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Report on the technical expert review of the first biennial transparency report of South Africa

Summary

This report presents the results of the technical expert review of the first biennial transparency report of South Africa, conducted by a technical expert review team in accordance with the modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement. The review took place from 12 to 16 May 2025 in Pretoria, South Africa.

Abbreviations and acronyms

A6.4ER	emission reduction under Article 6, paragraph 4, of the Paris Agreement
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BTR	biennial transparency report
CER	certified emission reduction
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CRT	common reporting table
CTF	common tabular format
F-gas	fluorinated gas
GHG	greenhouse gas
GWP	global warming potential
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
ITMO	internationally transferred mitigation outcome
LULUCF	land use, land-use change and forestry
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
N_2O	nitrous oxide
NA	not applicable
NDC	nationally determined contribution
NE	not estimated
NID	national inventory document
NIR	national inventory report
PaMs	policies and measures
QA/QC	quality assurance/quality control
TERT	technical expert review team
WM	‘with measures’

I. Introduction and summary

A. Introduction

1. This report covers the technical expert review of the BTR1 of South Africa. The review was organized by the secretariat and conducted by the TERT in accordance with the MPGs,[1] particularly chapter VII thereof.

2. A draft version of this report was transmitted to the Government of South Africa, which provided comments that were taken into account, as appropriate, in this final version of the report.[2]

3. The review was conducted as an in-country review from 12 to 16 May 2025 in Pretoria, South Africa, by the following team of nominated experts from the UNFCCC roster of experts: Tatenda Gotore (Zimbabwe), Maria Jose Lopez (Belgium), Ole-Kenneth Nielsen (Denmark), Takefumi Oda (Japan), Samir Tantawi (Egypt), Hannah Wanjiru (Kenya) and Benon Bibbu Yassin (Malawi). Maria Jose Lopez and Samir Tantawi were the lead reviewers. The review was coordinated by Ruta Bubniene (secretariat).

B. Scope

4. The TERT conducted a technical expert review of the information reported in the BTR1 of South Africa as per the scope of the review defined in paragraph 146 of the MPGs, consisting of:

(a) Review of the consistency of the information submitted by the Party under Article 13, paragraphs 7 and 9, of the Paris Agreement with the MPGs taking into account the flexibility accorded to the Party under Article 13, paragraph 2, of the Paris Agreement (see chap. II.A below);

(b) Consideration of the Party's implementation and achievement of its NDC under Article 4 of the Paris Agreement (see chap. II.B below);

(c) Identification of areas of improvement[3] for the Party related to implementation of Article 13 of the Paris Agreement (see chap. II.D below);

(d) Assistance in identifying capacity-building needs (see chap. II.E below).

C. Summary

5. South Africa submitted its BTR1 on 20 December 2024, before the deadline of 31 December 2024 mandated in decision 18/CMA.1. South Africa submitted its NID as a stand-alone document on 23 December 2024, before the deadline of 31 December 2024. South Africa also submitted its CRTs on 27 January 2025, after the deadline of 31 December 2024, and CTF tables on 20 December 2024, before the deadline of 31 December 2024. The TERT noted the delay in the submission of the CRTs.[4] The Party explained that the delay was due to capacity constraints and challenges experienced in using the CRT online reporting tool and that those challenges were communicated to the secretariat in December 2024.

6. A list of the areas of improvement identified on the basis of the review of the consistency of the reported information with the MPGs can be found in the assessment tables.[5]

[1] Decision 18/CMA.1, annex.

[2] As per para. 162(e) of the MPGs.

[3] As referred to in paras. 7, 8, 146(d) and 162(d) of the MPGs.

[4] The technical expert review was conducted on the basis of the versions of the CRTs submitted on 27 January 2025 and additional information on the IPPU sector (IPPU CRTs) provided on 29 April 2025 (version ZAF-CRT-2024-V0.3-2904202).

[5] Contained in document FCCC/ETF/TERR.1/2025/ZAF/Add.1, available at https://unfccc.int/first-biennial-transparency-reports.

7. The Party applied flexibility as provided for those developing country Parties that need it in the light of their capacities pursuant to Article 13, paragraph 2, of the Paris Agreement in relation to the NIR of anthropogenic GHG emissions by sources and removals by sinks[6] and the information necessary to track progress in implementing and achieving its NDC.[7] Information on where the flexibility was applied is included in chapters II.A.1–II.A.2 below.

D. Information provided by the Party pursuant to paragraphs 143–145 of the modalities, procedures and guidelines

8. South Africa reported information on support needed and received for implementing Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity-building. The Party reported on support needed and received for preparing reports pursuant to Article 13 of the Paris Agreement and addressing the areas of improvement identified by the TERT. Support is needed for implementing the GHG inventory improvement plan, whereas support has been received for improving the GHG inventory system. The TERT noted that the above-mentioned information reported by the Party is not subject to review as per the scope of the review defined in paragraph 146 of the MPGs.

II. Technical expert review[8]

A. Review of the consistency of the submitted information with the modalities, procedures and guidelines[9]

1. National inventory report[10]

9. The TERT assessed the information reported in the BTR1 of South Africa and identified areas of improvement relating to consistency with the MPGs, which are described in tables 1–7 of the assessment tables referred to in paragraph 6 above and summarized in table 1.

[6] The developing country Party applied flexibility in the light of its capacities with respect to the provisions in paras. 32, 48 and 57 of the MPGs.

[7] The developing country Party applied flexibility in the light of its capacities with respect to the provisions in paras. 95 and 102 of the MPGs.

[8] As per para. 187 of the MPGs.

[9] As per para. 146(a) of the MPGs.

[10] As per para. 150(a) of the MPGs.

Table 1
Information reported in South Africa's national inventory report and review of consistency with the modalities, procedures and guidelines

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
Submission type (para. 12 of the MPGs)	Has the NIR been submitted as a stand-alone document?	Yes	No areas of improvement were identified
Time series (paras. 57–58 of the MPGs)	What years have been reported and is the time series in accordance with the MPGs?[b]	2000–2022; the Party applied flexibility and reported a consistent time series of data starting from 2000, rather than 1990 as per the MPGs for Parties that need flexibility in the light of their capacities	No areas of improvement were identified
Metrics (para. 37 of the MPGs)	Has the Party used the 100-year GWP values from the AR5?	Yes	No areas of improvement were identified
	Has the Party used other metrics?	No	No areas of improvement were identified
Gases (paras. 47–49 and 51 of the MPGs)	Which gases have been reported?[b]	CO_2, CH_4 and N_2O, and flexibility applied for F-gases	4.I.2, 7.W.1
Indirect emissions (para. 52 of the MPGs)	Has the Party reported indirect CO_2 emissions and national totals with and without indirect CO_2?	No	No areas of improvement were identified
	Has the Party reported indirect N_2O emissions from sources other than those in the agriculture and LULUCF sectors as a memo item?	No	No areas of improvement were identified
National circumstances and institutional arrangements (paras. 18–19 of the MPGs)	Has the Party reported information on the functions related to inventory planning, preparation and management?	Yes	No areas of improvement were identified
Methodologies, parameters and data (paras. 20–24 of the MPGs)	Has the Party used the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*?	Yes	5.A.1, 5.A.2, 5.A.3, 5.A.9, 5.A.11, 6.L.1
	Has the Party used other IPCC methodological guidance?	Yes, the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* in some areas and the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*	No areas of improvement were identified

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
Key category analysis (paras. 25 and 41–42 of the MPGs)	Has the Party reported a key category analysis?	Yes, a key category analysis was performed using approach 1 and a 95 per cent threshold for level and trend assessment for the starting year (2000) and the latest reporting year (2022) and with and without LULUCF	No areas of improvement were identified
Time-series consistency and recalculations (paras. 26–28 and 43 of the MPGs)	Has the Party reported a consistent time series?	No	No areas of improvement were identified
	Has the Party provided justification and explanatory information for recalculations?	No	No areas of improvement were identified
Uncertainty assessment (paras. 29 and 44 of the MPGs)	Has the Party reported the results of the uncertainty analysis and the methods used, underlying assumptions and trends?	Partly, including trend uncertainty, reported using approach 1 for the starting year (2000) and the latest reporting year (2022)	7.W.1
QA/QC plan and procedures (paras. 34–36 and 46 of the MPGs)	Has the Party elaborated information on an inventory QA/QC plan, including information on the inventory agency responsible for implementing QA/QC, and current and future QA/QC procedures?	Partly, including information on the inventory agency responsible for implementing QA/QC, and category-specific QC for key categories	2.G.2, 6.L.2, 7.W.2
Assessment of completeness (paras. 30–33, 45, 47 and 50 of the MPGs)	Have any areas of improvement for lack of completeness been identified for the following sectors?		
	Energy	Yes	No areas of improvement were identified
	IPPU	Yes	4.I.2
	Agriculture	Yes	5.A.1
	LULUCF	Yes	6.L.4
	Waste	Yes	7.W.4
Threshold for reporting significant categories (para. 32 of the MPGs)	For categories reported as “NE” owing to insignificance, has information been reported showing that the likely level of emissions is below the threshold of significance?[b]	No	No areas of improvement were identified

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
Methodologies, emission factors, parameters and activity data (paras. 20–21, 39–40, 48 and 53–56 of the MPGs)	Has information been reported on categories, gases, methodologies (including the rationale for selecting them), emission factors and activity data at a disaggregated level for the following sectors?		
	Energy	Yes	No areas of improvement were identified
	Has information been reported on international aviation and marine bunker fuel emissions as two separate entries and such emissions distinctly reported from national totals?	Yes	No areas of improvement were identified
	Has information been reported indicating how feedstocks and non-energy use of fuels have been accounted for in the inventory, under the energy or IPPU sector?	Yes	No areas of improvement were identified
	IPPU	Partly	4.I.2
	Agriculture	Partly	5.A.4, 5.A.5, 5.A.6, 5.A.7, 5.A.8, 5.A.9, 5.A.10, 5.A.12
	LULUCF	Partly	6.L.3
	Did the Party provide information on the approach taken to address emissions and subsequent removals from natural disturbances on managed land in a manner consistent with IPCC guidance, and indicate whether the estimates are included in national totals?	Partly	6.L.5
	Did the Party provide supplementary information on the approach to reporting emissions and removals from harvested wood products in accordance with IPCC guidance other than the production approach, and provide supplementary information on	Yes	No areas of improvement were identified

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
	emissions and removals from harvested wood products estimated using the production approach?		
	Waste	Partly	7.W.3, 7.W.4, 7.W.5

[a] See document FCCC/ETF/TERR.1/2025/ZAF/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.
[b] The developing country Party applied flexibility in the light of its capacities with respect to this provision.

2. Information necessary to track progress in implementing and achieving the nationally determined contribution[11]

10. The TERT assessed the information reported in the BTR1 of South Africa and identified areas of improvement relating to consistency with the MPGs, which are described in tables 8–14 of the assessment tables referred to in paragraph 6 above and summarized in table 2.

Table 2
Information reported in South Africa's submission

Topic	*ID#(s) for the area(s) of improvement identified*[a]
National circumstances and institutional arrangements (paras. 59–63 of the MPGs)	No areas of improvement were identified
Description of the NDC under Article 4 of the Paris Agreement, including updates (para. 64 of the MPGs)	No areas of improvement were identified
Information necessary to track progress in implementing and achieving the NDC under Article 4 of the Paris Agreement (paras. 65–79 of the MPGs)	No areas of improvement were identified
Mitigation PaMs, actions and plans related to implementing and achieving the NDC under Article 4 of the Paris Agreement (paras. 80–90 of the MPGs)	11.2
Summary of GHG emissions and removals (para. 91 of the MPGs)	No areas of improvement were identified
Projections of GHG emissions and removals[b] (paras. 92–102 of the MPGs)	13.3

[a] See document FCCC/ETF/TERR.1/2025/ZAF/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.
[b] The developing country Party applied flexibility in the light of its capacities with respect to this provision.

B. Consideration of the Party's implementation and achievement of its nationally determined contribution[12]

11. In considering South Africa's progress in implementing and achieving its NDC, the TERT noted that the NDC[13] is a commitment to achieve an absolute economy-wide fixed-level range of GHG emissions in 2025 (398–510 Mt CO_2 eq) and 2030 (350–420 Mt CO_2 eq). The NDC covers all sectors and gases with the exception of emissions from natural disturbances. Although South Africa's NDC does not have a conditional component, it is based on the assumptions that the Paris Agreement will be fully implemented and that support will be provided for actions aimed at achieving its targets and goals for mitigation, adaptation, and loss and damage.

12. The indicator that South Africa selected to track progress in implementing and achieving its NDC is described in table 3.

[11] As per para. 150(b) of the MPGs.
[12] As per para. 146(b) of the MPGs.
[13] The consideration of the Party's implementation and achievement of its NDC is in the context of the NDC submitted by South Africa on 27 September 2021.

Table 3
Description of the indicator(s) selected by South Africa to track progress in implementing and achieving its nationally determined contribution

NDC target	*Indicator*	*Description*
Fixed-level target ranges of total annual GHG emissions (Mt CO_2 eq) for 2025 and 2030	Total annual GHG emissions and removals including LULUCF and excluding GHG emissions from natural disturbances (Mt CO_2 eq)	This indicator is defined as total GHG emissions including LULUCF, as reported in the most recent national GHG inventory (contained in the relevant NID), including all gases, sectors and sources reported therein, excluding GHG emissions from natural disturbances. For the BTR1, this corresponds to the total GHG emissions including LULUCF reported in NID table 2.2 communicated with the BTR1, minus the GHG emissions from natural disturbances reported in NID table A.VII.1

Sources: South Africa's BTR1 and CTF tables 1–3.

13. The indicator used to track progress in achieving the NDC target referred to in table 3 is the Party's annual net GHG emissions excluding emissions from natural disturbances[14] during the two periods of implementation (2021–2025 and 2026–2030). The sole data source for accounting for South Africa's NDC is the NID. The GWP values used are from the AR5, and all IPCC sectors and all six GHGs are included. South Africa's NDC was set on the basis of the NIR, which reported 2017 as the latest reported inventory year and is accounted for using the NID submitted with the most recent BTR, covering 2000–2022. The 2017 NIR uses GWP values from the AR2, whereas the 2022 NID uses GWP values from the AR5.[15]

14. The TERT noted that the contribution of LULUCF (excluding natural disturbances) to achieving the NDC is included in the Party's absolute economy-wide fixed-level multi-year target ranges and that South Africa did not use ITMOs from cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement and the mechanism established by Article 6, paragraph 4, of the Paris Agreement towards the achievement of its NDC.

15. Table 4 summarizes information on progress in implementing the NDC based on the indicator total annual net GHG emissions and removals including LULUCF and excluding GHG emissions from natural disturbances, taking into account the type of South Africa's NDC fixed-level target ranges, including quantitative values for the target ranges of annual GHG emissions for 2025 and 2030, and the value of the indicator for 2021 and the most recent year available (2022).

Table 4
Summary of information on South Africa's progress in implementing and achieving its nationally determined contribution
(Mt CO_2 eq)

	Total annual GHG emissions and removals including LULUCF and excluding GHG emissions from natural disturbances	*Contribution of LULUCF, as applicable*[a]	*ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable*	*Indicator adjusted for contribution of LULUCF and ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable*
Inventory data 2021	413.10	IE	NA	NA
Inventory data 2022	394.30	IE	NA	NA
Fixed-level target (range) for 2025	NA	IE	NA	398.00–510.00

[14] The use of the term 'natural disturbances' in the GHG inventory is consistent with the definition provided in the relevant IPCC guidelines. Approaches to natural disturbances are documented in NID subchapter 6.3.3, and data on natural disturbances are provided in NID annex VII, along with information on sources and data limitations.

[15] South Africa's BTR states that the target levels have been set on the understanding that they will be accounted for using GWP values from the AR5 that will increase South Africa's total GHG emissions estimate for the target years by 10–20 Mt CO_2 eq.

	Total annual GHG emissions and removals including LULUCF and excluding GHG emissions from natural disturbances	*Contribution of LULUCF, as applicable*[a]	*ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable*	*Indicator adjusted for contribution of LULUCF and ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable*
Fixed-level target (range) for 2030	NA	IE	NA	350.00–420.00

Sources: South Africa's BTR1 and CTF table 4.1.

[a] Emissions and removals from LULUCF are included in total GHG emissions.

16. According to the most recent information on the indicator annual net GHG emissions excluding GHG emissions from natural disturbances provided in CTF table 4, South Africa's emissions in 2022 were 394.3 Mt CO_2 eq, which is 29.3 per cent (115.7 Mt CO_2 eq) below the emission level corresponding to the upper end of the target range for 2025, or 6.5 per cent (25.7 Mt CO_2 eq) below the emission level corresponding to the upper end of the target range for 2030.

17. South Africa reported information on the actions and PaMs that support the implementation and achievement of its NDC. Table 5 provides a summary of the reported information on South Africa's key PaMs of South Africa.

Table 5
Summary of information on key policies and measures reported by South Africa

Sector	*Key PaMs*	*Estimate of mitigation impact in 2022 (kt CO_2 eq)*	*Estimate of mitigation impact in 2025 (kt CO_2 eq)*	*Estimate of mitigation impact in 2030 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	National Development Plan 2030	NA	NA	NA
	Climate Change Act of 2024	NA	NA	NA
	Carbon tax	NA	NA	NA
	National GHG Emission Reporting Regulations of 2017	NA	NA	NA
Energy				
Energy efficiency	Municipal Energy Efficiency and Demand-Side Management programme	4.10	NE	NE
	National Cleaner Production Centre programme	0.34	NE	NE
	Appliance Energy Efficiency Standards and Labelling programme	NE	NE	NE
Energy supply and renewables	Renewable Energy Independent Power Producer Procurement Programme	14.31	NE	NE
Transport	Bus rapid transport system	0.07	NE	NE
	Transnet freight shift from road to rail	0.08	NE	NE
	Electric vehicles	0.01	NE	NE
IPPU	N_2O reduction project	NE	NE	NE
Agriculture	Conservation agriculture	1.53	NE	NE
LULUCF	Afforestation	48.83	NE	NE
	Forest and woodland restoration and rehabilitation	8.04	NE	NE
Waste	Municipal landfill gas recovery	NE	NE	NE
	Waste Management Strategy	0.02	NE	NE

Sources: South Africa's BTR1 and CTF table 5, and information provided by the Party during the review.

18. The TERT noted that PaMs, actions and plans have contributed to GHG emission reductions in the energy, transport, agriculture, LULUCF and waste sectors. The Party comprehensively described PaMs, with instruments ranging from regulatory and economic tools to solutions in the field of technology and innovation, covering CO_2, CH_4 and N_2O emissions.

19. Although the Party did not provide data on expected emission reductions for each policy or measure, achieved emission reductions were reported for the most significant PaMs, and implementation of these mitigation actions contributed to GHG emission reductions. Total GHG emissions with LULUCF decreased by 0.5 per cent during 2020–2022. In the agriculture and LULUCF sectors, PaMs related to conservation agriculture, afforestation, and forest and woodland restoration had some effects. In the energy sector, GHG emissions decreased as a result of increasing the capacity for generating renewable energy through the Renewable Energy Independent Power Producer Procurement Programme and changes in regulatory frameworks that enabled growth in renewable distributed generation. The transport and waste sectors also contributed to emission reductions, including through initiatives related to the bus rapid transit system, the adoption of electric vehicles, a road-to-rail initiative for transporting freight, and waste management, recycling and recovery.

20. The TERT noted that, given South Africa's growing population, which reached 62.02 million in 2022, the Party is working towards reducing rates of unemployment and poverty. The Just Energy Transition Implementation Plan is aimed at steering the Party towards a low-carbon pathway and a climate-resilient economy. The energy sector, which plays a vital role in driving the economy, is highly dependent on systems based on fossil fuel, mainly thermal energy generation through coal and diesel. Emissions from the energy sector accounted for 78.6 per cent of South Africa's total emissions without LULUCF in 2022. Investments in green technologies support job creation and improve the economy, while also reducing GHG emissions. Forests, woodland and grassland are the main sinks in the country, which is why they require conservation and restoration.

21. The TERT also noted that falling costs for renewable energy have boosted mitigation efforts in the energy sector, and demand for liquid fuels has fallen owing to efficiency considerations. As reported in the BTR, the use of electric vehicles as a mode of transport is still in nascent stages, with approximately 2,000 vehicles recorded in the registry. This number is likely to increase in the coming decade. In addition, slower economic growth has led to reduced industrial activity and energy consumption.

22. South Africa applied flexibility in its reporting of projections, including by reporting WM projections from 2023 up until the end point of the NDC (i.e. 2030)[16] because the in-house model used to develop the projections only produced results up until 2030. South Africa plans to report projections starting from the most recent year in its national inventory and extending at least 15 years beyond the next year ending in zero or five in its BTR3. In addition, the Party reported using a less detailed methodology or coverage[17] but plans to provide more detailed information in its BTR3. The Party also reported that it faced time constraints with regard to analysing modelling outputs and consulting with ministerial heads. Developing sectoral mitigation plans and sectoral emission targets in accordance with the Climate Change Act of 2024 will pave the way for reporting detailed projections in the BTR3, scheduled for publication in 2028. During the review the Party clarified that comprehensive sectoral coverage for detailed projections will likely require targeted institutional strengthening in certain sectors; however, the nature and scale of these capacity needs can only be fully assessed once the sectoral emission targets are in place and sector-specific mitigation obligations are clearer. The TERT, together with the Party, identified capacity-building needs related to strengthening institutional and technical capacity for developing GHG projections by sector with a focus on the LULUCF sector and enhancing data availability (see para. 27(b) below).

23. South Africa reported projections for 2030 under the WM scenario.[18] The projected emission levels are presented in table 6. The TERT noted that information on GHG emission projections was not used in considering South Africa's progress in implementing its NDC.

[16] In accordance with para. 95 of the MPGs.

[17] In accordance with para. 102 of the MPGs.

[18] Note that, as per para. 93 of the MPGs, projections shall not be used to assess progress towards the

Table 6
Summary of greenhouse gas emission projections for South Africa

	GHG emissions (kt CO_2 eq/year)	*Change in relation to 2020 level (%)*	*Change in relation to 2022 level (%)*
Inventory data 2020	434 656.49	NA	0.5
Inventory data 2022	432 524.46	–0.5	NA
WM projections for 2030	394 280.00	–9.3	–9.7

Source: South Africa's BTR1, CTF table 7 for GHG projections and CRTs (version ZAF-CRT-2024-V0.3) for GHG inventory data.

Note: The projections and GHG inventory data are for GHG emissions with LULUCF and excluding indirect CO_2 emissions.

24. The TERT considers that, on the basis of a comparison of information on the Party's indicator (i.e. total annual GHG emissions and removals including LULUCF and excluding GHG emissions from natural disturbances) in the most recent reported year (i.e. 2022) with the emission level corresponding to the target year 2030 under the WM scenario, and taking into account information on mitigation actions, South Africa is making progress towards achieving its NDC target by implementing mitigation actions.

C. Consideration of the Party's support provided[19]

25. South Africa, as a developing country, did not report information in its BTR1 on support provided.

D. Identification of areas of improvement[20]

26. During the technical expert review, the TERT identified areas of improvement in relation to South Africa's implementation of Article 13 of the Paris Agreement, which are summarized in chapter II.A above and included in the assessment tables referred to in paragraph 6 above.

E. Assistance in identifying capacity-building needs[21]

27. The TERT, in consultation with South Africa, identified the following prioritized needs for capacity-building to facilitate the Party's reporting in its BTR relating to the flexibilities applied by it as per the MPGs:[22]

(a) Developing a data-collection and emission estimation system for F-gases and for GHG emissions for other categories that are not yet reported and are considered insignificant;

(b) Strengthening institutional and technical capacity in modelling and assessing the effects of PaMs by:

(i) Increasing capacity in modelling projections of GHG emissions and removals and in reporting long-term emission reductions, socioeconomic impacts and a cost–benefit analysis related to PaMs;

(ii) Improving data availability and the quality of the macroeconomic framework, parameters and assumptions used in developing projections, including projections of energy demand by sector;

implementation and achievement of an NDC under Article 4 of the Paris Agreement unless the Party has identified a reported projection as its baseline.

[19] As per para. 146(c) of the MPGs.

[20] As per para. 146(d) of the MPGs.

[21] As per para. 146(e) of the MPGs.

[22] For the capacity-building needs identified by the TERT in consultation with the Party, see table 15 in document FCCC/ETF/TERR.1/2025/ZAF/Add.1.

(iii) Developing GHG projections by sector, with a focus on the LULUCF sector.

28. To facilitate continuous improvement in reporting, the following additional capacity-building needs were identified during the review:

(a) Improving the methodology for identifying land use and land-use changes, including by tracking changes in land use over time;

(b) Developing a national forest inventory to improve land representation in the GHG inventory;

(c) Enhancing the data-collection and emission estimation system for harvested wood products;

(d) Establishing a system for monitoring controlled fires, collecting data in the LULUCF sector and reporting information thereon;

(e) Establishing a data-collection and information management system for obtaining and managing data on waste streams and a bucket system;

(f) Adapting the national inventory system to the tools for reporting under the enhanced transparency framework under the Paris Agreement by developing tools for automatically inputting GHG inventory data into the JavaScript Object Notation format files of the CRTs and by training the CRT and CTF compilers on reporting information in tabular format.

29. South Africa also identified the capacity-building support needs in chapter 4.9.3 of its BTR1.

III. Conclusions and recommendations

30. The TERT conducted a technical expert review of the information reported in the BTR1, NID, CRTs and CTF tables of South Africa in accordance with the MPGs.

31. The areas of improvement identified by the TERT on the basis of the review of the consistency of the information reported by South Africa with the MPGs are summarized in chapter II.A above and included in the assessment tables referred to in paragraph 6 above. The TERT noted that South Africa faces challenges regarding a lack of some sectoral data and limited institutional capacities and acknowledged that implementing prioritized improvements and addressing some TERT findings will require longer term action.

32. The TERT considers that, on the basis of a comparison of information on total annual net GHG emissions, excluding emissions from natural disturbances for the most recent reported years (i.e. 2021 and 2022) with the upper end of the target economy-wide fixed-level range for both 2025 and 2030, and taking into account information on mitigation actions, South Africa is making progress towards its NDC target by implementing mitigation actions.

33. The TERT notes that PaMs, actions and plans have contributed to GHG emission reductions in the energy, transport, agriculture, LULUCF and waste sectors. The PaMs are described comprehensively, with instruments ranging from regulatory and economic tools to solutions in the field of technology and innovation, covering CO_2, CH_4 and N_2O.

34. South Africa did not report information on financial, technology development and transfer, or capacity-building support provided under Articles 9–11 of the Paris Agreement in its BTR1 in accordance with the MPGs.[23]

35. Regarding the implementation of Article 13 of the Paris Agreement and transparency-related activities, South Africa required support for implementing the improvement plan for the GHG inventory.

36. In consultation with South Africa, the TERT identified reporting-related needs for capacity-building support relating to the flexibilities applied by the Party as per the MPGs that could facilitate the Party's preparation of subsequent BTRs. For South Africa, the main reporting-related needs for capacity-building support, identified within the scope of this

[23] As per para. 118 of the MPGs.

review, are developing a system for collecting data on and estimating emissions of F-gases; improving the methodology for identifying land use and land-use changes, including by tracking changes in land use over time; and developing and modelling GHG emission projections and assessing the expected mitigation impact of PaMs.

Annex

Documents and information used during the review

A. Reference documents

BTR1 of South Africa. Available at https://unfccc.int/first-biennial-transparency-reports.

BTR1 CTF tables of South Africa. Available at https://unfccc.int/first-biennial-transparency-reports.

CRTs of South Africa. Available at https://unfccc.int/first-biennial-transparency-reports.

NID of South Africa. Available at https://unfccc.int/first-biennial-transparency-reports.

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

IPCC. 2019. *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*, E Buendia, K Tanabe, et al. (eds.). Geneva: IPCC. Available at https://www.ipcc-nggip.iges.or.jp/public/2019rf/.

"Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement". Annex to decision 18/CMA.1. FCCC/PA/CMA/2018/3/Add.2. Available at https://unfccc.int/documents/193408.

B. Additional information provided by the Party

Responses to questions during the review were received from Sandra Smotshwanedi and Jongikhaya Witi (Department of Forestry, Fisheries and the Environment of South Africa), including additional material. The following references were provided by South Africa and may not conform to UNFCCC editorial style as some have been reproduced as received:

Government of the Republic of South Africa, Climate Change Act, July 2024 available at: www.gov.za/sites/default/files/gcis_document/202407/50966climatechangeact222024.pdf.

Department of Forest, Fisheries and Environment of South Africa, 2024, *Sectoral Emissions Targets 2025 to 2030. Implementation* of South Africa's updated Nationally Determined Contribution. Available at www.dffe.gov.za/sites/default/files/legislations/draft_sectoralemissionstargets2024_g50571gon4763.pdf.