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Technical analysis of the third biennial update report of Argentina submitted on 27 November 2019

Summary report by the team of technical experts

Summary

According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention, consistently with their capabilities and the level of support provided for reporting, were to submit their first biennial update report by December 2014. Further, paragraph 41(f) of that decision states that Parties not included in Annex I to the Convention shall submit a biennial update report every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report. As mandated, the least developed country Parties and small island developing States may submit biennial update reports at their discretion. This summary report presents the results of the technical analysis of the third biennial update report of Argentina, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

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Abbreviations and acronyms

AD	activity data
AFOLU	agriculture, forestry and other land use
BUR	biennial update report
CDM	clean development mechanism
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
EF	emission factor
GHG	greenhouse gas
HFC	hydrofluorocarbon
ICA	international consultation and analysis
IE	included elsewhere
IPCC	Intergovernmental Panel on Climate Change
IPCC good practice guidance	<i>Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories</i>
IPCC good practice guidance for LULUCF	<i>Good Practice Guidance for Land Use, Land-Use Change and Forestry</i>
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NC	national communication
NDC	nationally determined contribution
NE	not estimated
NIR	national inventory report
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
N ₂ O	nitrous oxide
ODS	ozone-depleting substance(s)
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70)
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF ₆	sulfur hexafluoride
TTE	team of technical experts
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>

I. Introduction and process overview

A. Introduction

1. The process of ICA consists of two steps: a technical analysis of the submitted BUR and a facilitative sharing of views under the Subsidiary Body for Implementation, resulting in a summary report and a record, respectively.
2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. In addition, paragraph 41(f) of that decision states that non-Annex I Parties shall submit a BUR every two years, either as a summary of parts of their NC in the year in which the NC is submitted or as a stand-alone update report. The least developed countries and small island developing States may submit BURs at their discretion.
3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to commence for non-Annex I Parties within six months of the submission of the Parties' first BUR. The frequency of developing country Parties' participation in subsequent rounds of ICA, depending on their respective capabilities and national circumstances, and the special flexibility for small island developing States and the least developed country Parties, will be determined by the frequency of the submission of BURs.
4. Decision 14/CP.19, paragraph 7, outlines that developing country Parties seeking to obtain and receive payments for results-based actions can submit relevant information and data through the BUR in the form of a technical annex as per decision 2/CP.17, annex III, paragraph 19. Decision 14/CP.19, paragraph 8, outlines that the submission of the technical annex is voluntary and in the context of results-based payments. As mandated by decision 14/CP.19, paragraphs 10–14, the technical annex submitted by Argentina has been subject to technical analysis by two LULUCF experts as part of the technical analysis of the Party's BUR.
5. Argentina submitted its second BUR on 22 August 2017, which was analysed by a TTE in the ninth round of technical analysis of BURs from non-Annex I Parties, conducted from 5 to 9 March 2018. After the publication of its summary report, Argentina participated in the sixth workshop for the facilitative sharing of views, convened in Katowice, Poland, on 3 December 2018.
6. This summary report presents the results of the technical analysis of the third BUR of Argentina, undertaken by a TTE in accordance with the provisions on the composition, modalities and procedures of the TTE under ICA contained in the annex to decision 20/CP.19. The technical report capturing the results of the technical analysis of the technical annex voluntarily submitted by Argentina in the context of results-based payments in accordance with paragraphs 7–8 of decision 14/CP.19, referred to in paragraph 4 above, is contained in document FCCC/SBI/ICA/2020/TATR.1/ARG.

B. Process overview

7. In accordance with the mandate referred to in paragraph 2 above, Argentina submitted its third BUR on 27 November 2019 as a stand-alone update report. The submission was made within two years of the submission of the second BUR.
8. A desk analysis of Argentina's third BUR was conducted from 9 to 13 March 2020¹ and was undertaken by the following TTE, drawn from the UNFCCC roster of experts on the basis of the criteria defined in decision 20/CP.19, annex, paragraphs 2–6: Kwame Agyei (Ghana), Laura María Aranguren Niño (Colombia), Kenel Delusca (member of the Consultative Group of Experts from Haiti), Jenny Mager Santos (Chile), Jorge Eduardo Morfín Ríos (Mexico), Inês Sousa Mourão (Cabo Verde), Elisabeth Pagnac-Farbiaz (France), Lilian Portillo (former member of the Consultative Group of Experts from Paraguay), Atsushi

¹ Owing to the circumstances related to the coronavirus disease 2019, the technical analysis of the BUR submitted by Argentina had to be conducted remotely.

Sato (Japan), Marcelo Theoto Rocha (Brazil) and Silke (Sina) Wartmann (Germany). Mr. Theoto Rocha and Ms. Wartmann were the co-leads. The technical analysis was coordinated by Karen Ortega and Roman Payo (secretariat).

9. During the technical analysis, in addition to the written exchange, through the secretariat, to provide technical clarifications on the information reported in the BUR, the TTE and Argentina engaged in consultation² on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Argentina's third BUR, the TTE prepared and shared a draft summary report with Argentina on 8 June 2020 for its review and comment. Argentina, in turn, provided its feedback on the draft summary report on 2 July 2020.

10. The TTE responded to and incorporated Argentina's comments referred to in paragraph 9 above and finalized the summary report in consultation with the Party on 13 August 2020.

II. Technical analysis of the biennial update report

A. Scope of the technical analysis

11. The scope of the technical analysis is outlined in decision 20/CP.19, annex, paragraph 15, according to which the technical analysis aims to, without engaging in a discussion on the appropriateness of the actions, increase the transparency of mitigation actions and their effects and shall entail the following:

(a) The identification of the extent to which the elements of information listed in paragraph 3(a) of the ICA modalities and guidelines (decision 2/CP.17, annex IV) have been included in the BUR of the Party concerned (see chap. II.B below);

(b) A technical analysis of the information reported in the BUR, specified in the UNFCCC reporting guidelines on BURs (decision 2/CP.17, annex III), and any additional technical information provided by the Party concerned (see chap. II.C below);

(c) The identification, in consultation with the Party concerned, of capacity-building needs related to the facilitation of reporting in accordance with the UNFCCC reporting guidelines on BURs and to participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention (see chap. II.D below).

12. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Argentina's BUR outlined in paragraph 11 above.

B. Extent of the information reported

13. The elements of information referred to in paragraph 11(a) above include the national GHG inventory report; information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and information on progress in their implementation; information on domestic MRV; and information on support needed and received.

14. According to decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE is to identify the extent to which the elements of information listed in paragraph 11 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is mostly consistent with the UNFCCC reporting guidelines on BURs. Specific details on the extent of the information reported for each of the required elements are provided in annex I.

15. The TTE noted improvements in the reporting in the Party's third BUR compared with that in the previous BUR analysed. Information on the GHG inventory, mitigation

² The consultation was conducted via Skype.

actions and their effects, and needs and support reported in the Party's third BUR demonstrates that it has taken into consideration the areas for enhancing transparency noted by the previous TTE in the summary report on the technical analysis of the Party's second BUR.

16. Regarding the areas for enhancing understanding of the extent of the information reported in the BUR noted by the previous TTE in the summary report on the technical analysis of the Party's previous BUR, Argentina identified the areas that were not addressed in its current BUR. Regarding the areas for enhanced transparency noted by the TTE in the summary report on the technical analysis of the second BUR that were not addressed in the third BUR, Argentina identified these as areas for enhancing national capacity.

C. Technical analysis of the information reported

17. The technical analysis referred to in paragraph 11(b) above aims to increase the transparency of mitigation actions and their effects, without engaging in a discussion on the appropriateness of those actions. Accordingly, the focus of the technical analysis was on the transparency of the information reported in the BUR.

18. For information reported on national GHG inventories, the technical analysis also focused on the consistency of the methods used for preparing those inventories with the appropriate methods developed by the IPCC and referred to in the UNFCCC reporting guidelines on BURs. Argentina submitted an NIR as part of its BUR.

19. The results of the technical analysis are presented in the remainder of this chapter.

1. Information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis

20. As per the scope defined in paragraph 2 of the UNFCCC reporting guidelines on BURs, the BUR should provide an update to the information contained in the most recently submitted NCs, including information on national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis. In their NCs, non-Annex I Parties report on their national circumstances following the reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5, and they could report similar information in their BUR, which is an update of their most recently submitted NC.

21. In its third BUR, Argentina provided an update on its national circumstances, including a description of features of governance, climate, demography, economy and geography, as well as a description of national and regional development priorities, including information on territory planning, the main drivers affecting GHG emissions, climate change mitigation and adaptation priorities, and features of geography, climate and economy that might affect the Party's ability to deal with mitigating and adapting to climate change. As reported by the Party, Argentina had around 43.6 million inhabitants in 2016, 91 per cent of whom lived in urban areas. The total land area of Argentina reported in the third BUR³ is 3,761,274 km². The climate in its large territory ranges from subtropical to mid-latitude and has thermal conditions varying from warm in the north to cold in the extreme south and in the high Andes.

22. The main factors influencing the Party's climate system are the Andes Mountains, the country's geographic position and the bordering ocean. The main economic sectors are agriculture, industry, commerce and real estate. Most exports are related to the agriculture sector (such as in the form of oilseeds and cereals), the automotive industry and the cattle industry. Argentina's economic activities are distributed throughout the country, with these areas connected to centres of high demand, such as large cities, industrial areas, mining sites and major ports, by an extensive transport network (road, rail, and electric and hydrocarbon transport). Argentina is rich in energy resources, such as hydrocarbons, hydropower, renewable energy such as solar, wind and biomass, and proven reserves of uranium. In 2016, the electricity generation capacity mainly stemmed from thermal (64 per cent) and

³ Available at <https://unfccc.int/documents/201965> (p.50).

hydroelectric energy (29 per cent), followed to a lesser extent by nuclear (5 per cent) and renewable energy (2 per cent).

23. Argentina provided a summary of information on the main drivers affecting its GHG emissions and national circumstances in tabular and graphic format. According to this summary, its GHG emissions are mainly linked to its extensive oil and gas reserves, which meet the demand for energy predominantly driven by population growth, developments in the economy and the country's large territory, affecting the transport sector and fuel consumption. The Party's territory includes 53.6 million ha of native forest, distributed mainly in seven forest regions that have different climates and soil types: Selva Misionera (Selva Paranaense), Selva Tucumano Boliviana (Yungas), Parque Chaqueño, Bosque Andino Patagonico, Espinal, Monte and Delta and Islas del Paraná. The different human activities that take place in these regions can result in pressures on land uses.

24. The main drivers of deforestation are related to agriculture and animal husbandry, urbanization, forest fires, infrastructure development and mining, with the expansion of the agricultural frontier being the main driver of deforestation and the next biggest driver being emissions in the AFOLU sector (from enteric fermentation in livestock). Hence, mitigation actions involving renewable energy, energy efficiency measures linked to electricity and natural gas consumption in the residential and industrial sectors, transport modal shift and changes to cattle management systems have considerable impacts on national GHG emission profile.

25. Argentina transparently reported in its third BUR an update on its institutional arrangements relevant to the preparation of its NCs and other climate change reports, such as BURs. The description covers key aspects of the institutional arrangements, including the legal foundations for its international and national climate change commitments, such as its ratification of the Convention (law 24.285), Kyoto Protocol (law 25.438) and Paris Agreement (law 27.270), its adoption of the 2030 Agenda for Sustainable Development, and its NDC. The Party's NDC target is to not exceed net emissions of 483 Mt CO₂ eq in 2030. Moreover, Argentina recently approved law 27.520, which sets minimum national standards for adaptation and mitigation action, institutionalizes the National Climate Change Cabinet and establishes a national system of information on climate change.

26. The National Climate Change Directorate, within the Ministry of Environment and Sustainable Development, is the national coordinating entity responsible for implementing the Convention. The National Climate Change Cabinet, which comprises members of ministries and governmental institutions, is in charge of planning policies for adaptation and mitigation at the national and local level, in close coordination with the provinces. The TTE noted improvements to the information reported in the BUR, including on the new structure of government organizations in relation to climate change management and on the development of mitigation and adaptation plans.

27. Information on institutional arrangements relevant to the preparation of NCs on a continuous basis, specifically mechanisms for information and data exchange, QA/QC procedures, and provisions for public consultation and other forms of stakeholder engagement, was not clearly reported in the BUR. However, during the technical analysis, the Party clarified that it had recently approved law 27.520 as referred to in paragraph 25 above, and that it will improve formalization of the institutional arrangements needed for relevant aspects in future BURs. The National Climate Change Cabinet and national system of information on climate change will enable climate change reports such as BURs to be prepared on a continuous basis. The TTE noted that the Party reporting the processes of these instruments for the preparation of NCs and BURs on a continuous basis could facilitate a better understanding of the information reported.

28. The TTE noted that the transparency of the information reported on institutional arrangements could be further enhanced by addressing the area noted in paragraph 27 above, which could facilitate a better understanding of the information reported on institutional arrangements.

29. The TTE noted the improvements referred to in paragraph 26 above and commends the Party for enhancing the transparency of its reporting by presenting detailed information

on development priorities, mitigation priorities and the recently established National Climate Change Cabinet.

2. National greenhouse gas emissions by sources and removals by sinks

30. As indicated in table I.1, Argentina reported information on its GHG inventory in its BUR mostly in accordance with paragraphs 3–10 of the UNFCCC reporting guidelines on BURs and paragraphs 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8.

31. Argentina submitted its third BUR in 2019 and the GHG inventory reported is for 2016 as the latest year. The GHG inventory is consistent with the requirements for the reporting time frame. In its third BUR, Argentina reported a consistent time series back to the years reported in the previous NC (i.e. 1990–2016). The TTE commends the effort made by Argentina to provide a complete time series.

32. Argentina submitted an NIR in conjunction with its third BUR the week before the technical analysis. The NIR was made publicly available on the UNFCCC website.⁴ During the technical analysis, the Party clarified that the delay in submitting the NIR was due mainly to the fact that the national team preparing both documents is very small and is also involved in preparing other reports (e.g. REDD+ reports and NDC) and conducting other activities. Further, during the technical analysis, the Party provided a spreadsheet with sectoral tables. The TTE noted that the Party submitting the NIR and the spreadsheet with sectoral tables enhanced the completeness of the information contained in the BUR.

33. GHG emissions and removals for the BUR covering the 1990–2016 inventories were estimated using tier 1 and 2 methodologies from the 2006 IPCC Guidelines for all sectors. Estimates for some gases and categories were not calculated and were reported as “NO” or “NE”. The Party clarified why some gases or categories were reported as “NO” or “NE”. Information on AD and EFs used and their sources was clearly reported in the NIR, including the values and sources of information.

34. Information on the Party’s total GHG emissions by gas for the full time series is outlined in table 1 in Gg CO₂ eq. It shows an increase in emissions including land of 34.8 per cent since 1990, with an increasing emission trend in all sectors except AFOLU.

Table 1

Greenhouse gas emissions by gas of Argentina for 1990–2016

<i>Gas</i>	<i>GHG emissions (Gg CO₂ eq) including land^a</i>	<i>% change 1990–2016</i>	<i>GHG emissions (Gg CO₂ eq) excluding land^a</i>	<i>% change 1990–2016</i>
CO ₂	231 906.33	54.2	200 837.89	101.6
CH ₄	79 118.10	3.3	79 118.10 ^b	3.3
N ₂ O	47 847.22	10.6	47 847.22 ^b	10.6
HFCs	5 552.06	NA ^c	5 552.06	NA
PFCs	11.85	–76.4	11.85	–76.4
SF ₆	NE	NA	NE	NA
Other	0.03	NA ^c	0.03	NA
Total	364 435.56	34.8	333 367.13	51.9

^a 2006 IPCC Guidelines AFOLU category 3.B.

^b Non-CO₂ emissions for category 3.B were included under category 3.C.

^c Emissions for 1990 were not estimated.

35. Information on other emissions was also reported, including 879.67 Gg nitrogen oxides, 4,488.58 Gg carbon monoxide, 637.03 Gg non-methane volatile organic compounds and 100.83 Gg sulfur dioxide.

36. Argentina applied notation keys in tables where numerical data were not provided. The use of notation keys was consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. Argentina used “NO”, “NE”, “NA” and “IE”. “NO” was used

⁴ <http://unfccc.int/BURs>.

for categories 1.C CO₂ transport and storage; 2.B.3 adipic acid production; 2.B.4 caprolactam, glyoxal and glyoxylic acid production; 2.B.6 titanium dioxide production; and 2.E electronics industry. “NE” was used for categories 1.B.3 other emissions from energy production; 2.A.3 glass production; 2.A.5 other (mineral industry); 2.B.10 other (chemical industry); 2.C.4 magnesium production; 2.C.5 lead production; 2.C.7 other (metal industry); 2.D.3 solvent use; 2.D.4 other (non-energy products from fuels and solvent use); 2.G other product manufacture and use; 2.H.1 pulp and paper industry; 2.H.2 food and beverages industry; 2.H.3 other; 3.B.4 wetlands; 3.B.5 settlements; 3.B.6 other land; 3.C.2 liming; 3.C.8 other (aggregate sources and non-CO₂ emissions sources on land); 3.D.1 harvested wood products; and 5.A indirect N₂O emissions from the atmospheric deposition of nitrogen in nitrogen oxides and ammonia.

37. Argentina reported in the BUR and NIR comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF and the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines.

38. Allocation of non-CO₂ emissions from fires on forest land was not clearly explained in the BUR, as non-CO₂ emissions from biomass burning on forest land were reported under category 3.C.1.a in table 37 of the BUR, whereas non-CO₂ emissions from biomass fires were reported under category 3.B.1.a in table 40 of the BUR. During the technical analysis, the Party clarified that non-CO₂ emissions from fires under category 3.B.1.a forest land remaining forest land were reported under category 3.C.1.a biomass burning on forest land (see table 34 of the NIR), including non-CO₂ emissions from fires on native and planted forest land. The TTE noted that the information presented in table 40 of the BUR could be revised to make clear the correct allocation of non-CO₂ emissions from biomass burning on forest land remaining forest land.

39. The shares of emissions that different sectors contributed to the total GHG emissions in 2016, as calculated by the TTE using information from the BUR and NIR, are reflected in table 2.

Table 2

Shares of greenhouse gas emissions by sector of Argentina for 1990–2016

<i>Sector</i>	<i>GHG emissions (Gg CO₂ eq)</i>	<i>% share</i>	<i>Change (%) 1990–2016</i>
Energy	193 418.89	53.0	102.6
IPPU	20 051.22	5.5	139.7
AFOLU	135 526.66	37.2	–14.7
Livestock (category 3.A)	55 970.75	15.4	–6.0
Land (category 3.B)	31 068.44	8.5	–38.8
Aggregate sources and non-CO ₂ emissions sources on land (category 3.C)	48 487.48	13.3	0.0
Waste	15 438.78	4.2	102.0

40. Argentina reported information on its use of global warming potential values consistent with those provided in the IPCC Second Assessment Report based on the effects over a 100-year time-horizon of GHGs.

41. For the energy sector, information was clearly reported on tier levels, AD and their sources, EFs, key categories, notation keys used and other information specific to the sector. The annual growth rate of the sectoral emissions is 2.6 per cent, with road transport and electricity generation being the most significant drivers for emissions and key categories in this sector. Emissions were calculated using a tier 1 methodology for most categories. During the technical analysis, Argentina clarified that it compared the local EF for natural gas, obtained under a confidentiality agreement, against the default EF provided by the IPCC and verified that the local EF was within the uncertainty range of the default EF. This check is useful for the 47 per cent of emissions from category 1.A. Values from the national energy balance were used, including the parameters used for converting different units of energy consumption.

42. For the IPPU sector, information was clearly reported on tier levels, AD and their sources, EFs, key categories, notation keys used and other information specific to the sector. The sector has an annual growth rate of emissions of 3.3 per cent. The inclusion of a new category (product uses as substitutes for ODS) from 2012 onwards significantly increased the emission estimates for the sector. Most emissions were calculated using a tier 1 methodology, except for emissions from cement production and aluminium production, which were estimated using tier 2 and 3 methodology, respectively.

43. For the AFOLU sector (i.e. categories 3.A, 3.B and 3.C from the 2006 IPCC Guidelines), information was clearly reported on tier levels, AD and their sources, EFs, key categories, notation keys used and other information specific to the sector. Unlike the other sectors, the AFOLU sector presented a variable growth rate of emissions (owing to deforestation rates and changes in livestock population), resulting in an average decreasing emission trend of 0.6 per cent between 1990 and 2016. For categories 3.A and 3.C, under the AFOLU sector, enteric fermentation from non-dairy cattle is identified as the second largest source of emissions in the country, and category 3.A was divided into 3.A.1.a.i dairy cattle, 3.A.1.a.ii beef cattle and 3.A.1.ab-j other livestock. Additionally, subcategories 3.C.4 and 3.C.5 were also disaggregated into the same type of animal production as category 3.A, which is crop residues, synthetic fertilizers and nitrogen mineralization associated with loss of soil organic matter.

44. For land (category 3.B), Argentina reported annual GHG emissions and removals for 1990–2016. Overall, the net emissions for this category fluctuated between a minimum of 31,068.44 Gg CO₂ eq in 2016 and a maximum of 128,362.22 Gg CO₂ eq in 2004. Emissions were calculated using tier 1 and 2 methodology. The key categories identified are 3.B.3.b land converted to grassland, 3.B.7 soil organic matter change, 3.B.2.b land converted to cropland and 3.B.1.a forest land remaining forest land.

45. For the waste sector, information was clearly reported on tier levels, AD and their sources, EFs, key categories, notation keys used and other information specific to the sector. Emissions from the sector grew by 2.6 per cent per year, mainly as a result of population growth. However, emissions decreased in 2007–2011 owing to the implementation of CDM projects concerned with burning CH₄ at landfill sites. Most emissions were estimated using tier 1 methodology, except for emissions from solid waste disposal, which was calculated using tier 2 methodology.

46. The BUR and the NIR provide an update to all GHG inventories reported in previous BURs. The information reported provides an update of the second BUR, which covered anthropogenic emissions and removals for 1990–2014. The update was carried out for 1990–2016 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 27-year time series. The previous national inventory was also prepared using the 2006 IPCC Guidelines. The Party identified improvements in the process since its previous BUR, such as enhancing the consistency of land representation (now covering 65 per cent of the national total area: 176.53 million ha); developing and implementing an archiving system; validating data with relevant stakeholders; and establishing a mechanism for accessing detailed information on GHG emission calculations.

47. Argentina described in its BUR and NIR the institutional framework for the preparation of its GHG inventory. The Party reported that the National Climate Change Directorate of the Ministry of the Environment is the governmental body responsible for its climate change policy and GHG inventory, which is prepared through the national GHG inventory system SNI-GEI-AR, an information support system included within the national system of information on climate change defined by law 27.520. This national inventory system functions on the basis of inter-institutional interaction, defined roles and responsibilities, and standardized processes for data exchange and validation and for the compilation of complete and transparent GHG inventories.

48. Argentina clearly reported that a key category analysis was performed for the level of and trend in its emissions. For 2016, 37 categories were identified as key categories by level assessment, including categories 1.A.1 energy industries; 1.A.3.b road transportation; 1.A.4 other sectors; 3.A.1.a.ii other cattle and 3.B.3.b land converted to grassland.

49. The BUR and NIR provide information on QA/QC measures for all sectors. For QC, Argentina followed the procedures recommended in the 2006 IPCC Guidelines. For QA, Argentina drew on the results of the previous technical analysis: the peer review of the GHG inventory carried out by the Latin American Greenhouse Gas Inventory Network. The TTE commends the Party for reporting in detail the information on QA/QC measures for all sectors.

50. Argentina clearly reported information on CO₂ fuel combustion using both the sectoral and the reference approach. The information reported indicates that the combustion emissions under the sectoral and reference approach are estimated at 180,959 and 181,963 Gg CO₂, respectively. Therefore, the difference in the estimates between the two approaches was reported as less than 1 per cent, which is due to the inclusion of the losses from venting in the reference approach and the fact that the consumption of natural gas as a raw material in the IPPU sector is double counted.

51. Information was clearly reported on international aviation and marine bunker fuels.

52. Argentina reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based mostly (70 per cent) on the tier 1 approach (the remaining 30 per cent was based on the tier 2 approach) and covers all source categories and all direct GHGs. The results obtained, as reported in the BUR, reveal that the level uncertainty for emissions is 7 per cent and the trend uncertainty is 24 per cent.

53. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 32 and 38 above, particularly by including relevant references to the NIR in the BUR and to submit the NIR with the BUR to provide enough time to have it properly analysed during the ICA process, which could facilitate a better understanding of the information reported on GHG inventories.

54. In paragraphs 30–32, 34, 35, 38, 40 and 43 of the summary report on the technical analysis of Argentina's second BUR, the previous TTE noted areas where the transparency of the reporting on GHG inventories could be further enhanced, such as a description of the institutional arrangement, consistent time series, data on biological treatment of solid waste and a detailed explanation of notation keys (i.e. "NE"). The current TTE noted the improvements referred to in paragraphs 32, 36, 45 and 47 above and commends the Party for enhancing the transparency of its reporting.

3. Mitigation actions and their effects, including associated methodologies and assumptions

55. As indicated in table I.2, Argentina reported in its BUR, mostly in accordance with paragraphs 11–13 of the UNFCCC reporting guidelines on BURs, information on mitigation actions and their effects, to the extent possible.

56. In its third BUR, Argentina improved its reporting compared with that in its second BUR, providing a clear and comprehensive overview of its mitigation actions and their effects. It reported information on its national context and framed its national mitigation planning and actions in the context of its NDC, which sets a goal of not exceeding net emissions of 483 Mt CO₂ eq in 2030. The Party reported that climate change has been mainstreamed and integrated into its development plans by means of the National Climate Change Cabinet, which provides political guidance for preparing sectoral action plans as a dynamic planning process for the energy, agriculture and livestock, forestry, transport, industry and infrastructure (including waste) sectors. The mitigation actions included in the BUR are in the energy (transport and energy distribution and generation) and LULUCF (forestry) sectors. The TTE noted that the implemented mitigation actions contributed to estimated emission reductions of 312,325 CO₂ eq from 2015 to 2018, with the LULUCF sector being the main source of emission reductions.

57. The Party reported a summary of its mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 1. Detailed information was provided on 12 mitigation actions, including description, sector and category affected by the measure, main GHGs involved, purpose and objectives. The main focus was on the energy sector, where eight actions were reported (see para. 59 below). For some of the mitigation actions, the Party

reported annual results for 2015–2018 in terms of progress or emission reductions, but this information was not presented for all mitigation actions.

58. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Argentina clearly reported the names of those 12 mitigation actions as well as on coverage (sector and gases), and progress indicators in tables 56–67 of the BUR. Information on quantitative goals was only provided for some mitigation actions in the BUR. During the technical analysis, Argentina explained that this was due to a lack of officially validated data. Since the mitigation actions are currently being implemented, they were reported even if there were no proper data available for developing quantitative goals, which were reported to the extent possible.

59. The eight mitigation actions reported by Argentina in the energy sector are being implemented, and focused on (1) increasing the share of renewable sources in the national electricity grid (up to 20 per cent of the total energy consumption) by installing wind and solar power plants and promoting small-scale hydroelectric power generation; (2) promoting electricity generation from renewable sources among residential, commercial and industrial users; (3) promoting electricity generation from large-scale hydropower plants (greater than 50 MW) connected to the national electricity grid; (4) promoting electricity generation by installing and rehabilitating nuclear power plants; (5) promoting electricity generation from renewable sources in isolated housing and rural facilities that do not have access to the electricity distribution network; (6) installing energy-efficient luminaires; (7) replacing conventional lamps with lighting using light-emitting diodes in the residential sector; and (8) creating lanes exclusively for use by urban passenger buses.

60. The Party reported mostly comprehensive information on all of these mitigation actions, including mitigation action related to transport such as implementation of the Metrobus bus rapid transit system that includes exclusive corridors for urban passenger buses. One of the main actions reported by Argentina is an increase in the share of renewable energy in the energy mix in 2018 that resulted in 3.4 million MWh electricity generated from renewables that year and led to an estimated emission reduction in 2018 of 923 Gg CO₂ eq.

61. Information on three mitigation actions in the LULUCF sector was reported in the BUR, focused on increasing the forest areas of conifers, eucalyptus trees, *Salicaceae* and other species by launching new forest projects and expanding existing plantations; preventing the deforestation of native forests; and promoting the sustainable management, conservation, restoration and recovery of native forests, and preventing forest fires. The Party provided results for only two of the three mitigation actions reported, with avoiding deforestation of native forests achieving the highest emission reduction for 2014–2017 (222,499 Gg CO₂ eq), and results that are consistent with those reported in the REDD+ technical annex. Argentina stated in its BUR that the information on results for 2017 is provisional.

62. Information on other mitigation actions, which included installation of solar equipment for heating, increasing efficiency of appliances, heaters and thermotanks, and a smart transportation programme, was reported in narrative form and not included in tabular format, since those actions reported less progress compared with the 12 main actions presented in tabular format. As explained by the Party, the information was not fully reported due to the lack of officially validated data.

63. Information on methodologies, assumptions, objectives, steps taken or envisaged and progress of implementation was reported for most of the mitigation actions in the energy, transport and LULUCF sectors, but information on methodologies was not fully reported in tables 57, 61, 63, 64 and 67 of the BUR for some mitigation actions. During the technical analysis, the Party clarified that not all of the information available was well grounded, so it decided not to report it. The TTE noted improvements in the information reported on methodologies and assumptions for the mitigation actions in the energy and LULUCF sectors. While this improvement was observed, the TTE noted that the Party could further improve the information reported on methodologies. For subsequent BURs, the Party stated that it will take steps to enhance its information compilation and validation process.

64. Information on results achieved was not clearly reported in tables 57, 61, 63, 64 and 67 of the BUR. During the technical analysis, the Party clarified that it decided not to present data for mitigation actions for which there was no reliable or consistent information for the

reporting year. It explained that it is in the process of developing a national methodology, to be validated by the National Climate Change Cabinet, and that it plans to consolidate the MRV system for generating and collecting data for the GHG inventory and on mitigation measures in a consistent manner.

65. Argentina provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. It documented 46 CDM projects approved by its designated national authority and 18 CDM projects under the UNFCCC CDM process. The statistics include information on the total projects, sectors covered and quantity of certified emission reductions issued for Argentina. Argentina reported six projects submitted for Verified Carbon Standard certification, five of which received the certification. CDM projects have been predominantly implemented in the area of renewable energy projects (42 per cent), followed by landfill (23 per cent), wastewater treatment (13 per cent), energy efficiency (12 per cent), industry (6 per cent), transport (2 per cent) and forestry (2 per cent).

66. Argentina reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Argentina has in place a domestic MRV system for mitigation actions. The national MRV system was launched in 2017, featuring 300 indicators for tracking the progress of 40 measures. In 2018, 21 indicators were published in connection with the National Action Plan on Energy and Climate Change. The indicators are characterized by the stage of development of the measure. The results obtained are made publicly available on the website of the National GHG Inventory and Monitoring of Mitigation Measures System.⁵ The National Forest Monitoring System was established in 2007 by law 26.331 to collect data on the country's native forest resources, with reports available for different periods in 1998–2018.

67. The TTE noted that the transparency of the information reported on mitigation actions could be enhanced by addressing the areas noted in paragraphs 57, 58, 62, 63 and 64 above, which could facilitate a better understanding of the information reported on mitigation actions.

68. In paragraphs 47–51 of the summary report on the technical analysis of Argentina's second BUR, the previous TTE noted areas where the transparency of the reporting on mitigation actions and their effects could be enhanced, such as expected emission reductions, methodologies and assumptions and quantification of the potential results of sectoral mitigation measures. The current TTE noted some improvements referred to in paragraph 61 above and commends the Party for enhancing the transparency of its reporting.

4. Constraints and gaps, and related technology, financial, technical and capacity-building needs, including a description of support needed and received

69. As indicated in table I.3, Argentina reported in its BUR, mostly in accordance with paragraphs 14–16 of the UNFCCC reporting guidelines on BURs, information on finance, technology and capacity-building needs and support received.

70. Argentina clearly reported information on constraints and gaps, and related financial, technical and capacity-building needs in accordance with decision 2/CP.17, annex III, paragraph 14. In its BUR, Argentina identified constraints related to GHG inventories, mitigation actions, sectoral plans and national circumstances. Lack of technical capacity, staff and financial resources to maintain a stable team, limited access to regular information, lack of projection models adapted to Argentina's national circumstances, lack of information systems consistent with reporting requirements under the Convention, non-homogeneous data within sectors and low articulation between private and public institutions, among others, are the main constraints and gaps reported in the BUR. Argentina reported extensive information on its financial, technical and capacity-building needs, divided into cross-cutting needs, mitigation and adaptation needs and needs related to GHG inventories.

71. Primarily, the capacity-building needs reported in the BUR are related to developing institutional arrangements with national and local entities for accessing AD, training permanent staff in planning and preparing national climate change reports (e.g. BURs, NCs) and engaging the private sector. Furthermore, capacity-building, for constructing vulnerability and climate risk maps, and support, for research projects on good practices for

⁵ <https://inventariogei.ambiente.gob.ar/resultados>.

preparing and developing emission projection models for the transport, AFOLU and waste sectors, are needed. Moreover, the Party has technical needs for developing EFs using country-specific data (tier 2) for key categories; establishing a consistent methodology for data collection for GHG inventories and on mitigation actions; improving estimation of AD and GHG emission uncertainty in the IPPU sector; establishing a land-use information system; generating regular information for the AFOLU sector; expanding early warning systems; and implementing flood, drought and heatwave prevention projects.

72. The Party also reported financial needs for maintaining technical staff for the preparation of climate change reports; establishing a climate finance monitoring system; financing the trust fund for the environmental protection of native forests under law 26.331; financing the implementation of energy-efficient and renewable technologies; using financial instruments for risk transfer in the agriculture sector; and implementing ecosystem-based adaptation projects. During the technical analysis, Argentina explained that it faced constraints in providing quantitative information on financial needs, such as lack of data for estimates, lack of common assumptions and criteria validated by the relevant enforcement agencies, lack of country-specific methodologies for quantifying the financial resources needed, lack of relevant institutional arrangements, and economic fluctuations in the country.

73. Argentina reported information on international support received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR, Argentina reported that it received around USD 700 million in climate finance from 2017 to 2018 from multilateral sources. Of the financial support received, 92.4 per cent was allocated to mitigation, 7.5 per cent to adaptation and 0.1 per cent to climate transparency. In the BUR (table 72), Argentina reported that it received around USD 40 million from the Global Environment Facility, which included allocation for preparing its third BUR (USD 352,000). The information reported indicates that Argentina received resources for designing, improving and implementing mitigation and adaptation action, mainly from developed countries, multilateral institutions and the Green Climate Fund.

74. Information on support received was reported, but it was not categorized into financial resources, technology transfer, capacity-building or technical support. During the technical analysis, the Party clarified that it had started to develop country-specific criteria for identifying support received from different donors and was also trialling an initial approach to identifying and classifying the support received according to the categories of mitigation, adaptation and transparency and the sectoral action plans developed. However, the Party has not been able to properly systematize these processes yet.

75. Argentina reported information on technology needs with regard to the development and transfer of technology in accordance with decision 2/CP.17, annex III, paragraph 16, but did not report that the technology needs assessment was nationally determined. During the technical analysis, the Party clarified that it is currently developing mitigation and adaptation action plans identifying initial technology needs, to be validated by the National Climate Change Cabinet.

76. Information on technology support received was not clearly reported in table 70 of the BUR. During the technical analysis, the Party clarified that it does not have sufficient data to report on technology support received and that it has not adopted country-specific criteria for classifying the amount of support received relating exclusively to technology.

77. The TTE noted that the transparency of the information reported on needs and support received could be enhanced by addressing the areas noted in paragraphs 72, 74 and 75 above, which could facilitate a better understanding of the information reported on needs and support received.

78. Argentina reported in the BUR (chap. 1) that it participates in technical South–South cooperation within the Latin American Greenhouse Gas Inventory Network in collaboration with 14 countries in the region and in international cooperation. According to the BUR, the objective of the Network is to facilitate development of technical and institutional capacity in the field of GHG inventories through exchange of experience among its member countries. The TTE commends Argentina for reporting on its efforts to cooperate on improving technical capacity for preparing GHG inventories and national inventory systems.

5. Any other information

79. Argentina reported some information on a project in place, funded by the Green Climate Fund, with the objective of developing a national adaptation plan that will facilitate assessment and reduction of vulnerability to the adverse effects of climate change in the country by integrating adaptation action into the country's development strategies.

D. Identification of capacity-building needs

80. In consultation with Argentina, the TTE identified the following needs for capacity-building that could facilitate the preparation of subsequent BURs and participation in ICA:

- (a) In relation to GHG inventories:
- (i) Cross-sectoral needs:
 - a. Developing institutional arrangements with the entities involved in reporting;
 - b. Developing EFs using country-specific data (tier 2) for sources identified as key categories;
 - c. Developing a methodology and data acquisition system consistent between mitigation measures and GHG inventories to be periodically updated and to ensure a coherent quantification of the emission reductions achieved by those measures;
 - d. Improving uncertainty estimates, mainly for AD;
 - e. Developing models for periodically projecting emissions under different scenarios;
- (ii) In the energy sector:
 - a. Developing country-specific EFs for the fuel combustion category;
 - b. Evaluating the potential double counting of emissions associated with fuels used as raw materials for industrial processes;
 - c. Improving the estimated fuel distribution for categories to which technical consumption coefficients are assigned in the national energy balance;
 - d. Improving access to the information necessary for estimating emissions associated with transport by communicating with the private sector and the agencies responsible;
- (iii) In the IPPU sector:
 - a. Evaluating potential improvements and adjustments for category 2.F product uses as substitutes for ODS and improving access to the information necessary for estimating emissions for this category;
 - b. Evaluating the potential double counting of emissions associated with fuels used as raw materials for industrial processes;
- (iv) In the AFOLU sector:
 - a. Improving the coherence of land representation and/or generating a land-use information system to improve the quality and consistency of land representation;
 - b. Improving estimation of carbon in soils by evaluating the country's carbon data and calculation models appropriate to national circumstances, or developing country-specific models for estimating changes in carbon stock using country-specific information;
 - c. Undertaking calculations to estimate emissions and removals from harvested wood products;

- (v) In the waste sector:
 - a. Improving the AD on the characterization of waste and the final solid waste disposal sites;
 - b. Improving access to the information necessary for estimating emissions associated with waste by communicating with the private sector and the responsible subnational agencies;
- (b) In relation to mitigation actions:
 - (i) Generating and validating official data that are currently missing in order to complement or enhance the reporting of mitigation actions;
 - (ii) Strengthening the link with the private sector to encourage voluntary participation in mitigation actions;
 - (iii) Developing modal distribution models for land transport to make the allocation of liquid fuels to the different means of transport more precise, with a view to improving estimates of the emission reduction potential of mitigation measures;
- (c) In relation to institutional arrangements for NC and BUR preparation, maintaining the technical and human capacity to operate the national system of information on climate change on a continuous basis;
- (d) In relation to financial needs:
 - (i) Identifying common assumptions and criteria to be validated by relevant enforcement agencies for estimating the cost of mitigation and adaptation measures;
 - (ii) Establishing a national methodology for quantifying financial resources needed;
 - (iii) Establishing institutional arrangements for quantifying financial resources needed;
 - (iv) Training stakeholders in the financial tracking of climate change projects;
- (e) In relation to technology support received:
 - (i) Developing a nationally determined methodology and criteria for identifying and classifying technology support received;
 - (ii) Validating the proposed methodology through the National Climate Change Cabinet;
- (f) In relation to nationally determined technology needs:
 - (i) Developing a nationally determined methodology and criteria for identifying technology needs;
 - (ii) Validating the proposed methodology through the National Climate Change Cabinet;
- (g) In relation to support received:
 - (i) Systematizing the national process already implemented for identifying and classifying support received according to the nationally determined categories (mitigation, adaptation and transparency) and the sectoral action plans developed;
 - (ii) Training staff to report the above information in a continuous and adequate manner;
 - (iii) Validating the final process through the National Climate Change Cabinet.

81. In paragraph 60 of the summary report on the technical analysis of Argentina's second BUR, the previous TTE, in consultation with Argentina, identified seven capacity-building needs. In its third BUR, Argentina reflected that some of those capacity-building needs have been addressed, by improving the uncertainty estimation for native forest cover loss; estimating EFs using tier 2 methodology for some key categories; developing the national MRV system for mitigation actions; estimating emission reductions for some sectoral

mitigation actions; establishing the national system of information on climate change for monitoring and reporting climate change information; and establishing the National Climate Change Cabinet as one of the main institutional arrangements in place in Argentina for climate change management. The TTE commends Argentina for its efforts to improve its reporting.

III. Conclusions

82. The TTE conducted a technical analysis of the information reported in the third BUR of Argentina in accordance with the UNFCCC reporting guidelines on BURs and concludes that the information reported is mostly consistent. It provides an overview of national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis; the national inventory of anthropogenic emissions by sources and removal by sinks of all GHGs not controlled by the Montreal Protocol, including an NIR; mitigation actions and their effects, including associated methodologies and assumptions; constraints and gaps and related financial, technical and capacity-building needs, including a description of support needed and received; the level of support received to enable the preparation and submission of BURs; and domestic MRV. During the technical analysis, additional information was provided by Argentina on all of those areas. The TTE concluded that the information analysed is mostly transparent.

83. Argentina reported an update on the institutional arrangements relevant to the preparation of its climate change reports (e.g. BURs, NCs). It has made significant efforts to establish legal foundations for its national climate change commitments under the Convention, 2030 Agenda for Sustainable Development, Paris Agreement and law 27.520, which sets minimum national standards for adaptation and mitigation action, institutionalizes the National Climate Change Cabinet and establishes the national system of information on climate change. Argentina has also made considerable efforts to establish institutional arrangements that allow for the sustainable preparation of its BURs, including organizational improvements in the form of a national system of information on climate change and the National Climate Change Cabinet.

84. In its third BUR, submitted in 2019, Argentina reported information on its national GHG inventory for 1990–2016. This included GHG emissions and removals of CO₂, CH₄, N₂O, HFCs and PFCs for all relevant sources and sinks as well as the precursor gases. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2016 were reported as 333,367.13 CO₂ Gg eq (excluding land) and 364,435.56 Gg CO₂ eq (including land).

85. Argentina reported information on mitigation actions and their effects in both tabular and narrative format, including emission reduction targets. Argentina reported actions that are ongoing in the energy and LULUCF sectors. The mitigation actions focus on energy generation, transport, forest fire prevention, and sustainable management, conservation, restoration and recovery of native forests. The Party reported the progress of implementation of its mitigation actions and the results achieved, including emission reductions. The highest emission reduction was reported for an action in the LULUCF sector at 222,499 Gg CO₂ eq between 2014 and 2017, and in the energy sector, the increase of the share of renewable energy in the energy mix resulted in 3.4 million MWh electricity generated from renewables in 2018 and led to an estimated reduction of 923 Gg CO₂ eq. Argentina also reported information on its international market mechanisms and MRV arrangements. Estimates of emission reductions and information on methodologies and assumptions were not fully provided for all mitigation actions in the BUR owing to difficulties in obtaining well-grounded and consistent data, as clarified by the Party during the technical analysis.

86. Argentina reported information on its key constraints, gaps and related needs, including comprehensive information on the lack of technical capacity, staff and financial resources; limited access to information; lack of projection models adapted to the national circumstances; lack of information systems consistent with reporting requirements under the Convention; non-homogeneous data within sectors; and low articulation between private and public institutions. Additionally, the Party reported extensive information on its financial,

technical and capacity-building needs, divided into cross-cutting needs, mitigation and adaptation needs, and needs related to GHG inventories. Information was reported on international support received, including support for designing, improving and implementing mitigation actions, adaptation measures and climate transparency arrangements in the country. Argentina reported that it received international financial support of around USD 700 million from 2017 to 2018, and USD 352,000 from the Global Environment Facility for preparing its third BUR. The Party reported information on technology transfer received, but this information was not clearly reported in the BUR (table 70). Moreover, the Party clarified that it reported the best available information within its national definitions and circumstances. Information on technology needs was not reported owing to Argentina's ongoing efforts to develop mitigation and adaptation action plans identifying initial technology needs, to be validated through the National Climate Change Cabinet.

87. The TTE, in consultation with Argentina, identified the 30 capacity-building needs listed in chapter II.D above that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention. Argentina prioritized all of those capacity-building needs.

Annex I

Extent of the information reported by Argentina in its third biennial update report

Table I.1

Identification of the extent to which the elements of information on greenhouse gases are included in the third biennial update report of Argentina

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	Yes	Argentina submitted its third BUR in November 2019 and an NIR in March 2020; the GHG inventory reported is for 1990–2016.
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established in the latest UNFCCC guidelines for the preparation of NCs from non-Annex I Parties approved by the Conference of the Parties or those determined by any future decision of the Conference of the Parties on this matter.	Yes	Argentina used the 2006 IPCC Guidelines.
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	Yes	Argentina performed recalculations for the time series for 1990–2014, owing mainly to changes in LULUCF activity, interpolation of the estimates for bovine cattle (beef and milk) and inclusion of emissions for category 2.F product uses as substitutes for ODS, which were not reported in the second BUR.
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	(a) The tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;	Yes	Argentina provided summary tables based on the 2006 IPCC Guidelines in the BUR, and sectoral tables in the NIR.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Argentina provided summary tables based on the 2006 IPCC Guidelines in the BUR, and sectoral tables in the NIR.
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.	Yes	The time series reported covers 1990–2016.
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000).	Yes	Summary information tables were presented for all gases and sectors for all years included in the time series (1990–2016).
Decision 2/CP.17, annex III, paragraph 9	The inventory section of the BUR should consist of an NIR as a summary or as an update of the information contained in decision 17/CP.8, annex, chapter III (National greenhouse gas inventories), including:	Yes	Argentina submitted an NIR in March 2020.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	(a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);	Yes	This information was reported in table 21 of the BUR (p.122). The Party also provided a similar table with data in CO ₂ eq, enabling comparison of GHG emissions.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF ₆).	Yes	This information was reported in table 21 of the BUR (p.122).
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	Yes	Argentina submitted an NIR and a REDD+ technical annex as an annex to its BUR.
Decision 17/CP.8, annex, paragraph 12	Non-Annex I Parties are also encouraged, to the extent possible, to undertake any key source analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances.	Yes	Argentina conducted a tier 1 key source analysis on the basis of both level and trend (tables 47 and 48, pp.174 and 176, of the BUR, respectively).
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved.	Yes	Argentina described the institutional arrangements for preparing the GHG inventory.
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
	(a) CO ₂ ;	Yes	
	(b) CH ₄ ;	Yes	
	(c) N ₂ O.	Yes	
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:	Yes	
	(a) HFCs;	Yes	
	(b) PFCs;	Yes	
	(c) SF ₆ .	Yes	Information on SF ₆ was reported.
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs, such as:		
	(a) Carbon monoxide;	Yes	
	(b) Nitrogen oxides;	Yes	
	(c) Non-methane volatile organic compounds.	Yes	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as sulfur oxides, and included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	Yes	The Party reported on other gases, such as sulfur dioxide.
Decision 17/CP.8, annex, paragraph 18	Non-Annex I Parties are encouraged, to the extent possible, and if disaggregated data are available, to estimate and report CO ₂ fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	Yes	The Party used both the sectoral and the reference approach in accordance with the 2006 IPCC Guidelines. The difference between the emissions estimated using the reference and the

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
			sectoral approach is less than 1 per cent. This difference is due to the fact that losses associated with flaring of natural gas are included in the reference approach; otherwise, the difference would be 3.5 per cent. The results of using the reference approach are presented in table 34 of the BUR (p.141).
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	(a) International aviation;	Yes	
	(b) Marine bunker fuels.	Yes	
Decision 17/CP.8, annex, paragraph 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO ₂ eq should use the global warming potentials provided by the IPCC in its Second Assessment Report based on the effects of GHGs over a 100-year time-horizon.	Yes	
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, EFs and AD used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:		
	(a) Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol;	Yes	Argentina used the 2006 IPCC Guidelines. Tier 1 and 2 methodologies were used.
	(b) Explanation of the sources of EFs;	Yes	Argentina used a combination of default EFs from the 2006 IPCC Guidelines and national EFs.
	(c) Explanation of the sources of AD;	Yes	
	(d) If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe:	NA	
	(i) Source and/or sink categories;		
	(ii) Methodologies;		
	(iii) EFs;		
	(iv) AD;		

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.	Yes	Argentina presented an improvement plan for the GHG inventory in the BUR (table 54, p.187), including areas where data may be improved.
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1 and 2 of the guidelines annexed to decision 17/CP.8 in reporting its national GHG inventory, taking into account the provisions established in paragraphs 14–17. In preparing those tables, Parties should strive to present information that is as complete as possible. Where numerical data are not provided, Parties should use the notation keys as indicated.	Yes	Argentina used the notation keys “NA”, “NE” and “IE” and explained their use.
Decision 17/CP.8, annex, paragraph 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties:		
	(a) Level of uncertainty associated with inventory data;	Yes	
	(b) Underlying assumptions;	Yes	
	(c) Methodologies used, if any, for estimating these uncertainties.	Yes	Argentina applied a combination of error propagation and Monte Carlo analysis, both for value and trend, in accordance with the 2006 IPCC Guidelines.

Note: The parts of the UNFCCC reporting guidelines on BURs on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, paras. 3–10 and 41(g). Further, as per para. 3 of those guidelines, non-Annex I Parties are to submit updates of their national GHG inventories in accordance with paras. 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8. The scope of such updates should be consistent with the non-Annex I Party’s capacity and time constraints and the availability of its data, as well as the level of support provided by developed country Parties for biennial update reporting.

Table I.2

Identification of the extent to which the elements of information on mitigation actions are included in the third biennial update report of Argentina

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in tabular format, on actions to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.	Yes	
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or group of mitigation actions, including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information, to the extent possible:		
	(a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;	Partly	Quantitative goals were provided only for some mitigation actions.
	(b) Information on:		

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
	(i) Methodologies;	Partly	Information on methodologies was reported for most ^a of the mitigation actions in the energy sector.
	(ii) Assumptions;	Yes	
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	Yes	
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Yes	
	(ii) Progress of implementation of the underlying steps taken or envisaged;	Yes	
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	The Party reported on emission reductions for most ^b of the mitigation actions in the energy and LULUCF sectors.
	(e) Information on international market mechanisms.	Yes	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Yes	

Note: The parts of the UNFCCC reporting guidelines on BURs on the reporting of information on mitigation actions in BURs are contained in decision 2/CP.17, annex III, paras. 11–13.

^a “Some” is used when the information is provided for at least half of the mitigation actions reported.

^b “Most” is used when the information is reported for more than half of the mitigation actions reported.

Table I.3

Identification of the extent to which the elements of information on finance, technology and capacity-building needs and support received are included in the third biennial update report of Argentina

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on:		
	(a) Constraints and gaps;	Yes	
	(b) Related financial, technical and capacity-building needs.	Yes	Information on financial needs was reported.
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide:		
	(a) Information on financial resources received, technology transfer and capacity-building received;	Yes	Argentina reported information on support received but did not classify it into financial resources, technology transfer and capacity-building.
	(b) Information on technical support received from the Global Environment Facility, Parties included in Annex II to the Convention and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.	Partly	Argentina did not report on projects supported by Parties included in Annex II to the Convention or other developed country Parties.

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 16	With regard to the development and transfer of technology, non-Annex I Parties should provide information on:		
	(a) Nationally determined technology needs;	Partly	The Party reported in accordance with the best available information within its national definitions and circumstances.
	(b) Technology support received.	No	The Party did not include information on technology support projects.

Note: The parts of the UNFCCC reporting guidelines on BURs on the reporting of information on finance, technology and capacity-building needs and support received in BURs are contained in decision 2/CP.17, annex III, paras. 14–16.

Annex II

Reference documents

A. Reports of the Intergovernmental Panel on Climate Change

IPCC. 1997. *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. JL Houghton, LG Meira Filho, B Lim, et al. (eds.). Paris: IPCC/Organisation for Economic Co-operation and Development/International Energy Agency. Available at <https://www.ipcc-nggip.iges.or.jp/public/gl/invs1.html>.

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IPCC. 2003. *Good Practice Guidance for Land Use, Land-Use Change and Forestry*. J Penman, M Gytarsky, T Hiraishi, et al. (eds.). Hayama, Japan: Institute for Global Environmental Strategies. Available at <http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html>.

IPCC. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. S Eggleston, L Buendia, K Miwa, et al. (eds.). Hayama, Japan: Institute for Global Environmental Strategies. Available at <http://www.ipcc-nggip.iges.or.jp/public/2006gl>.

IPCC. 2019. *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*. E Calvo Buendia, K Tanabe, A Kranjc, et al. (eds.). Geneva: IPCC. Available at <https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/>.

B. UNFCCC documents

NC3 of Argentina. Available at <https://unfccc.int/non-annex-I-NCs>.

Summary report on the technical analysis of the second BUR of Argentina. Available at <https://unfccc.int/documents/170044>.

Third BUR of Argentina. Available at <https://unfccc.int/BURs>.
