

Informal translation

SECOND BIENNIAL REPORT OF THE RUSSIAN FEDERATION

**Submitted in accordance with Decision 1/CP.16 of the Conference of the Parties
to the United Nations Framework Convention on Climate Change**

Moscow 2015

Second Biennial Report of Russian Federation
CONTENTS

I. Introduction	
II. Information on the Greenhouse Gas Emissions and Trends	
A. Greenhouse Gas Emissions and Trends.....	
B. Procedure of the National Inventory Report Development	
III. Quantified Economy-wide Emission Reduction Target	
IV. Progress in Achievement the Quantified Economy-wide Emission Reduction Target and Relevant Information.....	
A. Mitigation actions and their effects	
B. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry activities	
V. Projections	
A. Scenarios of emissions in the energy sector	
B. Scenarios of emissions and removals in the forest sector.....	
C. Scenarios of the total greenhouse gas emission.....	
D. Prospects of scenario generation.....	
VI. Provisions of Financial, Technological, and Capacity-building Support to Developing Country Parties	
A. Finance.....	
B. Technology development and transfer.....	
C. Capacity building.....	
VII. Other Reporting Matters.....	

I. INTRODUCTION

The Second Biennial Report of the Russian Federation has been developed and submitted in accordance with the Decision 1/CP.16 of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). The report includes the textual part and the Common Tabular Format (BR CTF) submitted electronically in accordance with the Decision 19/CP.18 of the Conference of the Parties to the UNFCCC. The report was prepared following the “UNFCCC biennial reporting guidelines for developed country Parties” as contained in the Annex I to Decision 2/CP.17 of the Conference of the Parties.

More detailed information on the issues concerned by this report can be found in the Sixth National Communication of the Russian Federation submitted in accordance with the Articles 4 and 12 of the UNFCCC and the Article 7 of the Kyoto Protocol, and in the National Inventory Report on the Anthropogenic Emissions by Sources and Removals by Sinks of the Greenhouse Gases not Controlled by the Montreal Protocol.

The Department for Special and Scientific Programmes of the Roshydromet performed the institutional governance over the development of the report. The methodological guidance, preparation, and editorial revision of the report were performed by the Institute of Global Climate and Ecology, Federal State Budgetary Institution under Roshydromet and Russian Academy of Science.

II. INFORMATION ON THE GREENHOUSE GAS EMISSIONS AND TRENDS

This chapter includes the estimates of anthropogenic emissions and removals of the greenhouse gases (GHG) not controlled by the Montreal Protocol for 1990-2013 over the territory of the Russian Federation and a brief information on the institutional structure and the procedures for the development the National Inventory Report on the Anthropogenic Emissions by Sources and Removals by Sinks of the Greenhouse Gases not Controlled by the Montreal Protocol. In accordance with the Decision 2/CMP.17 of the Conference of the Parties to the UNFCCC, the data contained in this chapter correspond to that of the last submitted national inventory report.

A. Greenhouse gas emissions and trends

In 2013, the cumulative anthropogenic emissions of greenhouse gases in the Russian Federation comprised to 2 815.8 Mt CO₂-equivalent, excluding the Land Use, Land-Use Change and Forestry (LULUCF). The value corresponds to 71.4 per cent of total emission in 1990 or 115.8 per cent of total emission in 2000. With the inclusion of the emissions and removals from the LULUCF, the 2013 total emissions were 2 367.9 Mt CO₂-equivalent being 57.2 per cent of the total emissions in 1990 or 111.4 per cent of total emissions in 2000.

The trends of greenhouse gas (GHG) emissions and removals by sectors¹ in the Russian Federation are presented in Table II.1 and Figure II.1. Significant decrease of emissions occurred in 1990-1998 due to general economic situation in the country. The recession affected all sectors. In 1999-2008, the emissions demonstrated sustained growth owing to overall economic recovery (both in production and consumption sectors). However, the rate of emission growth was much lower than the rate of their decrease in the 1990. Thus, the total emission excluding the LULUCF decreased by 1 552.9 Mt CO₂-eq from 1990 to 1998, whereas from 2000 to 2008, it increased by only 358.6 Mt CO₂-eq. In 2009, the emissions in the Russian Federation decreased as an outcome of global economic crisis. The emissions increased again in 2010-2012, as a result of post-crisis economic recovery, but some decrease again occurred in 2013 (by 2.2 per cent relative to the previous year).

The distribution of emissions by sectors did not undergo substantial change from 1990 to 2013. The Energy sector still dominates in the emission profile with a share of 83.9 per cent in 2013 (Fig. II.2). The share of Agricultural sector decreased by 3.3 per cent, while the contribution of Industrial Processes sector was almost unaltered (the change was by 0.1 per cent). The contribution of Waste sector to cumulative emission continued to be the least despite the almost twofold increase of emission between the 1990 and 2013.

¹ The terms «energy», «energy sector» are used in this Chapter in the sense as they are used in the Kyoto Protocol (Annex A) and the IPCC methodological guidelines: the energy sector includes the combustion of all fossil fuel types and the processes that lead to fugitive emissions (technological emissions and leaks) to the atmosphere of fuel products regardless the economic sectors, where they occur.

Table II.1

The GHG emissions and removals by sectors, Kt CO₂-eq

Sector	1990	1998	2000	2005	2010	2011	2012	2013
Energy	3 250 141	1 984 521	2 002 249	2 238 881	2 334 605	2 402 513	2 414 943	2 361 132
Industrial Processes and Product Use	298 063	157 577	196 991	210 122	202 888	205 857	212 939	216 865
Agriculture	314 826	168 720	152 523	135 031	136 457	130 522	136 532	131 804
LULUCF ¹⁾	200 623	-145 992	-306 371	-355 841	-448 911	-466 365	-439 063	-447 912
Waste	78 070	77 428	79 280	86 321	96 482	99 661	102 698	106 007
Total excluding LULUCF ²⁾	3 941 100	2 388 245	2 431 043	2 670 355	2 770 432	2 838 554	2 867 112	2 815 808
Total including LULUCF ²⁾	4 141 723	2 242 253	2 124 672	2 314 515	2 321 521	2 372 189	2 428 049	2 367 896

¹⁾ Sign «minus» means net absorption, i.e. removals of the greenhouse gases from the atmosphere.

²⁾ Land Use, Land-Use Change and Forestry.

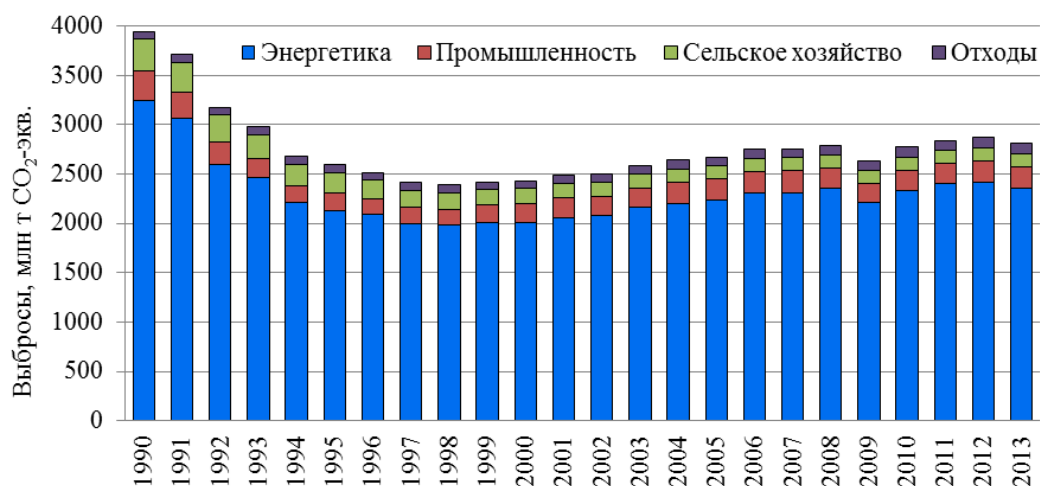
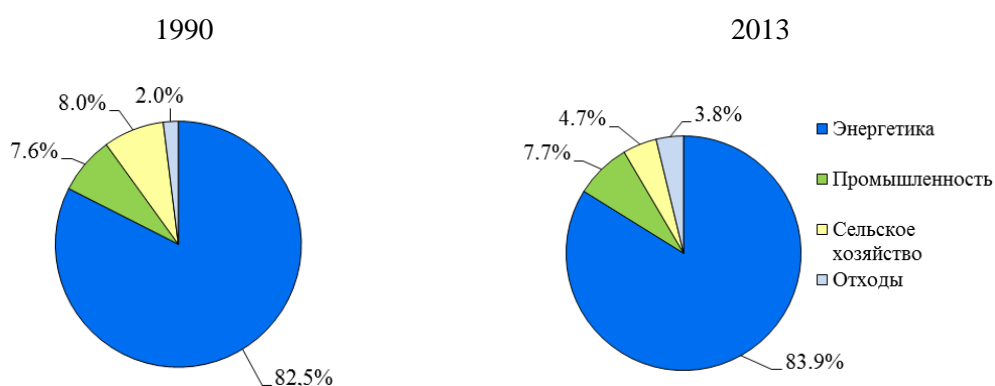


Figure II.1. The GHG emission trend, excluding the LULUCF sector

Figure II.2. The distribution of total GHG emissions (CO₂-eq) by sectors in 1990 and in 2013

The contribution of particular greenhouse gases to total emission is shown in Figure II.3. The CO₂ plays the leading role coming mostly from the energy sector (fossil fuel combustion). The share of CH₄ in total emission increased to 36.4 per cent. Some decrease of the share of N₂O was due to decline in application of nitrogen fertilizers in land-use caused by the difficult economic situation in the agricultural enterprises.

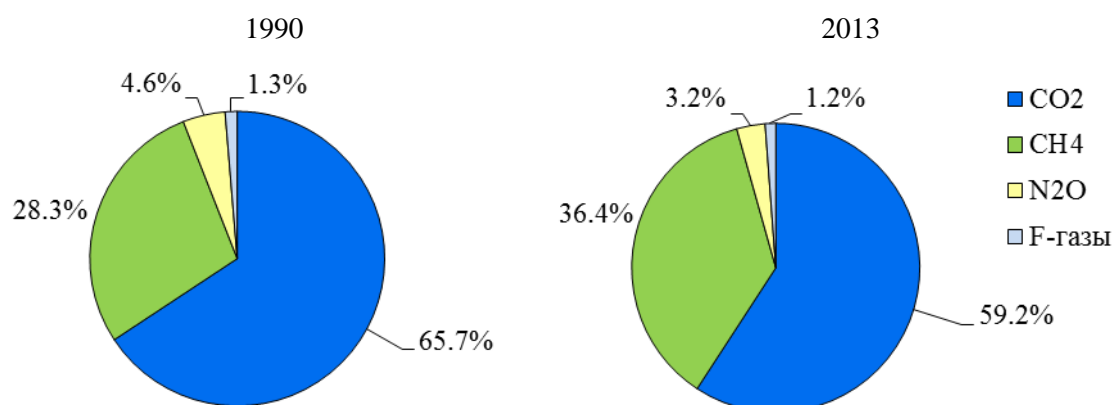


Figure II.3. The shares of particular greenhouse gases (CO₂-eq) in cumulative emission in 1990 and in 2013 (excluding the LULUCF sector)

Extraction, transport, processing and utilization of different fossil fuels provide the highest contribution to the GHG emissions in the Russian Federation (excluding the feedstocks and product use). The emissions from these processes fall into Energy sector. The emissions in this sector are mostly attributed to combustion of extracted in the Russian Federation fossil fuels (oil, natural and associated gases, coal, and to much lesser extent peat and oil shale) and their processing products. The CH₄ emissions associated with extraction, transport, processing, storage and utilization of different fossil fuels also play a significant role. The GHG emissions by main source categories in the Energy sector for 1990, 1998, 2000 and for the period from 2008 to 2013 are presented in Table II.2

Table II.2

The GHG emissions in the Energy sector, Kt CO₂-eq

Source categories	Gas	1990	1998	2000	2005	2010	2011	2012	2013
Fuel combustion	CO ₂	2 265 874	1 308 973	1 299 291	1 341 494	1 400 915	1 446 977	1 459 535	1 405 196
	CH ₄	13 681	4 494	3 535	3 866	3 669	3 748	3 734	3 325
	N ₂ O	9 077	4 372	4 618	4 975	4 706	5 026	5 105	4 995
Fugitive emissions from fuels	CO ₂	72 524	44 759	47 869	73 717	81 310	84 596	86 055	83 002
	CH ₄	888 804	621 808	646 813	814 637	843 793	861 943	860 286	864 396
	N ₂ O	180	114	122	192	213	224	228	217

Metallurgy is the main source of emissions in the Industrial Processes sector. In 2013, it contributed to 40.4 per cent of total greenhouse gas emission in the sector. The second most important source is chemical industry providing for 29.2 per cent. Emissions of mineral products industry contribute to 24.9 per cent. The distribution of GHG industrial

emissions by source categories for 1990, 1998, 2000 and the period from 2008 to 2013 is presented in Table II.3.

Table II.3

The GHG emissions from Industrial Processes and Product Use sector, Kt CO₂-eq

Source category	Gas	1990	1998	2000	2005	2010	2011	2012	2013
Mineral Products	CO ₂	88 270	32 639	40 413	50 079	49 462	52 818	52 395	53 932
Chemical Industry	CO ₂	39 122	22 663	30 794	34 974	35 006	36 532	35 969	37 498
	CH ₄	359	182	287	370	393	410	408	446
	N ₂ O	4 211	2 369	3 211	4 308	5 295	5 553	5 381	5 596
	F-gases	37 079	22 520	27 056	19 092	8 690	4 703	14 107	19 868
Iron and steel	CO ₂	110 505	65 706	83 256	91 090	93 281	93 603	90 622	84 158
	CH ₄	92	86	106	120	125	130	132	131
	F-gases	15 091	9 829	9 804	6 209	3 493	3 150	3 182	3 275
Non-energy fuel products and solvent use	CO ₂	2 758	911	1 293	1 234	1 124	1 180	1 298	1 265
Electronic industry	F-gases	20	21	32	45	18	30	15	10
Use of ODS substitutes	F-gases	8	130	209	2002	5305	7002	8662	9896
Other product use	N ₂ O	540	497	503	511	543	549	551	556
	F-gases	9	24	28	89	153	200	217	236

The greenhouse gas emissions from agriculture of Russia in 1990, 1998, 2000 and from 2008 to 2013 are presented in Table II.4. In 2013, the emissions from agriculture comprised 131.8 Mt CO₂-eq, being by 58.1 per cent lower than in 1990. Enteric fermentation (CH₄), manure management systems for agricultural animals and poultry (N₂O) and decomposition of plant residues (N₂O) are the most important emission sources in the agriculture.

Table II.4

The greenhouse gas emissions in agriculture sector, Kt CO₂-eq

Source categories	Gas	1990	1998	2000	2005	2010	2011	2012	2013
Enteric Fermentation	CH ₄	126 068	65 884	58 041	51 966	49 016	48 160	49 597	49 614
Manure Management Systems	CH ₄	10 676	5 078	4 577	3 779	3 864	3 920	4 042	4 110
	N ₂ O	21 145	10 216	9 167	8 358	8 779	8 561	8 947	9 156
Rice Cultivation	CH ₄	856	430	520	431	623	644	617	581
Agricultural Soils	N ₂ O	145 017	85 809	78 591	68 763	72 309	67 317	71 312	66 339
Liming and urea application	CO ₂	11 064	1 303	1 626	1 734	1 867	1 921	2 016	2 005

The greenhouse gas net flux in the LULUCF sector significantly depends on the balance of carbon dioxide removals by forests and the emissions related to harvesting and fire events. The main reason for forests being the CO₂ removals is due to twofold decrease of forest harvest operations compared to the 1990. The trend observed in the LULUCF sector is partly associated to reduction of emission from permanent croplands caused by the decrease in total land area and by sharp decline of amount of organic fertilizer application in early 1990s.

The greenhouse gas emissions and removals in the LULUCF sector are shown in Table II.5. In 1990-1993, the sector was a source, but since 1994 it has become the sink of greenhouse gases. In 2011, it provided for the removal of 447.9 Mt CO₂-eq, promoting the decrease of net national emissions by 15.9 per cent. As follows from the Table II.5, the managed forest and grasslands (haylands and pastures) were the sink of the CO₂. Timber production, fires, conversion of forest lands to settlements (deforestation) and drainage of flooded forest lands are the CO₂ sources. Destruction of organic matter owing to land cultivation and liming are the main CO₂ sources in land-use. Emissions of other greenhouse gases (CH₄ and N₂O) are mainly related to forest fires.

Table II.5

The greenhouse gases emissions and removals in the LULUCF sector, Kt CO₂-eq¹⁾

Category	Gas	1990	1998	2000	2005	2010	2011	2012	2013
Forest land	CO ₂	-190 318	-437 218	-546 318	-533 919	-618 743	-580 814	-589 751	-583 731
	CH ₄	12 535	16 566	12 472	15 158	15 825	15 905	15 773	14 191
	N ₂ O	9 753	12 401	10 325	33 419	30 588	31 852	26 471	28 620
Cropland	CO ₂	315 232	269 704	211 506	166 231	182 412	127 250	165 055	122 663
	CH ₄	5 554	4 639	4 340	3 830	3 683	3 660	3 651	3 643
Grassland	CO ₂	39 526	-96 346	-80 532	-115 545	-84 927	-86 594	-82 698	-60 362
	CH ₄	2 834	3 228	3 290	3 195	3 112	2 986	2 977	2 944
	N ₂ O	190	435	400	188	280	192	170	152
Wetland	CO ₂	3 390	2 961	2 795	2 389	2 228	2 190	2 153	2 115
	CH ₄	260	227	215	183	173	170	170	195
	N ₂ O	44	39	37	31	29	29	28	28
Settlements	CO ₂	16 396	16 892	17 204	14 325	-1 083	1 865	463	-2 461
	N ₂ O	383	3 067	3 072	2 964	175	143	129	131
Other land	CO ₂		18 650	18 650	18 650	269	38	368	10 518
	N ₂ O		2 382	2 382	2 382	8	8	18	617
Harvested wood products	CO ₂	-15 243	35 280	32 692	29 597	17 028	14 727	15 936	12 692

¹⁾ Sign «minus» means net removals, i.e. absorption of greenhouse gases from the atmosphere.

The emissions of greenhouse gases in the Waste sector in 1990, 1998, 2000 and from 2008 to 2013 are in Table II.6. Solid Waste Disposal on Land made the highest contribution to emission. The share of this source increased from 60.2 per cent in 1990 to 73.6 per cent in 2013. Since 1990, the share of wastewater treatment and discharge has decreased by 13.4 per cent and the share of biological treatment of solid waste increased by 0.04 per cent.

Emissions of CH₄ and N₂O from biological treatment of solid waste provides for the minimum contribution into total emissions from this sector.

Table II.6

The emissions from Waste sector, Kt CO₂-eq

Source categories	Gas	1990	1998	2000	2005	2010	2011	2012	2013
Solid Waste Disposal	CH ₄	46964	53511	54356	59571	69519	72077	74810	77980
Biological treatment of solid waste	CH ₄	24	43	43	43	57	42	49	55
	N ₂ O	21	38	38	38	51	38	44	49
Waste water treatment and discharge	CH ₄	28022	21158	22276	23898	23884	24526	24749	24869
	N ₂ O	3038	2679	2567	2772	2972	2979	3047	3054

B. Procedure of the National Inventory Report Development

The Russian system for assessment anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol on ozone-depleting substances² (hereinafter referred as the National System) was established in order to implement the Russian Federation national commitments under the Kyoto Protocol.

The National System was established for:

- Estimation the scale of anthropogenic emissions by sources and removals by sinks of the greenhouse gases;
- Annual submission of the corresponding data as the national inventory report on anthropogenic emissions by sources and removals by sinks of greenhouse gases in accordance with requirements of the UNFCCC and the Kyoto Protocol;
- Preparation of reports, submitted by the Russian Federation in accordance with requirements of the UNFCCC and the Kyoto Protocol;
- Provision of information to central and local authorities, organizations and public on the scale of anthropogenic emissions by sources and removals by sinks of greenhouse gases;
- Development of measures for mitigation (reduction) anthropogenic emissions by sources and (or) enhancement of removals by sinks of the greenhouse gases.

The Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet) carries the functions of authorized national entity for the National System.

Roshydromet is responsible for ensuring the functioning of the National System and submission of the national inventory report and other necessary information in accordance with requirements of the UNFCCC and Kyoto Protocol. In the capacity of the authorized national entity for the National System, Roshydromet together with the Ministry of Economic Development, Ministry of Natural Resources and Environment, Ministry of Industry and Energy, Ministry of Transport, Ministry of Agriculture, Ministry of Regional Development, Federal Service for State Statistics (Rosstat) and Federal Service for

² Government of Russian Federation Order № 278-p of March 1, 2006.

Environmental, Industrial and Nuclear Supervision of the Russian Federation³ developed Procedure for formation and functioning of the National System including the identification state statistical and other data and information on methods for their collection and treatment. In accordance with the Procedure,⁴ the above federal authorities must annually provide to Roshydromet the data necessary for preparation of the inventory.

In case of necessity, Roshydromet can involve into the inventory preparation federal executive authorities, companies, research and other organizations not committed to the National System. Alongside federal executive authorities, the National System also involves industrial companies.

Within the framework of the National Systems, the Institute of Global Climate and Ecology under the Roshydromet and Russian Academy of Science (IGCE), the federal state budgetary institution, carries out the functions for collection, treatment and storage of supplies and data on the assessment of emissions and removals of the greenhouse gases by categories and IPCC sectors, and preparation of the drafts of the national inventory reports and other deliverables for submission to the UNFCCC and Kyoto Protocol bodies and to the governmental authorities concerned.

Procedure for archiving and storage of activity data and estimates of emissions and removals and deliverables is regulated by a special internal document of the IGCE⁵.

Activity data on GHG emission categories for energy, industry, agriculture, forestry and other economy sectors and necessary methodical information are collected by the IGCE with the use of the federal statistic system, information and analytic products of ministries and other federal entities, Russian companies, international organizations and scientific-technical and production literature. Beginning from 2015, the 2006 IPCC Guidelines (IPCC, 2006) and other guidance based on the national experience on inventory development and scientific researches form the methodical basis for the inventory development.

The verification, quality assurance and control of the activity data and greenhouse gas emission and removals estimates are an important component of the work. These are performed on a permanent basis. The quality assurance and quality control procedures are multi-level in nature. Primary quality assurance and control of the activity data series is performed in accordance with the internal departmental procedures by the institutions and entities responsible for these data collection and generalization. The IGCE in turn, performs secondary verification, quality assurance and control through the comparison of the data from different sources, consistency checks for the time series and with other methods. Quality assurance and quality control in the inventory estimates are also performed in two stages. At the first stage, correctness of calculations, methods, activity data and parameters is checked in the IGCE in accordance with the internal regulation⁶. At the second stage,

³ *The titles of federal executive bodies are given in accordance with the text of the Order of the Government of the Russian Federation № 278-p of March 1, 2006.*

⁴ *Registered by the Ministry of Justice of the Russian Federation September 29, 2006, Reg. № 8335.*

⁵ *Procedure for storage and archiving of data for national inventory of anthropogenic emissions by sources and removals by sinks of the greenhouse gases in the Russian Federation. IGCE. –M., 2007.*

⁶ *The Order of quality assurance and quality control of the national inventory report of the anthropogenic emissions by sources and removals by sinks of greenhouse gases in Russian Federation developed by the IGCE under Roshydromet and Russian Academy of Science. IGCE. – M., 2007.*

independent verification of the inventory is made as the result of the distribution of the draft national inventory report to corresponding federal executive authorities as well as through the review of the sector estimates or particular categories by independent experts.

Recalculation of the previous estimates of emissions and removals is performed as the result of the comments received and can also be made on receipt of more detailed or revised activity data, elaboration the national emission factors or the improvement of methodological approaches to emission estimate. Many recalculations are performed in response to recommendations of the UNFCCC expert reviews of national inventory report. The inventory improvement plan is developed by the IGCE at the beginning of each inventory cycle.

National Inventory Report and Common Reporting Format tables were developed on the basis of Decision 24/CP.19 of the Conference of the Parties to UNFCCC. As the UNFCCC Annex I Party and the Party to the Kyoto Protocol, Russian Federation includes into the reports additional information in accordance with Article 7.1 of the Protocol. Information provided is based upon the Decision 15/CMP.1 of the Meeting of the Parties to the Kyoto Protocol.

The final version of the national inventory report with the comments of the ministries and federal entities concerned is submitted by the Roshydromet to the Ministry of Natural Resources and Environment and then to the Government of the Russian Federation. After consideration by the Government, the national inventory report is submitted by the Roshydromet to the UNFCCC Secretariat.

The general pattern of the National System functioning is presented in Figure II.4.

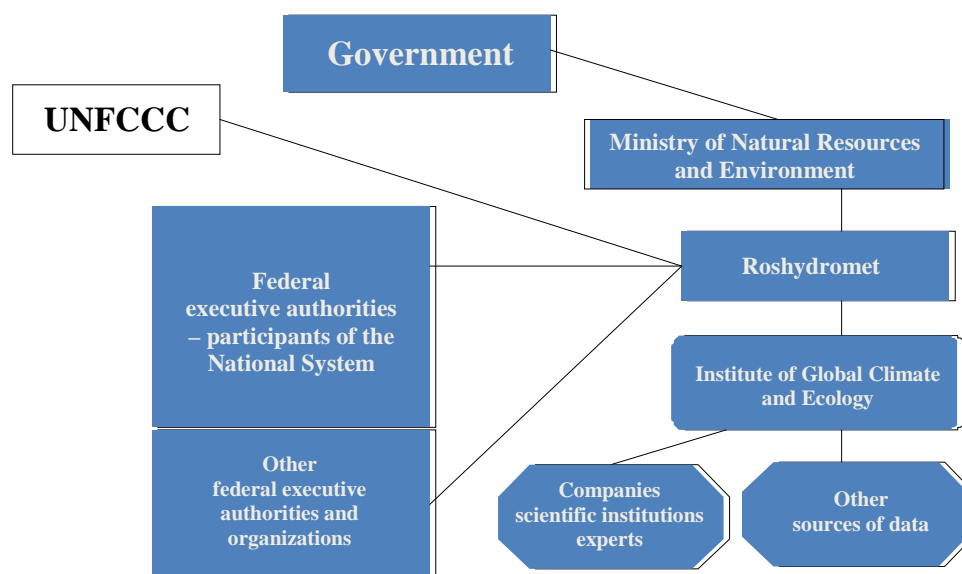


Figure II.4. The National System of the Russian Federation (as of 2015).

The National System is arranged according the hierarchical principle and is composed of several levels of structural arrangement with fixed inter-linkages enabling the acquisition of the data with required degree of detail and performance the estimations. The data sources and information flows have been identified, which form the basis for the

national greenhouse gas emission calculations and assessment of efficiency of corresponding policies and measures in different sectors of national economy.

The flow chart of national inventory development is presented in Figure II.5. As it is seen from the figure, the development includes collection and primary treatment of the economic and other activity data by responsible ministries and federal entities, conversion of the data obtained into calculation formats; assessment of information completeness and preparation of intermediate data for subsequent calculations; particular calculations of the emissions and removals of greenhouse gases. Furthermore, the procedures of verification, internal and external control of inventory quality are performed. Following the order of the Government of the Russian Federation, the final annual inventory report is submitted to the UNFCCC and Kyoto Protocol bodies via UNFCCC Secretariat. The inventory data are also provided to other consumers and published in the periodicals of Roshydromet and Rosstat.

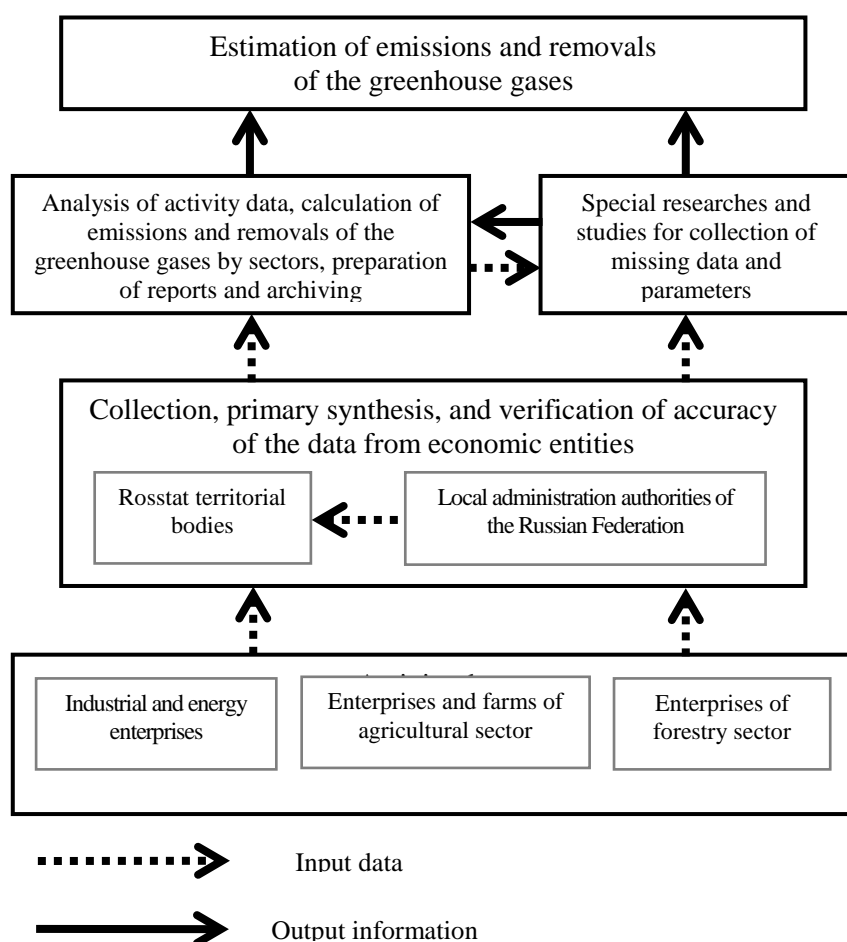


Figure II.5. A flow chart of the inventory of anthropogenic emissions and removals of the greenhouse gases.

III. QUANTIFIED ECONOMY-WIDE EMISSION REDUCTION TARGET

In accordance with the commitments of the Russian Federation as a Party to the Kyoto Protocol to the United Nations Framework Convention on Climate Change, its total anthropogenic emission of greenhouse gases in the first commitment period of the Protocol (2008-2012) shall not exceed 100 per cent of fivefold emission of these gases in the base year⁷. The Russian Federation has no commitments on quantitative reduction or limitation of the greenhouse gas emissions in the second commitment period of the Kyoto Protocol.

The Decree of the President of the Russian Federation “On the Reduction of the Greenhouse Gas Emissions” № 752 of September 30, 2013, adopted for the purpose of the implementation the Climate Doctrine of the Russian Federation⁸, the Government of the Russian Federation has been assigned for:

- Ensure the reduction by the year 2020 of the amount of the greenhouse gas emissions to the level no more than 75 per cent of these emissions in the year 1990;
- Approve the plan of action to ensure the achievement of the assigned amount of GHG emissions within the 6-month period and foresee in it the development of the parameters for the GHG emission reductions by sectors of economy (hereinafter plan).

This target value is valid for all IPCC sectors excluding Land Use, Land-Use Change and Forestry.

Pursuant to the President Decree, the plan was developed and approved by the Government of the Russian Federation, Order № 504-r⁹ of April 2, 2014. The implementation of the measures referred to in the plan is mandatory. Furthermore, in the same order the Government recommended the executive authorities in the subjects of the Russian Federation to undertake necessary measures to ensure the reduction by the year 2020 the amount of greenhouse gas emissions to the level no more than 75 per cent of these emissions in the year 1990. The plan does not foresee the use of international market mechanisms in the furtherance of the target.

The plan is currently in the implementation phase.

Russian Federation submitted its INDC and corresponding comments to it on April 1, 2015, recalling the statements made at the UN Climate Summit in September 2014 and at the 20th Conference of the Parties to the UNFCCC in Lima, December 2014, and the Decision 1/CP.20 “Lima Call for Climate Action”, in particular the paragraph 13, containing the call to the Parties to inform in advance about their intended nationally determined contributions¹⁰. The value 70-75 per cent of emissions in the year 1990 could be the long-term target of mitigation of the anthropogenic GHG emissions in the Russian Federation by 2030, providing to the maximum extent possible accounting of forest absorption capacity.

⁷ For the purpose of fulfillment of the commitments under the Kyoto Protocol, the base year for the Russian Federation is the 1990 for CO₂, CH₄ and N₂O, and the 1995 for HFC, PFC, and SF₆.

⁸ Approved by the Order of the President of the Russian Federation № 861-rp of December 17, 2009.

⁹ Acts currently as amended by the Government of the Russian Federation Order № 807-r of May 6, 2015.

¹⁰ <http://www4.unfccc.int/submissions/INDC/Submission%20Pages/submissions.aspx>

The economy-wide target could be achieved without the use of international market mechanisms.

The final decision of the Russian Federation on its INDC in the frameworks of a new climate agreement will be made with account of the outcomes of the negotiation process and the INDCs declared by the countries that are the primary GHG emitters.

The President of the Russian Federation V.V. Putin in his statement at the 21st Conference of the Parties to the UNFCCC in Paris announced that the Russian Federation plans to reduce the greenhouse gas emissions to 70 per cent of the 1990 base level.

IV. PROGRESS IN ACHIEVEMENT OF QUANTIFIED ECONOMY-WIDE EMISSION REDUCTION TARGET AND RELEVANT INFORMATION

A. Mitigation actions and their effects

In the Russian Federation, the national policy and measures to mitigate climate change include:

- Legislative and regulatory acts:
 - Defining national targets on reduction of anthropogenic emissions of greenhouse gases and providing their fulfillment;
 - Providing for the order of fulfillment of the national commitments under the UNFCCC and Kyoto Protocol;
- National programs of economic and social development that envisage targeted measures for mitigation the anthropogenic emissions of greenhouse gases, protection and enhancement of quality of greenhouse gas removals and their reservoirs;
- Other national programs and measures, implementation of which promotes for the reduction of emission or enhancement of removals of the greenhouse gases;
- Regional, institutional, sectorial and corporative programs, innovation and technological measures that directly or indirectly provide for the decrease in anthropogenic GHG emissions and the increase of their removals.

Market-based mechanisms and the measures on decrease or removal of market imbalances, fiscal and other economic incentives are the integral part of the national policy and measures otherwise they are envisaged within the frames of policy implementation in accordance with the legislation of the Russian Federation. Unless otherwise specified, adopted legislative and regulatory acts and state (national) programs have no limitation in the validity period, meanwhile, their revision and update are stipulated. The legislative and regulatory acts and national programs on reduction of anthropogenic emissions of greenhouse gases and mitigation of climate change include:

- Climate Doctrine of the Russian Federation (2009);
- Decree of the President of the Russian Federation “On the Reduction of the Greenhouse Gas Emissions” (2013);
- Order of the Government of the Russian Federation on approval of the Integrated Action Plan for Implementation of Climate Doctrine for the period up to 2020 (2011);
- Order of the Government of the Russian Federation on the approval of the Action Plan for securing the greenhouse gas emission reduction by 2020 (2014);
- Order of the Government of the Russian Federation on the adoption of the Concept for Development of the System for Monitoring, Reporting and Review of the Greenhouse Gas Emissions in the Russian Federation (2015);
- Order of the Ministry of Natural Resources and Environment on the approval of the Methodological Guidance on Voluntary Greenhouse Gas Inventory in the Subjects of the Russian Federation (2015).

It should be noted that a half of the documents referred to above was adopted by federal entities in 2014-2015, after the submission of the First Biennial Report. Legislative and regulatory acts and national programs determine the long-term strategy for safe and sustainable institutional, economic and social development under the changing climate conditions. Basically, the Russian Federation has taken the direction of low-carbon economy development and has formed the basis of its implementation. Additional regulatory acts are currently under the development to enable achievement of the target established with regard to particular economy sectors.

With the aim at fulfillment of national commitments under the UNFCCC and the Kyoto Protocol, federal laws, orders and resolutions of the government were developed and adopted in Russian Federation in 2006—2011, related to the Articles 5, 6, 12 and 17 of the Kyoto Protocol. These determine the order of functioning of the Russian System for Assessment Anthropogenic Emissions and Removals of the Greenhouse Gases, Russian Registry of carbon units, and flexibility mechanisms of the Kyoto Protocol. The legal and regulatory frameworks developed provide for the fulfillment of the national commitments under the UNFCCC and the Kyoto Protocol, including the development and submission of the national reports and other documents in the area of climate change mitigation. In order to implement the adopted regulatory documents, Russian Federation submitted on April 4, 2015 to the UNFCCC bodies intended nationally determined contributions to decrease of global anthropogenic emission of the greenhouse gases. The reductions achieved as a result of implementation of the national commitments of the Russian Federation under the UNFCCC and Kyoto Protocol are considered in Chapters II and IV.B of this report. The results of the implementation of the flexibility mechanisms of the Kyoto Protocol (Articles 6, 12 and 17) are described in details in the Sixth National Communication of the Russian Federation and in the First Biennial Report. The detailed description of measures for reduction of the anthropogenic emission of greenhouse gases in energy, industry, construction, transport, forestry, agriculture, and waste was provided in the Sixth National Communication and the First Biennial Report submitted to the UNFCCC in 2013 and in early 2014. Russian Federation undertook additional measures on climate change mitigation after the submission of the First Biennial Report. These are presented in this report.

In the Energy Sector, “Energy Efficiency and Energy Sector Development” State Program of the Russian Federation was approved in 2014. The program envisaged measures on efficient energy use, modernization of electric facilities and incitement of the use of the renewable energy resources. Regional meetings, tenders and projects on energy saving and energy efficiency increase were arranged in all subjects of the Russian Federation within the framework of State Program in 2014.

Draft Energy Strategy of Russian Federation up to 2035 has been prepared, which envisages transition from resource-based to innovation path of fuel and energy complex development including the modernization of capital stock. The draft foresees the measures on optimization of energy use, energy saving, efficient use of 95% of extracted associated gas and further development of non-fuel energy production. It is expected that the implementation of the strategy allows to decrease the greenhouse gas emissions by 10.5% below the 1990 level by 2035.

Owing to a set of regulatory documents on support of renewable energy sources, investment project portfolio was formed by the end of 2014 to the amount of 111 billion roubles, provided construction of 65 solar energy objects, 8 wind energy objects and 3 objects of small hydropower with total power capacity 1080.8 MW by 2020. The first solar power plants with 5 MW were put into operation in late 2014 — early 2015 in Siberia and Orenburg region.¹¹

Significant efforts on climate change prevention were made by PJSC *Rosenergoatom Concern* and PJSC *Gazprom*. Nuclear power plants of PJSC *Rosenergoatom Concern* produced 180.5 billion KWh in 2014, being about 17.2 percent of all electric power generation in Russia. The electric power generation was achieved in parallel with the nuclear power operation safety parameters best over recent years. The draft also envisages the increase of the share of nuclear power generation in national energy balance up to 18 per cent by 2020 and up to 20 per cent by 2035, owing to construction of new and increased efficiency of operating nuclear power units. The nine new units are under construction currently, and the preparation for construction of Kursk-2 nuclear power plan is on-going based on innovation project significantly better than the previous ones in respect to costs, safety and environment standards.

In accordance with the Energy Saving and Efficiency Enhancement Concept for 2011–2020, PJSC *Gazprom* plans to save 25.7 billion m³ of natural gas by 2020 and reduce specific losses and process consumption needs by 11.4 per cent. PJSC *Gazprom* is on par with Shell and Conoco Philips as far as specific greenhouse gases emission rate is concerned (0.06 Kt CO₂-eq per million TOEs).

In Industry sector, Coal Industry Development Program up to 2030 was adopted in 2014. It envisages modernization of coalbed methane degassing systems, optimizing the mining technology, particularly the decrease of and transition to standardization of emissions and discharges and waste disposal on the basis of best available technologies in a view to minimize anthropogenic effects on climate and environment. The measures planned will enable to utilization of 5 to 10 billion m³ of coalmine methane in 2020 and of 30 to 35 billion m³ in 2030.

In 2014–2015, the change-over to the best available technologies (BAT) continued to proceed in the Russian Federation. Regulatory framework was built in 2014, that regulates the BAT use, including the development of BAT sector manuals in 2015–2017. It is assumed that by 2020, all newly-built enterprises will correspond to the best available technologies. By 2035, the BAT will be introduced at 15 thousand large enterprises providing to 90 per cent of environmental contamination in the Russian Federation.

The leading Russian companies and commercial entities submit the non-financial ecological reports to Global Reporting Initiative (GRI) and Carbon Disclosure Project (CDP) international non-governmental partnerships. In 2015, the Archangelsk pulp-and-paper plant obtained the highest climate responsibility rate among the twelve Russian companies participating in the Carbon Disclosure Project.

¹¹ http://rodovid.me/solar_power/na-altae-zapuschena-krupneyshaya-v-rossii-solnechnaya-elektrostantsiya.html; <http://www.rusnano.com/about/press-centre/20150520-hevel-v-orenburgskoy-oblasti-postroena-pervaya-solnechnaya-elektrostantsiya-moschnostiyu-5-mvt>

The climate mitigation measures in the transport sector are stipulated by the Transport Strategy of the Russian Federation up to 2030, updated in 2014. The Strategy envisages a set of measures enabling the decrease by 2030 specific exhaust of carbon dioxide from motor transport by 20—22 per cent and from railway transport by 50—51 per cent compared to the similar exhaust in 1990. The substitution of oil-based fuel with alternative fuel types are planned at the motor transport. It is assumed that the share of alternative fuels in their total consumption will increase from 4 per cent in 2011 to 17—20 per cent in 2020, while the portion of hybrid, electric, and alternative fuel operating vehicles will be 26—29 per cent of total vehicle number in 2020 and 49—54 per cent in 2030.

In 2013, the Government of the Russian Federation undertook regulation in the area of natural gas vehicle fuel and stimulation its use in motor transport. The change-over of motor vehicles to natural gas is performed in 31 subjects of the Russian Federation. Currently the Russian natural gas-powered vehicle fleet includes 90 thousand cars, and it annually consumes about 0.4 billion m³ methane. It is planned to increase the consumption value to 10.4 billion m³ by 2020. Up to 50 per cent of public and municipal transport, 30 per cent of freight carriers, 20 per cent of agricultural transport and 10 per cent of private cars will change-over to the natural gas. For this purpose, it is planned to put into operation more than 2 thousands of NGV-refueling compressor stations by 2020.

The measures on mitigation of climate impact of the civil aviation are performed through the provisions of Transport Strategy and the *Guidance Manual for Development of National Action Plans on CO₂ Emission Reduction* (Doc. 9988) of the International Civil Aviation Organization (ICAO). The National Action Plan on Greenhouse Gas Emission Reduction from civil aviation was adopted in 2013 and is being implemented in the Russian Federation. Practical measures include renewal of air carrier fleet (in 2014, the air companies obtained 116 aircrafts, of which more than 90 per cent correspond to the modern level of fuel efficiency), modernization of airport infrastructure (in 2014, 28 airports were under construction and reconstruction) and the modernization of aircraft navigation system. From 2011 to 2014, the air transport gradually decreased the aviation fuel consumption rate per service unit that prevented the emission of 12.6 billion tons of CO₂.

In agriculture and forestry of the Russian Federation, the set of measures is aimed at prevention of negative consequences of extreme weather events and emergency situations including draughts and fires. The measures are directed toward adaptation to unfavorable weather events and climate change and include optimizing of growth conditions for crops on the basis of the most efficient methods of management. Watering of previously dried forest peat-lands and other lands is carried out in some regions of the Russian Federation upon the projects supported from the regional budget funds.

B. Estimates of emission reductions and removals and the use of units from the market-based mechanisms and land use, land-use change and forestry activities

In the Russian Federation, the cumulative anthropogenic emission of greenhouse gases excluding the emissions from the Land Use, Land-Use Change and Forestry comprised 3 941 099.57 Kt CO₂-eq in the base year 1990.

In 2013, the total anthropogenic emission of greenhouse gases excluding the emissions from the LULUCF comprised 2 815 808.30 Kt CO₂-eq being 71.4 per cent of the 1990 level.

With regard to the 1990 level, the emissions by sectors correspondingly were 72.7 per cent for Energy, 72.8 per cent for Industrial Processes and Product Use, 41.9 per cent for Agriculture and 135.8 per cent for Waste.

Emission values were obtained on the basis of approaches fixed in revised *Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, part I: UNFCCC reporting guidelines on annual inventories*.¹² More detailed information on sources and removals of greenhouse gases by sector and the description of approaches and methods used for their estimation is included into Chapter II of this report and in the National Inventory Report on Anthropogenic Emissions by Sources and Removals by Sinks of Greenhouse Gases.¹³

The cumulative reduction of the greenhouse gas emissions in the Russian Federation is shown in Table IV.1 and in Figure IV.1. After 1990, the cumulative GHG reduction excluding the contribution of the LULUCF sector reached 28.2 billion tons CO₂-eq.

Таблица IV.1

The cumulative greenhouse gas emission reduction excluding the LULUCF sector

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Cumulative annual emission, per cent in relation to 1990	100.0	94.2	80.6	75.5	67.9	65.7	63.9	61.3	60.6	61.4	61.7	63.2
Cumulative reduction, billion t CO ₂ -eq	0.0	0.2	1.0	2.0	3.2	4.6	6.0	7.5	9.1	10.6	12.1	13.6
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cumulative annual emission, per cent in relation to 1990	63.5	65.6	66.9	67.8	69.7	69.9	70.8	66.8	70.3	72.0	72.7	71.4
Cumulative reduction, billion t CO ₂ -eq	15.0	16.4	17.7	18.9	20.1	21.3	22.5	23.8	24.9	26.0	27.1	28.2

The contribution of the LULUCF sector was not included in the assessment of the progress in achievement the quantified economy-wide emission reduction target (see chapter III of this report)¹⁴.

¹² Annex 3 to the decision 24/CP.19. UNFCCC Document FCCC/CP/2013/10/Add.3.

¹³ National Inventory Report of the Anthropogenic Emissions by Sources and Removals by Sinks of the Greenhouse Gases not Controlled by the Montreal Protocol for 1990-2013 – M., Russian Federation. 2015.

¹⁴ For reference only: LULUCF sector was a net source of atmospheric emissions in 1990 per totality of GHG emissions by sources and removals by sinks. In 1990, net greenhouse gases emissions in this sector comprised 200 623.01 Kt CO₂-eq. In 2013, the LULUCF sector was net sink of greenhouse gases equal to 447 912.38 Kt CO₂-eq. In 1990 and 2013, the cumulative greenhouse gas emissions including the contribution of the LULUCF sector comprised 4 141 722.58 and 2 367 895.91 Kt CO₂-eq respectively.

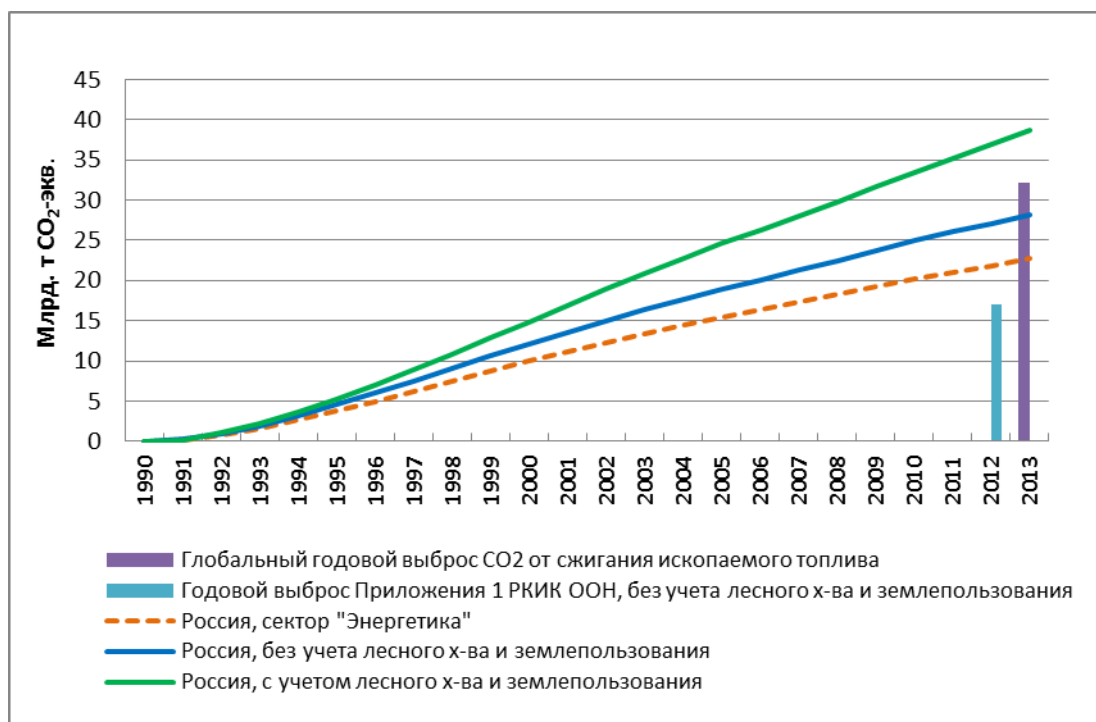


Figure IV.1. The cumulative greenhouse gas emission reduction in the Russian Federation

From 1990 to 2015, the Russian Federation did not acquire from other UNFCCC Parties the units from the market-based mechanisms, which could be used to meet its quantified economy-wide emission reduction target, and did not use such units in order to reach this target.

V. PROJECTIONS

The probable scenarios of greenhouse gas emissions in the Russian Federation for the period until 2030 will be primarily determined by macroeconomic situation in the country and in the world, GDP growth rate, policy and measures for development of energy, industry, transport, agriculture, waste and other sectors of economy and by the results of implementation of specific measures for limitation and reduction of GHG emissions.

The completion of post-crisis recovery growth in 2010-2012 put the economy to the next stage of development, when the effect of most factors of pre-crisis and post-crisis growth turned out to be depleted to a large degree. The latter resulted in slowdown of the growth rate, and set out the challenges for sustainable long-term growth. Situation on the world oil market has changed in an unfavorable direction. The anticipated stock trends in external and world markets no longer can be the major driving force of economic growth. Structural constraints for growth relevant to improper infrastructure, obsolescent facilities, unfavorable demography and the deficiency of skilled professionals increased significantly. With this, the Russian economy will be unable to return to 2000-2008 growth path in the next 20 years. Even the maintenance of lower growth rate will require substantial reforms capable to create a positive business environment for investments, increase the importance of innovation-driven growth and develop flexible conditions for enhanced asset in the human resources. At the same time, the potential GDP growth can vary significantly depending on the efficiency of these reforms.

In October, 2013, the Ministry of Economic Development presented the basic GDP deviation scenario in the Russian Federation in 2010-2030. It is in Table V.1.

Table V.1

The GDP deviation scenario in the Russian Federation in 2010-2030

Parameter	2011-2015	2016-2020	2021-2025	2026-2030	2013-2030 (average)
GDP growth rate, per cent per year	3.1	3.1	2.5	1.8	2.5

A. Scenarios of emissions in the energy sector

As shown in Chapter II of the report, the greenhouse gas emissions associated with fossil fuel production and consumption in all economy sectors (Energy sector) play the key role in formation of the cumulative greenhouse gas emission in the Russian Federation. First of all, it relates to the CO₂ emission from combustion of solid, liquid and gas fuel and for fugitive emissions of the CH₄.

The scenarios in this chapter are based on the analysis of emission projections in the Energy sector of the Russian Federation, developed by several research groups based on different models, activity data and assumptions.¹⁵ It was based on 26 publications and took

¹⁵ The analysis was undertaken by the Center for Energy Efficiency (CENEF) in 2013.

into consideration 71 scenarios. The scenarios considered were based on different methods of process simulation in energy and other sectors, energy efficiency increase, forecasts of production, consumption and export of energy resources and on the simulations of fuel and energy balance of the Russian Federation in the long run. The scale of necessary investments and other economic factors were also taken into consideration. The analysis took into account the evolution of predictive emission estimates published by the same groups in different years. All scenarios were arranged into 5 families, each characterized by GHG emission trends and policies and measures aimed at their reduction including the application of low-carbon technologies, improvement of energy efficiency, carbon capture and storage etc. Three families mostly eligible to the criteria of scenarios “without measures”, “with measures” and “with additional measures” were selected for the Sixth National Communication of the Russian Federation.

Table V.2 represents predictive estimates of total greenhouse gas emissions in the energy sector of Russia averaged by the three families of scenarios referred to above. The range of provided estimates is restricted by the year 2030, although in some scenarios the projections were extended until 2050 and 2060.

The first family of scenarios (without measures) is guided by an assumption that the changes in energy intensity and carbon intensity of the GDP would be modified by the inertial (retrospective) pace without any acceleration of policy measures excluding those, which have been already undertaken before the development of projections.

The scenarios in the second family (with measures) assume successful implementation of planned and undertaken so far greenhouse gas mitigation and reduction efforts, which were integrated in policies and measures for modernization of the national economy, improvement of energy efficiency, reduction of environmental pollution, development of nuclear and renewable power generation and others performed in the last years. The paths of most scenarios of this family are characterized by the fact, that the inclination of trajectories is relatively close, despite the differences in initial data used by projection groups. The resulting increment of the emissions is about 160-240 Mt of CO₂-eq per decade.

The upper limit of the range of scenarios of the second family passes through a value of 2.02 billion tons CO₂-eq in 2020, almost strictly corresponding to 75 per cent of total emission in 1990 (2.03 billion tons CO₂-eq).

The scenarios of the third family (with additional measures) assume implementation of special policy and measures with the aim at reduction of the emissions of greenhouse gases such as imposition of GHG emission taxes, emission trading schemes, introduction of coal methane utilization technologies, carbon capture and storage, accelerated conversion of fuel balance in power energy industry and motor transport owing to tight emission limits etc. The value of additional in comparison with the second family scenarios emission reduction significantly depends on the degree of severity and timing for the beginning of implementation of additional measures.

Table V.2

Emissions of greenhouse gases in the energy sector, billion tons CO₂-eq¹⁾

		Year			
		2010 ²⁾	2015	2020	2030
Without measures					
Total emission	Range	–	2.05-2.12	2.27-2.42	2.72-3.02
	Projective estimate	1.82	2.08	2.35	2.87
	per cent to 1990	67.2	76.8	86.5	105.9
CO ₂	Projective estimate	1.44	1.65	1.86	2.28
CH ₄	Projective estimate	0.37	0.43	0.48	0.59
N ₂ O	Projective estimate	0.01	0.01	0.01	0.01
With measures					
Total emission	Range	–	1.88-1.92	1.93-2.02	2.04-2.22
	Projective estimate	1.82	1.90	1.98	2.13
	per cent to 1990	67.2	70.0	72.9	78.6
CO ₂	Projective estimate	1.44	1.51	1.57	1.69
CH ₄	Projective estimate	0.37	0.39	0.40	0.44
N ₂ O	Projective estimate	0.01	0.01	0.01	0.01
With additional measures					
Total emission	Range	–	1.82-1.84	1.82-1.86	1.82-1.89
	Projective estimate	1.82	1.83	1.84	1.86
	per cent to 1990	67.2	67.5	67.9	68.5
CO ₂	Projective estimate	1.44	1.45	1.46	1.47
CH ₄	Projective estimate	0.37	0.37	0.38	0.8
N ₂ O	Projective estimate	0.01	0.01	0.01	0.01

¹⁾ The sums of emissions by gases may insignificantly differ from the totals as a result of rounding²⁾ Actual emission**B. Scenarios of emissions and removals in the forest sector**

The scale of forest cover disturbance affects essentially emissions and removals in the forest sector. Disturbances in the managed forests are controlled by human activity, particularly by determination of allowable cut, establishment of protected forest activities, measures for prevention and control of forest fires and pest outbreaks. This section presents the projections of carbon dioxide emissions and removals in the forest sector for the period from 2010 to 2050 under the implementation of different scenarios of forest utilization. Climatic conditions are assumed constant and corresponding to the level of 1990.

Widely known CBM-CFS3 model of the Canadian Forestry Service was used as the projection tool. The model was adapted to natural conditions and forest inventory requirements of the Russian Federation within the frames of cooperation between the Federal Forestry Agency and the Canadian Forestry Service. Projection calculations were made differentiated by the administration subjects of the Russian Federation.

Four scenarios of forest use were considered. Scenario 1 assumed retention of moderate level of forest use existent in 1992-2002 (i.e. in the period preceding the activity data obtained, which were the state forest inventory data as of January 1, 2003). According to this scenario, the moderate scale of felling and forest fires as well as the scale of reforestation will remain for the period until 2050.

Three other scenarios were developed in account the National Strategy for Forest Sector Development until 2020, which stipulates innovation scenario including the increase of wood harvest by 57 per cent by 2020 in comparison with the 2007. Forest utilization in these scenarios demonstrates linear increase (by 5.7 per cent annually) from 2010 to 2020. In case of scenario 2, this growth remains after 2020 up to achieving the estimated annual cut in 2047.

According to scenario 3, forest use in 2020 will stabilize at 157 per cent of the current level. Scenario 4 assumes maximum rate of forest use growth with achievement of the estimated annual cut in 2020. Scenarios 2-4 assume the growth of forest use and take into account restriction of the annual cut, i.e. the regulatory limit in particular administrative subjects of the Russian Federation.

On retention current level of impact (scenario 1) the phytomass pool in managed forests gradually decreases removals from 430 Mt CO₂ (117 Mt C) in 2010 to 35-97 Mt CO₂ year⁻¹ (10-27 Mt C year⁻¹) in 2047-2050 (Figure V.1 A). The trend is connected with gradual increase of the age of tree stands and decrease of their capacity for carbon removal. Scenario 3 (brief moderate growth of forest use) insignificantly decreases carbon removal in phytomass of managed forests. Scenarios 2 (continuous moderate growth of forest use) and 4 (fast growth of forest use) notably decrease carbon assimilation by phytomass, and scenario 2 turns it into the source of CO₂ by 2043 with the annual emission 14-69 Mt CO₂ year⁻¹ (4-18 Mt C year⁻¹).

The projection of total removal of atmospheric carbon by all pools of managed forests is presented in Figure V.1 B. The removals decrease from 730-760 Mt CO₂ (199-207 Mt C) in 2010 to 235 Mt CO₂ (64 Mt C) in 2050 under scenario 1 and 105 Mt CO₂ (29 Mt C) under scenarios 2 and 4.

It should be noted that managed forests remain the CO₂ sink up to 2050 under all scenarios of forest use. The pools of dead organic matter are more conservative in response to disturbance regimes. Consequently, the period for coming to balance by these pools exceeds the considered projection period.



Figure V.1. Projection of carbon budget in the forests of Russian Federation in phytomass pool (A) and all pools (B) under different scenarios of forest use. Scenarios: 1 – retention of the current level, 2 – continuous moderate growth, 3 – short-term moderate growth, 4 – fast growth.

C. Scenarios of the total greenhouse gas emission

The data on greenhouse gas emissions in Chapter III demonstrate that the structure of cumulative emission of greenhouse gases in the Russian Federation (excluding emissions and removals in the LULUCF sector) remained relatively stable in 1990-2007 concerning the distribution of emissions by gas and by sector. Based on planned installation of modern facilities and technologies in economy and enhanced production management, it is assumed that the GHG emission intensity in other sectors for the period till 2030 will be similar to that in the energy sector.

The scenarios of total equivalent human-induced emissions of the greenhouse gases and those for specific GHGs for the period till 2030 were developed on the basis of scenarios discussed above. The obtained emission estimates are presented in Table V.3. The emissions in table are provided excluding the contribution of the LULUCF sector.

Table V.3

Emission of greenhouse gases in Russian Federation, billion tons CO₂-equivalent¹⁾

		Year			
		2010 ²⁾	2015	2020	2030
Without measures					
Total emission	Projective estimate	2.22	2.54	2.86	3.50
	per cent to 1990	66.1	75.7	85.2	104.3
CO ₂	Projective estimate	1.60	1.83	2.06	2.52
CH ₄	Projective estimate	0.49	0.56	0.63	0.77
N ₂ O	Projective estimate	0.11	0.13	0.15	0.18
F-gases	Projective estimate	0.01	0.02	0.02	0.02
With measures					
Total emission	Projective estimate	2.22	2.31	2.41	2.59
	per cent to 1990	66.1	69.0	71.8	77.4
CO ₂	Projective estimate	1.60	1.67	1.73	1.87
CH ₄	Projective estimate	0.49	0.51	0.53	0.57
N ₂ O	Projective estimate	0.11	0.12	0.12	0.13
F-gases	Projective estimate	0.01	0.01	0.02	0.02
With additional measures					
Total emission	Projective estimate	2.22	2.23	2.24	2.26
	per cent to 1990	66.1	66.5	66.9	67.4
CO ₂	Projective estimate	1.60	1.61	1.62	1.63
CH ₄	Projective estimate	0.49	0.49	0.50	0.50
N ₂ O	Projective estimate	0.11	0.11	0.12	0.12
F-gases	Projective estimate	0.01	0.01	0.01	0.01

¹⁾ The sums of emissions by gases may insignificantly differ from the totals as a result of rounding

²⁾ Actual emission

The total emission will not exceed the 1990 level by 2020 in any of the scenarios considered. In 2030, the 1990 level will be exceeded only for scenario “without measures”.

D. Prospects of scenario generation

The present report contains the same scenarios of greenhouse gas emissions as in the previous biennial report. Development of scenario projection of GHG emission for the period till 2020 and for further extension till 2039 and its renewal every two years is stipulated in the plan of action to ensure the achievement of the assigned amount of GHG emissions (see Chapter III of the report).

VI. PROVISIONS OF FINANCIAL, TECHNOLOGICAL, AND CAPACITY-BUILDING SUPPORT TO DEVELOPING COUNTRY PARTIES

As a Party not included in the Annex II to the UNFCCC, the Russian Federation does not have the mandatory requirement to submit in its biennial report the information on financial and technological support for capacity building in the developed country Parties.¹⁶ However, recognizing its commitment to climate conservation and promotion for sustainable development, Russian Federation actively participates in the achievement of the Millennium Development Goals. In 2014, the President of the Russian Federation approved the Concept of the State Policy of the Russian Federation in the Area of Assistance to the International Development.¹⁷ Russian assistance is oriented towards resolving of the most demanding issues, which the lower-income countries face.

A. Finance

The Russian Federation allocates funds in the area of energy, education, health service, food security and the promotion for sustainable development. In 2014, the Russian Federation provided more than 127 million US dollars through the UN bodies, while the total amount of financial support comprised 876 million US dollars.¹⁸ Within the frames of the initiative on heavily indebted poor countries, the Russian Federation wrote off the basic debt of more than 20 billion US dollars just for the group of the African countries. Beyond the scope of this initiative, Russia participates in the decrease of debt load through the use of “debt in exchange to assistance to development” conversion operations.¹⁸

In 2011 – 2014, the Russian Federation voluntary contributed up to 10 million US dollars into the Trust Fund of the Global Environment Facility (GEF). In 2015–2018, the financial contribution of Russia in the GEF Trust Fund will increase to 15 million US dollars.¹⁹ The prospects for voluntary participation of the Russian Federation in the Green Climate Fund are currently under consideration.

B. Technology development and transfer

The Russian Federation is the global leader by the number of nuclear power plants constructed in the foreign countries. The 29 nuclear power plant units are currently under construction in the foreign countries. The nuclear power plant construction projects are being implemented in Bangladesh, Vietnam, Iran, India and China.

¹⁶ UNFCCC biennial reporting guidelines for developed country Parties (document FCCC/CP/2011/9/Add.1).

¹⁷ The Russian contribution to the assistance for the international development in 2014 (http://www.minfin.ru/common/upload/library/2015/09/main/Ros_vklad_v_sodeystvie_mezhd_razvitiu_v_2014.pdf)

¹⁸ The Statement of the Minister of Foreign Affairs of the Russian Federation at the Summit on the Agenda for the Global Development (http://www.mid.ru/vistupleniya_ministra/-/asset_publisher/MCZ7HQUMdqBY/content/id/1794073)

¹⁹ Order of the Government of the Russian Federation № 1341-r of June 17, 2014. (<http://www.bestpravo.ru/rossijskoje/xi-praktika/x5a.htm>; <http://www.rg.ru/2014/07/21/ekofond-site-dok.html>)

C. Capacity building

The Russian Federation participates in the multi-donor Trust Fund of the World Bank to increase the capacity of East European and Central Asian countries. In 2014, the projects on capacity building for adaptation and reducing the negative consequences of climate change in Central Asia were endorsed under the frameworks of the World Bank Trust Fund.²⁰

Under the United Nations Development Program (UNDP), the Russian Federation participates in financing the project on the enhancement of the disaster resilience, response, and recovery for the Pacific Small Island Developing States. The project stipulates capacity building in fifteen small island states of the Pacific region for efficient prevention and recovery operations from natural disasters attributed to *inter alia* the climate change. In 2013—2014, the Russian Federation allocated 7.5 million US dollars for the implementation of the project activities.

The Russian Federation provides financing for the UNDP projects in Armenia and Kyrgyzstan promoting the improvement of rural infrastructure, energy efficiency and sustainable management of water resources. Russia provided 3.5 and 5.5 million US dollars respectively for the projects “Programme on Comprehensive Development of the Naryn Area of the Kyrgyz Republic” (2013–2014) and “Integrated Support to Rural Development: Building Resilient Communities in Armenia” (2015–2019).

The Russian Federation promotes for capacity building of the CIS countries in combating the climate change and meeting the environmental challenges. For this aim, the Russian Federation disbursed under the UNIDO project “Regional (CIS) Capacity Building for Developing Programmes for Mitigation of Global Environmental Problems” 442.5 thousand US dollars for the period 2014–2015.

²⁰ The Statement of the Minister of Foreign Affairs of the Russian Federation at the Summit on the Agenda for the Global Development
(http://www.mid.ru/vistupleniya_ministra/asset_publisher/MCZ7HQuMdqBY/content/id/1794073)

VII. OTHER REPORTING MATTERS

The process of self-evaluation of the emission reduction commitments in the Russian Federation is performed through:

- The course of consideration by the Government of the Russian Federation of the drafts of the annual national inventory reports on anthropogenic emissions and removals of greenhouse gases, draft national communications and draft biennial reports of the Russian Federation subject to submission in accordance with the commitments under the UNFCCC and the Kyoto Protocol;
- The approval of the drafts of the above documents by the federal executive authorities.

Additional elements of the self-evaluation process include the consideration by the Government of the Russian Federation of the reports on the operational realization of the integral plan for implementation of the Climate Doctrine of the Russian Federation for the period through 2020²¹ and the reports on the realization of the action plan on ensuring of the reduction by the year 2020 of the cumulative greenhouse gas emissions to the level no more than 75 per cent of these emissions in the year 1990²².

Information on the progress achieved in establishment of the national rules for the local actions against domestic non-compliance with emission reduction targets can be included in the next biennial reports, in case such rules are developed and adopted in the Russian Federation, particularly in the course of realization of the Decree of the President of the Russian Federation № 752 of September 30, 2013, “On the Reduction of the Greenhouse Gas Emissions”.

²¹ According to paragraph 31 of the Integral Plan for Implementation of the Climate Doctrine of the Russian Federation for the period through 2020 approved by the Order of the Chair of the Government of the Russian Federation of April 25, 2011, № 730-r, this report is annually submitted to the Government by the Ministry of Natural Resources and Environment of the Russian Federation by March 15.

²² According to paragraph 4 of the Order of the Government of the Russian Federation of April 2, 2014 № 504-r, the report on the plan of the implementation is annually submitted to the Government of the Russian Federation by the Ministry of Economic Development of the Russian Federation by May 1.