых ресурсов для энергоэффективных проектов в государственном секторе.
  - Задача 3: Обеспечение устойчивости и тиражирование положительных результатов Проекта в Республике Беларусь.
3. В сентябре 2010 года план проекта был пересмотрен и в рамках нового рабочего плана было предусмотрено продление сроков проекта ПРООН/ГЭФ до 31 декабря 2011 года.

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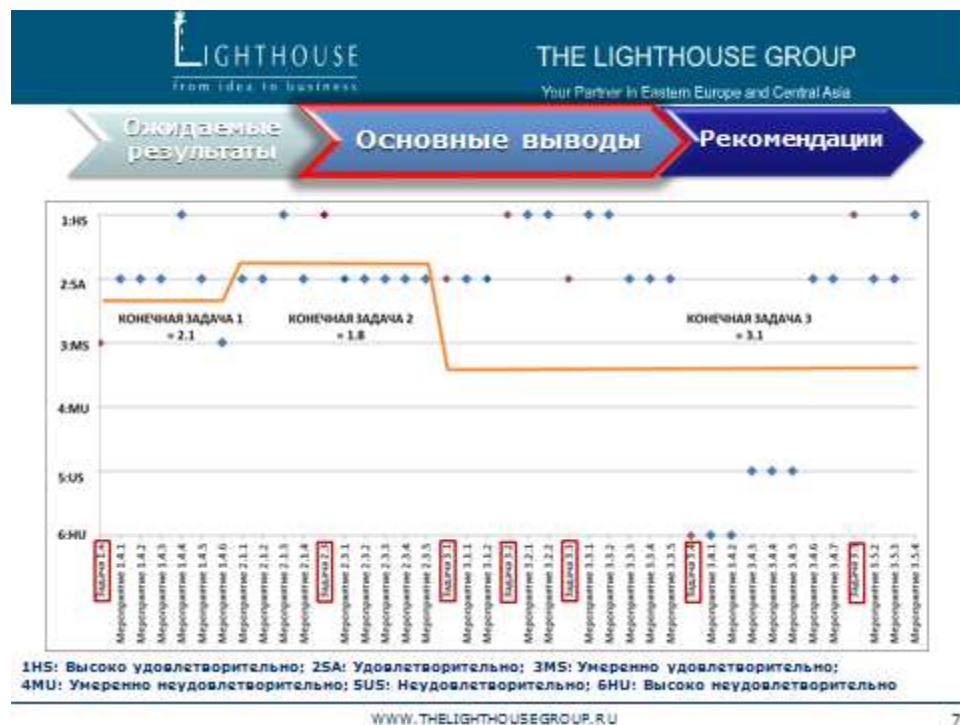


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	Общие положения & Задача	Ожидаемые результаты	Основные выводы
Задача 1	Повышение стимулов для инвестирования в мероприятия по энергосбережению со стороны государственных организаций		
Задача 1.4	Государственные организации используют передовые практики в области инвестирования в энергоэффективность (ЭЭ)		
Задача 2	Повышение эффективности использования финансовых ресурсов для энергоэффективных проектов в государственном секторе		
Задача 2.1	Повышение потенциала государственных организаций для проведения энергоаудитов и определения экономически эффективных вариантов инвестирования в повышение энергоэффективности		
Задача 2.3	Повышение потенциала государственных организаций по использованию заемных (возвратных) средств вместо грантов с целью инвестирования в мероприятия по энергоэффективности		
Задача 3	Обеспечение устойчивости и тиражирование положительных результатов Проекта в Республике Беларусь		
Задача 3.1	Создание Энергоцентра для оказания поддержки государственным организациям по привлечению и реализации инвестиций для повышения энергоэффективности		
Задача 3.2	Разработка новой инвестиционной программы по повышению энергоэффективности для реализации после завершения Проекта.		
Задача 3.3	Расширение числа организаций государственного сектора, увеличивающих объем инвестиций в повышение энергоэффективности		
Задача 3.4	Создание Национальной интернет-платформы по энергоэффективности (НПЭЭ)		
Задача 3.5	Эффективное управление и мониторинг Проекта		



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Основные выводы

Рекомендации

Обобщенный опыт

### 1. Распространение

Необходимо продолжить распространение обобщенной методологии (бизнес-модели) по реализации проектов энергосбережения в Беларуси, включая:

1. Финансовые модели
2. Технические описания
3. Контрактные схемы
4. Типичные проектные циклы для проектов в области энергосбережения
5. Наилучшие практики проведения энергоаудитов

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Основные выводы

Рекомендации

Обобщенный опыт

### 2. Национальная интернет-платформа по энергоэффективности (НПЭЭ)

НПЭЭ должна быть создана для достижения следующих целей:

1. Повышение осведомленности общества в вопросах энергоэффективности (ЭЭ).
2. Сбор и распространение информации об ЭЭ в Республике Беларусь.
3. Проведение тренингов по вопросам ЭЭ в Республике Беларусь.
4. Создание национальной и международной сетевой платформы для делового общения.
5. Лоббирование интересов лиц, заинтересованных в повышении ЭЭ.
6. Трансфер новейших уникальных технологий и методик в области ЭЭ.
7. Информирование о новейшем оборудовании в области ЭЭ.
8. Поддержка белорусских ЭСКО и организаций, занимающихся проведением энергоаудитов.
9. Стимулирование финансирования проектов в области ЭЭ путем предоставления государственному сектору информации о возможностях для финансирования. Пример интернет-платформы: <http://www.buildup.eu/home>.
10. Создание интернет-платформы, в рамках которой будут объединены возможности финансирования, законодательные инициативы, проекты и заинтересованные лица.
11. Обеспечение устойчивости платформы после окончания проекта путем привлечения членов сообщества и внесения ими годовых членских взносов.

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Основные  
выводы

Рекомендации

Обобщенный  
опыт

### 3. Международный Энергоцентр

1. Расширение деятельности Международного Энергоцентра за рамки проектов в области газовой энергетики для повышения долгосрочной устойчивости Энергоцентра.
2. Рост потенциала Центра через развитие экономически целесообразных проектов с относительно короткими сроками окупаемости:
  - а) ЭЭ в зданиях;
  - б) ЭЭ приборы и ЭЭ маркировка;
  - в) ЭЭ двигатели;
  - г) ЭЭ системы освещения для промышленных объектов и общественных зданий;
  - д) Другие ЭЭ мероприятия.

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Рекомендации

Обобщенный  
опыт

Выводы

1. Необходимо заранее согласовывать частоту, формат и каналы распространения предварительных и итоговых результатов проекта.
2. Необходимо регулярно организовывать содержательные консультации между всеми заинтересованными лицами и встречи Руководящего Комитета для повышения эффективности реализации проекта.
3. Необходимо планировать создание всех электронных и/или медийных платформ на начальном этапе реализации проекта.
4. Процедуры закупки услуг национальных и международных специалистов для нужд проекта должны соответствовать текущим рыночным условиям, чтобы обеспечить привлечение и наем специалистов, соответствующих всем высоким требованиям.
5. Новые проекты должны располагаться в офисах существующих проектов ПРООН для обеспечения эффективного использования бюджета и построения рабочих процессов.
6. Необходимо повысить степень участия иностранных экспертов, которые на начальных этапах проекта могут привнести в него новейшее ноу хау, наилучшие практики, последние технологии и методики, тем самым повышая эффективность проекта.
7. В том случае, когда задачи проекта предусматривают создание коммерческих организаций, особое внимание должно уделяться поддержанию равных возможностей для всех участников.

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## **Выводы**

**3ий/4ый кварталы 2010 и 2011 год**

1. Проект внес значительный вклад в процесс достижения цели по увеличению объема внутренних инвестиций в проекты, направленные на повышение энергоэффективности в государственном секторе Республики Беларусь.
2. Международный Энергоцентр был успешно запущен. Дополнительное внимание должно быть уделено поддержанию долгосрочной устойчивости Центра в рыночных условиях.
3. Мероприятия по развитию потенциала проекта и повышению осведомленности общества заслуживают высокой оценки.
4. Управление проектом и результаты деятельности группы управления проектом были значительно улучшены после июня 2010 года.
5. Необходимо уделить особое внимание работе НПЭЭ.
6. В рамках проекта были достигнуты поставленные цели в области снижения выбросов парниковых газов.
7. Целесообразно принять во внимание рекомендации и обобщенный опыт по проекту.

## 9. Appendix 1. Revised Logical Framework

Project strategy	Objectively verifiable indicators				
Goal: Greenhouse gas emissions are reduced. Fossil fuel consumption is reduced.	Investments by Belarusian investors in EE projects developed by the Project in cooperation with its partners will be no less than USD 8 million. The resulting annual energy savings will total approximately to 9,880 tons of coal equivalent. Annual greenhouse gas emission reductions will equal approximately 23,437 tons of CO2 equivalent. As a result of Project implementation a reduction of approximately 352,500 tons of CO2 equivalent over a 15-year period will be achieved due to energy savings.				
Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions

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Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
<b>Principal project objective:</b> Influx of internal investment in energy efficiency projects in the state sector (including budget organizations and state enterprises) increased as the result of the project implementation	Cumulative domestic investments in EE of state sector by the end of the Project.	The state sector consumes 68% of total fuel and energy resources. Low interest from the side of investors and low level of motivation and capacities in the state sector exist in the field of EE.	Increase in investments in EE in the state sector by at least USD 8 million by the end of the Project. Majority of the investments are non state budget resources. At least 12 pilot EE projects implemented for four state organizations (Project partners) under the above investments. Energy Centre established and legalized as a self-sustainable legal entity and its investment plan for EE projects is developed and committed.	Project reports. Reports of the EE Department. Independent final evaluation of the project.	Lack of support from the EE Department, be it organizational, financial or administrative, to ensure project success and subsequent sustainability (low risk). Lack of assistance from Project partners in appointing dedicated personnel and providing required inputs for project consultants (low risk). Unadvanced business environment and poor investment climate (medium risk).

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
<b>Specific objectives:</b>					
Outcome 1: Increased incentives for state organizations to invest in energy efficiency	Increased level of investment in EE by selected state organizations (Project partners) within Project implementation period.	Selected state organizations (Project partners) invest no funds of their own in energy efficiency. (Currently funds for EE enhancement measures are coming from state budget, not from their own resources).	Selected organizations (Project partners) have increased their annual investment in EE by USD 100,000 in average within Project implementation period.	Project reports. Annual reports of the Project partners. Independent final evaluation of the Project.	Negative decision of the EE Department to update relevant regulations proposed by the Project (low risk). Lack of support from the Project partners (low risk). Time delays in completion of relevant project activities because of delays in the use of proposed recommendations (medium risk).

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
<b>Output 1.4. State organizations use best practices in the field of management of EE investments</b>	Number of state organizations using SPAs and other schemes for effective EE investments  Provision(s) proposed for raising EE investment incentives under SPA framework or similar schemes upon the results of analysis of best existing practice.  Number of study tours.	No common practice and no provisions exist in Belarus in the field of EE investments using SPA or similar scheme. Specialists must be trained.	At least 2 state organizations use SPAs or other best practices by the end of the Project.  Draft provision(s) in the field of EE investments in the state sector using SPAs or similar schemes submitted to the EE Department and endorsed for further processing through conciliation procedure established by law.  At least 3 study tours	- Project reports provided for in M&E plan. - Draft provision(s). - Round-table minutes. -- A short report on the study tours	Lack of compromise among the key stakeholders with regards to submitted draft provision(s) so that the EE Department does not endorse it within the project time-frame (high risk).  This risk is reduced by establishing flexible mutually agreed conditions under which the EE Department considers the draft acceptable. This risk is also mitigated by involvement of the stakeholders concerned at all
Activity 1.4.1. Critical analysis and evaluation of the best practice for effective EE investments in state sector (SPA, ESCO and other advanced options) existing in Belarus and elsewhere (e.g., in Russian Federation, the EU and the USA), and preparing recommendations for application of experience of EU and CIS to Belarus with regard to raising of EE incentives in the state sector.					
Activity 1.4.2. Organizing study tours (Russian Federation, Denmark, other European country upon the results of Activity 1.4.1) devoted to the best existing practice (SPA, ESCO and other advanced options) in the field of EE investments in state sector in the field of EE investments in the state sector.					
Activity 1.4.3. Formulating proposals for improvement of legal and institutional framework for EE investments (through SPA, ESCO or similar advanced schemes).					
Activity 1.4.4. Organizing a round table (ad-hoc meeting) on legal and institutional framework for EE investments through SPA, ESCO or similar advanced schemes.					

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
Activity 1.4.5. Drafting provision(s) for EE investments through SPA, ECSO or similar advanced schemes.					preparatory stages.
Activity 1.4.6. Selecting pilot EE projects (use data from the EE project pipeline as per Activities 3.2.1-3.2.2) suitable for the advanced schemes of investments, and drafting respected agreements to be signed by selected organizations.					
Outcome 2: Financial resources made available by state organizations for energy efficiency investment are used more efficiently	The proportion of loans compared to grants for energy efficiency investment in state organizations	4% of state resources available as loans	10% of state resources available as loans	Project reports. Annual reports of the Project partners. Independent final evaluation of the Project.	Negative decision of Department on EE to increase proportion of loans (low risk). Lack of support from the Project partners (low risk). Low fossil fuel prices (low risk). Time delays in completion of relevant project activities because of delay in loan funding (medium risk).

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
<b>Output 2.1. Build the capacity of state organizations to audit and identify cost effective energy efficiency investments</b>	Share of audits which meet international standards. Number of training sessions on the best audit practices. Number of specialists trained. Guidelines on audit practice.	30% of audits submitted to the EE Department meet international standards. Local professionals must be trained.	60% of audits submitted to the EE Department meet international standards by the end of the Project. At least 1 training session on the best audit practice. 30 specialists trained during the session. The guidelines approved by EE Department.	- Project reports provided for in M&E plan. - Report by Independent Entity on meeting the standards. - Guidelines approved by the EE Department. - Training workshop agendas and lists of participants.	Inadequate project implementation (low risk)
Activity 2.1.1. Preparing training materials, a curriculum for technical training workshops and guidelines on energy auditing in the state sector based on internationally recognized standards and practices and publishing them online and offline using the National Energy Efficiency Platform (NEEP) for online publications.					
Activity 2.1.2. Organizing a 5-day training workshop for national experts and local energy auditing firms to improve their capacity in energy auditing.					
Activity 2.1.3. Formulating proposals for improvement of legal and institutional framework in the field of energy norms for energy and fuel consumption and tariff setting in the state sector to raise incentives for EE investments.					
Activity 2.1.4. Providing on-going consulting services directly and online through NEEP to the Project Partners and the EE Department in the field of energy auditing, budgeting and energy planning in the state sector.					

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
<b>Output 2.3. Build the capacity of state organizations to secure credit (as opposed to grants) for energy efficiency investment</b>	Amount of credit funds including those from the EE Department used by new Project partners. Number of training sessions on the best EE investment business practice. Number of specialists trained. The guidelines on EE investment	Project partners use zero credit funds. Local professionals must be trained.	New Project partners use at least USD 1 million in loans including the EE Department’s repayable funds by the end of the 4 <sup>rd</sup> year of the Project. At least 1 training session on the best business practice for EE investment. 30 specialists trained during the session. The guidelines approved by EE Department.	- Project reports provided for in M&E plan. - Guidelines approved by the EE Department. - Training workshop agendas and lists of participants.	Withdrawal of baseline (government) project funding (medium risk). Insufficient cooperation between project stakeholders (low risk) The Project partners are not proactive (low risk).
Activity 2.3.1. Monitoring of implementation of the investment projects in the selected state organizations (Project partners) and preparation of analytical report with evaluation and generalization of the results and effectiveness of investments in the EE measures.					
Activity 2.3.2. Developing a generic business framework for EE projects in Belarus based on the hands-on experience, both domestic and international, in schemes of financing, contractual rules and modalities, and typical project cycles for majority of EE project categories in Belarus.					
Activity 2.3.3. Preparing training materials and a curriculum for technical training workshop on EE business planning in the state sector, as well as preparing Guidelines based on internationally recognized practices for the business framework elaborated, including best practices of EE investment schemes and project cycle, business planning, developing feasibility studies, bankable proposals and loan application, and publish them on-line (use NEEP for on-line publications).					
Activity 2.3.4. Organizing a 5-day training workshop for national experts, potential investors, ESCOs and other local business planners interested in familiarization with suggested EE investment business framework and improvement their capacity and knowledge in EE investment schemes, EE project business planning, developing feasibility studies, bankable proposals and loan application.					

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
Activity 2.3.5. Providing on-going consulting services directly and online through NEEP to the Project Partners and the EE Department in the field of EE investment practice and the generic business framework in the state sector.					
Outcome 3: Project successes throughout Belarus sustained and replicated	Energy Centre is established as a self-sustainable consulting institution New energy efficiency investment program. New partners of the Energy Centre	No Energy Centre. Limited investments in loans for energy efficiency	The Energy Centre achieves self-sustaining level by the end of the Project New EE Investment Program launched	Final report of the project including funds invested, tons of fuel equivalent reduced, and reductions in GHG emissions. Independent final evaluation of the Project. Final workshop presentation.	Lack of support from the Project partners (low risk). Low fossil fuel prices (low risk). Time delays in completion of relevant project activities because of delay in negotiations on Energy Centre with shareholders (medium risk).
<b>Output 3.1. Create an Energy Centre to provide on-going support to state organizations for realizing more energy efficiency investments</b>	Share of costs of the Energy Centre covered by business revenues.	No Energy Centre.	All costs of the Energy Centre covered by business revenues by the end of the Project	- Project reports provided for in M&E plan. - The Centre's registration documents. - NEEP User Manual.	The shareholders are not proactive and it delays negotiations on Energy Centre (medium risk).

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
Activity 3.1.1. Developing a mid-term strategy and action plan for the Energy Centre with additional directions of its activity in order to ensure a smooth transition to financial self-sufficiency after project closure.					
Activity 3.1.2. Providing legal assistance to the Energy Centre until its registration (Statute review, Board of Directors Provisions, other registration documents).					
Activity 3.1.3. Setting up contacts between the Energy Centre and energy saving institutions and similar organizations (energy centers, ESCOs) in Belarus, the EU and CIS states.					
<b>Output 3.2. Create a pipeline of energy efficiency investments for implementation after project closure</b>	Volume of new EE Investment Program adopted by the EE Department.	No new EE investment program.	The new EE Investment Program adopted by the EE Department by the end of the Project and at least USD 10 million investments assured At least 10 new state organizations investigated and business plans provided. Feasibility studies completed, funding guaranteed and investment agreements signed for at least 3 state organizations.	- Project reports provided for in M&E plan. - EE Investment Program approved by the EE Department. - Investment agreements. - Final report of the project.	The new Project partners are not proactive (low risk). The EE Department does not endorse the Program within the project time-frame (low risk).
Activity 3.2.1. Conducting energy audits (express-audits) and preparing business plans to finalize a new EE Investment Program for the EE Department and other agencies.					

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
Activity 3.2.2. Developing feasibility studies, preparing and signing investment agreements with new partners for the selected investment projects of the new EE Investment Program.					
<b>Output 3.3. The number of state organizations increasing the level of investment in energy efficiency expanded</b>	Number of new partners increasing the level of EE investments.	Insufficient quantity of state organizations increased their levels of investment in EE.	At least 15 new agreements (MoU) signed with state organizations for increasing their levels of investment in EE by the end of the project.	- Project reports provided for in M&E plan. - Agreements. - Final report of the project. - Seminar presentations, agendas and lists of participants.	The state organizations and municipalities are not proactive (low risk).
	Number of guest seminars	Negligible number of informational materials about best EE investment practice.	At least 5 informational materials prepared and published.		
	Number of informational materials.	No International seminars in Belarus on EE investment	At least 6 guest seminars held.		
	Number of International seminars		At least 2 International seminars held. At least 5 International conferences participated by the Project Team and Belarusian specialists		
Activity 3.3.1. Informational seminars and guest seminars (at working places) concerning the experience of the Project in the field of EE investments in executive committees, ministries, departments and municipalities.					
Activity 3.3.2. Carrying out an ongoing information campaign (hand-books, leaflets, brochures, interviews, press-releases, “Energy Marathon” competitions, etc.) about the project activities and best EE investment practices, including dissemination through the NEEP.					

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Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
Activity 3.3.3. Preparing and signing agreements of cooperation (MoU) between the Project, Energy Centre, other ESCOs and state organizations and municipalities not involved in the UNDP/GEF project.					
Activity 3.3.4. Organizing annual International Seminar on “Incentives and Best Practice of Investments in Energy Efficiency” under the auspices of the Project and in cooperation with the EE Department, UNDP and UNECE.					
Activity 3.3.5. Through taking part in International conferences, acquiring the best experience and practice of the EU countries in the field of investment in EE, while presenting and discussing experience of the Project and Energy Centre in investment in EE of the state sector of Belarus.					
<b>Output 3.4. The National Energy Efficiency Internet Platform created</b>	An EE portal launched.	No EE Portal.	The NEEP launched and successfully operated.	<ul style="list-style-type: none"> <li>- Project reports provided for in M&amp;E plan.</li> <li>- NEEP User Manual</li> <li>- Final report of the project.</li> </ul>	The organizational arrangement, responsibility distribution, both administrative and operational, with regard to the NEEP are uncertain until the end of the project (medium risk).
Activity 3.4.1. Preparing and approving a ToR for development of the NEEP as a separate Internet portal with a web-oriented set of databases containing reliable, actual and complete information on modern EE equipment, EE methodological approaches, relevant legislation acts and regulations, EE standards, EE project pipeline, EE investors, training aids as well as relevant business models and engineering solutions, interface for networking, contacts, etc.					
Activity 3.4.2. Preparing and approving a business plan, organizational arrangement and legal provisions for the NEEP.					
Activity 3.4.3. Equipment acquisition and installation.					
Activity 3.4.4. Preparing and approving infological architecture and design of the user interface, and developing its HTML version.					
Activity 3.4.5. Developing NEEP’s modules and their HTML versions.					
Activity 3.4.6. Developing and approving a NEEP prototype version.					
Activity 3.4.7. Developing and approving a NEEP B-version and user manual.					

Intervention logic	Indicator (quantified and time-bound)	Baseline	Target	Sources of verification	Risks and assumptions
Output 3.5. Effective project management and monitoring ensured					
Activity 3.5.1. Project registration and inception					<b>Prerequisites:</b>  Project is registered.  Agreement is achieved with the EE Department concerning rent of sufficient area.
Activity 3.5.2. Project monitoring and finalizing					
Activity 3.5.3. Project reporting					
Activity 3.5.4. Project management and project office functioning					