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Report on the technical review of the eighth national communication and the technical review of the fifth biennial report of the Russian Federation

Parties included in Annex I to the Convention were requested by decision 6/CP.25 to submit their eighth national communication to the secretariat by no later than 31 December 2022. According to decision 15/CMP.1, Parties included in Annex I to the Convention that are also Parties to the Kyoto Protocol are required to include in their national communications supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. This report presents the results of the technical review of the eighth national communication and relevant supplementary information under the Kyoto Protocol of the Russian Federation, conducted by an expert review team in accordance with the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention” and the “Guidelines for review under Article 8 of the Kyoto Protocol”.

Developed country Parties were requested by decision 6/CP.25 to submit their fifth biennial report to the secretariat by no later than 31 December 2022. This report presents the results of the technical review of the fifth biennial report of the Russian Federation, conducted by an expert review team in accordance with the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention”.

The review of these submissions took place in Bonn from 16 to 20 October 2023.



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Abbreviations and acronyms

Annex II Party	Party included in Annex II to the Convention
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BR	biennial report
CCS	carbon dioxide capture and storage
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
CTF	common tabular format
ERT	expert review team
F-gas	fluorinated gas
GCOS	Global Climate Observing System
GDP	gross domestic product
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
IE	included elsewhere
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
N ₂ O	nitrous oxide
NA	not applicable
NC	national communication
NF ₃	nitrogen trifluoride
NO	not occurring
PaMs	policies and measures
PFC	perfluorocarbon
Roshydromet	Russian Federal Service for Hydrometeorology and Environmental Monitoring
RUB	Russian rouble(s)
SF ₆	sulfur hexafluoride
TIMES	The Integrated Market Allocation–Energy Flow Optimization Model System
UNFCCC reporting guidelines on BRs	“UNFCCC biennial reporting guidelines for developed country Parties”
UNFCCC reporting guidelines on NCs	“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications”
WAM	‘with additional measures’
WEM	‘with measures’
WMO	World Meteorological Organization
WOM	‘without measures’

I. Introduction and summary

A. Introduction

1. This is a report on the blended centralized¹ technical review of the NC8 and BR5 of the Russian Federation. The review was organized by the secretariat in accordance with the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention”, particularly “Part IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention” and “Part V: UNFCCC guidelines for the technical review of national communications from Parties included in Annex I to the Convention” (annex to decision 13/CP.20), and the “Guidelines for review under Article 8 of the Kyoto Protocol” (annex to decision 22/CMP.1 and annex I to decision 4/CMP.1).

2. In accordance with decision 13/CP.20, a draft version of this report was transmitted to the Government of the Russian Federation, which provided comments that were considered and incorporated into this final version of the report.

3. The review was conducted from 16 to 20 October in Bonn by the following team of nominated experts from the UNFCCC roster of experts: Buket Akay (Türkiye), Eduardo Calvo Buendia (Peru), Lokesh Chandra Dube (India), Sizwe Mabaso (Eswatini) and Jade Roberts-Maron (France). Buket Akay and Eduardo Calvo Buendia were the lead reviewers. The review was coordinated by Sina Wartmann (secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the NC8 of the Russian Federation in accordance with the UNFCCC reporting guidelines on NCs,² the reporting guidelines for supplementary information, in particular the supplementary information required under Article 7, paragraph 2, and on the minimization of adverse impacts under Article 3, paragraph 14, of the Kyoto Protocol and of the information reported in the BR5 of the Russian Federation in accordance with the UNFCCC reporting guidelines on BRs.³

1. Timeliness

5. The NC8 was submitted on 30 December 2022, before the deadline of 31 December 2022 mandated by decision 6/CP.25.

6. The BR5 was submitted on 30 December 2022, before the deadline of 31 December 2022 mandated by decision 6/CP.25. The CTF tables were also submitted on 30 December 2022.

2. Completeness, transparency of reporting and adherence to the reporting guidelines

7. Issues and gaps identified by the ERT related to the information reported by the Russian Federation in its NC8 are presented in tables 1–2. In addition, the ERT noted that the Party did not submit CTF tables 4, 4(a)I and 4(a)II, CTF table 5 and CTF tables 6(a–c). The ERT therefore recommends that, in order to increase completeness, the Party report CTF tables 4, 4(a)I and 4(a)II (as appropriate), CTF table 5 and CTF tables 6(a–c) (as appropriate). The information reported, including the supplementary information under the Kyoto Protocol, mostly adheres to the UNFCCC reporting guidelines on NCs.

¹ This review was to be conducted as an in-country review. However, travel following the established in-country review schedule was not considered possible owing to political developments in the region, so a centralized review was conducted while ensuring interaction with the Party and its national technical experts using videoconferencing.

² Decision 6/CP.25, annex.

³ Decision 2/CP.17, annex.

8. The Russian Federation made improvements to the reporting in its NC8 compared with that in its NC7, including by addressing some recommendations and encouragements from the previous review report. The ERT noted that the Party has improved:

(a) The transparency of the information reported on national circumstances relevant to GHG emissions and removals by providing information on the drivers in response to a recommendation in the previous review report, which was addressed in the NC8 by listing the main drivers;

(b) The transparency of the information reported on institutional arrangements for monitoring GHG mitigation policies in response to an encouragement in the previous review report to include the roles of national, regional and local government by providing a description of the way in which progress with PaMs to mitigate GHG emissions is monitored and evaluated over time. The Russian Federation also provided information on institutional arrangements and described its multi-level system, including the roles of the Administration of the President, the Ministry of Economic Development, the Heads of Administrations and other administrative entities;

(c) The completeness of the information reported on projections and the total effects of PaMs by providing a WOM scenario and a WAM scenario on a gas-by-gas basis and on a sectoral basis;

(d) The transparency of the information reported on vulnerability assessment, climate change impacts and adaptation measures by presenting information on a national action plan on climate change aimed at reducing the vulnerability of the national security system, economic entities and citizens, and numerous sector-specific action plans;

(e) The transparency of the information reported on research and systematic observation by reporting on new decrees, policies and critical studies that have been undertaken since the NC7;

(f) The transparency of the information reported on education, training and public awareness by including an improved outline of how the implementation of general policy on training and public awareness is approached. It also included information on training and outreach activities by different national entities aimed at improving climate change related training and public awareness respectively.

Table 1
Assessment of completeness and transparency of mandatory information reported by the Russian Federation in its eighth national communication

<i>Section of NC</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of recommendation</i>
Executive summary	Complete	Transparent	–
National circumstances relevant to GHG emissions and removals	Complete	Mostly transparent	Issue 1 in table I.1
GHG inventory	Complete	Mostly transparent	Issue 1 in table I.2
PaMs	Partially complete	Transparent	Issues 4, 6–7 and 9 in table I.3
Projections and the total effect of PaMs	Mostly complete	Mostly transparent	Issues 1, 5–6, 8 and 16 in table I.4
Vulnerability assessment, climate change impacts and adaptation measures	Complete	Transparent	–
Financial resources and transfer of technology ^a	NA	NA	NA
Research and systematic observation	Complete	Transparent	–
Education, training and public awareness	Complete	Transparent	–

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex I. The assessment of completeness and transparency by the ERT in this table is based only on the “shall” reporting requirements.

^a The Russian Federation is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paras. 3–5, of the Convention.

Table 2

Assessment of completeness and transparency of mandatory supplementary information under the Kyoto Protocol reported by the Russian Federation in its eighth national communication

<i>Supplementary information under the Kyoto Protocol</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of finding(s)</i>
National system	NA	NA	–
National registry	NA	NA	–
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	NA	NA	–
PaMs in accordance with Article 2	Complete	Transparent	–
Domestic and regional programmes and/or arrangements and procedures	Complete	Transparent	–
Information under Article 10 ^a	NA	NA	–
Financial resources ^b	NA	NA	NA
Minimization of adverse impacts in accordance with Article 3, paragraph 14	Complete	Transparent	–

Note: A list of findings pertaining to the completeness and transparency issues identified in this table is included in annex I. The assessment of completeness and transparency by the ERT in this table is based only on the “shall” reporting requirements.

^a The assessment refers to information provided by the Party on the provisions contained in Article 4, paras. 3, 5 and 7, of the Convention as reported under Article 10 of the Kyoto Protocol, which is relevant to Annex II Parties only. An assessment of the information on the other provisions of Article 10 of the Kyoto Protocol is provided under the relevant substantive headings under the Convention, for example research and systematic observation.

^b The Russian Federation is not an Annex II Party and is therefore not obliged to provide information on financial resources under Article 11 of the Kyoto Protocol, including on “new and additional” resources.

9. Issues and gaps identified by the ERT related to the information reported by the Russian Federation in its BR5 are presented in table 3. The information reported mostly adheres to the UNFCCC reporting guidelines on BRs.

10. The Russian Federation did not submit an English translation of its BR5. The ERT notes that, in paragraph 26 of the UNFCCC reporting guidelines on BRs, Parties are encouraged to submit an English translation of the BR to facilitate its use in the review process.

11. The Russian Federation made improvements to the reporting in its BR5 compared with that in its BR4, including by addressing some recommendations and encouragements from the previous review report. The ERT noted that the Party has improved:

(a) The transparency of the information reported on GHG emissions and trends by including information on the changes made in the institutional arrangements since its BR4;

(b) The transparency of the 2020 target, by clarifying that the target is to reduce emissions by 25 per cent compared with the 1990 level;

(c) The completeness of the information reported on projections by providing a WOM scenario and a WAM scenario on a gas-by-gas basis and on a sectoral basis.

Table 3

Summary of completeness and transparency of mandatory information reported by the Russian Federation in its fifth biennial report

<i>Section of BR</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of recommendation</i>
GHG emissions and removals	Complete	Mostly transparent	Issue 1 in table II.1

<i>Section of BR</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of recommendation</i>
Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies	Complete	Transparent	–
Progress in achievement of targets	Partially complete	Mostly transparent	Issues 1–2 in table II.2 Issues 1, 5–6 and 14 in table II.3
Provision of support to developing country Parties ^a	NA	NA	NA

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex II. The assessment of completeness and transparency by the ERT in this table is based only on the “shall” reporting requirements.

^a The Russian Federation is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paras. 3–5, of the Convention.

II. Technical review of the information reported in the eighth national communication and fifth biennial report

A. National circumstances relevant to greenhouse gas emissions and removals

1. Technical assessment of the reported information

12. The NC8 contains key data on legislation, population trends, geography and land use, climate and climate change, economic development, energy, transport, the buildings sector, industry, trade, the services sector, agriculture, forestry, resource efficiency and wastewater. The Russian Federation included in its NC8 explanations of the impact of the circumstances of the coronavirus disease 2019 pandemic on several emitting sectors and subsectors and on the recovery from the pandemic. National circumstances affecting national GHG emissions since 1990 include general trends in economic development, including the restructuring of the Russian Federation’s economy, changes in energy efficiency and the overall efficiency of the Russian economy, as well as changes in the fuel mix. However, the ERT noted that the Russian Federation did not state how climate change is having an impact on emissions and removals.

2. Assessment of adherence to the reporting guidelines

13. The ERT assessed the information reported in the NC8 of the Russian Federation and identified an issue relating to transparency, and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.1.

B. Greenhouse gas inventory information⁴

1. Technical assessment of the reported information

14. As reported in the NC8 and BR5 and the corresponding CTF tables for 2020, the GHG emissions (excluding LULUCF) of the Russian Federation amounted to 2,051,437 kt CO₂ eq, and GHG emissions (including LULUCF) in 2020 were 1,482,200 kt CO₂ eq. Emission trends were reported for a consistent time series from 1990 to 2020.

15. The ERT noted that the estimated emissions for 1990 were recalculated for the 2023 annual submission of the Russian Federation and the values reported in the corresponding CTF tables are in line with those in the NC8 and BR5.

⁴ GHG emission data in this section are based on the Russian Federation’s 2023 annual submission, version 3, which has not yet been subject to review. All emission data in subsequent chapters are based on the Russian Federation’s BR5 CTF tables unless otherwise noted.

16. The Russian Federation reported information in its BR5 and NC8 on its historical GHG emissions and inventory arrangements. Total GHG emissions⁵ excluding emissions and removals from LULUCF decreased by 35.1 per cent between 1990 and 2020, while total GHG emissions including net emissions or removals from LULUCF decreased by 52.0 per cent over the same period. Emissions excluding emissions and removals from LULUCF increased in 2021 compared with the 2020 level. Emissions peaked in 1990 and decreased thereafter. The key drivers affecting emission trends are presented in paragraph 12 above.

17. Table 4 illustrates the emission trends by sector and by gas for the Russian Federation. The emissions reported in the 2023 annual submission differ from the data reported in CTF table 1.

Table 4

Greenhouse gas emissions by sector and by gas for the Russian Federation for 1990–2021

	GHG emissions (kt CO ₂ eq)					Change (%)		Share (%)	
	1990	2000	2010	2020	2021	1990–2020	2020–2021	1990	2021
<i>Sector</i>									
1. Energy	2 577 132.87	1 521 020.60	1 639 330.25	1 593 849.58	1 679 103.65	–38.2	5.3	81.4	77.9
A1. Energy industries	1 171 194.98	842 615.26	878 937.43	819 801.72	866 135.27	–30.0	5.7	37.0	40.2
A2. Manufacturing industries and construction	211 289.43	99 325.57	129 731.32	147 150.32	167 646.13	–30.4	13.9	6.7	7.8
A3. Transport	320 237.89	174 136.93	229 571.43	229 004.93	225 727.70	–28.5	–1.4	10.1	10.5
A4. and A5. Other	588 901.74	191 880.72	175 968.56	180 914.95	189 250.09	–69.3	4.6	18.6	8.8
B. Fugitive emissions from fuels	285 508.83	213 062.11	225 121.51	216 977.66	230 344.46	–24.0	6.2	9.0	10.7
C. CO ₂ transport and storage	NA, NO	NA, NO	NA, NO	NO	NO	–	–	–	–
2. IPPU	286 507.76	198 604.93	204 389.90	254 393.52	259 516.02	–11.2	2.0	9.0	12.0
3. Agriculture	250 734.98	120 764.27	105 420.26	118 805.28	121 284.74	–52.6	2.1	7.9	5.6
4. LULUCF	–77 415.61	–473 257.27	–698 066.14	–557 559.91	–484 824.68	–620.2	13.0	NA	NA
5. Waste	52 203.44	54 611.59	70 253.02	94 061.48	96 694.93	80.2	2.8	1.6	4.5
6. Other ^a	NO	NO	NO	NO	NO	–	–	–	–
<i>Gas^b</i>									
CO ₂	2 536 247.74	1 479 142.48	1 632 783.16	1 632 929.31	1 711 993.32	–35.6	4.8	80.1	79.4
CH ₄	438 513.50	304 963.24	296 460.62	299 884.33	314 778.31	–31.6	5.0	13.8	14.6
N ₂ O	139 337.06	73 500.14	72 078.10	86 475.46	88 400.86	–37.9	2.2	4.4	4.1
HFCs	35 937.16	26 569.76	13 444.56	39 081.79	38 619.93	8.8	–1.2	1.1	1.8
PFCs	15 105.81	9 867.31	3 630.76	1 685.54	1 628.56	–88.8	–3.4	0.5	0.1
SF ₆	1 437.79	958.45	996.23	1 051.31	1 176.77	–26.9	11.9	0.0	0.1
NF ₃	NO	NO	NO	2.11	1.59	–	–24.9	–	0.0
Total GHG emissions excluding LULUCF	3 166 579.05	1 895 001.38	2 019 393.43	2 061 109.86	2 156 599.34	–34.9	4.6	100.0	100.0
Total GHG emissions including LULUCF	3 089 163.44	1 421 744.11	1 321 327.29	1 503 549.95	1 671 774.66	–51.3	11.2	–	–

Source: GHG emission data: the Russian Federation's 2023 annual submission, version 3.

^a Emissions and removals reported under the sector other (sector 6) are not included in total GHG emissions.

⁵ In this report, the term “total GHG emissions” refers to the aggregated national GHG emissions expressed in terms of CO₂ eq excluding LULUCF, unless otherwise specified.

^b Emissions by gas without LULUCF.

18. In brief, the Russian Federation’s national inventory arrangements were established in accordance with legal action, such as decree 278-r of 1 March 2006 and decree 930-r of 15 May 2017, and through documents such as the *Procedure for Quality Assurance and Quality Control of the National Inventory of Anthropogenic Emissions by Sources and Removals by Sinks of Greenhouse Gases of the Russian Federation*, developed by the Institute of Global Climate and Ecology,⁶ Roshydromet and the Russian Academy of Sciences. The national GHG inventory is compiled by Roshydromet based on information provided by ministries and federal agencies and is reviewed by the Ministry of Natural Resources and Environment. The Party informed the ERT that the changes in the arrangements since the BR4 include updating the list of ministries and federal agencies participating in the preparation of the national inventory and updating the inventory preparation procedure.

2. Assessment of adherence to the reporting guidelines

19. The ERT assessed the information reported in the NC8 and BR5 of the Russian Federation and identified an issue relating to transparency, and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The finding is described in tables I.2 and II.1.

3. National system for the estimation of anthropogenic emissions by sources and removals by sinks

20. The Russian Federation provided in the NC8 a description of how its national system for the estimation of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol is performing the general and specific functions defined in the annex to decision 19/CMP.1 in conjunction with decisions 3/CMP.11 and 4/CMP.11. The description includes all elements mandated by paragraph 30 of the annex to decision 15/CMP.1.

4. National registry

21. As a Party included in Annex I to the Convention with no commitments inscribed in Annex B to the Kyoto Protocol, the Russian Federation has no obligation to report in its NC8 on how its national registry performs the functions in accordance with the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1 and complies with the requirements of the technical standards for data exchange between registry systems. However, the Russian Federation provided in the NC7 information that, at its own request, the Russian registry of carbon units was disconnected from the international transaction log on 30 December 2015.

C. Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies

1. Technical assessment of the reported information

22. For the Russian Federation, the Convention entered into force on 28 March 1995. Under the Convention the Russian Federation committed to reducing its GHG emissions by 25 per cent below the 1990 level (to a level not exceeding 75 per cent of the 1990 emission level) by 2020. The target includes all GHGs included in the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories”, namely CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃. It also includes all IPCC sources and sectors included in the annual GHG inventory, excluding LULUCF. The GWP values used are from the AR4. The Russian Federation reported that it does not plan to make use of market-based mechanisms to achieve its target. In absolute terms this means that, under the Convention, the Russian Federation has to reduce its emissions from 3,089,057.62 kt CO₂ eq (in 1990) to 2,316,793.21

⁶ Now known as the Yu. A. Izrael Institute of Global Climate and Ecology.

kt CO₂ eq by 2020. The Russian Federation reported information on its economy-wide emission reduction target in its BR5.

23. The ERT noted that in CTF table 2(a) the Russian Federation reported its target as 75 per cent of the 1990 (base-year) emissions. This information reflects the target established by presidential decree 752 of 30 September 2013, as reported in the BR5 (a reduction in GHG emissions to a level not exceeding 75 per cent of the 1990 level) and also contained in document FCCC/SB/2011/INF.1/Rev.1 and subsequent documents containing the updated economy-wide emission reduction targets of Parties included in Annex I to the Convention. The ERT noted that the reporting of the target has been changed to 25 per cent, as requested by the previous ERT.

24. In addition to its 2020 target, the first nationally determined contribution of the Russian Federation, submitted under the terms of the Paris Agreement, was submitted to the secretariat on 25 November 2020. It envisages a 30 per cent reduction in GHG emissions by 2030 compared with the 1990 level (3.1 billion t CO₂ eq), taking into account the maximum absorption capacity of forests and other ecosystems, and subject to the sustainable and balanced social and economic development of the Russian Federation.

25. The Russian Federation also reported on its longer-term targets included in the Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050 (order 3052-r), approved by the Government of the Russian Federation on 29 October 2021, where, under the targeted (intensive) scenario, emissions are estimated at 1,673,000 kt CO₂ eq by 2030 and 630,000 kt CO₂ eq by 2050, corresponding to reductions of around 52.8 per cent by 2030 and 80.0 per cent by 2050 compared to 1990. Further implementation of the target scenario would enable the Russian Federation to achieve carbon neutrality by 2060.

2. Assessment of adherence to the reporting guidelines

26. The ERT assessed the information reported in the BR5 of the Russian Federation and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

D. Information on policies and measures

1. Technical assessment of the reported information

27. The Russian Federation provided in its NC8 and BR5 information on its PaMs⁷ implemented, adopted and planned to fulfil its commitments under the Convention. The Russian Federation's set of PaMs is similar to that previously reported, and also includes PaMs such as the Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050 of 2021 and the Low-carbon Development Policy of 2021.

28. The Russian Federation reported on its policy context and legal and institutional arrangements in place for implementing its commitments and monitoring and evaluating the effectiveness of its PaMs. The Party also provided information on changes to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of progress towards its target. The Russian Federation has a multi-level system for monitoring and evaluating the PaMs. The Administration of the President of the Russian Federation and the Presidential Control Department of the Russian Federation, which are the plenipotentiary representatives of the President of the Russian Federation, control and verify the implementation of the PaMs. The Accounts Chamber controls the spending of federal budget funds. The Government and Heads of Administrations control the activities of the executive authorities that systematically review the implementation of the PaMs. The Ministry of Economic Development regulates

⁷ The UNFCCC reporting guidelines on BRs use the term “mitigation actions”, whereas the UNFCCC reporting guidelines on NCs use the term “policies and measures”. The terms are used interchangeably in this report to refer to the relevant information in either the NC or BR.

the procedures for developing and preparing reports on implementation, evaluation of efficiency and monitoring of State programmes. Federal executive bodies review the draft annual national inventories, the NCs and BRs.

29. In its reporting on PaMs, the Russian Federation reported on the impact of the federal and targeted policies and programmes and of one policy in the industry sector. However, the Russian Federation did not provide the estimated emission reduction impacts for the PaMs in the energy, industry, agriculture, forests, transport and waste sectors. Where estimated impacts were not provided, the Party explained that those measures have an indirect impact on GHG emissions and therefore cannot be accurately quantified in terms of reducing GHG emissions and that the Russian Federation does not have regulations to provide for GHG emission reduction estimates for measures that have indirect impacts.

30. The key overarching cross-sectoral policy reported by the Russian Federation is the Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050, approved by parliamentary order 3052-p of 29 October 2021. This strategy provides a foundation for including State policy measures on the control of GHG emissions into various strategic planning documents of the Russian Federation. The strategy sets out the measures needed to ensure the Party achieves its target of reducing GHG emissions by up to 30 per cent by 2030 compared with the 1990 level, and identifies areas and measures for achieving low GHG emissions development until 2050. In addition, implementing the measures on the socioeconomic development of the Russian Federation until 2030 set out in the Low-carbon Development Policy (decree 2816-p of 6 October 2021) will have a significant impact on GHG emissions and removals.

31. The Ministry of Economic Development has created a regulatory framework for implementing the federal law on limiting GHG emissions (law 296-FZ, adopted in July 2021), which includes a system of State accounting of GHG emissions and a mechanism for implementing voluntary climate projects. This also includes a package on the introduction of compulsory GHG emissions reporting for business entities with annual GHG emissions of 150 kt CO₂ eq or more from 2023 and 50 kt CO₂ eq or more from 2025. The ERT identified federal law 34-FZ, which provides for an experiment on limiting GHG emissions in the Sakhalin Oblast from 1 September 2022, as a mitigation action of particular interest because of the innovative aspect of the policy. This pilot programme will test a GHG emission quota mechanism and will facilitate free distribution of projected GHG emission quotas among the regional regulated entities, and a fee will be set for exceeding the quota.

32. The Russian Federation highlighted the mitigation actions that are under development, such as the Action Plan for the Implementation of the Russian Low Greenhouse Gas Emissions Socioeconomic Development Strategy until 2050 and the draft State programme on Energy Saving and Energy Efficiency Improvement. This draft programme provides a foundation for significant additional actions by improving the energy efficiency of residential, industrial and public buildings by implementing energy saving and energy efficiency measures and reducing the energy intensity of the industry sector. The objectives are planned to be linked to the Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050. Table 5 provides a summary of the reported information on the PaMs of the Russian Federation.

Table 5
Summary of information on policies and measures reported by the Russian Federation

<i>Sector</i>	<i>Key PaMs^a</i>	<i>Estimated mitigation impact in 2020 (kt CO₂ eq)</i>	<i>Estimated mitigation impact in 2030 (kt CO₂ eq)</i>
Policy framework and cross-sectoral measures	Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050 (2021)	NA	NA
	Low-carbon Development Strategy (2021)	NA	NA
	Federal law on limiting GHG emissions (law 296-FZ, adopted in July 2021)	NA	NA
Energy	State programme on Energy Sector Development	NA	NA

<i>Sector</i>	<i>Key PaMs^a</i>	<i>Estimated mitigation impact in 2020 (kt CO₂ eq)</i>	<i>Estimated mitigation impact in 2030 (kt CO₂ eq)</i>
	Energy Strategy of the Russian Federation to 2035	NA	NA
Energy efficiency	State programme on Energy Saving and Energy Efficiency Improvement	NA	NA
Energy supply and renewable energy	Concept of hydrogen energy development in the Russian Federation	NA	NA
Transport	Transport Strategy of the Russian Federation to 2030 with a forecast to 2035	NA	NA
IPPU	Concept for the development of production and use of electric road transport in the Russian Federation to 2030	NA	NA
Agriculture	State programme for the Development of Agriculture and Regulation of Markets of Agricultural Products, Raw Materials and Foodstuffs	NA	NA
	State programme for the Effective Involvement of Agricultural Land and the Development of the Land Reclamation Complex of the Russian Federation	NA	NA
LULUCF	Fundamentals of State policy on the Use, Protection, Conservation and Reproduction of Forests in the Russian Federation to 2030	NA	NA
	State programme on Development of Forestry	NA	NA
Waste	Federal law on the production and consumption of waste of 2014	NA	NA
Other		NA	NA

Note: The estimated mitigation impacts are estimates of emissions of CO₂ eq avoided in a given year as a result of the implementation of mitigation actions.

^a Names of PaMs translated from Russian.

33. The Russian Federation provided detailed information in its NC8 on the cross-sectoral PaMs and the PaMs in the energy, transport, industry, agriculture, forestry and waste sectors. The Russian Federation reported that it is currently implementing a number of PaMs across all sectors that are expected to have a significant impact on GHG emissions and removals.

2. Assessment of adherence to the reporting guidelines

34. The ERT assessed the information reported in the NC8 and BR5 of the Russian Federation and identified issues relating to completeness and transparency, and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The findings are described in tables I.3 and II.3.

3. Domestic and regional programmes and legislative arrangements and procedures related to the Kyoto Protocol

(a) Technical assessment of the reported information

35. In its NC8, the Russian Federation reported that the implementation of the Kyoto Protocol is underpinned by the Climate Doctrine of the Russian Federation, approved by presidential decree 861-rp of 17 December 2009. A comprehensive plan for its implementation until 2020 was approved by order 730-r of the Government of the Russian Federation on 25 April 2011. To ensure the implementation of national commitments under the Convention and Kyoto Protocol, a package of federal and regional legal and regulatory acts and other documents was developed and adopted by the President and the Government of the Russian Federation and regional executive authorities. The overall responsibility for climate change policymaking lies with the Ministry of Economic Development, and a number of national institutions are involved in policy implementation, including the Ministries of Energy, Transport and Natural Resources and Ecology. A special inter-agency working group was established under the Administration of the President of the Russian Federation to ensure effective inter-agency cooperation between federal executive authorities, other State bodies, public associations, and scientific and other organizations involved in planning and

implementing State policy on climate change, including issues related to the Convention and the Kyoto Protocol, and to ensure sustainable development.

36. The Party has arrangements and enforcement procedures to meet its commitments under the Kyoto Protocol, including procedures for addressing non-compliance. These include a multi-level system for monitoring the implementation and evaluation of the effectiveness of regulations, State programmes and other policy decisions, including in the area of mitigation, through the Presidential Control Department of the Russian Federation and the plenipotentiary representatives of the President of the Russian Federation in the federal districts.

37. The Russian Federation has provisions in place to make information on legislative arrangements and administrative procedures related to compliance and enforcement publicly accessible, including publishing relevant information on the websites of ministries.

38. The Russian Federation has national legislative arrangements and administrative procedures in place that seek to ensure that the implementation of activities under Article 3, paragraph 3, and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources. This is ensured, among other means, through the Forest Code of the Russian Federation and order 1724-r of the Government of the Russian Federation of 26 September 2013, which both include requirements and processes on biodiversity and conservation related to mitigation activities in the forestry sector.

(b) Assessment of adherence to the reporting guidelines

39. The ERT assessed the information reported in the NC8 of the Russian Federation and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

4. Policies and measures in accordance with Article 2 and minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol

(a) Technical assessment of the reported information

40. In the NC8 the Russian Federation reported information on how it strives to implement PaMs under Article 2 of the Kyoto Protocol in such a way as to minimize adverse effects, including the adverse effects of climate change and effects on international trade and social, environmental and economic impacts on other Parties, especially developing country Parties.

41. The NC8 includes information on how the Russian Federation promotes and implements the decisions of the International Civil Aviation Organization and the International Maritime Organization to limit emissions from aviation and marine bunker fuels. The Ministry of Transport is guided by the standards, recommended practices and decisions of the International Civil Aviation Organization and the International Maritime Organization. For example, the Russian Maritime Register of Shipping undertakes surveys of ships for compliance with the International Convention for the Prevention of Pollution from Ships, taking into consideration the provisions of the International Maritime Organization's Guidelines for Survey and Certification in respect of the Structural Energy Efficiency Factor, and issues International Energy Efficiency Certificates.

42. Further information on how the Russian Federation strives to implement its commitments under Article 3, paragraph 14, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties was reported in the 2023 annual submission. The Party reported information on what it prioritized in implementing its commitments under Article 3, paragraph 14, including implementing as a priority a set of measures to improve energy efficiency, energy saving and the use of renewable energy sources. The Russian Federation also stated that it exports natural gas to developing countries in the Commonwealth of Independent States, South-East Asia and the Pacific, thus helping to replace more carbon-intensive fuels in these countries.

(b) Assessment of adherence to the reporting guidelines

43. The ERT assessed the information reported in the NC8 of the Russian Federation and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

E. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry and progress in achieving the quantified economy-wide emission reduction target**1. Technical assessment of the reported information**

44. On its use of units from LULUCF activities, the Russian Federation reported in its BR5 that in 2020 it did not use any units from LULUCF activities. The Russian Federation reported that it did not use units from market-based mechanisms under the Convention. It reported also in the BR5 that it did not use any units from market-based mechanisms in 2019 or 2020. Table 6 illustrates the Russian Federation's total GHG emissions, contribution of LULUCF and use of units from market-based mechanisms towards achieving its target.

Table 6

Summary of information on greenhouse gas emissions, use of units from market-based mechanisms and land use, land-use change and forestry by the Russian Federation

<i>Year</i>	<i>Emissions excluding LULUCF</i>	<i>Contribution of LULUCF^a</i>	<i>Use of units from market-based mechanisms</i>	<i>Net emissions including LULUCF and market-based mechanisms</i>
1990	3 162 627.60	NA	NA	3 162 627.60
2010	2 019 393.43	NA	NA	2 019 393.43
2011	2 076 058.19	NA	NA	2 076 058.19
2012	2 100 946.52	NA	NA	2 100 946.52
2013	2 041 805.21	NA	NA	2 041 805.21
2014	2 037 643.31	NA	NA	2 037 643.31
2015	2 033 334.96	NA	NA	2 033 334.96
2016	2 033 968.36	NA	NA	2 033 968.36
2017	2 082 644.32	NA	NA	2 082 644.32
2018	2 145 241.38	NA	NA	2 145 241.38
2019	2 136 517.95	NA	NA	2 136 517.95
2020	2 061 109.86	NA	NA	2 061 109.86
			2020 target ^b	2 371 970.70

Source: The Russian Federation's NC8.

^a The Russian Federation's emission reduction target does not include emissions or removals from LULUCF.

^b The emission level that corresponds to the 2020 target is calculated on the basis of the GHG emissions excluding LULUCF in the base year and the Party's target (i.e. reduction in emissions compared with the base year).

2. Assessment of adherence to the reporting guidelines

45. The ERT assessed the information reported in the BR5 of the Russian Federation and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

3. Assessment of achievement of the quantified economy-wide emission reduction target

46. In assessing the Party's achievement of its 2020 target on the basis of the information reported in its BR5, the ERT noted that the Russian Federation committed to reducing its emissions to 25 per cent below the 1990 level by 2020 (see para. 22 above). The ERT noted

that the contribution of LULUCF is not included in the Party's base or target year and that the Russian Federation did not use units from market-based mechanisms. Taking this into account, emissions in 2020 were 1,009,979.71 kt CO₂ eq (34.9 per cent) below the emission level corresponding to the 2020 target (see table 6). The ERT concluded that on the basis of the information reported in the BR5 the total 2020 GHG emissions excluding LULUCF do not exceed the emission level corresponding to the 2020 target and thus that the target has been achieved.

F. Projections

1. Projections, overview methodology and results

(a) Technical assessment of the reported information

47. The Russian Federation reported in its BR5 and NC8 updated projections for 2030–2050 relative to actual inventory data for 2020 under the WEM scenario. The WEM scenario reported by the Russian Federation includes PaMs implemented and adopted until 2050. For the WEM scenario, national total GHG emissions were reported both including and excluding the LULUCF sector.

48. In addition to the WEM scenario, the Russian Federation reported the WAM and WOM scenarios. The WAM scenario includes planned PaMs, while the WOM scenario excludes all PaMs implemented, adopted or planned after 2020. The Russian Federation did not provide any definitions of its scenarios. During the review, the Party presented some information on its scenarios, explaining that its WEM scenario includes policies such as increasing the capacity of nuclear, hydro, solar and wind power plants, increasing sales of electric vehicles and support for electric and hydrogen vehicles, and waste utilization, while its WAM scenario includes energy efficiency in buildings, eliminating CH₄ leaks from pipelines, increasing the carbon sink in the LULUCF sector, increasing cattle productivity, CCS technologies, and carbon pricing instruments, in addition to the measures in the WEM scenario. The Party also clarified that energy efficiency for industries is a non-specialized measure and is included in all scenarios because it is embedded in the 'business as usual' scenario. However, the additional information provided during the review did not include definitions of the scenarios.

49. The projections are presented on a sectoral basis, using the same sectoral categories as those used in the reporting on mitigation actions, and on a gas-by-gas basis for CO₂, CH₄, N₂O, PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case), as well as NF₃ for 2030–2050. The projections are not provided in an aggregated format for each sector. The Russian Federation reported emission projections as a combined table for sectors and gases. During the review, the Russian Federation explained that a combined table for sectors and gases provides enough data for sectoral analysis. The Russian Federation did not report on factors and activities affecting emissions for each sector. During the review, the Party explained that it lacks permission to publish this information.

(b) Methodology, assumptions and changes since the previous submission

50. The methodology used for the preparation of the projections is different from that used for the preparation of the emission projections for the NC7. The Russian Federation did not provide information on changes since the submission of its NC7 in the assumptions, methodologies, models and approaches used for the projection scenarios. During the review, the Party explained that the projections included in its NC8 and BR5 are built on a new model and that the method is designed to consider the widest possible range of consequences from the implementation of decarbonization measures, considering technological changes and inter-industry interactions. However, the specific changes in methodologies and assumptions could not be ascertained from the information provided and the response received from the Party.

51. The Russian Federation did not provide information on key underlying assumptions and did not report CTF table 5. During the review, the Party explained that it was not able to provide further information because the relevant document had not yet been published.

52. The Party did not report a sensitivity analysis or a justification for not reporting it. During the review, the Russian Federation clarified that it did not conduct a sensitivity analysis because it is not an obligatory reporting requirement.

(c) Results of projections

53. The projected emission levels under different scenarios are presented in table 7 and figure 1.

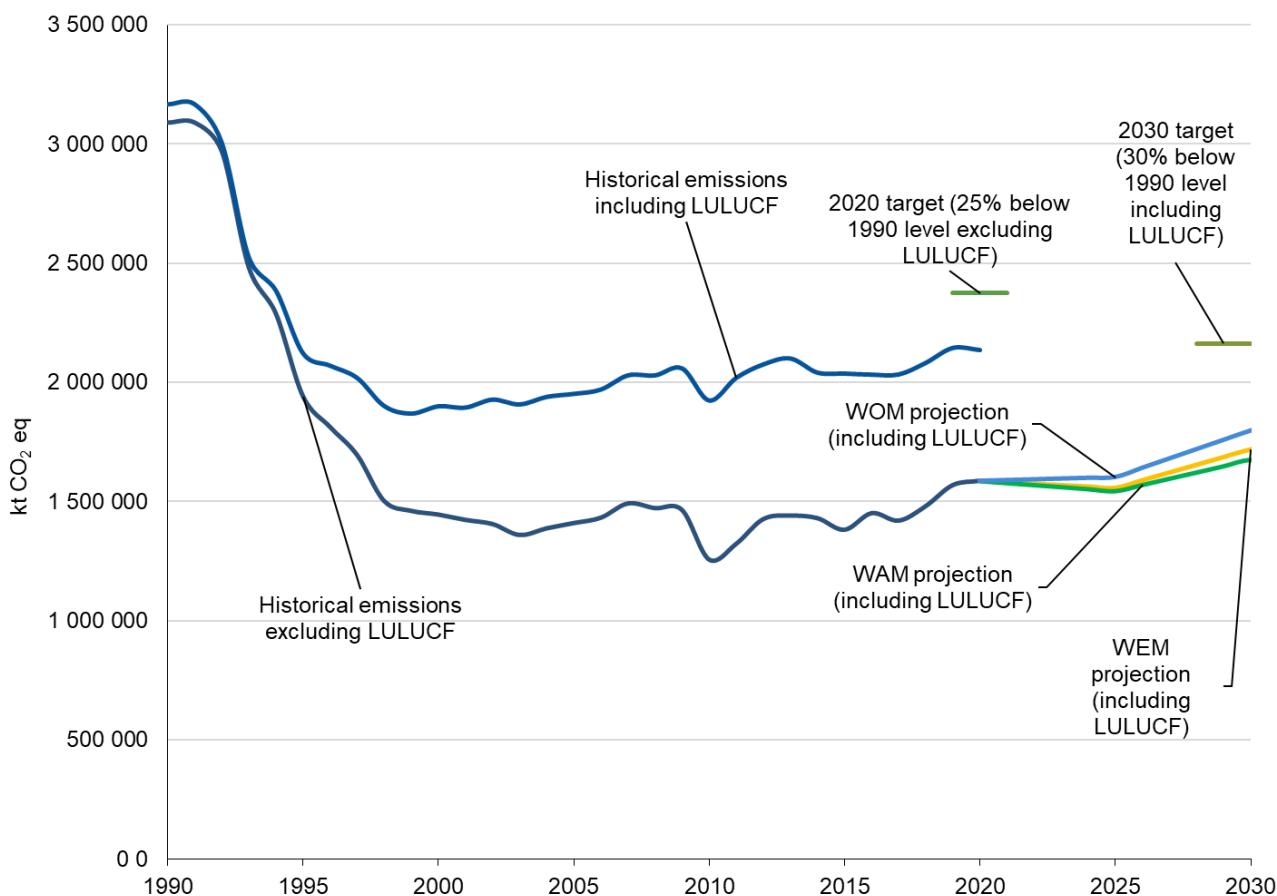
**Table 7
Summary of greenhouse gas emission projections for the Russian Federation**

	<i>GHG emissions (kt CO₂ eq/year)</i>	<i>Change in relation to 1990 level (%)</i>	<i>Change in relation to 2020 level (%)</i>
Inventory data 1990	3 089 057.62	NA	NA
Inventory data 2020	1 482 200.07	52.0	NA
WOM projections for 2030	1 797 000.00	41.8	-21.2
WEM projections for 2030	1 719 000.00	44.4	-16.0
WAM projections for 2030	1 674 000.00	45.8	-12.9
WOM projections for 2035	1 943 000.00	37.1	-31.1
WEM projections for 2035	1 815 000.00	41.2	-22.5
WAM projections for 2035	1 512 000.00	51.1	-2.0

Source: The Russian Federation’s BR5.

Note: The projections are of GHG emissions including LULUCF and excluding indirect CO₂. The Russian Federation’s 2020 target does not include LULUCF; however, its 2030 and 2050 targets do include LULUCF.

**Figure 1
Greenhouse gas emission projections reported by the Russian Federation**



Source: The Russian Federation’s BR5 (total GHG emissions including and excluding LULUCF).

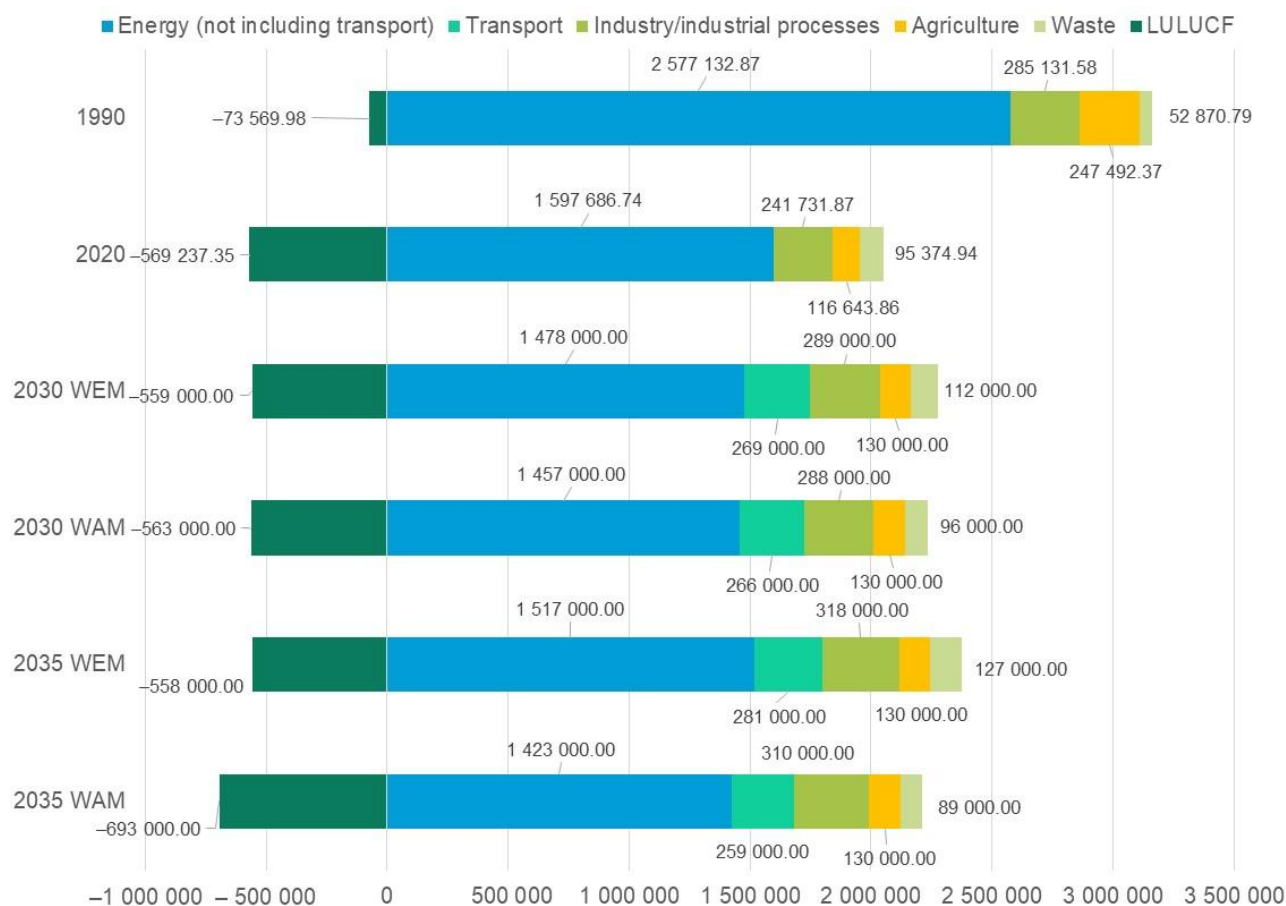
54. The Russian Federation’s total GHG emissions excluding LULUCF are projected under the WEM scenario to decrease by 28.0 and 19.5 per cent respectively below the 1990 level in 2030 and 2050. When including LULUCF, total GHG emissions are projected under the WEM scenario to decrease by 44.4 and 35.7 per cent respectively below the 1990 level in 2030 and 2050. Under the WAM scenario, emissions in 2030 and 2050 are projected to be lower than those in 1990 by 55.8 and 79.6 per cent respectively.

55. The Russian Federation presented the WEM and WAM scenarios by sector for 2030 and 2050, as summarized in figure 2 and table 8.

Figure 2

Greenhouse gas emission projections for the Russian Federation presented by sector

(kt CO₂ eq)



Source: The Russian Federation’s BR5.

Note: Transport emissions were not reported separately by the Russian Federation and were included in the energy sector.

Table 8

Summary of greenhouse gas emission projections for the Russian Federation presented by sector

Sector	GHG emissions and removals (kt CO ₂ eq)					Change (%)			
	1990	2030		2035		1990–2030		1990–2035	
		WEM	WAM	WEM	WAM	WEM	WAM	WEM	WAM
Energy (not including transport)	2 256 894.98	1 478 000.00	1 457 000.00	1 517 000.00	1 423 000.00	34.5	35.4	32.8	36.9
Transport	20 237.89	269 000.00	266 000.00	281 000.00	259 000.00	16.0	16.9	12.3	19.1
Industry/industrial processes	286 507.76	289 000.00	288 000.00	318 000.00	310 000.00	-0.9	-0.5	-11.0	-8.2
Agriculture	250 734.98	130 000.00	130 000.00	130 000.00	130 000.00	48.2	48.2	48.2	48.2
LULUCF	-77 415.61	-559 000.00	-563 000.00	-558 000.00	-693 000.00	-622.1	-627.2	-620.8	-795.2

Sector	GHG emissions and removals (kt CO ₂ eq)					Change (%)			
	1990	2030		2035		1990–2030		1990–2035	
		WEM	WAM	WEM	WAM	WEM	WAM	WEM	WAM
Waste	52 203.44	112 000.00	96 000.00	127 000.00	89 000.00	–114.5	–83.9	–143.3	–70.5
Other	–	–	–	–	–	–	–	–	–
Total GHG emissions excluding LULUCF	3 089 057.62	1 719 000.00	1 674 000.00	1 815 000.00	1 518 000.00	44.4	45.8	41.2	50.9

Source: The Russian Federation's BR5.

Note: Transport emissions were not reported separately by the Russian Federation and were included in the energy sector.

56. According to the projections reported for 2030 under the WEM scenario, the most significant absolute emission reductions are expected to occur in the LULUCF sector, amounting to projected reductions of 16.4 per cent between 1990 and 2030. The Forest Sector Development Strategy of the Russian Federation until 2030 was approved by regulation 312-r of the Government of the Russian Federation on 11 February 2021. According to Article 6 of the Forest Law, the Forest Sector Development Strategy includes the implementation of measures to reduce GHG emissions resulting from deforestation and forest degradation, strengthening conservation, the sustainable management of forests and increasing forest carbon sinks within the scope of the Paris Agreement. The pattern of projected emissions reported for 2050 under the same scenario remains the same.

57. According to the projections reported for 2030 under the WAM scenario, the most significant absolute emission reductions are expected to occur in the LULUCF sector, amounting to projected reductions of 16.5 per cent between 1990 and 2030. The pattern of projected emissions reported for 2050 under the same scenario is significantly different owing to measures targeting forestry, such as improving the efficiency of forest management, forest protection and reforestation. For example, the federal project on Conservation of Forests is being implemented as part of a national project on ecology, the main aim of which is to achieve an equilibrium for forest retirement and forest regeneration by 2024, and to increase the reforestation and afforestation area to 1.5 million ha.

58. The Russian Federation presented the WEM and WAM scenarios by gas for 2030 and 2050, as summarized in table 9.

Table 9

Summary of greenhouse gas emission projections for the Russian Federation presented by gas

Gas ^a	GHG emissions and removals (kt CO ₂ eq)					Change (%)			
	1990	2030		2035		1990–2030		1990–2035	
		WEM	WAM	WEM	WAM	WEM	WAM	WEM	WAM
CO ₂	2 429 583.59	1 204 000.00	1 177 000.00	1 282 000.00	1 027 000.00	50.4	51.5	47.2	57.7
CH ₄	457 023.20	345 000.00	327 000.00	356 000.00	309 000.00	24.8	28.8	22.4	32.7
N ₂ O	149 963.58	112 000.00	112 000.00	113 000.00	112 000.00	25.1	25.1	24.4	25.1
HFCs ^b	52 487.25	58 000.00	58 000.00	64 000.00	64 000.00	–10.5	–10.5	–21.9	–21.9
PFCs	IE	IE	IE	IE	IE	NA	NA	NA	NA
SF ₆	IE	IE	IE	IE	IE	NA	NA	NA	NA
NF ₃	IE	IE	IE	IE	IE	NA	NA	NA	NA
Total GHG emissions including LULUCF	3 089 057.62	1 719 000.00	1 674 000.00	1 815 000.00	1 512 000.00	44.4	45.8	41.2	51.1

Source: The Russian Federation's BR5 CTF table 6.

^a The Russian Federation did not include indirect CO₂ emissions in its projections.

^b The Russian Federation reported aggregated emissions of HFCs, PFCs, SF₆ and NF₃ in its BR5.

59. The Russian Federation did not report the changes in the projections and variations in important variables since the NC7 and BR4. During the review, the Party explained that the projections included in its NC8 and BR5 are built on a new model and the method used is

designed to consider the widest possible range of consequences from the implementation of decarbonization measures, considering technological changes and inter-industry interactions. However, overlaps or synergies of different measures were not modelled. In addition to the qualitative description reported in the NC8, the Russian Federation explained its projections for low GHG emission development until 2050, which take into account the impact of socioeconomic development on the model parameters. The parameters applied are based on the Institute of Economic Forecasting of the Russian Academy of Sciences model that is used for preparing the sectoral forecast, which comprises models for constructing the energy balance of the Russian Federation and managing net GHG emissions. The most significant parameter applied in the model is the set of measures for reducing net GHG emissions, because those measures have a direct impact on the parameters related to socioeconomic development.

60. The Party explained that the application of new technologies aimed at decarbonization initiates processes of redistribution of commodity flows, which brings about a process of substitution of hydrocarbons (coal, natural gas, oil and oil products) for electricity consumption. As a result, the type of the fuel and energy changes, and this results in changes in the output of energy products. As far as the economy is concerned, such changes mean a redistribution of revenues between sectors and a change in the multiplier effects on the economy. Also taken into account is the significant dependence of the fiscal sector of the Russian economy on the output dynamics of the oil, gas and refining sectors, which is negatively affected by the increased use of low-carbon technologies. As a result, the structural economic and technological change brought about by low-carbon transformation and decarbonization involves significant changes in the distribution of investment. Low-carbon development is characterized by increased capital intensity, which contributes to GDP growth through fixed capital accumulation, but increased capital intensity causes market prices to rise, altering consumption patterns. Higher prices for goods and services have a negative effect on consumption dynamics, as well as on product imports.

(d) Assessment of adherence to the reporting guidelines

61. The ERT assessed the information reported in the NC8 and BR5 of the Russian Federation and identified issues relating to completeness and transparency, and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The findings are in tables I.3 and II.3.

2. Assessment of the total effect of policies and measures

(a) Technical assessment of the reported information

62. In its NC8 the Russian Federation did not provide an estimate of the total effect of its PaMs, in accordance with the WEM scenario, compared with a situation without such PaMs.

63. During the review, the Russian Federation reported that the total estimated effect of its implemented and adopted PaMs is 0.00 kt CO₂ eq in 2020 and 88,000 kt CO₂ eq in 2030. The value for 2020 was reported as zero because 2020 was the starting year for the projections. According to the information reported in the NC8, PaMs implemented in the energy and LULUCF sector will deliver the largest emission reductions.

(b) Assessment of adherence to the reporting guidelines

64. The ERT assessed the information reported in the NC8 of the Russian Federation and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

G. Provision of financial, technological and capacity-building support to developing country Parties

65. The Russian Federation is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, the Russian Federation provided information in its NC8 and BR5 on its provision

of support to developing country Parties. The ERT commends the Russian Federation for reporting this information and suggests that it continue to do so in future NCs.

66. The Party reported on its financial support provided on a voluntary basis, including a contribution of USD 5 million to the UNFCCC in 2019 and earmarking USD 5.08 million for the United Nations Convention to Combat Desertification in 2021.

67. With regard to technology transfer, the Russian Federation reported on activities related to nuclear energy projects, namely that it is supporting construction projects consisting of 35 power units in 12 countries, including Bangladesh, China, Egypt, Hungary, India, the Islamic Republic of Iran and Türkiye.

68. With regard to capacity-building, the Russian Federation reported on training qualified specialists on climate science and meteorology in countries including Belarus, China, Colombia, Mexico, Peru, Ukraine, the United Republic of Tanzania and Uzbekistan.

H. Vulnerability assessment, climate change impacts and adaptation measures

1. Technical assessment of the reported information

69. In its NC8 the Russian Federation provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation. The Russian Federation provided a description of climate change vulnerability and impacts on the key development and economic sectors, especially regarding one of the highly vulnerable parts of the country (i.e. the region covered by permafrost), and highlighted the adaptation response actions taken and planned at different levels of government. Financial losses from natural emergencies between 2018 and 2022 increased rapidly, from RUB 8 million to RUB 44 million. However, the Party did not provide information on the linkages between the vulnerabilities and how they will affect emissions over time. In the NC7 the Party highlighted water resources and coastal areas as being significantly vulnerable to climate change. Although these two sectors are still highlighted as vulnerable in the NC8, no adaptation actions taken or planned were reported.

70. The Russian Federation has addressed adaptation matters through the adoption of the 2020–22 National Action Plan aimed at reducing the vulnerability of the national security system, economic entities and citizens owing to changes in the planetary climate. This action plan led to the development of industry-specific plans that provided further direction to government agencies on enhancing preparedness for climate change, including climate change adaptation plans for 2022 for the transport sector and the fuel and energy sector; and for 2021 for the agro-industry and fishing sectors, for the industry sector for environmental management, health, sanitary and epidemiological well-being of the Arctic zone of the Russian Federation, for civil defence, for the protection of people and the environment from natural and human-made disasters and for technical regulation of foreign and domestic trade and corporations. Table 10 summarizes the information on vulnerability and adaptation to climate change presented in the NC8 of the Russian Federation.

Table 10

Summary of information on vulnerability and adaptation to climate change reported by the Russian Federation

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
Industry, technical regulation and trade	<p>Vulnerability: (1) increase in hydrological and agrometeorological phenomena, causing significant damage to sectors of the economy; (2) heavy precipitation (rain, snow, hail), leading to adverse phenomena, such as flooding, ice formation, mudslides and landslides, which interfere with the safe functioning of production for the extractive industries; (3) the recurrence of extreme events (tornadoes, high or low air temperatures, extreme precipitation and snowfall, and drought) requires additional measures to establish material reserves (fuel, raw materials and water) at production facilities.</p> <p>Adaptation: (1) provide information and analytical support for activities to optimize work on adaptation to climate change, including the creation of an information system to</p>

Vulnerable area	Examples/comments/adaptation measures reported
Transport	<p>account for the impact of climate factors on industrial enterprises; (2) implement sensitivity and vulnerability assessments of industrial enterprises and risk analyses for the implementation of industrial adaptation plans to climate change; (3) develop State-level national standards establishing provisions for adaptation of major industries to climate change; (4) implement human resources policies, including training of employees and enterprise personnel in preventative measures to adapt Russian industry to climate change; (5) establish mechanisms for State support for enterprises in implementing climate change adaptation measures, including identification of possible damage caused to industry by climate impacts exceeding threshold levels.</p> <p>Vulnerability: (1) negative impact on the construction and operation of transport infrastructure (roads, railways, bridges, tunnels, port and airport infrastructure, runways); (2) owing to thawing of permafrost, a significant part of transport infrastructure is at risk of complete or partial loss of functionality; (3) about 70 per cent of the existing infrastructure in the Arctic zone of the Russian Federation is located in areas that are highly susceptible to thawing of permafrost soils; (4) extremely high temperatures and increased heatwaves over several consecutive days contribute to deformation and destruction of road surfaces and railway lines; (5) climate change is also affecting temporary transport structure, in particular winter roads and ice crossings, generally shortening their annual operating life.</p> <p>Adaptation: (1) improve the legal and regulatory framework for the design, construction and operation of transport infrastructure in the light of climate change; (2) organize site condition monitoring, including the development of a digital climate impact model; (3) assess climate risks and develop a sectoral methodology for calculating risks and assessing the consequences for transport infrastructure of projected climate change; (4) implement practical measures, including testing of high-quality innovative binder materials for construction, reconstruction, overhaul, repair and maintenance of roads under various road and climatic conditions and traffic loads.</p>
Agribusiness and fisheries	<p>Vulnerability: (1) increased vulnerability as a result of heat, drought, heavy precipitation, floods, hurricanes, tornadoes, strong winds, dry winds, flat and gully erosion, return of cold weather during the growing season (frost) and hail; (2) unpredicted disease outbreaks in farm animals, disruption of the ecological balance, including displacement of some species by others; (3) emergence of new species of crop pests; (4) extreme precipitation, leading to flooding and overwatering of croplands; (5) higher intensity and duration of droughts; (6) rising temperatures and ocean acidification, leading to an increase in the surface water temperature and in the deep water layer; (7) an increase in the density difference between the surface and subsurface water layers in the Arctic and subarctic seas, leading to significant changes in the habitat of aquatic biological resources in this most productive fishing area of the Russian Federation.</p> <p>Adaptation: (1) implement good long-term forecasting, making it possible to prepare well in advance for drought and dry spells; (2) establish a working group on adaptation planning; (3) implement the recommendations to the agro-industrial authorities of the constituent entities of the Russian Federation on the inclusion of region-specific measures in regional adaptation plans, including the technical upgrading of agricultural enterprises and the use of scientifically justified zonal farming systems; (4) implement measures to protect the soil of agricultural land from degradation and to preserve the stability of agricultural landscapes.</p>
Forests biodiversity and natural ecosystems	<p>Vulnerability: (1) increased danger of fire in forest areas; (2) warm winters have reduced logging, hauling and processing volumes by around 30 per cent, which could lead to 15–20 per cent higher prices for timber in the long term; (3) expected climatic changes may disrupt the established relationship between tree species at the stage of natural regeneration; (4) outbreaks of mass reproduction of pests and diseases, windfalls and fires that stimulate the death of conifers; (5) in most regions with rich forest resources logging companies will only be able to access remote forest areas in winter; (6) disruption of the ecological balance, including the displacement of some species by others.</p> <p>Adaptation: (1) optimize measures to adapt to climate change in the area of natural resource management, including improving the effectiveness of fire safety measures in forests, forest reproduction and afforestation, creating a model for risk reduction in mountain recreational areas with dangerous slopes; (2) provide information and scientific support, including the publication in electronic format of publicly available scientific and</p>

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
	applied guides with estimates and analyses of hydrological characteristics and water balance elements of water bodies; (3) implement assessment and forecasting of groundwater and dangerous exogenous geological phenomena processes.
Human health	<p>Vulnerability: (1) an increase in public health risks, spread of infectious and parasitic diseases; (2) increasing public health risks associated with changes in the quality of the environment, including atmospheric air in populated areas, drinking water from surface water sources, soils and other public health indicators; (3) direct impact on public health, morbidity and mortality, including from cardiovascular and respiratory diseases and diabetes, and an increase in injuries; (4) unfavourable and hazardous weather phenomena significantly increase impacts on the health of workers.</p> <p>Adaptation: (1) develop a methodology for assessing the impact of climate change on the health of citizens; (2) strengthen the infectious diseases service, taking into account the forecast epidemiological situation; (3) develop and implement a communication campaign to target citizens on the impact of climate-related health risks; (4) improve energy security and renovate and refurbish buildings and equip them with modern ventilation and air-conditioning systems to ensure efficient operation in all weathers; (5) assess and provide predictions of the adverse health effects of climate change on the health monitoring system and on the development of epidemics.</p>
Infrastructure and economy	<p>Vulnerability: (1) degradation of permafrost in northern regions with damage to buildings and communications (e.g. in 2020, a spill of 20,000 tonnes of diesel that led to a loss amounting to RUB 146 million was mainly attributed to the degradation of permafrost soils); (2) about 40 per cent of buildings and engineering structures in the permafrost zone have been damaged to some extent; (3) negative impact on the construction and operation of transport infrastructure.</p> <p>Adaptation: (1) the Climate Change Adaptation Plan for Construction and Housing and Utilities was revised and upgraded by the Ministry of Construction into the Climate Change Adaptation Plan for Construction, Heat Supply, Water Supply and Sanitation of the Russian Federation (2021), including the creation of an organizational mechanism to ensure the implementation of the action plan; (2) develop and improve the information and analytical base on adaptation to climate change, including information on ongoing pilot projects on the adaptation of heat supply, water supply and sanitation facilities; (3) establish and improve the monitoring system and regulatory framework; (4) establish financial support mechanisms for the implementation of climate change adaptation measures.</p>

71. The Russian Federation did not provide information on international adaptation activities explicitly; rather, activities were focused at the national, regional, sectoral and corporate level.

2. Assessment of adherence to the reporting guidelines

72. The ERT assessed the information reported in the NC8 of the Russian Federation and identified an issue relating to transparency, and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.5.

I. Research and systematic observation

1. Technical assessment of the reported information

73. In its NC8 the Russian Federation provided information on its general policy and funding relating to research and systematic observation and both domestic and international activities, including contributions to the World Climate Programme, the International Geosphere–Biosphere Programme, GCOS and the IPCC. The Russian Federation did not provide information on the identification of opportunities for and barriers to free and open international exchange of data and information and on action taken to overcome such barriers.

74. The Russian Federation has implemented and planned international and domestic policies and programmes on climate change research, systematic observation and climate modelling that aim to advance capabilities to predict and observe the physical, chemical, biological and human components of the Earth’s system over space and time. In 2021 the

Government of the Russian Federation approved by decree the Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050. The *Environmental Health and Pollution Review of the Russian Federation* is published annually and includes sections on observed anomalies and climate change. A detailed study of permafrost stability conditions under climate warming has been carried out. A series of numerical experiments have been carried out, which have shown that, all other things being equal, the rate of perennial thawing from the surface of permafrost in fine-grained rocks is significantly reduced compared with coarse-grained rocks. Scientific organizations under the scientific and methodological guidance of the Russian Academy of Sciences have carried out basic and exploratory research on climate and its variability, permafrost soils, glaciers, GHGs, and hydrological and plant ecosystems. Other reports include the *Third Assessment Report on Climate Change and its Effects on the Territory of the Russian Federation*.

75. In terms of activities related to systematic observation, the Russian Federation reported on national plans, programmes and support for ground- and space-based climate observing systems, including satellite and non-satellite climate observation. The Russian Federation also reported on challenges related to the maintenance of a consistent and comprehensive observation system. The main regular climate observations in the Russian Federation are carried out as part of activities by Roshydromet, under the key national plan for the Russian Federation (the Roshydromet Research and Development Plan). The plan outlines Roshydromet’s research programmes carried out under the programme Research, Development, Technological and Other Works for State Needs in the Field of Hydrometeorology and Environmental Monitoring.

76. Since the NC7, the Ministry of Industry and Trade has developed and approved (in 2022) a procedure that regulates the benchmarking of specific GHG emissions in any industry. In the same year, pursuant to decree 133 of 8 February 2022, the Government issued a further decree on the approval of the Federal Scientific and Technical Programme for Environmental Development and Climate Change in the Russian Federation for 2021–2030. As of May 2022, the Russian Federation had 132 observation points in the GCOS Surface Network and the Russian orbital service station network had 232 units. The stations comprising the GCOS and Russian orbital service station network are relatively evenly spaced and, in accordance with WMO requirements, cover all climatic zones of the territory of the Russian Federation. The network density index is 129.5 (one station per 129,500,000 km²) and the Geosynchronous Space Situational Awareness Program also includes four Russian stations in Antarctica.

77. The NC8 reflects actions taken to support capacity-building and the establishment and maintenance of observation systems and related data and monitoring systems in developing countries, although the specific countries receiving such support were not specified. The Russian Federation provided funding for scientists from developing countries working on global climate change research. The Russian Federation outlined policies and programmes relating to global support but did not explicitly outline which developing countries were the recipients.

2. Assessment of adherence to the reporting guidelines

78. The ERT assessed the information reported in the NC8 of the Russian Federation and identified issues relating to completeness, and thus adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table I.6.

J. Education, training and public awareness

1. Technical assessment of the reported information

79. In its NC8 the Russian Federation provided information on its actions relating to education, training and public awareness at the domestic and international level. The Party provided information on the general policy on education, training and public awareness; primary, secondary and higher education; public information campaigns; training programmes; education materials; resource or information centres; the involvement of the public and non-governmental organizations; and its participation in international activities.

The Russian Federation reported on how awareness of the process of climate change and its consequences for society and natural biocenoses is provided at both the professional and general education level by the education system. The Party provided information on how this is achieved through higher education institutions, research institutions, secondary vocational education and school education, as well as Olympiads and student competitions. It further reported on public environmental education and awareness, and on outreach activities on climate change issues, with details on information activities by agencies, corporations and companies, scientific publications and scientific journals, business media, popular science media, and information activities of civil society organizations, scientific organizations and scientific publications. The Party also reported on outreach activities of the popular science media, business media activities and information activities of civil society organizations.

2. Assessment of adherence to the reporting guidelines

80. The ERT assessed the information reported in the NC8 of the Russian Federation and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

III. Conclusions and recommendations

81. The ERT conducted a technical review of the information reported in the NC8 of the Russian Federation in accordance with the UNFCCC reporting guidelines on NCs. The ERT concluded that the reported information mostly adheres to the UNFCCC reporting guidelines on NCs and that the NC8 provides an overview of the national climate policy of the Russian Federation.

82. As a Party included in Annex I to the Convention with no commitments inscribed in Annex B to the Kyoto Protocol, the Russian Federation has no obligation to report supplementary information on its national system in accordance with Article 5, paragraph 1, of the Kyoto Protocol; its national registry; supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol; or on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol. The information provided in the NC8 includes all of the elements of the supplementary information under Article 7 of the Kyoto Protocol that are applicable to the Russian Federation.

83. The ERT conducted a technical review of the information reported in the BR5 and BR5 CTF tables of the Russian Federation in accordance with the UNFCCC reporting guidelines on BRs. The ERT concluded that the reported information partially adheres to the UNFCCC reporting guidelines on BRs and that the BR5 and its CTF tables partially provide an overview of emissions and removals related to the Party's quantified economy-wide emission reduction target and assumptions, conditions and methodologies related to the attainment of the target.

84. In its NC8 the Russian Federation reported on its key national circumstances related to GHG emissions and removals, including key data on legislation, population trends, geography and land use, climate and climate change, economic development, energy, transport, the buildings sector, industry, trade, the services sector, agriculture, forestry, resource efficiency and wastewater. National circumstances affecting national GHG emissions since 1990 include general trends in economic development, including the restructuring of the Russian Federation's economy, changes in energy efficiency and the overall efficiency of the Russian economy, as well as changes in the fuel mix.

85. The Russian Federation's total GHG emissions including LULUCF covered by its quantified economy-wide emission reduction target were estimated to be 52 per cent below the 1990 level. Emissions reflected an overall downward trend since 1990, with inter-annual variations. The changes in total emissions were driven mainly by factors such as fluctuations in GDP, including changes in energy consumption and production, as well as being influenced by the general trend of change in air temperature of the territory of the Russian Federation. As reported in the BR5, under the Convention the Russian Federation committed to achieving a quantified economy-wide emission reduction target of 25 per cent below the

1990 level by 2020. The target covers CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃, expressed using GWP values from the AR4, and covers all sources and sectors included in the annual GHG inventory. Emissions and removals from the LULUCF sector are not included in the target. The Russian Federation reported that it does not plan to make use of market-based mechanisms for achieving its target. In absolute terms this means that, under the Convention, the Russian Federation has to reduce its emissions from 3,089,057.62 kt CO₂ eq (in 1990) to 2,316,793.21 kt CO₂ eq by 2020.

86. The Russian Federation also reported on its longer-term targets included in the Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050 (decree 3052-r of 29 October 2021), where under the targeted (intensive) scenario emissions are estimated at 2,212,000 kt CO₂ eq by 2030 and 1,830,000 kt CO₂ eq by 2050. Further implementation of the target scenario would enable the Russian Federation to achieve carbon neutrality by 2060.

87. The GHG emission projections provided by the Russian Federation in its NC8 and BR5 correspond to the WEM, WOM and WAM scenarios. Under the WEM scenario, emissions including LULUCF in 2030 are projected to be 44.4 per cent below the 1990 level and 16.0 per cent above the 2020 level. Under the WAM scenario, emissions including LULUCF in 2030 are projected to be 45.8 per cent below the 1990 level and 12.9 per cent above the 2020 level.

88. The Party described the mitigation actions that it has implemented to help it achieve its 2020 and longer-term targets, which include the Strategy for Socioeconomic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050. This strategy includes the State-level policy measures on control of GHG emissions to be included in other strategic documents. Measures intended to decarbonize the Russian economy include introducing and scaling up low- and no-carbon technologies, support for the use of secondary energy resources and changes in tax, customs and budget policies. The Russian Federation also has plans to develop green finance and measures to conserve and enhance the absorptive capacity of forests and other ecosystems, and to support technologies to capture, utilize and recycle GHGs. Another key strategy is the Low-carbon Development Strategy of 2021 and the regulatory framework for implementing the federal law on limiting GHG emissions (law 296-FZ). This law provides the basis of the legal regulation for economic activities that produce GHG emissions in the Russian Federation, and provides a regulatory framework for companies to report their emissions.

89. The Russian Federation is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, it provided information in its BR5 and NC8 on its provision of support to developing country Parties. The ERT commends the Russian Federation for the information provided and encourages the Party to continue this practice. Among other things, the Russian Federation reported on USD 5 million of climate finance provided to the UNFCCC in 2019 and on earmarking USD 5.08 million for the United Nations Convention to Combat Desertification in 2021.

90. In its NC8 the Russian Federation provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation. The Russian Federation has addressed adaptation matters through the adoption of the 2020–22 National Action Plan aimed at reducing the vulnerability of the national security system, economic entities and citizens owing to changes in the planetary climate. This action plan led to the development of numerous sector-specific plans between 2021 and 2022 (e.g. the 2021 Climate Change Adaptation Plan for Environmental Management).

91. In its NC8 the Russian Federation provided information on its activities relating to research and systematic observation. It reported on how climate change data are derived from regular monitoring conducted by Roshydromet and monitoring data published in seasonal and annual bulletins and reports. Key achievements include that the Ministry of Industry and Trade developed and approved (in 2022) a procedure that regulates the benchmarking of specific GHG emissions in any industry and issued a decree on the approval of the Federal

Scientific and Technical Programme for Environmental Development and Climate Change in the Russian Federation for 2021–2030.

92. In its NC8 the Russian Federation provided information on its actions relating to education, training and public awareness. It reported on how information on the process of climate change and its consequences for society and the natural environment is provided by the education system and detailed how this is achieved through higher education institutions, research institutions, secondary vocational education and school education, as well as Olympiads and student competitions. In the framework of international cooperation, staff members of the hydrometeorological services of Belarus, Kazakhstan, Kyrgyzstan and Uzbekistan are trained at the IPCC.

93. In the course of the review, the ERT formulated the following recommendations for the Russian Federation to improve its adherence to the UNFCCC reporting guidelines on NCs in its next NC:

- (a) To improve the completeness of its reporting by:
 - (i) Providing information on how the national circumstances affect GHG emissions and removals, and how the national circumstances and changes therein affect GHG emissions and removals over time (see issue 1 in table I.1);
 - (ii) Providing information on which GHGs are affected in the agriculture sector in its future reporting (see issue 4 in table I.3);
 - (iii) Reporting the year of implementation and the type of instruments for all PaMs (see issue 6 in table I.3);
 - (iv) Providing information on the reduction impacts of PaMs or, where this is not feasible, a transparent justification of why such information cannot be reported, and mention which PaMs have an indirect impact (see issue 7 in table I.3);
 - (v) Providing information on how it believes that its PaMs are modifying longer-term trends in anthropogenic GHG emissions and removals consistent with the objective of the Convention (see issue 9 in table I.3);
 - (vi) Providing, to the extent possible, emission projections related to fuel sold to ships and aircraft engaged in international transport separately and not included in the national total (see issue 6 in table I.4);
 - (vii) Providing information on the total effect of PaMs for 2020 and on the effects of PaMs by gas in CO₂ eq (see issue 8 in table I.4);
 - (viii) Reporting information on factors and activities affecting the emission projections for each sector (see issue 16 in table I.4);
- (b) To improve the transparency of its reporting by:
 - (i) Identifying the changes to national inventory arrangements since its last NC or providing a clear statement that no changes have been made (see issue 1 in table I.2);
 - (ii) Providing information on how the Party believes that its PaMs are modifying longer-term trends in GHG emissions and removals in the next NC (see issue 9 in table I.3);
 - (iii) Identifying and reporting PaMs included in the WEM scenario and their status of implementation (see issue 1 in table I.4);
 - (iv) Reporting projections in an aggregated format for each sector (see issue 5 in table I.4).

94. In the course of the review of the Russian Federation's BR5, the ERT formulated the following recommendations relating to adherence to the UNFCCC reporting guidelines on BRs:

- (a) To improve the completeness of its reporting by:
 - (i) Including information on changes in the legal and administrative framework for PaMs related to climate change, or on procedural arrangements used for domestic

compliance on reporting, archiving and the evaluation of progress towards the economy-wide emission reduction target (see issue 1 in table II.2);

(ii) Submitting CTF table 3 (see issue 2 in table II.2) as well as CTF tables 4, 4(a)I and 4(a)II, CTF table 5 and CTF table 6 (see para. 7 above);

(iii) Presenting projections in an aggregated format for each sector as well as for a national total (see issue 5 in table II.3);

(iv) Providing information on emission projections related to fuel sold to ships and aircraft engaged in international transport or providing clear explanations as to why this may not be possible (see issue 6 in table II.3);

(v) Reporting the factors and activities affecting the emission projections for each sector (see issue 14 in table II.3);

(b) To improve the transparency of its reporting by:

(i) Identifying any changes to national inventory arrangements since its last BR or providing a clear statement that no changes have been made (see issue 1 in table II.1);

(ii) Clearly identifying the PaMs included in the WEM scenario and their status of implementation in its next NC (see issue 1 in table II.3).

Annex I

Assessment of adherence to the reporting guidelines for the eighth national communication of the Russian Federation

Tables I.1–I.7 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on NCs for the Russian Federation’s NC8.

Table I.1

Findings on national circumstances relevant to greenhouse gas emissions and removals from the review of the eighth national communication of the Russian Federation

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 3 Issue type: completeness Assessment: recommendation	<p>The NC8 does not include information on how changes in national circumstances affect GHG emissions and removals over time.</p> <p>During the review, the Party clarified how climate variability across the country primarily affects the amount of fuel consumed for heating and cooling or air conditioning, and that more refrigeration and air-conditioning equipment is used and is more intensively operated in regions with high temperatures, especially with longer periods of high temperatures. This leads to higher GHG emissions related to fuel combustion as well as from substitutes for ozone-depleting substances. Extreme events cause damage to infrastructure that then needs to be repaired and strengthened and this work requires additional resources, ultimately resulting in the use of additional fossil fuels and consequently to additional GHG emissions. In forestry, extreme events damage and destroy forests, reducing the removal of CO₂ from the atmosphere by forest ecosystems. Reforestation of damaged sites requires the use of fossil fuels (including for electricity generation), resulting in additional GHG emissions.</p> <p>The ERT recommends that the Russian Federation provide in its next NC information on how the national circumstances affect GHG emissions and removals, and how the national circumstances and changes therein affect GHG emissions and removals over time.</p>

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.2

Findings on greenhouse gas inventory information from the review of the eighth national communication of the Russian Federation

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 8 Issue type: transparency Assessment: recommendation	<p>The Party reported on its arrangements for preparing its national GHG inventory, but did not highlight any changes (or the lack thereof) to these arrangements compared with the NC7 and the BR4.</p> <p>During the review, the Party clarified the changes made since the previous report, including the procedure for preparing the GHG inventory, by making corrections to the list of ministries and federal agencies participating in the preparation of the national GHG inventory and corrections to the schedule for inventory preparation.</p> <p>The ERT reiterates the recommendation from the previous review report that the Party clearly identify any changes to its national inventory arrangements since its last NC or BR or provide a clear statement that no changes have been made.</p>

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.3

Findings on policies and measures from the review of the eighth national communication of the Russian Federation

No.	<i>Reporting requirement issue, type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 10 Issue type: transparency Assessment: encouragement	<p>The Party did not prioritize in its reporting the PaMs that have the most significant impact on GHG emissions and removals.</p> <p>During the review, the Party explained that the highest priority measures with a significant impact until 2040 are a set of measures for energy efficiency in the electrical power and heat supply industry, including the use of energy-efficient technologies (e.g. combined cycle gas plants, combined generation of electricity and heat), decommissioning and modernization of low-performance equipment and reduction of losses in electrical and thermal networks. Measures in the forestry sector, such as improving the efficiency of forest management, forest protection and reforestation, make a very significant contribution. In addition, carbon-free power generation at nuclear power plants and hydroelectric power plants and using renewable energy sources will play a significant role in reducing GHG emissions. Other measures include improving the energy efficiency of low-emission technologies in the production and extractive industries, reducing fugitive emissions, capturing and using associated petroleum gas, increasing the energy efficiency of housing and electrification of transport. Other measures in economic sectors are also important for achieving national emission reduction goals. In this regard, the comprehensive implementation of the measures included in the Party’s Low-carbon Development Strategy is important. Implementation of the strategy will have the most significant impact on GHG emissions and removals.</p> <p>The ERT encourages the Party to clearly prioritize in the next NC the PaMs or combination of PaMs that have the most significant impact on GHG emissions and removals.</p>
2	Reporting requirement specified in paragraph 12 Issue type: transparency Assessment: encouragement	<p>The Party did not provide information on actions taken to implement commitments under Article 4, paragraph 2(e)(ii), of the Convention, which requires Parties to identify and periodically update their policies and practices that encourage activities that lead to greater levels of anthropogenic GHG emissions than would otherwise occur. As a justification for not providing this information, the NC8 states that not all of the climate change limitation or mitigation activities implemented are quantifiable in terms of emission reductions achieved or the GHG removals increased.</p> <p>During the review, the Party explained that it will provide such information in its next NC.</p> <p>The ERT encourages the Russian Federation to report in its next NC on actions taken to implement commitments under Article 4, paragraph 2(e)(ii), of the Convention.</p>
3	Reporting requirement specified in paragraph 13 Issue type: completeness Assessment: encouragement	<p>The Party did not provide, to the extent possible, detailed information on the assessment of the economic and social consequences of response measures.</p> <p>During the review, the Party explained that it will provide information on the assessment of the economic and social consequences of response measures in its next NC.</p> <p>The ERT encourages the Party to provide, to the extent possible, detailed information in its next NC on economic and social consequences of response measures.</p>
4	Reporting requirement specified in paragraph 14 Issue type: completeness Assessment: recommendation	<p>The Party did not provide information on which GHGs are affected by the PaMs in the agriculture sector.</p> <p>During the review, the Party provided information on which GHG are affected by the PaMs in the agriculture sector.</p> <p>The ERT recommends that the Party provide information in its next NC on which GHGs are affected by its PaMs in the agriculture sector.</p>
5	Reporting requirement specified in paragraph 15 Issue type: completeness	<p>The Party did not present in its NC8 two PaMs included in the NC7: “Basics of State policy in the field of environmental development of the Russian Federation for the period until 2030” and “Strategy of ecological safety of the Russian Federation for the period up to 2025”. The NC8 also did not provide information on whether these PaMs had been finalized.</p>

No.	<i>Reporting requirement issue, type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
	Assessment: encouragement	<p>During the review, the Party clarified that these PaMs are framework documents defining the basis of environmental policy, including on climate change mitigation and adaptation, and that they remain in force.</p> <p>The ERT encourages the Party to report on cases where a policy or measure has been maintained over time by referring to the description of such PaMs in previous NCs, or by maintaining a brief description in the latest NC to ensure that the information in the NC covers all active PaMs.</p>
6	<p>Reporting requirement specified in paragraph 19</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>For the PaMs in the transport, industry and forestry sectors, the Party has not provided the start year of implementation for some PaMs; and for the PaMs in the agriculture sector, the Party has not reported the type of instrument used.</p> <p>During the review, the Party provided information on the year of implementation and the type of instrument.</p> <p>The ERT recommends that the Party report the year of implementation of the PaMs for the transport, industry and forestry sectors and the type of instrument for the agriculture sector.</p>
7	<p>Reporting requirement specified in paragraph 20</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The Party did not include in its NC8, as appropriate, a quantitative estimate of the impact of a number of PaMs in the energy, transport, forests, agriculture, industry and waste sectors and a justification of why such information cannot be reported is provided only for some of these PaMs.</p> <p>During the review, the Party indicated that reduction impacts could not be assessed for all PaMs owing to, among other things, a lack of information and a lack of resources. The Party also explained that, as a rule, measures of a general economic and regulatory nature, as well as those measures that do not have as their main goal the reduction of emissions or intensification of the absorption of GHGs, but that have an indirect impact on GHG emissions, cannot be accurately quantified in terms of reducing GHG emissions. Current regulations do not provide for GHG emission reduction estimates for measures that have an indirect impact.</p> <p>The ERT recommends that the Party include, as appropriate, a quantitative estimate of the impact of all the PaMs it reports in its NC or, where this is not feasible, provide a transparent justification as to why this may not be possible.</p>
8	<p>Reporting requirement specified in paragraph 21</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Russian Federation provided information on the budget of the PaMs and non-GHG mitigation benefits for some of the PaMs but did not report these systematically for all PaMs. The Party did not provide information on how PaMs interact with other PaMs.</p> <p>During the review, the Party explained that the information in its NC8 and BR5 on the budget of PaMs was provided at the highest level of detailed available and that the volatility of specific parameters and uncertainties limits or eliminates the possibility of providing reliable information on other PaMs. Further costs of implementation are in the process of being clarified, taking into account the measures being implemented, including national carbon reporting.</p> <p>The ERT encourages the Party to provide in the next NC information on the budget of the PaMs, non-GHG mitigation benefits and how PaMs interact with other PaMs systematically for all PaMs.</p>
9	<p>Reporting requirement specified in paragraph 22</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The Russian Federation did not report on how its PaMs are modifying longer-term trends in anthropogenic GHG emissions and removals consistent with the objective of the Convention.</p> <p>During the review, the Party explained that the PaMs are aimed at structural changes in the economy, reducing carbon intensity, changing the structure of the energy balance and increasing the share of high-technology industries, as well as improving energy efficiency and increasing the share of electricity generation from low-carbon energy sources, with the aim of driving a long-term trend of low-carbon modernization of the economy. The cumulative effect of the implementation of the PaMs (NC8, table IV.2) will enable the Party to achieve its nationally determined contribution and by 2050 to achieve the target scenario indicator of its Low-carbon Development Strategy to reduce emissions by 80 per cent compared with the 1990 level. Also, implementation of PaMs will create conditions for achieving carbon neutrality no later than 2060, as indicated in the Party's Low-carbon Development Strategy.</p>

<i>No.</i> <i>Reporting requirement issue, type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
	The ERT recommends that the Party provide information on how its PaMs are modifying longer-term trends in anthropogenic GHG emissions and removals consistent with the objective of the Convention.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.4

Findings on projections including aggregate effects of policies and measures reported in the eighth national communication of the Russian Federation

<i>No.</i> <i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1 Reporting requirement specified in paragraph 25 Issue type: transparency Assessment: recommendation	The Party reported a WEM scenario but did not specify which PaMs are included in this scenario. During the review, the Party presented some information on its scenarios, explaining that its WEM scenario includes policies such as increasing in the capacity of nuclear, hydro, solar and wind power plants, increasing sales of electric vehicles, and support for electric and hydrogen vehicles and waste utilization. The ERT reiterates the recommendation from the previous review report that the Russian Federation specify in its next NC the PaMs included in the WEM scenario and their status of implementation.
2 Reporting requirement specified in paragraph 25 Issue type: transparency Assessment: encouragement	The Party reported a WOM as well as a WAM scenario but did specify the PaMs included under each of these scenarios. During the review, the Party presented information on its scenarios, explaining that its WOM scenario includes only the policy on energy efficiency in the industry sector, while its WAM scenario includes policies such as energy efficiency in buildings, elimination of CH ₄ leaks from pipelines, increasing the carbon sink of the LULUCF sector, increasing cattle productivity and deploying CCS technologies and carbon pricing instruments, in addition to the measures in the WEM scenario. The ERT reiterates the encouragement from the previous review report for the Russian Federation to specify in its next NC the PaMs included in the WOM and WAM scenarios.
3 Reporting requirement specified in paragraph 27 Issue type: completeness Assessment: encouragement	The Party did not report a sensitivity analysis or a justification for not reporting it. During the review, the Russian Federation clarified that it did not conduct a sensitivity analysis because it is not an obligatory reporting requirement. The ERT reiterates the encouragement from the previous review report for the Russian Federation to include in its next NC a sensitivity analysis of its projections.
4 Reporting requirement specified in paragraph 32 Issue type: completeness Assessment: encouragement	The Russian Federation did not report projections of indirect GHGs, such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds or sulfur oxides. During the review, the Russian Federation explained that the projections of indirect GHGs were not reported because it is not an obligatory reporting requirement. The ERT reiterates the encouragement from the previous review report for the Russian Federation to include in its next NC projections of indirect GHGs.
5 Reporting requirement specified in paragraph 32 Issue type: transparency	The Russian Federation reported emission projections in a combined table presenting both sectors and gases, but did not provide aggregated estimations for each sector. During the review, the Russian Federation explained that although the combined table for sectors and gases does not present the aggregated estimations for each sector, it provides the data that make it possible to generate such aggregated estimations.

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
6	<p>Assessment: recommendation</p> <p>Reporting requirement specified in paragraph 33</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The ERT recommends that the Party present in its next NC projections in an aggregated format for each sector as well as for a national total.</p> <p>The Russian Federation did not report on emission projections related to fuel sold to ships and aircraft engaged in international transport.</p> <p>During the review, the Russian Federation stated that despite its best efforts it could not obtain reliable data.</p> <p>The ERT reiterates the recommendation from the previous review report that the Russian Federation include in its next NC, to the extent possible, emission projections related to fuel sold to ships and aircraft engaged in international transport separately and not included in the national total.</p>
7	<p>Reporting requirement specified in paragraph 34</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Party provided information on historical emissions in the projections section of its NC8 only for 2020. However, information on historical emissions from 1990 to 2019 is provided in the NC8, section 3.</p> <p>During the review, the Russian Federation stated that the historical emissions were not reported in the NC8, section 5, to avoid duplication.</p> <p>The ERT encourages the Party to report information on historical emissions and removals on a quantitative basis from 1990 (or another base year, as appropriate) to the most recent inventory year in the projections section of the NC.</p>
8	<p>Reporting requirement specified in paragraph 37</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The Party did not report the total effect of PaMs for 2020 and did not report the effect of PaMs by gas (in CO₂ eq) for 2025, 2030 and 2035.</p> <p>During the review, the Party indicated that the value of the total effect of PaMs for 2020 is zero. It also indicated that the information on the total effect of PaMs on a gas-by-gas basis will be provided in the next NC.</p> <p>The ERT recommends that the Party provide information on the total effect of PaMs by gas (in CO₂ eq), starting from the inventory year of the report in the next cycle.</p>
9	<p>Reporting requirement specified in paragraph 38</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Party reported the total effect of its PaMs using 2020 as the base year for all the scenarios, but without indicating the year in which the PaMs were assumed to be implemented for the purpose of calculating the impact.</p> <p>During the review, the Party clarified that it assumed that PaMs were implemented from 2021 onward. Thus, the first projection year is 2022.</p> <p>The ERT encourages the Party to provide the information on which year it uses as the basis for calculating the total effect of its PaMs.</p>
10	<p>Reporting requirement specified in paragraph 39</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Party did not report sufficient information to allow a reader to obtain a basic understanding of the models and approaches used for estimating the total effects of PaMs on emissions and removals.</p> <p>During the review, the Party stated that the method is designed to consider the widest possible range of consequences from the implementation of decarbonization measures, considering technological changes and inter-industry interactions.</p> <p>The ERT reiterates the encouragement from the previous review report for the Party to report sufficient information in the NC, such as the methodologies used, to allow the reader to obtain a basic understanding of the models and approaches used.</p>
11	<p>Reporting requirement specified in paragraph 40</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Party provided general information on the models used for the projections, but did not provide transparent information on the coverage of gases and/or sectors, the original purpose that the models were designed for, their strengths and weaknesses, or how the Party accounts for any overlap or synergies that may exist between different PaMs.</p> <p>During the review, the Party clarified that the projections included CO₂, CH₄, N₂O and F-gases and the energy, IPPU, agriculture, LULUCF and waste sectors. The model was originally used for designing scenarios of socioeconomic development with low GHG emissions in the Russian Federation. The strength of the model is that it is an integrated approach that considers the socioeconomic impacts of decarbonization measures; a weakness is that it offers less technology coverage than “technologically-</p>

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
		<p>rich” models, such as TIMES. The Party also explained that the overlaps or synergies of different measures were not modelled.</p> <p>The ERT reiterates the encouragement from the previous review report for the Party to report transparent information on the coverage of gases and/or sectors, the original purpose that the models were designed for, their strengths and weaknesses, and how the Party accounts for any overlaps or synergies that may exist between different PaMs.</p>
12	<p>Reporting requirement specified in paragraph 41</p> <p>Issue type: completeness, transparency</p> <p>Assessment: encouragement</p>	<p>The Party did not provide detailed information on the projection models used nor give a reference to such detailed information.</p> <p>During the review, the Party stated that this information is yet not published, hence such information cannot be provided in the report nor as a reference.</p> <p>The ERT encourages the Party to include detailed information on the projection model or approaches used.</p>
13	<p>Reporting requirement specified in paragraph 42</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The Party did not report on the changes in the methodologies, assumptions and results for projections between its NC7 and NC8, although it did report updated projections in the NC8.</p> <p>During the review, the Party confirmed that the project model/ensemble (and methodology) had been changed since the NC7. However, it did not provide any further information on the changes applied.</p> <p>The ERT encourages the Party to include in its next NC information on the main differences in the methodologies, assumptions and results for projections between the current and the previous NC.</p>
14	<p>Reporting requirement specified in paragraph 43</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The Party did not report a sensitivity analysis of the underlying assumptions used for the projections.</p> <p>During the review, the Russian Federation clarified that it did not conduct a sensitivity analysis because it is not an obligatory reporting requirement.</p> <p>The ERT reiterates the encouragement from the previous review report for the Party to report in the next NC on the sensitivity of projections to underlying assumptions qualitatively and, where possible, quantitatively.</p>
15	<p>Reporting requirement specified in paragraph 44</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Party did not provide information on key variables for GHG projections (e.g. GDP, population growth, international fuel prices, tax levels, fuel prices, energy demand and intensity, income and household size), neither in CTF table 5 nor in the body of the NC8.</p> <p>During the review, the Party clarified that it has included information on the key variables in the NC8. However, the ERT considers that the information provided is not sufficient for it to understand the key variables and how they were used when compiling the GHG projections.</p> <p>The ERT reiterates the encouragement from the previous review report for the Party to report in its next NC on the key variables and assumptions used in the preparation of its projections.</p>
16	<p>Reporting requirement specified in paragraph 45</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The Party did not report relevant information on factors and activities affecting the emission projections for each sector.</p> <p>During the review, the Party explained that it lacks permission to publish this information.</p> <p>The ERT reiterates the recommendation from the previous review report that the Party include in its next NC information on factors and activities affecting the emission projections for each sector.</p>

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.5

Findings on vulnerability assessment, climate change impacts and adaptation measures from the review of the eighth national communication of the Russian Federation

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 47 Issue type: transparency Assessment: encouragement	<p>The Party departed from the structure suggested in paragraph 47 of the UNFCCC reporting guidelines on NCs when reporting information on vulnerability assessment, climate change impacts and adaptation measures.</p> <p>During the review, the Party explained that since the use of that structure is not mandatory, it prefers to follow the structure of the <i>Third Assessment Report on Climate Change and its Effects on the Territory of the Russian Federation</i> as the main source of information for this section of its NC.</p> <p>The ERT encourages the Party to report information on vulnerability assessment, climate change impacts and adaptation measures in the next NC following the structure provided in paragraph 47 of the UNFCCC reporting guidelines on NCs.</p>

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.6

Findings on research and systematic observation from the review of the eighth national communication of the Russian Federation

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 65 Issue type: completeness Assessment: encouragement	<p>The Party did not report on opportunities for and barriers to free and open international exchange of data and information or on actions taken to overcome such barriers.</p> <p>During the review, the Party explained that it considers the international exchange of data and information to be open in nature and that there are no substantial barriers to free and open international exchange of data and information. In addition, the Party noted that further improvements to exchange procedures are being carried out by international organizations, including WMO and the IPCC, with the participation of experts from the Russian Federation.</p> <p>The ERT reiterates the encouragement from the previous review report for the Party to include in its next NC information on opportunities for and barriers to free and open international exchange of data and information and on actions taken to overcome such barriers or a justification of why the Party feels that such barriers do not exist.</p>
2	Reporting requirement specified in paragraph 67 Issue type: completeness Assessment: encouragement	<p>The Party did not provide information on support provided for developing countries to establish and maintain observing systems and related data.</p> <p>During the review, the Party explained that a strategy for activities in the field of hydrometeorology and related areas for the period until 2030 that takes into account aspects of climate change was approved in October 2022. In addition, Roshydromet has bilateral cooperation agreements with developed and developing countries, including Cuba, Mongolia, Viet Nam and members of the Commonwealth of Independent States. The Party further explained that the programmes through the Intergovernmental Oceanographic Commission, the International Council of Scientific Unions, the United Nations Educational, Scientific and Cultural Organization, UNFCCC and WMO and other organizations include support for developing countries to establish and maintain observing systems.</p> <p>The ERT encourages the Party to include in its next NC information on the support provided for developing countries to establish and maintain observing systems and related data.</p>

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.7

Findings on education, training and public awareness from the review of the eighth national communication of the Russian Federation

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 68 Issue type: completeness Assessment: encouragement	<p>The Party did not provide information on public participation in the preparation or domestic review of its NC8.</p> <p>During the review, the Party explained that the current procedure does not provide for public participation in the domestic review of NCs and BRs at the stage of their preparation. The Russian Federation further clarified that even though there is no formal structure for public participation in the review, the public are allowed to participate in the process and to review the NC report because comments and proposals from the public are welcome and may be taken into account in the next NC and BR cycles, if applicable. However, the Party also noted that no such comments or proposals were received during the preparation of the NC8. In addition, the Party reported that the public further participate indirectly because businesses and organizations submit information and data that are incorporated into the NC. The Party further explained that in addition to posting on the official website of the UNFCCC, NCs and BRs are also posted on the websites of Roshydromet and the Yu. A. Izrael Institute of Global Climate and Ecology, making the reports accessible to the public.</p> <p>The ERT encourages the Party to include in its next NC information on public participation in the preparation or domestic review of its NC.</p>

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Annex II

Assessment of adherence to the reporting guidelines for the fifth biennial report of the Russian Federation

The BR5 of the Russian Federation is the final BR under the measurement, reporting and verification system established under the Convention.¹ Nevertheless, ERTs continue to provide recommendations and encouragements to the Parties on completeness, transparency and adherence to the UNFCCC reporting guidelines on BRs. Parties may find these recommendations and encouragements relevant, as appropriate, when preparing their initial biennial transparency report under the enhanced transparency framework of the Paris Agreement. Tables II.1–II.3 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on BRs for the Russian Federation’s BR5.

Table II.1

Findings on greenhouse gas emissions and trends from the review of the fifth biennial report of the Russian Federation

No.	Reporting requirement and issue type	Description of the finding with recommendation or encouragement
1	Reporting requirement specified in paragraph 3 Issue type: transparency Assessment: recommendation	The Party reported on its arrangements for preparing its national GHG inventory, but did not highlight any changes (or the lack thereof) to these arrangements compared with the NC7 and the BR4. During the review, the Party clarified the changes made since the previous report, including the procedure for preparing the GHG inventory, by making corrections to the list of ministries and federal agencies participating in the preparation of the national GHG inventory and corrections to the schedule for inventory preparation. The ERT reiterates the recommendation from the previous review report that the Party transparently report on any changes to its national inventory arrangements since its last NC or BR or provide a clear statement that no changes have been made.

Note: Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs.

Table II.2

Findings on mitigation actions and their effects from the review of the fifth biennial report of the Russian Federation

No.	Reporting requirement and issue type	Description of the finding with recommendation or encouragement
1	Reporting requirement specified in paragraph 7 Issue type: completeness Assessment: recommendation	The Party did not report information on changes in the legal and administrative framework for PaMs related to climate change or on procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and the evaluation of progress towards the economy-wide emission reduction target. During the review, the Party explained that the federal law on limiting GHG emissions (law 296-FZ) adopted in July 2021 provides a framework for corporate accounting of GHG emissions by major emitters and for providing information on the industries covered and emission thresholds. This incorporates an institutional framework for compliance, monitoring, reporting, archiving of information and the evaluation of progress towards the economy-wide emission reduction target. Furthermore, the Party indicated that there are plans to introduce sectoral targets and indicators to facilitate sectoral progress evaluations.

¹ The COP, by decision 1/CP.24, decided that the final BR shall be those submitted to the secretariat no later than 31 December 2022 and reaffirmed that, for Parties to the Paris Agreement, following the submission of the final BR, the modalities, procedures and guidelines contained in the annex to decision 18/CMA.1 will supersede the measurement, reporting and verification system established under decision 1/CP.16, paras. 40–47 and 60–64, and decision 2/CP.17, paras. 12–62.

<i>No.</i>	<i>Reporting requirement and issue type</i>	<i>Description of the finding with recommendation or encouragement</i>
		The ERT recommends that the Party include information on changes in its domestic institutional arrangements, including institutional arrangements related to climate change, or on procedural arrangements used for domestic compliance, monitoring, reporting, -archiving of information and the evaluation of progress towards the economy-wide emission reduction target.
2	Reporting requirement specified in CTF table 3 Issue type: completeness Assessment: recommendation	The Russian Federation did not report CTF table 3. During the review, the Party indicated that it faced technical issues in filling this CTF table. The ERT recommends that the Party submit CTF table 3.

Note: Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs or to the CTF table number from the “Common tabular format for ‘UNFCCC biennial reporting guidelines for developed country Parties’”. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs.

Table II.3

Findings on projections reported in the fifth biennial report of the Russian Federation

<i>No.</i>	<i>Reporting requirement and issue type</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement ^a specified in paragraph 25 Issue type: transparency Assessment: recommendation	The Party reported a WEM scenario but did not clearly identify the PaMs included in this scenario. During the review, the Party presented some information on its scenarios, explaining that its WEM scenario includes policies such as increasing the capacity of nuclear, hydro, solar and wind power plants, increasing sales of electric vehicles, and support for electric and hydrogen vehicles and waste utilization. The ERT reiterates the recommendation from the previous review report that the Russian Federation clearly identify the PaMs included in the WEM scenario and their status of implementation.
2	Reporting requirement ^a specified in paragraph 25 Issue type: transparency Assessment: encouragement	The Party reported a WOM as well as a WAM scenario but did not clearly identify the PaMs included under each of these scenarios. During the review, the Party presented information on its scenarios, explaining that its WOM scenario includes only the policy on energy efficiency in the industry sector, while its WAM scenario includes policies such as energy efficiency in buildings, elimination of CH ₄ leaks from pipelines, increasing the carbon sink of the LULUCF sector, increasing cattle productivity and deploying CCS technologies and carbon pricing instruments, in addition to the measures in the WEM scenario. The ERT reiterates the encouragement from the previous review report for the Russian Federation to clearly identify the PaMs included in the WOM and WAM scenarios.
3	Reporting requirement ^a specified in paragraph 27 Issue type: completeness Assessment: encouragement	The Party did not report a sensitivity analysis or a justification for not reporting it. During the review, the Party clarified that it did not conduct a sensitivity analysis because it is not an obligatory reporting requirement. The ERT reiterates the encouragement from the previous review report for the Russian Federation to provide a sensitivity analysis of its projections.
4	Reporting requirement ^a specified in paragraph 32	The Russian Federation did not report projections of indirect GHGs, such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds or sulfur oxides. During the review, the Russian Federation explained that the projections of indirect GHGs were not reported because it is not an obligatory reporting requirement.

<i>No.</i>	<i>Reporting requirement and issue type</i>	<i>Description of the finding with recommendation or encouragement</i>
	<p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The ERT reiterates the encouragement from the previous review report for the Russian Federation to include projections of indirect GHGs.</p>
5	<p>Reporting requirement^a specified in paragraph 32</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The Russian Federation reported emission projections in a combined table presenting both sectors and gases, but did not provide aggregated estimations for each sector.</p> <p>During the review, the Russian Federation explained that although the combined table for sectors and gases does not present the aggregated estimations for each sector, it provides the data that make it possible to generate such aggregated estimations.</p> <p>The ERT recommends that the Party present projections in an aggregated format for each sector as well as for a national total.</p>
6	<p>Reporting requirement^a specified in paragraph 33</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The Russian Federation did not report on emission projections related to fuel sold to ships and aircraft engaged in international transport.</p> <p>During the review, the Russian Federation stated that despite its best efforts it could not obtain reliable data.</p> <p>The ERT reiterates the recommendation from the previous review report that the Russian Federation include, to the extent possible, emission projections related to fuel sold to ships and aircraft engaged in international transport separately and not included in the national total or provide clear explanations as to why this may not be possible.</p>
7	<p>Reporting requirement^a specified in paragraph 34</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Party provided information on historical emissions in the projections section of its BR5 only for 2020. However, information on historical emissions from 1990 to 2019 is provided in the BR5 section presenting the Russian Federation’s GHG inventory results.</p> <p>During the review, the Russian Federation stated that the historical emissions were not reported in the BR5, section 5, to avoid duplication.</p> <p>The ERT encourages the Party to report information on historical emissions and removals on a quantitative basis from 1990 (or another base year, as appropriate) to the most recent inventory year in the projections section.</p>
8	<p>Reporting requirement^a specified in paragraph 39</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>The Party did not report sufficient information to allow a reader to obtain a basic understanding of the models and approaches used for estimating the total effects of PaMs on emissions and removals.</p> <p>During the review, the Party stated that the method is designed to consider the widest possible range of consequences from the implementation of decarbonization measures, considering technological changes and inter-industry interactions.</p> <p>The ERT reiterates the encouragement from the previous review report for the Party to report transparently on the methodology applied to estimate the total effect of PaMs under its reported scenarios.</p>
9	<p>Reporting requirement^a specified in paragraph 40</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The Party provided general information on the models used for the projections, but did not provide transparent information on the coverage of gases and/or sectors, the original purpose that the models were designed for, their strengths and weaknesses or how the Party accounts for any overlap or synergies that may exist between different PaMs.</p> <p>During the review, the Party clarified that the projections included CO₂, CH₄, N₂O and F-gases, and the energy, IPPU, agriculture, LULUCF and waste sectors. The model was originally used for designing scenarios of socioeconomic development with low GHG emissions in the Russian Federation. The strength of the model is that it is an integrated approach that considers the socioeconomic impacts of decarbonization measures; a weakness is that it offers less technology coverage than “technologically-rich” models, such as TIMES. The Party also explained that the overlaps or synergies of different measures were not modelled.</p> <p>The ERT reiterates the encouragement from the previous review report for the Party to report transparent information on the coverage of gases and/or sectors, the original</p>

No.	Reporting requirement and issue type	Description of the finding with recommendation or encouragement
		purpose that the models were designed for, their strengths and weaknesses and how the Party accounts for any overlaps or synergies that may exist between different PaMs.
10	Reporting requirement ^a specified in paragraph 41 Issue type: completeness Assessment: encouragement	The Party did not provide detailed information on the projection models used nor give a reference to such detailed information. During the review, the Party stated that this information is yet not published, hence such information cannot be provided in the report nor as a reference. The ERT encourages the Party to include detailed information on the projection model or approaches used.
11	Reporting requirement ^a specified in paragraph 42 Issue type: completeness Assessment: encouragement	The Party did not report on the changes in the methodologies, assumptions and results for projections between its NC7 and NC8, although it did report updated projections in the BR5. During the review, the Party confirmed that the project model/ensemble (and methodology) had been changed since the last report. Changes in the methodologies and assumptions could not be ascertained from the information provided and the response. The ERT encourages the Party to include changes in the methodologies, assumptions and results for projections between the current and previous NC in the next reporting cycle.
12	Reporting requirement ^a specified in paragraph 43 Issue type: completeness Assessment: encouragement	The Party did not report a sensitivity analysis of the underlying assumptions used for the projections. During the review, the Russian Federation clarified that it did not conduct a sensitivity analysis because it is not an obligatory reporting requirement. The ERT reiterates the encouragement from the previous review report for the Party to report on the sensitivity of projections to underlying assumptions qualitatively and, where possible, quantitatively.
13	Reporting requirement ^a specified in paragraph 44 Issue type: transparency Assessment: encouragement	The Party did not provide information on key variables for GHG projections (e.g. GDP, population growth, international fuel prices, tax levels, fuel prices, energy demand and intensity, income and household size). During the review, the Party clarified that it has included necessary information on the key variables in the NC8. However, the ERT considers that the information provided is not sufficient for it to understand the key variables and how they were used when compiling the GHG projections. The ERT reiterates the encouragement from the previous review report for the Party to report transparently on the key variables and assumptions used in the preparation of its projections.
14	Reporting requirement ^a specified in paragraph 45 Issue type: completeness Assessment: recommendation	The Party did not report relevant information on factors and activities affecting the emission projections for each sector. During the review, the Party explained that it lacks permission to publish this information. The ERT reiterates the recommendation from the previous review report that the Party report factors and activities affecting the emission projections for each sector.
15	Reporting requirement ^b specified in paragraph 12 Issue type: completeness	The Party did not report on changes made since its most recent BR to the model or methodologies used for the preparation of projections. During the review, the Party explained that change in the methodology affect all sectors because the projections were built on a new model. Detailed documentation on the model used has not yet been published.

<i>No.</i>	<i>Reporting requirement and issue type</i>	<i>Description of the finding with recommendation or encouragement</i>
	Assessment: encouragement	The ERT encourages the Party to provide information on the changes in the model or methodologies used for the preparation of projections and provide supporting documentation.

Note: The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and on BRs.

^a Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs as per para. 11 of the UNFCCC reporting guidelines on BRs.

^b Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs.

Annex III

Documents and information used during the review

A. Reference documents

2022 GHG inventory submission of the Russian Federation. Available at <https://unfccc.int/ghg-inventories-annex-i-parties/2022>.

2023 GHG inventory submission of the Russian Federation. Available at <https://unfccc.int/ghg-inventories-annex-i-parties/2023>.

BR5 CTF tables of the Russian Federation. Available at <https://unfccc.int/BR5>.

BR5 of the Russian Federation. Available at <https://unfccc.int/BR5>.

“Common tabular format for ‘UNFCCC biennial reporting guidelines for developed country Parties’”. Annex to decision 19/CP.18. Available at <https://unfccc.int/resource/docs/2012/cop18/eng/08a03.pdf>.

“Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention”. FCCC/SBSTA/2014/INF.6. Available at <http://unfccc.int/resource/docs/2014/sbsta/eng/inf06.pdf>.

“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention Part II: UNFCCC reporting guidelines on national communications”. FCCC/CP/2019/13/Add.1. Available at <https://unfccc.int/documents/210471>.

“Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”. Annex to 15/CMP.1. Available at <https://unfccc.int/documents/4253>.

“Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”. Annex III to decision 3/CMP.11. Available at <https://unfccc.int/documents/9101>.

“Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories biennial reports and national communications by Parties included in Annex I to the Convention”. Annex to decision 13/CP.20. Available at <http://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf>.

NC8 of the Russian Federation. Available at <https://unfccc.int/NC8>.

“UNFCCC biennial reporting guidelines for developed country Parties”. Annex I to decision 2/CP.17. Available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

B. Additional information provided by the Party

Responses to questions during the review were received from Alexander Nakhutin (Ministry of the Environment of the Russian Federation), including additional material. The following references were provided by the Russian Federation and may not conform to UNFCCC editorial style as some have been reproduced as received:

Procedure for quality assurance and quality control of the national inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases of the Russian Federation Institute of Global Climate and Ecology, Roshydromet and the Russian Academy of Sciences, 2007.

Third Assessment Report on Climate Change and its Effects on the Territory of the Russian Federation, Institute of Global Climate and Ecology, Roshydromet, 2008.