United Nations FCCC/SBI/ICA/2022/TASR.4/URY

Framework Convention on Climate Change

Distr.: General
26 April 2023

English only

Technical analysis of the fourth biennial update report of Uruguay submitted on 31 December 2021

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 fourth biennial update report of Uruguay, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

Abbreviations and acronyms

2006 IPCC Guidelines	*2006 IPCC Guidelines for National Greenhouse Gas Inventories*
AD	activity data
AFOLU	agriculture, forestry and other land use
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BUR	biennial update report
CDM	clean development mechanism
CER	certified emission reduction
CGE	Consultative Group of Experts
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
EEA	European Environment Agency
EF	emission factor
EMEP	Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe
ETF	enhanced transparency framework under the Paris Agreement
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HWP	harvested wood products
ICA	international consultation and analysis
IPCC	Intergovernmental Panel on Climate Change
IPCC good practice guidance	*Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*
IPCC good practice guidance for LULUCF	*Good Practice Guidance for Land Use, Land-Use Change and Forestry*
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
N_2O	nitrous oxide
NA	not applicable
NAMA	nationally appropriate mitigation action
NC	national communication
NDC	nationally determined contribution
NDCC	National Directorate of Climate Change of Uruguay
NE	not estimated
NIR	national inventory report
NMVOC	non-methane volatile organic compound
non-Annex I Party	Party not included in Annex I to the Convention
NO_X	nitrogen oxides
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	*Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*
SF_6	sulfur hexafluoride
SNRCC	National Climate Change Response System of Uruguay
SO_2	sulfur dioxide
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"

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.

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. Uruguay submitted its third BUR on 31 December 2019, which was analysed by a TTE in the sixteenth round of technical analysis of BURs from non-Annex I Parties, conducted from 22 to 26 June 2020. After the publication of its summary report, Uruguay participated in the eleventh workshop for the facilitative sharing of views, convened in Glasgow on 5 November 2021.

5. This summary report presents the results of the technical analysis of the fourth BUR of Uruguay, 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.

B. Process overview

6. In accordance with the mandate referred to in paragraph 2 above, Uruguay submitted its fourth BUR on 31 December 2021 as a stand-alone update report. The submission was made within two years from the submission of the third BUR.

7. The technical analysis of Uruguay's BUR was conducted from 18 to 22 July 2022 in Santo Domingo, Dominican Republic, 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: Kendal Blanco-Salas (Costa Rica), Luis Caceres Silva (former member of the CGE from Ecuador), Remi D'Annunzio (France), Thiago de Araújo Mendes (former member of the CGE from Brazil), Luis Alberto de la Torre (Peru), Maria Jose Lopez (Belgium), Lilian Portillo (former member of the CGE from Paraguay), Rafael Pulgar (Brazil) and Orlando Ernesto Rey Santos (Cuba). Maria Jose Lopez and Orlando Ernesto Rey Santos were the co-leads. The technical analysis was coordinated by Luca Birigazzi and Veronica Colerio (secretariat).

8. During the technical analysis, in addition to the written exchange, in the virtual team room, to provide technical clarifications on the information reported in the BUR, the TTE and Uruguay engaged in consultation[1] on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Uruguay's fourth BUR, the TTE prepared and shared a draft summary report with Uruguay on 13 December 2022 for its review and comment. Uruguay, in turn, provided its feedback on the draft summary report on 14 March 2023.

9. The TTE finalized the summary report in consultation with the Party on 11 April 2023.

[1] The consultation was conducted via videoconferencing.

II. Technical analysis of the biennial update report

A. Scope of the technical analysis

10. 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).

11. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Uruguay's BUR outlined in paragraph 10 above.

B. Extent of the information reported

12. The elements of information referred to in paragraph 10(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.

13. 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 12 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 the tables included in annex I.

14. The current TTE noted improvements in the reporting in Uruguay's fourth BUR compared with that in its previous BUR. Information on the GHG inventory, mitigation actions and their effects, and needs and support reported in the Party's fourth BUR demonstrates that it has taken into consideration the areas for enhancing the transparency of the extent of the information reported noted by the previous TTE in the summary report on the technical analysis of the Party's previous BUR.

C. Technical analysis of the information reported

15. The technical analysis referred to in paragraph 10(b) above aims to increase the transparency of information reported by the Parties on 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.

16. 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. Uruguay submitted an NIR as a stand-alone document and, further to

consultations with the TTE, requested a more detailed analysis and documentation of the findings contained in the NIR to be undertaken using the agreed GHG inventory tool.

17. 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

18. 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 NC, 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.

19. In its fourth BUR, Uruguay provided an update on its national circumstances, including a description of national and regional development priorities, objectives and circumstances, including features of geography, climate (such as extreme events), economy and the sectors covered by the GHG inventory that might affect the Party's ability to deal with mitigating and adapting to climate change, as well as information regarding national circumstances and constraints on the specific needs and concerns arising from the adverse effects of climate change, as referred to in Article 4, paragraph 8, and, as appropriate, Article 4, paragraphs 9–10, of the Convention.

20. In addition, Uruguay provided a summary of relevant information regarding its national circumstances in tabular and graphical format.

21. Uruguay transparently reported in its fourth BUR an update on its existing institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The description covers key aspects of the institutional arrangements, including the legal status and roles and responsibilities of the overall coordinating entity, the involvement and roles of other institutions and experts, mechanisms for information and data exchange, QA/QC procedures, and provisions for public consultation and other forms of stakeholder engagement. In 2020, Uruguay created the Ministry of Environment, including NDCC, which is responsible for the preparation of BURs and NCs and which chairs the SNRCC Coordination Group. SNRCC, which was established in 2009, continues to provide the framework for coordinating the institutions involved in the national response to climate change.

22. NDCC is also broadly responsible for the fulfilment of national obligations under environmental agreements on climate change and protection of the ozone layer. It is the national focal point for the UNFCCC secretariat and the national designated authority for the Adaptation Fund, the Green Climate Fund, the Climate Technology Centre and Network, the Ibero-American Network of Climate Change Offices, the EUROCLIMA+ programme, the IPCC, and the Ozone Secretariat and other bodies of the Montreal Protocol on Substances that Deplete the Ozone Layer. The TTE noted improvements to the information on the legal arrangements and framework aimed at ensuring the preparation of Uruguay's NCs and BURs on a continuous basis compared with the previous BUR.

23. In paragraph 23 of the summary report on the technical analysis of Uruguay's third BUR, the previous TTE noted areas where the transparency of the reporting on institutional arrangements could be enhanced, namely the sustainability of reporting on a continuous basis. The current TTE noted the improvements referred to in paragraph 22 above and commends the Party for enhancing the transparency of its reporting.

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

24. As indicated in table I.1, Uruguay 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.

25. Uruguay submitted its fourth BUR in 2021 and the GHG inventory reported is for 1990–2019. The GHG inventory is consistent with the requirements for the reporting time frame.

26. Uruguay submitted an NIR in conjunction with its fourth BUR. The relevant sections of the NIR were referenced in the BUR and the document was made publicly available on the UNFCCC website.[2]

27. GHG emissions and removals for the BUR covering the 1990–2019 inventories were estimated using tier 1, 2 and 3 methodologies from the 2006 IPCC Guidelines. For the energy and IPPU sectors, tier 1, 2 and 3 methodologies were used, while for the AFOLU and waste sectors, tier 1 and 2 methodologies were used. All the emission estimates were calculated using the IPCC inventory software (version 2.691) and Excel spreadsheets, where necessary. The TTE commends the Party for using the 2006 IPCC Guidelines.

28. Information on AD and EFs used and their sources was clearly reported in the BUR, including information on the methodologies used for calculating emissions for the GHG inventory. The Party reported using default or country-specific EFs for the direct GHGs and EFs from the EMEP/EEA air pollutant emission inventory guidebook 2019 (EEA, 2019) for the precursor gases. The main sources of AD were the national energy balance for the energy sector; the National Institute of Statistics, key industries and the Ozone Unit of the Ministry of Environment for the IPPU sector; the Ministry of Livestock, Agriculture and Fisheries for the AFOLU sector; and the Ministry of Environment for the waste sector.

29. Information on the Party's total GHG emissions by gas for 1990–2019 is outlined in table 1 in Gg CO_2 eq. It shows an increase in emissions of 8.6 and 21.8 per cent with and without AFOLU category 3.B (land) respectively since 1990 (17,929 Gg CO_2 eq including land and 25,461 Gg CO_2 eq excluding land).

Table 1
Greenhouse gas emissions by gas of Uruguay for 1990–2019

Gas	*GHG emissions (Gg CO_2 eq) including land and HWP[a]*	*% change 1990–2019*	*GHG emissions (Gg CO_2 eq) excluding land and HWP[a]*	*% change 1990–2019*
CO_2	–4 850.00	31.9	6 707.00	73.9
CH_4	15 957.00	11.6	15 957.00	11.6
N_2O	8 101.00	11.0	8 101.00	11.0
HFCs	253.00	NA	253.00	NA
PFCs	NO	NA	NO	NA
SF_6	1.00	NA	1.00	NA
Other	NA	NA	NA	NA
Total	19 462.00	8.6	31 019.00	21.8

[a] 2006 IPCC Guidelines AFOLU category 3.B (land) and, if reported, 3.D (HWP (3.D.1) and other emissions (3.D.2)).

30. Information on other emissions, namely precursor gases, was clearly reported, including 44.6 Gg NO_X, 172 Gg CO, 44 Gg NMVOCs and 18.8 Gg SO_2 for 2019.

31. Uruguay 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. The notation keys were explained in the quality control section of the NIR (section 1.4.3).

32. Uruguay reported 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.

[2] https://unfccc.int/documents/424128.

33. The shares of emissions that different sectors contributed to the Party's total GHG emissions excluding land (category 3.B), as calculated by the TTE using information from the BUR, in 2019 are reflected in table 2.

Table 2
Shares of greenhouse gas emissions by sector of Uruguay for 1990–2019

Sector	*GHG emissions (Gg CO_2 eq)*	*% share*[a]	*% change 1990–2019*
Energy	6 505.00	21.0	69.8
IPPU	702.00	2.3	210.6
AFOLU	11 101.00	NA	–17.1
Livestock (category 3.A)	14 482.00	46.7	5.0
Land (category 3.B)	–11 557.00	NA	53.4
Aggregate sources and non-CO_2 emissions sources on land (category 3.C)	8 176.00	26.4	14.7
HWP and other emissions (category 3.D)	NE	NA	NA
Waste	1 154.00	3.7	139.9
Other	NE	NA	NA

[a] 2006 IPCC Guidelines AFOLU category 3.B (land) and, if reported, 3.D (HWP (3.D.1) and other emissions (3.D.2)).

34. Uruguay reported information on its use of GWP values consistent with those provided by the IPCC in its AR2 based on the effects over a 100-year time-horizon of GHGs. The Party also reported GHG emissions and removals expressed in CO_2 eq using the global temperature change potential values provided by the IPCC in its AR5 based on the effects over a 100-year time-horizon of GHGs.

35. For the energy sector, estimations were performed using national energy balance data. CO_2 emissions accounted for more than 95 per cent of total emissions. Transport was the category with the highest share of emissions (58 per cent) in the sector, followed by manufacturing industries and construction (15 per cent) and energy industries (10 per cent). Biomass burning, producing 9,032 Gg CO_2, was reported as a memo item. Energy sector CO_2 emissions showed a positive trend in 1990–2019, with some volatility due to the macroeconomic context, the introduction of renewable energy (wind farms, solar energy and biomass), the variation in annual hydraulicity values and therefore thermal generation, and the long downtime of one oil refinery. The TTE noted the planned move to a tier 2 method for estimating CO_2, CH_4 and N_2O emissions from road transport during the next GHG inventory cycle.

36. The BUR reports that charcoal production in the country was discontinued in 2004 because the internal demand was being met by imports. CO_2 emissions from this activity were estimated for 1990–2004 and included in the memo item of biomass.

37. CH_4 and N_2O emissions from charcoal production were not estimated for the energy sector inventory for 1990–2004 because EFs are not provided in the 2006 IPCC Guidelines. During the technical analysis, the Party clarified that these emissions will be included in the next GHG inventory by using the default EFs available for charcoal production in the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories and by allocating the emissions to category 1.B.1.c in accordance with those guidelines.

38. For the IPPU sector, CO_2 accounted for 63 per cent of total emissions, HFC-134a for 14 per cent, HFC-125a for 11 per cent, HFC-143a for 9 per cent, and other HFCs and SF6 together for 3 per cent. In 2019, the sector's main contributor of GHG emissions was cement production (category 2.A.1) with 44 per cent (310 Gg CO_2 eq) of total emissions, followed by product uses as substitutes for ozone-depleting substances) (category 2.F) with 36 per cent (254 Gg CO_2 eq), and lime production (category 2.A.2) with 18 per cent (122 Gg CO_2 eq). The remaining categories accounted for about 1 per cent each of sectoral emissions. The trend of GHG emissions in the IPPU sector over 1990–2019 was stable.

39. Emissions for the key category cement production (category 2.A.1) were estimated using a tier 2 and 3 methodology. CO_2 emissions from cement production were estimated using plant-specific data, although the time series was not recalculated back to when the higher-tier methodology was introduced. Uruguay also used tier 3 methodologies for sulfuric acid production (SO_2, category 2.B.10) using data provided by plants. For product uses as substitutes for ozone-depleting substances (category 2.F), the Party used as AD detailed data on imports by HFC species compiled by the Ozone Unit. For refrigeration and air conditioning (category 2.F.1), the Party used the default EFs and parameters for a tier 1 methodology from the 2006 IPCC Guidelines (vol. 3, chap. 7). HFC-245fa and HFC-365mcf were not included in the national HFC totals because there are no GWP values for these gases in the AR2 of the IPCC, as reported in the BUR. During the technical analysis, the Party confirmed its plans to use the GWP values from the AR5 in future GHG inventories.

40. There was no indication in the NIR of how data on cement and sulfuric acid production (categories 2.A.1 and 2.B.10 respectively) provided by plants were verified. During the technical analysis, the Party explained how country-specific data were verified.

41. The Party indicated that the following planned improvements for the IPPU sector will be considered: gathering further plant-specific information for cement production, that is, data from all clinker production plants (in order to apply the tier 3 approach); completing the time series for other process uses of carbonates (category 2.A.4); reviewing and improving the parameters for estimating HFC emissions from product uses as substitutes for ozone-depleting substances; reviewing the AD of the time series and complete data on imported products for years prior to 2006; and updating the uncertainty assessment for the sector.

42. For 2006 IPCC Guidelines AFOLU categories 3.A and 3.C, agricultural soils (N_2O) and enteric fermentation (CH_4) were identified as key categories and the most relevant emissions sources in the sector (accounting for 56.0 and 28.3 per cent of sectoral emissions respectively). Emissions for these key categories were estimated using a tier 2 methodology. These emissions remained stable over the time series, showing only slight oscillations associated with minor changes in livestock number.

43. CO_2 emissions from lime application on agricultural soils and non-CO_2 emissions from biomass burning in forest land, wetlands, settlements and other land were not estimated. During the technical analysis, the Party clarified that there are no AD at the national level that allow emissions for these categories to be estimated.

44. For land (category 3.B), Uruguay reported annual GHG emissions and removals for 1990–2019. Overall, the net removals from land (category 3.B) fluctuated between a minimum of 7,532 CO_2 in 1990 and a maximum of 18,096 CO_2 in 2012. Of these net removals, 89 per cent came from forest land and 11 per cent from other types of land. Net CO_2 removals from the land category increased significantly in 1990–2002, mainly owing to an increase in the area of forest plantations, and declined in 2002–2010 owing to the start of harvesting operations on those plantations. Emissions from HWP were not estimated owing to the unavailability of national official AD, as explained by the Party in its BUR. Uruguay updated its methodologies for estimating areas of land use and land-use change by increasing the sampling intensity in the subregion of the country most affected by land-use conversions.

45. However, recalculations using the updated methodologies, including the distances between sampling points, were not clearly reported in the BUR. During the technical analysis, the Party provided additional information, maps and tables that enabled the TTE to gain an understanding of the information reported and assess whether the estimation methods were appropriate. However, the TTE noted that, according to this new information, the sampling units located in the most intensively sampled region lay at a distance of approximately 2.1 km apart rather than 1.5 km, as stated in the NIR.

46. In the BUR, Uruguay supplied the reasons for reporting some categories of the AFOLU sector as “NE”. The TTE noted this improvement and commends the Party for its plans to improve its reporting on the stratification of soil for land representation, estimate emissions from wetlands (category 3.B.4), include in the inventory emissions from land areas that have undergone conversion to another land category twice, estimate emissions and removals for HWP (category 3.D.1) and estimate emissions from lime application on agricultural soils (category 3.C.2) during its next inventory cycle.

47. For the waste sector, CH_4 emissions represented 93 per cent of the total emissions, followed by N_2O emissions (7 per cent) and CO_2 emissions (less than 1 per cent). CH_4 emissions for the key category solid waste disposal (category 4.A) were estimated using a tier 2 methodology. These emissions increased considerably during 1990–2019, driving the increasing trend of GHG emissions from the sector.

48. CO_2, CH_4 and N_2O emissions from the open burning of waste (category 4.C.2) were not estimated because, given that this activity is illegal in Uruguay, AD are unavailable, as explained in the BUR. The TTE noted that assumptions from the 2006 IPCC Guidelines could be applied to elaborate rough estimates for this category. During the technical analysis, Uruguay confirmed its intention to explore ways to estimate these emissions using assumptions and expert judgment during the next GHG inventory cycle.

49. The TTE commends Uruguay for its plans to improve the estimates of waste sector emissions for the next GHG inventory by updating AD and parameters for domestic wastewater, disaggregating incinerated and composted waste by composition, and including in the inventory biogas capture from industrial wastewater treatment.

50. The NIR provides an update to all GHG inventories reported in the Party's previous NCs and BURs, which address anthropogenic emissions and removals for 1990–2017. For its 1990–2019 inventory, the Party implemented improvements such as using higher-tier methodologies for key categories and using updated or new AD, which led to recalculations being necessary to reduce the uncertainties. The update was carried out for 1990–2017 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a 27-year time series. The Party reported that it recalculated emissions for all sectors, although splicing techniques were not used to fill the gaps in the AD for all years of the time series prior to 2000. The Party reported that recalculations were performed to take into account updates of AD and/or EFs. For a few categories, emissions were allocated more appropriately. The recalculations for category 3.B (land) required the use of data acquired using the Collect Earth tool for 2000–2017. Annex 7 to the NIR contains explanations of all changes.

51. Uruguay described in its BUR the institutional framework for the preparation of its 2019 GHG inventory. The Party reported that the Ministry of Environment is the governmental body responsible for its climate change policy and GHG inventory, which was prepared with the support of the United Nations Development Programme, which assisted Uruguay in designing its GHG inventory system.

52. Information on coordination among the sectoral working groups responsible for collecting and archiving data for the national GHG inventories of the different IPCC sectors was not clearly reported in Uruguay's BUR. In particular, it was not clear to the TTE whether arrangements exist for avoiding double counting and the omission of emissions and removals. During the technical analysis, the Party clarified that each ministry provides and maintains the sectoral working group in charge of collecting and archiving data for its sector and ensures the availability of the information necessary for preparing the inventory, including through agreements with sectoral data providers. Each ministry calculates sectoral estimates, performs the corresponding quality controls and prepares a sectoral report. These sectoral reports are compiled by the Ministry of Environment into a final report, which is submitted to the SNRCC Coordination Group prior to submission to the secretariat. The Party also clarified that a GHG inventory cross-sectoral working group holds monthly meetings at which the use of common tools and methodologies, schedules for carrying out tasks, data-collection needs and possible financing of additional studies are discussed and agreed on. Sectoral allocation is determined to avoid omissions and double counting. The Party indicated that this information will be included in its next NIR.

53. Uruguay clearly reported that a key category analysis was performed for the level of and trend in emissions using a tier 1 approach from the 2006 IPCC Guidelines. In addition, the Party applied a tier 2 approach using the results of the uncertainty analysis referred to in paragraph 57 below and identified 24 key categories, mostly in the AFOLU and energy sectors.

54. The BUR provides information on QA/QC measures for all sectors, including a description of the elements of the QC system and of the principles of transparency, accuracy,

completeness, comparability and consistency used for preparing the report and for the QA process. The QA process was carried out by an international senior expert.

55. Uruguay clearly reported information on CO_2 fuel combustion emissions using both the sectoral and the reference approach. The information reported indicates that the combustion emissions estimated under the sectoral and reference approach are 6,170 Gg CO_2 and 6,374 Gg CO_2 respectively. The difference between the estimates calculated using the two approaches was reported as 3.3 per cent. In the NIR and during the technical analysis, the Party reported that the total CO_2 emissions calculated using the two approaches were compared but the reasons for the difference in the estimates were not reported because the difference was within the range of discrepancy stated in the 2006 IPCC Guidelines (i.e. 5 per cent). As the reference approach serves as a basis to perform quality checks of the estimates of the sectoral approach, the TTE noted that it would be informative to include in the NIR the results of the comparison of the sectoral and reference approach applied to combustion activities in the energy sector on a fuel-by-fuel basis and to explain the large discrepancies fuel by fuel.

56. Information was clearly reported on international aviation and marine bunker fuels. CO_2 emissions from international bunkers amounted to 799 Gg in 2019, with 62 per cent of these emissions coming from maritime freight (through consumption of gas oil and fuel oil) and 38 per cent from international aviation.

57. Uruguay reported information on the uncertainty assessment (level and trend) of its national GHG inventory. The uncertainty analysis was based on the tier 1 approach and covers all source categories and all direct GHGs. The results obtained, as reported in the BUR, reveal that the overall level uncertainty for emissions is 63.4 per cent and the trend uncertainty is 30.5 per cent. The TTE commends Uruguay for providing in its BUR detailed information on the selected uncertainty values for AD and EFs and the reasons for their selection.

58. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 37, 40, 43, 45, 48, 52 and 55 above, which could facilitate a better understanding of the information reported on GHG inventories.

59. In paragraph 49 of the summary report on the technical analysis of Uruguay's third BUR, the previous TTE noted areas where the transparency of the reporting on GHG inventories could be enhanced, including the estimation of emissions for some categories of the AFOLU sector. The current TTE noted the improvements referred to in paragraphs 44 and 46 above and the planned improvements referred to in paragraphs 35, 39, 41 and 49 above and commends the Party for enhancing the transparency of its reporting.

60. Uruguay reported in its BUR and NIR (in the section on planned improvements for the next GHG inventory) information on its current initiatives for enhancing its GHG inventory reporting for compliance with requirements under the ETF. The initiatives relate to preparing and evaluating a road map for implementing the requirements related to GHG inventories to be included in the biennial transparency reports. The TTE commends the Party for the clear and comprehensive reporting on its proactive approach to preparing for ETF implementation.

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

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

62. The information reported provides a clear and comprehensive overview of the Party's mitigation actions and their effects. In its BUR, Uruguay reported information on its national context and framed its national mitigation planning and actions in the context of its National Climate Change Policy, Long-Term Climate Strategy and NDC. Uruguay's first NDC presents emission reduction objectives by gas in terms of emissions per unit of gross domestic product in 2025 compared with 1990. It also includes specific objectives to reduce emission

intensity in food production (in particular beef) and to maintain carbon stocks in the forest, land and land-use sector. The Long-Term Climate Strategy was approved in 2021 with the aim of agreeing on and making explicit a national vision with respect to GHG emissions and removals and adaptation, resilience and risk reduction up to 2050. The objective of the Strategy is to develop medium- and short-term climate actions and define the targets to be included in successive NDCs. In 2019, the National Strategy for Gender and Climate Change was elaborated, which provides an approach and methodologies to be used in integrating a gender perspective into climate actions.

63. Uruguay reported that climate change, including mitigation actions, has been mainstreamed in and integrated into its development plans. Most of the mitigation actions are in the energy sector. A total of 28 measures were reported: 17 for the energy sector (12 on energy diversification and energy efficiency and 5 on transport), 9 for the AFOLU sector, 1 for the waste sector and 1 for the tourism sector. Details of eight NAMAs were also reported – five addressing energy, one addressing energy and forestry, one addressing energy and waste, and one addressing agriculture. Uruguay reported that 59 per cent of its unconditional mitigation measures are under implementation, 38 per cent have reached the proposed target and 3 per cent are in the programming phase.

64. The Party reported a summary of its mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. The Party also reported information on its mitigation actions in narrative format.

65. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Uruguay clearly reported the names of mitigation actions, coverage (sector and gases) and progress indicators in the BUR (section 3, tables 2–30). A clear description of mitigation actions, as well as information on quantitative goals, was provided in the BUR. The TTE noted the improvement in the reporting on coverage compared with the previous BUR.

66. Uruguay clearly reported information on methodologies and assumptions, the objectives of the actions and steps taken or envisaged to achieve them, progress of implementation of the mitigation actions and progress of the underlying steps taken or envisaged in the BUR and in the MRV Visualizer, an online tool providing information on domestic MRV of mitigation actions.[3] The TTE noted an improvement in the reporting on methodologies and assumptions used and the underlying steps taken compared with the previous BUR.

67. The Party clearly reported the results achieved (such as progress towards its targets for 2025) for each mitigation action using the metric assigned to the action. Information on the estimated emission reduction for some mitigation measures was not reported in Uruguay's BUR. However, the Party provided relevant clarification in its BUR, explaining that the omissions were due to the lack of a specific validated methodology for the estimation, challenges in the determination of reference scenarios and synergies, or multiple effects in the mitigation actions that cannot be isolated.

68. Uruguay reported 17 ongoing mitigation actions in the energy sector, focusing on sustainably diversifying energy sources, promoting energy efficiency and developing sustainable and efficient transport. Uruguay continues to test new sources of energy and develop new technologies with a view to achieving optimum energy generation. The implementation of mitigation actions 1–3, encompassing wind, biomass and solar energy generation, resulted in avoided emissions of 10,020 Gg CO_2 by 2020. The Party reported in its BUR on five measures related to sustainable transport; these have generated emission reductions for 2010–2020 of 413 Gg CO_2 eq by incorporating bioethanol in naphtha and 921 Gg CO_2 eq by blending biodiesel in diesel. Other actions relate to the introduction of electric vehicles in public transport and electric utility vehicles. The Party reported that for many of the unconditional mitigation actions in the energy sector the targets for 2025 were achieved by 2017 or 2018.

69. The Party reported nine mitigation actions in the AFOLU sector, which are linked to developing good practices in natural resources management; applying zero discharge

[3] See https://visualizador.gobiernoabierto.gub.uy/visualizador/api/repos/%3Apublic%3Aorganismos%3Aambiente%3Avisualizador_cdn.wcdf/generatedContent.

technologies for rivers and streams; maintaining the area of native forests and forest plantations; maintaining the area of forest plantations with shelter and shade, including silvopastoral systems; protecting peatlands; implementing direct sowing; integrating service crops in pre-harvest soybeans; and incorporating natural field management good practices in livestock production. The measures have an implementation target of 2025. The impacts of most of the mitigation actions in the AFOLU sector are not expressed in terms of emission reductions or avoided emissions; instead, they have area-based goals (in ha).

70. The mitigation action in the waste sector concerns adopting technologies for capturing and combusting CH_4 emissions from municipal solid waste disposal sites. The Party reported that this mitigation action is ongoing and by 2017 had already exceeded the target for 2025 of having at least 60 per cent of municipal solid waste disposed of at sites equipped with this technology. The Party also reported estimated cumulative emission reductions resulting from the implementation of this mitigation action of 587.9 Gg CO_2 eq for 2007–2019.

71. In addition, the Party reported a mitigation action in the tourism sector called the Green Tourism Seal, which seeks to reduce the GHG emissions of tourist establishments as a result of good practices in tourism sustainability. Targets were established for compliance by 2025, with a reported compliance of 0.64 per cent by 2021.

72. Uruguay reported information on NAMAs and REDD+. The Party has developed eight NAMAs, of which three require preparation support and one requires implementation support. Only one of the NAMAs, the Highly Integrated Wind Energy Programme, has obtained partial funding (from the Government of Spain). The Party reported that it has concluded the development of the REDD+ project supported by the Forest Carbon Partnership Facility of the World Bank and that it presented its REDD+ preparation package to the Forest Carbon Partnership Facility at the end of 2021. It also presented a concept note to the Green Climate Fund on financing the implementation of the first demonstration actions for REDD+ in order to increase its native forest area by 2025.

73. Uruguay provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. Uruguay documented 30 CDM projects approved by its designated national authority and 25 projects and one programme of activities are registered under the UNFCCC CDM process. Most of the projects are focused on biomass and wind energy generation. As at the end of 2021 only seven CDM projects had generated CERs and only one project had generated additional CERs since the third BUR. The statistics in the BUR include information on the total projects and quantity of CERs issued for Uruguay. Between their presentation to the UNFCCC and 2021, seven CDM projects generated total CERs of 963,529 t CO_2 eq.

74. Uruguay reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Uruguay has had in place since 2019 a domestic MRV system, which includes the programming, monitoring, reporting and verification of mitigation and adaptation actions. Uruguay reported that it is working on the evaluation of the MRV system, taking as criteria completeness, clarity, transparency, coherence and consistency, in order to develop an improvement plan for ETF compliance. Further, Uruguay reported consistently with the voluntary general guidelines for domestic MRV of domestically supported NAMAs, contained in the annex to decision 21/CP.19.

75. Uruguay reported in its third BUR the results of the work of the SNRCC gender working group, which seeks to move towards a gender-sensitive domestic MRV system. Three lines of work have been defined, one of which involves establishing the potential impacts of mitigation actions on gender inequality. Information on gender sensitivity was reported for each mitigation action.

76. In paragraph 71 of the summary report on the technical analysis of Uruguay's third BUR, the previous TTE noted areas where the transparency of the reporting on mitigation actions could be enhanced, namely the reporting of information on gases covered and methodologies. The current TTE noted the improvements referred to in paragraphs 65–66 above and commends the Party for enhancing the transparency of its reporting.

77. Uruguay reported in its BUR (section 3.2) information on its current initiatives for enhancing its existing MRV system for compliance with requirements under the ETF. The initiatives relate to evaluating and improving the system of programming; monitoring, reporting and verifying the national climate change response; and elaborating an improvement plan for compliance with the new requirements of the ETF. The TTE commends the Party for the clear and comprehensive reporting on its proactive approach to preparing for ETF implementation.

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

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

79. Uruguay 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, Uruguay identified, in tabular format, gaps, constraints and needs in relation to reporting under the Convention (table 1), mitigation measures of its first NDC for the energy, transport, IPPU, AFOLU and waste sectors (tables 2, 3, 4, 5 and 6 respectively), the National Waste Management Plan (table 7) and the GHG inventory (table 8). With regard to the preparation of BURs, Uruguay reported as the main gaps the lack of technical expertise for collecting information, the lack of clear mandates on the type of information to be collected and the limited knowledge on methodologies to effectively determine which financial resources are destined to address mitigation and adaptation to climate change.

80. Uruguay reported that the 63 needs it identified encompass financial resources (21), technical capacity and technical assistance (24) and technology transfer (18). The needs are mainly related to measures for the generation of geothermal energy; introduction of electrical accumulator technology; incorporation of solar thermal collectors; development of energy efficiency labelling; introduction of electric vehicles; establishment of a vehicle test laboratory for studying energy efficiency and gaseous emissions; substitution of fossil fuels for lower-emission alternatives in cement production; partial replacement of clinker in cement production; incorporation of good practices of natural field management and management of breeding herds into livestock production; introduction of slow-release fertilizers; application of intermittent irrigation technology in rice cultivation; expansion of systems to capture CH_4 emissions; and introduction of burning and treatment of industrial wastewater.

81. In its BUR, Uruguay reported that information on needs, gaps and barriers is collected and validated by key public institutions that are part of SNRCC. However, it was not clear to the TTE how the validation process takes place and whether and to what extent the private sector is involved in the process. During the technical analysis, the Party clarified that such information is collected through various participatory processes in which the public and private sectors, civil society and academic institutions are involved. These processes include technology needs assessment; analysis of the progress of implementation of the mitigation measures included in the first NDC that are conditional on additional means of implementation; and implementation of the National Waste Management Plan. Evaluation and validation of the information is carried out during plenary meetings of the SNRCC Coordination Group, where the information collected by each institution is presented.

82. Uruguay reported information on financial resources, technology transfer, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR, Uruguay reported that it received in 2020 a total of USD 12.953 million, comprising support from the European Union (USD 1,142,000), the Global Environment Facility (USD 877,000), the Green Climate Fund (USD 594,000), the Inter-American Development Bank (USD 200,000), the Sustainable Development Goals Fund (USD 10,000,000) and the World Bank (USD 140,000). The support of the Global Environment Facility included an allocation for preparing the Party's fourth BUR and its NC6 (USD 852,000). Additionally, Uruguay is part of three regional projects, one funded by the European Union related to enhancing capacity for long-term climate planning, one funded

by the International Atomic Energy Agency related to elaborating energy development plans and one funded by the National Metrology Institute of Germany related to the implementation of energy efficiency policies. The information reported indicates that Uruguay received additional capacity-building and technical support from the Climate Technology Centre and Network, the Greenhouse Gas Management Institute and the Latin American Network on National Greenhouse Gas Inventories.

83. Uruguay reported information on nationally determined technology needs with regard to the development and transfer of technology in accordance with decision 2/CP.17, annex III, paragraph 16. In its BUR, Uruguay reported that the technology needs assessment, conducted during 2015–2017, was nationally determined and was the basis for the preparation of a technology action plan, which, in turn, supported the definition of the gaps, constraints and needs reported in the BUR. The TTE noted improvements in the reporting on nationally determined technology needs in the Party's current BUR compared with the previous BUR.

84. The TTE noted that the transparency of the information reported on needs and support received could be further enhanced by addressing the areas noted in paragraph 81 above, which could facilitate a better understanding of the information reported on needs and support received.

85. In paragraph 80 of the summary report on the technical analysis of Uruguay's third BUR, the previous TTE noted areas where the transparency of the reporting on constraints, gaps, needs and support needed and received could be enhanced, namely the reporting on nationally determined technology needs. The current TTE noted the improvements in paragraph 83 above and commends the Party for enhancing the transparency of its reporting.

D. Identification of capacity-building needs

86. In consultation with Uruguay, the TTE identified the following need for capacity-building that could facilitate the preparation of subsequent BURs and participation in ICA: strengthening national capacity to generate data and identifying the parameters necessary for estimating GHG emissions from municipal solid waste.

87. The TTE noted that, in addition to those identified during the technical analysis, Uruguay reported several capacity-building needs covering the following areas:

(a) Report preparation, namely the BUR and the upcoming biennial transparency report;

(b) Implementation of the mitigation measures included in the first NDC for the energy, transport, IPPU, AFOLU and waste sectors (including implementation of the National Waste Management Plan);

(c) GHG inventory compilation and improvement.

88. In paragraph 82 of the summary report on the technical analysis of Uruguay's third BUR, the previous TTE, in consultation with Uruguay, identified and prioritized seven capacity-building needs. In its fourth BUR (table 9), Uruguay reflected on progress in addressing those capacity-building needs, noting that they are all ongoing:

(a) Developing country-specific EFs for forest land subcategories;

(b) Developing country-specific EFs for estimating emission reductions or avoided emissions resulting from changes in crop cultivation practices;

(c) Developing country-specific EFs for estimating emission reductions or avoided emissions from the manure management system model used by dairy farms;

(d) Developing country-specific fuel carbon contents for the key categories of the energy sector in order to estimate the associated emissions using the tier 2 methodology;

(e) Enhancing technical capacity for estimating the emissions for the AFOLU sector categories that are still reported as "NE";

(f) Developing methodologies for estimating emission reductions resulting from mitigation actions, including emission reductions from energy efficiency mitigation actions;

(g) Compiling data on financial resources for climate change, technology transfer and capacity-building.

III. Conclusions

89. The TTE conducted a technical analysis of the information reported in the fourth BUR of Uruguay 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 removals 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; domestic MRV; and other information relevant to the achievement of the objective of the Convention. During the technical analysis, additional information was provided by Uruguay on the GHG inventory and capacity-building and support needed and received in response to questions of the TTE. The TTE concluded that the information analysed is mostly transparent.

90. Uruguay reported an update on the institutional arrangements relevant to the preparation of its BURs. It has taken significant steps to update the institutional arrangements that enable sustainable preparation of its BURs through establishing, in 2020, the Ministry of Environment and under it NDCC, a unit that is responsible for the preparation of BURs and NCs and which chairs the SNRCC Coordination Group.

91. In its fourth BUR, submitted in 2021, Uruguay reported information on its national GHG inventory for 1990, 1994, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2017 and 2019. This included GHG emissions and removals of CO_2, CH_4, N_2O, HFCs and SF6 for all relevant sources and sinks as well as the precursor gases. The inventory was developed on the basis of the 2006 IPCC Guidelines and GWP values from the AR2. The total GHG emissions for 2019 were reported as 19,462 Gg CO_2 eq (including land) and 31,019 Gg CO_2 eq (excluding land). Twenty-four key categories were identified, with enteric fermentation of cattle (CH_4) being the main key category and CH_4 the main gas. Emissions for most key categories were estimated using higher-tier methodologies, which led to a reduction in the overall uncertainty of the GHG inventory and an increase in its quality compared with the GHG inventories reported in previous NCs and BURs. Uruguay reported extensive information, although GHG emissions for a number of non-key categories of the AFOLU and waste sectors were not estimated owing to the unavailability of official AD. The Party indicated that the GHG inventory will continue to be improved in the future by utilizing the strong QA/QC system developed by the Party and by implementing improvement plans, which include plans for a smooth transition to the ETF.

92. Uruguay reported information on mitigation actions and their effects in tabular format, and framed its national mitigation planning and actions in the context of its National Climate Change Policy, which was launched in 2017, and its first NDC, which outlines targets for 2025. Uruguay reported that 59 per cent of its unconditional mitigation measures are under implementation, 38 per cent have reached the proposed target and 3 per cent are in the programming phase. The mitigation actions focus on the energy sector (diversification of energy sources, promotion of energy efficiency and development of sustainable and efficient transport) and the AFOLU sector (enhancement of agricultural practices and maintenance of forest land and cropland). The implementation of mitigation actions relating to wind, biomass and solar energy generation resulted in avoided emissions of 10,020 Gg CO_2 eq by 2020, while the corresponding avoided emissions for 2020 amounted to 3,169 Gg CO_2 eq. For many of the mitigation actions the targets for 2025 had been met by 2017 or 2018. The BUR provides information on CDM projects, NAMAs and REDD+ implementation. The Party

provided information on its enhanced MRV system, including gender sensitivity information for each reported mitigation action.

93. Uruguay reported information on key constraints, gaps and related needs in preparing reports, implementing mitigation measures included in its first NDC for the energy, transport, IPPU, AFOLU and waste sectors (including implementation of the National Waste Management Plan) and compiling the GHG inventory. Information was reported on the capacity-building support received. The Party also reported that it received in 2020 a total of USD 12.953 million, comprising support from the European Union (USD 1,142,000), the Global Environment Facility (USD 877,000), the Green Climate Fund (USD 594,000), the Inter-American Development Bank (USD 200,000), the Sustainable Development Goals Fund (USD 10,000,000) and the World Bank (USD 140,000). The support of the Global Environment Facility included an allocation for preparing the Party's fourth BUR and its NC6 (USD 852,000). The Party further reported that the technology needs assessment, conducted during 2015–2017, was nationally determined and was the basis for the preparation of a technology action plan, which, in turn, supported the definition of the gaps, constraints and needs reported in the BUR. Information on the identification of barriers, gaps and needs was not clearly reported but the Party provided relevant clarification during the technical analysis.

94. The current TTE noted improvements in the reporting in the Party's fourth BUR compared with that in its previous BUR. The information reported demonstrates that the Party has taken into consideration the areas for enhancing the transparency of the information reported noted by the TTE in the summary report on the technical analysis of the third BUR. However, improvements are ongoing, and the Party has taken note of outstanding areas for future improvements and commenced planning their implementation.

95. The TTE, in consultation with Uruguay, identified the 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.

Annex I

Extent of the information reported by Uruguay in its fourth biennial update report

Table I.1
Identification of the extent to which the elements of information on greenhouse gases are included in the fourth biennial update report of Uruguay

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
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	Uruguay submitted its fourth BUR in December 2021; the GHG inventories reported are for 1990, 1994, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2017, 2018 and 2019.
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	Uruguay 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	Uruguay updated activity levels of previous inventories and elaborated the estimates using the 2006 IPCC Guidelines.
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	Comparable information covering all the sections of table 3A.2 was reported in the NIR.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Comparable information was reported in tables included 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 BUR includes a consistent time series for 1990–2019. Only for a small number of non-key categories are estimates for 1990–1999 that were not reported in previous NCs not presented in the BUR.
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	This information was reported for 1990–2019.

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
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	
	(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	Comparable information was reported in the BUR (chap. 2, table 4).
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF6).	Yes	Comparable information was reported in the BUR (chap. 2, table 4).
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	Yes	The Party submitted an NIR 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	
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	
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;	Partly	Emissions for some categories in the AFOLU sector (3.C.2 and 3.D.1) and the waste sector (4.C.2) were not estimated owing to the unavailability of national official AD.
	(b) CH_4;	Partly	Emissions for some categories in the AFOLU sector (3.C.1.a and 3.C.1.d) and waste sector (4.C.2) were not estimated owing to the unavailability of national official AD.
	(c) N_2O.	Partly	Emissions for some categories in the AFOLU sector (3.C.1.a and 3.C.1.d) and waste sector (4.C.2) were not estimated owing to the unavailability of national official AD.
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:		
	(a) HFCs;	Yes	
	(b) PFCs;	Yes	

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	(c) SF6.	Yes	
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) CO;	Yes	
	(b) NOX;	Yes	
	(c) NMVOCs.	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 SO_2.
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	
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 GWP provided by the IPCC in its AR2 based on the effects of GHGs over a 100-year time-horizon.	Yes	The Party used the GWP provided in the AR2.
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	
	(b) Explanation of the sources of EFs;	Yes	
	(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	NA	

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	part of the Revised 1996 IPCC Guidelines, they should explicitly describe:		
	(i) Source and/or sink categories;		
	(ii) Methodologies;		
	(iii) EFs;		
	(iv) AD;		
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.	Yes	
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1–2 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	
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	

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 fourth biennial update report of Uruguay

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
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:		

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	(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;	Yes	
	(b) Information on:		
	(i) Methodologies;	Yes	
	(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;	Yes	The Party reported the results for each mitigation action using the metric assigned to the action.
	(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.

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 fourth biennial update report of Uruguay

Decision	*Provision of the reporting requirements*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
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	
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	
	(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	Yes	

Decision	*Provision of the reporting requirements*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.		
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;	Yes	
	(b) Technology support received.	Yes	

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.

IPCC. 2000. *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*. J Penman, D Kruger, I Galbally, et al. (eds.). Hayama, Japan: IPCC/Organisation for Economic Co-operation and Development/International Energy Agency/Institute for Global Environmental Strategies. Available at http://www.ipcc-nggip.iges.or.jp/public/gp/english/.

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-nggip.iges.or.jp/public/2019rf/index.html.

B. UNFCCC documents

First, second and third BURs of Uruguay. Available at https://unfccc.int/BURs.

NC5 of Uruguay. Available at https://unfccc.int/non-annex-I-NCs.

Summary reports on the technical analysis of the first, second and third BURs of Uruguay contained in documents FCCC/SBI/ICA/2016/TASR.1/URY, FCCC/SBI/ICA/2018/TASR.2/URY and FCCC/SBI/ICA/2020/TASR.3/URY respectively. Available at https://unfccc.int/ICA-reports.

C. Other documents

The following documents may not conform to UNFCCC editorial style as some have been reproduced as received:

Comparison of sectoral versus reference approach for 2019 year (.xls file).

EEA. 2019. *EMEP/EEA air pollutant emission inventory guidebook 2019: Technical guidance to prepare national emission inventories.* Luxembourg: Publications Office of the European Union. Available at https://www.eea.europa.eu/publications/emep-eea-guidebook-2019.

National Working Group Paper documenting expert judgement for implementing T2 for enteric fermentation from Uruguay's GHG inventory 2004 called "FACTORES DE EMISIÓN PARA METANO POR FERMENTACIÓN ENTÉRICA Y DE ÓXIDO NITROSO DESDE LOS SUELOS AGROPECUARIOS UTILIZABLES EN MÉTODOS DE NIVEL 2 DEL IPCC", Pilar Irisarri (pdf file).