United Nations

Framework Convention on Climate Change

FCCC/ETF/TERR.1/2024/CHE

Distr.: General
5 August 2025

English only

Report on the technical expert review of the first biennial transparency report of Switzerland

Summary

This report presents the results of the technical expert review of the first biennial transparency report of Switzerland, 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 31 March to 4 April 2025 in Bern.

Abbreviations and acronyms

A6.4ER	emission reduction under Article 6, paragraph 4, of the Paris Agreement
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
GHG	greenhouse gas
HFC	hydrofluorocarbon
IE	included elsewhere
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
NF_3	nitrogen trifluoride
NID	national inventory document
OECD	Organisation for Economic Co-operation and Development
PaMs	policies and measures
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
SF_6	sulfur hexafluoride
TERT	technical expert review team
WAM	‘with additional measures’
WM	‘with measures’
WOM	‘without measures’

I. Introduction and summary

A. Introduction

1. This report covers the technical expert review of the BTR1 of Switzerland. 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 Switzerland, 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 31 March to 4 April 2025 in Bern by the following team of nominated experts from the UNFCCC roster of experts: Eric De Brabanter (Luxembourg), Thapelo Clifford Mohale Letete (South Africa), Rosemary Lopez (Cuba), Gherghita Nicodim (Romania), Pinar Pamukcu Albers (Türkiye), Awassada Phongphiphat (Thailand) and Maria Purzner (Austria). Gherghita Nicodim and Awassada Phongphiphat were the lead reviewers. The review was coordinated by Ian Tout and Davor Vesligaj (secretariat).

B. Scope

4. The TERT conducted a technical expert review of the information reported in the BTR1 of Switzerland 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 (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) Consideration of the support provided by the Party, as relevant (see chap. II.C below);

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

C. Summary

5. Switzerland submitted its BTR1 on 16 December 2024, before the deadline of 31 December 2024 mandated in decision 18/CMA.1. Switzerland submitted its NID as a stand-alone document on 11 April 2024, before the deadline of 31 December 2024. Switzerland also submitted its CRTs on 12 December 2024, before the deadline of 31 December 2024, and CTF tables on 16 December 2024, before the deadline of 31 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.[4]

[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] Contained in document FCCC/ETF/TERR.1/2024/CHE/Add.1, available at https://unfccc.int/first-biennial-transparency-reports.

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

7. Switzerland considers itself a developed country Party under the Paris Agreement and as such did not report information on support needed and received for implementing Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity-building.

II. Technical expert review[5]

A. Review of the consistency of the submitted information with the modalities, procedures and guidelines[6]

1. National inventory report[7]

8. The TERT assessed the information reported in the BTR1 of Switzerland and identified areas of improvement relating to consistency with the MPGs, which are described in tables 2–7 of the assessment tables referred to in paragraph 6 above and summarized in table 1.

[5] As per para. 187 of the MPGs.
[6] As per para. 146(a) of the MPGs.
[7] As per para. 150(a) of the MPGs.

Table 1
Information reported in Switzerland'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 national inventory report 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?	1990–2022, in accordance with the MPGs	No areas of improvement were identified
Metrics (para. 37 of the MPGs)	Has the Party used the 100-year global warming potential values from the Fifth Assessment Report of the IPCC?	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?	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3	No areas of improvement were identified
Indirect emissions (para. 52 of the MPGs)	Has the Party reported indirect CO_2 emissions and national totals with and without indirect CO_2?	Yes	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?	Yes	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
	Has the Party used other IPCC methodological guidance?	Yes, the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*; the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*; the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*; and the *Good Practice Guidance and Uncertainty Management in National*	5.A.2

Element	*Elements of information to be reported*	*Summary of information reported*	*ID#(s) for the area(s) of improvement identified*[a]
		Greenhouse Gas Inventories or the *Good Practice Guidance for Land Use, Land-Use Change and Forestry*.	
Key category analysis (paras. 25 and 41–42 of the MPGs)	Has the Party reported a key category analysis?	Partly. A key category analysis with LULUCF was performed using approach 1, with a 95 per cent threshold, and approach 2, with a 90 per cent threshold, for level and trend assessment for the starting year (1990) and the latest reporting year (2022) and this was reported in the NID. A key category analysis without LULUCF was not reported.	2.G.1
Time-series consistency and recalculations (paras. 26–28 and 43 of the MPGs)	Has the Party reported a consistent time series?	Yes	No areas of improvement were identified
	Has the Party provided justification and explanatory information for recalculations?	Yes	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?	Yes, including level and trend uncertainty, reported using approach 1 and approach 2 for the starting year (1990) and the latest reporting year (2022)	No areas of improvement were identified
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?	Yes, including information on the inventory agency responsible for implementing QA/QC, an inventory QA/QC plan and general QC procedures	No areas of improvement were identified
Assessment of completeness (paras. 30–33, 45 and 50 of the MPGs)	Have any areas of improvement for lack of completeness been identified for the following sectors?		
	Energy	No	No areas of improvement were identified
	IPPU	No	No areas of improvement were identified
	Agriculture	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]
	LULUCF	No	No areas of improvement were identified
	Waste	No	No areas of improvement were identified
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?	Yes	No areas of improvement were identified
Methodologies, emission factors, parameters and activity data (paras. 39–40 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	NA
	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	NA
	IPPU	Partly	4.I.1
	Agriculture	Partly	5.A.1, 5.A.3
	LULUCF	Partly	6.L.1
	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	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]
	estimates are included in national totals?		
	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 emissions and removals from harvested wood products estimated using the production approach?	Yes	No areas of improvement were identified
	Waste	Partly	7.W.1

[a] See document FCCC/ETF/TERR.1/2024/CHE/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.

2. Information necessary to track progress in implementing and achieving the nationally determined contribution[8]

9. The TERT assessed the information reported in the BTR1 of Switzerland and recognized that the reporting is consistent with the MPGs. No areas of improvement relating to the topics discussed in this chapter of the review report were raised during the review, as shown in table 2.

Table 2
Information reported in Switzerland'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)	No areas of improvement were identified
Summary of GHG emissions and removals (para. 91 of the MPGs)	No areas of improvement were identified
Projections of GHG emissions and removals (paras. 92–102 of the MPGs)	No areas of improvement were identified

[a] See document FCCC/ETF/TERR.1/2024/CHE/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.

3. Financial, technology development and transfer, and capacity-building support provided[9]

10. Switzerland reported information on financial, technology development and transfer, and capacity-building support provided under Articles 9–11 of the Paris Agreement.

11. The TERT assessed the information reported in the BTR1 of Switzerland and identified areas of improvement relating to consistency with the MPGs, which are described in tables 16–20 of the assessment tables referred to in paragraph 6 above and summarized in table 3.

Table 3
Review of the consistency of the information on financial, technology development and transfer, and capacity-building support reported in Switzerland's submission with the modalities, procedures and guidelines

Topic	*ID#(s) for the area(s) of improvement identified*[a]
National circumstances and institutional arrangements (paras. 119–120 of the MPGs)	No areas of improvement were identified
Underlying assumptions, definitions and methodologies (paras. 121–122 of the MPGs)	16.1, 16.2
Information on financial support provided under Article 9 of the Paris Agreement (paras. 123–124 of the MPGs)	17.1, 18.1

[8] As per para. 150(b) of the MPGs.
[9] As per para. 150(c) of the MPGs.

Topic	*ID#(s) for the area(s) of improvement identified*[a]
Information on support for technology development and transfer provided under Article 10 of the Paris Agreement (paras. 126–127 of the MPGs)	19.1
Information on capacity-building support provided under Article 11 of the Paris Agreement (paras. 128–129 of the MPGs)	20.1

[a] See document FCCC/ETF/TERR.1/2024/CHE/Add.1.

B. Consideration of the Party's implementation and achievement of its nationally determined contribution[10]

12. In considering Switzerland's progress in implementing and achieving its NDC, the TERT noted that the NDC[11] is defined as an absolute economy-wide emission reduction target compared with a base year (1990). The target relates to an emission reduction of at least 50 per cent by 2030 compared with the 1990 level, implemented as an emission budget covering 2021–2030, which is equivalent to an average annual GHG emission reduction of at least 35 per cent in 2021–2030. Switzerland's NDC covers all sectors, including LULUCF, and all GHGs, including indirect CO_2 emissions.

13. The indicator that Switzerland selected to track progress in implementing and achieving its NDC is described in table 4.

Table 4
Description of the indicator(s) selected by Switzerland to track progress in implementing and achieving its nationally determined contribution

NDC target	*Indicator*	*Description*
Absolute economy-wide emission reduction of at least 50 per cent by 2030 compared with the 1990 level	Total emissions and removals including indirect CO_2 emissions	Absolute economy-wide emission reduction target compared with a base year Net emission reduction of at least 50 per cent by 2030 compared with the 1990 level, implemented as an emission budget covering 2021–2030, which is equivalent to an average annual net GHG emission reduction of at least 35 per cent in 2021–2030

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

14. The TERT noted that the contribution of LULUCF to achieving the NDC is included in the Party's base-year and target-year level and that Switzerland plans to use ITMOs from cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement towards the achievement of its NDC. The TERT also noted that Switzerland adopted a new piece of legislation during the review week that allows for the possibility of using A6.4ERs in future.

15. Table 5 summarizes information on progress in implementing the NDC based on the indicator total emissions and removals including indirect CO_2 emissions, taking into account the type of Switzerland's NDC target, including quantitative values for the base year, implementation period, including the most recent year available, and target year, information on the contribution of LULUCF and use of ITMOs towards the implementation and achievement of the NDC, as applicable.

[10] As per para. 146(b) of the MPGs.

[11] The consideration of the Party's implementation and achievement of its NDC is in the context of the NDC submitted by Switzerland on 14 November 2024. The TERT noted that the Party submitted a new NDC on 29 January 2025.

Table 5
Summary of information on Switzerland's progress in implementing and achieving its nationally determined contribution
(kt CO_2 eq)

	Total emissions and removals including indirect CO_2 emissions	*Contribution of LULUCF, as applicable*	*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*
2021	43 863.87	NA	0.00	43 863.87
2022	42 063.52	NA	0.00	42 063.52
Cumulative 2021–2022				85 927.39
			Emission budget	338 640.74

Sources: Switzerland's BTR1 and CTF table 4.

16. According to the most recent information on total emissions and removals provided in CTF table 4, in 2022 Switzerland's total emissions and removals were 42,063.52 kt CO_2 eq. The TERT noted that, in 2021–2022, Switzerland's total net GHG emissions amounted to 85,927.39 kt CO_2 eq, which is equivalent to 25.4 per cent of the current emission budget for the implementation period (2021–2030), estimated at 338,640.74 kt CO_2 eq.

17. Switzerland reported information on the actions and PaMs that support the implementation and achievement of its NDC. Table 6 provides a summary of the reported information on the key PaMs of Switzerland.

Table 6
Summary of information on key policies and measures reported by Switzerland

Sector	*Key PaMs*	*Estimate of mitigation impact in 2030 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	Climate and Innovation Act	IE
	Emissions trading scheme	2 380
	CO_2 levy on heating and process fuels	2 250
Energy		
Energy efficiency	National building refurbishment programme	4 390
Energy supply and renewables	Investment aids for photovoltaics and renewables	590
Transport	CO_2 emission regulations for newly registered vehicles	900
IPPU	Provisions relating to substances stable in the atmosphere (HFCs, PFCs, SF_6 and NF_3)	1 940
	Obligations in relation to the chemical conversion process of N_2O	500
Agriculture	The proof of ecological performance to receive direct payments	800
	Climate strategy for agriculture and food	IE
LULUCF	Measures under the national Forest Policy (objectives and implementation)	1 200
	Forest Act (revised in 2017)	NE
Waste	Ban on landfilling of combustible waste	135

Sources: Switzerland's BTR1 and CTF table 5.

18. The Climate and Innovation Act sets a long-term goal of achieving net zero emissions by 2050 and provides an overarching commitment to reducing emissions. The emissions trading scheme is aimed at reducing emissions through market mechanisms, with participation mandatory or voluntary depending on the size of the company (it is voluntary

for smaller companies) and its emission intensity. The CO_2 levy on heating and process fuels sets a surcharge on fossil fuel heating and the use of process fuels; some two thirds of the revenue is returned to households and businesses, around one third is earmarked for the national building refurbishment programme and a small portion is earmarked for a technology fund aimed at developing low-emission technologies. Companies participating in the emissions trading scheme are exempt from the CO_2 levy.

19. Sectoral PaMs include a national building refurbishment programme, which is aimed at reducing emissions from the building sector; the climate strategy for agriculture and food, which combines measures for agriculture and measures aimed at reducing food waste; and provisions relating to substances stable in the atmosphere, which is aimed at contributing to a phase-down of HFCs, PFCs, SF_6 and NF_3. The TERT noted that PaMs, actions and plans have contributed to GHG emission reductions in all sectors.

20. Total GHG emissions decreased in 2020–2022, diverging from the trend in many neighbouring countries for this period, where emission levels rebounded following the relaxation of measures introduced in 2020 with the aim of containing the coronavirus disease 2019 pandemic. The decrease was partly due to mild winters with fewer heating days and to higher energy prices owing to geopolitical factors, and was also due to trends in the transport sector, where emission levels increased after the pandemic ended, but, owing to increased energy efficiency in vehicles, and perhaps also because working from home remained an option for many, did not reach pre-pandemic levels. The mitigation effects of PaMs in this period were complemented by the installation of a catalyst at a chemical plant, which significantly reduced N_2O emissions; indeed, the industry sector saw GHG emissions decrease in 2020–2022 even though gross domestic product grew during that period.

21. The Party emphasized that under its system of direct democracy legislation is generally broadly accepted once it is in place. The processes involved in passing new legislation take an average of four years. Switzerland's economy does not rely on heavy industry (owing to a lack of mineral resources), but rather on less emission-intensive economic sectors. This means that emission trends are decoupled from population growth or gross domestic product growth. The trends show that emissions declined in 2021–2022 in most sectors or remained stable (e.g. in the agricultural sector).

22. Switzerland reported projections for 2025–2040 under the WM scenario.[12] The WM scenario reported by the Party includes PaMs implemented and adopted as at mid-2024 and also takes into account the planned strengthening of existing PaMs (implemented and adopted). In addition to the WM scenario, Switzerland reported the WAM and WOM scenarios. The projected emission levels are presented in table 7.

Table 7
Summary of greenhouse gas emission projections for Switzerland

	GHG emissions (kt CO_2 eq/year)	*Change in relation to 2022 level (%)*	*Change in relation to 2020 level (%)*
Inventory data 2020	43 146.30	2.6	NA
Inventory data 2022	42 063.52	NA	–2.5
WOM projections for 2030	51 978.01	23.6	20.5
WM projections for 2030	35 748.39	–15.0	–17.1
WAM projections for 2030	36 139.36	–14.1	–16.2
WOM projections for 2040	53 696.51	27.7	24.5
WM projections for 2040	31 621.26	–24.8	–26.7
WAM projections for 2040	30 833.57	–26.6	–28.4

Sources: Switzerland's BTR1 and CTF tables 6–9.
Note: The projections are for GHG emissions (i.e. with LULUCF and including indirect CO_2 emissions), consistent with Switzerland's emission reduction target in its NDC.

[12] Note that, as per para. 93 of the MPGs, projections shall not be used to assess progress towards the implementation and achievement of an NDC under Article 4 of the Paris Agreement unless the Party has identified a reported projection as its baseline.

23. The TERT notes that 25.4 per cent of the budget (85,927.39 kt CO_2 eq) was spent in 2021–2022 (see table 5), leaving 74.6 per cent of the total budget for the remaining eight years of the implementation period (2023–2030). The TERT also notes that there are not yet enough data to sufficiently assess the Party's progress in implementing the NDC, as it is early in the implementation period (2021–2030). The TERT further notes that regular monitoring of emissions and the results of mitigation actions, including the use of ITMOs, allows adjustments to be made as needed towards achieving at least a 50.0 per cent reduction in emissions by 2030 compared with the 1990 level, which is equivalent to an average annual reduction of net GHG emissions of at least 35 per cent in 2021–2030.

C. Consideration of the Party's support provided[13]

24. In its BTR1 Switzerland reported information on national circumstances and institutional arrangements relevant to reporting on the provision and mobilization of support. The Party reported information on the systems and processes used to identify, track and report on support provided; challenges and limitations; experience and good practices relating to public policy and regulatory frameworks for private climate financing and investment; and efforts to enhance the comparability and accuracy of the information reported on financial support provided. Switzerland's climate finance is managed by three government entities: the Swiss Agency for Development and Cooperation and the State Secretariat for Economic Affairs, which oversee the allocation of most funding, and the Federal Office for the Environment, which focuses on environmental issues. The three government entities collaborate on identifying, tracking and reporting on the support provided for climate change adaptation and mitigation in developing countries. Funding is primarily provided through multiple framework credits approved by the Swiss Parliament, with annual fiscal planning. A challenge reported by the Party is related to its system of direct democracy, which ensures inclusiveness, transparency and public participation, but also results in lengthy consultation and decision-making processes. Switzerland mobilizes private funds for international climate finance through several public interventions and blended finance instruments provided by multiple government entities and institutions, including Swiss Export Risk Insurance, an organization that provides export risk insurance to Swiss companies.

25. The Party accounts for mobilized private funds using the Rio markers. Switzerland also advances efforts to pursue the goals contained in Article 2, paragraph 1(c), of the Paris Agreement through the application of climate disclosure regulations and voluntary use of the Swiss Climate Scores by financial institutions, and by carrying out climate alignment tests. In 2022, for example, the Paris Agreement Capital Transition Assessment was carried out with 133 financial institutions to assess how their portfolios align with global climate goals.

26. Switzerland described its national circumstances and institutional arrangements relevant to the provision of technology development and transfer, and capacity-building support. The Party explained that the arrangements are the same as those used for the provision of climate finance.

27. Switzerland's BTR1 contains key information on underlying assumptions, methodologies and definitions used by the Party to identify and/or report information on financial support provided. Switzerland uses the Rio markers to classify development finance supporting climate change adaptation and mitigation, with separate markers used to indicate whether climate change is the principal objective or a significant objective of support. For multilateral organizations, Switzerland calculates the climate-relevant share of its contributions on the basis of the methodology of the OECD Development Assistance Committee for imputed multilateral climate shares and applies a quantified reduction factor to determine the climate-specific portion of each climate-marked activity.

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

1. Financial support provided under Article 9 of the Paris Agreement

(a) Bilateral, regional and other channels

28. Switzerland provided financial support through bilateral, regional and other channels, focusing mainly on bilateral official development assistance grants disbursed to countries in Africa, as well as to Eastern European, Asian and Latin American countries. The projects, programmes or activities receiving the financial support were related to both mitigation and adaptation actions. The majority of financial support provided through bilateral, regional and other channels was allocated to the following sectors: energy (15.8 per cent), transport (0.6 per cent), industry (3.9 per cent), agriculture (20.4 per cent), forestry (1.1 per cent), water and sanitation (8.3 per cent), cross-cutting (31.5 per cent) and other (18.4 per cent).

29. Table 8 summarizes information on financial support provided by the Party through bilateral, regional and other channels by type of support.

Table 8
Summary of financial support provided through bilateral, regional and other channels in 2021–2022 by Switzerland

	Amount (climate-specific) (face value – USD million)				*Share of total for bilateral, regional and other channels (%)*
Type of financial instrument	*Adaptation*	*Mitigation*	*Cross-cutting*	*Total*	
Grant	374.48	251.28	–	626.06	100.0
Total	**374.48**	**251.28**	**–**	**626.06**	**100.0**
Share of total for bilateral, regional and other channels (%)	**59.8**	**40.1**	**–**	**–**	–

Sources: Switzerland's BTR1 and CTF table III.1.

30. The financial support provided by Switzerland during the reporting period focused exclusively on grants, meaning that the support is inherently concessional and a specific method for determining grant equivalency is not required. Nevertheless, the Party subscribed to the OECD grant equivalent accounting methodology.

(b) Multilateral channels

31. Switzerland provided financial support through multilateral channels, focusing mainly on global-level core contributions to adaptation. The projects, programmes or activities that received financial support were related to core contributions to multilateral institutions and global funds. In 2022, the most significant support was directed at adaptation through contributions to the World Bank, the Green Climate Fund, the African Development Bank and the Global Environment Facility, and mitigation support was allocated to the same multilateral institutions, with both types of support directed at cross-sectoral activities. In 2021, the support provided to multilateral channels was categorized as cross-cutting and used in cross-sectoral activities.

32. Table 9 summarizes information on financial support provided by the Party through multilateral channels by type of support.

Table 9
Summary of financial support provided through multilateral channels in 2021–2022 by Switzerland
(USD millions)

	Climate-specific inflows (face value)				*Climate-specific outflows (face value)*			
Institution	*Adaptation*	*Mitigation*	*Cross-cutting*	*Total*	*Adaptation*	*Mitigation*	*Cross-cutting*	*Total*
Adaptation Fund	3.14	–	–	3.14	–	–	–	–
African Development Bank	18.99	12.99	37.75	69.73	–	–	–	–

	Climate-specific inflows (face value)				*Climate-specific outflows (face value)*			
Institution	*Adaptation*	*Mitigation*	*Cross-cutting*	*Total*	*Adaptation*	*Mitigation*	*Cross-cutting*	*Total*
Capacity-building Initiative for Transparency	–	–	3.55	3.55	–	–	–	–
Global Environment Facility	10.69	11.55	–	22.24	–	–	–	–
Green Climate Fund	15.10	20.87	26.43	62.40	–	–	–	–
Inter-American Development Bank	0.03	0.10	37.59	37.71	–	–	–	–
International Finance Corporation	0.09	4.70	0.14	4.94	–	–	–	–
Least Developed Countries Fund	2.67	0.24	4.94	7.86	–	–	–	–
Special Climate Change Fund	1.89	–	3.50	5.39	–	–	–	–
Trust fund for supplementary activities	0.44	0.44	0.86	1.74	–	–	–	–
United Nations Development Programme	–	–	0.45	0.45	–	–	–	–
United Nations Environment Programme	–	–	0.39	0.39	–	–	–	–
World Bank	44.68	35.48	–	80.17	–	–	–	–
Other (Asian Infrastructure Investment Bank)	–	–	0.11	0.11	–	–	–	–
Other (Food and Agriculture Organization of the United Nations)	0.18	0.11	4.27	4.56	–	–	–	–
Other (International Fund for Agricultural Development)	5.31	0.51	74.09	79.91	–	–	–	–
Other (IPCC)	0.05	0.05	11.01	11.11	–	–	–	–
Other (Montreal Fund)	–	3.01	5.42	8.42	–	–	–	–
Other (Private Infrastructure Development Group)	–	11.72	–	11.72	–	–	–	–
Total	**103.28**	**101.79**	**210.49**	**415.56**	**–**	**–**	**–**	**–**
Share of total (%)	**24.9**	**24.5**	**50.7**	**100.0**	**–**	**–**	**–**	**–**

Sources: Switzerland's BTR1 and CTF table III.2.

2. Technology development and transfer support provided under Article 10 of the Paris Agreement

33. Switzerland implemented measures or activities related to technology development and transfer, including activities undertaken by both the public and the private sector, that benefited developing country Parties. The Party employed the following strategies to support technology development and transfer: prioritizing the transfer of modern technology and expertise in development and economic cooperation to help recipient countries enhance production, improve energy and resource efficiency, and build climate resilience, and supporting the use of national self-assessments for determining specific requirements. Fossil fuel and nuclear projects are generally excluded from Swiss climate finance, except under strict conditions. The Party's International Cooperation Strategy 2021–2024 focuses on leveraging private sector innovation to foster sustainable development while mitigating associated risks. Switzerland promotes technology transfer to developing countries by

enhancing their capacity to assess, adopt and apply innovations. Furthermore, the Party provided support at different stages of the technology cycle. Examples of such support include systems, know-how, equipment and policy frameworks. Key opportunities for climate solutions include the use of satellite data for crop insurance and solar energy in humanitarian contexts. Specific to Switzerland is the Tech4Good approach, which integrates technological, entrepreneurial and social innovations to improve public services and the lives of the most disadvantaged citizens.

34. Switzerland provided support for the deployment and enhancement of the endogenous capacities and technologies of developing country Parties. The Party supports capacity-building and technology development for climate action, including energy efficiency programmes for reducing CO_2 emissions and air pollution. Focus areas include the transportation sector and small and medium-sized enterprises. Switzerland collaborates with local partners to develop and scale solutions, with an example being the collaboration between the Paul Scherrer Institute and the Chinese Academy of Sciences on real-time air pollution monitoring. Switzerland also promotes knowledge transfer, training and development of infrastructure for environmental monitoring and chemical management.

35. Switzerland encouraged private sector activities aimed at supporting developing country Parties with technology development and transfer. The Party promotes technology transfer to developing countries by supporting small and medium-sized enterprises, offering technical advice on energy and resource efficiency. Switzerland also backs private participation in technology development and transfer through the Private Infrastructure Development Group, which focuses on climate-resilient, low-carbon infrastructure projects at all stages of the project development cycle. The goal of the Group is to help countries transition to a net zero economy by 2050. Additionally, Switzerland supports the Climate Investment Funds for low-income countries, funding capacity-building and renewable energy projects. Through its contribution to the World Bank's Initiative for Sustainable Forest Landscapes, Switzerland helps countries to reduce land-sector emissions and encourages private sector involvement in low-carbon, climate-resilient development. Under the initiative, five countries have collaborated to develop private sector strategies that leverage existing platforms, enabling the initiative to become a convening force and attract private sector funding. Switzerland supports the Energising Development programme, a multi-donor initiative that improves access to modern energy through a market-based approach. The programme, which focuses on energy market supply and demand and on creating an enabling environment, promotes private sector involvement and uses strategies such as awareness campaigns, encouraging behavioural change and promoting innovative financing and digitalization.

36. Switzerland engaged in measures and activities related to technology innovation, including research, development and deployment, using a collaborative approach. The Party reported on the knowledge generated from the support provided for technology development and transfer to developing country Parties. The Party supports climate-focused research in public health, agriculture and clean air (e.g. Switzerland's Climate and Clean Air in Latin American Cities Plus programme). The Party also supports cryosphere monitoring in Central Asia (through the Cryospheric Observation and Modelling for Improved Adaptation project) and India (through a project aimed at strengthening climate change adaptation in the Himalayas) with a view to improving water management and disaster risk reduction through advanced and locally adapted technologies. The Global Eco-Industrial Parks Programme is aimed at demonstrating the viability and benefits of greening existing industrial parks, with the objective of generating and sharing knowledge from ongoing and completed endeavours. The AgriPath project promotes sustainable agriculture by advancing digital advisory services for smallholder farmers, thereby enhancing productivity, income and climate resilience. Switzerland is a long-standing partner of the Climate and Clean Air Coalition, supporting scientific research on short-lived climate pollutants and providing a platform that enables knowledge exchange among 92 State partners.

37. Switzerland supported measures related to technology development and transfer that focused on mitigation in sectors such as agriculture, energy, industry, transport and water and sanitation, as well as on cross-sectoral actions. The Party promotes research and services in agriculture, energy policy and administrative management, highlighting key areas such as

demand-side efficiency, grid transmission, energy conservation, renewable energy generation (including of solar and hydroelectric power), industrial development and higher education. The adaptation activities supported by the Party promote research, development of services, energy conservation and demand-side efficiency, the use of multiple technologies for energy generation, urban development and management, and job creation. Such measures and activities covered the following target sectors: energy (29.9 per cent), transport (1.0 per cent), industry (6.7 per cent), agriculture (14.0 per cent), forestry (1.0 per cent), water and sanitation (14.4 per cent), cross-cutting (20.1 per cent) and other (12.9 per cent). Most of the technology development and transfer support provided related to mitigation (57.7 per cent), followed by adaptation (42.3 per cent). The types of technology that received support include satellites or drones for gathering data for crop-damage insurance, solar technologies used in energy production for improving public services and the lives of disadvantaged populations, and technologies aimed at energy conservation and demand-side efficiency. For the reporting period 2021–2022, most of the measures or activities aimed at supporting technology development and transfer were reported as ongoing in accordance with Switzerland's International Cooperation Strategy 2021–2024. The recipient entities for Switzerland's technology development and transfer support were operating at the national, regional or global level.

3. Capacity-building support provided under Article 11 of the Paris Agreement

38. Switzerland provided capacity-building support to developing country Parties for mitigation, adaptation and cross-cutting needs by strengthening institutions, policies and skills. Swiss International Cooperation integrates capacity-building into its projects, focusing on dual vocational training systems tailored to partner countries' needs. Switzerland collaborates with host country authorities to identify priorities, offering short- and long-term training, skills development and knowledge exchange, while also supporting curriculum development and educational institutions. Switzerland's capacity-building support responded to the existing and emerging capacity-building needs, priorities and gaps of developing country Parties by following the principles of national ownership, stakeholder participation, country-driven demand, cooperation between donors and across programmes, and impact assessment and monitoring.

39. Switzerland described its key policies that promote capacity-building support in developing country Parties. Examples of climate-relevant capacity-building programmes include Global Energy Efficiency and Construction Outreach Programme, which supports energy-efficient and resilient development globally, focusing on the construction sector, through partnerships, including under the Energy Efficiency in Emerging Economies programme; the Global Water Security and Sanitation Partnership, which helps to improve sustainability and build resilience in the water sector through the use of analytics and capacity strengthening; Association for Plant Breeding for the Benefit of Society, which is aimed at raising awareness and building capacity in relation to legislation for the protection of alternative plant varieties in developing countries, and ensuring better support for smallholder farmers; the Renewable Energy Skills Development programme in Indonesia, which trains engineers in renewable energy technologies, with the involvement of private sector stakeholders and Swiss universities; and World Overview of Conservation Approaches and Technologies and Adaptation at Altitude, global databases and initiatives that promote climate change adaptation and disaster risk reduction, with regional projects in Central America and Central Asia.

40. The above-mentioned programmes focus on enhancing knowledge, leveraging successful practices and strengthening policies for sustainable development. At the different planning stages, stakeholders are consulted on the proposed interventions and have the opportunity to share their priorities and needs, with steps taken to adequately address them in the design of Swiss International Cooperation programmes. The Somalia Resilience Programme helps vulnerable groups in Somalia to build resilience through capacity-building, livelihood diversification and the use of early warning systems. The programme enables pastoral and agropastoral populations, displaced persons and poor populations in peri-urban areas to increase their ability to prepare for, adapt to and live through climate-related shocks without their livelihoods being eroded. Swiss International Cooperation projects undergo internal or external evaluation, and lessons learned are integrated into future initiatives.

Successful projects are replicated, and findings are shared through reports, videos and events. For example, educational materials were produced in relation to air quality initiatives in Mongolia and energy efficiency efforts in Latin America.

41. Switzerland supported capacity-building measures or activities that focused mainly on strengthening institutional arrangements, improving national data management systems in partner countries, building resilience of cities, building resilience in the agriculture sector, and modernizing electricity and heating systems. Most of the capacity-building measures or activities related to mitigation (42.7 per cent), followed by adaptation (57.3 per cent). For the reporting period 2021–2022, most of the capacity-building measures or activities were reported as disbursed. The recipient entities for Switzerland's capacity-building support were operating at the national, regional or global level.

D. Identification of areas of improvement[14]

42. During the technical expert review, the TERT identified areas of improvement in relation to Switzerland'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.

III. Conclusions and recommendations

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

44. The areas of improvement identified by the TERT on the basis of the review of the consistency of the information reported by Switzerland with the MPGs are summarized in chapter II.A above and included in the assessment tables referred to in paragraph 6 above.

45. The TERT notes that 25.4 per cent of the emission budget (85,927.39 kt CO_2 eq) was spent in 2021–2022 (see table 5), leaving 74.6 per cent of the total budget for the remaining years of the implementation period (2023–2030). The TERT also notes that there are not yet sufficient data to adequately assess the Party's progress in implementing the NDC, as it is early in the implementation period (2021–2030). The TERT further notes that regular monitoring of emissions and the results of mitigation actions, including the use of ITMOs, allows adjustments to be made as needed towards the target of achieving at least a 50.0 per cent reduction in emissions by 2030 compared with the 1990 level, which is equivalent to an average annual reduction of net GHG emissions of at least 35 per cent in 2021–2030.

46. The TERT notes that PaMs, actions and plans have contributed to GHG emission reductions in the energy, transport and IPPU sectors.

47. Switzerland continued to provide financial support through bilateral, regional and other channels and through multilateral channels to developing countries. The financial support through bilateral, regional and other channels in 2021–2022 totalled USD 626.06 million. Similarly, financial support through multilateral channels in 2021–2022 amounted to USD 415.56 million (inflows).

48. Switzerland continued to provide support for technology development and transfer, and capacity-building. Priority for technological support was given to projects and programmes related to energy policy and administrative management, industrial development, higher education, development of services, energy conservation and demand-side efficiency, use of multiple technologies for energy generation, urban development and management, and job creation. Priority for capacity-building support was given to projects and programmes that focused on strengthening institutional arrangements, improving national data management systems in partner countries, building resilience of cities, building resilience in the agriculture sector, and modernizing electricity and heating systems.

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

Annex

Documents and information used during the review

A. Reference documents

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

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

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"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 Regine Röthlisberger and Adrian Schilt (Swiss Federal Office for the Environment), including additional material.