



United Nations

FCCC/SBI/ICA/2018/TASR.2/URY



Framework Convention on
Climate Change

Distr.: General
29 March 2019

English only

Technical analysis of the second biennial update report of Uruguay submitted on 29 December 2017

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 (non-Annex I Parties), consistently with their capabilities and the level of support provided for reporting, were to submit their first biennial update report (BUR) by December 2014. Further, 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 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 BURs at their discretion. This summary report presents the results of the technical analysis of the second BUR 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.

GE.19-05176(E)



* 1 9 0 5 1 7 6 *

Please recycle



Contents

	<i>Paragraphs</i>	<i>Page</i>
Abbreviations and acronyms		3
I. Introduction and process overview.....	1–9	4
A. Introduction	1–5	4
B. Process overview	6–9	4
II. Technical analysis of the biennial update report	10–68	5
A. Scope of the technical analysis	10–11	5
B. Extent of the information reported.....	12–14	5
C. Technical analysis of the information reported.....	15–65	5
D. Identification of capacity-building needs.....	66–68	12
III. Conclusions	69–74	13
Annexes		
I. Extent of the information reported by Uruguay in its second biennial update report.....		15
II. Documents and information used during the technical analysis		21

Abbreviations and acronyms

2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
AD	activity data
AFOLU	agriculture, forestry and other land use
BUR	biennial update report
CDM	clean development mechanism
CER	certified emission reduction
CH ₄	methane
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
EF	emission factor
GHG	greenhouse gas
GTP	global temperature change potential
GWP	global warming potential
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>
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NAMA	nationally appropriate mitigation action
NC	national communication
NDC	nationally determined contribution
NE	not estimated
NIR	national inventory report
NMVOC	non-methane volatile organic compound
NO	not occurring
non-Annex I Parties	Parties not included in Annex I to the Convention
NO _x	nitrogen oxides
NSRCC	National System of Response to Climate Change
N ₂ O	nitrous oxide
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF ₆	sulfur hexafluoride
SO _x	sulfur oxides
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 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 BURs. 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 first BUR on 7 December 2015, which was analysed by a TTE in the fourth round of technical analysis of BURs from non-Annex I Parties, conducted from 29 February to 4 March 2016. After the publication of its summary report, Uruguay participated in the third workshop for the facilitative sharing of views, convened in Bonn, on 15 May 2017.
5. This summary report presents the results of the technical analysis of the second 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 second BUR on 29 December 2017 as a stand-alone update report. The submission was made two years after the submission of the first BUR.
7. The technical analysis of the BUR took place from 20 to 24 August 2018 in Bonn 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: Ms. María José López (Belgium), Mr. Marcelo Rocha (Brazil), Mr. Alexander Valencia (Colombia), Ms. Fan Xing (China) and Mr. Oscar Zarzo Fuertes (Germany). Ms. López and Mr. Rocha were the co-leads. The technical analysis was coordinated by Ms. Karen Ortega and Ms. Ana Pejovic (secretariat).
8. 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 Uruguay engaged in consultation¹ 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 second BUR, the TTE prepared and shared a draft summary report with Uruguay on 14 November 2018 for its review and comment. Uruguay, in turn, provided its feedback on the draft summary report on 11 February 2019.
9. The TTE responded to and incorporated Uruguay's comments referred to in paragraph 8 above and finalized the summary report in consultation with the Party on 28 February 2019.

¹ The consultation was conducted via teleconferencing.

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 chapter 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 chapter 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 chapter 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 the progress made 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 annex I.

14. The current TTE noted improvements in the reporting in the Party's second BUR compared with that in the first BUR. Information on GHG inventories, mitigation actions and their effects, and needs and support reported in the second BUR demonstrates that the Party 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 first 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 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.

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 can report similar information in their BURs, which provide an update of their most recently submitted NC.

19. In its second BUR, the Party provided an update on its national circumstances, including a description of national and regional development priorities, objectives and circumstances, and information on features of geography, climate and extreme events and social and economic characterization that might affect the 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 and the impact of the implementation of response measures, as referred to in Article 4, paragraph 8, and, as appropriate, in Article 4, paragraphs 9 and 10, of the Convention.

20. Uruguay transparently described in its BUR the 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, such as the legal status and roles and responsibilities of the overall coordinating entity, and the involvement and roles of other institutions and experts.

21. In 2017 Uruguay adopted the National Policy on Climate Change that was elaborated in 2016 in the frame of the NSRCC. The goal of the policy is integrating climate change in public policies, particularly those related to development. The NSRCC consists of two areas of work: the Coordination Group and the Advisory Commission. The Coordination Group is chaired by the Ministry of Housing, Territorial Planning and Environment, and vice presidencies are exercised by the Ministry of Livestock, Agriculture and Fisheries and the Office of Planning and Budget. The Coordination Group is composed of representatives of the Ministry of National Defence, the Ministry of Economy and Finance, the Ministry of Industry, Energy and Mining, the Ministry of Foreign Affairs, the Ministry of Public Health, the Ministry of Tourism, the Congress of Intendants and the National Emergency System. Delegates from the Secretariat of Environment, Water and Climate Change, the Ministry of Social Development, the Uruguay Institute of Meteorology and the Uruguay Agency for International Cooperation participate as guests. The Advisory Commission is composed of technicians representing public institutions and academic, technical and research entities. The working groups include more than 80 technicians from ministries, government departments, the Uruguay Institute of Meteorology, the University of the Republic and the National Institute of Agricultural Research, among others. This arrangement ensures the preparation of NCs and BURs on a continuous basis. For instance, almost 100 institutions and more than 300 participants contributed to the design process of the policy.

22. In paragraph 26 of the summary report on the technical analysis of Uruguay's first BUR, the previous TTE noted areas where the transparency of the reporting on institutional arrangements could be further enhanced. The current TTE noted that Uruguay included relevant information in its second BUR and commends the Party for enhancing the transparency of its reporting.

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

23. As indicated in table 1 in annex I, Uruguay reported information on its GHG inventory in its BUR completely 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.

24. Uruguay submitted its second BUR in 2017, and the GHG inventory reported is for 1990, 1994, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012 and 2014, which is consistent with the requirements for the reporting time frame.

25. Uruguay submitted an NIR in conjunction with its second BUR. The relevant sections of the NIR were referenced in the BUR, and the document was made publicly available on the UNFCCC website.²

26. GHG emissions and removals for the BUR covering the 1990–2014 inventories were estimated using tier 1, 2 and 3 methodologies from the 2006 IPCC Guidelines.

27. Uruguay reported information on its use of GWP values consistent with those provided by the IPCC in its Second Assessment Report on the basis of the effects over a 100-year time-horizon of GHGs. In addition, Uruguay has reported GHG emissions and removals expressed in CO₂ equivalents using the GTP provided by the IPCC in its Fifth Assessment Report on the basis of the effects of GHGs over a 100-year time-horizon.

28. With regard to the methodologies used, information was clearly reported, including information on AD and EFs used. Uruguay has collected AD for almost all categories and has applied country-specific EFs for some of the key categories, as described in paragraphs 34–38 below.

29. Information on the Party's total GHG emissions by gas for 2014 is outlined in table 1 below. It shows an increase in emissions of 7.5 per cent since the first year reported by the Party (based on GWP) or 0.2 per cent (based on GTP).

Table 1
Greenhouse gas emissions by gas of Uruguay

Gas	1990		2014		% change 1990–2014 (using GWP)	% change 1990–2014 (using GTP)
	GHG emissions (Gg CO ₂ eq – using GWP) including removals	GHG emissions (Gg CO ₂ eq – using GTP) including removals	GHG emissions (Gg CO ₂ eq – using GWP) including removals	GHG emissions (Gg CO ₂ eq – using GTP) including removals		
CO ₂ (net)	4 604	4 604	2 803	2 803	–39	–39
CH ₄	14 504	2 763	16 240	3 093	12	12
N ₂ O	7 259	5 480	9 212	6 954	27	27
HFCs + SF ₆			85	26		
Total	26 367	12 847	28 340	12 876	7.5	0.2

30. Other emissions reported include 52.9 Gg NO_x, 627.5 Gg CO, 77.9 Gg NMVOCs and 41.7 Gg SO₂.

31. Uruguay applied notation keys (IE, NE and NO) in tables where numerical data were not provided. The use of notation keys was consistent with the IPCC Guidelines.

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.

33. The shares of emissions that different sectors contributed to the total GHG emissions excluding removals as reported by the Party in 2014 are reflected in table 2 below.

Table 2
Shares of greenhouse gas emissions by sector of Uruguay in 2014

Sector	GHG emissions (Gg CO ₂ eq – using GWP)	Share (%)	GHG emissions (Gg CO ₂ eq – using GTP)	Share (%)
Energy	6 495	22.9	6 362	49.4
AFOLU (net)	20 300	71.6	5 770	44.8

² <https://unfccc.int/BURs>.

<i>Sector</i>	<i>GHG emissions (Gg CO₂ eq – using GWP)</i>	<i>Share (%)</i>	<i>GHG emissions (Gg CO₂ eq – using GTP)</i>	<i>Share (%)</i>
Industrial processes	510	1.8	449	3.5
Waste	1 048	3.7	290	2.3

34. For the energy sector, information was clearly reported on the types of fuel used in each sector category. Emissions from transport represent 54 per cent (using GWP) or 55 per cent (using GTP) of total sector emissions, followed by energy industries (15 per cent using GWP or GTP) and manufacturing industries and construction (14 per cent using GWP or GTP). To estimate CO₂ emissions, Uruguay applied default EFs from the 2006 IPCC Guidelines in all categories. For CH₄ and N₂O emissions, tier 3 EFs per type of technology listed in the 2006 IPCC Guidelines were applied. During the technical analysis, the Party clarified that national experts have evaluated the applicability of such EFs in the light of national circumstances and technologies used in the country. In cases where it was not possible to identify the technology, default EFs were applied.

35. For industrial process emissions, all relevant source categories were included in the inventory using tier 1 and default EFs, with the exception of cement production and iron and steel production, which applied country-specific EFs.

36. For the AFOLU sector, Uruguay reported GHG emissions and removals for most of the sector categories, but within the land categories the Party reported only emissions and removals for living biomass in the forest land remaining forest land and in the grassland converted to forest land categories. Estimates were not reported on any other land-use category or other carbon pools. During the technical analysis, Uruguay explained that the Capacity-building Initiative for Transparency is supporting the Party in enhancing the coverage of the national GHG inventory, particularly in the AFOLU sector. The TTE noted that reporting on the plans to expand the coverage of the national GHG inventory in the AFOLU sector in the BUR could facilitate a better understanding of the information reported.

37. Forest land remaining forest land, grassland converted to forest land, CH₄ from enteric fermentation and direct and indirect N₂O emissions from soils were identified as key categories within the sector. Uruguay used country-specific parameters for land categories, country-specific EFs for enteric fermentation of cattle and country-specific nitrogen excretion rates. The TTE commends the Party for its efforts to develop country-specific EFs and collect country-specific parameters for these key categories. Overall, the net removals from the AFOLU sector fluctuated between a minimum of –750.9 Gg CO₂ in 1990 and a maximum of 12,696.8 Gg CO₂ in 2002.

38. In the waste sector, Uruguay used AD disaggregated at department level for solid waste disposal and at treatment facility level for domestic and industrial wastewater treatment and discharge. The TTE commends Uruguay for the efforts to collect disaggregated AD. Information was also reported on biological treatment of solid waste and incineration and open burning of waste but only for 2014 due to the lack of data in other years.

39. The NIR, as a technical annex to the BUR, contains information that serves as an update of the NC4, which addressed anthropogenic emissions and removals up to 2012. The update was carried out for all years in the period 1990–2014 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent time series. The previous national inventory was prepared using the Revised 1996 IPCC Guidelines, IPCC good practice guidance and IPCC good practice guidance for LULUCF. The TTE commends the Party for using the more recent 2006 IPCC Guidelines.

40. Uruguay described in its BUR the institutional framework for the preparation of its 2014 GHG inventory. The Ministry of Housing, Land Planning and Environment is the governmental body responsible for climate change policies and is responsible for the Party's GHG inventory (together with the Ministry of Livestock, Agriculture and Fisheries and the Ministry of Industry, Energy and Mining).

41. Uruguay reported a key category analysis performed for the level of emissions and the trend in emissions using the GWP and the GTP for 2014. The key categories identified

using the GWP at the level of emissions were land converted to forest land, enteric fermentation, forest land remaining forest land, direct N₂O emissions from managed soils, road transportation, indirect N₂O emissions from managed soils, energy industries – liquid fuels, other sectors – liquid fuels, and manufacturing industries and construction – liquid fuels. When using the GTP the key categories were direct N₂O emissions from managed soils, forest land, transport, enteric fermentation, indirect N₂O emissions from managed soils, other sectors – commercial/residential/agriculture, energy industries, and manufacturing industries and construction.

42. The BUR provides information on QA/QC measures for all sectors. The TTE commends Uruguay for providing information in accordance with the IPCC good practice guidance.

43. Uruguay reported information on CO₂ fuel combustion using both the sectoral and the reference approach. The difference between the two approaches was only 3.2 per cent due to methodological differences between the approaches.

44. Information was reported on international aviation and marine bunker fuels. For 2014 the emissions accounted for 890.6 Gg CO₂, where 73 per cent of these emissions are from marine bunker fuels.

45. Uruguay reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based on a qualitative and quantitative approach. Due to the lack of data it was not possible to complete the quantitative approach. During the technical analysis, Uruguay clarified that there is a need to validate or to adjust the uncertainty default values of the 2006 IPCC Guidelines to the national circumstances in order to perform a complete quantitative approach. The TTE noted that the Party clarifying the need to perform a complete quantitative approach in the BUR could facilitate a better understanding of the information reported.

46. The TTE noted that the transparency of the information reported could be further enhanced by addressing the areas referred to in paragraphs 34, 36 and 45 above, which could enable the TTE to better understand the information reported.

47. In paragraphs 29, 30 and 32 of the summary report on the technical analysis of Uruguay's first BUR, the TTE noted where the transparency could be further enhanced (i.e. reporting on GHG emissions for previous years, information on the archiving system, table 2 as encouraged by decision 2/CP.17, annex III, para. 9). The TTE noted that Uruguay took into consideration these areas for improvement in its second BUR and commends the Party for enhancing the transparency of the information reported.

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

48. As indicated in table 2 in annex I, Uruguay 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.

49. Uruguay reported comprehensive information and provided a national context on mitigation policies. Uruguay's BUR frames mitigation planning and actions within its recently adopted National Climate Change Policy and its first NDC. Uruguay's National Climate Change Policy contains strategic guidelines with a horizon to 2050 within a sustainable development, inclusive, low-carbon and climatically resilient society framework. Uruguay's first NDC presents emission reduction objectives by gas in terms of emissions per unit of gross domestic product in 2025 compared to 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. Uruguay transparently describes the main goals and progress of policies, action plans and projects in key sectors with significant GHG emissions including energy, transport, AFOLU and waste.

50. Uruguay reported a summary of its mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11.

51. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Uruguay provided information on the name, coverage and description of its mitigation actions. Twelve measures are reported in the energy sector (including energy mix and energy efficiency), six in the transport sector (e.g. sustainable transport), two measures and different instruments in the agriculture sector (e.g. sustainable agriculture), five measures in the forestry and other land use sector (e.g. carbon stocks) and three measures in the waste sector (e.g. waste treatment). Apart from the information reported on implemented mitigation actions, the BUR provided details on eight NAMAs (five in the energy sector, one addressing energy and forestry, one addressing energy and waste and one in the agriculture sector) and the six CDM projects that have generated CERs.

52. In accordance with decision 2/CP.17 annex III, paragraph 12 (b-d), Uruguay reported on the progress of mitigation actions implemented or under implementation within the country, methodologies and assumptions. However, specific quantitative information such as quantified goals, progress indicators and potential reductions in GHG emissions has not been reported for all actions. In addition, the methodology and assumptions used for estimating the outcomes or emission reductions and the quantitative goals are not provided for some mitigation actions (namely, the energy efficiency plan 2015–2024, annual carbon stocks in agriculture soils, CH₄ recovery in urban waste landfills, and NAMAs). During the technical analysis, Uruguay clarified that the country is implementing an MRV system on mitigation actions in which progress indicators are being developed and quantitative information is being estimated so the provision of quantitative information will be highly improved in the near future.

53. Uruguay provided information on methodologies and assumptions for some mitigation actions addressing one of the areas for improvement identified during the technical analysis of the first BUR. For those mitigation actions in which references to software (e.g. increased use of renewable energy in the energy mix) or studies (e.g. biofuels use) are provided, there is no information on the core methods used by the software or the studies. The TTE acknowledges Uruguay's efforts to provide information on the mitigation actions implemented and its plans to improve the availability and reporting of quantitative information but noted that including information related to GHG emission reductions, methodologies, assumptions and progress indicators for all the actions listed, in accordance with paragraph 12 of the UNFCCC reporting guidelines on BURs, could enhance the understanding of the mitigation actions.

54. Information reported for the energy sector explained the energy policy, which has a 2015 interim goal of 50 per cent use of renewable energy in the energy matrix, and this is presented as a measure in the energy sector. This share was reached in 2014 and represented 59 per cent in 2016. However, the interim and final goals of the energy policy for 2020 and 2030, respectively, are mentioned but not presented with any further detailed information in the BUR. The TTE notes that the transparency of the information reported on the energy policy could be enhanced if these goals were to be included in the BUR with associated information.

55. 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 26 CDM projects registered under the UNFCCC CDM process. Most of the projects are focused on the energy sector. Six CDM projects have generated CERs for a total of 0.68 Mt CO₂ eq.

56. 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 is in the process of developing and designing a domestic MRV system for mitigation actions.

57. The TTE noted that the transparency of the information reported could be further enhanced by addressing the areas referred to in paragraphs 53 and 54 above, which could enable the TTE to better understand the information reported.

58. In paragraph 46 of the summary report on the technical analysis of Uruguay's first BUR, the previous TTE noted that the estimated emission reductions resulting from the energy policy measure on the increasing use of renewable energy in the energy mix were 88 per cent below the 2005–2009 level by 2017 but the information on the methodologies and

assumptions used to estimate this emission reduction was not reported in the BUR. The current TTE noted that Uruguay took into consideration this area for improvement and presented information on emission reductions associated with the energy policy in the period 2005–2015 and the methodologies and assumptions used to estimate them in its second BUR. In paragraphs 49 and 50 of the first BUR, the previous TTE noted that specific quantitative information on reductions in GHG emissions as well as methodologies, assumptions and progress indicators was not provided for any mitigation action, while the second BUR presents this information for some actions. The TTE commends the Party for enhancing the transparency of the information reported.

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

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

60. Uruguay did not explicitly report information on constraints and gaps, and related financial, technological and capacity-building needs, in accordance with decision 2/CP.17, annex III, paragraph 14. In its BUR, Uruguay identified a lack of understanding of the reporting provisions in some areas as a constraint. During the technical analysis, Uruguay provided additional information on key challenges and needs, such as designing and implementing a systematic methodology for identifying constraints, gaps and needs and translating the identified needs into financial, technical, technological and capacity-building needs. The TTE noted that including this information in the BUR could facilitate a better understanding of the information reported.

61. The Party reported that its financial, technological and capacity-building needs are primarily in the areas of funding for the implementation of conditional mitigation measures. The implementation of these measures implies the additional and specific provision of non-reimbursable or concessional public financing, technology transfer and capacity-building to be provided by developed countries; systematization of a domestic MRV system; and management and monitoring of the National Inventory System.

62. Uruguay reported information on financial resources received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR, Uruguay reported that it received USD 18.2 million, including USD 4.48 million from the Global Environment Facility and USD 8 million from Japan. The support from the Global Environment Facility included allocation for both Uruguay's second BUR and its NC5 for USD 852,000, with the United Nations Development Programme as implementing agency. The information reported also indicates that Uruguay received capacity-building and technical support, but the type of support received in the mentioned projects (i.e. the type of technical or capacity-building support received) was not explicitly reported. Uruguay also reported the challenge of establishing a standardized and sustainable system for monitoring the financial support received. During the technical analysis, Uruguay clarified the type of support received within each project, including specific information about the type of support received (technology transfer, capacity-building, technical support) and further explained that the new arrangement with the Uruguay International Cooperation Agency, which depends on the Presidency of the Republic, has improved the collection of information. The TTE noted that explicitly describing in the BUR the type of support received could facilitate a better understanding of the information reported.

63. 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 was nationally determined. The technology needs assessment and the NDC were the basis for the technology needs reported in the BUR.

5. Any other information

64. Uruguay reported some information on positive impacts on climate vulnerability due to the implementation of mitigation projects. These actions include using renewable energy

to provide electricity and using electric vehicles. From the energy policy approved in 2008, there was a rapid and deep structural transformation, mainly in the electricity sector, with the incorporation of non-traditional renewable sources (wind, biomass, solar), which led to the reduction of climate vulnerability and cost overruns produced in dry years with scarce availability of hydroelectric energy while reducing GHG emissions. Uruguay, within the framework of its energy policy, has made a great effort to diversify and radically transform its energy matrix, and in 2016, 59 per cent of the energy supply and 97 per cent of electricity generation were based on renewable sources.

65. Uruguay additionally reported that in parallel with the institutional progress on specific issues of climate change, the country has made progress in other transversal areas in recent years, including the institutionalization of gender equality through the National Law on Equality of Rights and Opportunities between Men and Women, which entrusts the National Institute of Women in the Ministry of Social Development with the preparation of the National Plan and with the creation of the National Council on the Coordination of Gender Policies.

D. Identification of capacity-building needs

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

(a) Estimating emissions and removals from all land-use categories in the 2006 IPCC Guidelines through the development of land-use maps and land-use change matrices;

(b) Estimating emissions and removals from all carbon pools, particularly in soils and deadwood, through the development of carbon soil maps and other databases;

(c) Developing the national capacities and databases necessary to enhance the application of the *EMEP/EEA Air Pollutant Emission Inventory Guidebook 2016* (European Environment Agency, 2016), particularly for estimating SO₂ and GHG precursors in the energy sector;

(d) Estimating additional categories in the AFOLU sector, including emissions and removals from land (3B, in addition to 3B1a and 3B1bii), and emissions from biomass burning in forest land (3C1a) and liming (3C2);

(e) Developing a country-specific EF for direct N₂O emissions from manure management, on the basis of the experience of other countries;

(f) Developing a quantitative uncertainty analysis for all sectors by adjusting or validating the default values from the 2006 IPCC Guidelines to national circumstances;

(g) Conducting quantitative analysis of mitigation actions and their effects;

(h) Designing and implementing a methodology for identifying gaps, constraints and needs;

(i) Strengthening the technical capacity of institutions and experts at the national level to determine financial, technological and capacity-building needs;

(j) Developing procedures and institutional arrangements for data management to collect information related to financial resources, technology transfer, capacity-building and technical support received.

67. The TTE noted that, in addition to those identified during the technical analysis, Uruguay reported some implicit capacity-building needs in section 4.1 of its BUR covering the following areas:

(a) Identifying needs in some sectors;

(b) Applying a methodology to assess and inform support needs (financial, technology transfer and capacity development) for the implementation of conditional mitigation measures to specific additional implementation means;

(c) Managing and monitoring the National Inventory System;

- (d) Developing and updating country-specific EFs;
- (e) Producing, managing and analysing relevant information.

68. In paragraph 65 of the summary report on the technical analysis of Uruguay's first BUR, the previous TTE, in consultation with Uruguay, identified capacity-building needs. In its second BUR, Uruguay reflected that some of those capacity-building needs have been addressed, in particular the capacity to develop the most appropriate approach to designing and implementing the national GHG inventory system including a QA/QC plan.

III. Conclusions

69. The TTE conducted a technical analysis of the information reported in the second BUR of Uruguay in accordance with the UNFCCC reporting guidelines on BURs. The TTE concludes that the reported information is mostly consistent with the UNFCCC reporting guidelines on BURs and 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; financial, technological 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 any other information relevant to the achievement of the objective of the Convention. During the technical analysis, additional information was provided by Uruguay in August 2018. The TTE concluded that the information analysed is mostly transparent.

70. Uruguay reported information on the institutional arrangements relevant to the preparation of its BURs. Policies are driven by the NSRCC, which includes all relevant ministries, local government and other institutions with responsibilities related to climate change. The NSRCC oversees the coordination and the arrangement of the policies, programmes and plans to deal with climate change. The NSRCC has specific thematic groups to deal with different working areas, such as international negotiation, mitigation, adaptation and national GHG inventories. In this regard, the BUR was prepared and validated within the NSRCC.

71. In its second BUR, submitted in 2017, Uruguay reported information on its national GHG inventory for 1990, 1994, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012 and 2014. This included GHG emissions and removals of CO₂, CH₄ and N₂O for all relevant sources and sinks as well as the precursor gases. Estimates of fluorinated gases were also provided. The inventory was developed on the basis of the 2006 IPCC Guidelines. Total GHG emissions in 2014 were reported as 32,362 CO₂ eq (excluding LULUCF) and 28,341 CO₂ eq (including LULUCF), according to GWP. When using GTP, Uruguay reported 16,897 CO₂ eq (excluding LULUCF) and 12,876 CO₂ eq (including LULUCF). Nine key categories were identified, with CO₂ and grassland converted to forest land identified as the main gases and key category, respectively.

72. Uruguay's BUR frames mitigation planning and actions within its National Climate Change Policy and its first NDC. It transparently describes the main goals and progress of its policies, action plans and projects of key sectors with significant GHG emissions (energy, AFOLU and waste). Thus, Uruguay's mitigation actions include measures associated with the energy mix, energy efficiency, sustainable transport, sustainable agriculture, carbon stocks and waste treatment. Apart from the information reported on implemented mitigation actions, the BUR provides details on eight NAMAs and six CDM projects that have generated CERs, all mainly in the energy sector. The information provided is clear and comprehensive.

73. Uruguay reported information on key constraints, gaps and related needs, including financial, capacity-building, technical and technology transfer needs. The information on constraints and gaps in the BUR was not explicitly reported. Party has also reported on the financial and capacity-building support received.

74. The TTE, in consultation with Uruguay, identified 10 capacity-building needs listed in chapter II.D above and related to the facilitation of 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. Uruguay further identified the following as priority capacity-building needs:

- (a) Estimating emissions and removals from all land-use categories in the 2006 IPCC Guidelines through the development of land-use maps and land-use change matrices;
- (b) Developing the national capacities and databases necessary to enhance the application of the *EMEP/EEA Air Pollutant Emission Inventory Guidebook 2016* (European Environment Agency, 2016), particularly for estimating SO₂ and GHG precursors in the energy sector;
- (c) Developing a quantitative uncertainty analysis for all sectors by adjusting or validating the default values from the 2006 IPCC Guidelines to national circumstances;
- (d) Conducting quantitative analysis of mitigation actions and their effects;
- (e) Developing procedures and institutional arrangements for data management to collect information related to financial resources, technology transfer, capacity-building and technical support received.

Annex I

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

Table 1

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

<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	Uruguay submitted its second BUR in December 2017; the GHG inventories reported are for 1990, 1994, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012 and 2014.
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 on the basis of 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 presented (in an annex to the second BUR) sectoral reports with information on activity levels on the basis of the best information available 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	Tables were presented for 2014 for CO ₂ from a living biomass pool in the forest land remaining forest land and grassland converted to forest land categories.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Summary tables were presented using the Revised 1996 IPCC Guidelines. Uruguay also reported comparable information in sectoral tables from the 2006 IPCC Guidelines.
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	
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, 1994, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012 and 2014.

<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 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 Second Assessment Report on the basis of the effects of GHGs over a 100-year time-horizon.	Yes	In addition to GWP, Uruguay also presented the results using GTP from the IPCC Fifth Assessment Report.
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	Uruguay used the 2006 IPCC Guidelines. Tier 1, 2 and 3 methodologies were used for specific sectors.
	(b) Explanation of the sources of EFs;	Yes	Uruguay applied default EFs from the 2006 IPCC Guidelines in all categories. For CH ₄ and N ₂ O emissions, tier 3 EFs per type of technology listed in the 2006 IPCC Guidelines were applied. During the technical analysis, the Party further clarified how national experts have evaluated the applicability of such EFs in the light of national circumstances and technology used in the country.
	(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	
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	Notation keys were used.
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	Uruguay presented qualitative and quantitative uncertainty analyses, although the quantitative analysis was not performed for most sectors or categories due to the lack of data.
	(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, paragraphs 3–10 and 41(g). Further, as per paragraph 3 of those guidelines, non-Annex I Parties are to submit updates of their national GHG inventories in accordance with 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. 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 2

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

<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	Information on quantitative goals and progress indicators was not reported for some of the mitigation actions (such as the six mitigation actions included in section III of the BUR

<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>
			related to sustainable and efficient transport).
	(b) Information on:		
	(i) Methodologies;	Partly	The methodology used for estimating the outcomes or emission reductions and the quantitative goals is not provided for some mitigation actions (in particular for the energy efficiency plan 2015–2024, annual carbon stocks in agricultural soils, CH ₄ recovery in urban waste landfills and all NAMAs).
	(ii) Assumptions;	Partly	The assumptions used for estimating the outcomes or emission reductions and the quantitative goals are not provided for some mitigation actions (in particular for the energy efficiency plan 2015–2024, annual carbon stocks in agricultural soils, CH ₄ recovery in urban waste landfills and all NAMAs).
	(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	Uruguay describes the outcomes of each action. However, it has not been possible to estimate emission reductions for all mitigation actions (Uruguay has estimated the emission reductions for three mitigation actions included in section I of the BUR related to the sustainable diversification of the energy matrix).
	(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, paragraphs 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 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 second biennial update report of Uruguay

<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;	Partly	The BUR does not include specific/clear information on constraints and gaps.
	(b) Related financial, technological 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;	Partly	The BUR includes information on financial resources received but information on technology transfer and capacity-building received was not explicitly mentioned in the BUR.
	(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.	Yes	
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	Technology needs assessment was used to identify projects for mitigation actions.
	(b) Technology support received.	Partly	The BUR includes information on financial resources received but information on technology support received was not detailed in the BUR.

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, paragraphs 14–16.

Annex II

Documents and information used during the technical analysis

Reference documents

“Composition, modalities and procedures of the team of technical experts for undertaking the technical analysis of biennial update reports from Parties not included in Annex I to the Convention”. Annex to decision 20/CP.19. Available at <https://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf>.

European Environment Agency. 2016. *EMEP/EEA Air Pollutant Emission Inventory Guidebook 2016*. Luxembourg City: Publications Office of the European Union. Available at <https://www.eea.europa.eu/publications/emep-eea-guidebook-2016>.

First BUR of Uruguay. Available at <https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-convention/biennial-update-reports-0>.

Fourth NC of Uruguay. Available at <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-update-reports-non-annex-i-parties/national-communication-submissions-from-non-annex-i-parties>.

“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”. Annex to decision 17/CP.8. Available at <https://unfccc.int/resource/docs/cop8/07a02.pdf>.

IPCC. 1997. *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. J.L. Houghton, L.G. 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/gp/landuse/gp/landuse.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>.

“Modalities and guidelines for international consultation and analysis”. Annex IV to decision 2/CP.17. Available at <https://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

Summary report on the technical analysis of the first BUR of Uruguay. Available at <https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/biennial-update-reports-and-international-consultation-and-analysis-non-annex-i-parties/international-consultation-and-analysis-process/international-consultation-and-analysis>.

“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”. Annex III to decision 2/CP.17. Available at <https://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.