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Report on the technical review of the third biennial report of Kazakhstan

Developed country Parties were requested by decision 2/CP.17 to submit their third biennial report to the secretariat by 1 January 2018. This report presents the results of the technical review of the third biennial report of Kazakhstan, 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".

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Contents

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
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CTF	common tabular format
ERT	expert review team
ETS	emissions trading scheme
GDP	gross domestic product
GHG	greenhouse gas
HFC	hydrofluorocarbon
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
JSC	joint-stock company
KP2	second commitment period of the Kyoto Protocol
KZT	tenge
LULUCF	land use, land-use change and forestry
NA	not applicable
NC	national communication
NE	not estimated
NF_3	nitrogen trifluoride
NO	not occurring
N_2O	nitrous oxide
PaMs	policies and measures
PFC	perfluorocarbon
SF_6	sulfur hexafluoride
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'
WOM	'without measures'

I. Introduction and summary

A. Introduction

1. This is a report on the in-country technical review of the BR3[1] of Kazakhstan. 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" (annex to decision 13/CP.20).

2. In accordance with the same decision, a draft version of this report was transmitted to the Government of Kazakhstan, which made no comments on it.

3. The review was conducted from 1 to 6 April 2019 in Nur-Sultan by the following team of nominated experts from the UNFCCC roster of experts: Ms. Gamze Celikyilmaz (Turkey), Mr. Giorgi Machavariani (Georgia), Mr. Stanford Mwakasonda (United Republic of Tanzania), Ms. Glasha Obrekht (Canada) and Ms. Natalya Parasyuk (Ukraine). Mr. Mwakasonda and Ms. Parasyuk were the lead reviewers. The review was coordinated by Mr. Davor Vesligaj (UNFCCC secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the BR3 of Kazakhstan in accordance with the UNFCCC reporting guidelines on BRs (annex I to decision 2/CP.17).

1. Timeliness

5. The BR3 was submitted on 31 December 2017, before the deadline of 1 January 2018 mandated by decision 2/CP.17. The CTF tables were submitted on 1 January 2018.

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

6. Issues and gaps identified by the ERT related to the reported information are presented in table 1. The information reported by Kazakhstan in its BR3 mostly adheres to the UNFCCC reporting guidelines on BRs.

Table 1
Summary of completeness and transparency of mandatory information reported by Kazakhstan in its third biennial report

Section of BR	*Completeness*	*Transparency*	*Reference to description of recommendations*
GHG emissions and trends	Complete	Mostly transparent	Issue 1 in table 3
Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target	Complete	Transparent	
Progress in achievement of targets	Mostly complete	Mostly transparent	Issues 1 and 3 in table 5; issues 2 and 3 in table 10
Provision of support to developing country Parties[a]	NA	NA	NA

[1] The BR submission comprises the text of the report and the CTF tables, which are both subject to the technical review.

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in chapter III below. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

[a] Kazakhstan is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3, 4 and 5, of the Convention.

II. Technical review of the information reported in the third biennial report

A. Information on greenhouse gas inventory arrangements, emissions, removals and trends

1. Technical assessment of the reported information

7. Total GHG emissions[2] excluding emissions and removals from LULUCF decreased by 12.8 per cent between 1990 and 2016, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 8.6 per cent over the same period. Table 2 illustrates the emission trends by sector and by gas for Kazakhstan.

Table 2
Greenhouse gas emissions by sector and by gas for Kazakhstan for the period 1990–2016

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2015*	*2016*	*1990–2016*	*2015–2016*	*1990*	*2016*
Sector									
1. Energy	317 906.79	177 298.30	249 328.25	271 453.34	274 179.62	–13.8	1.0	82.1	81.1
A1. Energy industries	142 368.74	60 824.41	103 851.38	108 258.27	111 358.02	–21.8	2.9	36.8	33.0
A2. Manufacturing industries and construction	19 636.07	22 674.26	30 052.58	37 601.35	36 629.37	86.5	–2.6	5.1	10.8
A3. Transport	21 584.04	9 414.72	21 155.31	21 677.48	22 720.57	5.3	4.8	5.6	6.7
A4. and A5. Other	64 175.02	28 628.82	64 025.46	75 802.80	75 322.37	17.4	–0.6	16.6	22.3
B. Fugitive emissions from fuels	70 142.93	55 756.09	30 243.52	28 113.44	28 149.29	–59.9	0.1	18.1	8.3
C. CO_2 transport and storage	NA	NA	NA	NA	NA	NA	NA	NA	NA
2. IPPU	21 082.72	12 971.22	20 738.28	23 694.31	25 101.18	19.1	5.9	5.4	7.4
3. Agriculture	43 768.14	20 791.62	29 802.39	32 185.23	33 183.72	–24.2	3.1	11.3	9.8
4. LULUCF	–6 328.21	3 286.14	2 771.16	8 465.70	10 208.45	–261.3	20.6	NA	NA
5. Waste	4 608.56	4 080.70	4 747.32	5 330.10	5 457.73	18.4	2.4	1.2	1.6
6. Other	NO	NO	NO	NO	NO	NA	NA	NA	NA
Gas[a]									
CO_2	266 654.01	133 645.69	236 956.35	263 479.48	267 456.23	0.3	1.5	68.8	79.1
CH_4	103 637.87	71 216.40	52 548.93	52 519.57	53 561.16	–48.3	2.0	26.8	15.9
N_2O	17 074.33	100 99.10	13 877.99	15 404.19	15 620.76	–8.5	1.4	4.4	4.6
HFCs	NO, NA	180.65	623.15	664.92	651.85	NA	–2.0	NA	0.2
PFCs	NA, NO	NA, NO	608.10	592.80	630.18	NA	6.3	NA	0.2
SF_6	NA, NO	NA, NO	1.73	2.01	2.06	NA	2.4	NA	0.0

[2] In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of CO_2 eq excluding LULUCF, unless otherwise specified. Values in this paragraph are calculated on the basis of the 2018 annual submission, version 3.

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2015*	*2016*	*1990–2016*	*2015–2016*	*1990*	*2016*
NF_3	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO	NA	NA	NA	NA
Total GHG emissions without LULUCF	**387 366.21**	**215 141.85**	**304 616.25**	**332 662.98**	**337 922.24**	**–12.8**	**1.6**	**100.0**	**100.0**
Total GHG emissions with LULUCF	**381 037.99**	**218 427.98**	**307 387.41**	**341 128.68**	**348 130.69**	**–8.6**	**2.1**	**NA**	**NA**

Source: GHG emission data: Kazakhstan's 2018 annual submission, version 3.
[a] Emissions by gas without LULUCF and without indirect CO_2.

8. Between 1990 and 2016, Kazakhstan's emissions trajectory shows a significant decrease after the dissolution of the Soviet Union in 1991, with emissions reaching a trough in 1999 and then rapidly increasing owing to economic recovery and transformation and the discovery and large-scale production and export of oil and gas in the period 2000–2010. Since 2010, growth in emissions has slowed owing to a number of factors, including the world oil price collapse in 2014, the restructuring of Kazakhstan's economy and the transition to more fuel-efficient and less GHG-intensive technologies.

9. The summary information provided on GHG emissions was consistent with the information reported in the 2017 annual submission at the time of preparation of the NC7 and BR3. However, the subsequent resubmission by Kazakhstan of the 2017 national inventory common reporting format tables led to inconsistencies in the inventory information reported in the NC7, BR3 and CTF tables. The ERT noted significant differences in the GHG inventory figures reported in the NC7 and BR3, with especially large discrepancies for 1990 (the base year) affecting the calculation of Kazakhstan's targets. According to the 2017 inventory submission, between 1990 and 2015, Kazakhstan's total emissions excluding LULUCF decreased from 375,565.08 to 298,069.64 kt CO_2 eq (20.6 per cent), whereas, according to the inventory information reported in the NC7, they decreased from 389,104 to 300,921 kt CO_2 eq (22.7 per cent).

10. In brief, Kazakhstan's national inventory arrangements were established in accordance with Article 158-1, paragraph 4, of the Environmental Code of the Republic of Kazakhstan of 9 January 2007. Kazakhstan adopted the Regulation on the State System of Inventory Data Collection with effect from 23 July 2010 and Order No. 214 of the Ministry of Energy on the rules for monitoring the completeness, transparency and reliability of the State inventory of GHG emissions and removals on 18 March 2015. No changes in these arrangements have occurred since the BR2.

2. Assessment of adherence to the reporting guidelines

11. The ERT assessed the information reported in the BR3 of Kazakhstan and identified an issue relating to transparency and adherence to the UNFCCC reporting guidelines on BRs. The finding is described in table 3.

Table 3
Findings on greenhouse gas emissions and trends from the review of the third biennial report of Kazakhstan

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 2 Issue type: transparency Assessment: recommendation	The Party reported different sets of inventory figures in the textual part of the BR3 and in CTF table 1. During the review, Kazakhstan explained that the inconsistency occurred because while the BR3 was being prepared there were two versions of the GHG inventory common reporting format tables in circulation: one original and one with recalculations for resubmitting to the UNFCCC. One version was used for the textual part of the BR3 and the other version was used for CTF table 1. The ERT recommends that Kazakhstan ensure consistency between the GHG emission data provided in the textual part of the BR and CTF table 1 to improve transparency in its next BR.

Note: Paragraph number 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, transparent and adhering to the UNFCCC reporting guidelines on BRs.

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

1. Technical assessment of the reported information

12. For Kazakhstan the Convention entered into force on 15 August 1995. Under the Convention, Kazakhstan committed to reducing its GHG emissions by 15 per cent below the 1990 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 CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3. It also includes all IPCC sources and sectors included in the annual GHG inventory. The global warming potential values used are from the AR4. Emissions and removals from the LULUCF sector are not included in the target. Kazakhstan 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, Kazakhstan has to reduce its emissions from 387,366.21 kt CO_2 eq (in the base year)[3] to 329,261.23 kt CO_2 eq by 2020.

2. Assessment of adherence to the reporting guidelines

13. The ERT assessed the information reported in the BR3 of Kazakhstan and recognized that the reporting is complete, transparent and adhering 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.

C. Progress made towards the achievement of the quantified economy-wide emission reduction target

1. Mitigation actions and their effects

(a) Technical assessment of the reported information

14. Kazakhstan provided information on its package of PaMs implemented, adopted and planned, by sector and by gas, in order to fulfil its commitments under the Convention and its Kyoto Protocol. Kazakhstan reported on its policy context and legal and institutional arrangements put in place to implement its commitments and monitor and evaluate the effectiveness of its PaMs.

[3] Kazakhstan chose 1990 as the base year for its 2020 target. The emission level in the base year was calculated on the basis of the 2018 inventory submission.

15. In response to a recommendation of the previous ERT, Kazakhstan, in its BR3, reported on PaMs in sectors other than energy, including IPPU, agriculture, LULUCF and waste. The Party also provided information on changes made since the previous submission to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target. The changes include the establishment of the third ETS National Allocation Plan 2016–2020, which covers the energy, oil and gas, coal mining and manufacturing sectors. Five-year cumulative allowance allocations are estimated on the basis of averages: the current cumulative limit for 140 enterprises over a five-year period equates to 746.5 Mt. The ETS was suspended from early 2016 to 2018 to improve its functioning.

16. Kazakhstan has in place a system of State planning with long-, medium- and short-term strategic and planning documents. Kazakhstan has adopted the long-term Strategy Kazakhstan 2050, of which one of the objectives is the country's transition to a low-carbon green economy. This objective is further defined in the "concept for transition of Kazakhstan to a green economy" and its action plan for the period 2013–2020. Kazakhstan's long-term strategy up to 2050 is implemented by means of 10-year strategic development plans and five-year sectoral action plans and industry programmes. The Strategic Development Plan 2020, adopted in 2010, lays the foundation for Kazakhstan's climate policy. The Plan identifies five key areas of development, including accelerating the diversification of the economy; integrates issues related to climate change; and includes both mitigation and adaptation. The Plan also provides for the inclusion of objectives, activities and targets to reduce GHG emissions, improve energy efficiency and develop renewable energy sources in the strategic plans of individual State bodies.

17. The main national legislative instrument regulating GHG emissions in Kazakhstan is the Environmental Code, which was adopted in 2007 and includes a chapter on the regulation of GHG emissions and removals, a list of GHGs subject to State regulation, the regulatory principles and legislative framework for the implementation of various measures, and the market mechanism for GHG emissions and removals of industry (the ETS).

18. In June 2017, Kazakhstan approved rules for GHG allowance allocation and created reserves of assigned amount and volume allowances for different facilities. Under this arrangement, facility operators apply to the authorized body for emission allowances.

19. Kazakhstan did not report on its self-assessment of compliance with its emission reduction target and national rules for taking action against non-compliance.

20. The key overarching cross-sectoral policy reported by Kazakhstan is the ETS, launched in 2013, which is based on a cap-and-trade approach and covers 140 installations in the energy, oil and gas, coal and manufacturing sectors. The agency responsible for implementing the ETS on behalf of the Ministry of Energy is JSC Zhasyl Damu. In 2013, the pilot phase was implemented, and then, on the basis of lessons learned, modifications were made for the implementation phase in 2014–2015. The latter phase provided useful insights for the Government to further improve the system, and 35 amendments to the Environmental Code, which provides the legal basis for the ETS, are currently under discussion in Parliament. The amendments relate to, among other things, the allocation approach (benchmarking instead of grandfathering); the monitoring, reporting and verification framework; and the further clarification of target sectors. Emissions trading under the ETS was suspended from early 2016 to 2018 to adjust and improve the mechanism. At present, there is no clear link between the ETS and the emission reduction targets of the country. Table 4 provides a summary of the reported information on the PaMs of Kazakhstan.

Table 4
Summary of information on policies and measures reported by Kazakhstan

Sector	*Key PaMs*	*Estimate of mitigation impact by 2020 (kt CO_2 eq)*	*Estimate of mitigation impact by 2030 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	ETS (cap and trade)	NE	NE
Energy			
Energy supply	Fuel switching (coal to gas) in thermal power plants	NE	NE
Transport	Comprehensive development plan for the gas-engine fuel market of Kazakhstan until 2020	NE	NE
Renewable energy	Promotion of hydropower and wind power	2 014	NE
Energy efficiency	Replacement of old coal power plants with new ones with higher energy efficiency	3 000	10 000
IPPU	Modernization of JSC ArcelorMittal Temirtau	2 000	2 800
	The Law on Energy Saving and Increasing Energy Efficiency	1 500	1 680
	Ban on exporting scrap and non-ferrous (precious) metals	600	1 200
Agriculture	Technology transfer for biogas generation	200	1 000
	Improvement of breeds of cattle, small ruminants and horses in agriculture	10	30
	Reducing energy intensity	NE	NE
LULUCF	Combating land degradation and desertification	13 000	25 000
	Increasing forest area and forest regeneration	250	300
	Wildfire suppression	250	300
Waste	Use of landfill gas in Nur-Sultan	37	NE
	Biogas plant in Shymkent city	3.7	NE

Note: The estimates of mitigation impact are estimates of emissions of CO_2 or CO_2 eq avoided in a given year as a result of the implementation of mitigation actions.

(b) Policies and measures in the energy sector

21. **Energy supply.** Energy supply issues in Kazakhstan are addressed in the Strategic Plan of the Ministry of Energy of the Republic of Kazakhstan for 2017–2021, approved in December 2016. The first strategic direction (development of electric power, the coal industry and nuclear energy use) emphasizes the full coverage of the economy's energy needs and infrastructure development as the main priority areas of electric power development. Work is in progress on constructing new combined heat and power facilities, rehabilitating existing power plants, modernizing the national electricity grid and constructing and rehabilitating regional electricity networks. In order to ensure energy security in the long

term, there are plans to build nuclear power plants, thus diversifying power generation capacity in the energy sector and optimizing the use of available fossil fuel resources.

22. As a result of the Strategic Plan in the Electric Power Industry, wind and solar energy together are expected to represent 3 and 10 per cent of power generation by 2020 and 2030, respectively, and gas 20 and 25 per cent by 2020 and 2030, respectively. CO_2 emissions from power generation are expected to be equal to and 15 per cent lower than the 2012 level by 2020 and 2030, respectively.

23. **Renewable energy sources.** Kazakhstan set fixed tariffs for the supply of electrical energy from renewable sources in 2014 in accordance with Article 5, subparagraph 7-2, of the Law on Support for the Use of Renewable Energy Sources, adopted in July 2009. The fixed tariffs (excluding value added tax) are as follows: wind power plants, excluding Expo-2017 plants with a capacity of 100 MW: KZT 22.68/kWh; Expo-2017 wind power plants with a capacity of 100 MW: KZT 59.7/kWh; photovoltaic solar energy converters, excluding the fixed tariff for solar power: KZT 34.6168/kWh; small hydropower plants: KZT 16.71/kWh; and biogas plants: KZT 32.23/kWh.

24. In 2014, Kazakhstan established rules for the provision of targeted assistance to individual consumers for the purchase of renewable energy facilities, under which the State reimburses 50 per cent of the purchase cost of renewable energy facilities with a total capacity of up to 5 kW. The reimbursement is made once the facility has been commissioned.

25. Target indicators for renewable energy development by 2020, approved in November 2016, are as follows: share of total power generation from renewable energy facilities: 3 per cent; and gross installed capacity of renewable energy facilities: 1,700 MW, including 467 MW from wind power plants, 290 MW from hydropower plants 10 MW from biogas plants.

26. **Energy efficiency.** The Law on Energy Saving and Increasing Energy Efficiency in Kazakhstan, adopted in 2012, introduced a number of requirements with respect to energy saving by State bodies, the compliance of newly constructed buildings with energy efficiency requirements, and the mandatory use of metering devices for the consumption of cold and hot water, electricity and heat in newly built residential dwellings. The new legislation focuses on the active use of energy management tools, expertise in energy saving and energy efficiency, the regulation of energy use, energy audits, and the monitoring and evaluation of energy efficiency for State bodies. It also establishes a special regulatory regime for entities that consume energy above certain levels and provides for the mandatory labelling of electrical devices.

27. Kazakhstan has put in place requirements for mandatory accounting and annual reporting on the implementation of energy-saving and energy efficiency measures, applicable to all entities that consume 1,500 t fuel equivalent or more per year, and to State institutions, State-owned enterprises and national companies. Energy-saving assessments are mandatory for pre-design and design documentation for the construction of new, or the expansion of existing, buildings, structures and premises that consume 500 t fuel equivalent per year.

28. **Residential and commercial sectors.** Kazakhstan did not provide details in its BR3 of any specific residential and commercial sector PaMs, except on energy saving by State bodies, the compliance of newly constructed buildings with energy efficiency requirements, and the mandatory use of metering devices for the consumption of cold and hot water, electricity and heat in newly built residential dwellings.

29. **Transport sector.** The Law on Energy Saving and Increasing Energy Efficiency determines energy efficiency standards in the transport sector. The Comprehensive Development Plan for the Gas-engine Fuel Market of the Republic of Kazakhstan until 2020, approved in the same year, aims to increase the use of gas in the transport sector. The main priorities for the Party are developing gas-fuelling infrastructure and converting transport vehicle engines to run on compressed natural gas. The Party did not report on PaMs related to the transport sector in its NC7, or on numerical targets or expected overall results.

30. The BR3 does not include information on how Kazakhstan 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.

31. **Industrial sector.** The Party did not provide a brief description of the industrial sector in textual format, or any information on targets, sectors targeted, success factors or key results. However, it did provide a list of PaMs for the IPPU sector, with brief descriptions, mitigation impacts and implementation dates in tabular format.

(c) Policies and measures in other sectors

32. **Industrial processes.** The main PaMs in the IPPU sector of Kazakhstan are as follows: modernizing JSC ArcelorMittal Temirtau (iron and steel production), adopting the Law on Energy Saving and Increasing Energy Efficiency, and banning the export of scrap and non-ferrous metals. The expected reductions in GHG emissions resulting from these PaMs are 4,100 and 5,680 kt CO_2 eq by 2020 and 2030, respectively. GHG emissions from industrial processes increased by approximately 19 per cent in the period 1990–2016.

33. **Agriculture.** Kazakhstan provided a description of the agriculture sector, including priorities and PaMs, in textual format. The Party also detailed its PaMs for the agriculture sector in tabular format. The main PaMs for the agriculture sector are technology transfer for biogas generation, improving cattle, small ruminant and horse breeds, and reducing energy intensity. The expected resulting reductions in GHG emissions are 210 and 1,300 kt CO_2 eq by 2020 and 2030, respectively. GHG emissions from agriculture decreased by approximately 24 per cent between 1990 and 2016, owing mainly to economic recession.

34. **LULUCF.** Kazakhstan provided a description of the LULUCF sector, including priorities and PaMs, in textual format. The Party also detailed its PaMs for the LULUCF sector in tabular format. The main PaMs for the sector are combating land degradation and desertification, suppressing wildfires, and increasing forest area and forest regeneration. The expected resulting reductions in GHG emissions are 13,500 and 25,600 kt CO_2 eq by 2020 and 2030, respectively. In 2015, the LULUCF sector in Kazakhstan was a net source of GHGs owing to soil degradation. GHG emissions from the sector increased significantly from –6,328 kt CO_2 eq in 1990 to 10,208 kt CO_2 eq in 2016.

35. **Waste management.** Kazakhstan provided a description of the waste sector, including priorities and PaMs, in textual format. The Party did not detail its PaMs for the waste sector in tabular format, but stated that it had provided cross references to CTF table 3. The main PaMs for the waste sector are the use of landfill gas in Nur-Sultan and the construction of a biogas plant in Shymkent city. GHG emissions from the waste sector increased by 18 per cent in the period 1990–2016, chiefly owing to population growth and urbanization.

(d) Response measures

36. Kazakhstan did not report on the assessment of the economic and social consequences of its response measures. During the review, Kazakhstan explained that it is self-sufficient in, and a net exporter of, crude oil, oil products, natural gas, coal, electricity and energy-intensive metals. Therefore, climate-related actions taken by the Party, such as switching fuels and developing renewable energy, are not believed to have a negative effect on trading partners, including developing countries.

(e) Assessment of adherence to the reporting guidelines

37. The ERT assessed the information reported in the BR3 of Kazakhstan and identified issues relating to completeness, transparency and adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 5.

Table 5
Findings on mitigation actions and their effects from the review of the third biennial report of Kazakhstan

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 6	The ERT noted that the information provided on PaMs related to the IPPU sector is not presented in a clear and accurate manner and its relevance cannot be easily assessed.
	Issue type: transparency	During the review, Kazakhstan explained that, owing to communication problems between IPPU sector experts and inventory compilers, the Party could not present clear and accurate information on IPPU sector PaMs.
	Assessment: recommendation	The ERT recommends that Kazakhstan provide information on IPPU sector PaMs in textual format in its next BR to improve transparency and consistency with CTF table 3.
2	Reporting requirement specified in paragraph 8	The ERT noted that Kazakhstan did not provide information on the assessment of the economic and social consequences of its response measures in its BR3.
	Issue type: completeness	During the review, Kazakhstan reported that it is self-sufficient in, and a net exporter of, crude oil, oil products, natural gas, coal, electricity and energy-intensive metals. Therefore, climate-related actions taken by the Party, such as switching fuels and developing renewable energy, are not believed to have a negative effect on trading partners, including developing countries.
	Assessment: encouragement	The ERT encourages Kazakhstan to provide, to the extent possible, detailed information on the assessment of the economic and social consequences of its response measures in accordance with information provided during the review in its next BR.
3	Reporting requirement specified in CTF table 3	The ERT noted that Kazakhstan has made progress since its NC6 by providing in its NC7 quantitative estimates of the impacts on GHG emissions for some individual PaMs. However, this information was not provided for all PaMs, and no explanation was provided as to why the impacts could not be estimated for those PaMs.
	Issue type: transparency	During the review, Kazakhstan explained that for some PaMs estimating mitigation impacts is difficult owing to the lack of adequate data or methodologies.
	Assessment: recommendation	The ERT reiterates the recommendation made in the previous review report that Kazakhstan provide quantitative estimates of the impacts of its individual PaMs, including a brief description of estimation methods, or clearly explain why it may not be feasible to provide such information due to its national circumstances.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs; CTF table number listed under reporting requirement refers to the CTF table number in the annex to decision 19/CP.18. The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on BRs.

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

(a) Technical assessment of the reported information

38. For 2014, Kazakhstan reported in CTF table 4 annual total GHG emissions excluding LULUCF of 314,746.00 kt CO_2 eq, which is 16.2 per cent below the 1990 level.

39. For 2015, Kazakhstan reported in CTF table 4 annual total GHG emissions excluding LULUCF of 298,064.00 kt CO_2 eq, which is 20.7 per cent below the 1990 level.

40. Given that the contribution of LULUCF activities is not included in the Convention target for Kazakhstan, the LULUCF values were not reported in CTF tables 4, 4(a)I and 4(a)II. Kazakhstan reported that it does not intend to use units from market-based mechanisms under the Kyoto Protocol for 2015. It reported in CTF tables 4 and 4(b) that it did not use any units from market-based mechanisms in 2015 towards the achievement of its 2020 target. Table 6 illustrates Kazakhstan's total GHG emissions, the contribution of LULUCF and the use of units from market-based mechanisms to achieve its target.

Table 6
Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry by Kazakhstan to achieve its target

Year	*Emissions excluding LULUCF (kt CO_2 eq)*	*Contribution of LULUCF (kt CO_2 eq)*	*Emissions including contribution of LULUCF (kt CO_2 eq)*	*Use of units from market-based mechanisms (kt CO_2 eq)*
1990	375 724.00	NA	NA	NA
2010	303 642.00	NA	NA	NA
2011	293 668.00	NA	NA	NA
2012	302 345.00	NA	NA	NA
2013	309 099.00	NA	NA	NA
2014	314 746.00	NA	NA	NA
2015	298 064.00	NA	NA	NA

Sources: Kazakhstan's BR3 and CTF tables 1, 4, 4(a)I, 4(a)II and 4(b).

41. In assessing the progress towards the achievement of the 2020 target, the ERT noted that Kazakhstan's emission reduction target under the Convention is 15 per cent below the 1990 level. As discussed in chapter II.B above, in 2015, Kazakhstan's annual total GHG emissions excluding LULUCF were 20.7 per cent below the base-year level (based on Kazakhstan's 2017 annual GHG inventory data). In addition, the ERT noted that contributions from LULUCF and market-based mechanisms were not used by Kazakhstan to achieve its target.

42. The ERT noted that Kazakhstan's GHG emissions for 2015 were 20.7 per cent below 1990, and that after the initial GHG emission decline in the 1990s, GHG emission growth from 2000 onward was slower than GDP growth. However, as Kazakhstan's GHG emissions have continued to increase since 2000, it may face challenges in achieving its 2020 target. This possibility is further supported by Kazakhstan's emission projections for 2020, which suggest that Kazakhstan may expect to achieve its target under the Convention only under the WAM scenario.

(b) Assessment of adherence to the reporting guidelines

43. The ERT assessed the information reported in the BR3 of Kazakhstan and recognized that the reporting is complete, transparent and adhering 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. Projections overview, methodology and results

(a) Technical assessment of the reported information

44. Kazakhstan reported updated projections for 2020 and 2030, but did not do so relative to actual inventory data for 2015 under the WEM scenario. The WEM scenario reported by Kazakhstan includes PaMs implemented and adopted before 2017.

45. In addition to the WEM scenario, Kazakhstan reported WAM and WOM scenarios. The WAM scenario includes planned PaMs, while the WOM scenario excludes all PaMs implemented, adopted or planned since 2010. According to the definitions provided by the Party, the WEM scenario includes policies for the gasification of combined heat and power generation facilities, renewable energy power plants, energy efficiency and the construction of a 1 GW nuclear power plant, while the WAM scenario covers additional renewable capacities, an additional 1 GW nuclear power plant and a system-wide carbon price of USD 10, 15 and 25/t CO_2 for 2020, 2025 and 2030, respectively. During the review, Kazakhstan explained that the carbon price under Kazakhstan's ETS is not likely to reach these levels. The definitions indicate that the scenarios were prepared mostly according to the UNFCCC

reporting guidelines on NCs; however, the ERT noted that more realistic assumptions should be made in the construction of the WAM scenario.

46. The projections are presented on a sectoral basis, using generally the same sectoral categories as those used in the reporting on mitigation actions, and on a gas-by-gas basis for CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 (treating PFCs and HFCs collectively in each case) for 1990–2030. The projections are also provided in an aggregated format for each sector as well as for a Party total using global warming potential values from the AR4.

47. Kazakhstan did not report emission projections for indirect GHGs such as carbon monoxide, nitrogen oxides, non-methane volatile organic compounds or sulfur oxides.

48. Emission projections related to fuel sold to ships and aircraft engaged in international transport were not reported separately and were included in the totals.

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

49. The methodology used for the preparation of the projections is generally identical to that used for the preparation of the emission projections for the NC6, with the exception of the LULUCF sector. The TIMES-KZ model was used for the development of emission projections for fuel combustion and fugitive sources. The model uses a detailed economic process description of the power industry, and represents economic and technical system elements for other industries, including energy supply and demand, GHG emissions, explicit technologies represented as stepwise functions within the model. For projecting industrial process and other non-fuel combustion emissions, an Excel-based production forecast econometric model was used. For the forestry sector, Kazakhstan adapted the CBM-CFS3 model.[4]

50. To prepare its projections, Kazakhstan relied on key underlying assumptions of GDP, population, industry and transport growth. These variables and assumptions were reported in CTF table 5. The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections.

51. Kazakhstan provided information in CTF table 5 on assumptions, methodologies, models and approaches used and on the key variables and assumptions used in the preparation of the projection scenarios. To explain the changes, Kazakhstan provided supporting documentation. Kazakhstan did not provide information on sensitivity analyses.

4. Results of projections

52. The projected emission levels under different scenarios and information on the Kyoto Protocol targets and the quantified economy-wide emission reduction target are presented in table 7 and the figure below.

Table 7
Summary of greenhouse gas emission projections for Kazakhstan

	GHG emissions (kt CO_2 eq per year)	*Changes in relation to base-year[a] level (%)*	*Changes in relation to 1990 level (%)*
Quantified economy-wide emission reduction target under the Convention	NA	NA	NA
Inventory data 1990[b]	389 105.00	4.8	NA
Inventory data 2015[b]	300 921.00	–19.0	–22.7
WOM projections for 2020[c]	359 350.00	–3.2	–7.6
WEM projections for 2020[c]	334 127.00	–10.0	–14.1
WAM projections for 2020[c]	323 458.00	–12.9	–16.9

[4] Carbon Budget Model of the Canadian Forest Sector.

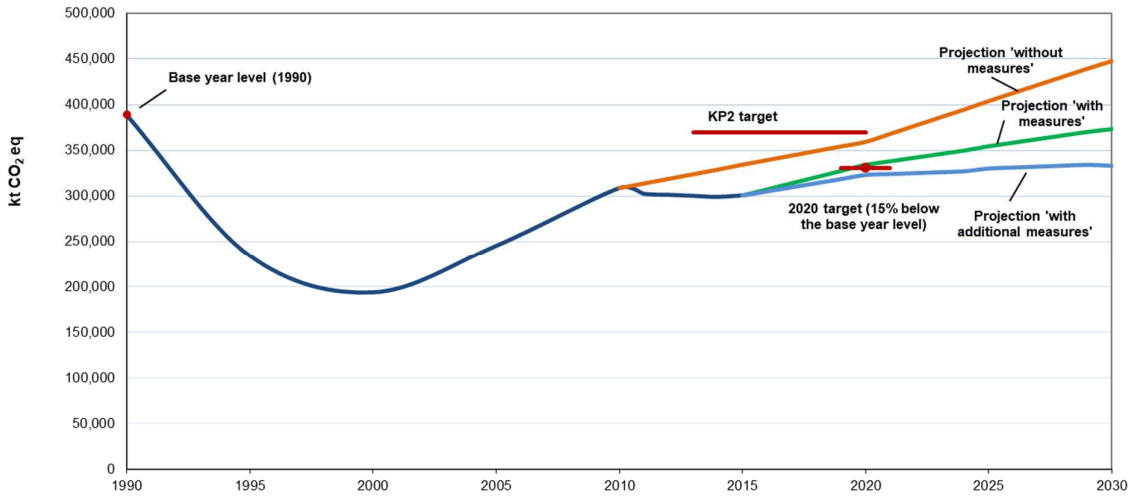
	GHG emissions (kt CO_2 eq per year)	*Changes in relation to base-year[a] level (%)*	*Changes in relation to 1990 level (%)*
WOM projections for 2030[c]	447 611.00	20.6	15.0
WEM projections for 2030[c]	372 810.00	0.4	–4.2
WAM projections for 2030[c]	333 449.00	–10.2	–14.3

[a] "Base year" in this column refers to the base year used for the target under the Kyoto Protocol, while for the target under the Convention it refers to the base year used for that target.

[b] From Kazakhstan's BR3 CTF table 6.

[c] From Kazakhstan's BR3 CTF table 6.

Greenhouse gas emission projections reported by Kazakhstan



Source: Data for 1990–2030: Kazakhstan's NC7 and BR3; total GHG emissions excluding LULUCF.

53. Kazakhstan's total GHG emissions excluding LULUCF are projected to be 334,127 and 372,810 kt CO_2 eq in 2020 and 2030, respectively, under the WEM scenario, which is a decrease of 14.1 and 4.2 per cent, respectively, below the 1990 level. Under the WAM scenario, emissions in 2020 and 2030, amounting to around 323,458 and 333,449 kt CO_2 eq, respectively, are projected to be lower than those in 1990 by 16.9 and 14.3 per cent, respectively.

54. The 2020 projections suggest that Kazakhstan may face challenges in achieving its 2020 target of 15 per cent below the 1990 level under the Convention under the WEM scenario; however, under the WAM scenario, Kazakhstan may expect to achieve its target.

55. Kazakhstan presented the WEM and WAM scenarios by sector for 2020 and 2030, as summarized in table 8.

Table 8
Summary of greenhouse gas emission projections for Kazakhstan presented by sector

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2020		*2030*		*1990–2020*		*1990–2030*	
Sector	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
Energy (not including transport)	297 139	246 011	239 318	264 273	231 619	–17.2	–19.5	–11.1	–22.1

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2020		*2030*		*1990–2020*		*1990–2030*	
Sector	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
Transport	21 056	29 213	29 201	39 114	38 560	38.7	38.7	85.8	83.1
Industry/industrial processes	23 885	21 211	17 634	24 911	19 818	–11.2	–26.2	4.3	–17.0
Agriculture	42 249	31 077	30 730	36 679	36 272	–26.4	–27.3	–13.2	–14.1
LULUCF	–17 273	17 660	10 920	–4 224	–17 008	–202.2	–163.2	–75.5	–1.5
Waste	4 775	6 615	6 575	7 832	7 180	38.5	37.7	64.0	50.4
Total GHG emissions without LULUCF	**389 104**	**334 127**	**323 458**	**372 810**	**333 449**	**–14.1**	**–16.9**	**–4.2**	**–14.3**

Source: Kazakhstan's BR3 CTF table 6.

56. According to the projections reported for 2020 under the WEM scenario, the most significant emission reductions are expected to occur in the energy sector (not including transport), amounting to projected reductions of 51,128 kt CO_2 eq (17.2 per cent) between 1990 and 2020. However, transport sector emissions in 2020 are expected to exceed the 1990 level by 8,157 kt CO_2 eq (38.7 per cent). The pattern of projected emissions reported for 2030 under the WEM scenario generally remains the same, with the exception of the IPPU sector. By 2030, emissions from the IPPU sector are projected to exceed the 1990 level by about 1,026 kt CO_2 eq (4.3 per cent).

57. Under the WAM scenario, the patterns of emission reductions by 2020 and 2030 presented by sector and by gas remain largely the same, with the exception of the IPPU sector, where emissions by 2030 are projected to remain below the 1990 level, unlike under the WEM scenario.

58. Kazakhstan presented the WEM and WAM scenarios by gas for 2020 and 2030, as summarized in table 9.

Table 9
Summary of greenhouse gas emission projections for Kazakhstan presented by gas

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2020		*2030*		*1990–2020*		*1990–2030*	
Gas	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
CO_2	274 871	263 869	254 646	298 255	263 677	–4.0	–7.4	8.5	–4.1
CH_4	98 484	57 492	56 088	58 154	53 523	–41.6	–43.0	–41.0	–45.7
N_2O	15 750	12 766	12 725	16 401	16 249	–18.9	–19.2	4.1	3.2
HFCs	NO, NA	NE	NE	NE	NE	NA	NA	NA	NA
PFCs	NO, NA	NE	NE	NE	NE	NA	NA	NA	NA
SF_6	NO, NA	0	0	0	0	NA	NA	NA	NA
NF_3	NO, NA	NO, NA	NO, NA	NO, NA	NO, NA	NA	NA	NA	NA
Total GHG emissions without LULUCF	**389 104**	**334 127**	**323 458**	**372 810**	**333 449**	**–14.1**	**–16.9**	**–4.2**	**–14.3**

Source: Kazakhstan's BR3 CTF table 6.

59. Between 1990 and 2020, the most significant reductions are projected for CH_4 emissions (40,992 kt CO_2 eq (41.6 per cent)), followed by CO_2 emissions (11,002 kt CO_2 eq (4 per cent)).

60. By 2030, the most significant reductions are projected for CH_4 emissions (40,330 kt CO_2 eq (41 per cent)), whereas CO_2 emissions are projected to increase by 23,384 kt CO_2 eq above the 1990 level owing to continued economic growth.

61. Under the WAM scenario, the patterns of emission reductions by 2020 presented by sector and by gas change slightly, bringing CO_2 emissions by 2030 down to 4.1 per cent below the 1990 level, owing to additional PaMs in the energy sector (shifting away from coal power generation and building new nuclear and renewable capacities).

Assessment of adherence to the reporting guidelines

62. The ERT assessed the information reported in the BR3 of Kazakhstan and identified issues relating to completeness, transparency and adherence to the UNFCCC reporting guidelines on BRs. The findings are described in table 10.

Table 10
Findings on greenhouse gas emission projections reported in the third biennial report of Kazakhstan

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 30 Issue type: completeness Assessment: encouragement	The ERT noted that Kazakhstan did not report a sensitivity analysis for any of the projections in its BR3. No further information was provided during the review. The ERT encourages Kazakhstan to report a sensitivity analysis for its projections in its next BR.
2	Reporting requirement specified in paragraph 35 Issue type: completeness Assessment: recommendation	The ERT noted that Kazakhstan did not present emission projections on a gas-by-gas basis in its BR3. Moreover, HFCs and PFCs were not included at all in the projections. During the review, Kazakhstan acknowledged this issue and indicated that this information will be included in the next BR. The ERT recommends that Kazakhstan present emission projections on a gas-by-gas basis for the following GHGs: CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 (treating PFCs and HFCs collectively in each case).
3	Reporting requirement specified in paragraph 36 Issue type: completeness Assessment: recommendation	The ERT noted that Kazakhstan did not report separately emission projections related to fuel sold to ships and aircraft engaged in international transport in its BR3. During the review, Kazakhstan explained that it is very difficult to separate energy statistics for international transport from domestic transport. The ERT recommends that Kazakhstan report separately, to the extent possible, emission projections related to fuel sold to ships and aircraft engaged in international transport in its next BR.
4	Reporting requirement specified in paragraph 37 Issue type: completeness Assessment: encouragement	The ERT noted that Kazakhstan did not present projections in a tabular format by sector and by gas for 2005, 2010, 2015 or 2020 in its BR3. During the review, the Party clarified that the information was provided in a tabular format in CTF table 6. The ERT encourages Kazakhstan to improve the completeness of its reporting by presenting projections on a gas-by-gas and by sector together with actual data for the period 1990–2000 or the latest year available in its next BR.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
5	Reporting requirement specified in paragraph 37 Issue type: completeness Assessment: encouragement	While the Party provided a description in its BR3 of the model and approaches used for developing projections, it did not describe the original purpose of the model and whether and how it was modified for climate change purposes; summarize the strengths and weaknesses of each model or approach used; or explain how the model or approach accounts for any overlap or synergies that may exist between different PaMs. No further information was provided during the review. The ERT encourages Kazakhstan, in addition to describing each model or approach, to explain the original purpose of the model and whether and how it was modified for climate change purposes; to summarize the strengths and weaknesses of each model or approach used; and to explain how the model or approach accounts for any overlap or synergies that may exist between different PaMs.
6	Reporting requirement specified in paragraph 44 Issue type: completeness Assessment: encouragement	The ERT noted that Kazakhstan did not provide references to more detailed information related to the models used for developing emission projections in its BR3. During the review, additional information about the models used for developing emission projections was provided. The ERT encourages Kazakhstan to provide references to more detailed information about the models used and the gases and sectors covered.
7	Reporting requirement specified in paragraph 45 Issue type: completeness Assessment: encouragement	The ERT noted that Kazakhstan did not report the main differences in the assumptions and methods employed and results of the projections between the BR3 and BR2. During the review, the Party clarified that there had been no changes since the BR2 in the methods employed, with the exception of the new model used for the forestry sector. No explanation of differences in assumptions between the BR3 and BR2 was provided. The ERT encourages Kazakhstan to provide in its next BR explanations of the main differences in the assumptions and methods employed and emission projection results between the current NC and those in earlier NCs.
8	Reporting requirement specified in paragraph 46 Issue type: completeness Assessment: encouragement	The ERT noted that Kazakhstan did not discuss the sensitivity of emission projections to underlying assumptions, either quantitatively or qualitatively, in its BR3. No further information was provided during the review. The ERT encourages Kazakhstan to discuss in its next BR the sensitivity of projections to underlying assumptions qualitatively and, where possible, quantitatively. This could be done by varying the assumptions regarding increases in GDP or oil prices and production levels.
9	Reporting requirement specified in paragraph 47 Issue type: completeness Assessment: encouragement	The ERT noted that Kazakhstan did not provide information in its BR3 on key underlying assumptions and values of variables such as GDP growth, population growth, tax levels and international fuel prices using table 2 of the UNFCCC reporting guidelines on NCs. During the review, the Party provided additional information on key underlying assumptions and values of variables. The ERT encourages Kazakhstan to provide information on key underlying assumptions and values of variables in its next BR in accordance with information provided during the review.

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, transparent and adhering to the UNFCCC reporting guidelines on NCs.

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

63. Kazakhstan is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3, 4 and 5, of the Convention. However, Kazakhstan provided information in the BR3 on support received and on its provision of support to developing country Parties. The ERT commends Kazakhstan for reporting this information and suggests that it continue to do so in future BRs.

64. In 2015, the Africa–Kazakhstan Partnership for the Sustainable Development Goals was launched to assist 45 African countries in implementing the Sustainable Development Goals. The budget for the programme amounted to USD 2 million. In 2016, Kazakhstan signed an agreement with the Caribbean Community to support member States in their climate change and sustainable development efforts. Under the agreement, Kazakhstan provided a grant of USD 770,000 to strengthen the capacity of the member States to engage in regional and international discussions on climate matters. Environmental and climate protection is one of the four basic principles of Kazakhstan's national policy for official development assistance. Since 2013, Kazakhstan has been working on the establishment of the Kazakhstan Agency for Development Aid and Technical Assistance.

III. Conclusions and recommendations

65. The ERT conducted a technical review of the information reported in the BR3 and CTF tables of Kazakhstan in accordance with the UNFCCC reporting guidelines on BRs. The ERT concludes that the reported information mostly adheres to the UNFCCC reporting guidelines on BRs and provides an overview of emissions and removals related to the Party's quantified economy-wide emission reduction target; assumptions, conditions and methodologies related to the attainment of the target; and progress made by Kazakhstan in achieving its target.

66. Kazakhstan's total GHG emissions excluding LULUCF covered by its quantified economy-wide emission reduction target were estimated to be 12.8 per cent below its 1990 level, whereas total GHG emissions including LULUCF were 8.6 per cent below its 1990 level, in 2016. Between 1990 and 2016, the emissions trajectory of Kazakhstan was characterized by a significant decrease in total emissions after the dissolution of the Soviet Union in 1991, with emissions reaching a trough in 1999 and then rapidly increasing owing to economic recovery and transformation and the discovery, large-scale production and export of oil and gas in the period 2000–2010. Since 2010, growth in emissions has slowed owing to a number of factors, including the world oil price collapse in 2014, the restructuring of Kazakhstan's economy and a transition to more fuel-efficient and less GHG-intensive technologies.

67. Under the Convention, Kazakhstan committed to achieving a quantified economy-wide emission reduction target of 15 per cent below the 1990 level by 2020. The target covers CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3, expressed using global warming potential 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. Kazakhstan 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, Kazakhstan has to reduce its emissions from 387,366.21 kt CO_2 eq (in the base year of 1990) to 329,261.23 kt CO_2 eq by 2020.

68. Kazakhstan's main policy framework relating to energy and climate change, Strategy Kazakhstan 2050, provides the development framework for the country's transition to a low-carbon green economy, which is further defined in the "concept for transition of Kazakhstan to a green economy" and its action plan for the period 2013–2020. Key legislation supporting Kazakhstan's climate change goals includes the Environmental Code adopted in 2007, which includes the regulation of GHG emissions and removals, a list of GHGs that are subject to State regulation, the regulatory principles and legislative framework for the implementation of various measures, and the market mechanism of GHG emissions and removals for industry (the ETS). The most significant mitigation impacts are due to the energy supply Strategic

Plan of the Ministry of Energy of the Republic of Kazakhstan for 2017–2021; the Law of the Republic of Kazakhstan incorporating the Rules for the Formation and Use of the Reserve Fund for the Use of Renewable Energy Sources; the 2014 Rules for Providing Targeted Assistance to Individual Consumers for the purchase of renewable energy facilities; and the 2012 Law on Energy Saving and Increasing Energy Efficiency.

69. For 2015, Kazakhstan reported in CTF table 4 total GHG emissions excluding LULUCF of 298,064.00 kt CO_2 eq, which is 20.7 per cent below the 1990 level (based on information in CTF table 4). Kazakhstan reported that it does not intend to use units from market-based mechanisms or the contribution of LULUCF to achieve its 2020 target.

70. The GHG emission projections provided by Kazakhstan in the BR3 correspond to the WOM, WEM and WAM scenarios. Under these scenarios, emissions are projected to be 7.6, 14.1 and 16.9 per cent below the 1990 level by 2020, respectively.

71. Kazakhstan's GHG emissions for 2015 were 20.7 per cent below the 1990 level, and after the initial GHG emission decline in the 1990s, GHG emission growth from 2000 onward was slower than GDP growth. However, as Kazakhstan's GHG emissions have continued to increase since 2000, it may face challenges in achieving its 2020 target. This is supported by Kazakhstan's emission projections for 2020, which suggest that Kazakhstan may expect to achieve its target under the Convention only under the WAM scenario.

72. Kazakhstan is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3, 4 and 5, of the Convention. However, Kazakhstan provided information on its provision of support to developing country Parties. In 2015, the Africa–Kazakhstan Partnership for the Sustainable Development Goals was launched to assist 45 African countries in implementing the Sustainable Development Goals. The budget for the programme amounted to USD 2 million. In 2016, Kazakhstan signed an agreement with the Caribbean Community to support member States in their climate change and sustainable development efforts. Under the agreement, Kazakhstan provided a grant of USD 770,000 to strengthen the capacity of the member States to engage in regional and international discussions on climate matters.

73. In the course of the review, the ERT formulated the following recommendations for Kazakhstan to improve its adherence to the UNFCCC reporting guidelines on BRs in its next BR:

(a) To improve the completeness of its reporting by:

(i) Presenting emission projections on a gas-by-gas basis for the following GHGs: CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 (treating PFCs and HFCs collectively in each case) (see issue 2 in table 10);

(ii) Reporting, to the extent possible, emission projections related to fuel sold to ships and aircraft engaged in international transport separately and not included in the total (see issue 3 in table 10);

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

(i) Ensuring consistency between the GHG emission data provided in the textual part of the BR and CTF table 1 (see issue 1 in table 3);

(ii) Providing information on IPPU sector PaMs in textual format to improve consistency with CTF table 3 (see issue 1 in table 5);

(iii) Providing quantitative estimates of the impacts of its individual PaMs, including a brief description of estimation methods, or clearly explaining why it may not be feasible to provide such information due to its national circumstances (see issue 3 in table 5).

Annex

Documents and information used during the review

A. Reference documents

2017 GHG inventory submission of Kazakhstan. Available at https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/submissions/national-inventory-submissions-2017.

2018 GHG inventory submission of Kazakhstan. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/national-inventory-submissions-2018.

BR3 of Kazakhstan. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-reports-annex-i-parties/third-biennial-reports-annex-i.

BR3 CTF tables of Kazakhstan. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-reports-annex-i-parties/third-biennial-reports-annex-i.

Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention. Available at https://unfccc.int/topics/mitigation/workstreams/pre-2020-ambition/compilation-of-economy-wide-emission-reduction-targets-to-be-implemented-by-parties-included-in-annex-i-to-the-convention.

"Guidelines for review under Article 8 of the Kyoto Protocol". Annex to decision 22/CMP.1. Available at http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf.

"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". Annex to decision 24/CP.19. Available at http://unfccc.int/resource/docs/2013/cop19/eng/10a03.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/1999/7. Available at http://unfccc.int/resource/docs/cop5/07.pdf.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Annex to decision 15/CMP.1. Available at http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Annex III to decision 3/CMP.11. Available at http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf.

"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.

NC7 of Kazakhstan. Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-reports-annex-i-parties/seventh-national-communications-annex-i.

Report on the individual review of the annual submission of Kazakhstan submitted in 2016. FCCC/ARR/2016/KAZ. Available at https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories/greenhouse-gas-inventory-review-reports-2016.

Report on the review of the report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol of Kazakhstan. FCCC/IRR/2016/KAZ. Available at https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-kyoto-protocol/second-commitment-period/initial-reports.

Report of the technical review of the second biennial report of Kazakhstan. FCCC/TRR.2/KAZ. Available at https://unfccc.int/node/66151.

Report on the technical review of the sixth national communication of Kazakhstan. FCCC/IDR.6/KAZ. Available at https://unfccc.int/node/66151.

Revisions to the guidelines for review under Article 8 of the Kyoto Protocol. Annex I to decision 4/CMP.11. Available at http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf.

"UNFCCC biennial reporting guidelines for developed country Parties". FCCC/SBSTA/2014/INF.6. 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 Ms. Gulmira Sergazina (Ministry of Energy of Kazakhstan), including additional material.