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## **Technical analysis of the first biennial update report of Saudi Arabia submitted on 3 April 2018**

**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 (BUR) by December 2014. 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 first BUR of Saudi Arabia, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

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## Abbreviations and acronyms

AD	activity data
BUR	biennial update report
CDM	clean development mechanism
CGE	Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention
CH <sub>4</sub>	methane
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
DNA	designated national authority
EF	emission factor
F-gas	fluorinated gas
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
ICA	international consultation and analysis
INDC	intended nationally determined contribution
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>
LUCF	land-use change and forestry
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
N <sub>2</sub> O	nitrous oxide
NA	not applicable
NC	national communication
NMVOG	non-methane volatile organic compound
non-Annex I Party	Party not included in Annex I to the Convention
NO <sub>x</sub>	nitrogen oxides
PFC	perfluorocarbon
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF <sub>6</sub>	sulfur hexafluoride
SO <sub>x</sub>	sulfur oxides
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.
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. This summary report presents the results of the technical analysis of the first BUR of Saudi Arabia, 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**

5. In accordance with the mandate referred to in paragraph 2 above, Saudi Arabia submitted its first BUR on 3 April 2018 as a stand-alone update report.
6. During the technical analysis, Saudi Arabia clarified that it started preparing its first BUR on 1 April 2015. However, a delay in the disbursement of funds caused a delay of approximately 15 months in the completion of the BUR preparation.
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. Patience Dampney (former member of the CGE from Ghana), Ms. Mausami Desai (member of the CGE from United States of America), Mr. Stephen King'uyu (former member of the CGE from Kenya), Ms. Eva Krtkova (Czechia), Mr. Lawrence Mashungu (Zimbabwe), Mr. Koki Okawa (Japan), Mr. Sachidananda Satapathy (former member of the CGE from India) and Mr. Ching Tiong Tan (Malaysia). Ms. Desai and Mr. Tan were the co-leads. The technical analysis was coordinated by Mr. Tomoyuki Aizawa, Ms. Alma Jean and Mr. Sohel Pasha (secretariat).
8. During the technical analysis, the TTE and Saudi Arabia engaged in consultation<sup>1</sup> on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Saudi Arabia's first BUR, the TTE prepared and shared a draft summary report with Saudi Arabia on 21 November 2018 for its review and comment. Saudi Arabia, in turn, provided its feedback on the draft summary report on 8 February, 20 March, 26 May, 4 July, 29 July and 3 August 2019.
9. The TTE responded to and incorporated Saudi Arabia's comments referred to in paragraph 8 above and finalized the summary report in consultation with the Party on 5 August 2019.

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<sup>1</sup> The consultation was conducted via written exchange.

## **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. In decision 24/CP.18, the Conference of the Parties decided that MRV of the relevant aspects of actions and plans submitted under that decision would proceed as per the arrangements established by decisions 1/CP.16, 2/CP.17 and 1/CP.18 taking into account the broader objectives of the actions to be presented. According to Saudi Arabia, the information reported in its BUR is in accordance with decision 24/CP.18. In this regard, the information reported by Saudi Arabia was considered during the technical analysis in the context of paragraph 10(a)–(c) above.

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

### **B. Extent of the information reported**

13. The elements of information referred to in paragraph 10(a) above include the national GHG inventory report; information on mitigation co-benefits arising from economic diversification and adaptation initiatives reported by Saudi Arabia, including a description of such actions, an analysis of their impacts and the progress made in their implementation; information on domestic MRV; and information on support needed and received.

14. According to decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE is to identify the extent to which the elements of information listed in paragraph 13 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is partially 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.

### **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 could report similar information in their BUR, which is an update of their most recently submitted NC.

19. Saudi Arabia reported in its first BUR the following information on its national circumstances: features of geography, climate, health, education, electricity generation and consumption, natural resources, tourism and agriculture. Saudi Arabia also reported information on Vision 2030 and the National Transformation Programme 2020; vulnerability to climate change; its INDC based on the principles listed in Article 3 of the Convention and the approach specified in the economic diversification initiatives adopted by decision 24/CP.18; and institutional arrangements for the preparation of BURs and NCs.

20. In addition, Saudi Arabia provided relevant information regarding its national circumstances, such as energy, water, agriculture and population distribution, in tabular format.

21. Saudi Arabia 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, the involvement and roles of other public and private agencies and experts, mechanisms for information and data exchange, quality assurance/quality control procedures, and other forms of stakeholder engagement. The Party reported that the DNA is responsible for the preparation of NCs and BURs and for coordinating issues on climate change. The DNA is supervised by the Minister of Energy, Industry and Mineral Resources and chaired by the State Minister for Energy Affairs at the Ministry of Energy, Industry and Mineral Resources, supported by a team of experts, technical and administrative staff. The current membership of the DNA includes representatives of 17 line ministries and other public and private agencies.

22. Saudi Arabia reported information on its proposed domestic MRV system, which will be aligned with the sustainable development objectives and national priorities outlined in its Vision 2030. The DNA is responsible for the design, preparation and implementation of the domestic MRV system for the country and for the coordination of institutions and other agencies involved in the process. The proposed system will support MRV of the GHG inventory, mitigation co-benefits in terms of GHG emission reductions from economic diversification, adaptation actions and INDC-related actions, as well as MRV of support received, such as technical assistance and capacity-building from bilateral and multilateral institutions. The MRV system will also track sustainable development benefits that arise from the implementation of INDC-related actions consistent with national priorities. Saudi Arabia reported that the initial focus is on continually collecting information to track impacts of actions contributing to the INDC, and highlighted a number of economic diversification and adaptation actions. Recognizing that the inventory system is already well established, the BUR clearly outlines a staged timeline for designing and operationalizing the MRV system from 2017 to 2020, with plans to have an initial pilot of the system in early 2019 so that it can be fully functional in 2020.

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

23. As indicated in table 1 in annex I, Saudi Arabia reported information on its GHG inventory in its BUR partially 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. Saudi Arabia submitted its first BUR in 2018 and the GHG inventory reported is for 2012, which is more than four years prior to the date of submission. During the technical analysis, the Party clarified that significant efforts were made to improve the inventory for 2012, but the update of the inventory year to 2014 was not possible because of financial constraints.

25. GHG emissions and removals for the BUR covering 2012 were estimated using mainly tier 1 methodology from the Revised 1996 IPCC Guidelines, while in some cases country-specific EFs were used.

26. With regard to the methodologies used, information was clearly reported, including the specific methodology, the tier levels and sources of AD used for each category and subcategory and the procedures used to collect AD. The Party also reported the use of country-specific EFs, which, according to the Party, are more accurate than the default EFs suggested in the Revised 1996 IPCC Guidelines. The EFs were obtained from facility-level plants, country-specific or regional and international studies and the IPCC emission factor database.

27. Information on the Party's total GHG emissions by gas for 2012 is outlined in table 1. Information on HFCs, PFCs and SF<sub>6</sub> was not reported. During the technical analysis, the Party clarified that emissions of these gases were not reported because this is not a mandatory reporting provision for non-Annex I Parties. Further, the Party clarified a specific need associated with collecting and reporting on F-gases (see para. 64 below).

Table 1

**Greenhouse gas emissions by gas of Saudi Arabia for 2012**

<i>Gas</i>	<i>GHG emissions (Gg) including LUCF</i>	<i>GHG emissions (Gg) excluding LUCF</i>
CO <sub>2</sub>	489 702.00	498 853.00
CH <sub>4</sub>	1 779.00	1 779.00
N <sub>2</sub> O	38.90	38.90

28. Saudi Arabia did not apply notation keys in tables where numerical data were not provided. In summary table 2.2 of the BUR, 12 categories were not reported or were incomplete.<sup>2</sup> Further, information was not reported on CO, NO<sub>x</sub>, NMVOCs or SO<sub>x</sub>. During the technical analysis, the Party clarified that emissions of these gases were not reported because it is not mandatory. The Party also explained that it experienced challenges in obtaining the relevant AD. Further, the Party clarified that it has a specific need associated with collecting and reporting on GHG precursors (CO, NO<sub>x</sub>, NMVOCs) and SO<sub>x</sub> (see para. 64 below).

29. Saudi Arabia did not report 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. During the technical analysis, the Party clarified that the required data for all land categories are not available or accessible. Further, the Party clarified that it has a specific need associated with the collection, analysis and use of more reliable data for the LUCF sector (see para. 64 below).

<sup>2</sup> The reporting of the following categories was missing or incomplete in BUR summary table 2.2: 2. Industrial processes: B. Chemical industry – N<sub>2</sub>O; C. Metal production – CH<sub>4</sub>; D. Other production – CO<sub>2</sub>; 3. Solvent and other product use – CO<sub>2</sub> and N<sub>2</sub>O; 4. Agriculture: C. Rice cultivation – CH<sub>4</sub>; D. Agricultural soils – CH<sub>4</sub>; E. Prescribed burning of savannahs – CH<sub>4</sub> and N<sub>2</sub>O; 5. Land-use change and forestry: B. Forest and grassland conversion – CH<sub>4</sub> and N<sub>2</sub>O; C. Abandonment of managed lands – CO<sub>2</sub>; memo items: international bunkers – aviation – CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O; international bunkers – marine – CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O; and CO<sub>2</sub> emissions from biomass – CO<sub>2</sub>.

30. The shares of emissions that different sectors contributed to the GHG emissions as reported by the Party in 2012 are reflected in table 2.

Table 2

**Shares of greenhouse gas emissions by sector of Saudi Arabia for 2012**

<i>Sector</i>	<i>CO<sub>2</sub> emissions (Gg)</i>	<i>Share (%)</i>	<i>CH<sub>4</sub> emissions (Gg)</i>	<i>Share (%)</i>	<i>N<sub>2</sub>O emissions (Gg)</i>	<i>Share (%)</i>
Energy	444 473.00	89.1	515.70	29.0	2.54	6.5
Industrial processes	53 730.40	10.8	36.54	2.1	NA	NA
Agriculture	649.20	0.1	82.72	4.6	32.32	83.1
LUCF	-9 151.00	-1.8	NA	NA	NA	NA
Waste	NA	NA	1 144.07	64.3	4.04	10.4

31. Saudi Arabia did not report information on its use of GWP values consistent with those provided by the IPCC in its Second Assessment Report based on the effects over a 100-year time-horizon of GHGs, because the Party did not report its aggregated GHG emissions and removals in terms of CO<sub>2</sub> eq.

32. For the energy sector, GHG emissions from energy-related stationary and mobile combustion source categories were reported. In addition to the combustion sources, fugitive emissions from fuels in the oil and gas industry and other usage, including venting and flaring, were reported. The total CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from this sector were 444,473.00 Gg, 515.70 Gg and 2.54 Gg, respectively.

33. For industrial process emissions, important activities in Saudi Arabia include cement production, limestone use, soda ash use, ammonia production, chemical production and iron and steel manufacturing. A total of 53,730.40 Gg CO<sub>2</sub> was emitted from mineral products (accounting for 54.3 per cent of those emissions), metal production (37.6 per cent) and chemical industry (8.1 per cent). Chemical production was the sole contributor to a total of 36.54 Gg CH<sub>4</sub> emissions in this sector. Information was not reported in the BUR on N<sub>2</sub>O emissions from chemical industry, CH<sub>4</sub> emissions from metal production, or GHG emissions from other production sources or from solvent and other product use. During the technical analysis, Saudi Arabia clarified that N<sub>2</sub>O is not expected to be released from the production of the reported chemicals (ethylene, ethylene dichloride, methanol and styrene), and that the estimation methodology available in the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* for CH<sub>4</sub> from metal production was not followed in order to maintain consistency with previous inventories. Further, the Party clarified that the required information is not available for the categories other production sources and solvent and other product use.

34. For the agriculture sector, N<sub>2</sub>O from manure management and agricultural soils (direct and indirect), CH<sub>4</sub> from enteric fermentation and manure management, and CO<sub>2</sub> from field burning of agricultural residues were the major emissions sources in the sector. The total CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from various activities in the agriculture sector were 649.20, 82.72 and 32.32 Gg, respectively. Information was not reported on CH<sub>4</sub> emissions from rice cultivation and agricultural soils, or CH<sub>4</sub> and N<sub>2</sub>O emissions from prescribed burning of savannahs. During the technical analysis, Saudi Arabia clarified that there are no savannah areas or domestic rice production in the country. Since the soils in Saudi Arabia are mainly sandy, CH<sub>4</sub> emissions from agricultural soils are not expected to be significant.

35. For the LUCF sector, Saudi Arabia reported GHG emissions and removals for 2012. Overall, the net removals from the LUCF sector from various activities were 9,151.00 Gg CO<sub>2</sub>. Information was not reported on CH<sub>4</sub> and N<sub>2</sub>O emissions from forest and grassland conversion or on CO<sub>2</sub> removals from abandonment of managed lands. During the technical analysis, Saudi Arabia clarified that there are no forest clearing activities in the country that lead to non-CO<sub>2</sub> emissions from forest and grassland conversion, and that the chance of natural regrowth in the abandoned area is expected to be insignificant, particularly under the harsh weather conditions in Saudi Arabia.



36. For the waste sector, total CH<sub>4</sub> and N<sub>2</sub>O emissions were 1,144.07 and 4.04 Gg, respectively. CH<sub>4</sub> from solid waste disposal sites contributed 67.2 per cent of the total CH<sub>4</sub> in the sector, followed by industrial wastewater handling (31.2 per cent). The sole contributor to N<sub>2</sub>O emissions in the waste sector was human sewage.

37. The GHG inventory, as a chapter of the BUR, addresses anthropogenic emissions and removals for 2012, but does not contain information that provides an update of the NC3 (from 2010). A time series including the years previously included in NCs (1990, 2000, 2010) was not included in the BUR. During the technical analysis, Saudi Arabia clarified that the collection of reliable data for a consistent time series remains a challenge despite continual efforts, and that these estimations require refinement with additional information to enhance consistency.

38. Saudi Arabia described the institutional framework for the preparation of its 2012 GHG inventory in its BUR (section 5.6). The DNA is the governmental body responsible for Saudi Arabia's GHG inventory, which was prepared with the support of its GHG inventory team and relevant ministries, organizations and industries represented on the national committee. Saudi Arabia reported that its GHG inventory cycle follows a clearly defined process involving planning, data collection and collation, estimation, report preparation, improvement and finalization stages before submission.

39. Saudi Arabia did not report a key category analysis performed for the level of emissions or the trend in emissions, although the key category analysis was mentioned in the inventory process explained in the annex to the BUR (p.118). During the technical analysis, the Party clarified that no major challenges or constraints were encountered in performing the key category analysis.

40. Saudi Arabia reported in the BUR (section 5.6) that quality assurance/quality control procedures were established within the framework of the national GHG inventory. Quality control activities include the routine and consistent checks and documentation points in the inventory development process to verify data integrity, correctness and completeness, as well as identify and reduce errors and omissions. Quality assurance activities include review and audit procedures to verify that data quality objectives are met and to reduce or eliminate any inherent bias in the inventory process, and they are conducted by national experts not involved in the inventory development process. The TTE commends Saudi Arabia for providing information in accordance with the IPCC good practice guidance.

41. The Party reported information on CO<sub>2</sub> fuel combustion using only the sectoral approach. During the technical analysis, the Party clarified that it did not experience any challenges in estimating CO<sub>2</sub> fuel combustion emissions using the sectoral approach. However, there were capacity constraints related to the collection of the data necessary to estimate CO<sub>2</sub> fuel combustion emissions using the reference approach.

42. Comparable information was reported on international aviation and marine bunker fuels in the BUR (p.27); however, the information was not included in table 2.2 of the BUR as memo items.

43. Saudi Arabia reported a general description on the uncertainty assessment (level) of its national GHG inventory in the BUR (section 2.4.6). The overall uncertainties of CO<sub>2</sub> and CH<sub>4</sub> emissions provided in the BUR (section 2.5.2) were estimated to be in the range of 7–15 per cent and 25–60 per cent, respectively. The uncertainty of the raw data supplied by the private sector was assumed to vary within the range of 5–10 per cent. The Party did not clearly report the methodologies used to estimate these uncertainties. During the technical analysis, the Party clarified that the uncertainty associated with GHG emission estimation is based on a generic and qualitative approach, primarily owing to the inherent challenges and constraints pertinent to the uncertainty assessment of the AD. The Party also clarified that, owing to the non-availability of reliable and detailed information related to the uncertainty associated with the AD and the absence of a detailed estimation methodology for uncertainty estimation in the Revised 1996 IPCC Guidelines, the uncertainty assessment was mainly based on the uncertainty ranges provided by the IPCC for the selected EFs and on limited expert judgment.

44. The TTE noted that the reporting on GHG inventories could be improved by the Party including the information highlighted in the relevant paragraphs above.

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

45. As indicated in table 2 in annex I, Saudi Arabia reported in its BUR, partially in accordance with paragraphs 11–13 of the UNFCCC reporting guidelines on BURs, information on mitigation co-benefits arising from economic diversification and adaptation initiatives, to the extent possible.

46. Saudi Arabia reported information on the social and economic consequences of response measures, which are critical to the national circumstances and its ability to respond to climate change and achieve sustainable development. Information on response measures and policies, socioeconomic risk and vulnerability and the impacts on various economic sectors, including the employment sector, was reported in the BUR (sections 4.1 and 4.3). Further, a summary of information on economic and social consequences of response measures for Saudi Arabia was reported in table 4.1 of the BUR, including the challenges and barriers in addressing the consequences and the technical cooperation and support needed to address them, such as investment and assistance to participate in carbon markets in line with development and economic diversification priorities. The Party reported as challenges and barriers the lack of support for developing methodologies to quantify ex ante and ex post analysis of impacts of response measures and building capacity to strengthen modelling expertise to undertake national assessments of the impact of response measures.

47. Saudi Arabia reported on mitigation co-benefits arising from economic diversification and adaptation initiatives in the context of its national strategy, vision and plans, and indicated that economic diversification is a fundamental objective underpinning socioeconomic development. According to the Party, its long-term strategy for 2005–2024 was adapted in response to the emerging challenges of providing productive employment to national manpower and improving quality of life. Among others, one of its primary objectives is to reduce the share of oil and gas in total exports from 72 to 37 per cent and to increase the role of non-oil products in the economy. The Party also reported on its ninth and tenth national development plans for 2010–2014 and 2015–2019, respectively. The major policy plan of the former is improving the efficiency of government expenditure along with increasing the government’s non-oil revenues, while the latter constitutes the strategic national push towards diversifying the economy.

48. Saudi Arabia’s Vision 2030 was adopted in 2016 and, according to the Party, is the most innovative and far-reaching modernization and development plan in the country’s history. It provides a road map for economic diversification with the aim of reducing Saudi Arabia’s dependence on oil, moving to an alternative diversified economy and developing the service sectors (such as health, education, infrastructure and tourism). The vision recognizes that diversification of the economy is crucial for its sustainability and indicates that the Party has long-term plans to overcome challenges associated with economic diversification. Saudi Arabia reported useful information, including theories, drivers, rationale and objectives and an overview of economic diversification at the national level.

49. Saudi Arabia also reported useful information in the context of its INDC, including its plans to take action in pursuit of economic diversification with co-benefits in the form of GHG emission avoidance and adaptation to the impacts of climate change, as well as reducing the impacts of response measures, all of which will facilitate achievement of the Party’s sustainable development objectives.

50. The information reported in Saudi Arabia’s BUR provides a comprehensive overview of the Party’s economic diversification and adaptation initiatives, with information on the mitigation co-benefits arising from these initiatives. Further to paragraph 11 above and in consultation with the Party,<sup>3</sup> this information was analysed in

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<sup>3</sup> The secretariat consulted with Saudi Arabia during a telephone conference on 4 July 2018 and the

the context of the reporting provisions outlined in paragraph 45 above. Most of the mitigation co-benefits of economic diversification initiatives are delivered in the energy sector, while the initiatives for adaptation action include urban planning, water and wastewater management, marine protection and reduced desertification.

51. Decision 2/CP.17, annex III, paragraph 11, outlines a tabular format for reporting information relevant to reported mitigation co-benefits of economic diversification and adaptation initiatives. However, the Party used a narrative approach to report this information. During the technical analysis, Saudi Arabia clarified that this approach best reflects its national circumstances, capabilities and capacities.

52. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Saudi Arabia reported clearly on its two groups of initiatives outlined in paragraph 50 above, including information on coverage (sector and gases) and progress indicators, for some ongoing actions within the two groups of initiatives. While the description of these initiatives is clear, quantitative goals were reported only for some of the ongoing economic diversification and adaptation initiatives. During the technical analysis, Saudi Arabia clarified that this information was not reported because of limited resources for the initial BUR and ongoing work for its nationally determined contribution.

53. The information reported on the economic diversification initiatives (in section 3.10.1 of the BUR) covers five areas: energy efficiency and rational use of energy; renewable energy; carbon capture, utilization and storage; utilization of natural gas; and environmentally friendly energy sources. Saudi Arabia reported objectives and the steps taken for some of these economic diversification initiatives that were implemented, planned or ongoing. Information was not reported in the BUR on methods or underlying assumptions used to develop and quantify goals and to estimate results achieved, including estimated outcomes and emission reductions from the initiatives. During the technical analysis, the Party clarified that such information is outlined in the references that were reported in the BUR (pp.73–81). The Party also clarified that, with limited budget for the BUR project, it was unable to report this information in the BUR. The Party reported results achieved for this group of initiatives, such as the results of a high-pressure steam extraction reliability project in a petrochemical plant (which resulted in 1,040,000 t/year additional steam, a 99,000 t/year reduction in the use of natural gas, a 4,160,000 GJ/year reduction in energy consumption and a reduction of 229,000 t CO<sub>2</sub> eq/year GHG emissions), and of Saudi Aramco's Uthmaniyah CO<sub>2</sub> enhanced oil recovery demonstration pilot project, which is capturing and storing 800,000 t CO<sub>2</sub>/year.

54. The information reported on adaptation initiatives (in section 3.10.2 of the BUR) covers four areas: water and wastewater management, urban planning, marine protection and reduced desertification. The Party reported the objectives of adaptation initiatives with mitigation co-benefits that were implemented, ongoing or planned, with the broad steps taken or envisaged for implementation and progress achieved. Information on methodologies and underlying assumptions used to develop and quantify goals and estimate results achieved, including estimated outcomes and emission reductions, from adaptation initiatives (implemented and ongoing) was not reported for most actions. During the technical analysis, the Party clarified that such information is outlined in the references that were reported in the BUR (pp.73–81). The Party also clarified that with limited budget for the BUR project it was unable to report this information in the BUR. The Party reported on results achieved, such as on a number of projects being implemented to build a sustainable transportation system focusing on mass transit, and on artificial reef modules that have been deployed in 25 locations to create new fish habitats, thereby enhancing the fisheries resources and its coastal and offshore ecosystems.

55. Saudi Arabia reported information on its involvement in international market mechanisms. As indicated in the BUR, when reporting on its domestic MRV arrangements, the Party indicated that the DNA was created for implementing CDM projects and, consequently, will also be responsible for MRV. The Party did not report any further information on the CDM project activities. During the technical analysis, the Party clarified

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Party consented to this approach.

that six CDM projects were registered and that information on their status will be reported in its second BUR.

56. Saudi Arabia reported comprehensive information on the development of its integrated domestic MRV arrangements in accordance with decision 24/CP.18 and the reporting provisions contained in decision 2/CP.17, annex III, paragraph 13, as outlined in paragraph 22 above. According to Saudi Arabia, the planned integrated system will, among other functions, aim to track the avoidance of GHG emissions attributed to specific economic diversification and adaptation measures with mitigation co-benefits. The information reported in the BUR indicates that this component of the integrated MRV system relates to ex ante and ex post assessment of GHG emission avoidance and/or sustainable development (non-GHG) effects of projects and actions, as well as monitoring their progress of implementation. Further, Saudi Arabia reported that another key function of the arrangements will include overall assessment of progress towards emission avoidance ambitions for projects and actions contained in its INDC.

57. The TTE noted that the reporting on initiatives with mitigation co-benefits could be improved by the Party addressing the areas noted in the relevant paragraphs above.

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

58. As indicated in table 3 in annex I, Saudi Arabia 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.

59. Saudi Arabia 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, Saudi Arabia identified the lack of international cooperation on the development of tools for quantitative ex ante and ex post analysis of impacts as a constraint on mitigating the adverse impacts of response measures. The Party reported its financial, technical and capacity-building needs for addressing economic diversification and the socioeconomic consequences arising from seven response measure actions (in table 4.1 of the BUR). The Party also reported challenges to economic diversification and technology transfer and development in sections 3.12 and 3.10.3.1.3 of its BUR, respectively.

60. Saudi Arabia did not report information on financial resources, technology transfer, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15. However, the Party reported that, with the cooperation of some developed country Parties, initiatives have been launched to promote technology transfer and technical know-how. Information is also reported in the BUR on the collaboration of scientific institutions from other developed and developing countries, namely that scientific research and development activities are undertaken in some sectors (such as solar, carbon capture and sequestration, and water management). During the technical analysis, the Party clarified that, apart from the financial support received for the preparation of its first BUR and NCs, no other financial support was received.

61. Saudi Arabia reported information on nationally determined technology needs regarding the development and transfer of technology in accordance with decision 2/CP.17, annex III, paragraph 16. In its BUR, Saudi Arabia reported that the technology needs assessment was nationally determined based on the research and development activities on climate change identified by the country. The indicative list of climate change technology areas or needs includes energy and environment technologies (in section 3.10.3.1.4 of the BUR). The technology needs assessment was the basis for the technology needs reported in the BUR. The Party, through research and development, is making efforts towards the transfer and development of technology and technology know-how in order to achieve the objective of its economic diversification in a sustainable manner. The Party did not report any information on the technology support received. During the technical analysis, the Party clarified that it did not receive any technology support.

62. During the technical analysis, the Party informed the TTE that it carries out various international technical cooperation programmes for fellow developing countries, mostly

Parties belonging to the Gulf Cooperation Council. The TTE commends Saudi Arabia for these activities. The TTE noted that this information was useful for understanding the circumstances of Saudi Arabia with regard to support needs and support provided.

63. The TTE noted that the reporting on support needs and support received in the BUR could be improved by the Party addressing the areas noted in the relevant paragraphs above.

#### **D. Identification of capacity-building needs**

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

- (a) Capacity-building needs related to GHG inventories:
  - (i) Enhance national capacity for GHG data collection and verification;
  - (ii) Strengthen the capacity and expertise of the national GHG inventory team in areas related to the reporting of F-gases, GHG precursors (CO, NO<sub>x</sub>, NMVOCs), SO<sub>x</sub>, the time series and uncertainty assessment;
  - (iii) Enhance national expertise and the engagement of relevant stakeholders to ensure the collection, analysis and use of more reliable data for the LUCF sector;
  - (iv) Enhance national capacity for collecting all the relevant parameters to allow the estimation and reporting of CO<sub>2</sub> fuel combustion emissions using both the sectoral and reference approach;
  - (v) Enhance national capacity to implement the improvement plan for AD;
- (b) Capacity-building needs related to reporting on mitigation co-benefits arising from economic diversification and adaptation initiatives:
  - (i) Enhance national capacity to identify and use methodologies along with relevant assumptions to track progress and quantify the results achieved or mitigation co-benefits of economic diversification actions specific to:
    - a. Energy efficiency standards in the buildings, transportation and industrial sectors;
    - b. Renewable energy use;
  - (ii) Enhance national capacity to identify and use methodologies along with relevant assumptions to track progress and quantify the results achieved or mitigation co-benefits of economic adaptation initiatives specific to:
    - a. Water management;
    - b. Urban planning (i.e. public transit enhancements);
    - c. Marine protection;
    - d. Reducing desertification;
  - (iii) Enhance national capacity to identify and use methodologies along with relevant assumptions to assess overall progress and quantify the results achieved from actions and projects with mitigation co-benefits;
  - (iv) Capacity-building and training to enhance ‘learning by doing’ for DNA staff to support and manage the necessary data collection for MRV of emission avoidance based on identified GHG emission quantification methods and accounting standards for mitigation co-benefits of economic diversification and adaptation initiatives;
  - (v) Capacity-building and training to enhance ‘learning by doing’ for DNA staff to support and manage the necessary data collection for MRV of support provided and received;
- (c) Capacity-building needs related to needs and support:

- (i) Strengthen national capacity through technical assistance, training and workshops to undertake climate action;
- (ii) Enhance national capacity to access climate finance from bilateral and multilateral funding sources;
- (iii) Enhance national capacity to access technology or technical know-how available outside the country.

### III. Conclusions

65. The TTE conducted a technical analysis of the information reported in the first BUR of Saudi Arabia in accordance with the UNFCCC reporting guidelines on BURs. The TTE concludes that the reported information is partially consistent with the UNFCCC reporting guidelines on BURs and provides an overview of the 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; economic diversification and adaptation actions with mitigation co-benefits and their effects; 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 any other information relevant to the achievement of the objective of the Convention. During the technical analysis, additional information was provided by Saudi Arabia on the elements above.

66. Saudi Arabia reported information on the institutional arrangements relevant to the preparation of its BURs. The DNA is responsible for the preparation of the BURs and NCs. The DNA is supervised by the Minister of Energy, Industry and Mineral Resources, chaired by the State Minister for Energy, Industry and Mineral Resources and comprises 17 representatives of line ministries and national agencies. The DNA is also responsible for developing, designing and implementing MRV of GHG emissions, economic diversification initiatives, adaptation measures and technical assistance received.

67. In its first BUR, submitted in 2018, Saudi Arabia reported information on its national GHG inventory for 2012. This included GHG emissions and removals of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O for most relevant sources and sinks. Estimates of F-gases were not provided owing to difficulties in obtaining the necessary data, as clarified by the Party during the technical analysis. The inventory was developed on the basis of the Revised 1996 IPCC Guidelines. The total emissions of CO<sub>2</sub> were reported as 498,853 Gg excluding LUCF and 489,702 Gg including LUCF. The total emissions of CH<sub>4</sub> and N<sub>2</sub>O were reported as 1,779 and 38.90 Gg, respectively. Information on key categories was not provided, although a key category analysis is included in the estimation process.

68. Saudi Arabia reported information on mitigation co-benefits arising from economic diversification and adaptation initiatives, including actions that are being developed, planned, ongoing or completed. The economic diversification actions occur mostly within the energy sector, including carbon capture, utilization and storage, while adaptation initiatives also include water and wastewater management, urban planning, marine protection and reducing desertification. Among these, information on results achieved was clearly reported for the petroleum and petrochemical sector (e.g. in relation to a high-pressure steam extraction reliability project in a petrochemical plant, which resulted in 1,040,000 t/year additional steam, a 99,000 t/year reduction in the use of natural gas, a 4,160,000 GJ/year reduction in energy consumption and a reduction of 229,000 t CO<sub>2</sub> eq/year GHG emissions, and Saudi Aramco's Uthmaniyah CO<sub>2</sub> enhanced oil recovery demonstration pilot project, which is capturing and storing 800,000 t CO<sub>2</sub>/year).

69. Saudi Arabia reported information on key constraints, gaps and related needs in relation to implementing economic diversification initiatives and to addressing the social and economic consequences of response measures. The Party reported challenges in implementing successful economic diversification, technology transfer and development. The BUR includes a table (table 4.1 in section 4) that clearly identifies challenges and

barriers in relation to addressing the consequences of response measures and support needed to address the consequences of seven response actions. Financial support received, as clarified by the Party, was for the preparation of BURs and NCs only. Information on technology needs and technology needed for various response measures and economic diversification initiatives was also reported in the BUR.

70. The TTE, in consultation with Saudi Arabia, identified the 13 capacity-building needs listed in chapter II.D above and needs for capacity-building that aims 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. Saudi Arabia also identified the capacity-building needs related to GHG inventories listed in paragraph 64(a)(ii) and (iii) above as being the highest priority, and those listed in paragraph 64(a)(v) and paragraph 64(a)(i) and (iv) above as being medium and low priority, respectively.

## Annex I

### Extent of the information reported by Saudi Arabia in its first biennial update report

Table 1

**Identification of the extent to which the elements of information on greenhouse gases are included in the first biennial update report of Saudi Arabia**

<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.	No	Saudi Arabia submitted its first BUR in 2018; the GHG inventory reported is for 2012.
Decision 2/CP.17, annex III, paragraph 3	Non-Annex I Parties should submit updates of their national GHG inventories according to paragraphs 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, as contained in the annex to decision 17/CP.8.	Yes	Saudi Arabia used the Revised 1996 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.	No	Saudi Arabia did not include updated data used in the GHG inventory for 2012.
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; (b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	No No	
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.	No	Saudi Arabia reported the 2012 inventory. However, the time series back to the years reported in its previous NCs (1990, 2000, 2010) was not included 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).	No	This information was not reported for previous submission years (1990, 2000, 2010).
Decision 2/CP.17, annex III, paragraph 9	The inventory section of the BUR should consist of a national inventory report as a summary or as an update of the information contained in decision 17/CP.8, annex, chapter III (National greenhouse gas inventories), including: (a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and	Partly	Comparable information was reported in table 2.2 of the BUR.



<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>
	removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);		However, Saudi Arabia did not include information for 12 categories (see footnote 2 of this document). CO, NO <sub>x</sub> , NMVOCs and SO <sub>x</sub> were not included.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> ).	No	
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	NA	
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 <sub>2</sub> ;	Yes	
	(b) CH <sub>4</sub> ;	Yes	
	(c) N <sub>2</sub> O.	Yes	
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:		
	(a) HFCs;	No	
	(b) PFCs;	No	
	(c) SF <sub>6</sub> .	No	
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;	No	
	(b) NO <sub>x</sub> ;	No	
	(c) NMVOCs.	No	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO <sub>x</sub> , included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	No	
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 <sub>2</sub> fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	No	Information on the sectoral approach was reported; the Party did not report on the reference approach, or explain any large differences between the two approaches.
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,	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals	NA	GWP was not used because Saudi Arabia did not report its

<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>
paragraph 20	expressed in CO <sub>2</sub> eq should use the GWP provided by the IPCC in its Second Assessment Report based on the effects of GHGs over a 100-year time-horizon.		aggregated GHG emissions and removals in terms of CO <sub>2</sub> eq.
Decision 17/CP.8, annex, paragraph 21	<p>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:</p> <p>(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;</p> <p>(b) Explanation of the sources of EFs;</p> <p>(c) Explanation of the sources of AD;</p> <p>(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:</p> <p>(i) Source and/or sink categories;</p> <p>(ii) Methodologies;</p> <p>(iii) EFs;</p> <p>(iv) AD;</p> <p>(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.</p>	<p>Yes</p> <p>Partly</p> <p>Partly</p> <p>NA</p> <p>No</p>	<p>Sources of country-specific EFs were not provided.</p> <p>Saudi Arabia reported on the procedure for collecting AD, but without information on specific sources.</p>
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.	Partly	Notation keys were not used for 12 categories (see footnote 2 of this document).
Decision 17/CP.8, annex, paragraph 24	<p>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:</p> <p>(a) Level of uncertainty associated with inventory data;</p>	Yes	

<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>
	(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 first biennial update report of Saudi Arabia**

<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.	Partly	Information was not provided in tabular format. However, Saudi Arabia provided information on economic diversification and adaptation actions with mitigation co-benefits in narrative format.
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 coverage (i.e. gases) and quantitative goals was not included for most of the mitigation co-benefits of economic diversification and adaptation actions. Information on action-specific and GHG emission progress indicators was not reported for some actions, such as energy efficiency standards and urban planning related adaptation actions.
	(b) Information on:		
	(i) Methodologies;	No	
	(ii) Assumptions;	No	
	(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;	Partly	This information was not reported for some economic diversification and adaptation initiatives with mitigation co-benefits.
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	Results achieved were not reported for some economic diversification and adaptation initiatives with mitigation co-benefits.

<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>
	(e) Information on international market mechanisms.	Partly	Information was not provided on international market mechanisms. However, the BUR references the use of experience from the CDM by the DNA in developing MRV systems.
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.

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 first biennial update report of Saudi Arabia**

<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; (b) Related financial, technical and capacity-building needs.	Yes 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; (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.	No No	During the technical analysis, the Party clarified that, apart from the financial support received for the preparation of its first BUR and NCs, no other financial support was received.
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; (b) Technology support received.	Yes No	During the technical analysis, the Party clarified that it did not receive any technology support.

*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 <http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=12>.

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“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 <http://unfccc.int/resource/docs/cop8/07a02.pdf#page=2>.

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