Independent mid-term review

Introduction of energy management system standard in Ukrainian industry

UNIDO Project No.: 120321
UNIDO Grant No.: 2000002493
GEF ID: 4784

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO INDEPENDENT EVALUATION DIVISION

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Abbreviations and acronyms

Abbreviation	Description
AEE	Association of Energy Engineers of Ukraine
AWP	Annual Work Plan
CC	Climate change
CCU	Chamber of Commerce of Ukraine
CIS	Commonwealth of Independent States
CMU	Cabinet of Ministers of Ukraine, Ukrainian Government
CO_2	Carbon dioxide
EnE, EE	Energy Efficiency
EnMS	Energy Management System
EnS	Energy saving
ESO	Energy System Optimization
EU	European Union
EUR	Euro
GDP	Gross Domestic Product
GDP (PPP)	GDP Purchasing Power Parity
GEF	Global Environment Facility
GEF-CEO	GEF-Chief Executive Officer
GEF-FP	GEF-Focal Points
GEF-FSP	GEF-Full-scale Project
GEF-PIR	GEF Project Implementation Review
GEF-PPG	GEF-Project Preparation Grant
GEF-RCE	GEF-Request for CEO Endorsement
GW	Gigawatt (=1,000 Megawatt =1,000,000 kilowatt)
GWh	Gigawatt-hours
IEE of NTUU "KPI"	Institute of Energy Saving and Energy Management of the KPI
IEE	Industrial Energy Efficiency
INV	Investment
ISO	International Organization for Standardization
KPI	Igor Sikorsky Kyiv Polytechnic Institute
ktoe	Thousand tons of oil equivalent
M&E	Monitoring and Evaluation
ME&C	Ministry of Energy and Coal of Ukraine
ME&NR	Ministry of Ecology and Natural Resources of Ukraine
MED&T	Ministry of Economic Development and Trade of Ukraine

Abbreviation	Description
MOU	Memorandum of Understanding
MRDC&H	Ministry of Regional Development, Construction and Housing of Ukraine
MTE	Mid-term Evaluation
Mtoe	Million tons of oil equivalent
MTR	Mid-term Review
NAS "IRE"	Institute of Renewable Energy of National Academy of Sciences
NEA	National Executing Agency
NEURC	National Energy and Public Utilities Regulatory Commission of Ukraine
NPC	National Project Coordinator
NTUU "KPI"	National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"
PMU	Project Management Unit
Prodoc	Project Document
Project	"Introduction of Energy Management System Standards in Ukrainian Industry" project
PSC	Project Steering Committee
PWP	Project Work Plan
RE	Renewable Energy
SAEEES	State Agency on Energy Efficiency and Energy Saving of Ukraine
SME	Small and Medium Enterprises
SO	System Optimization
SubCon	Subcontract
TA	Technical Assistance
TC	Technical Cooperation
TFEC	Total Final Energy Consumption
Toe	Tons of oil equivalent
TOR	Terms of Reference
TPES	Total Primary Energy Supply
UAH	Ukrainian Hryvnia
UKR	Ukraine, Ukrainian
UKR IEE Project	"Introduction of Energy Management System Standards in Ukrainian Industry" project
UNIDO	United Nations Industrial Development Organization
USD, US$, $	United States Dollar
Verkhovna Rada	Ukrainian Parliament
WDI	World Bank World Development Indicators

Glossary of evaluation-related terms

Term	Definition
Baseline	The situation, prior to an intervention, against which progress can be assessed.
Effect	Intended or unintended change due directly or indirectly to an intervention.
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved.
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.
Impact	Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention.
Indicator	Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention.
Lessons learned	Generalizations based on evaluation experiences that abstract from the specific circumstances to broader situations.
Logframe (logical framework approach)	Management tool used to facilitate the planning, implementation and evaluation of an intervention. It involves identifying strategic elements (activities, outputs, outcome, impact) and their causal relationships, indicators, and assumptions that may affect success or failure. Based on RBM (results based management) principles.
Outcome	The likely or achieved (short-term and/or medium-term) effects of an intervention's outputs.
Outputs	The products, capital goods and services which result from an intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes.
Relevance	The extent to which the objectives of an intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies.
Risks	Factors, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives.
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed.
Target groups	The specific individuals or organizations for whose benefit an intervention is undertaken.

Executive summary

A. Project background

This document presents the independent Mid-Term Review (MTR) of the project " Introduction of Energy Management System Standards in Ukrainian Industry (UKR IEE Project)" scheduled to be completed by 21 January 2020. Planned start of the Project was 01 October 2013. However, the actual start was delayed; the kick-off meeting of the Project Steering Committee (PRC) was on 18 December 2014. The project is designed for duration of 60 months and being implemented over the period 2015 to 2020.

The UKR IEE Project aims at contributing to a sustainable transformation of industrial energy usage practices in Ukraine. The Project will do this by establishing and promoting the concepts of Energy Management Standards (EnMS) and Energy System Optimization (ESO), along with the introduction and promotion of the ISO50001 Energy Management Standard.

The ISO 50001 Energy Management Standard aims at providing public and private sector organizations with management strategies to increase energy efficiency, reduce costs and improve energy performance.

Energy System Optimization (ESO) looks at systems as a whole with the aim to match equipment to demand needs. ESO may realize efficiency improvements of 20-30% while efficiency of individual system components such as, motors, compressors, steam boilers, and pumps may only be improved by a modest 2-5%.

The "UKR IEE Project" contains three main components. The fourth component is "Monitoring and Evaluation".

Table 1: The four components of the UKR IEE project

Component 1.0	Policy and institutional support for the introduction of a national EnMS standard compatible with ISO 50001;
Component 2.0	Building national capacity for planning, implementation and certification of EnMS and implementation of ESO;
Component 3.0	Technology diffusion and deployment to promote implementation of EnMS conforming to ISO50001 in selected industrial sectors. A selected number of enterprises in these sectors will also receive further technical assistance in implementing ESO;
Component 4.0	Monitoring and Evaluation.

The national counterparts of the project are:

- Lead executing partners: the Kyiv Polytechnic Institute (KPI) and the State Agency on Energy Efficiency and Energy Saving of Ukraine (SAEEES), and
- Other national partners: the Ministry of Economic Development and Trade of Ukraine (MED&T) and other selected stakeholders.

The UKR IEE Project is funded by the Global Environment Facility (GEF) in combination with various sources and forms of additional co-financing.

B. Purpose and methodology of MTR

The purpose of this MTR is:

- To assess the status of implementation of the Project, among others, vis-à-vis the Project's Results Framework Matrix (see Prodoc Annex A "Project Results Framework"[1]).
- To assess the risks for achieving results and to make recommendations regarding specific actions that might be taken to mitigate / remove the risks found.
- To provide UNIDO and government counterparts with feasible scenarios for the continuation of the project implementation and long-term sustainability of results.

Table 2: The four stages of this independent Mid-Term Review (MTR)

Stage	Activity
1.	Desk study and interviews at UNIDO-HQ;
2.	Fact-finding mission to Kyiv from 18 to 22 December 2016;
3.	Second mission to Kyiv from 08 to 25 March 2017;
4.	Final consultations and MTR report writing.

C. Key findings, conclusions and recommendations

1. SWOT analysis of the project

Strengths	Weaknesses
• UNIDO's wide experience in IEE projects in general and EnMS and ESO implementations in particular; • On-going and completed UNIDO projects in UKR and in the Region which can benefit the present Project; • Successfully trained and appreciative Ukrainian trainees of the Project who can be called upon for support and contribution; • Project also addresses non-economic barriers (such as information and knowledge deficits, uncertainties or energy efficiency as an image factor, etc.) which cannot be successfully tackled by regulatory and financial instruments alone.	• Weakened governance structure of the Project; • Delays in Project's activities; • Institutionalization of training has not yet been achieved; • Post-project sustainability of results should still be built.
Opportunities	**Threats**
• UKR's commitment to EE (re.: EU acquis, EE Law, etc.); • Availability / willingness of a specialized government agency (SAEEES) to be the next NEA; • Availability / willingness of the previous NEA (KPI) to contribute to the Project.	• Political / economic uncertainties; • Unfavorable financial environment—in particular anticipated difficulties in finding co-financing for Component 3 activities; • Negative campaign in electronic media.

[1] GEF-RCE Project Document (Prodoc) can be retrieved from: <https://open.unido.org/projects/UA/projects/120321>

2. Summary achievements of the project

The definitions of the standard GEF/UNIDO project performance ratings given in the below summary table (and their use throughout the evaluation process) are described in Table 11.

Table 3: Summary achievements of the project

Criteria	Rating
Overall achievements of the project	**HS** to (Highly Satisfactory-Relevance and design) to **MU** (Moderately Unsatisfactory-Results and effectiveness of Component 3.0) **MU** (Moderately Unlikely-Sustainability)
1. Relevance and design	**HS** (Highly Satisfactory)
2. Results and effectiveness	**S** (Satisfactory)—Components 1.0 and 2.0 **MU** (Moderately Unsatisfactory)—Component 3.0
3. Implementation, processes and efficiency	**MS** (Moderately Satisfactory)
4. Sustainability • Risks and external factors • Institutionalization / replication	**MU** (Moderately Unlikely)

3. Conclusions

This MTR Report addresses project-related issues in three parts. These parts and corresponding conclusions are:

Table 4: Conclusions of the project

Part 1:	**Project-specific governance / implementation issues** *Conclusion 1.0: The governance structure of the project needs to be re-established.*
Part 2:	**Achievements of the Project as per results framework** *Conclusion 2.1: Project is highly relevant.* *Conclusion 2.2: Project is fairly effective at technical level.* *Conclusion 2.3: Project is fairly efficient.*
Part 3:	**Sustainability of results** *Conclusion 3. Sustainability of the Project's results needs to be improved.*

4. Key evaluation recommendations

The key evaluation process recommendations are given in the following table:

Table 5: Key evaluation process recommendations

Recommendation	Implementation responsibility
1. Take actions to re-establish governance structure of the project.	UNIDO in consultation and agreement with Government of UKR
1.1 Select the new or lead National Execution Agency.	UNIDO in consultation and agreement with Government of UKR
1.2 Present Project Manager (PM) at UNIDO-HQ be given the opportunity to withdraw from the Project.	PM and UNIDO Management
1.3 Revise / update the Project document to reflect withdrawal of KPI as an executing agent.	UNIDO in consultation and agreement with Government of UKR; GEFSec
1.4 Establish the new Project Steering Committee (PSC) & prepare Project Manual and 2017-2018 Annual Work Plan.	UNIDO, PMU, the new NEA and Government of UKR
1.5 Formulate a new role for KPI.	UNIDO, the new NEA and KPI
1.6 Realign the Project Management Unit (PMU) as / if needed.	UNIDO, the new NEA and PMU
2. Improve effectiveness and efficiency of the Project.	UNIDO, PMU, PSC, NEA, UKR government and other stakeholders in UKR
2.1 Accelerate the implementation of technology diffusion and deployment component (Component 3).	UNIDO, PMU, PSC, NEA, UKR government and other stakeholders in UKR
3. Improve sustainability of the Project's results and the EnMS / ESO methodologies.	UNIDO, PMU, PSC, NEA, UKR government and all other stakeholders in UKR
3.1 Institutionalize training.	UNIDO, PMU, government and other stakeholders in UKR—KPI may lead this activity
3.2 Develop EnMS and ESO replication methodology.	UNIDO, government and other stakeholders in UKR—SAEEES may lead this activity in close cooperation with financial institutions in UKR

1. Purpose, scope and approach of the Mid-term Review (MTR)

1.1 Purpose and scope of the MTR

This document presents the independent Mid-term Review (MTR) of the project " Introduction of Energy Management System Standards in Ukrainian Industry (UKR IEE Project)[2]" scheduled to be completed by 21 January 2020. Planned start of the Project was 01 October 2013. However, the actual start was delayed; the kick-off meeting of the Project Steering Committee (PRC) was on December 2014. The project is designed for a duration of 60 months and is being implemented over the period 2015 to 2020.

The UKR IEE Project is funded by the Global Environment Facility (GEF) in combination with various sources and forms of additional co-financing. As per the Project Document (Prodoc), the national counterparts of the Project are:

- Lead Executing Partners: the Kyiv Polytechnic Institute (KPI) and the State Agency on Energy Efficiency and Energy Saving of Ukraine (SAEEES), and
- Other National Partners: The Ministry of Economic Development and Trade of Ukraine (MED&T) and other selected stakeholders.

As outlined in the GEF Monitoring and Evaluation Policy[3], mid-term reviews (MTRs) are mandatory for full-sized projects (GEF FSPs). The MTRs focus on: (i) assessment of progress towards results, (ii) monitoring of implementation and management, (iii) early identification of risks to sustainability and (iv) providing recommendations for corrective actions and future direction.

Hence the purpose of this MTR is:

- To assess the status of implementation of the Project, vis-à-vis the PWP (Project Work Plan), project documents and institutional agreement(s) with national implementation institutions. Project implementation status should be measured based on Project's Results Logical Framework Matrix (see Prodoc Annex A "Project Results Framework"), which provides performance and impact indicators for project implementation along with their corresponding means of verification.
- To assess the risks for achieving results within the current context / project implementation arrangement and to make recommendations regarding specific actions that might be taken to mitigate / remove the risks found.
- To provide UNIDO and government counterparts with feasible scenarios for the continuation of the Project's implementation and the long-term sustainability of EnMS and ESO methodologies within the Ukrainian national industrial environment.

In doing so, the MTR tries to assess the achievements of the Project in mitigating the barriers identified in the Prodoc, namely:

Table 6: Barriers and project's planned risk mitigation actions

Barrier	Project's planned mitigating actions
ISO50001 not adopted in Ukraine ISO50001 is not yet adopted in Ukraine and the quality infrastructures around accreditation and certification for ISO50001 are absent.	UNIDO will work with Ukrainian standards and accreditation agencies to adopt the standard and set up required structures.
	Related project outcome:

[2] Project document (Prodoc) can be retrieved from: <https://open.unido.org/projects/UA/projects/120321>
[3] The GEF Monitoring and Evaluation Policy (GEF Secretariat, November 2010)

Barrier	Project's planned mitigating actions
	Outcome of Project Component 1: The policy and institutional framework supporting the national implementation of EnMS standard in industry is created Outputs: 1.1, 1.3, 1.4
Corporate decision making and management EE is not a core interest for most companies. Company strategies often focus on output growth rather than cost management. Most enterprises have a budgetary disconnect between capital intensive projects and operating expenses. EE projects reduce operating expenses, but require capital for implementation. Corporate accounting practices often place capital and operating budgets under separate departments. An EnMS bridges the various decision-making departments	The Project will disseminate the benefits of EnMS at the senior manager / business owner level including 1/2 day presentations across the country. The training focuses on addressing the budgetary disconnect between capital and operating expenditure.
	Related project outcome: Outcome of Project Component 3: The sector wide penetration of energy management system standard is accelerated and Energy System Optimization and EE technologies promoted. Outputs: 2.1, 2.2, 3.1
Lack of awareness Some industries perceive EE projects to be high risk due to high capital requirements. There is often a perception that these investments do not bring commensurate financial returns when compared to the financial returns expected from other investment options. Even when technical or energy managers are convinced, top management in a company may not be aware of the potential of EE in (long-term) cost reduction.	Widespread awareness campaign targeting management and decision-makers on the benefits of industrial energy efficiency, addressing energy management best practices, benchmarking for energy efficiency and introducing the concept of the Energy System Optimization as well as the impact in terms of costs-benefits, efficiency improvement, competitiveness and environmental impacts.
	Related project outcome: Outcome of Component 3: The sector wide penetration of EnMS standard is accelerated and EE measures promoted Outputs: 3.1, 2.1, 2.2
Lack of capacity to design, evaluate and implement EnMS and SO Lack of familiarity with the range of EE technologies and processes, and energy conservation investment best practices as well as the under-appreciation of financial benefits from energy conservation investments are primarily responsible for the high-risk perception among industrial enterprises. Industrial energy-consuming equipment purchase decisions often focus on components, not on the systems that they operate. When processes and equipment change over time, inefficiencies in energy use compound. In addition, local suppliers of energy efficiency related finance, equipment and expertise have limited experience and skills in marketing their products to industrial decision-makers.	Capacity building of EE service providers (private/public), focused on energy management and ESO in industry and to support investments in EE technologies and operation. Trained practitioners can work as plant energy managers or energy management consultants to assist industry in implementation of the standard, whereas the trainees of SO can become technical specialists on ESO, such as specialists on motor / fan, pumping, compressed air, steam, and process heating system optimization. The EnMS trainees can also assist the Ukrainian authorities involved in verification and certification of standard compliance.
	Related project outcomes: <u>Outcome of Component 2:</u> National capacity for implementation of EnMS and SO in industry is developed <u>Outcome of Component 3:</u> The sector wide penetration of EnMS standard is accelerated and SO and EE technologies promoted Outputs: 2.1, 2.2, 3.3
Barriers to finance There is substantial finance available for EE projects provided by various development banks. However, uptake has been low. This is thought to be due to extremely high interest rates, high collateral requirement and most importantly due to the lack of good project proposals	The project will work on establishing a link between banks and enterprises by making enterprises aware of the funding opportunities and setting up a revolving fund to support the enterprises in preparing bankable projects beyond the life-spam of the project.
	Related project outcome: <u>Outcome of Component 3:</u> The sector wide penetration of EnMS standard is accelerated and ESO and EE technologies promoted Output: 3.2

As it can be seen from the short timeline of the Project given below, start of the Project has been delayed due to mostly exogenous reasons—particularly the political and security situation that commenced in early 2014.

Short timeline showing the delay in the start-up of the project:

Event	2013			2014			2015			2016			2017		
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	
GEF -CEO approval	◉														
PSC Kick-off meeting					◉										
UNIDO-KPI MOU signed							◉								
TOR of Sub-Consult. sent to KPI by UNIDO									◉						
MTR													⟷	⟷	

1.2 Methodology of MTR

This independent MTR was carried out in four stages:

Table 7: Stages of MTR

Stage	Activities
1. Desk study and interviews at UNIDO HQ *See Annex 2 for a Preparatory note on the desk study and Annex 9 for a Selected bibliography of reviewed documents.*	• Review of relevant UNIDO, GEF and UKR policy documents, programs and guidelines; • Review of Prodoc, progress reports, briefing notes, important communications; • Meetings and interviews with UNIDO staff: PM, project assistant, TC services;
2. Fact-finding mission to Kyiv from 18 to 22 December 2016 *See Annex 3 for summary of the mission report.*	• Briefings from PMU; • Interviews with trainees of the Project; • Interviews / meetings with UKR stakeholders (government and private); • Review targets and achievements of the Project; • Review revision options for the Project; • Preparation of a mission report.
3. Second mission to Kyiv from 08 to 15 March 2017 *See Annex 4 for summary of the mission report.*	• Briefings from PMU; • Visits / meetings / interviews with PMUs of other UNIDO projects in UKR; • Interviews / meetings with old NEA and prospective new NEAs (government); • Review targets and achievements of the Project; • Review revision options for the Project; • Preparation of a mission report
4. MTR report	• Preparation of a draft report, • Discussions of the raw findings with involved parties at UNIDO HQ and with stakeholders in UKR; • Finalization of the MTR report.

This MTR has been carried out in accordance with the UNIDO Evaluation Policy, the UNIDO Guidelines for the Technical Cooperation Programmes and Projects, the GEF's Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects from April 2017, and the GEF Monitoring and Evaluation Policy from 30 November 2010.

Legal / formal bases of the project, among others, are:

- Project Document as endorsed by the CEO of GEF;
- MOU between UNIDO and GEF dated 20 July 2004 (amended and restated 25 August 2014);
- Financial Procedures Agreement between UNIDO and IBRD (as Trustee of GEF) dated 6 May 2010 and its amendments;
- UNIDO-GEF Project Operational Manual;
- UNIDO Financial Regulations and Rules;
- UNIDO Procurement Manual;
- UNIDO Project Personnel Manual;
- Agreements of the Government of Ukraine with the United Nations;
- Legislations and other regulations of the Government of Ukraine.

1.3 Limitations of this MTR

While the context from UNIDO provides some strength for this MTR such as:

- Existence of similar UNIDO-GEF projects / programmes (GEF-4, -5 and -6 financed) in a number of countries / regions and the possibility of making use of that experience, including MTRs, MTEs and TEs of those projects;
- Energy is a well-documented priority sector in Ukraine. While implementing the MTR, energy sector information from various sources was consulted;
- Ukrainian Government is committed to complete the legal and institutional frameworks of the energy sector, e.g. Energy Community and EU acquis. Therefore, timing of adoption of UKR energy policies can be estimated within reason.

The main limitations of this review were:

- MTR is based on short missions that have the inherent limitation of giving a snapshot impression only;
- Ukraine is a very dynamic country, both politically and economically. This dynamism necessitates updating analyses, statistics, conclusions and recommendations in rather short intervals;
- Deteriorated relations among project stakeholders.

These limitations have been duly considered and were addressed to the extent possible by the Evaluation Team with a forward looking and constructive approach.

2. Project background

2.1 UNIDO Industrial Energy Efficiency (IEE) programme

For many developing countries and emerging economies, improved Industrial Energy Efficiency (IEE) has many potential benefits. At the macro level, it is one of the most cost-effective measures to help alleviate constraints on energy supply; it helps to loosen the link between economic growth and environmental degradation, such as climate change, and to promote growth. At the micro, that is enterprise level, increasing energy efficiency cuts costs and may help to improve productivity.

In spite of so many positive impacts and very favourable payback periods, investments in industrial energy efficiency in developing countries and emerging economies are low. Some of the most often cited barriers to that situation include informational barriers on available benefits, financial barriers such as an absence of credit, high risk of new technology, high transaction costs, shortage of sufficiently trained staff to implement new technologies and an absence of adequate policy and contracting institutions at the national level to encourage investment.

UNIDO adopts a comprehensive approach to promoting and supporting continuous improvement of industrial energy efficiency in developing countries and emerging economies. Within its Industrial Energy Efficiency programme, UNIDO offers assistance in: policy support; capacity-building and technology transfer and global forum. Two pillars of the IEE programme are the Energy Management System (EnMS) and Energy System Optimization (ESO).

ISO 50001 aims at providing public and private sector organizations with management strategies to increase energy efficiency, reduce costs and improve energy performance.

The standard is intended to reach its targets by:

- Assisting organizations in making better use of their existing energy-consuming assets;
- Creating transparency and facilitating communication on the management of energy resources;
- Promoting energy management best practices and reinforcing good energy management behaviors;
- Assisting facilities in evaluating and prioritizing the implementation of new energy-efficient technologies;
- Providing a framework for promoting energy efficiency throughout the supply chain;
- Facilitating energy management improvements for greenhouse gas emission reduction projects;
- Allowing integration with other organizational management systems such as environmental, and health and safety.

The **Energy Management System (EnMS) Standard (ISO50001)** specifies the requirements for establishing, implementing, maintaining and improving an energy management system, whose purpose is to enable an organization to follow a systematic approach in achieving continual improvement of energy performance, including energy efficiency, energy security, energy use and consumption. The standard aims to help organizations continually reduce their energy use, and therefore their energy costs and their greenhouse gas emissions. ISO50001 does not prescribe specific performance criteria with respect to energy. However, long-time national and international experiences with industrial energy efficiency programmes have shown that most energy efficiency in industry is achieved through changes in how energy is managed in an industrial facility, rather than through installation of new technologies.

Industrial Energy System Optimization (ESO or SO): While equipment manufacturers continuously try to improve the performance (and energy efficiency) of individual system components such as, motors, compressors, steam boilers, and pumps, the energy efficiency of systems that include these components is often quite low or worsens by the time of usage. Efficiency of individual components may only be possible to improve 2-5%, but by looking at the system as a whole and carefully matching equipment to demand needs, efficiency improvements of 20-30% are possible.

With the application of ESO, energy will be saved, reliability and control of the system will be enhanced, while maintenance costs will decline. Payback periods for ESO projects are typically short, from a few months to two or three years. In most cases, ESO involves commercially available products and accepted engineering practices. Payback periods are low, because the ESO investments are low due to the fact that their focus is not primarily on changing out or supplementing equipment, but on eliminating or reconfiguring inefficient uses and practices.

2.2 UKR IEE Project

Project factsheet

Project Title	**Introduction of Energy Management System Standards in Ukrainian Industry**
UNIDO Project ID and Grant No.	UNIDO Project ID: 120321 UNIDO Grant No.: 2000002493
GEF Project ID	4784
Region	ECA
Country(ies)	**Ukraine**
GEF focal area(s) and operational programme	Climate Change
GEF implementing agency(ies)	UNIDO
Project Executing Partner(s)	- Kyiv Polytechnic Institute (KPI); - State Agency on Energy Efficiency and Energy Saving (SAEEES)
Project size (FSP, MSP, EA)	FSP
Project CEO endorsement / Approval date	21 October 2013
Project implementation start date (First PAD issuance date)	21 January 2014
Expected implementation end date (indicated in CEO endorsement / Approval document)	21 January 2019
Revised expected implementation end date (if applicable)	21 January 2020
Actual implementation end date	NA
GEF project grant (excluding PPG, in USD)	5,550,000
GEF PPG (if applicable, in USD)	80,000
UNIDO co-financing (in USD)	
Total co-financing at CEO endorsement (in USD)	34,000,000
Materialized co-financing at project completion (in USD)	NA
Total project cost (excluding PPG and agency support cost, in USD; i.e., GEF project grant + total co-financing at CEO endorsement)	39,550,000
Mid-term review date	December 2016-April2017
Planned terminal evaluation date	
Project expenditures from GEF Grant as of 03 May 2017, in USD and % of the total grant	1,110,164 (20% of the total GEF Grant)
Uncommitted balance of the GEF Grant as of 03 May 2017, in USD and % of the total grant	4,439,836 (80% of the total GEF Grant)

The UKR IEE Project aims at contributing to a sustainable transformation of industrial energy usage practices in Ukraine. The project will do this by establishing and promoting the concepts of Energy Management Standards (EnMS) and Energy System Optimization (ESO), along with the introduction and promotion of the ISO50001 Energy Management Standard.

The "UKR IEE Project" contains three main components (outcomes) and corresponding outputs. The forth component is "Monitoring and Evaluation". The components and their associated outputs are:

Component 1.0 – **Policy and institutional support for the introduction of a national EnMS standard compatible with ISO 50001** – Before ISO 50001 complaint EnMS can be implemented in industry on a widespread basis, it is necessary to ensure that the following outputs are produced:

Output 1.1 ISO50001 series standards adopted as national standards;

Output 1.2 The development of a policy establishing a voluntary incentive scheme to accelerate the introduction of EnMS standard is supported;

Output 1.3 The establishment of an accreditation and certification scheme for ISO50001 is assisted;

Output 1.4 National monitoring reporting and verification (MRV) methodology and structure to track energy performance at enterprise / sectoral / national level is suggested;

Output 1.5 National award scheme for outstanding energy management performance is proposed.

Component 2.0 – **Building national capacity for planning, implementation and certification of EnMS and implementation of ESO** – To ensure that EnMS and ESO are employed to their full potential within Ukrainian industry, the country needs to build local expertise in this area. Therefore, the project will support the training of local experts who will be in turn available to train Ukrainian enterprises in implementing EnMS and ESO. This will include training enterprise Energy Managers to enable them to implement EnMS and ESO within their own business, and engineering consultancies to enable them to support industrial enterprises. Finally, the project will also train vendors of industrial systems in implementing ESO.

Output 2.1 Energy Management training provided;

Output 2.2 Energy System Optimization Training provided.

Component 3.0 - Technology diffusion and deployment to promote implementation of EnMS conforming to ISO50001 in selected industrial sectors – With the appropriate frameworks and incentives in place from Component 1.0, and trained personnel in place from Component 2.0; Component 3.0 aims to introduce ISO50001 compliant EnMS into selected enterprises. A selected number of these enterprises will also receive further technical assistance in implementing ESO and other energy efficiency projects. Also under this component a revolving fund will be established to support these and other energy efficiency projects. Experience gained during the project will be publicized widely with best-practice guides and case studies being released nationally.

Output 3.1 Industry awareness of the environmental and economic benefits of energy management system standard is improved;

Output 3.2 At least 18 companies in selected industrial sectors implement EnMS and are certified to ISO50001. At least 12 of these companies invest in EE technologies or ESO projects;

Output 3.3 Network group set up to support peer-to-peer sharing for companies involved with the project;

Output 3.4 Revolving fund supporting technical assistance for enterprises to engage in EE projects.

Component 4.0 - Monitoring and evaluation - Adequate monitoring and evaluation mechanisms are in place, facilitating smooth and successful project implementation and sound impact.

Output 4.1 Regular monitoring exercises conducted, PIRs prepared, tracking tools according to GEF requirement prepared;

Output 4.2 Mid-term and final project evaluation conducted.

2.2.1 Project overview: outcomes, outputs and budget

Table 8: Project components, outcomes, outputs and budget

Project Component	Expected Outcomes	Expected Outputs	GEF Grant (USD)	Co-financing (USD)
1. Policy and institutional support for the introduction of a national energy management system standard corresponding to ISO50001	The policy and institutional framework supporting the national implementation of energy management system standard in industry is created	1.1 ISO50001 'Energy Management Systems Standard' is adopted as a national standard. 1.2 Policy establishing a voluntary scheme to accelerate the introduction of EnMS is developed. 1.3 Accreditation scheme for EnMS service providers and Certification scheme for industries is established. 1.4 National monitoring, reporting & verification methodology and structure to track energy performance at enterprise/sectoral / national level is set up. 1.5 National award scheme for outstanding energy management performance is created.	900,000	1,350,000
2. Building the national capacity on the planning, implementation & certification of energy management systems and system optimization	National capacity for implementation of EnMS and SO in industry is developed	2.1 National training program on energy management systems is implemented. 2.2 National training program on System Optimization is implemented.	800,000	1,600,000
3. Technology diffusion and deployment to promote implementation of energy management systems in selected industrial sectors	The sector wide penetration of energy management systems is accelerated and System Optimization & EnE technologies promoted	TA 3.1 Extensive awareness programme to improve the awareness of enterprise management and personnel on EnMS, EE and ESO programmes, funding opportunities and best practices developed and implemented 3.2 Network group to support peer to peer sharing set-up.	700,000	3,000,000
		INV 3.3 At least 18 companies in selected industrial sectors implement EnMS and are certified to ISO50001. 3.4 Revolving fund supporting technical assistance for the development of EnMS, EE and ESO projects established.	2,800,000	27,000,000
4. Monitoring and Evaluation	Adequate monitoring and evaluation mechanisms are in place, facilitating smooth and successful project implementation and sound impact	4.1 Regular monitoring exercises conducted, PIRs prepared, tracking tools according to GEF requirement prepared. 4.2 Mid-term and final project evaluation conducted.	100,000	50,000
Subtotal			5,300,000	33,000,000
Project management Cost (PMC)			250,000	1,000,000
Total project costs			5,550,000	34,000,000

2.2.2 Financial implementation

The total GEF Project Grant for the UKR IEE Project was: USD 5,500,000. As of 03 May 2017, total project expenditure stood at USD 1,110,164 (approximately 20.0% of the total grant).

Table 9: Implementation according to budget lines

Budget Line	Sponsored Class	Released Budget	% of Rel. Budget	Expenditure	% of Exp.	Funds Available
1100	Staff & Intern Consultants	733,350	13.2	330,561	29.8	402,789
1500	Local travel	211,597	3.8	96,412	8.7	115,185
1700	Nat.Consult./Staff	849,610	15.3	338,408	30.5	511,201
2100	Contractual Services	3,023,706	54.5	128,881	11.6	2,894,825
3000	Train/Fellowship/Study	360,214	6.5	101,474	9.1	258,740
3500	International Meetings	15,495	0.3	2,287	0.2	13,208
4300	Premises	18,525	0.3	21,085	1.9	(2,560)
4500	Equipment	87,494	1.6	57,587	5.2	29,908
5100	Sundries	240,011	4.3	33,470	3.0	206,541
7100	Contingencies	10,000	0.2	-	-	10,000
	Project Total	**5,550,000**	**100.0**	**1,110,164**	**100.0**	**4,439,836**

Table 10: Implementation according to project components

Project component	Released Budget	% of Rel. Budget	Expenditure	% of Exp.	Funds available
1. Policy and institutional support	854,903	15.4	208,922	18.82	645,981
2. National capacity for implementation	896,000	16.14	538,371	48.49	357,629
3. Technology diffusion and deployment	3,382,147	60.94	150,279	13.54	3,231,868
4. Monitoring and Evaluation	97,950	1.76	23,557	2.13	74,393
5. Project Management Costs	319,000	5.76	189,035	17.02	129,965
Project Total	**5,550,000**	**100**	**1,110,164**	**100**	**4,439,836**

3. Findings

3.1 General observations

3.1.1 Political and economic developments in Ukraine

Ukraine is politically a very dynamic country. Political developments and changes have affected the Project and will continue to do so. In this regard, there are negative as well as positive aspects.

Positive effects of political developments[4]:

Ukraine has signed the Association Agreement with EU on 27 June 2014 which sets out the concept of gradual approximation of Ukraine's legislation to EU norms and standards. Specific timelines are set within which Ukraine should align its legislations to the relevant EU legislation. Alongside the legislations, associated institutions must also be founded and/or improved.

Ukraine is a member (Contracting Party) of the Energy Community which brings together the European Union, on one hand, and countries from the South-East Europe and Black Sea region on the other.

With regard to energy efficiency, the Contracting Parties implement three Directives on energy end-use efficiency and energy services, energy performance of buildings and labeling. Directive 2006/32/EC strives for the adoption of an indicative energy savings target of 9% and the development of National Energy Efficiency Action Plans (NEEAP). Directive 2010/31/EU sets minimum energy performance requirements for new and existing buildings. Directive 2010/30/EU establishes legal framework for labeling and consumer information regarding energy consumption for energy-related products

In November 2014, the Cabinet of Ministers of Ukraine (CMU) approved a roadmap to the implementation of the EU acquis (see Annex 5 on Ukraine energy brief) in line with the Ukraine's commitments in the context of the Energy Community Treaty which includes a time-table for the implementation of measures foreseen by Directive 2006/32/EC.

Various draft laws on the efficient use of energy resources (to transpose the key provisions on end-use efficiency and energy services, energy management, energy audits, eco-labeling, etc.) were drafted and submitted for consultations to stakeholders. Specific emphasis was given to energy efficiency in buildings.

Negative effects of political and economic developments[5]:

GDP decline particularly between 2013 and 2015 was very severe: Poor performance of Ukrainian economy adversely affected the stakeholders of the projects.

Very large currency depreciation during 2013-2015: Rising prices, depreciation of Hryvnia and decrease of actual salaries weakens the enthusiasm to work and enjoy life. The reflection of this situation can be found in the 2017 World Happiness Report[6]; where Ukraine is positioned at 132nd place along 155 countries listed.

High interest rates and strict collateral requirements make bank loans expensive and difficult to get: The financial institutions in Ukraine seek strong collaterals from their borrowers[7]. This and the

[4] See Annex 5 on "Ukraine energy brief".
[5] See Annex 7; "Economic note on Ukraine"
[6] 2017 World Happiness Report can be retrieved from <http://worldhappiness.report/ed/2017/>.
[7] Exceptions to that are some credits financed by international institutions such as EBRD, FDC, etc.

high cost of credits cause unwillingness to invest and most of the credits are used to finance operations of the companies.

3.1.2 Energy balance of Ukraine[8]

Analysis of energy balance of Ukraine is still the strongest verification that the project is relevant.

Very high energy intensity: Ukraine has one of the highest energy intensities in the world. Over the recent years, some improvement has been observed in the energy intensity of Ukraine. However, it is mostly due to closure of high energy intensity industrial plants and does not indicate a systemic tendency. Any effort, such as increasing energy efficiency, to improve (i.e. to decrease) the energy intensity is most welcome.

High CO_2 intensity: Ukraine emits more CO_2 (almost 7 times of average EU value) to create one USD of GDP. Considering that Ukrainian industry consumed 33.5% of the TFEC in 2014, introduction of energy management systems in industry is a very appropriate move.

3.2 Achievements of the project

Rating measurements of project's achievements are based on:

- Review of Prodoc, progress reports, briefing notes, important communications;
- UNIDO financial implementation reports of the project;
- *Main source of information on implementation performance of the project:* GEF Project Implementation Report (GEF-PIR) of June 2016;
- Meetings and interviews with UNIDO staff: PM, Project Assistant, IEO, TC services (UNIDO HQ, Vienna)
- Briefings from PMU (Kyiv, UKR);
- Interviews with trainees of the Project (Kyiv, UKR);
- Interviews / meetings with UKR stakeholders, government and private (Kyiv, UKR)
- Visits / meetings / interviews with PMUs of other UNIDO projects in UKR (Kyiv, UKR).

The way in which the Project's performance has been measured / evaluated under the MTR is by employing the GEF and UNIDO Evaluation Criteria. These criteria and their grading structure are presented below in Table 11.

Table 11: GEF and UNIDO project performance evaluation rating scales

Measure		**Rating**
Attainment of objectives and results (overall ratings)	*Results* – direct project results (outcomes and outputs) and longer-term impacts	*6-point scale:* • Highly satisfactory (HS): no shortcomings; exceeding all targets (excellent) • Satisfactory(S): minor shortcomings; achieving most of the targets (well above average) • Moderately satisfactory (MS): moderate shortcomings; achieving most of the targets (average) • Moderately unsatisfactory (MU): significant shortcomings; achieving some targets (below average)
1. Design and relevance; *UNIDO criteria:* quality at entry, preparedness	*Relevance* – the extent to which the project is linked with national development priorities and policies, and in line with UNIDO priorities and GEF Operational Programs	
2. Attainment of results; effectiveness	*Effectiveness* – the extent to which results have been delivered (or likely how this will be achieved);	

[8] See Annex 5 on "Ukraine energy brief".

3. M&E; efficiency; *UNIDO criteria:* supervision and backstopping; implementation approach	*Efficiency* – extent to which results have been delivered without delay and with cost-effectiveness;	• Unsatisfactory (U): major shortcomings; expected not to achieve most of the targets (poor) • Highly unsatisfactory (HU): severe shortcoming (very poor; appalling) Relevance (*2-point scale):*
Sustainability and risks; external factors	*Sustainability* – likely ability to continue deliver benefits for an extended period of time after completion.	*4-point scale:* • Likely (L): no or negligible risks to sustainability • Moderately likely (ML): moderate risks • Moderately unlikely (MU): significant risks • Unlikely (U): severe risks

Table 12, below presents a summary of the UKR IEE Project's performance ratings across the different GEF and UNIDO standard evaluation criteria.

Table 12: UKR IEE project's performance ratings

Criteria	Conclusions	Rating
Overall achievements of the project: **HS** (Highly Satisfactory) to **MU** (Moderately Unsatisfactory)		
1. Relevance and design • Relevance and conceptualization • Stakeholder involvement • Assessment of logframe and M&E design	• The overall project design is relevant to national energy and energy efficiency policies and actions. UKR is a member of the EU Energy Community and committed to implement the EU acquis (see Annex 5 Ukraine energy brief) • With regard to energy efficiency targets, UKR needs to improve its performance and the Project can help. • Industrial energy intensity and CO_2 intensity are very high in UKR (see Annex 5 Ukraine energy brief). Hence, energy management system applications in UKR industry are also relevant from economic and environmental points of view. • In UKR, some multi- and bi-lateral grant and loan funding are available for energy efficiency projects. Hence, national stakeholders show interest. • The project is relevant to UNIDO technical cooperation policies and programmes and fully relevant to the GEF focal area of climate change. • The Project's Results Framework is reflection of UNIDO's well-tried and successful approach to introduction of energy management systems in a number of countries / regions. The outcomes, outputs and targets / indicators of the Framework have been developed adequately and allow for the monitoring of project implementation. • Problems with the main NEA (namely KPI) have demonstrated that the project design could have given more emphasis on certain aspects of sustainability. This applies particularly to continuation / institutionalization of capacity building / training programmes. In later phases of the Project implementation, replication of EnMS and ESO implementations will require functioning beyond the project's end.	**HS** (Highly Satisfactory)

Criteria	Conclusions	Rating
2. Results and effectiveness • Assessment of outcomes and outputs (cf. with baseline indicators) • Effectiveness • Global environmental and other impacts	(See Annex 7 Project's "Results Framework" and achievements.) • As can be seen from the timelines, the Project suffered delays due to (i) political uncertainties and (ii) problems with the governance of the Project. Hence it is behind schedule. • It must be recognized that the starting phase of this Project coincided with the worst economic crisis of UKR in recent history (See Annex 6 Economic note on Ukraine) Obviously the economic situation has adversely affected the Project. • The Project has been under implementation over 2 years and its current achievements compared to the targets show satisfactory progress in Components 1 and 2. • In Component 3 (on technology diffusion and deployment) activities have not started, except for preparation of a report on financial mechanism. Hence, activities are rated as moderately unsatisfactory in Component 3.	**S** (Satisfactory) for Components 1 and 2 **MU** (Moderately Unsatisfactory) for Component 3
3. Implementation, processes and efficiency • Project management and administration • Monitoring and evaluation systems • Stakeholder engagement Gender mainstreaming • Budget, expenditures and co-financing • TC services	• Allocation of counterpart resources and adequate project management arrangements were delayed at the outset of the Project. Although the Project was endorsed by GEF-CEO in October 2013, MOU with KPI (the main NEA) was signed in May 2015. The project has been extended until January 2020. • Despite the delay, many project management tasks have been satisfactorily carried out by the UNIDO Project Manager and the PMU (after the assignment of PMU in November 2014). • Cooperation with KPI ran into problems soon after the signature of the MOU. That situation caused the collapse of the Project's governance structure (see section 3.3.1 Part 1 below). • Although the good cooperation of the Project continued with many stakeholders in UKR, overall efficiency of the Project is rated moderately satisfactory.	**MS** (Moderately Satisfactory)
4. Sustainability • Risks and external factors • Institutionalization • Replication	• Problems with the governance structure of the Project affect the sustainability of results. • After KPI leaves the Project, there is no fall-back plan to institutionalize capacity building / training programmes. • Assuring national / international recognition of training certificates issued by the Project (by UNIDO) is very much desired by the trainees. Lack of that may reduce the quality and/or quantity of trainees in the future. • Technical risks and most of the time costs associated with the optimization of, for example, compressed air and / or steam systems are very low. Therefore, it may be desirable to start Component 3 with such activities, that is, exploiting system level efficiency opportunities. • Among other difficulties, access to bank loans is not easy for SMEs in UKR (see Annex 5 Ukraine energy brief). Therefore, companies participating in Component 3 activities may be mostly larger companies. The big challenge in future will be to reach out to SMEs and to assist them in EnMS and ESO. • If governance and project ownership are re-established, the sustainability would change to ML (Moderately Likely).	**MU** (Moderately Unlikely

3.3 Project timeline and key issues

Under the Prodoc, KPI and SAEEES are listed as the main Executing Partners to the Project. In addition to the conditions indicated within the Prodoc, relations with and role of KPI are the subject matter of a separate MOU that was signed in June 2015 between UNIDO and KPI. According to that MOU, KPI would have hosted the PMU and would have provided in-kind cost sharing. KPI was also listed as a "Recipient" of the Project as defined by Ukrainian international cooperation regulations. Within that framework, KPI would have received targeted technical assistance intended to capacitate them to be the long-term provider of UNIDO's EnMS and ESO training in Ukraine.

After a delayed start, the Project was underway when certain issues started to develop with the KPI (National Execution Agency-NEA). Unfortunately, the relations with KPI then deteriorated and after a long exchange of letters (Annex 8 on Communications between KPI and UNIDO (Feb.-Jul. 2016)), KPI decided to withdraw from the Project. That situation negatively affected the overall governance structure of the Project. Therefore, MTR, in addition to tasks described above, tries to analyze the situation and identify the ways in which the governance structure of the project can be rebuilt.

The following timeline is not an exhaustive one but it shows the project's milestones and pinpoints problems.

Table 13: Timeline of the KPI-UKR IEE project issues

2013	2014			2015				2016	
GEF-CEO Approval	Planned / expected Project start		PSC Kick-off meeting		Official enquiries of MED&T were not answered by PMU		TOR of Subcon sent to KPI by UNIDO		"Format" web article of accusations
10.2013	**2014**	**11.2014 to 01.2015**	**18.12.2014**	**05.2015**	**05.05.2015 and 15.07.2015**	**09.2015**	**10.2015**	**10.02.2016**	**25.02.2016**
		PMU hired / started to work	Actual start of project	MOU between UNIDO and KPI signed	In this regard MED&T wrote a letter on 11.02.2016	UNIDO Project Manager – KPI Rector meeting	KPI never responded to TOR	Letter of KPI complaining inconsistencies between MOU & implementation	

2016								2017	
	KPI letter of complaints	KPI termination letter		KPI e-mail to UNIDO and letter through MED&T complaining the poor		As per MOU, KPI is out of project		KPI to DG UNIDO requesting UNIDO's acknowledgement of KPI's resignation from project	
08.03.2016	**24.03.2016**	**26.04.2016**	**19.05.2016**	**19.07 and 21.07.2016**	**05.09.2016**	**23.10.2016**	**18.12 - 22.12.2016**	**28.01.2017**	**08.03 - 15.03.2017**
UNIDO response to 10.02.2016 letter			KPI asked PMU to leave its premises	performance of the project & requesting from UNIDO a financial audit	Letter of Permanent Mission of UKR to UNIDO		First mission: Mid-term project review	KPI's resignation from project	Second mission: Mid-term project review

4 Conclusions

This MTR Report addresses project-related issues in three parts:

Part 1: Project-specific governance / implementation issues;

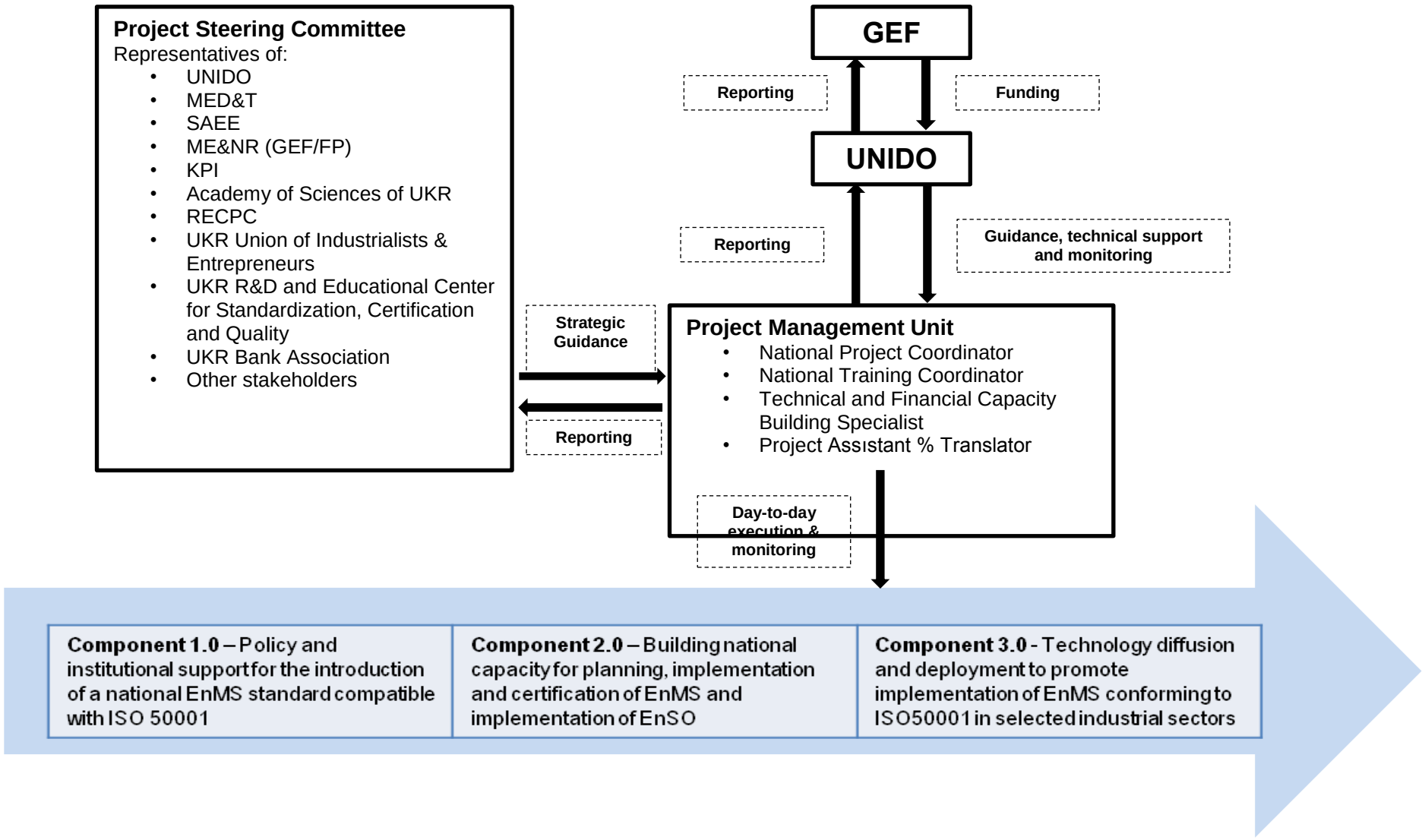
Part 2: Achievements of the project as per results framework;

Part 3: Sustainability of results.

4.1 Part 1: Project-specific governance / implementation issues

Governance Structure of the Project:

The original Implementation arrangements of the Project (governance structure) as defined in the Prodoc are shown in the next figure. Components of that structure are:


Project Steering Committee
Representatives of:
UNIDO
MED&T
SAEE
ME&NR (GEF/FP)
KPI
Academy of Sciences of UKR
RECPC
UKR Union of Industrialists & Entrepreneurs
UKR R&D and Educational Center for Standardization, Certification and Quality
UKR Bank Association
Other stakeholders
GEF
Reporting
Funding
UNIDO
Reporting
Guidance, technical support and monitoring
Strategic Guidance
Reporting
Project Management Unit
National Project Coordinator
National Training Coordinator
Technical and Financial Capacity Building Specialist
Project Assistant % Translator
Day-to-day execution & monitoring
Component 1.0 – Policy and institutional support for the introduction of a national EnMS standard compatible with ISO 50001
Component 2.0 – Building national capacity for planning, implementation and certification of EnMS and implementation of EnSO
Component 3.0 - Technology diffusion and deployment to promote implementation of EnMS conforming to ISO50001 in selected industrial sectors

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How the above table translated into real implementations / executions arrangements is listed below:

i. UNIDO Project Manager (**PM**) is located at the UNIDO HQ;
ii. National Executing Agency (**NEA**): Kyiv Polytechnic Institute (KPI) which was involved from the inception phase of the Project. Project document foresaw that NTUU "KPI" (new name: Igor Sikorsky Kyiv Polytechnic Institute) and its Institute of Energy Saving and Energy Management (IEE) would:
    - Co-finance (in-kind) a part of the Project;
    - Host the PMU;
    - Offer its training facilities located in different parts of Ukraine for holding project related trainings for Energy Management Systems (EnMS) and Energy System Optimization (ESO);
    - Provide web space / platform to Project's website;
    - Support with its considerable expertise in the Energy Management field all project activities throughout the Project;
    - Provide the Chairperson of Project Steering Committee (PSC)
    - It was also assumed that the sustainability of capacity building (training) activities beyond the tenure of the GEF Project would be secured by KPI.
iii. Memorandum of Understanding (**MOU**) between UNIDO and NEA was signed on 28.05.2015 (by UNIDO) and 08.06.2015 (by NEA). MOU envisaged the transfer of certain amounts of GEF Grant Funds to KPI for financing selected activities of the Project / PMU activities. Due to the breakdown in communication and trust between UNIDO and KPI (and KPI's failure to submit comments on the first presented KPI Execution TOR) these funding transfers did not happen, thus turning out to be the main source of dispute between UNIDO and KPI.
iv. Project Management Unit (**PMU**): was initially been located in KPI premises. PMU staff (4 persons) was selected in November 2014 by the representatives of UNIDO, KPI, SAEEES, MED&T and GEF FP. However, after the KPI's decision to leave the project in 2016, PMU was requested to vacate the KPI premises. At present, PMU operates from offices rented from UNDP. In the aftermath of the dispute between UNIDO and KPI, the PMU has been working directly with UNIDO PM.
v. Project Steering Committee (**PSC**) reviews operations and approves work plans. After a "kick-off" meeting on 18 December 2014, PSC has only met once to approve the Terms of Reference (Rules) of the PSC. Although the Project Administrative Manual (**PAM**) or Project Manual and Annual Work Plans (**AWPs**) were all prepared, the PSC has never met to approve the PAM and AWPs.
vi. TOR(s) and contract(s) between UNIDO and suppliers in general and NAE in particular should be the main documents regulating operational and financial relations. A detailed and subject approved (by the KPI Rector and UNIDO) TOR was sent to KPI (in preparation for an Invitation to Bid) by UNIDO for comment and finalization. However, KPI did not respond.

Conclusion 1.0: The Governance structure of the project needs to be re-established

Under the GEF-RCE Project Document, KPI and SAEEES are the main executing partners. As mentioned above, in addition to Prodoc, relations with and the role of KPI are the subject matter of a MOU signed between UNIDO and KPI. According to that MOU, KPI would have hosted the PMU and would have provided in-kind cost sharing. KPI was also a “Recipient” of the Project as defined by Ukrainian international cooperation regulations. Within that framework, KPI would have received targeted technical assistance intended to capacitate them to be the long-term provider of UNIDO’s EnMS and ESO training in Ukraine. Therefore, KPI was a very important national partner to provide sustainability and to institutionalize capacity building programmes.

Unfortunately, the relations with KPI have deteriorated and after a long exchange of letters (for a chronological list see Annex 8 Communications between KPI and UNIDO (Feb.-Jul. 2016), KPI decided to withdraw from the UKR IEE Project.

4.2 Part 2. Achievements of the UKR IEE project as per results framework

Reference is made to:

- Prodoc and its Annex A (Project Results Framework);
- GEF/PIR of the Project dated June 2016;
- Financial implementation print-out of the Project dated 03 May 2017;
- Briefings of PMU to Evaluation Team during the first (18-22 December 2016) and second (08-15 March 2017) missions;
- Interviews with the trainees during the first mission;
- Meetings with Ukrainian stakeholders during both missions.

Conclusion 2.1: Project is highly relevant

- The overall Project design is relevant to national energy and energy efficiency policies and actions. UKR is a member of the EU Energy Community and committed to implement the EU acquis (see Annex 5 Ukraine energy brief). With regard to energy efficiency targets, UKR needs to improve its performance and the Project can help.
- Industrial energy intensity and CO_2 intensity are very high in UKR (see Annex 5 Ukraine energy brief). Hence, energy management system applications in UKR industry are also relevant from economic and environmental points of view.
- In UKR, some multi- and bi-lateral grant and loan funding are available for energy efficiency projects. This fact increases the interest shown by national stakeholders.
- The project is relevant to UNIDO technical cooperation policies and programmes and fully relevant to the GEF focal area of climate change.
- The Project's Results Framework is reflection of UNIDO's well-tried and successful approach to introduction of energy management systems in a number of countries / regions. The outcomes, outputs and targets / indicators of the Framework have been developed adequately and allow for the monitoring of project implementation.
- Problems with the main NEA (namely the KPI) have demonstrated that project design could have given more emphasis on certain aspects of sustainability. This applies particularly to continuation / institutionalization of capacity building / training programmes. In later phases of the Project implementation, replication of EnMS and ESO implementations will require functioning beyond the Project's end.

Conclusion 2.2: Project is fairly effective

Annex 7 "Project's Results Framework" and achievements shows the Project's achievements superimposed on the Results Framework.

- As can be seen from the timelines, the Project suffered delays due to (i) political and security conditions and (ii) problems with the governance of the Project. Hence it is behind schedule.
- It must be recognized that starting phase of this Project coincided with the worst economic and political crisis of UKR in recent history (See Annex 6 Economic note on Ukraine.) Obviously the economic and political situation has adversely affected the Project.
- The Project has been under implementation over two years and its current achievements compared to the targets show satisfactory progress in Components 1.0 and 2.0.
- In Component 3.0 (on technology diffusion and deployment) activities have not started, except for an extensive and broad preparatory scoping and examination of how to set up the Project's financial mechanism. Hence, activities are rated as moderately unsatisfactory in Component 3.0.

Conclusion 2.3: Project is not very efficient

- Allocation of counterpart resources and adequate project management arrangements were delayed at the outset of the Project. Although the Project was endorsed by GEF-CEO in October 2013, the MOU with KPI (the main NEA) was signed in May 2015. The project has been extended until January 2020.
- Despite the delay, many project management tasks have been satisfactorily carried out by the UNIDO Project Manager and the PMU (after the assignment of PMU in November 2014).
- Cooperation with KPI ran into problems soon after the signature of the MOU. That situation caused the collapse of the Project's governance structure.
- Conflict resolution took substantive amount of time and efforts of the PM and the PMU.
- Although the good cooperation of the Project continued with many stakeholders in UKR, overall efficiency of the Project is rated moderately unsatisfactory due the issues with KPI and time taken to try and resolve them.

4.3 Part 3: Sustainability of results

Conclusion 3.0 Sustainability of the project's results needs to be improved

- Problems with the governance structure of the Project will affect the sustainability of results.
- After KPI has left the Project, there is no fall-back plan to institutionalize capacity building / training programmes.
- Assuring national / international recognition of training certificates issued by the Project (by UNIDO) is very much desired by the trainees. While the ISO50001 Lead Auditor Training Course is recognized officially, securing all course recognitions must be a priority to avoid reducing the quality and/or quantity of trainees in the future.
- Technical risks and most of the time costs associated with the optimization of, for example, compressed air and / or steam systems are very low. Therefore, it may be desirable to start Component 3.0 with such activities, that is, exploiting system level efficiency opportunities.
- Among other difficulties, access to bank loans is not easy for SMEs in UKR (see Annex 6 Economic note on Ukraine). Therefore, companies participating in Component 3 activities may be mostly larger companies. The big challenge in future will be to reach out to SMEs and to assist them in EnMS and ESO implementation.
- In regard to achieving sustainability of the Project's results, the Project is rated moderately unsatisfactory as a new long-term EnMS / ESO training assistance host and institution must be secured. This is, and rightly should be, a top priority for the Project Team.

5 Recommendations

The recommendations are given in the table below:

Table 14: Recommendations of the MTR

Recommendation	Required actions	Implementation responsibility
1. Take actions to re-establish governance structure of the project.		UNIDO in consultation and agreement with government of UKR
1.1 Select the new NEA.	UNIDO should formalize the agreement with a new NEA. The natural choice for the next National Execution Agency is State Authority for Energy Efficiency (SAEEES) since (i) it is the main governmental agency tasked with the areas covered by the project; (ii) SAEEES is involved in and knowledgeable about the project from its early stages, and (iii) it is registered at the National Registry held by MED&T as both a Beneficiary and Recipient of the Project. However, KPI's role in the Project should be recalled and the following should be discussed and clarified with SAEEES: • Co-financing commitments (in-kind): - Provision of office space (facilities, rooms and office equipment) for the Project Management Unit (PMU) for at least the remaining three years. - Provision of training facilities for organizing EnMS and ESO trainings in Kyiv and throughout Ukraine for three years. - Hosting of the Project web-platform for three years. • Support to the Project's training programmes. • Help to institutionalize and to achieve longer-term sustainability of training activities beyond the tenure of the GEF project. • Support to other implementation activities of the Project. • Outline of any MOU (or any other document) between UNIDO and the NEA.	UNIDO in consultation and agreement with Government of UKR
1.2 Project Manager at UNIDO-HQ	Evaluation Team noted the commitment, time and efforts made by the Project Manager and the Project Assistant at UNIDO-HQ as well as the achievements of the Project under the current conditions. However, given the history of misunderstandings and the deteriorated relationship between certain of the Project's stakeholders, it is strongly advised that the present PM be given the opportunity to withdraw from the Project and UNIDO Management to consider the transfer the management responsibility of the Project to another staff member within the same Department, if possible.	PM and UNIDO Management
1.3 Revise / update the Project document.	Initial discussions at UNIDO HQ and during the Fact-Finding Mission to Kyiv in December 2016 showed that all parties may agree that the change of the NEA and related adjustments of the Prodoc may be regarded as a "minor modification." Below-proposed steps should be followed after the decision on the new National Execution Agency is reached: • UNIDO PM revises / reformulates the ProDoc;	UNIDO in consultation and agreement with government of UKR; GEFSec

Recommendation	Required actions	Implementation responsibility
	• UNIDO PM and PMU (Kyiv) seek the agreements of: - GEF Focal Point at the MENR (Kyiv); - UNIDO-GEF and GEF-Sec; - UNIDO Focal Point at the MED&T (Kyiv)—re-registration of the Project; • UNIDO and NEA organize a new "kick-off" meeting of the PSC (see below).	
1.4 Establish the new Project Steering Committee (PSC) & prepare Project Manual and 2017 Annual Work Plan.	These steps should be taken after the decision on new National Execution Agency is made: • UNIDO and NEA identify and obtain agreements of the new PSC members and the Chairperson; • UNIDO and NEA prepare the new / revised TOR of the PSC for the approval of PSC; • UNIDO-PM, NEA and PMU prepare "Updated Project Manual[9]" for approval by PSC; • UNIDO-PM, NEA and PMU prepare "Workplan for 2017" for approval by PSC; • UNIDO and NEA organize the new "kick-off" meeting of the PSC. • Kick-off meeting of the new PSC; • Adoption of the Project Manual; • Approval of the 2017 Annual Work Plan and subsequent work plans and revisions as needed.	UNIDO, PMU, the new NEA and government of UKR
1.5 Formulate the new role of KPI.	KPI has expressed its willingness to participate in the Project provided that UNIDO carries out a financial audit and makes the results thereof available to the public[10]. Recalling the technical expertise and nation-wide capacity of the KPI, its contribution may improve the sustainability of the capacity-building activities of the project.	UNIDO, the new NEA and KPI
1.6 Realign the Project Management Unit (PMU) as / if needed.	• It was recalled that the present PMU staff were selected jointly by MED&T, SAEEES, KPI, GEF Focal Point UKR and UNIDO. Provided that the new National Execution Agency will be one of those organizations and if it will be agreeable to all parties concerned, the present PMU may continue. • It should also be noted that the PMU has delivered good performance under very difficult conditions. Project activities have continued despite the problems of the Project. • However, it should also be remembered that the PMU should work in very close cooperation with and reporting to the NEA. The *modus operandi* of other UNIDO projects in UKR could / should apply. • For the time being the PMU should continue to be housed with the UNDP complex in Kyiv.	UNIDO, the new NEA and PMU
2. Improve effectiveness and efficiency of the Project.		UNIDO, PMU, PSC, NEA, UKR government and other stakeholders in UKR

[9] Project Manual (or Project's Administrative Manual) will explain all implementation procedures.
[10] According to KPI's repeated written requests.

Recommendation	Required actions	Implementation responsibility
2.1 Accelerate the implementation of technology diffusion and deployment component (Component 3).	The Project needs a new and urgent push after the re-establishment of its governance structure (re.: Recommendation 1 above.) Overall effectiveness and efficiency of the project has been adversely affected because Component 3.0 "technology diffusion and deployment" activities have not yet started, except for the preparation of a report on financial mechanism. Therefore, particular emphasis should be given to accelerate the implementation of technology diffusion and deployment component.	UNIDO, PMU, PSC, NEA, UKR government and other stakeholders in UKR
3. Improve sustainability of the Project's results.		UNIDO, PMU, PSC, NEA, UKR Government and all other stakeholders in UKR
3.1 Institutionalize training.	Activities aiming at institutionalizing the training / capacity building should be designed and initiated during the term of the Project. They include, *inter alia*: • Provide that protocols to certify and accredit ISO50001 implementations are in place in UKR (re.: Output 1.3); Nationally recognized / accredited / certified training / refresher courses on EnMS and ESO should be organized for auditors / experts during and after the Project. • EnMS and ESO subjects should be integrated into the curriculum of relevant undergraduate and graduate programs of universities / R&D institutions	UNIDO, PMU, Government and other stakeholders in UKR—KPI may lead this activity
3.2 Develop EnMS and ESO replication methodology.	Development of a replication methodology and provision of assistance to industrial enterprises on EnMS and ESO implementations during and after the Project.	UNIDO, Government and other stakeholders in UKR—SAEEES may lead this activity in close cooperation with financial institutions in UKR

ANNEXES

Annex 1: Terms of reference of the Mid-Term Review (MTR)

Annex 1.1 International consultant

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Project Title – Introduction of Energy Management System Standard*s* in Ukrainian Industry *(UKR IEE Project*)
UNIDO Project No.: 120321 – 2000002493
WBS No.: 120321-1-04-01

Title:	**Senior International Project Evaluation Consultant**
Main Duty Station and Location:	**Home-based and Kyiv, Ukraine**
Mission/s to:	**Kyiv, Ukraine**
Start of Contract (EOD):	**06 September 2016**
End of Contract (COB):	**07 October 2016**
Number of Working Days:	**21.0 Days over 1.0 w/m (W.A.E)**

ORGANIZATIONAL CONTEXT

1.1 UNIDO Industrial Energy Efficiency Programme

Improving energy efficiency in industry is one of the most cost-effective measures to help supply-constrained developing and emerging countries meet their increasing energy demand and loosen the link between economic growth and environmental degradation, such as climate change.

The final goal of the UNIDO Industrial Energy Efficiency (IEE) Programme is to effect sustained energy management and efficiency practices in industry of developing countries and emerging economies in order to reduce the environmental pressure of economic growth while increasing productivity, helping to generate economic growth, creates jobs and alleviates poverty.

UNIDO pursues such goal through projects aimed to deliver comprehensive capacity building at the institutional level, in the market and within enterprises on energy management and energy system optimization. UNIDO projects provide also technical assistance to strengthen existing institutional, policy and regulatory frameworks through the development of policy programs, legislation and normative instruments that promote and support permanent integration of energy management and efficiency practices in industry corporate culture. Depending on the national context, the implementation of demonstration projects is supported through the provision of energy efficiency investment specific technical assistance.

1.2 Industry and Energy Management

Time and again energy efficiency in industry has been demonstrated to be cost effective while having a positive effect on productivity. Despite this, energy efficiency improvements with very favourable payback periods often do not get implemented. When projects are implemented, it may often happen that results are not sustained due to lack of supportive operational and maintenance practices. Energy efficiency is still widely viewed as a luxury rather than a strategic investment in future profitability.

Three decades of national and international experiences with industrial energy efficiency programs have shown that most energy efficiency in industry is achieved through changes in **how energy is managed** in an industrial facility, rather than through installation of new technologies.

The goal of sustainable energy efficiency in industry requires that energy efficiency is integrated into daily management practices and systems for continual improvement. In order to achieve that, top management needs to be engaged in the management of energy on an on-going basis.

Energy management system (EnMS) standards provide a proven policy-driven market-based tool and best-practice method to **integrate energy efficiency in industry corporate culture and daily management**. EnMS standards can drive and provide the framework needed for the individual and organizational behavioural change that is required to effecting sustainable and continual improving energy efficiency in industry; the behavioural change needed to go beyond the technology, equipment and stand-alone project approach to energy efficiency that is currently mainstreamed in industry as well as in the IEE service market.

1.3 PROJECT CONTEXT

The project "*Introduction of Energy Management System Standards in Ukrainian Industry Project" (UKR IEE Project)* aims at contributing to a sustainable transformation of industrial energy usage practices in Ukraine. The project will do this by establishing and promoting the concepts of EnMS and ESO, along with the introduction and promotion of the ISO50001 Energy Management Standard.

The UKR IEE Project's primary target industrial subsectors are chemicals, construction and building materials, metallurgy and mining. In order to achieve the goal of increased energy efficiency in these subsectors, the project will stimulate the demand of energy efficient services through: (i) the formulation and implementation of enabling policy and regulatory frameworks for EnMS and ESO adoption; and (ii) the creation of the necessary institutional capacity to implement programmes on EnMS, awareness raising, energy audits, and demonstration projects; (iii) support the supply of energy efficient services by building the institutional capacities to accredit and certify EnMS compliance under the ISO50001 standard; (iv) training local trainers and consultants in EnMS implementation and ESO; and (v) putting in place a financial incentive mechanism to support the uptake of EnMS and ESO within the project pilot enterprise programme. The project is being implemented over the period 2014 to 2019. The national counterparts are the Ministry of Economic Development and Trade of Ukraine, the Kyiv Polytechnic Institute (KPI); the State Agency on Energy Efficiency and Energy Saving of Ukraine (SAEEES) and other selected stakeholders. The project is funded by the Global Environment Facility (GEF) in combination with various sources and forms of additional co-financing.

The main objective of introducing a national standard on energy management is the provision of support to industries in regard to establishing the systems and processes necessary for improving energy efficiency. The standard should identify the requirements for enterprises to establish an energy management system, which will allow a company to develop and introduce an internal energy policy and identify objectives, taking into account multiple requirements and enterprises essential energy aspects. The standard is meant for application by enterprises of all types and sizes irrespective of any geographical, cultural and social conditions.

The UKR IEE Project contains three primary components:

Component 1.0 – ***Policy and Institutional Support for the Introduction of a National EnMS Standard Compatible with ISO 50001*** – Before ISO 50001 complaint EnMS can be implemented in industry on a widespread basis, it is necessary to ensure that: (i) ISO50001 supporting standards, are adopted as national standards; (ii) An institutional framework is built to support enterprises who wish to implement EnMS complying with ISO50001; and (iii) Schemes to incentivize and recognize enterprises who wish to implement EnMS are in place.

Component 2.0 – ***Building National Capacity for Planning, Implementation and Certification of EnMS and Implementation of Energy System Optimization*** – To ensure that EnMS and ESO are employed to their full potential within Ukrainian industry, the country needs to build local expertise in this area. Therefore, the project will support the training of local experts who will be in turn available to train Ukrainian enterprises in implementing EnMS and ESO. This will include training enterprise Energy Managers to enable them to implement EnMS and ESO within their own business, and engineering consultancies to enable them to support industrial enterprises. Finally, the project will also train vendors of industrial systems in implementing ESO.

Component 3.0 - ***Technology Diffusion and Deployment to Promote Implementation of EnMS Conforming to ISO 50001 in Selected Industrial Sectors*** – With the appropriate frameworks and incentives in place from Component 1.0, and trained personnel in place from Component 2.0; Component 3.0 aims to introduce ISO50001 compliant EnMS into selected enterprises. A selected number of these enterprises will also receive further technical assistance in implement ESO and other energy efficiency projects. Also under this component a revolving fund will be established to support these and other energy efficiency projects. Experience gained during the project will be publicized widely with best-practice guides and case studies being released nationally.

OUTLINE OF THE UNIDO ENMS/ISO50001 CAPACITY BUILDING PROGRAM

The UNIDO EnMS Capacity Building Programme comprises of three elements:

i. The **half day AWARENESS AND INTRODUCTORY training,** which is aimed at industry managers, owners and policy-makers.
ii. The **two-day USER training,** which is targeted to person(s) designated by enterprises as responsible for energy management.
iii. The **EXPERT training,** which is an intensive **four module training course,** delivered by leading international EnMS/ISO 50001 experts to national energy and management system professionals and industry energy managers. National experts are trained through classroom, on-the-job and coaching by international EnMS/ISO 50001 experts and equipped with the expertise and the tools required to:
    - Develop and implement energy management systems in line with ISO 50001— (enterprise personnel)
    - Providing technical assistance to enterprises and coaching facility personnel for developing and implementing energy management systems in line with ISO 50001— (engineering consultants)
    - Upon completing Train-the-Trainer courses, conduct half day EnMS Awareness workshops
    - Upon completing Train-the-Trainer courses, conducting two-day USER EnMS training

2.0 SCOPE OF WORK AND OBJECTIVES OF THE UKR IEE PROJECT REVIEW / ASSESSMENT

The purpose of this project review/assessment / status review is:

1. To assess the status of Implementation of the Project, vis-à-vis the Project Work Plan, project documents and institutional agreement(s) with national implementation institutions. Project Implementation status should be measured based on Project's Logical Framework Matrix (see UKE IEE GEF RCE Prodoc Annex A), which provides clear performance and impact indicators for project implementation along with their corresponding means of verification.
2. To assess the risks for achieving results within the current context / project implementation arrangement and to make recommendations regarding specific actions that might be taken to mitigate/remove the risks found.
3. To provide UNIDO and government counterparts with feasible scenarios for the continuation of the project implementation (including risks, pros and cons), and provide options for different implementation arrangements. This is necessary due the assertions of PMU hosting

institution KPI, that full implementation and funding should be passed to them, despite their lack of capacity or mandate to successfully execute the project.

Under the GEF RCE Project Document, KPI is simply the PMU hosting institution and a "Recipient" (as define by Ukrainian international cooperation regulation), where KPI would be recipient of targeted Technical Assistance intended to capacitate them to be the long-term provider of UNIDO's EnMS and ESO training in Ukraine. KPI would also be the recipient of the ESO training course optimization equipment.

Unfortunately, their attempts to force the situation have been detrimental to the project's implementation, its wider future and sustainability as well as to its UNIDO Staff Management Team. The refusal of UNIDO to capitulate to KPI's demands has resulted in a number of unfortunate and unpleasant actions by certain national parties and very recently KPI decision to withdraw from the UKR IEE Project.

3.0 EVALUATION TEAM

The evaluation will be undertaken by a team composed of two senior International Evaluation Specialists where one will adopt the role of Team Leader - and a Local (National) Consultant – the former being covered by this TOR / Job Description.

The Evaluation Team will receive the support of the UNIDO Programme and Project Management in Vienna and UKR IEE Project Management Unit team in Kyiv.

The Evaluation Team selected should not have participated in the UKE IEE Project's preparation and/or implementation and should not have and conflicts of interest with project related activities.

The International Consultant - Team Leader (under this ISA) will be responsible to deliver the expected output of the mission. Specifically, he/she will perform the following tasks:

- Lead and manage the evaluation mission;
- Design the detailed evaluation methodology and plan;
- Conduct desk-reviews, interviews in order to obtain objective and verifiable data to substantive evaluation assessments.
- Draft the evaluation report (which will be shared by UNIDO with the key stakeholders for comments);
- Finalize the evaluation report based on any additional inputs from key stakeholders.

The duties of the Lead International Consultant are summarized below:

MAIN DUTIES	Concrete/ measurable Outputs to be achieved	Expected duration	Location
i. Document Review: Review project documentation and relevant country background information	List of key data/information to collect, draft list of stakeholders to interview during the field missions	4.0 days	Home-based
ii. UNIDO Briefings Briefing with the UNIDO project manager and other key stakeholders from UNIDO HQ	Interview notes, detailed evaluation schedule and list of stakeholders to interview during the field mission	2.0 days	Home-based and UNIDO HQ in Vienna

MAIN DUTIES	Concrete/ measurable Outputs to be achieved	Expected duration	Location
iii. Field Mission: Conduct interviews of project counterparts/beneficiaries, the UNIDO project personnel and of any other relevant institutions/individuals in accordance with the evaluation terms of reference. Analyze the information received from interviews.	Key review initial findings, draft conclusions and recommendations to stakeholders in the country at the end of the missions.	6.0 days	Kyiv, Ukraine
Findings/Recommendations Presentation Present overall findings and recommendations at UNIDO HQ (incl. travel).	Presentation slides, feedback from PM obtained and discussed	2.0 days	Vienna, UNIDO HQs
v. Draft Assessment Report Coordinate the inputs from the National Consultant and combine with her/his own inputs into the draft evaluation report.	Draft review report	5.0 days	Home-based
vi. Finalize Assessment Report Revise the draft project review report based on comments from stakeholders and form of the final version.	Final review report	2.0 days	Home-based
Total Working Days		**21 days**	

Amendment:

As a follow-up to the previously issued contract of September 2016, the expert is expected to conduct an updated analysis of the UKR IEE Project 2016 Q3/Q4 progress and the specifically the project's EnMS, ISO 50001 Lead Auditor, and FSO training programmes as conducted so far – as well as related activities such as the technical assistance provided and applied to the project's pilot companies. The analysis should include both remote and direct surveying and interviewing.	Present an analysis of training programme and technical assistance.	4.0	Kyiv, Ukraine

4.0 REQUIRED COMPETENCIES

Core values:
1. Integrity
2. Professionalism
3. Respect for diversity

Core competencies:
1. Results orientation and accountability
2. Planning and organizing
3. Communication and trust
4. Team orientation
5. Client orientation
6. Organizational development and innovation

Managerial competencies (as applicable):
1. Strategy and direction
2. Managing people and performance
3. Judgment and decision making
4. Conflict resolution

5.0 MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced university degree preferably in environmental sciences, engineering, developmental studies or related disciplines.

Technical and Functional Experience:

- Proven track record of application of results-based approaches to evaluation of projects focusing on energy efficiency (relevant experience in the CIS region and within UN system would be an asset);
- Proven experience in monitoring and review.
- Knowledge of and recent experience in applying UNIDO and GEF M&E policies and procedures would be an asset;
- Excellent communication skills,
- Demonstrable analytical skills;
- Exposure to the needs, conditions and problems in developing countries.
- Familiarity with energy efficiency principles and relevant international best-practices, is not essential but would be considered an asset;

Languages: Fluency in written and spoken English is required. Knowledge of Ukrainian and /or Russian would be an asset.

Annex 1.2 National Consultant

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Project Title – Introduction of Energy Management System Standard*s* in Ukrainian Industry *(UKR IEE Project*)
UNIDO Project No.: 120321 – 2000002493
WBS No.: 120321-1-04-01

Title:	**National Evaluation Expert**
Main Duty Station and Location:	**Kyiv, Ukraine**
Mission/s to:	**In country**
Start of Contract (EOD):	**15 December 2016**
End of Contract (COB):	**28 February 2017**
Number of Working Days:	**15.0 days (W.A.E)**

1. Organizational Context

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mandate of UNIDO is to promote and accelerate inclusive and sustainable industrial development in developing countries and economies in transition.

1.1 UNIDO Industrial Energy Efficiency Programme

Improving energy efficiency in industry is one of the most cost-effective measures to help supply-constrained developing and emerging countries meet their increasing energy demand and loosen the link between economic growth and environmental degradation, such as climate change.

The final goal of the UNIDO Industrial Energy Efficiency (IEE) Programme is to effect sustained energy management and efficiency practices in industry of developing countries and emerging economies in order to reduce the environmental pressure of economic growth while increasing productivity, helping to generate economic growth, creates jobs and alleviates poverty.

UNIDO pursues such goal through projects aimed to deliver comprehensive capacity building at the institutional level, in the market and within enterprises on energy management and energy system optimization. UNIDO projects provide also technical assistance to strengthen existing institutional, policy and regulatory frameworks through the development of policy programs, legislation and normative instruments that promote and support permanent integration of energy management and efficiency practices in industry corporate culture. Depending on the national context, the implementation of demonstration projects is supported through the provision of energy efficiency investment specific technical assistance.

2. Project Context

The project “Introduction of Energy Management System Standards in Ukrainian Industry” (UKR IEE Project) aims at contributing to a sustainable transformation of industrial energy usage practices in Ukraine. The project will do this by establishing and promoting the concepts of EnMS and ESO, along with the introduction and promotion of the ISO50001 Energy Management Standard.

2.1 Energy Management Systems

Three decades of national and international experiences with industrial energy efficiency programs have shown that most energy efficiency in industry is achieved through changes in how energy is managed in an industrial facility, rather than through installation of new technologies.

The goal of sustainable energy efficiency in industry requires that energy efficiency is integrated into daily management practices and systems for continual improvement. In order to achieve that, a systematic approach is required and top management needs to be engaged in the management of energy on an ongoing basis.

Energy management systems (EnMS) provide structured and systematic approach on how to integrate energy efficiency in an enterprise management culture and daily practices. EnMS provides:

- A framework for understanding significant energy uses.
- Action plans to continually improve energy performance.
- Documentation to sustain and demonstrate energy performance improvements over time.

Based on the well-known "Plan-Do-Check-Act" Deming's cycle, EnMS establish closer linkages between energy management business practices and core industry values, such as cost reduction, increased productivity, environmental compliance and global competitiveness.

The evaluation of the impact of national industrial energy efficiency programs hinged on the adoption and implementation of energy management system standards in Sweden, Denmark, Ireland and the Netherlands, have shown that industrial enterprises that implemented energy management systems achieved greater energy intensity reduction than enterprises without an energy management system. The incremental gain ranged from 1% up to 5-6% in certain cases, with an average of 1.5-2.0% on annual basis. It is important to highlight that such incremental energy intensity reductions were achieved by large companies that already paid attention to energy consumption and had some energy efficiency programs in place. The experience of the USA confirms these results, showing also that in companies totally new to energy management average energy efficiency gains in the first 1-2 two years range between 10 and 20%.

Industrial Energy Systems Optimization (ESO) centres on the premise that energy use in industry is much more related to operational practices than in the commercial and residential sectors. If energy efficient lighting or appliances are installed in a commercial or residential building, those devices supply the same level of service at a reduced energy use without any further intervention from the user. Benefits will accrue for the life of the appliances unless extraordinary measures are taken to negate them. By way of contrast, the consumption patterns of an industrial facility may change significantly and many times during the useful life of the factory because of changes in production volumes or schedules and/or the type of product manufactured. The energy-using systems designed to support these production patterns may be relatively energy efficient under the initial production design conditions but become typically significantly less so as production patterns change.

The presence of energy-efficient components in industrial systems, while important, provides no assurance that energy savings will be attained if the system of which the components are part is not properly designed and operated. The system optimization approach requires one to pay attention to the system as a whole, not just the individual piece of equipment, and to analyze both the supply and demand sides of the system and how they interact. To illustrate this, consider Figure 1.0 below which provides a representation of a conventional pumping system. As can be seen, the individual components making up the pumping system are in themselves highly efficient, however as they are placed together to make up the system, the resulting systems final output efficient is quite low. The evidence from implemented national and international programmes as well as studies shows that, while efficient components may bring about gains in the range of 2 to 5 per cent, systems optimization

can attain average efficiency gains between 15 and 30 per cent, very often with payback periods of less than one or two years.

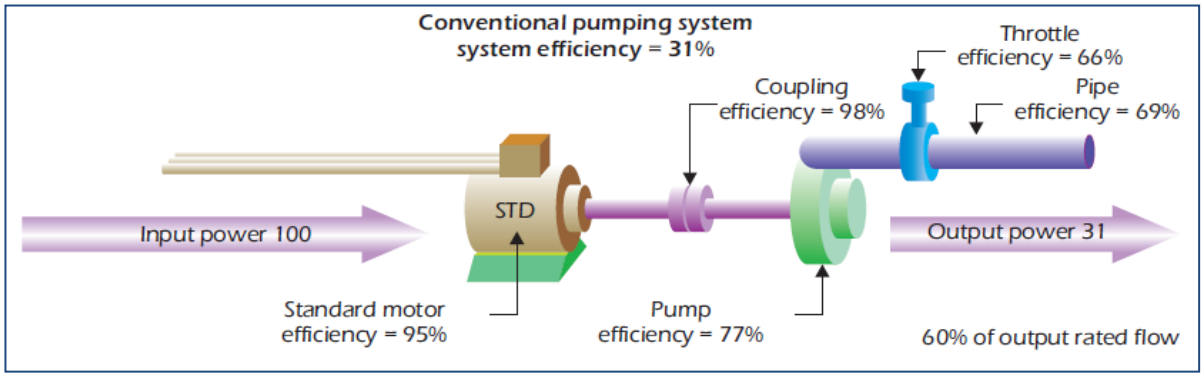

Figure 1.0: Conventional Pumping System Schematic (Almeida, et al., 2005.)

ISO 50001 is based on the management system model of continual improvement also used for other well-known standards such as ISO9001 or ISO14001. The ISO50001 standard (series) can be viewed in two ways. Firstly, the standard can make it easier for industrial enterprises to integrate energy management into their overall efforts to improve quality and environmental management as the standard provides a framework of requirements for organizations to:

- Develop a policy for more efficient use of energy;
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions about energy use
- Measure the results
- Review how well the policy works, and
- Continually improve energy management.

Viewed from a different direction, an enterprise may have already established an EnMS, based on the standard's underlying principles of "plan-do-check-act", where the established EnMS is working well and generating significant energy and cost saving. The enterprise may then decide to go for certification of their EnMS against the ISO50001 Standard. The decision to undergo the certification process is often based on factors such as trade facilitation i.e. purchasers may request their supply chain to be ISO50001 compliant, regulatory fulfillment in certain national settings, or in relation to corporate social responsibility factors. An important factor when considering energy and GHG emissions savings is that it is the EnMS itself (and the measures/initiatives/projects conducted under it) which generates the savings and not certification. The standard is meant for application by enterprises of all types and sizes irrespective of any geographical, cultural and social conditions.

Concerning, the standard the project is supporting the introduction and increased uptake of the ISO 50001 suit of standards (ISO50001, ISO50002, ISO50003, ISO50006 and ISO 50015) on energy management is the provision of support to industries in regard to establishing the systems and processes necessary for improving energy efficiency.

The UKR IEE Project's primary target industrial subsectors are chemicals, construction and building materials, metallurgy and mining. In order to achieve the goal of increased energy efficiency in these subsectors, the project will stimulate the demand of energy efficient services through: (i) the formulation and implementation of enabling policy and regulatory frameworks for EnMS and ESO adoption; and (ii) the creation of the necessary institutional capacity to implement programmes on EnMS, awareness raising, energy audits, and demonstration projects; (iii) support the supply of energy efficient services by building the institutional capacities to accredit and certify EnMS compliance under the ISO50001 standard; (iv) training local trainers and consultants in EnMS implementation and ESO; and (v) putting in place a financial incentive mechanism to support the uptake of EnMS and ESO within the project pilot enterprise programme. The project is being implemented over the period 2014 to 2019. The national counterparts are the Ministry of Economic Development and Trade of

Ukraine, the Kyiv Polytechnic Institute (KPI); the State Agency on Energy Efficiency and Energy Saving of Ukraine (SAEEES) and other selected stakeholders. The project is funded by the Global Environment Facility (GEF) in combination with various sources and forms of additional co-financing.

The main objective of introducing a national standard on energy management is the provision of support to industries in regard to establishing the systems and processes necessary for improving energy efficiency. The standard should identify the requirements for enterprises to establish an energy management system, which will allow a company to develop and introduce an internal energy policy and identify objectives, taking into account multiple requirements and enterprises essential energy aspects. The standard is meant for application by enterprises of all types and sizes irrespective of any geographical, cultural and social conditions.

The UKR IEE Project contains three primary components:

Component 1.0 – ***Policy and Institutional Support for the Introduction of a National EnMS Standard Compatible with ISO50001*** – Before ISO50001 complaint EnMS can be implemented in industry on a widespread basis, it is necessary to ensure that: (i) ISO50001 supporting standards, are adopted as national standards; (ii) An institutional framework is built to support enterprises who wish

Component 2.0 – ***Building National Capacity for Planning, Implementation and Certification of EnMS and Implementation of Energy System Optimization*** – To ensure that EnMS and ESO are employed to their full potential within Ukrainian industry, the country needs to build local expertise in this area. Therefore, the project will support the training of local experts who will be in turn available to train Ukrainian enterprises in implementing EnMS and ESO. This will include training enterprise Energy Managers to enable them to implement EnMS and ESO within their own business, and engineering consultancies to enable them to support industrial enterprises. Finally, the project will also train vendors of industrial systems in implementing ESO.

Component 3.0 - ***Technology Diffusion and Deployment to Promote Implementation of EnMS Conforming to ISO50001 in Selected Industrial Sectors*** – With the appropriate frameworks and incentives in place from Component 1.0, and trained personnel in place from Component 2.0; Component 3.0 aims to introduce ISO50001 compliant EnMS into selected enterprises. A selected number of these enterprises will also receive further technical assistance in implement ESO and other energy efficiency projects. Also under this component a revolving fund will be established to support these and other energy efficiency projects. Experience gained during the project will be publicized widely with best-practice guides and case studies being released nationally.

2.2 Outline of the UNIDO EnMS/ISO50001 Capacity Building Programme

The UNIDO EnMS Capacity Building Programme comprises of three elements:

i. The half day AWARENESS AND INTRODUCTORY, which is aimed at industry managers, owners and policy-makers.
ii. The two-day USER training, which is targeted to person(s) designated by enterprises as responsible for energy management.
iii. The EXPERT training, which is an intensive four module training course, delivered by leading international EnMS/ISO50001 experts to national energy and management system professionals and industry energy managers. National experts are trained through classroom, on-the-job and coaching by international EnMS/ISO50001 experts and equipped with the expertise and the tools required to:
    - Develop and implement energy management systems in line with ISO50001 - (enterprise personnel);
    - Providing technical assistance to enterprises and coaching facility personnel for developing and implementing energy management systems in line with ISO50001 – (engineering consultants)

- Upon completing Train-the-Trainer courses, conduct half day EnMS Awareness workshops;
- Upon completing Train-the-Trainer courses, conducting two-day USER EnMS training.

3. Scope of Work and Objectives of the UKR IEE Project Review / Assessment

The purpose of this project review/assessment / status review is:

1. To assess the status of Implementation of the Project, vis-à-vis the Project Work Plan, project documents and institutional agreement(s) with national implementation institutions. Project Implementation status should be measured based on Project's Logical Framework Matrix (see UKR IEE GEF Prodoc Annex III), which provides clear performance and impact indicators for project implementation along with their corresponding means of verification.
2. To assess the risks for achieving results within the current context / project implementation arrangement and to make recommendations regarding specific actions that might be taken to mitigate/remove the risks found.
3. To provide UNIDO and government counterparts with feasible scenarios for the continuation of the project implementation (including risks, pros and cons), and provide options for different implementation arrangements. An appropriate host institution will subsequently be chosen so as to ensure long term sustainability and continuity of the project.

4. Evaluation Team

The evaluation will be undertaken by a team composed of two senior International Evaluation Specialists where one will adopt the role of Team Leader (International Evaluation Expert) and the other that of a Local (National) Consultant, the latter being covered by this TOR/Job Description.

The Evaluation Team will receive the support of the UNIDO Programme and Project Management in Vienna and UKR IEE Project Management Unit team in Kyiv.

The Evaluation Team selected should not have participated in the UKR IEE Project's preparation and/or implementation and should not have and conflicts of interest with project related activities.

4.1 Duties to be performed under the ISA Contract TOR

The National Consultant (under this ISA) will be responsible for delivering the expected output of the mission. Specifically, he/she will perform the following tasks:

- Assist in the management of the evaluation mission;
- Co-design the detailed evaluation methodology and plan;
- In cooperation with the International Expert, conduct desk-reviews, interviews in order to obtain objective and verifiable data to substantive evaluation assessments. Draft the evaluation report (which will be shared by UNIDO with the key stakeholders for comments);
- Finalize the evaluation report based on any additional inputs from key stakeholders.

The duties of the National Consultant are summarized below:

Tasks to be performed	Concrete / Measurable Outputs to be achieved	Expected duration	Location
1. Document Review: i. Review project documentation and relevant country background information in cooperation with International Evaluation Consultant; ii. Determine key data to collect in the field and prepare key instruments (questionnaires, logic models etc.) to collect these data through interviews and/or surveys.	i. List of detailed evaluation questions to be clarified; questionnaires / interview guide; logic models; list of key data to collect, draft list of stakeholders to interview.	2.0 days	Home-based

Tasks to be performed	Concrete / Measurable Outputs to be achieved	Expected duration	Location
2. UNIDO Briefings: i. Briefing with the International Evaluation Team, UNIDO project managers and other key stakeholders; ii. Assist in setting up the evaluation missions agenda, coordinating meetings and site visits* (as necessary).	i. Interview notes, detailed evaluation schedule and final list of stakeholders to interview; i. Division of evaluation tasks with the International Evaluation Expert.	2.0 days	Home-based
3. Interviews: i. Conduct interviews of project counterparts/beneficiaries, the UNIDO project personnel and of any other relevant institutions/individuals in accordance with the evaluation terms of reference; ii. Analyze the information received from interviews.	i. Presentations of the evaluation's initial findings, draft conclusions and recommendations to stakeholders in the country at the end of the mission; i. Agreement with the International Evaluation Expert on the structure and content of the evaluation report and the distribution of writing tasks.	6.0 days	Home-based
4. Draft Evaluation Report: i. Prepare inputs to the evaluation report according to TOR and as agreed with International Evaluation Expert.	i. Draft evaluation report.	4.0 days	Home-based
5. Finalize Evaluation Report: i. Revise the draft project evaluation reports based on comments from UNIDO Evaluation Group and stakeholders and edit the language and form of the final version according to UNIDO standards. ii. Present overall findings and recommendations.	i. Final evaluation report.	1.0 days	Home-based
Total Working Days		15.0 days	

** Local travel costs outside of Kyiv will be covered separately.*

5. Minimum Organizational Requirements

Education: Advanced university degree in field related to industrial development.

Technical and Functional Experience:

- A minimum of 3 years practical experience in the field of energy and environment, including experience at the international level involving technical cooperation in developing countries. Exposure to the needs, conditions and problems in developing countries, particularly in Ukraine;
- Proven track record of application of results-based approaches to evaluation of projects focusing on energy and the environment (relevant experience in the CIS region and within UN system would be an asset);
- Extensive knowledge of Ukraine's industrial development situation, institutions and programmes in the field of energy and environment;
- Proven experience in monitoring and review;

- Knowledge of and recent experience in applying UNIDO and GEF M&E policies and procedures would be an asset;
- Excellent communication skills;
- Demonstrable analytical skills;

Languages: Fluency in written and spoken English and Russian / Ukrainian is required.

Absence of Conflict of Interest: According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme / project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the Evaluation Group.

6. Required Competencies

Core values:

1. Integrity
2. Professionalism
3. Respect for diversity

Core competencies:

1. Results orientation and accountability
2. Planning and organizing
3. Communication and trust
4. Team orientation
5. Client orientation
6. Organizational development and innovation

Annex 2: Preparatory Note on the Desk Study

Note on the project: *'Introduction of Energy Management System Standards in Ukrainian Industry (main phase') – UNIDO project No.: 120321*

	Option 1: Close the Project	Option 2: Re-activate the Project	Option 3: Redesign the Project with new national execution agency(ies)
Level 1: Actions common to all options	Stock taking (expansion of presently available briefing notes): • Prepare an implementation report (physical and financial) • Prepare an objective summary report of actions / happenings that led to project standstill	Stock taking (expansion of presently available briefing notes): • Prepare an implementation report (physical and financial) • Prepare an objective summary report of actions / happenings that led to project standstill	Stock taking (expansion of presently available briefing notes): • Prepare an implementation report (physical and financial) • Prepare an objective summary report of actions / happenings that led to project standstill
Level 2 Actions	Reach agreement with: • UNIDO authorities (D / MD / UNIDO-GEF) • UKR Government and GEF Focal Point (Min of Env and Nat Resources) • National Execution Agencies (KPI and SAEEES)	Prepare the political and technical groundwork that will allow the re-definition of relations with KPI and SAEEES and subsequent re-formulation of a new MOU with them.	• Reach agreement with: - UNIDO authorities (D / MD / UNIDO-GEF) - UKR Government and GEF Focal Point (Min of Env and Nat Resources) - the present National Execution Agencies (KPI and SAEEES) - GEF Secretariat • Identify prospective counterpart agencies in agreement with and/or as recommended by Govt. of UKR, GEF Sec and UNIDO
Level 3 Actions	• Prepare documentation as per GEF and UNIDO rules / requirements • Implement the project closure / dropping procedures	• Prepare detailed project road map: - UNIDO mission(s) to UKR - KPI and SAEEES missions to UNIDO HQ and Austria and/or successful implementation sites of UNIDO EE / EnMS projects - Development of Project Admin Manual / redesign of PMU	• Prepare documentation including new project document and new / renewed commitment / co-financing letters • Get approvals of Govt. UKR, UNIDO and GEF Sec

	Option 1: Close the Project	Option 2: Re-activate the Project	Option 3: Redesign the Project with new national execution agency(ies)
		• Take decision(s) on project implementation / management modalities • Components 1 (Policy USD900,000), 2 (Capacity USD800,000) and 3 (TA part awareness USD700,000): Design larger Subcon with additional and precise milestones • Component 3 (INV part USD2,800,000): Prepare blueprint of project implementation, funding and monitoring (at company level) • Conduct SC meeting(s) to agree on and/or approve options and actions.	
Level 4 Actions		Start re-implementing the Project	Start implementation
Estimated difficulty level	Least difficult however depends on the level of cooperation of UKR authorities.	Difficult but difficulty level depends on the successful re-establishment of cooperation and healthy working relations between UNIDO and the national executing agencies.	Extremely difficult.
Estimated time requirements	>6 months (operational and financial closures	3-6 months	>12 months

Date: June 2016
Prepared by: Cahit Gurkok

Annex 3: Summary Report of the Fact-Finding Mission: Kyiv, 18-22 December 2016

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
Economic environment of Ukraine	
• Average salary: around USUSD200;	• It is the strongest indication of the difference between local and UN salaries.
• Interest rates of banks: 20-25% per annum, excluding banking charges;	• Presents additional difficulty for co-financing of EnMS and ESO projects of private sector companies.
• Credit conditions of national banks: Project financing does not exist; banks give credit against collateral—mostly real estate assets and 100-200% of loan;	• Presents a barrier to bank partnering as the loans will not be attractive.
• There are a number of international projects / funds for Energy Efficiency (Annex 1) which give (through national banks) credits in foreign currency and at lower rates 4-6% per annum;	• Possibility of combining GEF Grant and other credit facilities (EU and others, re. Annex 1) should be investigated.
• The banking sector in Ukraine have been quite unstable. A number of banks became insolvent and the most recently (December 2016), the largest bank (PrivatBank) has been nationalized to prevent its meltdown.	• Presents additional difficulty for designing, developing and executing the financial instruments of the project.
State institutions dealing with energy efficiency	
The following are the main national-level institutions with energy policy / energy efficiency responsibilities: **The Cabinet of Ministers**, the ultimate decision-making body, is the institution responsible for policy co-ordination and the oversight of state energy companies. **The State Agency on Energy Efficiency and Energy Saving (SAEEES)**, under the **Ministry of Regional Development, Construction and Housing of Ukraine**, is the central governmental body responsible for advancing energy efficiency and renewable energy developments and promoting the deployment of energy efficient and renewable energy technologies. **National Energy and Public Utilities Regulatory Commission (NEURC)**, under the President and Verkhovna Rada, supervises the natural gas and electricity markets as well as the heat sector. **The Ministry of Economic Development and Trade of Ukraine (MinEDT)** has the lead for energy efficiency policies, but responsibilities for implementation are shared among numerous ministries and agencies. **The Ministry of Ecology and Natural Resources (MinENR)** is responsible for licensing and production sharing agreements for hydrocarbon development and for climate change policy. The co-ordination and implementation of all climate policy-related measures defined by this ministry falls under the responsibility of the State	The following institutions are contributing (contributed) to and/or taking (took) part in the Project GEF UKR-4784: • The State Agency on Energy Efficiency and Energy Saving (SAEEES) both **"Beneficiary"** and **"Recipient"** of the Project"; • **The Ministry of Economic Development and Trade of Ukraine** (MinEDT) **"Beneficiary"** of the Project"; • The Ministry of Ecology and Natural Resources (MinENR)—**GEF Focal Points**; • Institute of Energy Saving and Energy Management of the Igor Sikorsky Kyiv Polytechnic Institute (IEE of NTUU "KPI") **"Recipient of the Project"** Attention is drawn to the fact that SAEEES has been registered as a **"Beneficiary"** and as well as a **"Recipient"** of the Project.

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
Agency for Energy Efficiency and Energy Saving. MinENR also houses / staff **GEF Focal Points**. **The Ministry of Regional Development, Construction and Housing (MinRDCH)** develops policy and programmes relevant at local levels. **The Ministry of Energy and Coal (MinEC)** is responsible for most energy supply policies and for coordinating energy policy across government and providing advice to parliament. **Institute of Energy Saving and Energy Management of the Igor Sikorsky Kyiv Polytechnic Institute (IES&EM of NTUU "KPI")** <http://kpi.ua/en/node/7469> and <http://io.iee.kpi.ua/>. Re.: https://www.iea.org/publications/freepublications/publication/IDR_EasternEuropeCaucasus_2015.pdf	
National partners of the project "Beneficiaries" and "Recipients"	
(Referring to Decree Number 153 and registration cards) Partner "Beneficiary" – central executive authority, regional or municipal state administration, interested in the project results. Beneficiary must be a state entity and cannot receive project funds. Project's beneficiaries are: • The Ministry of Economic Development and Trade (**MinEDT**) and • **The State Agency on Energy Efficiency and Energy Saving of Ukraine** (**SAEEES** under **The Ministry of Regional Development, Building and Housing of Ukraine**) Partner "Recipient" can receive assets and money. Project's recipients are: • The National Technical University of Ukraine "Kyiv Polytechnic Institute—**KPI**" (under Ministry of Education and Science of Ukraine) and • **SAEEES** Note: SAEEES has been registered both as Beneficiary and Recipient!	SAEEES's registration as a "Beneficiary" and a "Recipient" provides an opportunity for simpler revision for the continuation of the Project. However, the implementation modalities and flow of the grant funds must be worked on.
New developments in the energy efficiency-related legal framework in Ukraine	
The new "Law on Energy Efficiency" passed through the first hearing in the	*Note: Re. UNIDO/GEF project EE and RE in Agro-Food Industries 2015-16 PIR "On the request of SAEEES the following analytical report was prepared: "Energy*

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
Parliament and waiting for the second hearing. This law, among others, identifies two organizations SAEEES and NEURC (National Energy and Public Utilities Regulatory Commission) for the implementation of various activities. Examples are: • SAEEES: Energy Audit and Energy Management Systems • SAEEES National Energy Efficiency Action Plan • SAEEES/NEURC administers the Energy Efficiency Obligation Scheme The law also foresees the establishment of an "Energy Efficiency Fund" to help financing the energy efficiency projects of companies. Info source: Energy Community Secretariat The Energy Community is an **international organization dealing with energy policy.** The organization was established by an international treaty in Oct 2005 in Athens, Greece and entered into force in Jul 2006. The Treaty establishing the Energy Community brings together the European Union, on one hand, and countries from the South-East Europe and Black Sea region. <https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Ukraine>	*Efficiency Fund creation: Road Map for Ukraine based on analysis of the best international practices".*
GEF Focal Points of Ukraine and project modification	
(Presently, only the political FP is in place. He is the Deputy Minister of t**he Ministry of Ecology and Natural Resources of Ukraine.)** **At the meeting with Min ENR authorities, they have reiterated the importance they are giving to the energy efficiency in general and UNIDO Energy Management Systems project in particular. Upon our question, they said that they would agree to a change of National Executing Agent (NatExA) and would be prepared to inform GEFSec of the same as a *minor change / modification* to the project. Obviously, such a change would require change / update of the Project's registration cards in the MinEDT.**	The agreement of the Ukrainian GEF Focal Point to categorize the change of national execution agent as minor modification will facilitate a simpler procedure.

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
Project management issues	

Budget:

GEF UKR-4784
As of 10 January 2017
Total grant: USD 5,500,000
Disbursement: USD 912,974 (16.45% of total grant)
According to Project Components:

Project component	ProDoc budget allocation	% budget	Expenditures	% exp.	Funds available
1. Policy and institutional support	900,000	16.2	166,539	18.2	733,461
2. National capacity for implementation	800,000	14.4	415,017	45.5	384,983
3. Technology diffusion and deployment INV	2,800,000	50.5	144,999	15.9	2,655,001
3. Technology diffusion and deployment TA	700,000	12.6	-	-	700,000
3. Technology diffusion and deployment subtotal	*3,500,000*	*63.1*	*144,999*	*15.9*	*3,355,001*
Project Management Cost	250,000	4.5	169,273	18.5	80,727
Monitoring and Evaluation	100,000	1.8	17,146	1.9	82,854
TOTAL	5,550,000	100.0	912,974	100.0	4,637,026

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"

According to Budget Lines:

	Sponsored Class	Released Budget	% of Relased Budget	Expenditure	% of Exp.	Funds Available
1100	Staff & Intern Consultants	733,350	13.2	244,160	26.7	489,189
1500	Local travel	211,597	3.8	73,073	8.0	138,524
1700	Nat.Consult./Staff	849,610	15.3	326,773	35.8	522,836
2100	Contractual Services	3,023,706	54.5	77,564	8.5	2,946,142
3000	Train/Fellow ship/Study	360,214	6.5	97,015	10.6	263,199
3500	International Meetings	15,495	0.3	198	0.0	15,297
4300	Premises	18,525	0.3	7,178	0.8	11,347
4500	Equipment	87,494	1.6	57,587	6.3	29,908
5100	Sundries	240,011	4.3	29,426	3.2	210,584
7100	Contingencies	10,000	0.2	-	-	10,000
	Project Total	5,550,000	100.0	912,973	100.0	4,637,027

Revision of implementation set-up:

- NTUU "KPI" declared that they are leaving the project and terminating the MOU. Accordingly, MOU is void and null as of 26 Oct. 2016.
- Negotiate with all involved parties, agree on the next National Execution Agent to replace NTUU "KPI" and prepare a proposal;
- Follow-up the procedures for the modification.

1. (As it was requested by NTUU "KPI") Acknowledge the NTUU "KPI"s resignation from the project and (after checking if it is legally OK) declare UNIDO-NTUU "KPI" MOU void and null.
2. The obvious choice for the next National Execution Agent is SAEEES (since they are both Beneficiary and Recipient of the Project).
3. Obtain GEF FP / MinENR and UNIDO / GEF approvals of the modified Prodoc;
4. Change / update the project's registration at the MinEDT;
5. Prepare TOR and the new composition of the Project Steering Committee (PSC);
6. Organize asap the PSC meeting to approve, among others, "Updated Project Manual" and the "Workplan 2017";

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
	7. Solve the issues relating to Project Management Unit (PMU) such as location of its offices, etc. (Note: At several meetings, it was recalled that the present PMU staff were selected jointly by MinEDT, SAEEES, NTUU "KPI" (represented by Mr. Denysyuk), GEF Focal Point UKR and UNIDO).
Interviews during the mission of 18-22 December 2016	
Project component 1: *Policy and institutional support for the introduction of a national EnMS standard compatible with ISO50001* Before ISO50001 complaint EnMS can be implemented in industry on a widespread basis, it is necessary to ensure that: (i) ISO50001 supporting standards, are adopted as national standards; (ii) An institutional framework is built to support enterprises who wish to implement EnMS complying with ISO50001; and (iii) Schemes to incentivize and recognize enterprises who wish to implement EnMS are in place. Project website: <http://www.ukriee.org.ua/en> Reference: <http://www.ukriee.org.ua/en/page/2/>	These standards came into force as the national standards starting from 01 **September 2016**. Supported and coordinated by the UNIDO/GEF UKR IEE Project "Introduction of Energy Management System Standard in Ukrainian Industry", as well as with the support by Association of Energy Engineers of Ukraine (AEE), the responsible national authority the State Enterprise "Ukrainian Scientific-Research and Training Center on Standardization, Certification and Quality Problems" (SE "UkrNDNC") has informed about nationalization of five ISO50000 series standards additional to already nationalized ISO50001 standard.
Project component 2: *Building national capacity for planning, implementation and certification of EnMS and implementation of Energy System Optimization (ESO)* To ensure that EnMS and ESO are employed to their full potential within Ukrainian industry, the country needs to build local expertise in this area. Therefore, the project will support the training of local experts who will be in turn available to train Ukrainian enterprises in implementing EnMS and ESO. This will include training enterprise Energy Managers to enable them to implement EnMS and ESO within their own business, and engineering consultancies to enable them to support industrial enterprises. Finally, the project will also train vendors of industrial systems in implementing ESO.	The main conclusions of the interviews of the trainees and the visits to training facilities are: • All trainees praised the trainers. • Hardcopy and electronic documentation (both translated into Ukrainian and in English) used during the courses were found satisfactory-to-good. • Trainings took place at the HQ of Chamber of Commerce of UKR. Rooms and catering were found OK. It was expressed that Internet connection could have been better (faster and more reliable). • Translation of documents into UKR was OK. Simultaneous interpreters without technical background experienced difficulties during the courses. Interpretations done by technical interpreters were very good. • Although companies were very reluctant to show their plants to trainees, very limited visits were highly praised. • Improvements were requested in the translation quality of exam papers. The very long time elapsed between the exams and the issuance of attendance certificated was criticized. Also, a more recognizable certificate was demanded.

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
Interviews of trainees (for a list of interviewed trainees and related institutions see "Annex 8 Mission Agenda: 18-22 December 2016"):	• Possibility of continual access to trainers after the end of courses was found very useful. Better networking and exchange of views / experiences were requested.
1. **Mr. Jurij DUDNYK**, Zhytomyr Cilica plant	**Jurij Dudnyk's observations**: - He participated all three courses over a year; - Trainers were good however to listen to translation was time-consuming and tiring; - Ukrainian course material was OK; - Chamber of Commerce facilities were OK; - 24-25 trainees to a class was OK, trainees used their own notebooks; - Practical application after each module was good however enterprises visited were quite secretive; - Exams can be improved—e.g. poor translation into Ukrainian; - Successful completion of the courses leads to an attendance certificate but not recognition of a qualification; - Continuation of internet contacts with trainers is very good.
2. **Mr. Anatolii CHERNIAVSKYI**, Consultant, and staff member of Institute of Energy Saving and Energy Management of the Igor Sikorsky Kyiv Polytechnic Institute (IEE of NTUU "KPI")	**Anatolii CHERNIAVSKYI's observations:** - He participated in three courses: (i) EnMS Awareness, (ii) EnMS Advance Level, (iii) EnMS Expert Level; - The courses were good; - Visiting enterprises were very effective; - Large enterprises are not sensitive, SMEs are more willing; - Electricity price hikes may promote energy saving willingness.
3. **Mr. Oleg RAZUMOVSKY**, Consultant, Partner of consulting and hardware companies	**Oleg RAZUMOVSKY's observations:** - He participated in all three courses; - To achieve long-term sustainability of training programmes, involvement of Association of Energy Engineers (AEE) Ukraine Chapter can be considered.
4. **Mr. Oleg KOTSAR**, staff member of IEE of NTUU "KPI"	**Oleg KOTSAR's observations:** - He participated in all three courses; - His views about the training programme are positive; - He is from Heat Engineering Department; - There are all together 7 departments, including Electrical Engineering Dept.; - Around 1,500 students and 120 staff.

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
5. **Mr. Yuriy VEREMEICHUK**, from NTUU "KPI"	**Yuriy VEREMEICHUK's observations:** - He participated in all three courses over a year; - Training programme and trainers were OK; - Training documentation was OK; - In the courses 3-4 trainees were women (out of 24).
Impact of project's training: EnMS application at an enterprise (Coca-Cola): 6. **Mr. Viktor SHKLYAR,** Utilities Manager. Coca-Cola Beverages Ukraine Limited (Coca-Cola) 7. **Pavel MASLOV,** Chief Metrologist, Coca-Cola Hellenic Ltd.	**Pavel MASLOV's observations:** - He participated in all three courses over a year; - His views about the training programme are positive (material, trainers and facilities); - Site visits must be included in the programme (Coca-Cola received groups of trainees); - At the Coca-Cola works 7 engineers make weekly measurements / audits; - Coca-Cola Ukraine has a staff innovation programme for energy saving (with UAH90K investment resulted in UAH5mill savings).
Visit to training site (Chamber of Commerce—CC): Mrs. **Olga MARUSHEVSKA**, Head of the Department of Green Economy (former Director of the Department of Standardization, of Technical Regulation, Certification and Balanced Use of Nature Resources) of the Chamber of Commerce and Industry of Ukraine.	**Olga MARUSHEVSKA's observations**: - CC was founded by law and has a NGO status, membership is voluntary; - Its income is from members and from monopolies on certification of origin (60% of all income), re-entry certificates, international arbitration; - Issuance of certificate of origins has recently been transferred to Tax Authority with a great loss for CC; - CC hosted 32 training programmes for UNIDO; - 3 member companies (one was Coca-Cola) opened up their facilities for UNIDO trainees; - Presently there is no free rooms at the CC HQ to be allocated to PMU of the UNIDO Project; - CC took part in the German GIZ project "Green Economy" (re.: EU/EUREM), publication will come in Feb. 2017 <https://www.giz.de/en/downloads/giz2015-en-green-economy-ukraine.pdf>
Meetings: 1. Meeting with GEF Focal Point in Ukraine **Mr. Mykola KUZIO** Political Focal Point since 07 July 2016, Deputy Minister for European Integration,	**GEF Focal Point UKR agrees that:** - Change of National Executing Agent—NatExA (replacing NTUU "KPI") can be regarded as a "minor change"; - The Registration Cards can be corrected accordingly; - The PSC has to be changed too.

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
Ministry of Ecology and Natural Resources. **Mr. Vladyslav MARUSHEVSKYI**, Head of International Department	
2. Meeting with State Agency of Energy Efficiency and Energy Saving of Ukraine (SAEEES) **Mr. Volodymyr BUCHYK**, Head of the Department of Strategic Development **Mr. Oleksandr TARASENKO,** Deputy Head of the Department of International Cooperation and European Integration	**SAEEES informed us at the meeting that:** - UKR has laws on energy saving and renewable energy, but no law on EnMS and energy audits; - As e requirement UKR has to implement EU Directive 27:2012 on energy efficiency <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:en:PDF> - As a beneficiary SAEEES cannot receive funds directly (e.g. EU for Energy Project), however they can receive experts and training of their personnel; - SAEEES was registered both as a recipient and a beneficiary of the UNIDO Project—Legal aspects of this situation must be investigated.
3. Meeting with Association of Energy Engineers (AEE) **Mr. Alexander OVDIIENKO**, Head of the Board	**Alexander OVDIIENKO's views:** - He is a member of State Committee on Energy Efficiency; - AEE is organizing training programmes / studies with financial support of USAID; - AEE is willing to play an active role in the UNIDO project.
4. Meeting with Ukrainian Quality Association (accredited by Ukrainian Accreditation Agency) **Mr. Yuri KABAKOV,** Director of the Centre for Certification of Personnel **Mr. Viktor YAGODZINSKYI,** Lead auditor of the EnMS, former head of the Institute for expert trainings of Ukrainian Standardization Agency	**The Association's views:** - It is a 25 years old institution and it issues three types of certificates to trained management staff: UKR, DQS and IQNet; - They would like to train UNIDO's EnMS trainees; - Their consulting centre supports client enterprises on ISO 50001 issues; **Viktor YAGODZINSKYI's observations** (He took part in the UNIDO's Expert Training Programme): - Trainers were excellent; - Facilities (CC) were OK; - Documentation (paper and electronic) were OK; - Simultaneous translation was OK particularly when the translator understood the technical content; - Groups should be limited to max. 20-25 people; - More actual field work is needed; - Long time elapsed between the exams and the issuance of certificates.

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
	Note: ISO/IEC 17024:2012(en) Conformity assessment — General requirements for bodies operating certification of persons: https://www.iso.org/obp/ui/#iso:std:52993:en
Project component 3: *Technology diffusion and deployment to promote implementation of EnMS conforming to ISO50001 in selected industrial* sectors With the appropriate frameworks and incentives in place from Component 1, and trained personnel in place from Component 2; Component 3 aims to introduce ISO50001 compliant EnMS into selected enterprises. A selected number of these enterprises will also receive further technical assistance in implement ESO and other energy efficiency projects. Also under this component a revolving or loan guarantee fund will be established to support these and other energy efficiency projects. Experience gained during the project will be publicized widely with best-practice guides and case studies being released nationally.	Project website: <http://www.ukriee.org.ua/en> This component should be reviewed taking into account: • the present economic situation of the country; • experience of UNIDO and other multilateral and bilateral agents with energy efficiency projects in UKR; (See the following annexes of the mission report—not included: Annex 1. Examples of international Energy Efficiency projects / funds in Ukraine Annex 6. GEF - UNIDO Annual Project Implementation Report (PIR) (1 July 2015 - 30 June 2016) Annex 7. Institutional and Legal Frameworks)
Relations with NTUU "KPI"	
See the following annexes of the mission report—not included: Annex 2 An overview of communications from NTUU "KPI" to UNIDO Annex 3. Prodoc Annex 4. MOU between UNIDO and KPI Annex 5. TOR MTR	
Note on comparative analysis of implementation set-ups of three UNIDO projects in Ukraine	

<table>
<tr><th>Observations</th><th>Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"</th></tr>
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Project: GEF UKR-4784
Introduction of Energy Management System Standard in Ukrainian Industry
Website: <http://www.ukriee.org.ua/en/>

Project's beneficiaries are:
- The Ministry of Economic Development and Trade (**MinEDT**) and
- **The State Agency on Energy Efficiency and Energy Saving of Ukraine** (**SAEEES** under **The Ministry of Regional Development, Building and Housing of Ukraine**)

Project's recipients are:
- The National Technical University of Ukraine "Kyiv Polytechnic Institute"—NTUU "KPI" (under Ministry of Education and Science of Ukraine) and
- **SAEEES**

GEF UKR-3917
Improving Energy Efficiency and Promoting Renewable Energy in the Agro-Food and Other Small and Medium Enterprises (SMEs) in Ukraine
Website: <http://www.reee.org.ua/en/>
Recipient:
The Institute of Renewable Energy of National Academy of Sciences (NAS "IRE") of Ukraine.
Beneficiaries:
Ministry of Agrarian Policy and Food of Ukraine (MinAPFU)
SAEEES
PMU (UN salary rates)
Subcontracts issued to NAS "IRE"

Resource Efficient and Cleaner Production Centre
Website: <http://www.recpc.kpi.ua/en/>
Recipient:
NTUU "KPI"
Beneficiary:
Ministry of Economic Development and Trade of Ukraine
PMU (UN salary rates)

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GEF UKR-4784
As of 30 June 2016
Total grant: USD 5,500,000
Disbursement: USD 609,592 (11.1% of total grant)

Sponsored Class	GEF Grant Disbursed (USD)	%
1100 - International Experts	182,770	30.0
1500 - Project Travel	51,270	8.4
1700 - National Experts	203,118	33.3
2100 - Subcontracts	54,701	9.0
3000 - Trainings / Fellowships / Study Tours	38,278	6.3
3500 - International Meetings	198	0.0
4300 - Premises	1,529	0.3
4500 - Equipment	57,587	9.4
5100 - Sundries	20,141	3.3
TOTAL	**609,592**	100.0

GEF UKR-3917
As of 30 June 2016
Total grant: USD 5,156,108
Disbursement: USD 3,426,146 (66.4% of total grant)

Sponsored Class	GEF Grant Disbursed (USD)	%
1100 - International Experts	177,213	5.2
1500 - Project Travel	121,055	3.5
1700 - National Experts	934,702	27.3
2100 - Subcontracts	1,096,238	32.0
3000 - Trainings / Fellowships / Study Tours	50,492	1.5
3500 - International Meetings	6,047	0.2
4500 - Equipment	1,018,559	29.7
5100 - Sundries	21,840	0.6
TOTAL	3,426,146	100.0

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</table>

Observations	Implications for the project GEF-4784 "Introduction of Energy Management System Standard in Ukrainian Industry"
Subcontracts issued to NGO by UNIDO. Founders / partners of the NGO: UNIDO + NTUU"KPI" + MinEDT + Science Park "Kyivska Polytechnika" + ULIE (Ukrainian League of Industrialist and Entrepreneurs) + Swiss Confederation + Republic of Austria + Institute for Ecopreneurship (FHNW) + Sustainable Business Associates (SBA) + Carbotech (Switzerland)+ CSD Engineers (Switzerland)	

Mission Agenda: 18-22 December 2016

Time	Event
Monday, 19 December 2016	
09:00	Meeting with UNIDO UKR IEE Project Management Unit Team
10:00	Meeting with UNIDO Focal Point in Ukraine. Ms. **Liudmila MUSINA**, Advisor to Ministry of Economic development and Trade of Ukraine
11:00	Interview with **Mr. Jurij DUDNYK**, Zhytomyr Cilica plant
11:30	Interview with **Mr. Anatolii CHERNIAVSKYI**, Consultant, also KPI
12:00	Interview with **Mr. Oleg RAZUMOVSKY**, Consultant
12:30	Interview with **Mr. Oleg KOTSAR**, KPI, Training Center of Energy Management (TCEM) of the Institute for Energy Saving and Energy Management (IEE) which is part of the National Technical University of Ukraine «Kyiv Polytechnic Institute» NTUU «KPI»
13:00	Interview with **Mr. Yuriy VEREMEICHUK**, KPI
15:00	Meeting with GEF Focal Point in Ukraine: **Mr. Mykola KUZIO** Political Focal Point, Deputy Minister for European Integration Mr**. Vladyslav MARUSHEVSKYI**, Head of International Department of the Ministry of Ecology and Natural Resources
Tuesday, 20 December 2016	
10:00	Meeting with **Mr. Vladymyr BUCHYK**, Head of the department of strategic development, State Agency of Energy Efficiency and Energy Saving of Ukraine (SAEEES)
10:30	Meeting with **Victor BILKO,** deputy head of the department of technical regulation and energy efficiency, State Agency of Energy Efficiency and Energy Saving of Ukraine (SAEEES)
12:00	**Alexander OVDIIENKO**, Head of the Board, Association of Energy Engineers (AEE)
15:00	**Viktor SHKLYAR,** Utilities Manager. Coca-Cola Beverages Ukraine Limited (Coca-Cola Hellenic Ltd.) **Pavel MASLOV,** Chief Metrologist
Wednesday, 21 December 2016	
10:00	**Yuri KABAKOV,** Director of the Centre for Certification of personnel (Ukrainian Quality Association) accredited by Ukrainian Accreditation Agency
10:30	Meeting with Project trainees, group interview: **Victor YAGODZINSKY,** Lead auditor of the EnMS, former head of the Institute for expert trainings of Ukrainian Standardization Agency
12:00	Ms. **Olga MARUSHEVSKA**, Head of the Department of Green Economy (former Director of the Department of Standardization, of Technical Regulation, Certification and Balanced Use of Nature Resources) of the Chamber of Commerce and Industry of Ukraine.
PM	Meeting with PMU

Annex 4: List of persons met and summary of mission

Summary of mission and notes: Kyiv, 08-15 March 2017

1. Background notes

a) This mission was the follow-up to the Fact-finding Mission of 18-22 December 2016.
b) The mission was carried out by: Javier Guarnizo, Chief, Independent Evaluation Division, UNIDO-HQ and Cahit Gurkok, International Consultant. Natalia Perestyuk, National Evaluation Consultant has also participated in all activities of the Mission.
c) Detailed findings of both missions and the associated desk studies will be presented in the "Mid-term Review Report" of the Project.
d) The present Mission Note has been prepared to fulfill the end-of-mission reporting.

2. Mission programme

Date	Persons met / activity
Wednesday, 08 March 2017	Arrival in Kyiv
Thursday, 09 March 2017	- Briefing by PMU - Meeting with State Agency on Energy Efficiency and Energy Saving of Ukraine (SAEEES) **Mr. Sergei (Dmitrievich) Savchuk,** Chairman (Agency Head) - Meeting with Ministry for Economic Development and Trade of Ukraine (MED&T) Department of Technical regulation and Metrology **Leonid (Mikhailovich) Vitkin,** Director
Friday, 10 March 2017	- Meeting with UNIDO Resource Efficient and Cleaner Production Centre (RECPC) **Mr. Igor Shilovich,** Director
Monday, 13 March 2017	- Meeting with UNIDO-GEF project "Improving energy efficiency and promoting renewable energy in the agro-food and other small and medium enterprises (SMEs) in Ukraine" **Mr. Igor Kyrylchuk,** the National Project Coordinator, - Meeting with UNIDO Focal Point at the MED&T, **Ms. Liudmyla Musina**
Tuesday, 14 March 2017	- Discussions with PMU (with particular emphasis on the 3rd Component of the project "Technology diffusion and deployment to promote implementation of energy management systems in selected industrial sectors.") - Meeting with «Kyiv Polytechnic Institute», (KPI) **Prof. Michael (Zakharovich) Zgurovsky,** Rector
Wednesday, 15 March 2017	Return to Vienna

3. Project timeline

The following timeline is not an exhaustive one but highlights mainly the problems.

2013	2014			2015				2016			
GEF - CEO Approval	Project start		PSC Kick-off meeting		Official enquiries from PMU unanswered		TOR of Subcon sent to KPI by UNIDO		"Format" web article of accusations		KPI termination letter
10.2013	**2014**	**11.2014 / 01.2015**	**12.2014**	**05.2015**	**05.05.2015 and 15.07.2015**	**09.2015**	**10.2015**	**10.02.2016**	**25.02.2016**	**08.03.2016**	**04.2016**
		PMU hired / started		MOU between UNIDO and KPI signed		UNIDO Project Manager – KPI Rector talks		Letter of KPI complaining inconsistencies between MOU and implementation		UNIDO response to 10.02 letter	

2016					2017	
		Letter of Permanent Mission of UKR to UNIDO		First mission: Mid-term project review		Second mission: Mid-term project review
24.03.2016	**19.07 and 21.07.2016**	**05.09.2016**	**23.10.2016**	**18-22.12.2016**	**28.01.2017**	**08-15.03.2017**
KPI letter of complaints	KPI to MED&T informing withdrawal and requesting (from UNIDO) financial audit and announcing the end of in-kind cost sharing		As per MOU, KPI is out of project		KPI to DG UNIDO requesting UNIDO's acknowledgement of KPI's resignation from project	

4. Draft recommendations group I: Governance issues of the project

4.1 Legal / formal bases of the project governance

Legal / formal bases of the project, among others, are:

- Project Document as endorsed by the CEO of GEF;
- MOU between UNIDO and GEF dated 20 July 2004 (amended and restated 25 August 2014);
- Financial Procedures Agreement between UNIDO and IBRD (as Trustee of GEF) dated 6 May 2010 and its amendments;
- UNIDO-GEF Project Operational Manual;
- UNIDO Financial Regulations and Rules;
- UNIDO Procurement Manual;
- UNIDO Project Personnel Manual;
- Agreements of the Government of Ukraine with the United Nations;
- Legislations and other regulations of the Government of Ukraine.

4.2 Elements of project's governance and observations

i. UNIDO Project Manager (**PM**) is Mr. James New and he is located at the UNIDO HQ
ii. National Executing Agency (**NEA**): *It was* Kyiv Polytechnic Institute (KPI) which was involved from inception phase of the project. Project document foresaw that NTUU "KPI" (new name: Igor Sikorsky Kyiv Polytechnic Institute) and its Institute of Energy Saving and Energy Management (IEE) will:

- Co-finance (in-kind) a part of the project;
- Host the PMU;
- Offer its training facilities located in different parts of Ukraine for holding project related trainings for Energy Management Systems (EnMS) and System Optimization (SO);
- Provide web space / platform to project's website;
- Support with its considerable expertise in the Energy Management field all project activities throughout the project;
- Provide the Chairperson of Project Steering Committee (PSC)
- It was also assumed that the sustainability of capacity building (training) activities beyond the tenure of the GEF project would be secured by KPI.

iii. Memorandum of Understanding (**MOU**) between UNIDO and NEA was signed on 28.05 (by UNIDO) and 08.06.2015 (by NEA). MOU envisages the transfer of GEF Grant Funds to KPI for financing the project / PMU activities. This has not happened and turned out to be the main source of dispute between UNIDO and KPI.

iv. Project Management Unit (**PMU**): has initially been located in KPI premises. PMU staff (4 persons) were selected in November 2014 by the representatives of UNIDO, KPI, SAEEES, MED&T and GEF FP. However, after the KPI's decision to leave the project in 2016, PMU was requested to vacate the KPI premises. At present, PMU operated from offices rented from UNDP. Aftermath of the dispute between UNIDO and KPI, PMU has been working directly with UNIDO PM.

v. Project Steering Committee (**PSC**) reviews operations and approves work plans. After a "kick-off" meeting in December 2014, PSC has not met. Its Terms of Reference (Rules) and members were prepared / proposed but the PSC has not met, approved the rules and worked in earnest.

vi. Project Administrative Manual (**PAM**) or Project Manual could be very useful as a reference document and should be finalized and adopted by PSC.

vii. TOR(s) and contract(s) between UNIDO and suppliers in general and NAE in particular should be the main documents regulating operational and financial relations. TOR and invitation to bid were sent to KPI by UNIDO. However, KPI did not respond.

4.3 (Draft) Recommended actions in regard to governance of the project

4.3.1 Selection of a new NEA

The obvious choice for the next National Execution Agency is State Authority for Energy Efficiency (SAEEES) since (i) it is the main governmental agency tasked with the areas covered by the project; (ii) it is involved in / knowledgeable about the project from its early stages, and (iii) it is registered at the National Registry hold by MED&T as both Beneficiary and Recipient of the Project.

However, KPI's role in the project should be recalled and the following should be discussed / clarified with SAEEES:

- Co-financing commitments (in-kind):
  - Provision of office space (facilities, rooms and office equipment) for the Project Management Unit (PMU) for at least the remaining three years.
  - Provision of training facilities for organizing EnMS and ESO trainings in Kyiv and throughout Ukraine for three years.
  - Hosting of the Project web-platform for three years.
- Support to the project's training programmes.
- Help to institutionalize and to achieve longer-term sustainability of training activities beyond the tenure of the GEF project.
- Support to other implementation activities of the project.
- Outline of the new MOU between UNIDO and the NEA.

4.3.2 Project revision

Initial discussions at UNIDO HQ and during the Fact-Finding Mission to Kyiv in December 2016 showed that the parties may agree that the change of the National Execution Agency and related adjustments of the ProDoc may be regarded as a "minor modification."

Proposed steps should be followed after the decision on the new National Execution Agency is reached:

- UNIDO PM revises / reformulates the ProDoc;
- UNIDO PM and PMU (Kyiv) seek the agreements of:
  - GEF Focal Point at the MinENR (Kyiv);
  - UNIDO GEF and GEFSec;
  - UNIDO Focal Point at the MED&T (Kyiv)—re-registration of the Project;
- UNIDO and NEA organize a new "kick-off" meeting of the PSC (see Issue 4.3.3 below).

4.3.3 Project Steering Committee (PSC), Project Manual and Work Plan 2017

These steps should be taken after the decision on new National Execution Agent is made:

- UNIDO and NEA identify and obtain agreements of the new PSC members and the Chairperson;
- UNIDO and NEA prepare the new / revised TOR of the PSC for the approval of PSC;
- UNIDO-PM, NEA and PMU prepare "Updated Project Manual[11]" for approval by PSC;
- UNIDO-PM, NEA and PMU prepare "Workplan for 2017" for approval by PSC;
- UNIDO and NEA organize the new "kick-off" meeting of the PSC.

4.3.4 Some discussion points relating to Project Management Unit (PMU)

- Upon request of KPI Management, PMU vacated the offices and training spaces provided by KPI. Presently, PMU is housed in offices rented from UNDP. A longer-term solution should be found.
- It was recalled that the present PMU staff were selected jointly by MED&T, SAEEES, KPI, GEF Focal Point UKR and UNIDO. Provided that the new National Execution Agent will be one of those organizations and if it will be agreeable to all parties concerned, the present PMU may continue.
- It should also be noted that the PMU has delivered good performance under difficult conditions. Project activities have continued despite the problems of the project.
- However, it should also be remembered that the PMU should work in very close cooperation with the NEA. The *modus operandi* of other UNIDO projects could / should be applied.

4.3.5 A new role for the KPI

KPI has expressed its willingness to participate in the project provided that UNIDO carries out a financial audit and makes the results thereof available to the public[12]. Recalling the outstanding technical expertise and nation-wide capacity of the KPI, its contribution may improve the sustainability of the capacity-building activities of the project.

5. Draft observations / recommendations group II: Implementation issues of the project

Project has four components:

1. Policy and institutional support for the introduction of a national energy management system standard corresponding to ISO 50001;

[11] Project Manual (or Project's Administrative Manual) explains all implementation procedures.
[12] According to KPI's repeated written requests.

2. Building the national capacity on the planning, implementation & certification of energy management systems and system optimization;
3. Technology diffusion and deployment to promote implementation of energy management systems in selected industrial sectors;
4. Monitoring and Evaluation.

5.1 Achievements as described in GEF/PIR of June 2016

Annex 1 summarizes the achievements of the project as given in GEF/PIR dated June 2016 and financial data as of 10 January 2017.

5.2 Achievements of the project as reviewed during the fact-finding mission in Dec. 2016

Component 1: Policy and institutional support for the introduction of a national energy management system standard corresponding to ISO50001

These standards came into force as the national standards starting from 01 **September 2016.** Supported and coordinated by the UNIDO/GEF UKR IEE Project "Introduction of Energy Management System Standard in Ukrainian Industry", as well as with the support by Association of Energy Engineers of Ukraine (AEE), the responsible national authority the State Enterprise "Ukrainian Scientific-Research and Training Center on Standardization, Certification and Quality Problems" (SE "UkrNDNC") has informed about nationalization of five more standards of ISO50000 series next to already nationalized ISO50001 standard.

Component 2: Building the national capacity on the planning, implementation & certification of energy management systems and system optimization

The main conclusions of the interviews of the trainees and the visits to training facilities are:

- All trainees interviewed praised the trainers.
- Hardcopy and electronic documentation (both translated into Ukrainian and in English) used during the courses were found satisfactory or good.
- Trainings took place at the HQ of Chamber of Commerce of UKR. Rooms and catering were found OK. It was expressed that Internet connection could have been better (faster and more reliable).
- Translation of documents into UKR was OK. Simultaneous interpreters without technical background experienced difficulties during the courses. Interpretations done by technical interpreters were very good.
- Although companies were very reluctant to show their plants to trainees, very limited visits were highly praised.
- Improvements were requested in the translation quality of examination papers. The very long time elapsed between the exams and the issuance of attendance certificated was criticized. Also, a more recognizable certificate was demanded.
- Possibility of continual access to trainers after the end of courses was found very useful. Better networking and exchange of views / experiences were requested.

6. Other observations / recommendations

- Special attention should be given to attain / secure longer-term sustainability of all project components in general and components 1 and 2 in particular.
- Synergies with other GEF / UNIDO / other bi- and multi-lateral energy efficiency projects should be sought.
- Maximum transparency should be aimed at formulating / adopting the options for the third component.

Attacks aimed at the project's UNIDO Staff (PM and Project Assistant and PMU) that appeared in the Website "Format" were referred to by KPI management. They agreed that the control of digital media could not be achieved to stop all ungrounded accusations; however, they suggested that a financial audit and more transparency could respond to some of the issues.

Annex 5: Ukraine Energy Brief

Annex 5.1 Institutional Framework[13]

The Cabinet of Ministers, the ultimate decision-making body, is the institution responsible for policy co-ordination and the oversight of state energy companies. Energy policy is high on its political agenda, with the parliament and the president also involved in the decision-making process. The following are the main national-level institutions with energy policy responsibilities:

- The Ministry of Energy and Coal Industry (ME&C) is responsible for most energy supply policies and for coordinating energy policy across government and providing advice to parliament.
- The Ministry of Ecology and Natural Resources (ME&NR) is responsible for licensing and production sharing agreements for hydrocarbon development and for climate change policy. The co-ordination and implementation of all climate policy-related measures defined by this ministry falls under the responsibility of the State Agency for Energy Efficiency and Energy Saving.
- The State Environmental Investment Agency of Ukraine has overall responsibility for the implementation of the provisions of the Kyoto Protocol and the UNFCCC Convention.
- The Ministry of Finance is responsible for taxation relevant to the energy sector.
- The Ministry of Economic Development and Trade (MED&T) has the lead for energy efficiency policies, but responsibilities for implementation are shared among numerous ministries and agencies.
- The State Agency on Energy Efficiency and Energy Saving (SAEEES), under the Economic Development and Trade, is the central governmental body responsible for advancing energy efficiency and renewable energy developments and promoting the deployment of energy efficient and renewable energy technologies.
- The Ministry of Regional Development, Construction and Housing (MRDC&H) develops policy and programmes relevant at local levels.
- The National Energy and Public Utilities Regulatory Commission (NEURC) supervises the natural gas and electricity markets as well as the heat sector. The Commission is subordinated to the President of Ukraine and is accountable to the Parliament of Ukraine.
- The Anti-Monopoly Committee is responsible for the prevention of excessive concentration of market power.
- The State Nuclear Regulatory Inspectorate has regulatory responsibility for the operation of nuclear facilities, including uranium mining, radioactive waste storage and decommissioning at Chernobyl.

Annex 5.2 Legal framework

Recent Ukrainian efforts to reorganize the legal framework of energy sector are primarily based on the country's commitments to EU. The EU-Ukraine Association Agreement was signed on 27 June 2014 and ratified by Verkhovna Rada and the European Parliament on 16 September 2014. Ukraine is also a Contracting Party of the Energy Community[14] since 01 February 2011.

By signing the Energy Community Treaty, the Contracting Parties committed to implementing key EU energy law, develop an adequate regulatory framework and liberalize their energy markets in line with the Treaty acquis within a fixed timeframe. To keep up with the evolution of EU energy law, the Treaty envisages the swift incorporation of new EU legislation to the Energy Community upon

[13] Source: <https://www.iea.org/publications/freepublications/publication/IDR_EasternEuropeCaucasus_2015.pdf>

[14] Energy Community is an international organization which brings together the European Union and its neighbours to create an integrated pan-European energy market. The organization was founded in October 2005.

proposal by the European Commission. The Energy Community *acquis communautaire* comprises the following areas: electricity, gas, security of supply, environment, competition, renewable, energy efficiency, oil, statistics and infrastructure.

Latest Developments in Ukraine in some of the *acquis communautaire* areas are:

Areas of Work	Development	Date
Electricity	Verkhovna Rada of Ukraine adopted the Electricity Market Law.	April 2017
Energy Efficiency	Cabinet of Ministers adopted the National Energy Efficiency Action Plan until 2020, compliant with the requirements of the Directive 2006/32/EC.	November 2015
	Draft Law on Energy Efficiency Fund passed first reading in the Parliament of Ukraine	March 2017
Regulatory Authority	Ukrainian Law on the National Energy and Public Utilities Regulatory Commission entered into force	November 2016
Environment	Verkhovna Rada of Ukraine adopted the Law on Environmental Impact Assessment	October 2016
Gas	Ukrainian Cabinet of Ministers approved Naftogaz unbundling plan	July 2016

Energy Efficiency Priorities of Ukraine in 2016-2017:

During the period, Ukraine adopted the First Energy Efficiency Action Plan (1st EEAP), thus fulfilling one of the priorities. Adoption of the Law on Energy Performance of Buildings, the Energy Efficiency Law and the Metering Law is still pending, and thus they remain the key priorities for Ukraine in the coming period. The adoption of the missing technical regulations for energy labeling and the regulations for transposition of the Energy Performance in Buildings Directive should follow.

Furthermore, the cooperation and coordination between governmental authorities and parliament need to be improved to ensure fulfillment of Ukraine's international obligations. SAEEES, as the leading national body for implementation of energy efficiency policy, should be better empowered to bring together authorities and stakeholders in order to ensure adoption of the drafted legislation.

Energy Efficiency State of Compliance:

1. Energy Services Directive 2006/32/EC	The adoption of the laws transposing the provisions of Directive 2006/32/EC on end-use efficiency and energy services, energy management, energy audits, labelling, etc. is now pending for several years. The only concrete progress was Ukraine's adoption of its 1st EEAP for 2020 in November 2015. The preparations to adopt a new law on energy efficiency to transpose Energy Efficiency Directive 2012/27/EU are ongoing.
2. Energy Labelling Directive 2010/30/EU	Ukraine continues to draft secondary legal acts under Directive 2010/30/EU. The technical regulations for household tumble driers, vacuum cleaners and televisions, ovens and range hoods were sent for another round of inter-service consultations due to change of government and their adoption is pending. Therefore, Ukraine is short of compliance with the delegated regulations on labeling.
3. Energy Performance of Buildings Directive 2010/31/EU	Despite the progress in drafting secondary legislation, the Law on Energy Performance of Buildings aiming to transpose Directive 2010/31/EU has not been adopted yet. Ukraine is not in compliance with this directive.

Annex 5.3 Examples of International Energy Efficiency Projects / Funds in Ukraine

Project	Website URL
Ukraine Energy Efficiency Programme (UKEEP)	**http://www.ukeep.org/en/**
Energy efficiency in municipalities	https://www.giz.de/en/worldwide/30658.html
Eastern Europe Energy Efficiency and Environment Partnership (E5P) in Ukraine	http://ukraine.e5p.eu/about-e5p/
IQ energy	http://www.iqenergy.org.ua/en
The Nordic Environment Finance Corporation (NEFCO)	https://www.nefco.org/

Annex 5.4 Statistical Data

Selected Indicators for Ukraine, 2014[15]

Region/ Country/ Economy	Population (million)	GDP (billion 2010 USD)	GDP (PPP) (billion 2010 USD)	Energy production (Mtoe)	Net imports (Mtoe)	TPES (Mtoe)	Elec. Consum. (TWh)	CO_2 emissions of CO2)	Region/ Country/ Economy
World	7,249	72,908	101,463	13,805	-	13,699	21,963	32,381	**World**
Ukraine	45.36	134.02	346.35	76.93	27.47	105.68	154.77	236.54	**Ukraine**
OECD	1,267	47,107	46,238	4,144	1,322	5,273	10,171	11,856	**OECD**

Region/ Country/ Economy	TPES/ population (toe/capita)	TPES/ GDP (toe/000 2010 USD)	TPES/ GDP (PPP) (toe/000 2010 USD)	Elec. cons. / pop. (kWh/ capita)	CO_2/ TPES (t CO_2 / toe)	CO_2/ pop. (t CO_2 / capita)	CO_2/ GDP (kg CO_2/ 2010 USD)	CO_2 / GDP (PPP) (kg CO_2 / 2010 USD)	Region/ Country/ Economy
World	1.89	0.19	0.14	3,030	2.36	4.47	0.44	0.32	**World**
Ukraine	2.33	0.79	0.31	3,412	2.24	5.21	1.76	0.68	**Ukraine**
OECD	4.16	0.11	0.11	8,028	2.25	9.36	0.25	0.26	**OECD**

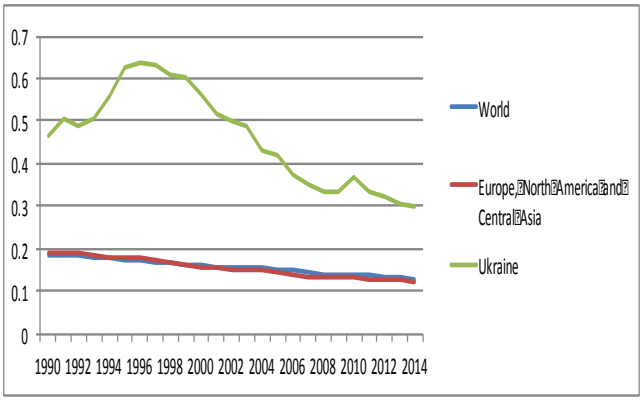
National Energy Intensity (koe/USD PPP 2011)[16]

	2010	2011	2012	2013	2014
World	0.14	0.14	0.14	0.13	0.13
Europe, N.America & Cent. Asia	0.13	0.13	0.13	0.13	0.12
Ukraine	0.37	0.33	0.32	0.31	0.30

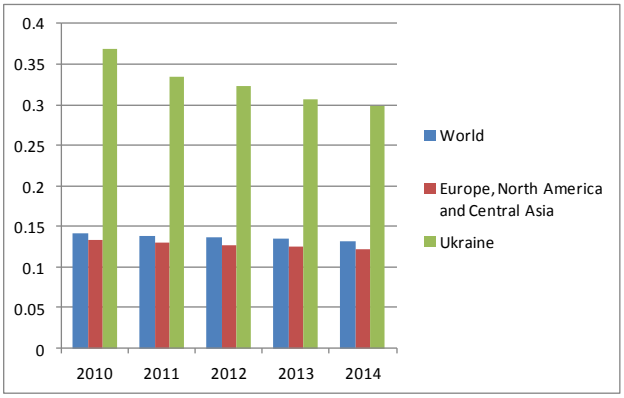
[15] Source: IEA; "Key World Energy Statistics 2016", https://www.iea.org/publications/freepublications/publication/KeyWorld2016.pdf

[16] Sustainable Energy for All (WB and IEA); "Global Tracking Framework-Progress toward Sustainable Energy", 2017.

National Energy Intensity, (koe/USD PPP 2011) 1990-2014



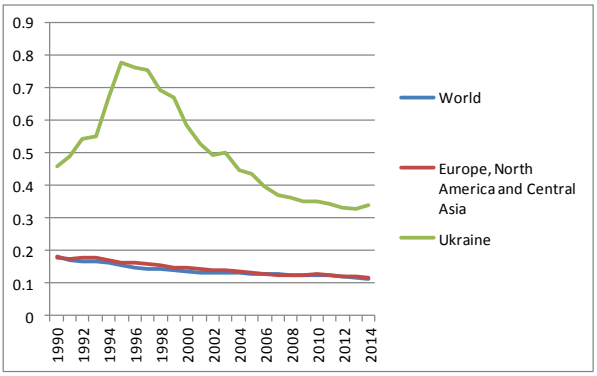
National Energy Intensity, (koe/USD PPP 2011) 2010-2014



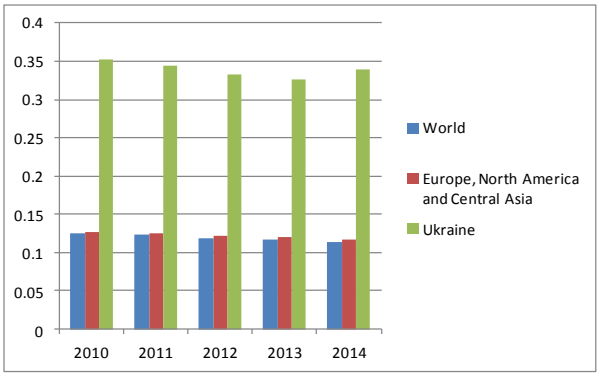
Sectoral Energy Intensity - Industry (koe/USD PPP 2011)[17]

	2010	2011	2012	2013	2014
World	0.12	0.12	0.12	0.12	0.11
Europe, N.America & Cent. Asia	0.13	0.12	0.12	0.12	0.12
Ukraine	0.35	0.34	0.33	0.33	0.34

Sectoral Energy Intensity-Industry (koe/USD PPP 2011), 1990-2014



Sectoral Energy Intensity-Industry (koe/USD PPP 2011), 2010-2014



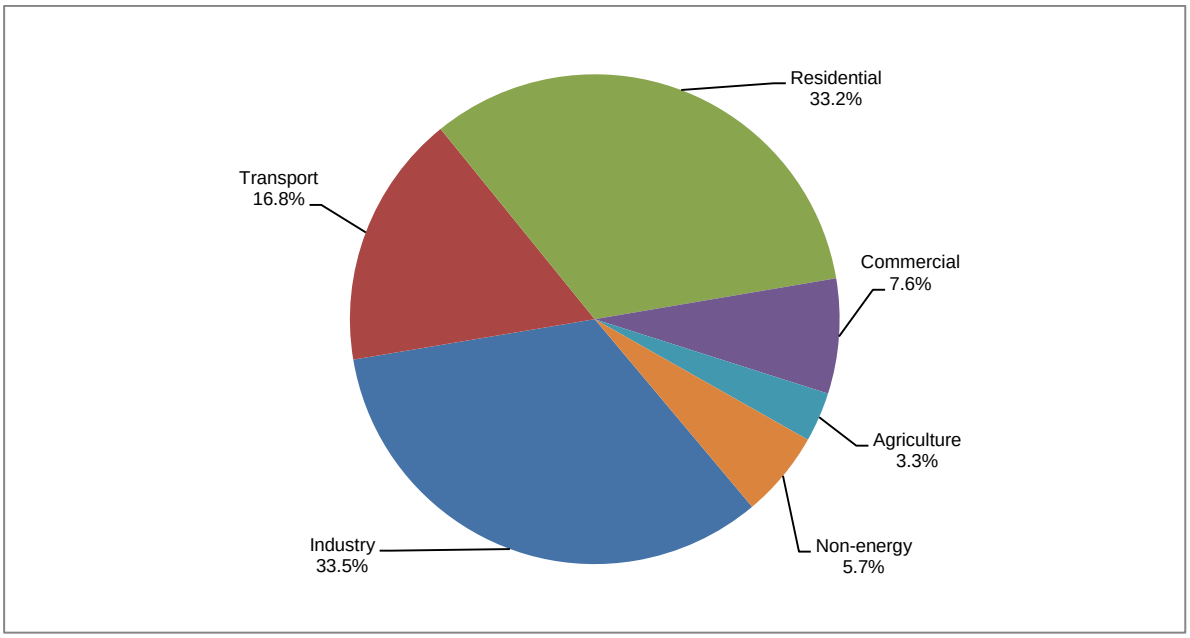
Total Final Energy Consumption (TFEC) in UKR in 2014 was 61,460 Mtoe and its distribution among the sectors of economy is given below[18]:

Sector	Mtoe	%
Industry	20,570	33.5
Transport	10,327	16.8
Residential	20,384	33.2
Commercial	4,663	7.6
Agriculture	2,016	3.3
Non-energy use	3,500	5.7
Total TFEC	**61,460**	**100.0**

[17] Ibid

[18] Source: <http://ec.europa.eu/eurostat/documents/3217494/7571929/KS-EN-16-001-EN-N.pdf/28165740-1051-49ea-83a3-a2a51c7ad304>

Distribution of TFEC Among Sectors of Economy in Ukraine, in %, 2014 values



Annex 5.5 Recent observations[19]

Energy demand and energy intensity in UKR have declined over the recent years. However, it should be noted that a substantial proportion of that energy demand declines are not due to energy efficiency improvements but have occurred because of a general decline in industrial output.

In UKR, in reality, there is still a gap between the market potential for energy efficiency in industry and the cost-effective potential from an individual or social point of view. Even the profitable potential is not fully exploited, primarily because of persistent barriers to the deployment of energy efficiency measures. Such barriers prevent industrial companies from realizing energy savings potentials even though they are cost-effective under current economic conditions. Important barriers in industry—which are partly economic and partly non-economic—are:

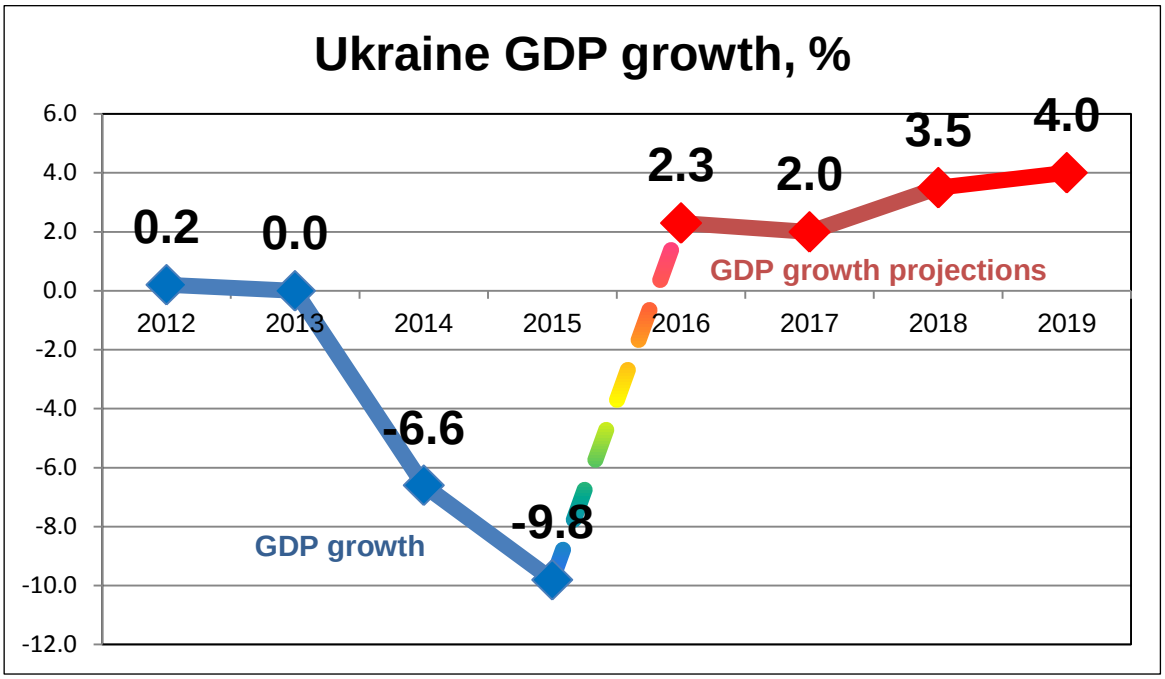
- Information and knowledge deficits both with regard to the existing saving potentials in the company and to existing financial support programmes for investments in energy efficiency (especially relevant in SMEs).
- Fear of negative impact of energy efficiency measure on the quality of products and processes.
- Uncertain economic and legal frameworks and uncertainty in planning.
- Low share of energy costs in total costs of the company and therefore low priority for energy efficiency investment.
- Lack of own capital to undertake the necessary investments and no willingness to use borrowed capital (especially in owner-run companies).
- High transaction costs of energy.

The Prodoc also discusses majority of a-m barriers and recommends mitigation actions.

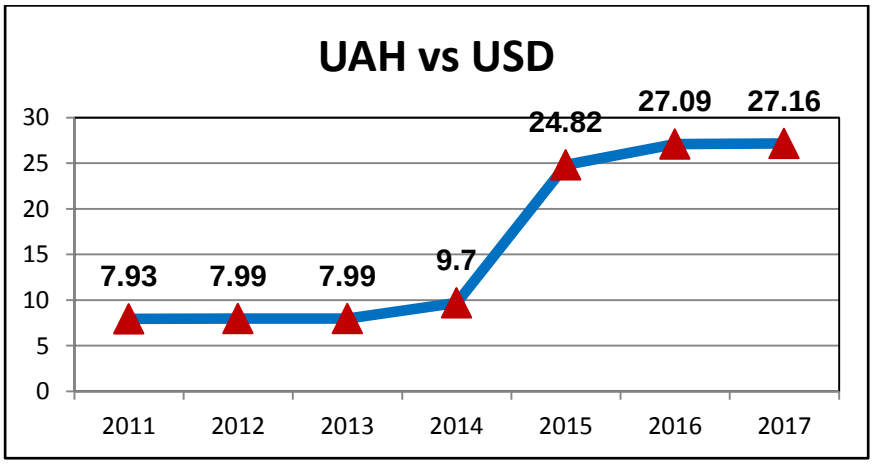
[19] G7 Energy Ministerial Meeting, UKR Energy Sector Support Progress Report, 2016 http://www.g8.utoronto.ca/energy/160502-ukraine.pdf

Annex 6: Economic Note on Ukraine

Initial phases of the project, that is 2011-2013 design and approval phase and 2014 start-up—kick-off meeting of the PSC in December 2014, witnessed the worst economic crisis of recent history of Ukraine. The following graph shows the sharp decline of GDP in the early years of the project and modest recent recovery[20].



During the implementation years of the project, the real wages have declined due to high inflation, peaked at 43.3% at the end of 2015 and considerable depreciation of the Hryvnia (UAH) as seen from the graph below[21].



The outlook for economic growth remains weak due to the difficult global economic environment, the ongoing uncertainty related to the conflict in the East, and whether reforms on multiple fronts can be advanced in a complex political environment.

[20] World bank <http://www.worldbank.org/en/country/ukraine/publication/ukraine-economic-update-fall-2016>

[21] Hryvnia versus US dollar official exchange rates are from National Bank of Ukraine official website <https://bank.gov.ua/control/en/curmetal/currency/search/form/period>

Growth is projected at 1 percent in 2016 and 2 percent in 2017. Structural bottlenecks and a lack of new growth engines are limiting the speed of economic recovery[22] In the medium term, growth could pick up to 3-4 percent if deeper structural reforms bolster investor confidence and productivity growth. The real depreciation, if coupled with reforms to create a level playing field for the private sector, enhance competition, and tap the EU market, would support exports and tradable sectors.

Cost of Bank Credits in Ukraine, % per annum *(retrieved on 29 March 2017[23])*

Date	Natural persons						Economic entities					
	National currency			Foreign exchange			National currency			Foreign exchange		
	Total	Short-term	Long-term	Total	Short-term	Long-term	Total	Short-term	Long-term	Total	Short-term	Long-term
29 March 2017	**30.1**	**32.0**	**29.5**	**0.0**	**0.0**	**0.0**	**14.3**	**13.7**	**20.9**	**8.3**	**8.3**	**8.3**

World Bank, Selected World Development Indicators (WDI) for Ukraine (retrieved on 22 March 2017[24])

Series Name	2011	2012	2013	2014	2015
Population, total	45,706,100	45,593,300	45,489,600	45,362,900	45,198,200
Surface area (sq. km)	603,550	603,550	603,550	603,550	603,550
Poverty headcount ratio at national poverty lines (% of population)	7.8	9.0	8.3	8.6	6.4
GNI, Atlas method (current USD)	142,394,528,984	159,419,829,128	172,731,573,142	153,080,488,777	113,248,744,595
GNI per capita, Atlas method (current USD)	3,120	3,500	3,800	3,560	2,640
GNI, PPP (current international USD)	369,725,094,277	379,899,349,168	385,925,704,140	369,046,235,489	335,696,245,159
GNI per capita, PPP (current international USD)	8,090	8,330	8,480	8,580	7,840
Life expectancy at birth, total (years)	70.8	70.9	71.2	71.2	
Urban population growth (annual %)	-0.08	0.04	0.06	0.02	-0.06
Energy use (kg of oil equivalent per capita)	2,769	2,687	2,553		
CO_2 emissions (metric tons per capita)	6.27	6.49	5.96		
Electric power consumption (kWh per capita)	3,662	3,641	3,600		
GDP (current USD)	163,159,671,670	175,781,379,051	183,310,146,378	133,503,411,376	90,615,023,324
GDP growth (annual %)	5.5	0.2	(0.0)	-6.6	-9.9
Inflation, GDP deflator (annual %)	14.2	7.8	4.3	15.9	38.4
Agriculture, value added (% of GDP)	9.5	9.1	10.0	11.7	14.0
Industry, value added (% of GDP)	29.1	28.4	25.8	26.2	26.3
Services, etc., value added (% of GDP)	61.4	62.5	64.2	62.2	59.7
Exports of goods and services (% of GDP)	49.8	35.4	43.0	48.6	52.8
Imports of goods and services (% of GDP)	56.4	56.4	52.2	52.1	54.8
Gross capital formation (% of GDP)	22.4	21.7	18.5	13.4	15.3
Revenue, excluding grants (% of GDP)	36.3	37.5	36.1	33.7	35.9
Domestic credit provided by financial sector (% of GDP)	87.3	87.9	95.0	108.5	85.6
Tax revenue (% of GDP)	18.5	18.3	17.6	17.3	20.5
Military expenditure (% of GDP)	2.3	2.4	2.4	3.0	4.0
Mobile cellular subscriptions (per 100 people)	121.3	130.3	138.1	144.1	144.0
Internet users (per 100 people)	28.7	35.3	41.0	46.2	49.3
High-technology exports (% of manufactured exports)	4.4	6.3	5.9	6.5	7.3
External debt stocks, total (DOD, current USD)	135,464,770,000	132,069,382,000	147,656,446,000	131,206,395,000	122,825,244,000
Total debt service (% of exports of goods, services and primary income)	31.8	31.3	42.3	27.8	58.3
Foreign direct investment, net inflows (BoP, current USD)	7,207,000,000	8,175,000,000	4,509,000,000	847,000,000	3,050,000,000
Net official development assistance and official aid received (current USD)	775,150,000	767,600,000	783,480,000	1,403,680,000	
Exchange rate (UAH to USD)*	7.93	7.99	7.99	9.70	24.82

***** Hryvnia versus US dollar exchange rates are from National Bank of Ukraine official website <https://bank.gov.ua/control/en/curmetal/currency/search/form/period>

[22] European Bank for Regional Development <http://2016.tr-ebrd.com/countries/>

[23] Retrieved from the Website of National Bank of Ukraine <https://bank.gov.ua/control/en/allinfo>.

[24] Worldbank <http://databank.worldbank.org/data/reports.aspx?source=2&country=UKR>

Annex 7: Project's "Results Framework" and Achievements

(re.: ProDoc Annex A "Project Results Framework" and GEF-PIR June 2016)

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions	Achievements
Project Objective: To improve energy management in Ukrainian industry by promoting widespread implementation of energy management systems (EnMS) complying with the international energy management system standard ISO50001	The biggest Ukrainian industries are very energy intensive and energy inefficient. with USD turnover per TOE at a fraction of EU levels – Metals 45%, Building Materials 40%, Mining 21%, Chemicals 40% of EU levels	3,305 GWh direct savings over 10 years. Indirect emission reductions of 580,000 tonnes CO2 eq over 10 years.	Validated energy savings from project reports	Willingness of state and industry to embrace program and invest time and money in improvement	
Outcome 1: The policy and institutional framework supporting the national implementation of energy management system standard in industry is created	ISO 50001 not adopted as a national standard	EnMS/ISO 50001 adopted as a national standard	Government institutions	Willingness of the Ukrainian Government to promote EnMS as a priority for industry	
	No policy to promote EnMS in place	Policy establishing a voluntary incentive scheme developed			
	No proper accreditation and certification available	Accreditation and certification schemes are in place			
	No MRV methodology in place	MRV methodology in place			
	No award scheme available	National award scheme active			
Output 1.1 The adoption of ISO50001 "Energy Management Standard" as a national standard is facilitated	The standard is not available in Ukrainian	Ukrainian version of the standards available and technical discussions completed	Standard available from State standards body website	Standards body supportive of Project	Completed: Ukrainian version of the standards are available upon successful completion of the nationalization process inclusive of technical discussion and stakeholders consultation; the national authority—the State Enterprise "Ukrainian Scientific-Research and Training Center on Standardization, Certification and Quality Problems" (SE "UkrNDNC")—has formally set the date the standards will officially come into force as National standards (01 September 2016). The process of the standards adoption was fully supported and coordinated by the UNIDO-GEF "UKR IEE Project" with additional support provided by Ukrainian Chamber of the Association of Energy Engineers (AEE). Through cooperation with the Ukrainian state authorities, the Department of Technical Regulation and Metrology of the Ministry of Economic Development and Trade of Ukraine (MED&T), as well as the Technical Committee for Standardization (TK-48), the "UKR IEE Project" has provided technical assistance for the standards adaptation, technical review, and final preparation. The following five ISO 50000 series

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions	Achievements
					standards have been nationalized in addition to the parent ISO50001 standard that was previously established as a National standard in Ukraine: ISO50002, ISO50003, ISO50004, ISO50006, and ISO50015.
Output 1.2 The development of a policy establishing a voluntary incentive scheme to accelerate the introduction of EnMS standard is supported	Policy makers not aware of the best practices of other countries	Improved awareness of the policy makers on best practices of other countries	Laws & directives	State agencies supportive of project	The Project is presently contributing to the development of the policy area in two ways, by assuring: 1) Participation and input into the development of the key national EE regulation—the Energy Efficiency Law of Ukraine. The development of this law, which is to reflect the provisions of the European Union Energy Efficiency Directive (EU/EnED) 2012/27/EU (in the version for the Contracting-Parties of the Energy Community) is still ongoing. The "UKR IEE Project": a. Has prepared analytical materials on the best and relevant practices on implementation of EU/EED and Industrial EE schemes, b. ISO50001 Conformity Assessment seminar was specifically developed on request and for state certification bodies. Representatives of SAEEES and the MED&T where the target group. c. Provided those materials to the responsible national authority and one of the Project's beneficiaries (SAEEES), and d. Participated in the discussion of the special purpose working group (established by SAEEES) on integration of the best practices EE audits and EnMS and relevant incentives schemes into the national legislation. 2) Improvement of the policy-makers awareness regarding the EnMS / ESO and ISO50000 series standards through EnMS Awareness trainings. These have been conducted in all focus regions of Ukraine (see information provided under the Output 2.1). Whilst the development of the EE Law has to address promotion of EE (including IEE) and the development of incentives schemes for implementation of EnMS or carrying out periodic energy audits, the trainings have focused on EnMS potential for IEE and competitiveness improvement.
	As of yet, policy makers have not received any training on EnMS standard	30 policy makers trained (with at least 10% being women)	Training reports		
Output 1.3 The establishment of an accreditation and Certification scheme for ISO50001 is assisted	No minimum requirements for a framework for accreditation and certification available	The minimum requirements for a framework for accreditation and certification prepared and discussed.	The National accreditation Agency of Ukraine & State Committee on Technical Regulation and	Standards and accreditation bodies supportive	The established cooperation between the "UKE IEE Project" and the governmental institutions (represented by both Project beneficiaries—the MED&T and SAEEES—as well as the state certification bodies) has intensified with a good prospect of progress via scheduled delivery of special trainings (listed below) for accreditation and certification entities/bodies. a. Training materials for the ISO50001 Lead Auditor and Training Centre Provider (TCP) have been submitted to the MED&T for approval.

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions	Achievements
			Consumer Policy of Ukraine		b. UNIDO international trainers provided an "Introductory 50001 Conformity Assessment Seminar" in June 2016. This training was specifically developed and delivered upon request and for state certification bodies. Representatives of SAEEES and the MED&T were the target group. c. In cooperation with MED&T and the National Standardization Body, the first "EnMS ISO50001 Lead Auditor Bridging Training" was delivered in July 2016. The total number of the trainees reached 38 (13 female). Additional to representatives from SAEEES, MED&T, and the National Accreditation Agency of Ukraine, the training was attended by representatives from the Public Certification body "Ukrainian Association of Quality" (UAQ PCB); UkrNDNC; Regional Centers for Standardization, Metrology and Certification; State certification bodies; training and consulting companies. The training has the recognition of the UAQ PCB under their Lead Auditor Certification Programme, accredited by the Ukrainian Accreditation Agency and the European Accreditation Co-operation (EAC).
Output 1.4 National monitoring reporting and verification (MRV) methodology and structure to track energy performance at enterprise/ sectoral/ national level is suggested	No MRV methodology available	MRV methodology and structure in place	SAEEES		Development of MRV institutional structure is under initial way with the MRV host (SAEEES). The requirements for the establishment and operation of the MRV have been integrated into the draft of the National legislation (i.e., the EE Law of Ukraine). The "UKR IEE Project" methodology for MRV and EE indicators will be integrated under the work of the SAEEES-Danish bilateral co-operation with the Government of Ukraine (coordinated by the Ministry of Energy and Coal Industry) that is the "Ukraine-Denmark Energy Center" (UDEC). It is planned that the "UKR IEE Project" and UDEC will combine their technical MRV assistance with SAEEES for the development of MRV programme design and procedures in accordance to the SAEEES's working plans (estimated delivery: third quarter of 2016 through first quarter of 2017). MRV IT equipment (12 laptops and 2 servers with related minor equipment) has been procured by the "UKR IEE Project", delivered and accepted by the recipient SAEEES who will host the MRV platform.
Output 1.5 National award scheme for outstanding energy management performance is proposed	None	Active energy management national award scheme	Awards website		No progress to date. Activities under this sub-component will be initiated upon finalization of the National legislation (Law on EE of Ukraine), as the Award Scheme listed as one of incentive tools. The Project will facilitate to establishment of the National EnMS award scheme in line with the beneficiary (SAEEES) requests and working plans (estimated timing: first / second quarter of 2017).
Outcome 2: National capacity for implementation and certification of energy management systems standards in industry is developed	Absence of skilled labor force on EnMS and SO	New job specializations and qualified experts matching the industry needs to implement EnMS & SO in place	After training survey	A sufficient number of interested participants is identified	

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions	Achievements
Output 2.1 Energy Management training is provided	Not available in Ukrainian	EnMS Training material available in Ukrainian	Project website		1) Revision, adjustment, and translation into Ukrainian of the UNIDO EnMS training materials have been successfully accomplished. The EnMS training materials, including Advance and Expert (Module I and Module II) Level, have been adapted and are available in Ukrainian. 2) 1/2 day EnMS Awareness-Level Trainings were organized for representatives of Industrial Professional Associations, enterprises' top managers and senior engineers, consultancy and service companies as well as Government personal. Additional to the training organized in Kyiv, Zaporizhzhya, and Lviv (in June 2015),in the reported fiscal year the Project carried out the 1/2 day EnMS Awareness-Level Trainings in: i. Odesa (33 representatives, 21 % female); ii. Kharkiv (60 representatives, 28 % female). 3) 2-day EnMS Advanced-Level Trainings were organized for service providers and enterprises' engineers/energy managers: i. Kyiv (31 representatives, 26 % female); ii. Zaporizhzhya (31 representatives, 20 % female); iii. Lviv (31 representatives, 23 % female); iv. Odesa (36 representatives, 18 % female); v. Kharkiv (34 representatives, 34 % female). 4) 5-day EnMS Expert-Level Training was organized in Kyiv for 28 service providers (including enterprises' consultants and practitioners) and enterprises' engineers from four enterprises. 5) Module II Round I and Module I Round II EnMS Expert Level courses (to be conducted by UNIDO selected international experts) have been scheduled for the third quarter of 2016. The total number of the EnMS trainings participants reached 338 (89 female) including 57 representatives of the State government institutions (22 female).
	No practitioners trained in EnMS implementation to ISO50001	20 practitioners trained on implementation of Energy Management Systems disaggregated by gender	Interviews with trainees post project	Local personnel available for training	
	No energy managers trained on EnMS implementation	150energy managers trained on EnMS implementation disaggregated by gender	Interviews with trainees post project	Local energy managers available and interested in training	

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions	Achievements
	No company managers aware of EnMS	300 company managers/owners trained disaggregated by gender	Interviews with companies post project	Company management interested in EnMS	
Output 2.2 System Optimization Training is provided	Not available in Ukrainian	SO Training material available in Ukrainian	Project website		Selected UNIDO ESO training materials (for the fan systems) have been revised, adapted and translated into Ukrainian as a due course of preparation for the Advance-Level ESO trainings. These ESO Training materials, adjusted in accordance to the Ukrainian regulatory requirements, are available in Ukrainian. The first set of Advance-Level ESO trainings (fan systems) were conducted in July, 2016 in Kyiv and Zaporizhzhya. The trainings were carried out by UNIDO's selected international experts. The total number of the FSO trainings participants reached 52 (12 female).
	No practitioners trained 2	0 local practitioners trained on System Optimization in industry disaggregated by gender	Interviews with trainees post project	Local personnel available for training	
	No vendors trained	50 vendors trained on SO disaggregated by gender	Interviews with vendors post project	Local vendors available for training	
Outcome 3: The sector wide penetration of energy management system standard is accelerated and System Optimization and EE technologies promoted	As of yet, no investments in EE made No CO2 eq emission reductions reported	Investments mobilized : USD 30 million Direct GHG emission reductions of 230,000 tons CO2 eq Direct savings of 1,322 GWh over the period of 10 years.	Bank reports M&V of energy savings	EE is a high opportunity area for Ukrainian banks and industries	
Output 3.1 Industry awareness of the environmental and economic benefits of energy management system standard is improved	No project website	Project website operational	Website link	Information on project website widely disseminated	The project website <http://www.ukriee.org.ua/en> was successfully developed, launched and has been operational since June 2015. Information about the Project performance is regularly published on the web-site and is available in three languages UKR/RUS/ENG. The Project Brief and Brochure were developed and published in ENG/UKR. Additional promotional materials have also been developed and distributed at relevant training activities and national seminar/conference events. The Project has successfully delivered six (6) awareness raising events in total, including two (2) EnMS Awareness Trainings conducted in September, 2015. Information dissemination about the "UKR IEE Project" and its contained EnMS/ESO methodologies has been largely facilitated through PMU participation in approximately 30 various conferences dedicated to Energy Efficiency / Energy Security.

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions	Achievements
	No EE material available	Project newsletter, fact sheets, videos, case studies, etc. developed (10 different materials)	Reports and website	Information on project widely disseminated	
	No events related to EnMS and SO	Number of workshops and awareness events on EnMS and SO (10 events organized)	Workshop reports, etc.	Sufficient number of interested Participants	
Output 3.2 At least 18 companies in selected industrial sectors implement EnMS and are certified to ISO50001. At least 12 of these companies invest in EE technologies or System Optimization projects.	Currently, only one company implemented EnMS in Ukraine	18 projects on EnMS implemented in selected enterprises	Data from standards body	Willingness of industry to invest time and resources to implement EnMS	The Strategy and Screening Procedure for transparent and comprehensive EnMS / ESO Project Pilot Company Selection have been developed. An independent Contractor carried out the development of this procedure and criteria—with finalization of the Companies' Screening Procedure being concluded under two Stakeholder Consultation Round Tables: 1st Round-Table "Implementation of Energy Management Systems: Instruments for Selection and Financing of Pilot Projects"; 2nd Round Table "Introduction of the Energy Management Systems in Ukraine: Procedure for Companies' Selection, Financial Mechanism and Experience of Local Industries" During the two round tables, potential industrial enterprise pilot applicants—to be considered for the project's EnMS / ESO Pilot programme (i.e. industrial enterprises with substantial energy costs share in their production expenditures) also participated. All potential pilot companies, who submitted their application, have been screened and processed for selection based on the developed Screening Procedure, with assistance from the selected independent Contractor. The final selection stage was performed by a special panel that included representatives of the Project's key stakeholders. In addition, the project has four additional pilot EnMS companies, enrolled through the EnMS Expert-Level courses (unfortunately "Tetra Pak" was lost due to the company closing down its Ukrainian operations)
	No SO implementation to date	6 projects on SO implemented in selected enterprises	Interviews with project participants post project	Willingness of enterprises involved in project to invest in SO improvements	

Result	Baseline	Target / Indicator	Source of verification	Risk & Assumptions	Achievements
Output 3.3 Network group set up to support peer to peer sharing for companies involved with the project	No network for peer to peer support available	Peer to peer network operationalized	Interviews with project participants	Industry is willing to engage in discussions with fellow industries	Basecamp platform (peer-to-peer network) for trainees and experts has been established to be used for the EnMS Expert-Level Course participants. The title of the group is "SEnM Project UKR IEE UNIDO-GEF". However, initial resistance from the pilot company engineers to use the system has been a significant factor limiting the growth and operation of the basecamp platform. Fortunately, this resistance is now decreasing.
Output 3.4 Revolving fund supporting technical assistance for enterprises to engage in EE projects	Funds available but no projects ready for financing	Revolving fund supporting the development of bankable projects setup	Financial institutions disbursement rate # of bankable projects prepared per year	Willingness of financial institutions to back project (may be confirmed next week)	A specialized consulting company was recruited to identify and assess adjustment, risks assessment, and redesign of the Project's Financial Mechanism (in reflection of the stakeholder's recommendations resulting from the present situation of Ukraine). This assessment and design study addressed and incorporated the issues identified under the initial Financial Mechanism Strategy Scoping Study. The study identified and contacted preliminary IFIs/FIs target entities for the purpose of developing interest of partnering to host and ideally co-fund the Revolving Fund within other funding mechanisms to increase the impact of the project's own financial funding mechanism, as well as to provide reduced banking risks. The assessment and design study has successfully concluded the risk analysis, adaptation, and the redesign of the Project's Financial mechanism upon completion of two rounds of stakeholders' consultation. Presently, letters of Interest have been received from four local banks and a strong interest has been indicated by one International Finance Institution (IFI). The Contractor and the Project Management team have prepared all necessary documentation to initiate the formal call for Expression of Interest (EOI). It is estimated that the EOI will be announced by the end of Q3 2016, once the project's counterpart/institutional challenges have been addressed. An additional workshop entitled "A New Day in Energy Management: An Introduction for the Financial Sector" was conducted to raise awareness of EnMS/ESO financial benefits for the national financial sector.
	Limited EE investment projects due to lack of expertise	10 EE projects prepared for financing	Reports	Willingness of financial institutions to back project (may be confirmed next week)	

Annex 8: Communications Between KPI and UNIDO (Feb.-Jul. 2016)

<table>
<tr><th>#</th><th>Date</th><th>Description and summary content</th></tr>
<tr><td>1</td><td>10 Feb. 2016</td><td>
Letter NTUU "KPI" to UNIDO-DG (signed by Mr. Zgurovsky, Rector) indicating the following key inconsistencies between the MOU and the UKR IEE Project implementation:
<table>
<tr><th>KPI claims that: in the MOU</th><th>KPI claims that: in reality</th><th>UNIDO's response (8 Mar.2016)</th></tr>
<tr><td>NTUU "KPI" under the supervision of and with support provided by UNIDO shall establish a Project Management Unit.</td><td>UNIDO has signed contracts with 4 persons directly. These people are from PMU and they represent NTUU "KPI" without power and authority.</td><td>NTUU "KPI" has actively participated in establishment of the PMU through interviewing and selection of the PMU staff. Two of four PMU colleagues were/are NTUU "KPI" staff.</td></tr>
<tr><td>UNIDO shall establish and issue a subcontract to NTUU "KPI" for "PMU Financial Support."</td><td>Subcontract not signed.</td><td>UNIDO is waiting for the NTUU "KPI" proposal to issue the contract.</td></tr>
<tr><td>UKR IEE project activities listed within the Annual Work Plan shall be jointly developed and agreed between UNIDO and the PMU with approval granted by the PSC.</td><td>Annual Work Plan was not agreed with NTUU "KPI." NTUU "KPI" has executed 2 contracts with UNIDO (duration about 1 month, total sum around 10 thousand US Dollars) on the same basis as everyone else.</td><td>The Work Plan was approved in general at the first PSC meeting (December 2014). It was further adjusted based on comments and a revised version was shared with all PSC members for comments and review—with approval on a non-objection basis – i.e. the Work Plan is approved.</td></tr>
<tr><td>NTUU "KPI" will ensure timely reporting to UNIDO of all financial transactions concluded by the PMU.</td><td>NTUU "KPI" do not have any access to information about the financial transactions conducted by the PMU, with the exception mentioned above.</td><td>Currently UNIDO does not have an opportunity to channel the funds for PMU activities through NTUU "KPI." It applies once the sub-contract is in place.</td></tr>
</table>
NTUU "KPI" has additionally indicated that because of one-time contracts of one-year duration, NTUU "KPI" cannot fulfill its in-kind commitment of USD600,000 dated 07 November 2013 and included in the prodoc. Further, project has not submitted a plan (and volume / size) of purchases, works and services, it cannot enjoy tax concessions as stipulated in the MinEDT Registration.

According to NTUU "KPI": "the successful implementation of the project requires the establishment of proper communication between NTUU "KPI" and UNIDO.
</td></tr>
<tr><td>2</td><td>11 Feb. 2016</td><td>
Ministry of Economic Development and Trade letter (signed by Mr. Nefyodov) to UNIDO with the following concerns:
– No feedback from PMU on two official inquiries as of 05 May 2015 and as of 15 July 2015.
– The only PSC Meeting was in 2014 and no information is given on the next one to the Ministry's representatives.
</td></tr>
<tr><td>3</td><td>08 Mar. 2016</td><td>
UNIDO's response to NTUU "KPI"s letter dated 10 February 2016 and signed by the Rector Mr. Zgurovsky, highlighting the following:
– As it was agreed between Rector Mr. Zgurovsky of NTUU "KPI" and UNIDO/PM, on 22 September 2015, the draft TOR of a subcontract was submitted to NTUU "KPI".
– NTUU "KPI"s review of that TOR is still pending since 04 November 2015.
– Draft subcontract offer for PMU Financial Support is expected to be proposed by NTUU "KPI".
– The registration of the project at the MinEDT has been completed.
</td></tr>
</table>

#	Date	Description and summary content
4	08 Mar. 2016	UNIDO's response to the letter of Ministry of Economic Development and Trade dated 06 March 2016 (signed by Mr. M. Nefyodov) highlighting the following: – Progress made with respect to the progress of project implementation: • Technical translation of the ISO 50001 Series Standards into Ukrainian is almost completed. • National EnMS and ESO training programme is under way. • ISO Certification Auditor Capacity-Building is delayed until April 2016. – There is continuous exchange between PMU and Mr. Vitkin and Ms. Musina from your Ministry. – Re. two letters of last year, inquiries were handled out in telephone conversation and in the letter addressed to the Ministry on 16 July 2015. – Ukrainian website published defamatory accusation addressed to UNIDO and PM on 25 February 2016. These are unacceptable. (The publication can still be found through automatic re-directing from initial address to <http://theformat.com.ua/ny.-dolariv-shho-nadsylaye-ukrayini-oon/)>
5	24 Mar. 2016	NTUU "KPI" letter to DG/UNIDO Mr. Li Yong (signed by Mr. Zgurovski) indicating that NTUU "KPI" fulfilled its obligations according to MOU of May 2015: – Provided offices to PMU within the Institute of Energy Saving and Energy Management; – Provided the host domain kpi.ua to accommodate web platform of the UNIDO project; – Provided space to host seminars and trainings (19 May 2015 and 14-15 September 2015 in Kyiv and in Odessa, Zaporozhye and Kharkov). On the other hand, UNIDO did not fulfill its obligations: 1. Regulations of the Project Steering Committee (supervisory board?) has not been approved by UNIDO and sent to NTUU "KPI" as per Project Management article of the Prodoc); 2. Subcontract between NTUU "KPI" and UNIDO for the financial support of PMU has not been signed. As the result: • The Financial Services of the University was unable to open a sub-account to handle the funds which were sent to PMU by UNIDO; • NTUU "KPI" could not prepare a plan for the purchase of goods and services which would enable the VAT refunds. 3. NTUU "KPI" was offered to perform in degraded capacity as partner responsible for technical maintenance only (instead of its natural and primary capacity of educational and expert institution as specified in the Prodoc.) 4. The main problem: media accusations of Messrs. James New and Alexey Paschenko harmed the reputation of NTUU "KPI" and NTUU "KPI" wants to leave the project. NTUU "KPI" can only return to the project if UNIDO conducts a financial audit (having results thereof available to the public in order to neutralize current negative project perception by mass audience) and a subcontract is signed between NTUU "KPI" and UNIDO.
6	26 Apr. 2016	NTUU "KPI" to UNIDO (signed by Executive Rector Mr. Yu Yakymenko). Refers to Article 5 of the MOU dated 08 June 2015 and gives **6 months' notice to terminate the MOU (calculated termination 26 October 2016).**
7	17 May 2016	NTUU "KPI" internal memo requesting the emptying of the rooms which were allocated to PMU since 14 January 2014.
8	19 May 2016	NTUU "KPI"s official request (signed by Mr. Denysyuk) to empty the facilities communicated to PMU.

#	Date	Description and summary content
9	24 May 2016	Ministry of Economic Development and Trade notice (signed by Mr. Nefyodov) to UNIDO with the following concerns: – Key tasks of the Project remain underperformed; – NTUU "KPI" as recipient has provided its negative appraisal to UNIDO with a request to review the Project; – NTUU "KPI" informed UNIDO that it terminated the MOU; – Submits the proposal to conduct an independent evaluation of the Project's results and operation; – Requests UNIDO (due to the high importance of the Project) to reconsider to strengthen its project management.
10	19 Jul. 2016	E-mail communication from NTUU "KPI" (signed by Mr. Denysyuk) to PMU with the statements: – Project performance was unsatisfactory as NTUU "KPI" mentioned earlier to UNIDO on 26 Apr 2016. – MOU was terminated by NTUU "KPI" as it was communicated to UNIDO on 26 April 2016. – Semi-annual report submitted by PMU to the Project contain false information as to the Project structure, NTUU "KPI"s Institute involvement, PMU location and SC composition. – NTUU "KPI" requests the withdrawal of that report dated 06 June 2016 and does not accept the false information provided therein.
11	21 Jul. 2016	KPI requests the Ministry of Economic Development that the letter (prepared by Mr. S. Denysiuk and signed by Mr. S. Sydorenko, Vice Rector) to be officially sent to UNIDO. UNIDO received the letter on 01 Aug. 2016: – Reference to NTUU "KPI" letter to UNIDO dated 24 March 2016, numbered 0330/113 in which UNIDO was informed that PSC (Project Screening Committee) rules and regulations were not approved by UNIDO and sent to NTUU "KPI". Also requested was to conduct a financial audit of the project and to make its results available to Ukrainian public. NTUU "KPI" warned that the situation damages the image of the institution and NTUU "KPI" could not continue to take part in the project. – Reference to NTUU "KPI" letter dated 26 April 2016, numbered 0330/170 in which NTUU "KPI" declared that it terminated the MOU dated 06 August 2015 and withdrew from the project. – Reference to the related letter of Ministry of Economic Development and Trade to UNIDO dated 24 May 2016 on the same issues. – Reference to letter of PMU dated 06 June 2016 sent to NTUU "KPI" about the semi-annual report in which the address of PMU as "03056 Kyiv, Borschagivska st. 115/3, Bld. No. 22 NTUU "KPI" Room #313" is wrong. Also, the information that NTUU "KPI" Rector M. Zgurovsky is the Chairman of the PSC is wrong since the PSC was not approved by UNIDO. – This letter informs UNIDO that since NTUU "KPI" has withdrawn from the project and UNIDO did not undertake a financial audit of the project, NTUU "KPI" recalls back its letter dated 11 July 2013 numbered 0330/413 concerning in-kind contribution of NTUU "KPI" to the project UKR IEE 120321.

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