THE SECOND BIENNIAL REPORT OF THE REPUBLIC OF BELARUS

According to Commitments under the United Nations Framework Convention on Climate Change

In accordance with Decisions 2 / CP.17 and 19 / CP.18 of the Conference of the Parties

Minsk 2015

INTRODUCTION

This document is prepared in pursuance of international commitments of the Republic of Belarus under the United Nations Framework Convention on Climate Change (UNFCCC) for preparation of the Second Biennial Report on the quantity of greenhouse gas emissions and measures to reduce them.

The 2 BR is prepared according to requirements contained in the following Decisions of Conferences of the Parties to the UNFCCC:

- Decision 1/CP.16 (2010) "Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under Convention, Paragraph 40".

- Decision 2/CP.17 (2011) Paragraph 13 and Annex 1 "UNFCCC Biennial Reporting Guidelines for Developed Country Parties".

- Decision 19/CP.18 (2012) "The Common Tabular Format for the "UNFCCC Biennial Reporting Guidelines for Developed Country Parties".

The 2 BR is prepared using the data on the status of the climate change in the Republic of Belarus; the data on the greenhouse gas inventory over the period of 1990-2012; program documents directly or indirectly related to the reduction in GHG emissions; regulatory legal acts in the sphere of environment and climate protection; and indicators of the socio-economic development of the country.

The data contained in the greenhouse gas emissions inventory over the period of 1990-2012 were used to prepare this Report, since it is the last officially submitted GHG Inventory to the UNFCCC Secretariat. In 2015, the countries being the Annex I Parties, inclusive of the Republic of Belarus, should switch to the use of the upgraded software CRF Reporter and also to the GHG emissions calculation methodology contained in the document "Guidelines for National Greenhouse Gases Inventories", IPCC, 2006. In that context, the specialists of the Department for International Projects of the RUE BRC "Ecology" installed the upgraded software, collected and analyzed the baseline data, filled in the worksheets with new baseline data over the entire period of 1990-2014 during 2015. Currently, emissions from sources and absorption of greenhouse gases by sinks were calculated over the period of 1990-2014 using the IPCC Guidelines 2006. As of the time of preparing this Report, the National Report on the Inventory and the Inventory for 1990-2014 were not yet submitted to the UNFCCC Secretariat.

In addition, due to the above reasons, the Intended Nationally Determined Contributions (INDC) of the Republic of Belarus and GHG emissions projections were calculated based on the data of the GHG Inventory in 2012 and submitted to the Convention Secretariat.

The Second Biennial Report of the Republic of Belarus has been prepared by the RUE BRC “Ecology” under the supervision of the Ministry of Natural Resources and Environmental Protection.

CONTENTS

LIST OF ABBREVIATIONS

UN	–	United Nations Organization
UNFCCC	–	United Nations Framework Convention on Climate Change
KP	–	Kyoto Protocol
IPCC	–	Intergovernmental Panel on Climate Change
GHG	–	Greenhouse gases
NRGHGI	–	National Report on Greenhouse Gas Inventory
Belstat	–	National Statistical Committee
MNREP	–	Ministry of Natural Resources and Environmental Protection
NASB	–	National Academy of Sciences of Belarus
RUEBRC «Ecology»»	–	Republican Unitary Enterprise Belarusian Research Center «Ecology»
QA	–	Quality assurance
QC	–	Quality control
LULUCF	–	Land use, land use change and forestry
MSW	–	Municipal solid waste
CO_2	–	Carbon dioxide
CO	–	Carbon oxide
CH_4	–	Methane
N_2O	–	Nitrous oxide
NOx	–	Nitrogen oxides
HFC	–	Hydrofluorocarbons
PFC	–	Perfluorocarbons
SF6	–	Sulfur hexafluoride
НМУ	–	Non-methane hydrocarbons
t.f.e.	–	Tons of equivalent fuel

Prefixes and Multiplying Factors

Prefix	Symbol	Multiplicity
kilo	**k**	10^3
Mega	**M**	10^6
Giga	**G**	10^9
Tera	**T**	10^{12}
Peta	**P**	10^{15}

1 INFORMATION ABOUT GREENHOUSE GAS EMISSIONS AND THEIR TRENDS OVER THE PERIOD OF 1990-2012

1.1. Greenhouse Gas Emissions and their Trends over the Period of 1990-2012

Over the period in question, the greenhouse gas inventory in the Republic of Belarus was taken in 6 sectors:

1. Energy: CO_2, CH_4, N_2O, NO_x, CO, nonmethane hydrocarbon, SO_2;
2. Industrial processes: CO_2, CH_4, N_2O, NOx, CO, nonmethane hydrocarbon, hydrofluorocarbon, SF_6, SO_2;
3. Solvents and other products used: N2O, nonmethane hydrocarbon;
4. Agriculture: CH_4, N_2O;
5. Land use, land use change and forestry (LULUCF): CO_2, CH_4, N_2O, NOx, CO;
6. Waste: CH_4, N_2O.

Carbon dioxide (CO_2) is the main greenhouse gas in the Republic of Belarus and its share in the greenhouse gas emissions (excluding net CO_2 removals in LULUCF sector) was in 2012 64.4% in the CO_2 followed by nitrous oxide (N_2O) – 18.4% and methane (CH_4) – 17.2%, the share of HFC and SF_6 is 0.003%.

The largest quantity of greenhouse gases is emitted in the “Energy” sector - 61.9% and in the “Agriculture” sector - 26.2%. GHG emissions in the “Waste” and “Industrial processes” sectors amount to 7.0% and 4.8% of the total national emissions respectively. GHG emissions from solvents use make up 0.1% (Table 1).

Total greenhouse gas emission, excluding the LULUCF sector, in CO_2 equivalent is 89,283.33 Gg and it reduced by 35.8% in 2012 compared to 1990 (139,151.23 Gg) and compared to 2011 (87,499.56 Gg) increased by 2.0%, with the “Energy” sector being the main contributor (by 3.6%).

Total greenhouse gas emissions in the Republic of Belarus are defined by the following sectors: “Energy”, “Agriculture” and “Waste”.

The LULUCF is the only sector in which greenhouse gases both are emitted and absorbed. Net removals reduced by 10.8% in the LULUCF sector over the period of 1990-2012 that is related to the reduction in removals in the categories “Forest lands” and “Arable lands”.

In 2012, emissions in the “Energy” sector amounted to 55,303.82 Gg in CO_2 equivalent, or 61.9% of the total national emissions without accounting the LULUCF sector. In general, emissions in the “Energy” sector reduced by 45.9% over the period from 1990 to 2012 (Table 1).

Like in 1990, the main key GHG emission sources in 2012 are associated with fuel firing, i.e., energy production and transmission, processing industry, construction and transport.

Table 1 – Change in greenhouse gas emissions, sector-wise, 1990 –2012, Gg, CO_2 eq.

	1990	1995	2000	2005	2010	2011	2012	Trend 1990-2012, %	Trend 2011-2012	Share in Total Emissions (excluding the LULUCF sector) 2012, %
Energy	102,242.80	57,259.52	52,684.07	55,311.53	56,441.59	53,380.41	55,303.82	**-45.9**	**3.6**	**61.9**
Industrial processes	3,614.68	2,035.73	2,604.72	3,484.65	4,092.17	4,127.91	4,274.32	**18.2**	**3.5**	**4.8**
Solvent use	74.40	62.33	76.04	69.19	122.44	61.69	64.48	**-13.3**	**4.5**	**0.1**
Agriculture	30,644.62	21,344.50	20,844.70	20,688.10	22,586.57	23,442.58	23,371.52	**-23.7**	**-0.3**	**26.2**
Waste	2,574.73	2,137.64	2,955.57	4,620.24	6,183.13	6,486.97	6,269.18	**143.5**	**-3.4**	**7.0**
Total (excluding the LULUCF)	139,151.23	82,839.72	79,165.10	84,173.72	89,425.90	87,499.56	89,283.33	**-35.8**	**2.0**	**100**
LULUCF (net removals)	-28,574.44	-31,221.80	-30,902.78	-26,209.98	-30,179.18	-29,233.59	-25,500.74	**-10.8**	**-12.8**	
Total, including the LULUCF	110,576.79	51,617.93	48,262.32	57,963.74	59,246.72	58,265.97	63 782,58	**-42,3**	**9,5**	

Emissions in the “Industrial processes” sector amounted to 4,274.32 Gg in CO_2 equivalent. Emissions from industrial processes increased by 18.2% compared to the base year, while compared to 2011 – by 3.5%. In 2012, emissions in the “Solvents and Other Products Use” sector amounted to 64.48 Gg in CO2 equivalent, or 0.1% of the total emissions in the Republic of Belarus. In 2012, GHG emissions in that sector increased by 4.5% compared to 2011.

Emissions in “Agriculture” sector in 2012 amounted to 23,371.52 Gg in CO2 equivalent, or 26.2% of the total national emissions, excluding the LULUCF sector. This is the second largest sector as regards the quantity of greenhouse gas emissions. While in 2012, emissions from that sector reduced by 23.7 % compared to 1990 and also reduced by about 0.3% compared to 2011 due to the reduction in the agricultural production.

GHG emissions from the “Waste” sector amounted to 7.0% of the total emissions in 2012 and increased by 143.5% from 2,574.73 Gg in CO_2 equivalent to 6,811.72 Gg over the period of 1990-2012 due to the increased methane emissions from solid municipal waste landfills. GHG emissions in that sector in 2012 reduced by 3.4% compared to 2011 due to improvement of the municipal waste management system in the country.

When considering the time series, it should be noted that emissions substantially reduced by 35.8% in five sectors in 2012 compared to 1990 in CO2 equivalent which is related primarily to the CO_2 emission reduction in the “Energy” sector. This reduction is attributed to a minor decline in production and pursuance of the energy conservation policy and also by the change in the fuel consumption structure.

Figure 1 reflects trends in greenhouse gas emissions sector-wise in the economy over the period of 1990-2012.

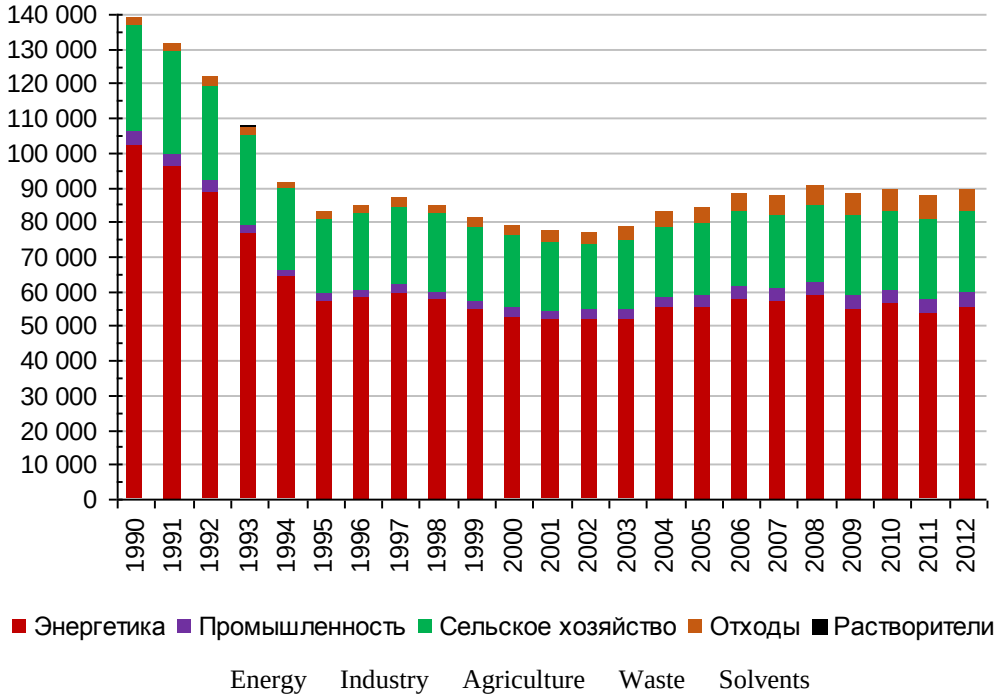

Figure 1 – Dynamics of greenhouse gas emissions in 1990-2012, sector-wise, Gg CO_2 equivalent

When considering emissions in the breakdown by gas type, excluding the LULUCF sector, then CO_2 emissions amount to 64.4%, CH_4 emissions – 17.2% and N_2O – 18.4%. In comparison to the 1990 level, this ratio is 74.6%, 10.9%, 14.5% respectively (Figure 2). The

change is due to the reduction in fuel consumption in the "Energy" sector, with changes in emissions being minor in other sectors.

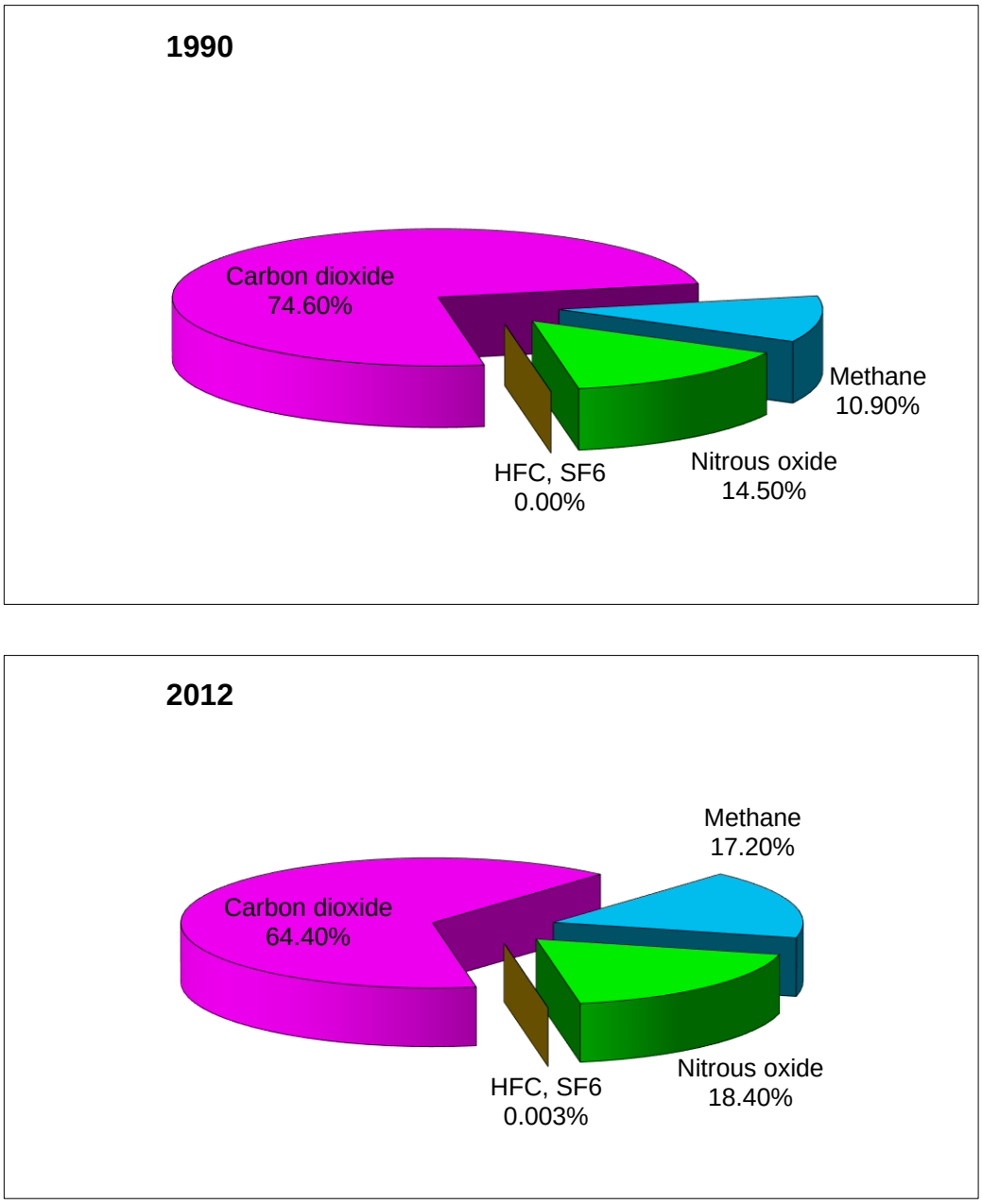

Figure 2- Emissions of direct effect greenhouse gases, excluding the LULUCF sector, in percent

Over the period of 1990-2012, emissions of carbon dioxide reduced by 44.6%, nitrous oxide - by 18.5%, while emissions of methane increased by 1.1% (Table 2).

N_2O emissions over that period reduced by 18.5%, while CH_4 emissions increased by 1.1%.

1995 is the base year for HFC, PFC and SF_6. Due to their limited use, total GHG emissions are not influenced by these substances, the share of which is less than 1% (Table 2).

As Table 3 shows, emissions of GHG producing indirect greenhouse effect are rather minor. Over the recent years, dynamics of emissions of GHG producing indirect greenhouse

effect is characterized by instability. This is related to such sectors of economy as “Energy”, “Industrial processes” and “Solvent use”.

Table 2 - Emissions of direct effect greenhouse gases, ‘000 tons in CO2 equivalent (excluding net-CO_2 of the LULUCF sector), Gg

Gas	1990	1995	2000	2005	2010	2012	**Share in Total Emissions in 2012, %**	Trend 1990-2012, %
Carbon dioxide	103,806.85	57,599.77	53,319.28	56,669.77	58,297.96	57,490.69	**64.39**	-44.62
Methane	15,217.16	11,704.96	11,421.85	13,116.46	15,221.89	15,390.54	**17.24**	1.14
Nitrous oxide	20,127.22	13,532.14	14,414.22	14,359.83	15,890.52	16,399.83	**18.37**	-18.52
HFC, SF_6		2.85	9.75	27.67	15.52	2.27	**0.003**	-20.35
Total (excluding the LULUCF)	**139,151.23**	**82,839.72**	**79,165.10**	**84,173.72**	**89,425.89**	**89,283.33**	**100.00%**	

Table 3 - Emissions of indirect effect greenhouse gases in CO_2 equivalent (including net-CO_2 in LULUCF sector) in 1990-2011, Gg

Gas	1990	1995	2000	2005	2010	2012	Trend 1990- 2012, %.
NO_x	335.96	170.96	148.55	167.98	173.75	189.92	-43.47
CO	1,527.22	591.08	426.56	530.18	599.66	681.34	-55.39
NMH	301.46	132.93	141.22	144.95	190.21	189.56	-37.12
SO_2	1,083.34	459.08	156.38	100.96	109.56	146.86	-86.44

1.2 Functioning of the Greenhouse Gas Inventory System in the Republic of Belarus

The main regulatory legal documents regulating the inventory and the preparation of GHG inventories in the Republic of Belarus are as follows:

1. Resolution of the Council of Ministers of the Republic of Belarus No. 485 of 10 April 2006 "On Approval of the Regulations on the Procedure of the State Inventory of Anthropogenic Source Emissions and Greenhouse Gases Sinks Absorption"[1]**.** This Regulation defines the procedure for maintaining the State Inventory of anthropogenic emissions from sources and greenhouse gases absorption by sinks. The Ministry of Natural Resources and Environmental Protection of the Republic of Belarus (hereinafter referred to as "the Ministry of Natural Resources and Environmental Protection") is in charge for maintaining the State Inventory of anthropogenic emissions from sources and greenhouse gases absorption by sinks.

The State Greenhouse Gas Inventory is maintained by the Ministry of Natural Resources and Environmental Protection based on the information provided by the Statistical Committee of the Republic of Belarus, the Ministry of Agriculture and Food of the Republic of Belarus, the Ministry of Forestry of the Republic of Belarus, the Ministry of Energy of the Republic of Belarus, the Ministry of Architecture and Construction of the Republic of Belarus, the Ministry of Housing and Utilities of the Republic of Belarus, the Ministry of Transport and Communications of the Republic of Belarus, the Ministry of Healthcare of the Republic of Belarus, the State Property Committee of the Republic of Belarus, the Belarusian State Concern for Oil and Chemistry and by other state administration bodies.

2. Resolution of the Council of Ministers of the Republic of Belarus No. 585 of 4 May 2006 "On Approval of the Regulations on National Greenhouse Gas Inventory System"[2.] This regulatory legal act defines the procedure for arranging and functioning of the national greenhouse gases inventory system and covers the list of greenhouse gases not regulated by the Montreal Protocol on Substances that Deplete the Ozone Layer. This regulatory legal act assigns functions for managing and operating the greenhouse gases inventory system to the Ministry of Natural Resources and Environmental Protection.

Cooperation of the state bodies and other organizations with the Ministry of Natural Resources and Environmental Protection within the inventory system is defined subject to the Regulation on the Procedure for Maintaining the State Inventory of Anthropogenic Emissions from Sources and Greenhouse Gases Absorption by Sinks approved by the Resolution No. 485 of 10 April 2006 adopted by the Council of Ministers of the Republic of Belarus.

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[1]National Register of Legal Acts of the Republic of Belarus, 2006, No. 59, 5/22174.

3. Order No. 417 of 29 December 2005 issued by the Ministry of Natural Resources and Environmental Protection "On the Greenhouse Gases Inventory Center". To fulfill commitments under Paragraph 1, Article 5 of Kyoto Protocol to the UNFCCC, the RUE BRC "Ecology" is designated as a Center for taking inventory of greenhouse gases, maintaining greenhouse gases cadastres and preparing National Communications for the UNFCCC Secretariat.

The main goals and tasks of the Center are as follows:

– taking inventory of anthropogenic emissions from sources and absorption of all greenhouse gases by sinks not regulated by the Montreal Protocol on Substances that Deplete the Ozone Layer;

– scientific and technical assistance to the Ministry of Natural Resources and Environmental Protection in maintaining the State Greenhouse Gas Inventory and also in developing state, sectoral and regional programs and measures aimed at reducing and increasing absorption of greenhouse gases;

– development of standard forms for provision of data on greenhouse gas emissions in consultation and coordination with the Ministry of Natural Resources and Environmental Protection, provision of guidance for filling them in and setting deadlines for submission of the information.

Subject to its mandate, the RUE BRC "Ecology" prepares requests for provision of the necessary information according to the standard form which the Ministry of Natural Resources and Environmental Protection in its turn forwards to respective state administration bodies and other institutions. Based on the data obtained, the RUE BRC "Ecology" takes inventory of and prepares the Annual Greenhouse Gases Inventory and other documents to be submitted to the UNFCCC Secretariat.

The Figure below shows the scheme of arranging the work for collecting the baseline information and preparing the Annual Greenhouse Gases Inventory.

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[2] National Register of Legal Acts of the Republic of Belarus, 2006, No. 73, 5/22273.

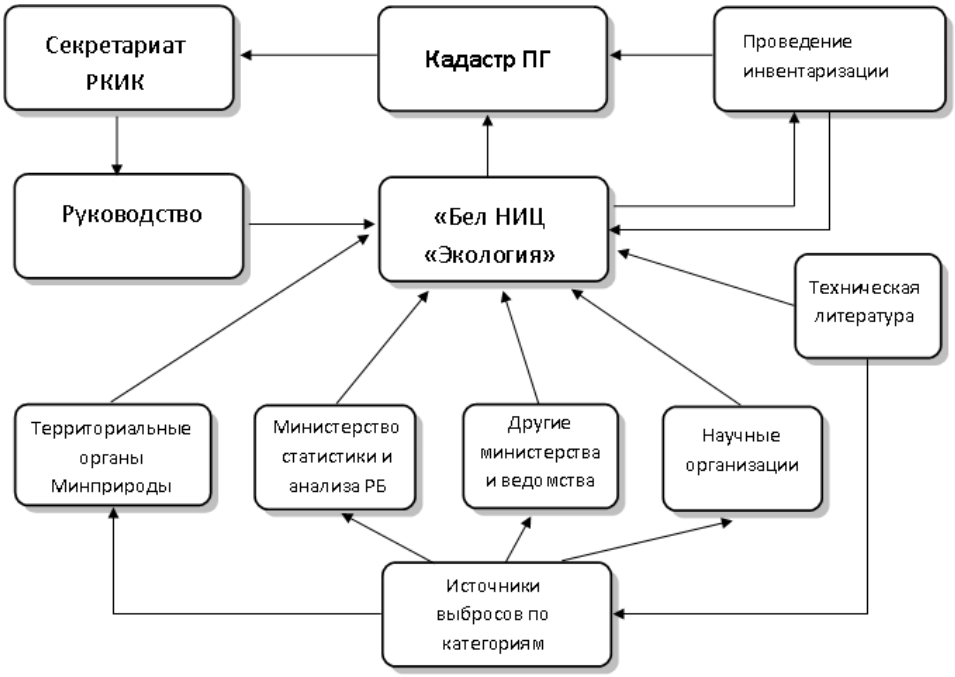

Figure 3 – Scheme of arranging the work for preparing the greenhouse gases inventory

UNFCCC Secretariat
Management
Territorial bodies of Ministry of Natural Resources
GHG inventory
RUE BRC "Ecology"
RB Ministry of Statistics and Analysis
Other ministries and departments
Inventory taking
Technical literature
Research organizations
Emission sources, category-wise

The main source of information is the National Statistical Committee of the Republic of Belarus which collects and provides the most complete data on all sectors of the national economy. Other ministries and departments, including concerns and enterprises, also provide supplementary information based on formal and/or clarification requests.

The GHG inventory taking Quality Assurance and Quality Control System (QA/QC) is in place in Belarus.

The Quality Assurance and Quality Control System is a set of regular checks aimed to ensure integrity, validity and completeness of data and calculations, actions designed to identify and eliminate errors and the System is also configured to store the entire inventory information.

At the first stage of the activity within QA/QC System, the completeness, comparability and consistency of the time series of data provided by the National Statistical Committee of the Republic of Belarus, other ministries and organizations being providers of the baseline information are checked.

QA/QC procedures are performed by staff of the GHG Inventory Group of the Department for International Projects in the RUE BRC "Ecology". In addition to verification of the data on the activity, the correct application of emission factors and selected methodologies used for calculation of emissions are controlled.

At the second stage, calculations made and results obtained are verified and the inventory is prepared. The quality control of calculations and inventory is performed by the group staff. Then, in accordance with established practice, the RUE BRC "Ecology" sends a Draft National GHG Inventory Report (NIR) to national experts who are narrowly focused specialists sector-wises and are not involved in the Report preparation. Independent experts verify the correctness of the use of original statistical data, emission factors, chosen calculation methodologies, quality of the description of trends in GHG emissions and absorption. After that, the NIR is updated subject to comments of independent national experts and, if necessary, additional recalculations are made.

Then, the GHG Inventory is forwarded to the Department for Controlling Impacts on Atmospheric Air and Water Resources of the Ministry of Natural Resources and Environmental Protection supervising the climate change issues for consideration and approval. The Ministry of Natural Resources and Environmental Protection is not directly involved in preparing the GHG Inventory, however, it is responsible for final examination of the document before submission to the UNFCCC Secretariat. Based on comments of the Ministry of Natural Resources and Environmental Protection, the RUE BRC "Ecology" makes appropriate amendments in the National GHG Inventory and then it is finally approved by the Ministry of Natural Resources and Environmental Protection and is sent to the UNFCCC Secretariat.

Procedures for arranging the work for the greenhouse gases inventory taking and preparing the inventory after submission of the 6th National Communication and 1 BR to the UNFCCC Secretariat have not substantially changed.

2. DETERMINED QUANTIFIED GREENHOUSE GAS EMISSION TARGETS ECONOMY-WIDE

According to commitments of the Republic of Belarus as a Party to the UNFCCC and Kyoto Protocol, its total anthropogenic greenhouse gas emissions during the first commitment period (2008-2012) were to amount to 92% against the 1990 level, i.e., they were to reduce by 8%.

The Republic of Belarus has undertaken voluntary commitments for the second commitment period of the Kyoto Protocol also to reduce greenhouse gas emissions by 8 percent in 2020 against the 1990 level.

Given the commitments undertaken, a strategic goal of the policy pursued by the Republic of Belarus in the area of the climate change is to ensure secure and sustainable development of the country at the lowest level of the greenhouse gas emissions, with consideration being given to institutional, economical, ecological and social aspects of

development under the changing climate and probability of occurrence of respective threats and challenges.

Belarus has developed the regulatory legal framework in the area of controlling the impact on the climate to meet the national commitments under the UNFCCC and Kyoto Protocol.

According to the INDC data, the Republic of Belarus undertakes to reduce GHG emissions by 28% by 2030 against the 1990 base year level.

Description of the emission reduction target economy-wide:

- base year – 1990;

- sectors to be covered: energy, industrial processes, solvent use, agriculture, waste, excluding the LULUCF sector;

- gases to be covered: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O); hydrofluorocarbons (HFC); perfluorocarbons (PFC); sulfur hexafluoride (SF_6);

- global warming potential values (GWP) are taken from the Second IPCC Assessment Report;

- approaches to accounting emissions and absorption in the LULUCF sector are to be specified after updating methodological aspects of assessment of greenhouse gas emission and absorption in this sector;

- use of international market mechanisms to achieve the emission reduction target is currently not planned.

The following measures may be considered as a mechanism for meeting commitments by the Republic of Belarus until 2030:

- Belarus is to review the issue of accounting greenhouse gas emissions and sinks in the LULUCF sector until 2020;

- an area of the country covered by the forests is to be increased up to 41% and not less than 10 thousand hectares of disturbed wetlands are to be ecologically rehabilitated by 2030;

- in 2020-2030, natural ecological systems, biological and landscape diversity are to be preserved, ecological equilibrium of natural systems is to be maintained and specially protected areas covering not less than 8.8% of the country's territory are to be sustainably used;

- in 2016-2019, the legal framework of a new national policy in the area of climate change is to be developed and programs for development of main types of economic activity for a period of 2020-2030 aimed to control and stimulate the reduction in greenhouse gas emissions are to be elaborated;

- in 2016-2019, the legal and institutional framework in the area of adaptation to climate change is to be formed and mechanisms for collection and transmission of data, quick response

to emergencies, accounting current and future risks associated with the climate change, integration of adaptation measures into sectoral programs and country's socio-economic development programs are to be developed;

- in 2017-2030, programs of measures for adaptation actions and practices of the recreation and health rehabilitation activity, territorial development, planning transport infrastructure, development of urban planning projects of the general, special and detailed planning are to be elaborated.

3 PROGRESS IN ACHIEVING DETERMINED QUANTIFIED TARGETS OF EMISSION REDUCTION ECONOMY-WIDE AND RELEVANT INFORMATION

3.1. Actions Aimed to Prevent the Climate Change and Their Effect

The primary goal of the efficient climatic policy pursued by the state is to formulate and implement a strategy of shifting the economy onto a path of sustainable low-carbon development in order to reduce the anthropogenic load on the climatic system, mitigate climate changes and adapt to the climate changes which are of a reversible character.

Long-term targets serving as a basis for the climatic policy until 2020 are specified in the Directive of the President of the Republic of Belarus No. 3 of 14.06.2007 "Economy and Saving – Main Factor of the Economic Security of the State", Concept of Energy Security of the Republic of Belarus (Decree of the President of the Republic of Belarus No. 433 of 17.09.2007), Strategy for Development of Energy Potential in the Republic of Belarus (Resolution of the Council of Ministers of the Republic of Belarus No. 1180 of 09.08.2010), national and sectoral programs for modernization and development for a period until 2020 the list of which is provided in the Sixth National Communication (2015), including the National Program on Climate Change Mitigation Measures for 2013–2020 (Resolution of the Council of Ministers of the Republic of Belarus No. 510 of 21.06.2013). Therefore, currently and until the end of 2020, a range of legislative and other regulatory legal acts having mandatory legal force and specifying the policy and measures with the targets of reduction of energy intensity and carbon intensity of the national economy are effective in the Republic of Belarus.

The main target for the period of 2020-2030 is the National Strategy for Sustainable Socio-Economic Development of the Republic of Belarus until 2030 approved by the Presidium of the Council of Ministers of the Republic of Belarus in February 2015 in which proper attention is paid to the development principles based on the low-carbon economy, and the targets for 2030 provide for the reduction in energy intensity of the Gross Domestic Product (GDP) by

not less than 35 percent compared to 2015 and increase in the share of expenditure for the environmental protection up to 2-3 percent of the GDP.

To implement international agreements, Belarus has adopted a package of regulatory legal acts defining the policy and measures in the area of reduction and absorption of GHG emissions during the period from the time the FCCC and KP (first commitment period) entered into effect and to the present time.

Among the main strategies and programs, specific documents providing a general idea of the intensive work performed in the country in the area of the climate change and reduction of the greenhouse gas emissions should be mentioned:

Strategy of Greenhouse Gas Emission Reduction and Increasing Absorptions by Sinks in the Republic of Belarus for 2007 - 2012 (reviewed in detail in the in the 5th National Communication). The Strategy as a regulatory legal act is still in effect, however, from the formal point of view it is not used since the Strategy funding was terminated in 2012. It is obvious that there is a need to develop a new Strategy of Greenhouse Gas Emission Reduction and Increasing Absorptions by Sinks in the Republic of Belarus for a new period with consideration for FCCC requirements and specifics of the new international climate agreement which is to be adopted at the Conference of the Parties in Paris in the near future.

In furtherance of the National Program on Climate Change Mitigation Measures for 2008-2012, the **National Program on Climate Change Mitigation Measures for 2013–2020** was adopted and approved by Resolution No. 510 of the Council of Ministers of the Republic of Belarus dated 21 June 2013 (hereinafter referred to as the "National Program").

The goals of the National Program include implementation of activities aimed at mitigating climate change effects for the purpose of sustainable development of the country's economy, reduction in greenhouse gas emissions in order to reduce the rates of magnitude of the climate change. Addressing the goals of the National Program provides for achieving the target of reducing greenhouse gas emissions by 8 percent in 2020 against the 1990 level.

Implementation of the National Program under the conditions of the planned growth of the Gross Domestic Product will make it possible to:

reduce greenhouse gas emissions by not less than 10 mln tons in CO2 equivalent in 2013–2020 by saving fuel as per the plan and implementing environmental measures;

implement measures aimed to adapt different sectors of the economy to the climate change with consideration for socio-economic development of the country;

elaborate recommendations on energy and resources conservation, expansion of forest ecosystems, rebogging cutover peatlands and restoration of wetlands on reclaimed lands which

are not used and not planned to be restored for the purpose of increasing greenhouse gases absorption by sinks;

improving the regulatory legal framework in the area of the climate change.

Taking into consideration problems related to ratification of the amendment to the KP, the **Strategy for Belarus Participation in Flexibility Mechanisms Provided for by the Kyoto Protocol to FCCC**, No. 43 of 23.12.2008, approved by the Presidium of the Council of Ministers of the Republic of Belarus specified that the mechanism for voluntary reduction in greenhouse gas emissions will be the major source of external funds for Belarus to finance the greenhouse gas emissions reduction projects prior to entering the abovementioned Amendment to the KP into effect. This mechanism was not directly regulated by the KP, however, it complied with its spirit and principles.

To implement voluntary GHG emission reduction projects, a number of regulatory legal acts was developed and adopted in Belarus. For instance, Resolution of the Council of Ministers of the Republic of Belarus No. 466 of 14 April 2009 **"On the Procedure for Submission, Review and Monitoring of the Projects for Voluntary Reduction of** G**reenhouse Gas Emissions"** developed by the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus provided the opportunity of attracting facilities of potential foreign investors for the voluntary GHG emission reduction projects beyond the KP economic mechanisms and also was intended to stimulate the country's state administration bodies to develop the projects aimed at introducing renewable energy sources and increasing energy efficiency.

In execution of Resolution No. 466 of 14 April 2009 of the Council of Ministers of the Republic of Belarus, Resolution No. 59 of 14 September 2009 of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus **"On Measures to Implement Resolutions of the Council of Ministers of the Republic of Belarus No. 1144 of 5 September 2006 and No. 466 of 14 April 2009"** was adopted. The above document approved the form of the proposal for implementation of a project or an integrated project for voluntary reduction in greenhouse gas emissions; a format of the letter for support of the proposal for implementation of a project and an integrated project for voluntary reduction in greenhouse gas emissions; a format of the document of the organization of a project and an integrated project for voluntary reduction in greenhouse gas emissions; a format of the letter of approval of a project and an integrated project for voluntary reduction in greenhouse gas emissions.

Decree of the President of the Republic of Belarus No. 625 of 8 December 2010 "**On Specific Issues of Reducing the Greenhouse Gas Emissions"** regularized a number of provisions allowing the economy entities to receive facilities for the tradable units of voluntary

reduction in greenhouse gas emissions from buyers (legal entities, natural persons), including non-residents of the Republic of Belarus.

Decree of the President of the Republic of Belarus No. 224 of 07 May 2012 "**On the Negotiations on the Draft Amendment to Annex B to the Kyoto Protocol to the United Nations Framework Convention on Climate Change"** defines position of the Republic of Belarus at negotiations on the Draft Amendment to Annex B to the Kyoto Protocol to the UNFCCC. The Republic of Belarus will second the Amendment to Annex B to the Kyoto Protocol to the UNFCCC, if it provides for reduction in greenhouse gas emissions by 8 percent in 2020 against the 1990 level as a target for the Republic of Belarus for the second period of validity of the Kyoto Protocol to the UNFCCC.

Environmental Strategy of the Republic of Belarus until 2025 approved by Decision No.8-p of 28 January 2011of the Board of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus.

According to the Strategy, the goal of the long-term environmental protection until 2025 is to achieve higher quality of the environment providing ecologically favorable living conditions for the population, to assist in addressing global and regional ecological problems and promote sustainable socio-economic development of the Republic of Belarus.

The Strategy defines a number of tasks aimed to reduce an impact on the climate and adapt social and economic spheres to the climate change which include as follows:

- gradual transition to the low-carbon path of development of the energy sector by using unconventional and renewable energy sources, biofuel and nuclear energy to the greatest extent;
- introduction of economic stimulation in production and use of the ecology friendly types of fuel, including non-carbon fuels;
- introduction of the best farming practice (in particular, to reduce ammonia emissions) in managing livestock and poultry, storing and applying organic fertilizers to soil;
- construction of biogas plants;
- development of mechanisms of economic stimulation of economy entities to reduce greenhouse gas emissions;
- achieving the level of greenhouse gas emissions not in excess of 110 mln tons by 2020;
- use of the system of insurance and special compensation funds to improve adaptation capacity of the socio-economic sphere to probable climatic changes.

The **State Program for Forestry Development of the Republic of Belarus for 2011–2015** (approved by Resolution No. 1626 of 3 November 2010 of the Council of Ministers of the Republic of Belarus) was developed in furtherance of the Program for Forestry Development of the Republic of Belarus for 2007–2011 (2006).

The main goal of the State Program is to achieve the sustainable, cost-effective, ecologically responsible and socially oriented forest management and forest use.

Implementation of the State Program measures will help comprehensively address the tasks of improving efficiency of the forest management, increasing forestry profitability by enhancing forest productivity and improving the age and species structure of forests.

Resolution of the Council of Ministers of the Republic of Belarus No. 669 of 26 May 2011 approved the **State Program of Innovation Development of the Republic of Belarus for 2011–2015**.

The following are to be developed in the energy production and energy saving sphere: innovative technologies and equipment for production of the electric and heat energy using renewable energy sources (wood, biomass, wind and others); technologies for production of biogas in biogas units; new energy generation capacities using renewable energy sources are to be commissioned.

Resolution of the Council of Ministers of the Republic of Belarus No. 194 of 29 February 2012 approved the **State Program for Development of the Belarusian Energy System for a Period until 2016**.

According to the functions assigned to the Ministry of Energy and State Production Association "Belenergo", the State Program specifies goals and objectives of developing and operating of the Belarusian Energy System and also the ways of achieving them in conjunction with the projected fuel and energy balance of the Republic of Belarus and with the development and operation modes of sources in other sectors of the economy.

Resolution of the Council of Ministers of the Republic of Belarus No.1882 of 24 December 2010 approved the **Republican Program for Energy Saving for 2011–2015**.

The energy saving measures planned for 2011–2015 will contribute to observance of greenhouse gas emission limits set by the programs adopted in the country and will serve as a basis for implementing activities aimed to reduce the specific consumption of the hydrocarbon fuel in the Republic of Belarus.

The planned fuel saving in 2011–2015 in the quantity of 7.5–9.3 mln t.f.e. is to contribute to the reduction in greenhouse gas emissions by 12.3 mln t of CO_2 in equivalent or by 2.6–2.8 mln t of CO_2 in equivalent annually (6^{th} NC data).

In 2011–2015, the structure of the used types of fuel is likely to be changed, i.e.,

increasing the consumption of coal and peat which will result in the increased greenhouse gas emissions from power and industrial plants. Replacing 2 mln t.f.e. of natural gas with peat and coal will result in the increased carbon dioxide emissions amounting to 3 mln t of CO_2. Increasing the consumption of biomass (wood, wood waste) by 1 mln t.f.e. will help reduce these emissions as estimated by 50 percent.

Therefore, the net effect of the above factors (change in fuel consumption structure and implementation of energy saving measures) will help reduce greenhouse gas emissions by not less than 11 mln t of CO_2 in equivalent.

This Section contains only specific programs and more detailed information with assessment of effect of mitigating measures is provided in Table 3.

3.2 Monitoring Implementation of National Programs

State, national and sectoral programs reviewed in the 6th NC and 2nd BR are monitored by respective national state administration bodies being in charge for implementation of some or other program.

As a rule, national state administration bodies annually submit a progress report on some or other program to the Council of Ministers of the Republic of Belarus before 25 January or before 25 February of the year following the reporting year.

This implementation control mechanism is specified in detail in each program.

To coordinate activities of the national state administration bodies and other governmental organizations reporting to the Government of the Republic of Belarus and being in charge for fulfilling obligations of the Republic of Belarus under the UNFCCC, Kyoto Protocol to it and decisions of the Conferences of the Parties to the UNFCCC and meetings of the Parties to the Kyoto Protocol, an Interdepartmental Working Group on Climate Change Problems under the Ministry of Natural Resources and Environmental Protection was established. It comprises representatives of many ministries concerned such as the Ministry of Foreign Affairs, the Ministry of Energy, the Ministry of Economy, the Ministry of Finance, the Ministry of Forestry, the Ministry of Agriculture and Food and others and also experts. At its meetings, this Working Group deals with the matters related to fulfillment of the country's obligations under climate agreements, reviews planned programs and programs under implementation aimed to reduce greenhouse gas emissions, issues of trading carbon units and others.

The RUE BRC "Ecology" being the Center in charge for taking inventory of greenhouse gases, preparing the GHG Cadastres and National Communications of the Republic of Belarus

(Order No. 417 of 29.12.2005 of the Ministry of Natural Resources and Environmental Protection) cooperates with organizations, enterprises and also ministries in the field of collection of the required data, processes, analyses and integrates it.

The policy being pursued and measures being implemented in the Republic of Belarus in the area of the climate change are aimed to support the country's sustainable development, promote "green" economy, energy efficient technologies and create a favorable healthy environment.

The policy pursued by Belarus in the field of the climate change is not detrimental for and produces no adverse effect on other countries, specifically developing countries.

3.3 Assessment of the Reduction in and Absorption of Emissions, Use of Units through Market Mechanisms and Activity in the Field of Land Use, Land Use Change and Forestry

In 1990, total greenhouse gas emissions in the Republic of Belarus, excluding the LULUCF sector, amounted to 139,151.23 Gg CO_2 eq., net removals in the LULUCF sector amounted to 28,574.44 Gg CO_2 eq., while total GHG emissions, including the LULUCF sector, – 110,576.79 Gg CO_2 eq.

In 2012, total greenhouse gas emissions in the Republic of Belarus, excluding the LULUCF sector, amounted to 89,283.33 Gg CO_2 eq., net removals in the LULUCF sector amounted to 25,500.74 Gg CO_2 eq., while total GHG emissions, including the LULUCF sector, amounted to 63,782.58 Gg CO_2 eq.

Therefore, total emissions in 2012, excluding the LULUCF sector, reduced by 35.8% against the base year of 1990.

In view of the fact that the goal of the Republic of Belarus was to reduce GHG emissions by 8% against the base year in the first commitment period and until 2020, it is apparent that the country meets its commitments and according to projections is to achieve this target in the future.

Despite the planned programs and measures in the LULUCF sector, this sector is not likely to make contribution of achieving the targeted reduction in greenhouse gas emissions.

During the entire first commitment period within the Kyoto Protocol, the Republic of Belarus was not in a position to attract carbon finance due to the fact that the amendment to Annex B, adopted by the Parties in Decision 10/CMP.2 was not ratified), while the prospects of using instruments of the international carbon market in 2013-2020 are minimal under the effect of Paragraph 3.7-ter of the Doha Amendment adopted by the Parties in Decision 1/CMP.8.

Proceeding form the Doha Amendment, the Republic of Belarus undertook commitments to achieve the 92% level of emissions in 2020 against 1990 with "specific quantitative

commitments to limit or reduce emissions over the period of 2013-2020" to 88% against 1990, provided that it is involved in the KP mechanisms.

Currently, the issues of internal emission trading are actually not addressed in the Belarusian legislation. At the initial stage of establishing the internal greenhouse gas emission trading system, a greenhouse gas emission accounting, reporting and control system (MRV system – monitoring, reporting, verifying) needs to be arranged. Specific components of this system are already provided for by the national legislation.

Belarus adopted the Plan Actions for Greenhouse Gas Emission Control for 2015-2017 approved by the Deputy Prime Minister of the Republic of Belarus Rusy M. I. (No. 06/214-278 of 20.12.2014). The Plan of Actions includes a package of works to establish the internal GHG emission trading system.

The Republic of Belarus intends to reduce carbon intensity of its economy in the future. This is evident from the policy and measures which have been adopted and are being adopted in the country both economy-wide and sector-wise. The country admits the fact that many economy sectors still possess a great potential for preventing the climate change.

However, despite advances in the economic development and transition to the market-oriented economy, the GDP per capita based on purchasing power parity in Belarus is one of the lowest among the countries of Annex I to the UNFCCC, while the share of investments in the fixed assets is not sufficient for the extended production.

The Government of the Republic of Belarus pays great attention to climate change problems and plans actions aimed to stabilize emissions and increase GHG removals over the period of economy growth. The measures to improve the quality of greenhouse gas sinks and reservoirs are rather critical in this respect. In Belarus, where forests cover about 40 % of its territory, of great importance is the potential for increasing absorption of carbon dioxide by forest ecosystems from the atmosphere.

Subject to the planned actions for implementing the UN Convention to Combat Desertification, the Republic of Belarus intends to ecologically rehabilitate not less than 10 thousand hectares of disturbed wetlands from 2015 to 2030. Subject to the National Strategy for Development of the System of Specially Protected Natural Areas, the efforts will be directed for further preservation of natural ecological systems, biological and landscape diversity, maintenance of the ecological equilibrium of natural systems and promotion of the sustainable use of specially protected natural areas covering not less than 8.6% of the country's territory.

4 PROJECTIONS OF GREENHOUSE GAS EMISSIONS

Results of the projected total greenhouse gas emissions across the country with

consideration for different scenarios are shown below.

The differences in projected values will be conditioned by different scenarios of development of the "Energy" and "Transport" sectors which substantially influence the formation of the total country balance of greenhouse gas emissions.

Greenhouse gas emission projections are made by using modeling tools (LEAP and BALANCE) for scenarios of development of specific sectors and also by using econometric modeling methods (regression analysis) and with consideration for expert proposals. The use of these approaches is primarily conditioned by availability of only aggregated data on development of specific sectors until 2020 and also by lack of necessary statistical information.

Figure 4 shows the dynamics of greenhouse gas emissions over the period of 1990-2012 and forecast until 2030 which is based on the scenario accounting the approved economy development programs, including the commissioning of the Belarusian nuclear power plant in 2018 and also additional policy and measures aimed to reduce carbon intensity. According to the forecast, a further trend toward the increase in greenhouse gas emissions will be observed after 2030.

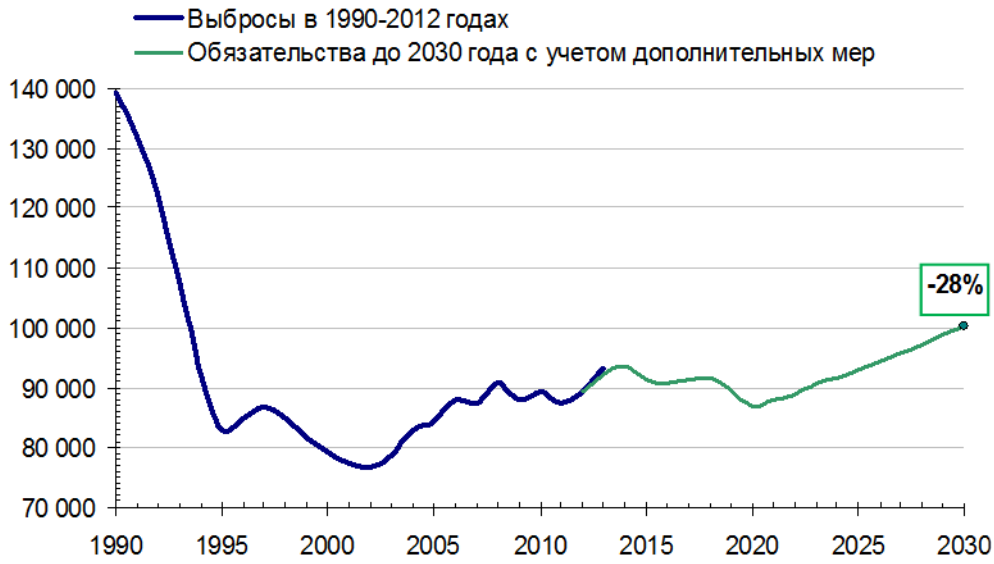

Figure 4 – Greenhouse gas emissions in 1990-2030, Gg CO_2 equivalent

Emissions in 1990-2012
Commitments until 2030 with consideration for additional measures

This forecast until 2030 was made after submission of the Sixth National Communication of the Republic of Belarus to the UNFCCC Secretariat. The forecast was calculated in the process of preparing the document "Intended Nationally Determined Contributions of the

Republic of Belarus on Reduction Greenhouse Gas Emissions" using the GHG inventory data over the period of 1990-2012.

4.1. Description of Scenarios of Greenhouse Gas Emissions until 2030 for Preparing the Document "Intended Nationally Determined Contributions of the Republic of Belarus on Reduction of Greenhouse Gas Emissions

The Intended Nationally Determined Contribution (INDC) of the Republic of Belarus was based on making a baseline scenario and a scenario with additional measures. Both scenarios were made on the economy development forecasts accounting projected GDP growth rates for a short-term period (the World Bank and International Monetary Fund data) and for a long-term period (data contained in the National Strategy of Sustainable Development until 2030). Figure 5 shows trends and GDP growth rates forecasts until 2030 which were used by experts as a basis for assessments of greenhouse gas emissions over the period from 2015 to 2030.

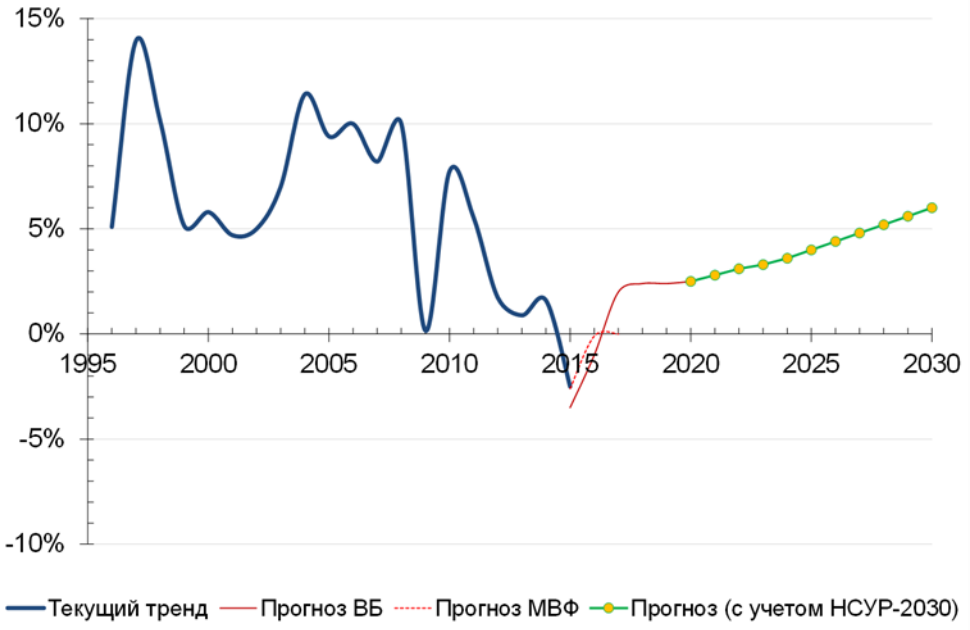

Figure 5 – Trends and GDP growth rates forecasts

Current trend WB forecast IMF forecast (National Sustainable Development Strategy-2030)

The following models and methodologies were used to make greenhouse gas emission projections:

- LEAP Model (long-term energy planning) and BALANCE Model (energy balance forecast) for the "Energy" sector;
- BALANCE Model (energy balance forecast) for the "Transport" sector;

- Correlation and regression analysis for other sectors.

The source data for making the projections were based on the analysis of targets specified in programs and strategies under implementation, statistical data, assessments of international organizations and other available sources, as well as on the expert appraisals.

The baseline scenario, in its turn, accounts all policies and measures worked out and planned to be implemented in the country. The scenario with additional measures includes additional economically beneficial potential based on the best available practice in the field of improving energy efficiency in the key economy sectors and estimated to be 25-30 million tons in CO_2 equivalent over the period from 2015 to 2030. The scenario with additional measures is taken into consideration to determine the national contribution to emission reduction. According to the above scenarios, the Republic of Belarus may reduce emissions **by not less than 28 percent** by 2030 against the 1990 level (see Figure 6 below).

The emission reduction scenarios are to be realized based on achievement of goals set in strategic and program documents which are currently in effect and/or will be elaborated. In particular, in 2016-2019, it is planned to develop a legal framework of a new national climatic policy and elaborate programs for development of key types of economic activity for a period of 2020-2030, including measures regulating and stimulating reduction in greenhouse gas emissions.

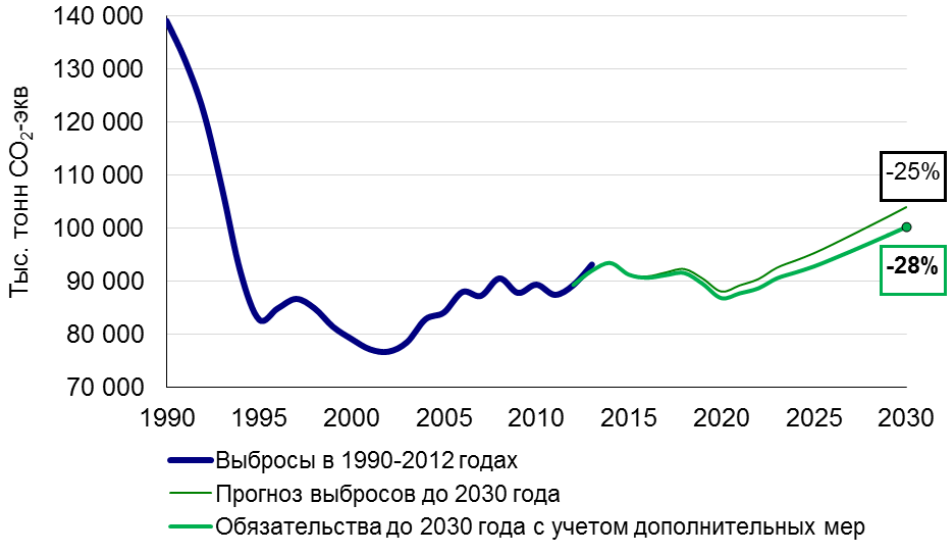

Figure 6 – Greenhouse gas emissions in 1990-2030

Emission in 1990-2012
Emission projection until 2030
Commitments until 2030 with consideration for additional measures
Ths tons of CO_2 eq.

Below is provided the analysis of long-term trends in key sectors of the economy: Energy, Industry, Transport and Waste. In the process of conducting analysis, special attention was given to those sectors since they effect the dynamics of greenhouse gas emissions most (more than 75% of the national emissions).

Energy

Power and heat engineering will be as before one of the key sources of greenhouse gas emissions into the atmosphere of the country until 2030.

The Belarus' fuel and energy balance structure will be subjected to substantial changes after commissioning the nuclear power plant which would result in significant reduction in consumption of fossil fuels used for electric energy production. According to the main effective and to-be-developed documents of the long-term energy sector development, it is expected that the share of the dominant fuel type (natural gas) in the gross consumption of fuel and energy resources will reduce by 52% by 2030 in the country compared to 60% in 2015 due to inclusion nuclear energy in the energy balance. In this case, the ratio of production (extraction) of the primary energy from renewable energy sources to the gross consumption of fuel and energy resources in the country may increase from 5% to 8% over the period from 2015 to 2030.

In the medium term, increasing energy efficiency of the national economy will remain one of the key priorities in Belarus. The National Strategy of Sustainable Socio-Economic Development of the Republic of Belarus until 2030 sets a target to reduce GDP energy intensity (in 2005 prices) by 35%: from 340 kg f.e./mln BYR to 220 kg f.e./mln BYR (Figure 7).

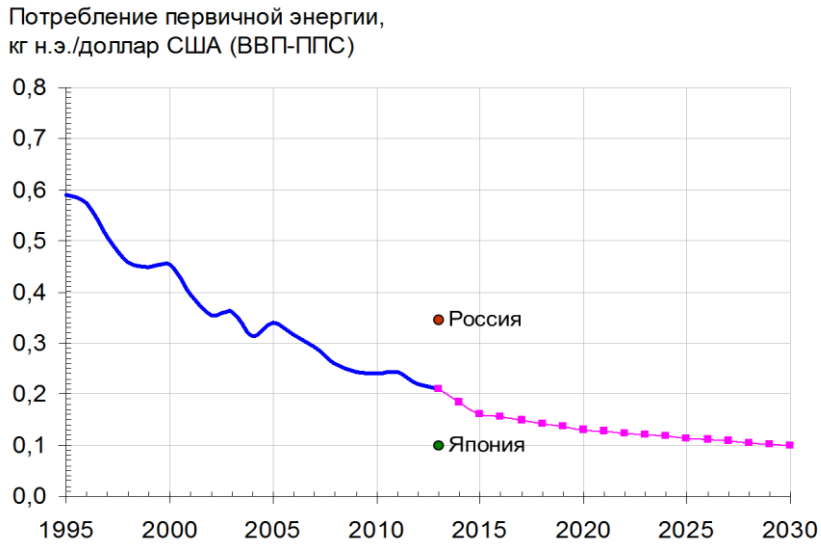

Figure 7 – GDP energy intensity dynamics

Primary energy consumption,
kg o.e/USD (GDP-PPP)
Russia
Japan

In the context of the forecast GDP decline in the country in 2015 and probable economic stagnation in 2016, low GDP growth rates over the period until 2020 and also in view of the energy efficiency improvement policy pursued in the country, the demand for electric energy in Belarus by 2020 will correspond to the 2015 level and amount to about 36.0 bln kWh, and may increase to 47.1 bln kWh by 2030 within the framework of accepted scenario. The total installed

electric power of power plants of the Belarusian energy system may reach 12.6 GW by 2020. The GDP power intensity within the forecasting horizon in question will reduce from 0.206 kWh/ths BYR to 0.160 kWh/ths BYR in prices of 2010. (Figure 8).

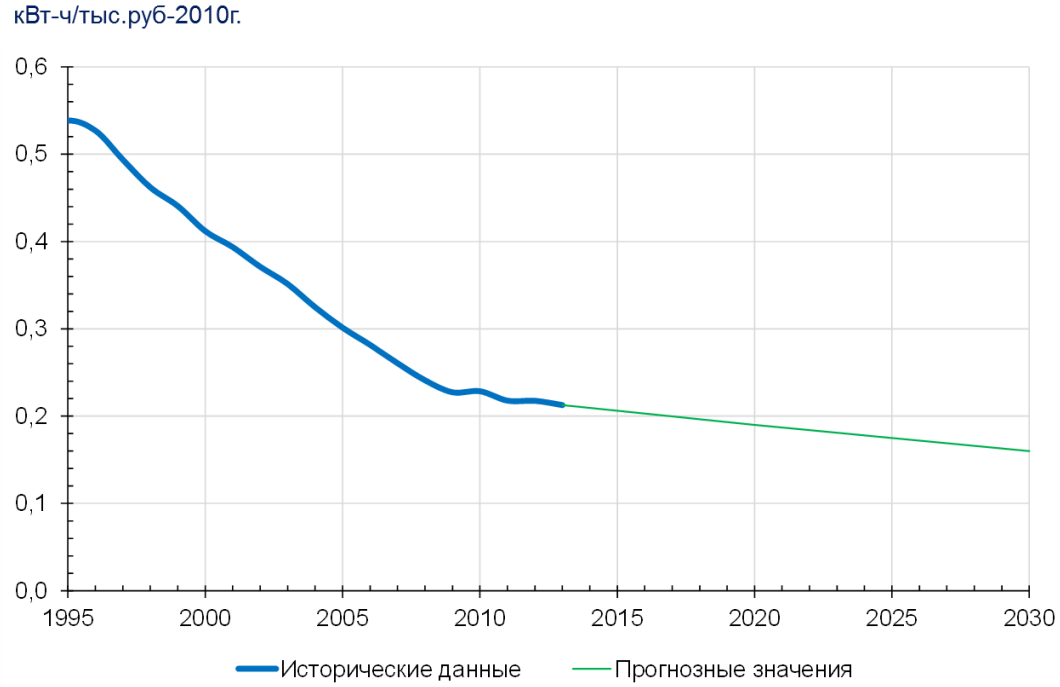

Figure 8 – GDP electric power intensity dynamics

kWh/ths BYR – 2010 Historical data Forecast values

The use of renewable energy sources will be further promoted within the framework of available technical and economically viable potential. The installed electric power of Belarusian hydro power plants may amount to 100 MW by 2020, while that of wind-driven power-plants – by 55 MW. It should be noted that the total installed electric power of the above mentioned power generating plants is likely to increase to 150 and 400 MW respectively by 2030.

The demand for thermal energy within the framework of scenarios under review is estimated to be in the range of from 70 mln Gcal (moderate demand) to 74 mln Gcal (high demand) by 2030, with actual heat consumption in the country being at the level of 70 mln Gcal at year end 2014. It should be noted that the forecast thermal energy consumption structure in Belarus in terms of main consumers will not substantially change over the period until 2030: organizations and industrial enterprises will remain key heat consumers in the country, while the domestic consumers will account for about one third of the thermal energy consumed. The dynamics of the Belarusian economy thermal energy intensity in the context of the increased demand for the thermal energy is shown in Figure 9.

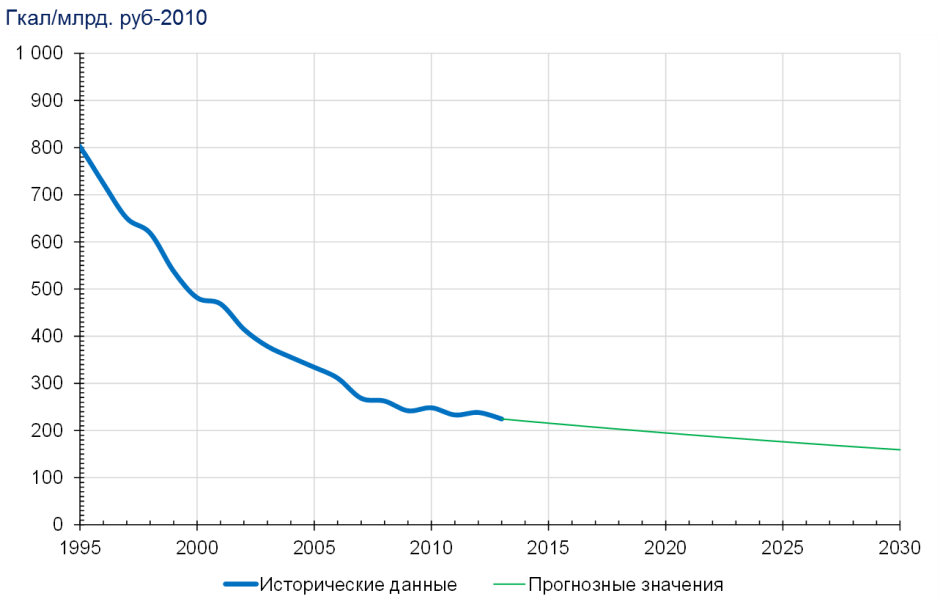

Figure 9 – GDP heat intensity dynamics

Gcal/bln BYR – 2010 Historical data Forecast values

Figure 10 below shows the results of forecasts in the energy sector. It should be noted that two models – LEAP and BALANCE – are used in the energy sector for forecasting to additionally control the quality of source data and indicators used for making forecasts. The both models produce similar results, thereby proving their good convergence. To make calculations based on the BALANCE model, two main scenarios of demand for the heat energy were considered depending on the economy development rates: 70 mln Gcal and 74 mln Gcal.

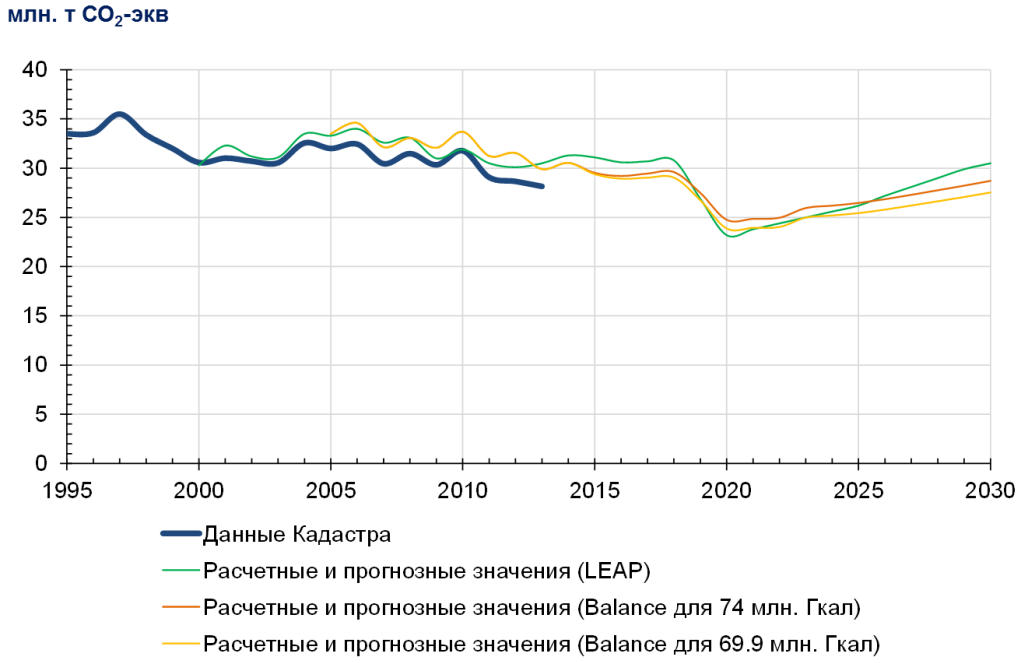

Figure 10 – Results obtained by using LEAP and BALANCE Models for projections in the Energy sector

Mln t CO_2 eq. Cadastre data; Calculated and projected values (LEAP); Calculated and projected values (BALANCE for 74 mln Gcal); Calculated and projected values (BALANCE for 69.9 mln Gcal)

Industry

A substantial reduction in the GDP energy intensity has been achieved in the Republic of Belarus since 2000 primarily due to the increased efficiency of consumption of fuel and energy resources in the industry. Belarus already keeps ahead of Russia and Ukraine in terms of the GDP energy intensity. However, Belarus is still lagging far behind (1.5-2-fold) the industrially developed countries of the world.

Belarus pursues a focused state policy in the sphere of improving energy efficiency and owing to this, the stage of low-cost measures in the industry has been already completed. As a result, costs for further improvement of the energy efficiency at operating industrial enterprises are comparable with the effect obtained form implementing measures. Due to this, the GDP energy intensity in the country is to be further reduced predominantly through technical and technological refurbishment of enterprises and restructuring the country's economy to increase the share of the services in forming the GDP.

One of the primary tasks of the national industrial policy in terms of improving efficiency of using fuel and energy resources (and reducing the GDP carbon intensity respectfully) in the medium term is to achieve to the extent possible the level of the industrialized countries in terms of energy efficiency of the Gross Domestic Product as a main energy criterion of the country's economic development.

According to principal provisions of the National Strategy of Sustainable Socio-Economic Development of the Republic of Belarus for a Period until 2030, the primary objective of the Belarus' industrial complex development is to gradually bring industrial efficiency to an average level of the European Union countries. In particular, the share of high-tech activities is to be increased from 2.3% in 2013 to 8-10% by 2030 in the industrial production structure, as well as value added labor productivity is to be raised to the level of USD40-50 ths per employee in the industry.

Knowledge-intensive industries in the spheres of biotechnologies, nanotechnologies, microelectronics, fine chemistry technologies, information and communications technologies, optics and laser technology, genetic engineering and innovative structural and construction materials are defined as priority spheres in development of the Belarus' industrial complex. These sectors are not regarded as energy intensive and, hence, their development in the country is to substantially contribute to the increase in industrial energy efficiency.

In addition, it is planned to build up the export potential of the traditional sectors of the Belarusian industry (production of food products, metallurgy, oil refining, and production of rubber and plastic products) by establishing new highly specialized production facilities to manufacture products with a large share of value added.

It is also planned to renew the assortment and increase competitiveness of products of the traditional industrial sectors by manufacturing products and components in the high-tech sector. The following industries will receive large development efforts: metallurgical industry by establishing new metal-rolling production facilities; tractor industry by expanding the production of powerful energy-packed tractors; communal machine-building; motor industry; and production of quarry machinery. It is planned to introduce innovative ammonia and carbamide processes and to technologically refurbish polyethylene terephthalate production facilities.

Implementation of the above strategic plans in the industry will help phase out the production of energy-intensive low-marginal types of products and gradually change over to manufacture of industrial products with higher value added. As a result, this would further contribute to improving energy and ecological efficiency in the industry and further reduction of carbon intensity of this sector of the national economy.

Figure 11 shows the data of the National Greenhouse Gas Emission Inventory in the industrial sector over the period from 2000 to 2013 and also the data on emission forecasts until 2030 made within the framework of preparation of the Intended Nationally Determined Contributions of the Republic of Belarus based on the above assumptions and source data.

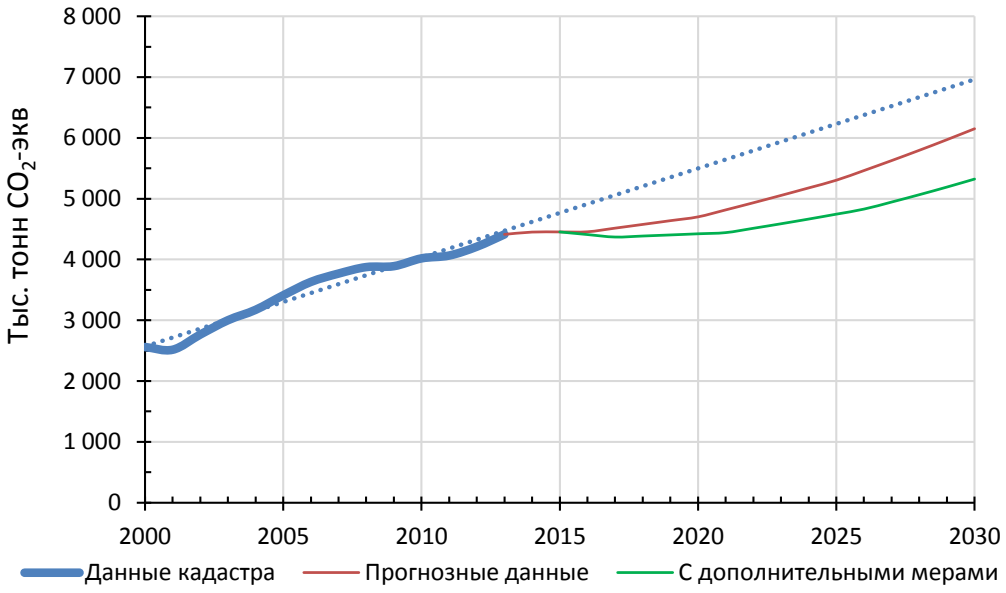

Figure 11 – Greenhouse gas emissions in "Industry" sector

ths tons of CO_2 eq. Inventory data Forecast data With supplementary measures

Assessment of the additional potential for energy saving in the industrial sector is not available in the existing Republican Program for Energy Saving for 2011−2015. The energy saving in the industrial sector is not considered too in other regulatory legal documents of the

Republic of Belarus. Therefore, the expert estimates served as a basis for assessing the greenhouse gas emission reduction potential in the industrial sector[3].

Therefore, the technical potential for energy saving in the industrial sector of the Republic of Belarus amounts to 4,078 ths t.f.e., which according to the forecast may be fully realized over the remaining period until 2030. This forecast is plotted as a curve "With supplementary measures" in Figure 8.

Transport

The amount of economic activity in the transport sector and indicators of energy consumption by main transport modes are assumed based on the data provided by the National Statistical Committee of the Republic of Belarus (Statistical Reference Book "Transport and Communication in the Republic of Belarus 2014") and the Department for Energy Efficiency of the State Standardization Committee of the Republic of Belarus. In 2013, energy consumption in the transport sector of the Republic of Belarus amounted to 118,434.35 TJ (4,041 ths t.f.e.).

Greenhouse gas emissions in the transport sector are assessed based on the data on emissions from fuel combustion and emissions related to fugitive emissions in any device and mechanism configured to transport (transfer) material objects, cargo and passengers, including air transport, railway transport, motor transport and pipeline transport (gas pipeline and oil pipeline transport). According to the data of the National GHG Inventory of the Republic of Belarus, in 2013 these emissions amounted to 8,228 ths tons of CO_2 eq.

Figure 12 provides the data of the National Greenhouse Gas Emissions Inventory in the transport sector over the period from 2000 to 2013 and also the emission forecast data until 2030, with the forecast being made in the process of preparing the Intended Nationally Determined Contributions of the Republic of Belarus.

Assessment of the additional potential of energy saving in the transport sector in the existing Republican Program for Energy Saving for 2011−2015 is not available. The energy saving in the transport sector is not considered too in other regulatory legal documents of the Republic of Belarus. Therefore, the expert estimates served as a basis for assessing the greenhouse gas emission reduction potential in the transport sector[4].

Therefore, the technical potential of energy saving in the transport sector of the Republic of Belarus amounts to 3,363 ths t.f.e., which according to the forecast may be fully realized over the remaining period until 2030. This forecast is plotted as a curve "With supplementary measures" in Figure 12.

[3] http://www.cenef.ru/file/Final%20Report_C2E2_CENEf_June2_2015.pdf
[4] http://www.cenef.ru/file/Final%20Report_C2E2_CENEf_June2_2015.pdf

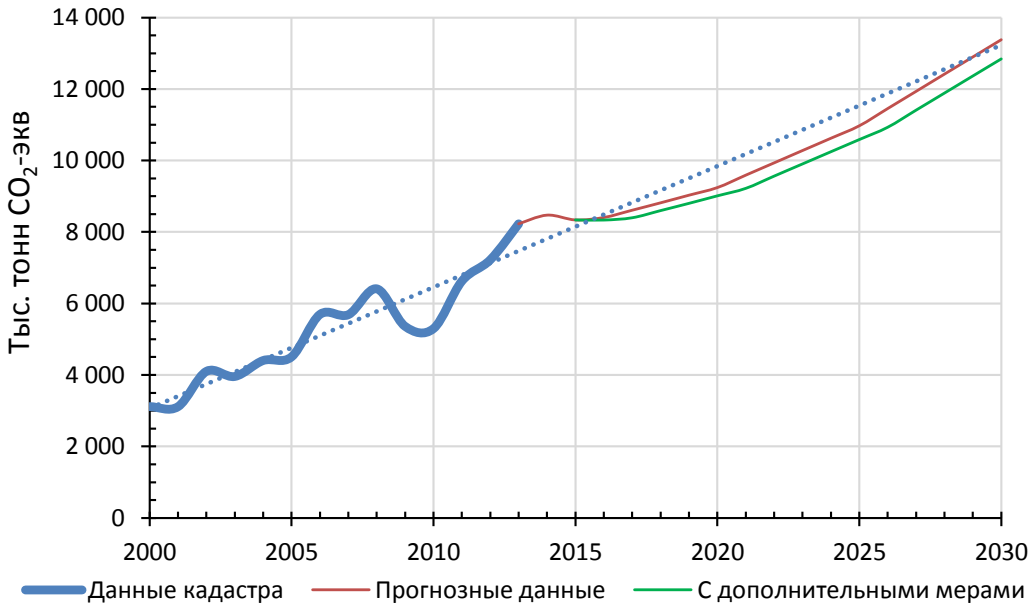

Figure12 – Greenhouse gas emissions in "Transport" sector

ths tons of CO_2 eq. Inventory data Forecast data With supplementary measures

"Waste" sector

The "Waste" sector accounts for about 8% of the national greenhouse gas emissions in Belarus. Starting from 1990 to 2012, emissions in this sector demonstrate a growing trend with an average annual growth rate of 4.5% due to the increased quantity of waste disposal in landfills (Figure 13). In their turn, emissions from landfilling municipal solid waster (MSW) are the main sources of emissions in "Waste" sector and account for 96% of emissions in the sector.

Greenhouse gas emission projections were made based on the forecast data of the dynamics of population change, expert estimates of waste production per capita until 2030 and also accounting the planned quantity of using the MSW provided for in the National Strategy of Sustainable Socio-Economic Development of the Republic of Belarus until 2030. According to the above mentioned Strategy, it is planned to increase the quantity of use of the municipal solid waste to achieve the 40% share of their utilization of the total waste production by 2030. This goal is to be achieved by compiling and implementing the list of measures aimed to reduce waste production and to draw waste into economic circulation to the greatest extent for products manufacture and energy generation.

The forecast results in the "Waste" sector are shown in Figure 13 below. It is expected that greenhouse gas emissions in this sector will be stabilized by 2030 and will not exceed the 2010 emission level, provided that the target of the MSW utilization set in the National Strategy of Sustainable Socio-Economic Development of the Republic of Belarus until 2030 is achieved.

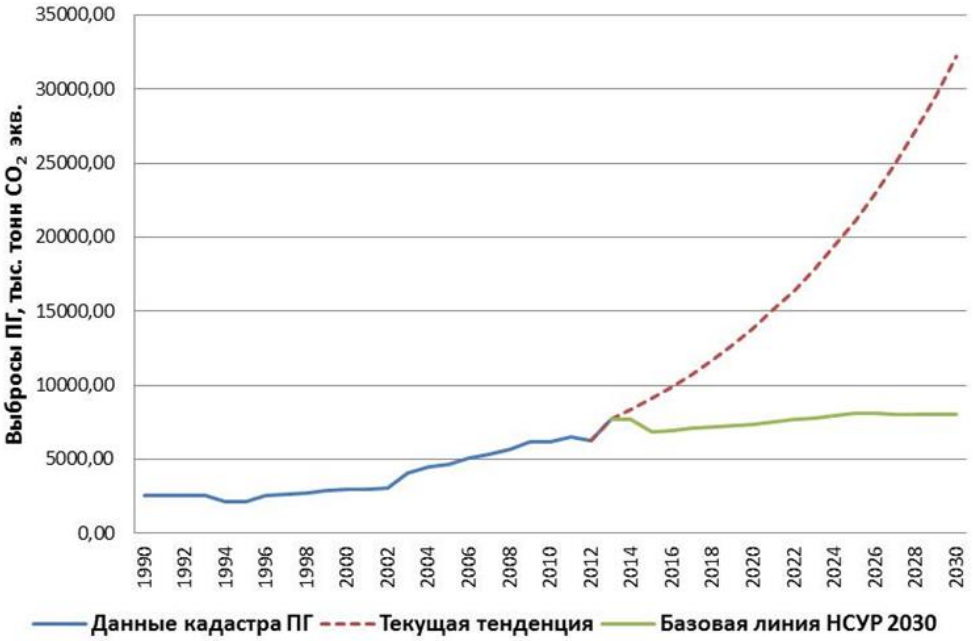

Figure 13 – Greenhouse gas emissions in the "Waste" sector

GHG emissions, ths t, CO_2 eq. GHG Cadastre data Current trend Base line NSSD 2030

Given the above, it may be stated with certainty that Belarus possesses a high greenhouse gases reduction potential. However, this potential is not fully exploited specifically in such sectors as transport, industry and waste, since the GHG reduction policy is mainly based on increasing economic energy efficiency, shifting from use of the fossil fuels for the electric power generation to nuclear energy and also specific measures to improve MSW management.

A substantial reduction in greenhouse gas emissions may be achieved, provided that accompanying policies and measures are developed in the country in the future to supplement the existing ones to mitigate consequences of the climate change impact. Opportunities for implementing further measures in the Republic of Belarus aimed to reduce greenhouse gas emissions until 2030 are discussed in the Section below.

5 PROVISION OF FINANCIAL AND TECHNICAL ASSISTANCE AND SUPPORT TO DEVELOPING COUNTRIES IN CAPACITY BUILDING

The Republic of Belarus is not a Party included in Annex II to the UNFCCC and in view of this no financial commitments were undertaken by it and it has no obligations to provide facilities to the developing countries subject to Article 4, Paragraphs 3, 4 and 5 of the Convention and Article 11 of the Kyoto Protocol, including "new and additional" resources. The Republic of Belarus has not made any financial contributions to the Global Ecological Fund, multilateral institutions and programs or bilateral and regional financial contributions related to implementation of the Convention.

The Republic of Belarus, however, has been providing and will provide support to the developing countries mainly in the spheres of education, capacity building, research and development related to the climate change problems.

6 OTHER INFORMATION

Institutional Changes

As it was described in the Fifth and Sixth National Communications, in pursuance of Resolutions of the Council of Ministers of the Republic of Belarus No.1145 of 05.09.2006 "On Establishment of the State Commission for Climate Change Problems" (as amended of 26.06.2013) the State Commission for Climate Change Problems was established and was functioning. Subject to Order No. 200 of 13 August 2007 issued by the Ministry of Natural Resources and Environmental Protection, a Secretariat of the State Commission for Climate Change Problems was formed. Over the period of its functioning, the Commission held 7 sittings to discuss the issues of formulating the strategy at the talks on the climate change problems; reviewed Draft Regulatory Legal Acts to implement provisions of the UNFCCC and Kyoto Protocol; reviewed and selected joint implementation projects within the framework of the Kyoto Protocol, as well as projects on voluntary reduction in greenhouse gas emissions and so forth. The Commission was disbanded subject to Resolutions of the Council of Ministers of the Republic of Belarus No. 676 of 12.07.2014 "Concerning the Annulment of Certain Resolutions of the Council of Ministers of the Republic of Belarus and Specific Structural Elements Thereof".

However, due to the fact that for the purpose of pursuing single state policy and fulfilling obligations under international agreements on global problems of climate change there was a need in a coordinating body which would include representatives of the ministries concerned and other state administration bodies such as the Ministry of Natural Resources and Environmental Protection, the Ministry of Foreign Affairs, the Ministry of Energy, the Ministry of Economy, the Ministry of Finance, the Ministry of Forestry, the Ministry of Agriculture and Food and others, as well as experts, an Interdepartmental Working Group on Climate Change Problems was established by Order No. 180-ОД of 20.05.2015 issued by the First Deputy Minister of Natural Resources and Environmental Protection of the Republic of Belarus.

The main goals of the Working Group on Climate Change are as fololows:

- arranging effective cooperation and coordination of activities between the national state administartion bodies and other public organizations reporting to the Government of the Republic of Belarus, Regional Executive Committees, Minsk City Executive Committee and

other institutions, experts in fulfilment of obligations of the Republic of Belarus ensuing from the UNFCCC, Kyoto Protocol to it and Decisions of Conferences of the Parties to the UNFCCC and Meetings of the Parties to the Kyoto Protocol aimed to stabilize the greenhouse gas concentration at a specific level which would prevent hazardous anthropogenic impact on the climatic system;

- coordinating the cooperation of the state bodies of the Republic of Belarus on the issues of involvement in official bodies of the UNFCCC and Kyoto Protocol, in the negotiation process associated with decision-making by the Parties to these international arrangements and also other international initiatives on climate change problems;

- reviewing, discussing and providing proposals on formulating the strtategy at the negotiations on climate change problems;

- drawing up recommendations on GHG emission reduction targets to be entered by the Republic of Belarus in international agreements on the climate change as its obligations;

- reviewing proposals of the Ministry of Natural Resources and Environmental Protection, other national state administration bodies and potential foreign partners concerning the emission trading and quantities of greenhouse gas emissions proposed for trading;

- reviewing recommemndations for reducing or limiting GHG emissions by using ecology-friendly energy-efficient technologies and also by absorbibg these gases by implementing forest engineering and other measures, etc.

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