ПОЯСНЮВАЛЬНА ЗАПИСКА
про виконання роботи за проектом

«Проведення аналізу залежності викидів парникових газів від об’ємів та структури антропогенної діяльності за перший період дії Кіотського протоколу»

Етап 4:
Резюме документу

«Визначення ступеню впливу заходів зі зниження викидів парникових газів в категоріях джерел викидів (відповідно до класифікації МГЕЗК) та в окремих галузях економіки на зміну їх обсягів в період дії першого періоду Кіотського протоколу до Рамкової конвенції ООН про зміну клімату в Україні»
(англійською мовою)
(Відповідно до договору № 2013.31 від 28.10.2013)

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Short summary on Deliverable 4

Identification of the GHG emission reduction measures efficiency in the GHG emission sources categories (according to IPCC) and different economy sectors of Ukraine during the first commitment period of the Kyoto Protocol to the UNFCCC

Introduction

The latest IPCC report justifies that the climate changes are largely influenced by the constantly increasing volumes of anthropogenic GHG emissions. As this takes place, the negative changes are speeding up, thus the minimization of GHG emissions becomes one of the most time-critical problems of the humanity.

In this context, the development and realization of the most optimal social and economic strategies aimed at low carbon development on the national economics are the most important starting condition for limiting GHG emissions in future.

During the development of such strategies, it is important to understand the outcomes and efficiency of the implemented GHG emission reduction policies, the barriers occurred during their realization, and the problems of estimation of their influence on the national GHG emissions reductions, as well as reductions in the different categories and economy sectors.

This understanding allows the following:

1. Ensuring improvement of the efficiency of the implemented GHG emission reduction policies and measures by neutralizing and minimizing the influence of the existing barriers;

2. Determining the most feasible future policies and measures aimed at GHG emission reduction on the basis of the analysis of the existing ones;

3. Removing the barriers to accurate estimation of the influences of the GHG emission reduction policies and measures in the different economy sectors and the national economics as a whole.

This stipulates the necessity of determination the efficiency of the implemented GHG emission reduction measures efficiency in the GHG emission sources categories (according to IPCC) and different economy sectors of Ukraine during the first commitment period of the Kyoto Protocol to the UNFCCC. This analytical document elaborates the abovementioned subject.
Objective

The work was aimed at identification of the GHG emission reduction measures efficiency in the GHG emission sources categories (according to IPCC) and different economy sectors of Ukraine during the first commitment period of the Kyoto Protocol to the UNFCCC.

The object of study is the economics of Ukraine in the context of the efficiency of GHG emission reduction measures in the GHG emission sources categories (according to IPCC) and different economy sectors.

Performance summary

The work was based on the methodology of the analysis of regulatory base of Ukraine, existing governmental, sectoral and regional programs and strategies leading to GHG emission reduction, the activities within the Green Investment Scheme and Joint Implementation projects, and the results of the previous stages of the work and specially developed methodology for assessment of the efficiency of the implemented GHG emissions reduction measures.

The work results include the assessment of the efficiency of GHG emission reduction measures in the GHG emission sources categories (according to IPCC) and different economy sectors, and the identification of the barriers to the correct efficiency assessment.

The analytical document contains the introduction, four main sections and the conclusions. The brief summary of these sections is presented below.

Section 1: Methodological principles of the assessment of the efficiency and influence of GHG emission reduction measures realization on their volumes in retrospective

To assess the efficiency of the GHG emission reduction measures, it is important to determine the GHG emission volumes without realization of these measures, and the actual GHG emission volumes after realization of the measures. Thus, the GHG emission volumes under the basic and actual specific emission factors should be determined for each measure, and the difference between these volumes demonstrates the efficiency of this particular measure on the GHG emission volumes in retrospective.

This section includes the methodology for assessment of the GHG emission volumes change due to realization of GHG emission reduction measures, using such parameters as: indices of activities and GHG emission sources, activity levels, basic and actual specific
emission factors, greenhouse gas warming potentials etc. The analysis of the methodology is presented as well.

Section 2: Goals and directions of the state policies aimed at decrease of GHG emissions and increase of absorptions in Ukraine

The main document determining the state priorities towards the mitigation of the anthropogenic climate change is the Law of Ukraine "On the Fundamental Principles (Strategy) of Ukraine's State Environmental Policy for the Period until 2020".

This document determines the tasks directly or indirectly aimed at decrease of GHG emissions and increase of absorptions in Ukraine. Among all goals, it includes the following:

- Optimizing the energy sector structure by means of increasing the use of the low carbon energy sources by 10% in 2015 and 20% in 2020 (the base year is 2010);
- Reduction of GHG emissions according to the Ukrainian commitment level as per the Kyoto Protocol to the UNFCCC;
- Development and staged implementation of the National action plan towards the climate change mitigation and prevention of anthropogenic climate change for the period until 2030;
- Increase of the forest areas to 17% of the territory of Ukraine by means of reforestation and forestation of forest land areas;
- Creation of the economic conditions for the development of climate friendly transport infrastructure by 2015;
- Increase of energy efficiency of the industry by 25% in 2015 and 50% in 2020 (the base year is 2010);
- Increase of the volume of use of renewable and alternative energy sources by 25% in 2015 and 55% in 2020 (the base year is 2010);
- Creation of ecologically and economically justified tax system for environmental pollution.

Also during the first commitment period of the Kyoto Protocol there were a number of other adopted national, regional, and sectoral regulatory and normative acts related to the GHG emission reduction. Among them, one of the most considerable is the Energy Strategy of Ukraine for the Period until 2030. It defines the goals and purposes and the national policy in the field of energy saving and increase of efficiency of fuel and energy resources use, which necessarily lead to GHG emission reduction.
The important part of the GHG emission reduction policy of Ukraine is the maximum utilization of the flexible mechanisms of Kyoto protocol – realization of JI projects and Green Investment Scheme projects.

**Section 3: Problems of assessment of the influence of GHG emission reduction measures realization on their volumes**

3.1. Problems of assessment of the influence of energy saving measures realization and renewable energy sources implementation on the GHG emission reduction

The energy saving measures realization and renewable energy sources implementation are reflected in the national statistics on the national level and by types of economic activities. Their influences, which are the decrease of fuel consumption, and necessarily the GHG emission reductions, are reflected in the National GHG Inventories.

The assessment of the efficiency of these measures on the national level can be performed without signification problems, however the correct assessment by types of economic activities and by different GHG emission sources (according to IPCC classification) is almost impossible due the specifics of national energy and economical statistics. At the same time it is important to consider, that the volumes of fuel consumption are influenced by the climate conditions, load of the manufacturing companies etc.

The assessment of the efficiency of realization of the state and regional programs is even more complicated due to absence of coordination of the official data on the planned measured, their planned effect and actually obtained results.

Additionally, implementation of such alternative energy sources as solar and wind power stations influence the operation of the whole energy system, and under certain conditions can result in increase of GHG emissions for instance due to emergence of the regime limitations at nuclear power plants and, subsequently their substitution by power plants combusting organic fuel.

Thereby it is reasonable to perform the national assessment of the efficiency of the energy saving policy and development of renewable energy sources as described in the section.

3.2. Problems of assessment of the influence of the Joint Implementation projects on the GHG emission reduction

The main problem of assessment of the influence of the Joint Implementation projects on the GHG emission reduction is absence of the methodology and algorithms for the assessment of their influence during the preparation of the National GHG Inventory.
Also, the correct identification the influenced category according to the IPCC classification is impossible. The main reason is the difference between the methodologies for GHG emissions calculation. National GHG Inventory presumably use Tier 1 and 2 calculation methodologies, while the JI projects use specific methodologies corresponding to Tier 3 level.

This can result in the fact that the total emission reduction volumes due to realization of JI projects may be greater than those presented in the Nation GHG Inventory.

**Section 4: Analysis of the influence and efficiency of realization of GHG emission reduction measures**

Ukraine is characterized by one the highest carbon capacity economics among the industrially developed countries. The main factors of high energy capacity of the industrial and social spheres are:

- Ineffective utilization of fuel and energy sources, in particular due to noncompliance to the existing requirements of technologies and equipment;
- Utilization of aged equipment and communications, and slow modernization rate;
- Significant loses of fuel and energy resources during their transportation, storing and distribution;
- Low level of utilization of modern energy efficient equipment and technologies;
- Considerable technological lag between the level of Ukrainian industry and that of the developed countries;
- High level of depreciation of industrial assets;
- Inadequate tariffs for the services provided by the fuel and energy companies;
- Inadequate level of utilization of domestic wastes.

The problems in tariff setting causes deterioration of the market balance (competition) between the different energy sources, negatively influences the payments in energy sector and the budget incomes etc.

The section analyses the influence of these and other problems (problems in tariff setting, financial crisis of 2008-2009, low efficiency of realization of state programs, deterioration of the competition in the energy sector etc) on the realization of GHG emission reduction measures. The section includes the analytical information and relevant diagrams and tables.
Conclusions

1. Methodology for the assessment of the efficiency and influence of the GHG emission reduction measures realization was developed;

2. Determined the goals and main directions of the state policy directly or indirectly aimed at GHG emission reduction.

3. The problems of assessment of the efficiency and influence of the GHG emission reduction measures realization were analyzed;

4. Performed the analysis on the influence of GHG emission reduction policies and measures realization on the GHG emissions volumes. The results justify that the realization of the measures at the macro level practically has no influence on the total GHG emissions volumes at the national level, which is caused by the following:

   - Considerable share of GHG emission reductions due to JI projects realization is not reflected in the National GHG Inventory;

   - Actually, realization of the energy saving measures, implementation of renewable energy sources, and realization of JI projects only restrains the increase of fuel and energy sources spending and energy capacity in Ukraine, as the constant depreciation of the main assets in the economics leads to increase of expenses and loses of fuel and energy sources, which can be prevented only by implementation of energy saving measures and increase of energy efficiency.