JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM
Version 01 - in effect as of: 15 June 2006

CONTENTS

SECTION A. General description of the project

A.1. Title of the project:

EC Chernivtsioblenergo PJSC power distribution system modernization.

Sector: (2) Power distribution.

Version 4.0.

Date of the document: 06/03/2012.

A.2. Description of the project:

The main purpose of the Joint Implementation project "EC Chernivtsioblenergo PJSC power distribution system modernization" is the realization of the technical reconstruction of power grid and equipment program, implementation of the advanced technologies, improvement of organizational structure, transition to a higher level of organization of transmission and distribution of electric energy.

Implementation of the measures under the Project will allow for improvement of the reliability and effectiveness of the electric power distributive network in Chernivtsi city and its region, as well as enhancing the quality of consumer service. Furthermore, realization of the measures envisaged by the Project will help to reduce the amount of power losses at EC Chernivtsioblenergo PJSC power distribution and transmission grids. Therefore in its turn it will enable to reduce the amount of electricity generated and, consequently, the respective emissions of greenhouse gases into the atmosphere.

Situation at the beginning of the project activity

Public Joint Stock Company Chernivtsioblenergo power supply company (EC Chernivtsioblenergo PJSC) is an integral part of the Unified Energy System (UES) of Ukraine, which ensures continuous and reliable electric energy supply to the consumers from Chernivtsi region under the regulated tariffs.

At the beginning of the project, (in 2002) EC Chernivtsioblenergo PJSC has been carrying out only the measures aimed at the maintaining of power grid in good working order. Generally, these measures included repair works on eliminations of breakdowns occurring during the operation of power grid. That resulted in 34.45% power losses at EC Chernivtsioblenergo PJSC grids out of the total amount of the electricity transmitted to the network as of 2002.

Most of the equipment that has been in operation in the grids of EC Chernivtsioblenergo PJSC at that time was already physically obsolete, but because of the insufficient financing and operating reserves of existing equipment, it could be operated further. Besides, changing of the existing situation could be possible not only in the case of engineering networks modification, but also through the improvement of Company's organizational structure, which also required additional financing and human resources.

Possibility of selling emission reduction units became one of the key factors to start the realization of the program aimed at the reduction of power losses in the EC Chernivtsioblenergo PJSC power grid.

Project scenario

Joint Implementation project is based on the implementation of "EC Chernivtsioblenergo PJSC power distribution system modernization" Program, introduced and financed since the period end of 2003 - beginning of 2004, which includes a set of measures aimed at the preventing of excess power losses.

Measures taken within this Program (see Section A.4.2 below), as well as implementation and performance of regular monitoring of possible sources of power losses and their prevention, let EC Chernivtsioblenergo PJSC reduce losses in the grid up to 32.09% out of the total amount of electric energy, that had come into the company's distributive network.

Baseline scenario

Baseline scenario assumes further use of existing equipment along with performing of routine maintenance and repair works without significant investment. Justification of baseline scenario is provided in Section B.

History of a project

21/02/2002 – "EC Chernivtsioblenergo PJSC Executive Board Resolution on the development and implementation of the TPL Reduction Program" (Protocol #8). This date is considered to be the date of qualifying this project as JI Project.

June 2002 - start of the works on the program of TPL reduction in the power grid of EC Chernivtsioblenergo PJSC.

04/05/2011 - signing of a contract for PDD preparation.

Benefits of the project

Besides the reduction of greenhouse gas emissions, implementation of "EC Chernivtsioblenergo PJSC power distribution system modernization" Program under the project has the following benefits:

- Increase of employment opportunities in relation to the introduction of new equipment into service, construction and renovation of enterprise's facilities;
- Reduction of hazardous pollutants emissions due to the electric energy generation cut down as a result of electric power losses reduction in the grid;
- Production cost reduction.

Realization of Joint Implementation project will ensure the greenhouse gas emissions reduction by cutting back on electric power generation supplied to the EC Chernivtsioblenergo PJSC networks. In such a way, project realization will result in the greenhouses gas emissions reduction and prevention of their further atmospheric concentration, which, in its turn, will speed down climate changes.

A.3. Project participants:

Party involved	Legal entity project participant (as applicable)	Please indicate if the Party involved wishes to be considered as project participant (Yes/No)
Ukraine (Host Party)	EC Chernivtsioblenergo PJSC	No
Switzerland	Carbon Management Company GmbH	No

Public Joint Stock Company Chernivtsioblenergo power distribution company (EC Chernivtsioblenergo PJSC) is an integral part of the Unified Energy System (UES) of Ukraine, which ensures continuous and reliable electric energy supply to the consumers from Chernivtsi region under the regulated tariffs.

Production activity after Classification of economic activities:

- Power generation and distribution
- Power distribution and supply

- Engineering activities

OJSC EC Chernivtsioblenergo was founded as an open join stock company according to the Decree of President of Ukraine #282/95 dtd. 04/04/1995 "On structural reorganization in energy complex of Ukraine" in the scope of corporatization, and then according to the Decree of Ministry of energy and electrification of Ukraine dtd. 21/07/1995 #157 it was corporatized from State Power Supply Enterprise "Chernivtsioblenergo" into Power Supply State Joint Stock Company "Chernivtsioblenergo" (SJSC EC "Chernivtsioblenergo") and further reorganized into Power Supply Open Joint Stock Company "Chernivtsioblenergo" (OJSC EC "Chernivtsioblenergo") which has become a legal successor of all rights and duties, which means a legal entity which carries out entrepreneurial activity and belongs to the strategic enterprises.

By the decision of the General Meeting of shareholders, taking place 17/03/2011 OJSC EC "Chernivtsyoblenergo" was reorganized into Power Supply Public Joint Stock Company "Chernivtsyoblenergo" (PJSC EC "Chernivtsyoblenergo").

Carbon Management Company GmbH (Carbon Management Company) was established in Switzerland to provide complete package of services related to JI mechanism starting from carbon audit of the possible project and finishing by provision of the brokerage services on emission reduction units. Carbon Management Company is a potential buyer of emissions reduction units generated under current project..

A.4. Technical description of the project:

A.4.1. Location of the project:

The project is being implemented at the site of EC Chernivtsioblenergo PJSC situated in Chernivtsi and its region, in the west of Ukraine. Area of the region is 8.097 thousand sq. km (1.34% of the territory of Ukraine). Population – 906 th. people (as of January 1, 2009).

A.4.1.1. Host Party(ies):

Ukraine

A.4.1.2. Region/State/Province etc.:

Chernivtsi region

A.4.1.3. City/Town/Community etc.:

Chernivtsi

A.4.1.4. Detail of physical location, including information allowing the unique identification of the project (maximum one page):

Figure 1. Location of Chernivtsi region (•) on the map of Ukraine

Figure 2. Chernivtsi city (•) on the map of Ukraine

A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the project:

Public Joint Stock Company Chernivtsioblenergo power supply company (EC Chernivtsioblenergo PJSC) is an integral part of the Unified Energy System (UES) of Ukraine, which ensures continuous and reliable electric energy supply to the consumers from Chernivtsi region under the regulated tariffs.

At the beginning of the project (in 2002), EC Chernivtsioblenergo PJSC has been carrying out only the measures aimed at the maintaining of electric grid in good working order. Generally, these measures included repair works on eliminations of breakdowns occurring during the operation of electric grid. That resulted in 34.45% power losses at EC Chernivtsioblenergo PJSC grids out of the total amount of the electricity that was coming to the network as of 2002.

The main purpose of the Joint Implementation project at EC Chernivtsioblenergo PJSC is the realization of *the Program of the technical reconstruction* through the introduction of advanced technologies for production process, improvement of organizational structure, transition to a higher level of organization of transmission and distribution of electric energy by attraction of investments.

Joint Implementation project is based on the implementation of *"EC Chernivtsioblenergo PJSC power distribution system modernization" Program*, which has been financed since 2004 within *the Program of the Prospective development of EC Chernivtsioblenergo PJSC*, which includes organizational and technical activities aimed at the reduction of TPL (*power grid system, electricity metering and electric current control systems*).

Prospective development program includes:

- providing of technical support to increase the operating lifetime of working equipment over the estimated one, installation of system for equipment diagnostics and its residual operating time forecast;
- implementation of organizational and technical measures for technological power losses reduction;
- reconstruction and renovation of power grids and replacement of outdated equipment;
- attraction of investments for the development and achievement of high technical and economical level of the Company;
- increase of power supply reliability level for consumers of the region;
- installation of automatic system for commercial accounting of power consumption (ASCAPS) across the territory of power supply company, consumers and substations;
- realization of complex technical power losses reduction Program;
- modernization of working equipment within the framework of power grids development investment programs.

The Project envisages the development of TPL control system (*energy rating, energy audit and energy management*) in the Company in order to implement a number of organizational and technical measures, as well as measures aimed at development and improvement of methodological support for TPL reduction during realization of licensable types of activity in terms of power distribution and supply, namely:

1. For processes of power transmission:

1.1. Organizational measures of methodological support.

1.1.1. External audit and organization of regular internal audit of power transmission (power grid systems, power accounting and power current and electric energy balances control).

1.1.2. Creation of a technical database (a list and specifications of all components and charts of normal operation modes) of the Company's power grid conforming to annual and monthly operation reports.

1.1.3. Implementation of a software system of feederwise (componentwise) calculation and analysis, and optimization of TPL in 110-35 and 10-6-0.38 kV grid components for localization of inadmissible TPL.

1.1.4. Development of a planning, organization and control (monitoring) system to proceed organizational and technical activities aimed at reduction of TPL during power supply process.

1.1.5. Setting up and operation of a separate departments within the Company which would specialize in carrying out the work related to the control and implementation of measures directed at the reduction of TPL while power transmission processes (energy audit and accounting department, measuring laboratory, etc.).

1.1.6. The introduction of institutional mechanisms of collective and personal responsibility of the Company's employees for the reduction of TPL in the company's grid on the objective basis.

1.1.7. The introduction of motivation mechanisms for economic and moral stimulation of the Company's employees to perform tasks on reduction of the technical component of TPL.

1.1.8. Other actions aimed at improvement of TPL control while power transmission processes.

1.2. Organizational and technical measures:

1.2.1. Switching off the transformers during low load operation mode for PS-110/35/10 kV and TP/RP-10/6 0.4 kV substations.

1.2.2. Switching off the transformers at PS-110/35/10 kV and TP/RP-10/6 0.4 kV substations with seasonally changing load.

1.2.3. Regular monitoring and phase load balancing in 0.38 kV power grids.

1.2.4. Modernization of engineering software tools of real-time operations control automatization – operative-information complex (OIC), telemetry link measurement system, t remote signal system in the Company's control centre – in 110-35 and 10-6- 0.38 kV power grids.

1.2.5. Optimization of power grid normal operation modes.

1.2.6. Reduction of inefficient distribution and supply system operation time by reducing the duration of maintenance and repair works.

1.2.7. Reduction of power consumption to the Company's departments needs.

1.2.8. Reduction of power consumption to the needs of PS-110/35 kV and TP/RP-10/6 0.38 kV.

1.2.9. Other actions aimed at reduction of TPL while power transmission processes.

1.3. Technical measures:

1.3.1. Wire replacement on overloaded power lines PL-110-35 kV and PL-10-6-0.38 kV.

1.3.2. Replacement of over- and underloaded 110/35/10 kV and 10/6/0.38 kV transformers.

1.3.3. Installation of new transformers at the working PS 110/35 kV and TP-RP 10/6/0.38 kV.

1.3.4. Replacement of 110/35/10 kV and 10/6/0.38 kV obsolete transformers with high losses.

1.3.5. Optimization of 110-35 kV and 10/6/0.38 kV power grid loading within reconstruction.

1.3.6. Reconstruction and disaggregating of PL-110/35 kV and PL 10-0.38 kV;

1.3.7. Cleaning of PL-110/35 kV and PL 10/6/0.38 kV path flow.

1.3.8. Replacement of wiring at PL-110/35 kV and PL 10/6/0.38 kV.

1.3.9. Reinforcement of insulators, replacement of bindings at PL-110/35 kV and PL 10/6/0.38 kV.

1.3.10. Replacement of twisting by clipping at PL-110/35 kV and PL 10/6/0.38 kV.

1.3.11. Installation of 10/6/0.38 kV PTS lead caps.

1.3.12. Installation of RLND apparatus clips.

1.3.13. Insulation cleaning at PL-110/35 kV and PL 10/6/0.38 kV.

1.3.14. Checking and improvement of grounding devices at PL-110/35 kV and PL 10-0.38 kV.

1.3.15. Checking and improvement of grounding devices at TP/RP-10/6/0.38kV.

1.3.16. Shortening of PL-110/35 kV and PL 10-0.38 kV.

1.3.17. Replacement of taps (input) from PL-0.38 kV to buildings.

1.3.18. Measurement of short-circuit current, replacement of switching units and fuzes, which don't correspond to the present regulations.

1.3.19. Optimization of contact joints, remote temperature control of contact joints and insulation using thermal imagers and pyrometers.

1.3.20. Installation of reactive power cross compensation device in 110-35-10-6-0.38 kV power grids and reduction of higher harmonics.

2. Organizational measures for power supply processes:

2.1. Organizational measures of methodological support:

2.1.1. External audit and organization of continuous internal audit of power supply processes (power grid systems, power accounting and power current and electric energy balances control).

2.1.2. Development of a planning, organization and control (monitoring) system to proceed organizational and technical activities aimed at reduction of TPL during power supply process.

2.2. Organizational and technical measures:

2.2.1. Complete accounting of technological power losses in the grids components, which are located between the measuring points and the line of the independent balanced grids with the participants of the Wholesale Energy Market (WEM) and the customers of the Company.

2.2.2. Stimulating the consumers (citizens and legal entities) of the Company to switch to the tariffs based on the time zones differences, in order to balance the power consumption schedules during the peak loads.

2.3. Technical measures:

2.3.1. Installation of insulated lead-ins in dwelling houses.

2.3.2. Improvement of inner networks in a multistoried houses (fastening the contacts grounding devices, replacement of wire with cross-section inconsistent with the actual flows of electricity supply).

2.3.3. Replacement of electric meters with transformer connection to the direct-flow meters with removing of the measuring transformers out of the power accounting units.

2.3.4. Installation of ASCAPS to legal entities.

2.3.5. Implementation of SMART-system of power supply accounting automatization to individual customers.

2.3.6. Introduction of ASCAPS on the at the boundary point of networks to WEM participants.

All mentioned above measures together with ongoing monitoring of possible sources of power losses and their prevention allowed EC Chernivtsioblenergo PJSC reduce technical power losses in their own electric grids from 38.89% (in 2001) to 21.30% (in 2010) out of the total amount of electric power that has been transferred into the network.

Technological power losses reduction in the grids allowed the Company reduce CO_2 emissions, that were caused by the electric power generation that was lost.

Duration of the project is unlimited, since the measures taken to identify and eliminate inadmissible TPL in the components and feeders of power grids, power sites and electric networks districts, as well as to reduce the total amount of report technological power losses in the EC Chernivtsioblenergo PJSC electric networks, are considered to be ongoing and continual process. CO_2e emissions reduction is affirmed to last one crediting period (22 years) according to the modalities and procedures of the JI Mechanism (3).

A.4.3. Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances:

Project implementation will ensure the greenhouse gas emissions reduction through the power generation cut down in the national network.

At the start of the Project realization (in 2003), there were a number of regulations (the Law on Energy saving) aimed at the stimulation of power generating and power supplying companies to implement the power conservation activities. However, these regulations mostly had formal character and were ineffective.

Implementation of the proposed project requires significant funding. At present, project financing on the domestic market is available on a short-term conditions (up to three years) including high interest rates. In turn, low international ratings of Ukraine make significant complications for Ukrainian companies to receive a funding on the international finance market. Possibility to receive an additional income due to the ERUs sale has become one of the main factors for the enterprise owners in taking the decision to invest the proposed project. ERUs generation has been already taken into consideration before the decision on investing the project was approved at the stage of project master plan development.

Additional income generated by JI mechanism use will positively influence the Project's economic indexes. JI project implementation will raise internal rate on profitability and reduce the project payback period.

Most of the equipment that has been in operation in the grids of EC Chernivtsioblenergo PJSC at that time was already physically obsolete, but because of the insufficient financing and operating reserves of existing equipment, it could be operated further. Besides, changing of the existing situation could be possible not only in the case of engineering networks modification, but also through the improvement of Company's organizational structure, which also required additional financing and human resources.

A.4.3.1. Estimated amount of emission reductions over the crediting period:

Emission reduction calculations are provided in the Excel file *20120306_ChOE_ER.xls*.

Table 1.Emissions reduction over the crediting period 2004–2007

	Years
Length of the **crediting period**	4
Year	**Estimate of annual emission reductions in tonnes of CO_2 equivalent**
2004	32 074
2005	31 219
2006	42 083
2007	105 272
Total estimated emission reductions over the crediting period (tonnes of CO_2 equivalent)	**210 648**
Annual average of estimated emission reductions over the crediting period (tonnes of CO_2 equivalent)	**52 662**

Table 2. Emissions reduction for the crediting period 2008 – 2012

	Years
Length of the crediting period	5
Year	**Estimate of annual emission reductions in tonnes of CO_2 equivalent**
2008	167 129
2009	196 108
2010	166 570
2011	176 504
2012	176 504
Total estimated emission reductions over the crediting period (tonnes of CO_2 equivalent)	**882 815**
Annual average of estimated emission reductions over the crediting period (tonnes of CO_2 equivalent)	**176 563**

Table 3. Emissions reduction for the crediting period 2013 - 2025

	Years
Length of the **crediting period**	5
Year	**Estimate of annual emission reductions in tonnes of CO_2 equivalent**
2013	176 504
2014	176 504
2015	176 504
2016	176 504
2017	176 504
2018	176 504
2019	176 504
2020	176 504
2021	176 504
2022	176 504
2023	176 504
2024	176 504
2025	176 504
Total estimated emission reductions over the crediting period (tonnes of CO_2 equivalent)	**2 294 552**
Annual average of estimated emission reductions over the crediting period (tonnes of CO_2 equivalent)	**176 504**

A.5. Project approval by the Parties involved:

The project has been officially approved by the Ukrainian and Switzerland authorities. Letter of Approval for the project #3445/23/7 from 24/11/2011 has been issued by the State Environmental Investment Agency of Ukraine. The Letter of Approval #J294-0485 from 23/03/2012 has been issued by Federal Department of the Environment, Transport, Energy and Communications of Switzerland.

SECTION B. Baseline

B.1. Description and justification of the baseline chosen:

Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0) was used for setting of the baseline scenario and demonstration of additionality.

Baseline is identified on the basis of the following four Steps:
STEP 1: Identification of alternative scenarios
STEP 2: Barrier analysis
STEP 3: Investment analysis (if applicable)
STEP 4: Common practice analysis

Step 1: Identification of alternative scenarios
Sub-step 1a: Define alternative scenarios to the proposed JI project activity
There are only two alternatives, which are considered as the most plausible for the proposed project activity.
Alternative A: Continuation of the existing situation.
Alternative B: Implementation of the proposed project activity without the project registration as JI project.

Partial implementation of the Power losses reduction program within the EC Chernivtsioblenergo PJSC networks will considerably decrease the outcome effect of the project. Therefore, this scenario cannot be considered as an alternative to the proposed project activity.

Outcome of Sub-step 1a: There were two plausible alternatives identified. The list of the alternatives is presented above.

Sub-step 1b: Consistency with mandatory applicable laws and regulations
At the start of the Project realization (in 2003), there were a number of regulations (the Law on Energy saving) aimed at the stimulation of the power generating and power supplying companies to implement the power conservation activities. However, these regulations mostly had formal character and were ineffective. This fact is proved by the constant increase of electric power losses that were observed in the network of PJSC Chernivtsioblenergo PJSC before the start of the project.

Outcome of Sub-step 1b: All proposed alternatives are in compliance with applicable laws and regulations.

Step 2: Barrier analysis
Sub-step 2a: Identifying the barriers that would prevent the implementation of alternative scenarios
Alternative A: Continuation of the existing situation. This scenario does not face any barriers.
Alternative B: Implementation of the proposed project activity without its registration as JI project.

Investment barriers: The project activity within the framework of the proposed Project is an ongoing process, which requires considerable annual investments and human resources.

This is connected with:
- annual update of electrotechnical equipment nomenclature represented in the Ukrainian market;
- need in ongoing monitoring of places of power losses, their elimination and prevention of their occurring;
- need in ongoing stuff training to work with the new equipment.

Constant funding in Ukraine is possible only in case of financial attractiveness of the project. The current system of electric power tariff formation shifts the financial burden of electricity losses to the final consumers and does not allow for receiving the income from their reduction.

The access to the financial resources on the international market is extremely limited for the proposed project. The investment environment of Ukraine is rather unattractive in comparison to the neighboring countries. Such situation is confirmed by the sovereign rating status of Ukraine estimated by the Fitch agency in comparison with some neighbor countries of the Eastern Europe shown below :

- Ukraine B-
- Poland A-
- Hungary BBB
- Slovakia A+

Taking into account the considerable volume of capital investments needed for the realization of the proposed project, obtaining the funding from the international institutions may be rather difficult. Funding possibilities on the national level are also quite limited. At the time of the Project starting, commercial banks of Ukraine grant project financing at about 30% annually in the national currency on a three-year term. Example of the largest bank institutions of Ukraine is: Raiffaizen Bank Aval (www.aval.ua), Pryvatbank (www.privatbank.com.ua), Pravex Bank (www.pravex.com.ua).

Taking into consideration all that is mentioned above, the funding of the project is possible only under the condition of funds attraction from the sale of greenhouse gas emissions reduction units.

Technological barriers: At the time of the Project starting the organizational structure and the infrastructure of the Company did not allow the implementation of the project without its considerable reorganization. The introduction of the Project is connected with a considerable risk of failure, as it is impossible to calculate the precise effect from the realization of these or those measures, and its performance can be estimated only after some time following its introduction.

Outcome of Sub-step 2a: List of barriers is provided above.

Sub-step 2b: Elimination of alternative scenarios, which are prevented by the identified barriers

Only *Alternative A* is not prevented by the identified barriers.

Outcome of Step 2b: Only *Alternative A* is not prevented by the identified barriers.

Step 3: Investment analysis

For the justification of the baseline scenario and additionality demonstration barrier analysis was used.

Outcome of Step 3: Not applicable.

Step 4: Common practice analysis

Most of similar projects were implemented with grants and other non-commercial finance terms (for example JI incentive). The generally accepted practice in Ukraine at the beginning of the project implementation was the operation of work performance in the volume necessary for maintaining the networks in a good working condition and activity focused on the reduction of electric power losses.

Outcome: Considering Alternative A mentioned above, it is the most plausible baseline scenario that does not face any barriers and is in consistency with Host Party common practice.

Key information and data used to establish the baseline:

Data/Parameter:	V_y
Data unit	MWh
Description	Total reduction of technical power losses in the distribution power grid over the period *y* of the project scenario compared to the baseline scenario
Time of determination/monitoring	Annually
Source of data (to be) used	Estimate by EES Ltd based on the statistical data of EC Chernivtsioblenergo PJSC using the approach similar to one used in the registered (ITL UA1000316) PDD "Khmelnytskoblenergo PJSC Power Distribution System Modernization" in accordance with the Article 9c of the Guidance On Criteria For Baseline Setting And Monitoring, Version 03. Calculations, made according to the methodology, are shown as an Excel file *20120306_ChOE_ER.xls*.
Value of data applied (for ex ante calculations/determinations)	161 930 MWh (for emission reduction estimate after 2010 the average value for 2008-2010 has been taken. See Excel file *20120306_ChOE_ER.xls*).
Justification of the choice of data or description of measurement methods and procedures (to be) applied	This parameter is an objective quantitative representation of the project implementation results.
QA/QC procedures (to be) applied	This parameter is identified according to the available regulations, rules and approved methodology based on the company's statistical data.
Any comment	

Data/Parameter:	GEF_y
Data unit	tCO_2e/MWh ($kgCO_2e/kWh$)
Description	Carbon dioxide emission factor for projects of power loss reduction in power supply networks of Ukraine
Time of determination/monitoring	Annually
Source of data (to be) used	Reference data
Value of data applied (for ex ante calculations/determinations)	For 2003[1] – 0.770 tCO_2e/MWh ($kgCO_2e/kWh$) For 2004[2] – 0.755 tCO_2e/MWh ($kgCO_2e/kWh$) For 2005[3] – 0.740 tCO_2e/MWh ($kgCO_2e/kWh$) For 2006-2007[4]– 0.807 tCO_2e/MWh ($kgCO_2e/kWh$) For 2008[5] - 1.082 tCO_2e/MWh ($kgCO_2e/kWh$) For 2009[6] - 1.096 tCO_2e/MWh ($kgCO_2e/kWh$) For 2010[7] - 1.093 tCO_2e/MWh ($kgCO_2e/kWh$) (See Appendix 2) For 2011-2025[8] - 1.090 tCO_2e/MWh ($kgCO_2e/kWh$)
Justification of the choice of data or description of measurement methods and procedures (to be) applied	Using such factors is a common practice when estimating JI projects.
QA/QC procedures (to be) applied	Only officially approved factors have been used for estimation.
Any comment	

Parameters required to be monitored are given in the tables D.1.1.1. and D.1.1.3 Section D.

B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project:

To determine the baseline and demonstrate additionality and applicability of the proposed JI project implementation "Combined tool to identify the baseline scenario and demonstrate additionality" was used (Version 03.0.0). The given tool use during the JI project development is the common practice.

According to this tool for the additionality demonstration of the proposed project, the barrier and common practice analysis were used. As a result of analyses performed, it was demonstrated that the most plausible baseline scenario is the continuation of the existing situation at the moment of project starting (2002). Therefore, the proposed project is not the baseline scenario and meets the principles of additionality.

More detailed description of "Combined tool to identify the baseline scenario and demonstrate additionality" implementation (Version 03.0.0) and additionality demonstration is provided in Chapter B.1 hereinbefore.

[1] http://ji.unfccc.int/CallForInputs/BaselineSettingMonitoring/ERUPT/index.html
[2] http://ji.unfccc.int/CallForInputs/BaselineSettingMonitoring/ERUPT/index.html
[3] http://ji.unfccc.int/CallForInputs/BaselineSettingMonitoring/ERUPT/index.html
[4] http://ji.unfccc.int/UserManagement/FileStorage/46JW2KL36KM0GEMI0PHDTQF6DVI514
[5] http://www.neia.gov.ua/nature/doccatalog/document?id=127171
[6] http://www.neia.gov.ua/nature/doccatalog/document?id=127172
[7] http://www.neia.gov.ua/nature/doccatalog/document?id=126006
[8] http://www.neia.gov.ua/nature/doccatalog/document?id=127498

B.3. Description of how the definition of the project boundary is applied to the project:

Project boundaries

The approach applied to the emission calculation takes into consideration only the CO_2 emissions occurred as a result of the electric power generation, required for the compensation of the power losses in the grid and in the distributing transformer stations, and in the substations of EC Chernivtsioblenergo PJSC. The boundaries of the project scenario are shown at the Figure 3 (outlined with dotted line).

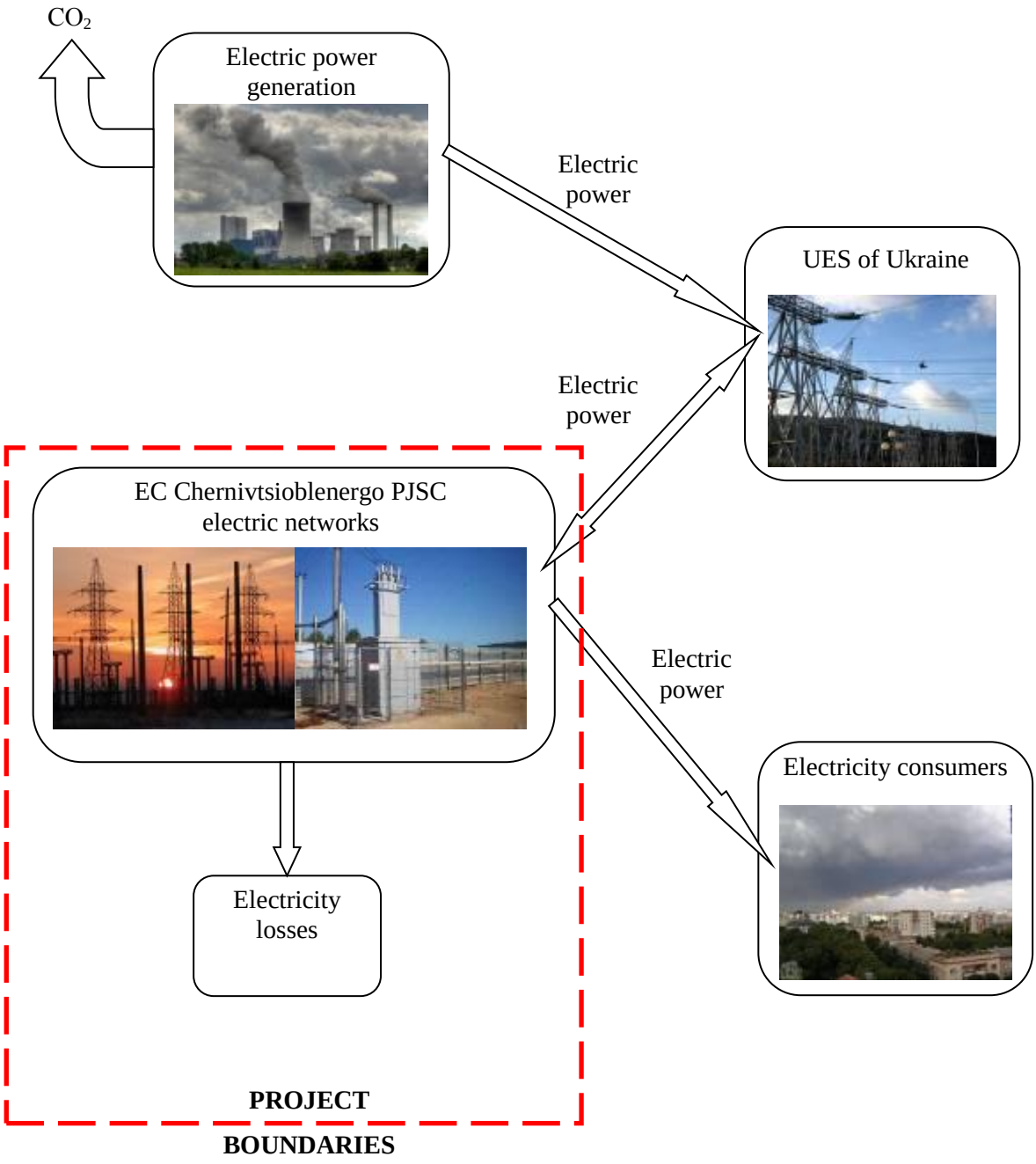

Figure 3. Project boundaries

The boundaries of the project and baseline match

Equipment within the project boundaries is given in the table below:

Name	Unit	Quantity	Capacity MVA
Power grid total length, incl.:			
air:	**km**	**17 130.41**	
110 kV	km	731.63	---
35 kV	km	512.26	---
10 kV	km	4775.73	---
6 kV	km	52.20	---
0.4 kV	km	11058.59	---
cable:	**km**	**392.78**	
10 kV	km	213.77	---
6 kV	km	71.35	
0.4 kV	km	107.66	---
Substation total number:			
110/35 kV	**pcs**	**72**	**866.0**
110 kV	pcs	37	724.5
35 kV	pcs	35	141.5
Transformer total number:			
110/35 kV	**pcs**	**111**	**866.0**
110 kV	pcs	59	724.5
35 kV	pcs	52	141.5
Substation total number:			
SCHTP, KTP, ZTP 6-10/0.4 kV	**pcs**	**3486**	**694.21**
Single-transformer SCHTP	pcs	13	2.053
KTP	pcs		
No transformers	*pcs*	*1*	-----
One transformer	*pcs*	*2876*	*426.24*
Two transformers	*pcs*	*2*	*1.15*
ZTP	pcs		
No transformers	*pcs*	--------	---------
One transformer	*pcs*	*378*	*113.96*
Two transformers	*pcs*	*216*	*150.81*
Transformer total number:			
10-6 kV	**pcs**	**3695**	**699.06**
Distribution plant total number 10kV:	**pcs**	**19**	**4.85**
No transformers	*pcs*	*9*	-------
One transformer	*pcs*	*4*	*1.3*
Two transformers	*pcs*	*6*	*3.55*

The list of the sources and the greenhouse gases that were included into the project boundaries is provided in Table 4.

Table 4. Sources of emissions and greenhouse gases included or excluded from the project boundary

	Source	Gas	Included/ Excluded	Justification/Explanation
Baseline emissions	Ukrainian UES electric power stations that consume fossil fuel.	CO_2	Included	Emission caused by combustion of the fossil fuel by the Ukrainian UES electric power stations for generation of electricity which is necessary to compensate the power losses in the power grids of EC Chernivtsioblenergo PJSC under the baseline scenario.
		CH_4	Excluded	Excluded for simplification
		N_2O	Excluded	Excluded for simplification
Project emissions	Emissions related to the equipment installed in the project.	SF_6	Excluded	Electronegative gas (SF_6) used in circuit breakers and other equipment of EC Chernivtsioblenergo PJSC is toxic and is listed as a gas, circulation and utilization of which is under the control of state environment organizations. Equipment containing electronegative gas is hermetically sealed and prevents leakage of gas into the atmosphere. In the case of its failure or decommissioning SF_6 will be collected and reused by filling in new similar equipment. Potential emissions do not exceed 1 tCO_2e per year. In connection with all the mentioned above, SF_6 emissions were excluded from the calculations.
	Ukrainian UES electric power stations that consume fossil fuel.	CO_2	Included	Emission is caused by combustion of the fossil fuel by the Ukrainian ECO electric power stations for generation of electricity which is required to compensate power losses in the electric grids of EC Chernivtsioblenergo PJSC after the reduction of the technological power consumption as a result of the project activity.
		CH_4	Excluded	Excluded for simplification
		N_2O	Excluded	Excluded for simplification

B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline:

Date of completion of the baseline setting - 25/10/2010.

Baseline was set by EES Ltd .

SECTION C. Duration of the project / crediting period

C.1. Starting date of the project:

Starting date of the project is June, 2002.

The investment program was approved on the basis of the EC Chernivtsioblenergo PJSC Executive Board resolution dtd. 21/02/2002. It assumes the measures aimed at the modernization and construction of power grids and substations as well as the reduction of technological power losses for 2002.

C.2. Expected operational lifetime of the project:

25 years (300 months) – the program includes regular realization of the measures aimed at the reduction of power loses in the power grid of EC Chernivtsioblenergo PJSC.

C.3. Length of the crediting period:

Duration period is 22 years (264 months):

- 2004-2007 – early financing period (the project foresees the utilization of emissions reductions achieved over the period before 2008 according to the Article 17 of the Kyoto protocol);
- 2008-2012 – crediting period (the first commitment period);
- 2013-2025 – the period after the first commitment period (extension of the crediting period after the 2012 requires the resolution of the Host Party).

ERUs generation period will start at 01/01/2008 and will not exceed the project operation period.

Crediting period start date - January 1st, 2004. The period ends on December 31st, 2025.

SECTION D. Monitoring plan

D.1. Description of monitoring plan chosen:

Data collected for monitoring will be archived electronically and/or in paper form. All measurements are being carried out with calibrated measuring equipment according to relevant industry standards.

The main parameter that objectively reflects CO_2 emissions reduction is an amount of reducing of technological power losses in power grid of EC Chernivtsioblenergo PJSC.

The main parameters monitored during the crediting period and parameters determined once for the entire crediting period and are not subject to monitoring are presented below. Other parameters not included in the monitoring are derived and should be calculated using the initial parameters.

The monitoring project emission includes such parameters:
Not applicable.

Parameters for the project emission calculated only once for the entire crediting period:
Not applicable.

Parameters for the project emission calculated only once for the entire crediting period:
Not applicable.

Parameters for the baseline emission monitoring:

V_y = Total reduction of technical power losses in the distribution power grid over the period *y* of the project scenario compared to the baseline scenario, MWh.

This parameter is defined according to the present regulations, rules and approved methodology based on the company's statistical data. This parameter is an objective quantitative representation of the project implementation results.

GEF_y = Carbon dioxide emission factor for projects of power loss reduction in power supply networks of Ukraine,tCO_2e/MWh.

This factor reflects objectively the specific carbon dioxide emissions associated with the power losses while its transmission. The use of such factors is common practice applied when calculating the projects associated with the generation, delivery or consumption of electric energy. In the calculations will be used only officially approved or determined factors.

Parameters for project emissions calculated only once for the entire crediting period:
Not applicable.

Scheme of data collection and data management is provided in Section D.3.

Verification of emission reduction units will be carried out on the basis of annual data. Carbon Management Company is responsible for preparation of documents and their submission to Accredited Independent Entities (AIEs).

D.1.1. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario:

D.1.1.1. Data to be collected in order to monitor emissions from the project, and how these data will be archived:

ID number *(Please use numbers to ease cross-referencing to D.2.)*	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment
1. PE_y	Project emission	Greenhouse gases emission monitoring	tCO_2e	c	annually	100 %	Electronic and paper	

D.1.1.2. Description of formulae used to estimate project emissions (for each gas, source etc.; emissions in units of CO_2 equivalent):

GHG emissions reduction will be achieved by reducing power losses in the Company's power grids, which in its turn will be achieved due to the project implementation.

Since the baseline emissions are calculated based on the difference between of power loss before and after the project implementation, consequently the project emission will equal to zero. $PE_y = 0$

D.1.1.3. Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and archived:								
ID number *(Please use numbers to ease cross-referencing to D.2.)*	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment
2. BE_y	Baseline emissions	Greenhouse gases emission monitoring	tCO_2e	c	annually	100 %	Electronic and paper	
3. V_y	Power loss reduction in power distributive network over the period *y*	Greenhouse gas emission monitoring	MWh	c	annually	100 %	Electronic and paper	Calculated in line with approved methodology ($V_y = \Delta A_{ALamount}^{emissions}$, see Annex 3)
4. GEF_y	tCO_2e emission factor in UES of Ukraine for the power replacement projects in the year *y*	Default value	tCO_2e/MWh	e	annually	100%	Electronic and paper	

D.1.1.4. Description of formulae used to estimate baseline emissions (for each gas, source etc.; emissions in units of CO_2 equivalent):

Therefore, the baseline emissions are:

$$BE_y = V_y \cdot GEF_y, \quad (1)$$

where

BE_y = Baseline emissions, tCO_2e;

V_y = Total technological power losses reduction in the power distributive network over the period *y* under the project scenario compared to the baseline, MWh;

GEF_y = CO_2 emission factor in UES of Ukraine for the power replacement projects in year *y*, tCO_2e/MWh;

y = Year in which calculations are made.

D. 1.2. Option 2 – Direct monitoring of emission reductions from the project (values should be consistent with those in section E.):

Not applicable

D.1.2.1. Data to be collected in order to monitor emission reductions from the project, and how these data will be archived:

ID number *(Please use numbers to ease cross-referencing to D.2.)*	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment

D.1.2.2. Description of formulae used to calculate emission reductions from the project (for each gas, source etc.; emissions/emission reductions in units of CO_2 equivalent):

Not applicable

D.1.3. Treatment of leakage in the monitoring plan:

Increase of the greenhouse gas emission outside the project, which may be caused by the project is not anticipated.

D.1.3.1. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project:								
ID number *(Please use numbers to ease cross-referencing to D.2.)*	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment

D.1.3.2. Description of formulae used to estimate leakage (for each gas, source etc.; emissions in units of CO_2 equivalent):

The project does not envisage any activity, which would result in leakages.

D.1.4. Description of formulae used to estimate emission reductions for the project (for each gas, source etc.; emissions/emission reductions in units of CO_2 equivalent):

Emissions reductions are calculated as follows:

$$ER_y = BE_y - (PE_y + LE_y), \quad (2)$$

where
ER_y = Emission reduction during the year y, tCO_2e;
BE_y = Baseline emission of the greenhouse gases in the year y, tCO_2e;
PE_y = Greenhouse gases emission caused by the project activity in the year y, tCO_2e;
LE_y = Leakages emission in the year y, tCO_2e.

D.1.5. Where applicable, in accordance with procedures as required by the Host Party, information on the collection and archiving of information on the environmental impacts of the project:

The project implementation does not require collection of information in terms of the influence on the environment in excess of information collected at the company prior to the project.

D.2. Quality control (QC) and quality assurance (QA) procedures undertaken for data monitored:		
Data *(Indicate table and ID number)*	Uncertainty level of data (high/medium/low)	Explain QA/QC procedures planned for these data or why such procedures are not necessary.
Table D.1.1.3. #3	low	Defined on the basis of the company's statistical data and using the approach similar to one used in the registered (ITL UA1000316) PDD "Khmelnytskoblenergo PJSC Power Distribution System Modernization" in accordance with the Article 9c of the Guidance On Criteria For Baseline Setting And Monitoring, Version 03.
Table D.1.1.3. #4	low	Only officially approved factors are used for calculations.

D.3. Please describe the operational and management structure that the project operator will apply in implementing the monitoring plan:

The monitoring plan does not anticipate any additional measures, neither of any measuring equipment installation, nor of any additional parameters collection, except for those that are being taken in the Company.

Data collection scheme according to the monitoring plan is shown on the Figure 4.

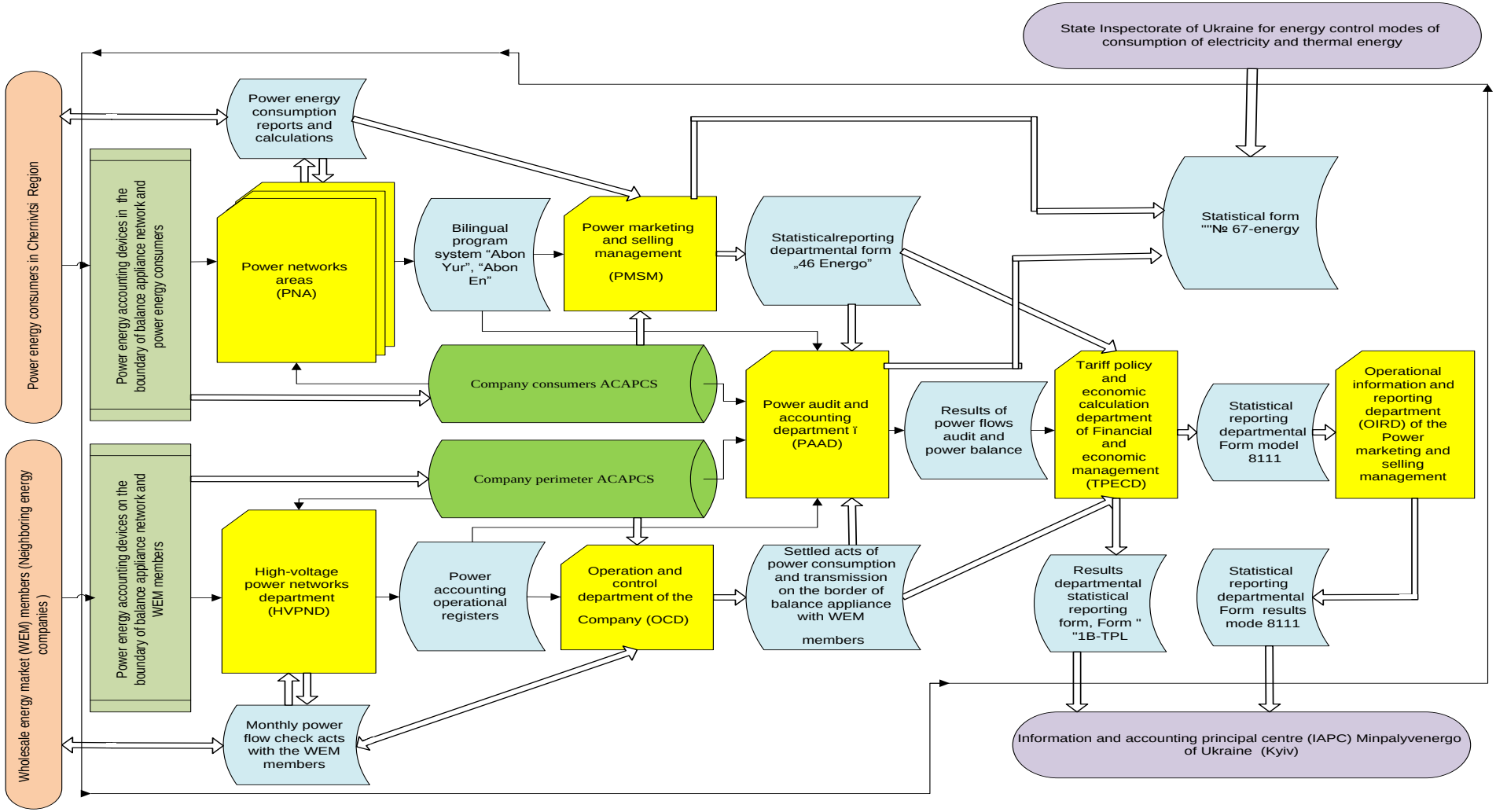

Figure 4. Scheme of data collection for the monitoring of the project parameters

Reduction of power losses in the grids of EC Chernivtsioblenergo PJSC is calculated on annual basis by the specialists of the technical consultant (Carbon Management Company), on the basis of statistical data of the company and using the approach similar to one used in the registered (ITL UA1000316) PDD "Khmelnytskoblenergo PJSC Power Distribution System Modernization" in accordance with the Article 9c of the Guidance On Criteria For Baseline Setting And Monitoring, Version 03.

To calculate the monthly balance of power in EC Chernivtsioblenergo PJSC such steps are taken:

- during the whole billing month the structural units of EC Chernivtsioblenergo PJSC measure the amount of power consumed by the customers (on the basis of readings of the calculation meters - this information of the readings from the electricity meters is the data provided by the consumers, control readings taken by the company workers, who take the readings from the power meters, ASCAPS data). After the end of billing month, the monthly amount of productive supply is being calculated and then transmitted to the power accounting and sale service of the Company's management apparatus;

- during the entire billing month EC Chernivtsioblenergo PJSC on the basis of ASCAPC data taken within the Company controls the power bought on the Wholesale Energy Market of Ukraine (WPM) per day;

- every first day of a month following the billing one, the Company workers record the readings of the meters for WPM onsite, as well as the readings of the meters which measure the flows in the company grids; the readings of the meters for WPM which the Company workers compare with the perimeter data of ASCAPC;

- on the basis of the readings taken, the amount of flows through the structural departments of the Company is calculated;

- according to the amount of flows and to the annual productive supply, the report form 1B-TPL is drafted for a structural department, which is submitted to the Management apparatus of EC Chernivtsioblenergo PJSC (balance and regime department);

- the report forms 1B-TPL and 2-NKRE are formed on the basis of 1B-TPL in the management apparatus.

- the data collected are submitted to Carbon Management Company for Monitoring Reports preparation.

All data that will be collected during the monitoring must be kept in paper and electronic form in the archives of EC Chernivtsioblenergo PJSC for at least 2 years after period of ERU transfer to the Client together with the issue of an appropriate regional power distribution company decree and appointing the persons that will be responsible for data achieving.

Relevance of the carbon dioxide specific indirect emissions factor connected with the power losses whole the power transmission to the power grids of Ukraine will be yearly checked by the representatives of the technical consultant (Carbon Management Company). If necessary, the factor will be updated.

D.4. Name of person(s)/entity(ies) establishing the monitoring plan:

EC Chernivtsioblenergo PJSC (Project Participant):

Please refer to Annex 1 for detailed contact information.

Carbon Management Company GmbH (Project Participant):

Please refer to Annex 1 for detailed contact information.

SECTION E. Estimation of greenhouse gas emission reductions

E.1. Estimated project emissions:

Project emissions are equal to 0 (see D.1.1.2).

$PE_y = 0$

E.2. Estimated leakage:

Leakages are not expected as a result of project realization.

E.3. The sum of E.1. and E.2.:

Since the leakage emissions $LE_y = 0$ and the project emission $PE_y = 0$, the sum of the leakage emissions and the project emissions is equal to 0.

E.4. Estimated baseline emissions:

Estimate of the baseline emissions was carried out according to the formulae shown in Section D.1.1.4.

Results of the calculation are provided in the table below. The calculations are presented in *20120306_ChOE_ER.xls* file, which is attached to PDD.

In Tables 5, 6 and 7 estimated baseline emissions are shown.

Table 5. Baseline emissions over the period from 01/01/2004 till 31/12/2007

Year	Estimated baseline emissions (tCO_2e)
2004	32 074
2005	31 219
2006	42 083
2007	105 272
Total for the period:	**210 648**

Table 6. Baseline emissions over the period from 01/01/2008 till 31/12/2012

Year	Estimated baseline emissions (tCO_2e)
2008	167 129
2009	196 108
2010	166 570
2011	176 504
2012	176 504
Total for the period:	**882 815**

Table 7. Baseline emissions over the period from 01/01/2013 till 31/12/2025

Year	Estimated baseline emissions (tCO_2e)
2013	176 504
2014	176 504
2015	176 504
2016	176 504
2017	176 504
2018	176 504
2019	176 504
2020	176 504
2021	176 504
2022	176 504
2023	176 504
2024	176 504
2025	176 504
Total for the period:	**2 294 552**

E.5. Difference between E.4. and E.3. representing the emission reductions of the project:

Emission reductions are calculated according to the formula (2) hereinbefore. The results are presented in the tables 8, 9 and 10 below.

Table 8. Emission reductions over the period from 01/01/2004 till 31/12/2007

Year	Sum of the project leakage and emissions (tCO_2e)	Estimated baseline emissions (tCO_2e)	Estimated emission reductions (tCO_2e)
2004	0	32 074	32 074
2005	0	31 219	31 219
2006	0	42 083	42 083
2007	0	105 272	105 272
Total for the period:	**0**	**210 648**	**210 648**

Table 9. Emission reductions over the period from 01/01/2008 till 31/12/2012

Year	Sum of the project leakage and emissions (tCO_2e)	Estimated baseline emissions (tCO_2e)	Estimated emission reductions (tCO_2e)
2008	0	167 129	167 129
2009	0	196 108	196 108
2010	0	166 570	166 570
2011	0	176 504	176 504
2012	0	176 504	176 504
Total for the period:	**0**	**882 815**	**882 815**

Table 10. Emission reductions over the period from 01/01/2013 till 31/12/2025

Year	Sum of the project leakage and emissions (tCO_2e)	Estimated baseline emissions (tCO_2e)	Estimated emission reductions (tCO_2e)
2013	0	176 504	176 504
2014	0	176 504	176 504
2015	0	176 504	176 504
2016	0	176 504	176 504
2017	0	176 504	176 504
2018	0	176 504	176 504
2019	0	176 504	176 504
2020	0	176 504	176 504
2021	0	176 504	176 504
2022	0	176 504	176 504
2023	0	176 504	176 504
2024	0	176 504	176 504
2025	0	176 504	176 504
Total for the period:	**0**	**2 294 552**	**2 294 552**

E.6. Table providing values obtained when applying formulae above:

Table 11. Emission reductions over the period from 01/01/2004 till 31/12/2007

Year	Estimated project emissions (tCO_2e)	Estimated leakage (tCO_2e)	Estimated baseline emissions (tCO_2e)	Estimated emission reductions (tCO_2e)
2004	0	0	32 074	32 074
2005	0	0	31 219	31 219
2006	0	0	42 083	42 083
2007	0	0	105 272	105 272
Total for the period (tCO_2e)	**0**	**0**	**210 648**	**210 648**

Table 12 Emission reductions over the period from 01/01/2008 till 31/12/2012

Year	Estimated project emissions (tCO_2e)	Estimated leakage (tCO_2e)	Estimated baseline emissions (tCO_2e)	Estimated emission reductions (tCO_2e)
2008	0	0	167 129	167 129
2009	0	0	196 108	196 108
2010	0	0	166 570	166 570
2011	0	0	176 504	176 504
2012	0	0	176 504	176 504
Total for the period (tCO_2e)	**0**	**0**	**882 815**	**882 815**

Table 13. Emission reductions over the period from 01/01/2013 till 31/12/2025

Year	Estimated project emissions (tCO_2e)	Estimated leakage (tCO_2e)	Estimated baseline emissions (tCO_2e)	Estimated emission reductions (tCO_2e)
2013	0	0	176 504	176 504
2014	0	0	176 504	176 504
2015	0	0	176 504	176 504
2016	0	0	176 504	176 504
2017	0	0	176 504	176 504
2018	0	0	176 504	176 504
2019	0	0	176 504	176 504
2020	0	0	176 504	176 504
2021	0	0	176 504	176 504
2022	0	0	176 504	176 504
2023	0	0	176 504	176 504
2024	0	0	176 504	176 504
2025	0	0	176 504	176 504
Total for the period (tCO_2e)	**0**	**0**	**2 294 552**	**2 294 552**

SECTION F. Environmental impacts

F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party:

No EIA was specifically developed for this project that complies with the applicable legislation.

The common review is carried out by the State Environmental Inspectorate of Chernivtsi region.

The company provides the following reports: Form 2TP (water services), Form 1 (hazardous wastes), Form 1 (environmental costs).

F.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party:

The company utilizes such wastes as: accumulators, fluorescent lamps and other lamps with mercurial fillers, waste tires, ferrous and nonferrous metals scrap. Collection of wastes is carried out through the storehouse of the company and is utilized by the companies, according to signed contracts.

The proposed project will have a positive influence on the environment comparing to the current state, since the reconstructions will improve the effectiveness of the power recourses use and will reduce the emission of the pollutants into the atmosphere. In such a way the influence from the reconstruction is insignificant.

No transboundary effects are foreseen due to the Project implementation.

SECTION G. Stakeholders' comments

G.1. Information on stakeholders' comments on the project, as appropriate:

The stakeholders are the citizens of Chernivtsi Region who were informed about the project implementation through the mass-media.

The program of power losses reduction was discussed on the meetings of the representatives of the regional State Administration, Ministry of Energy and Coal Industry of Ukraine, NJSC "Energy Company of Ukraine", Derzhenerhonahlyad; the main principles of the project were announced by the regional radio of Chernivtsi state-owned TV and radio company, and in the television programs "Bukovyna" and "Chernivtsi" as well as in the printed media – in the "Bukovyna" newspaper, "Molodyi bukovynets" newspaper.

Annex 1

CONTACT INFORMATION ON PROJECT PARTICIPANTS

Project owner:

Organisation:	Public joint-stock company EC Chernivtsioblenergo (hereinafter EC Chernivtsioblenergo PJSC)
Street/P.O.Box:	Prutska
Building:	23-a
City:	Chernivtsi
State/Region:	Chernivtsi region
Postal code:	58008
Country:	Ukraine
Phone:	+380372551713
Fax:	+380372551713
URL:	
Represented by:	
Title:	Economics and finance director
Salutation:	
Last name:	Babak
Middle name:	Volodymyrivna
First name:	Tamara
Department:	
Fax (direct):	(0372)-55-17-13
Phone (direct):	(0372)-55-17-13
Mobile:	
Personal e-mail:	kanc@obl.cv.energy.gov.ua

Project partner:

Organisation:	Carbon Management Company GmbH
Street/P.O.Box:	Sonnenbergstrasse
Building:	18
City:	Sarnen
State/Region:	Kanton Obwalden
Postal code:	6060
Country:	Switzerland
Phone:	+ 41 41 544 07 71
Fax:	+ 41 41 544 07 72
URL:	http://www.carbonmc.com
Represented by:	
Title:	Director General
Salutation:	
Last name:	Girardet
Middle name:	
First name:	Alain
Department:	
Fax (direct):	+41 79 691 33 13
Phone (direct):	+41 41 544 07 72
Mobile:	
Personal e-mail:	Girardet@carbonmc.com

Annex 2

BASELINE INFORMATION

See Section B

1. Key information and data used for baseline setting

ID number	Description	Data variable
Table D.1.1.3. ID #3	Total reduction of technical power losses in the distribution power grid over the period *y* of the project scenario compared to the baseline scenario.	V_y
Table D.1.1.3. ID #4	Carbon dioxide emission factor for projects of power loss reduction in power supply networks of Ukraine .	GEF_y

2. Coefficient of tCO_2e emission in the Ukrainian UES in 2010.

NATIONAL ECOLOGICAL INVESTMENTS AGENCY OF UKRAINE

DECREE
Kyiv

28/03/2010 # 43

About indices confirmation,
of carbon dioxide specific emissions in 2010

In order to execute clause 2.1 of the decree dated March 21, 2011 # 39 "On the confirmation of the Methodology of the carbon dioxide specific emissions calculation during power production at thermal electric power stations and its consumption" and to normalize the calculation of carbon dioxide specific emissions during power production at thermal electric power stations and its consumption,

Hereby I decree:

1. To establish the following indices of carbon dioxide specific emissions in 2010:

– carbon dioxide specific emissions, during power production at the thermal electric power stations, that are connected to the Unified Energy System of Ukraine - 1.067 kg CO_2/kWh;

– indirect specific carbon dioxide emissions from electricity consumption by the 1st class electricity consumers according to the Procedure for determining the class of consumers, approved by the National Electricity Regulatory Commission of Ukraine dtd. August 13, 1998 # 1052 - 1.093 kg CO_2/kW*h;

– indirect specific carbon dioxide emissions from electricity consumption by 2^{nd} class electricity consumers in accordance with Procedure for determining the class of consumers, adopted by Resolution of National Electricity Regulatory Commission of Ukraine dtd. August 13, 1998 #1052 - 1.225 kg CO_2/kWh;

– indirect specific carbon dioxide emissions related to the power losses during its transmission by the local networks - 1.093 kg CO_2/kWh.

2. Carbon dioxide specific emissions indices for 2010 indicated in the clause 1 of the given decree are recommended to be used during the preparation of:

– project proposal on the justification of anthropological GHG emissions reduction, project technical documentation, emissions reduction scopes annual reports, that are drafted according to "Procedure of development, review, approval and implementation of the projects aimed at the anthropological GHG emissions reduction" approved by the Cabinet of Ministers of Ukraine decree dtd. 22/02/2006 # 206 ;

– GHG planned emissions reduction calculation that are developed according to the Procedure of review, approval and realization of projects aimed at green investment scheme and proposals on the realization of measures related to the implementation of such projects and fulfillment of commitments by the parties of Kyoto protocol to the UN Framework Convention on Climate Change, sanctioned by the Cabinet of Ministers of Ukraine decree dtd. 22/02/2008 # 221, and actual GHG emissions as the result of suchlike projects realization, reduction calculation.

3. Kyoto protocol flexible mechanisms administration (Shevchenko O.V.) and Ecological investments and market development scheme administration (Yermakov V.M.) to follow this decree while verifying the JI and ecological investments projects documents.

4. GHG national accounting system administration (Khabatiuk O.P.) to follow this decree while reviewing the JI projects documents, that are being verified according the Instruction about the procedures concerning JI documents review and arrangement, approves by the National Ecological Investment Agency decree dtd. 08/12/2010 #184.

5. Public relations and mass media department (Zaets I.V.) to ensure this decree being uploaded to the National Ecological Investment Agency web site.

Reorganization commission chairman (*signature*) **I.Varga**

Annex 3

MONITORING PLAN

Detailed description of the monitoring plan presented in Section D of this PDD.