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Report on the technical expert review of the first biennial transparency report of Italy*

Summary

This report presents the results of the technical expert review of the first biennial transparency report of Italy, 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 19 to 23 May 2025 in Rome.

* In the symbol for this document, 2024 refers to the year in which the biennial transparency report was submitted, not to the year of publication.



Abbreviations and acronyms

BTR	biennial transparency report
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
CRT	common reporting table
CTF	common tabular format
ESR	European Union effort-sharing regulation
EU	European Union
EU ETS	European Union Emissions Trading System
GHG	greenhouse gas
HFC	hydrofluorocarbon
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
MASE	Ministry of Environment and Energy Security
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
N ₂ O	nitrous oxide
NA	not applicable
NDC	nationally determined contribution
NF ₃	nitrogen trifluoride
NID	national inventory document
NO	not occurring
NRRP	National Recovery and Resilience Plan
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’

I. Introduction and summary

A. Introduction

1. This report covers the technical expert review of the BTR1 of Italy. 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 Italy, 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 19 to 23 May 2025 in Rome by the following team of nominated experts from the UNFCCC roster of experts: Oksana Butrym (Ukraine), Noel Casserly (Ireland), Muhammad Ijaz (Pakistan), Barbora Koči (Czechia), Takashi Morimoto (Japan), Alex Murray (Australia), Daniel Perczyk (Argentina) and Tian Wang (China). Takashi Morimoto and Tian Wang were the lead reviewers. The review was coordinated by Verónica Colerio (secretariat).

B. Scope

4. The TERT conducted a technical expert review of the information reported in the BTR1 of Italy 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 improvement³ for the Party related to implementation of Article 13 of the Paris Agreement (see chap. II.D below).

C. Summary

5. Italy submitted its BTR1 on 23 December 2024, before the deadline of 31 December 2024 mandated in decision 18/CMA.1. Italy submitted its NID as a stand-alone document on 17 November 2024, before the deadline of 31 December 2024. Italy submitted its CRTs on 15 November 2024, before the deadline of 31 December 2024, and CTF tables on 20 November 2024 (NDC) and 1 April 2025 (finance, technology and capacity-building), before and after the deadline of 31 December 2024 respectively.⁴ The TERT noted the delay in the submission of the CTF table on support, and acknowledged the technical difficulties experienced by the Party when submitting data using the tools for reporting under the enhanced transparency framework.
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 BTR, NID, CTF tables (NDC), CTF tables (FTC) and CRTs submitted on 30 December 2024, 17 November 2024, 20 November 2024, 1 April 2025 and 15 November 2024 respectively.

⁵ Contained in document FCCC/ETF/TERR.1/2025/ITA/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. Italy 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 review⁶

A. Review of the consistency of the submitted information with the modalities, procedures and guidelines⁷

1. National inventory report⁸

8. The TERT assessed the information reported in the BTR1 of Italy 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.

⁶ As per para. 187 of the MPGs.

⁷ As per para. 146(a) of the MPGs.

⁸ As per para. 150(a) of the MPGs.

Table 1

Information reported in Italy's national inventory report and review of consistency with the modalities, procedures and guidelines

<i>Element</i>	<i>Elements of information to be reported</i>	<i>Summary of information reported</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
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 IPCC Fifth Assessment Report?	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 ₂ O, HFCs, PFCs, SF ₆ and 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 ₂ O 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 <i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i> ?	Yes	5.A.4, 7.W.2
	Has the Party used other IPCC methodological guidance?	Yes, the <i>2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>	No areas of improvement were identified
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 approaches 1 and 2 and a 95 per cent threshold for level and trend assessment for the starting year (1990)	No areas of improvement were identified

<i>Element</i>	<i>Elements of information to be reported</i>	<i>Summary of information reported</i> and the latest reporting year (2022) and with and without LULUCF	<i>ID#(s) for the area(s) of improvement identified^a</i>
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 for 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 category-specific QC for key categories and for individual categories for which significant methodological changes and/or data revisions have occurred	2.G.1
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	Yes	No areas of improvement were identified
	IPPU	No	No areas of improvement were identified
	Agriculture	No	No areas of improvement were identified
	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 not estimated owing to insignificance, has information been reported showing that the likely level	Yes	No areas of improvement were identified

<i>Element</i>	<i>Elements of information to be reported</i>	<i>Summary of information reported</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
Methodologies, emission factors, parameters and activity data (paras. 39–40 and 53–56 of the MPGs)	of emissions is below the threshold of significance?		
	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	Partly	3.E.1, 3.E.2
	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.1
	Agriculture	Yes	No areas of improvement were identified
	LULUCF	Partly	6.L.1, 6.L.2
	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, 7.W.3, 7.W.4

^a See document FCCC/ETF/TERR.1/2025/ITA/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 contribution⁹

9. The TERT assessed the information reported in the BTR1 of Italy and identified areas of improvement relating to consistency with the MPGs, which are described in tables 11 and 13 of the assessment tables referred to in paragraph 6 above and summarized in table 2.

Table 2

Information reported in Italy's submission

<i>Topic</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
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.1/2025/ITA/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 provided¹⁰

10. Italy 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 Italy and identified areas of improvement relating to consistency with the MPGs, which are described in tables 18–20 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 Italy's submission with the modalities, procedures and guidelines

<i>Topic</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
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)	No areas of improvement were identified
Information on financial support provided under Article 9 of the Paris Agreement (paras. 123–124 of the MPGs)	18.1
Information on support for technology development and transfer provided under Article	19.1, 19.2

⁹ As per para. 150(b) of the MPGs.

¹⁰ As per para. 150(c) of the MPGs.

<i>Topic</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
10 of the Paris Agreement (paras. 126–127 of the MPGs)	
Information on capacity-building support provided under Article 11 of the Paris Agreement (paras. 128–129 of the MPGs)	20.1, 20.2

^a See document FCCC/ETF/TERR.1/2025/ITA/Add.1.

B. Consideration of the Party's implementation and achievement of its nationally determined contribution¹¹

12. In considering Italy's progress in implementing and achieving its NDC, the TERT noted that the EU and its member States have a joint NDC with a target of an economy-wide net domestic reduction in emissions of at least 55 per cent by 2030 compared with the 1990 level.¹²

13. Italy reported information on the actions and PaMs that support the implementation and achievement of its NDC. Three overarching EU PaMs – the EU ETS, the ESR and the EU LULUCF regulation – significantly influence Italy's portfolio of PaMs. The EU ETS covers mainly GHG emission point sources in the energy, industry, maritime shipping and aviation sectors. An EU-wide emission cap was put in place for 2021–2030 for the EU ETS with the goal of reducing emissions by 62 per cent below the 2005 level by 2030. The ESR sets binding annual GHG emission targets for member States covering the transport, buildings, agriculture and waste sectors, as well as industry sectors not covered by the EU ETS. The ESR-covered sectors are required to collectively contribute to a 40 per cent reduction in emissions at the EU level by 2030 compared with the 2005 level, with individual member States' reduction targets ranging from 10 to 50 per cent below the 2005 level. EU member States must achieve binding national LULUCF targets to contribute to the EU-wide target for 2030. The member States' targets for 2030 are defined as the average of net emissions and removals in 2016–2018 plus an individual binding target, which collectively corresponds to 42 Mt CO₂ eq.

14. The TERT noted that Italy reported in its BTR1 that its target for the ESR is a 43.7 per cent reduction by 2030 compared with the 2005 level, and the target for the LULUCF sector under the EU LULUCF regulation is to increase the net removal of GHG emissions by 3.2 Mt CO₂ by 2030. This increase, when added to Italy's existing net removals, would bring its total net removals to 35.8 Mt CO₂/year by 2030.

15. Table 4 provides a summary of the reported information on the key national PaMs of Italy.

Table 4

Summary of information on key national policies and measures reported by Italy

<i>Sector</i>	<i>Key PaMs^a</i>	<i>Estimate of expected GHG emission reductions in 2030 (kt CO₂ eq)</i>	<i>Estimate of achieved GHG emission reductions in 2022 (kt CO₂ eq)</i>
Energy			
Energy efficiency	Promotion of combined heat and power and district heating	2 802	1 849
	Tax deductions for building renovations and energy upgrades	1 674	1 665
Energy supply and renewables	Incentives for renewable electricity production	2 507	117

¹¹ As per para. 146(b) of the MPGs.

¹² The consideration of the implementation and achievement of the joint EU NDC is in the context of the NDC submitted by the EU on 17 December 2020 and updated on 17 October 2023.

<i>Sector</i>	<i>Key PaMs^a</i>	<i>Estimate of expected GHG emission reductions in 2030 (kt CO₂ eq)</i>	<i>Estimate of achieved GHG emission reductions in 2022 (kt CO₂ eq)</i>
	Promotion of power purchase agreements for large plants using renewable energy sources	5 074	NA
	Tenders for electricity generation from large renewable plants	11 536	NA
	Phase-out of coal used for electricity generation	12 666	NO
Transport	NRRP for mobility	1 192	223
	Biofuels supply for road transport	5 071	3 119
Industry	Promotion of carbon capture and storage for hard-to-abate sectors	4 000	NA
IPPU	Phase-out of fluorinated gases that impact the climate	565	NA
Agriculture	EU industrial emissions directive (2010/75/EU) – intensive poultry or pig farms, Po Valley Agreement and regional air quality plans, rural development programmes and EU Common Agricultural Policy, and EU nitrates directive (91/676/EEC)	790	540
	Incentives for electricity generation with biogas and incentives for biomethane	1 226	324
LULUCF	Soil carbon sequestration due to management practices under the EU Common Agricultural Policy	–3 180	–6 160
Waste	Separate collection of waste and fostering a circular economy	4 262	3 387

Sources: Italy's BTR1 and CTF table 5.

^a Names of PaMs reproduced as reported in Italy's BTR1.

16. Italy has adopted PaMs and taken new actions to mitigate climate change. One of Italy's key tools is the NRRP, adopted in July 2021, which was created to address the economic and social impacts of the coronavirus disease 2019 pandemic, and at directing the Party towards ecological and just transition. In addition, Italy submitted its first National Energy and Climate Plan to the European Commission in 2020 and published a fully updated version in July 2024 in line with the EU regulation on the governance of the Energy Union and climate action (regulation 2018/1999). The Plan seeks to drive a broad economic transformation focused on decarbonization, the circular economy, efficiency and the fair use of natural resources. In the energy sector, policies relating to tax deductions for building renovations and energy upgrades and combined heat and power and district heating continue to make a significant contribution to GHG emission reductions. More recent policies, such as incentives for renewable electricity generation, have the potential to significantly reduce GHG emissions over their implementation period. In the transport sector, existing policies continue to contribute to significant GHG reductions, including the policy on regulating biofuels for road transport, which has the largest impact on GHG emissions in the transport sector, while more recent policies, such as the NRRP for mobility, are expected to make a significant contribution to GHG emission reductions in future.

17. The TERT noted that Italy's GHG emissions including LULUCF between 2007 and 2022 show a decreasing trend, which can be attributed to a significant decrease in GHG emissions from the power and manufacturing industries. The main drivers of the large reduction in GHG emissions from the power industries are a fuel shift away from oil and petroleum products towards natural gas, and the expansion of renewable energy. The decreasing trend in manufacturing industries has been led by a change in the country's industrial structure, including a decrease in energy-intensive sectors and an increase in other

sectors, as well as the contribution of GHG reduction policies like the EU ETS. In comparison, GHG emissions from the transport sector increased between 1990 and 2022, and emissions from the commercial and residential sectors have not seen a significant reduction. Italy recognizes that reducing emissions in these sectors is challenging but notes that such a reduction will play a key role in achieving the reduction target for ESR sectors and will contribute to the achievement of the NDC of the EU.

18. Italy's annual emission allocations, which correspond to its national emission reduction target for ESR sectors, decrease from 2021 to 2030. Italy's ESR target is a 43.7 per cent reduction by 2030 compared with the 2005 level. The Party reported information on its ESR emissions in 2022 and the ESR targets for 2025 and 2030. The level of emissions in 2022 was 274.3 Mt CO₂ eq, 2.0 per cent above the annual emission allocation for that year. The TERT noted that this suggests that Italy may need to strengthen mitigation actions or use the flexibility allowed under the ESR in the future.

19. Italy reported projections for 2025–2040 under the WM scenario.¹³ The WM scenario reported by the Party includes PaMs implemented and adopted until 2022. In addition to the WM scenario, Italy reported the WAM scenario. The projected emission levels are presented in table 5.

Table 5

Summary of greenhouse gas emission projections for Italy

	<i>GHG emissions (kt CO₂ eq/year)</i>	<i>Change in relation to 2022 level (%)</i>	<i>Change in relation to 2020 level (%)</i>
Inventory data 2020	351 551.70	–10.3	NA
Inventory data 2022	391 841.60	NA	11.5
WM projections for 2030	320 911.66	–18.1	–8.7
WAM projections for 2030	262 359.15	–33.0	–25.4
WM projections for 2040	277 603.18	–29.2	–21.0
WAM projections for 2040	209 449.03	–46.6	–40.4

Sources: Italy's BTR1 and CTF tables 6–8.

Note: The projections are for GHG emissions with LULUCF and including indirect CO₂ emissions.

20. The ESR emission projections under the WM scenario are 268.2 Mt CO₂ eq for 2025 and 242.7 Mt CO₂ eq for 2030, which are 10.3 and 20.4 per cent, respectively, above the ESR targets for those years. Under the WAM scenario, this gap narrows, with ESR emissions projected to be 4.5 and 5.2 per cent above the ESR targets in 2025 and 2030 respectively, but even under this scenario, Italy is not expected to reach its ESR targets. The Party recognized that this indicates possible non-compliance and explained that it has contacted the European Commission with a view to identifying the best way to handle the situation with its ESR targets and will submit a corrective action plan by the end of 2025 or at the beginning of 2026.

21. The carbon removal projections for the LULUCF sector for 2030 under the WM and WAM scenarios reported in the BTR1 are 28.4 Mt CO₂, which is below the LULUCF carbon removal target for Italy within the EU (35.8 Mt CO₂). During the review, Italy provided further information on the projections for the LULUCF sector, noting that they were updated owing to the reassessment of the reference scenario following a revision to the estimated area of forest land for the 2025 GHG inventory submission. Italy also explained that the updated projection for the LULUCF sector for 2030 is 41.7 Mt CO₂, which exceeds the LULUCF carbon removal target for Italy within the EU.

22. In its BTR1 and during the review, Italy described the progress towards the joint EU NDC target. The TERT noted that the consideration of progress by the EU and its member States towards the joint EU NDC is contained in the report on the technical expert review of the BTR1 of the EU,¹⁴ which states that the EU and its member States are on track to

¹³ 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.

¹⁴ FCCC/ETF/TERR.1/2025/EU.

achieving the joint 2030 NDC target by implementing mitigation actions; however, maintaining this pace of emission reductions will require the full implementation of the EU 2030 legal framework and supporting investment flows.

C. Consideration of the Party's support provided¹⁵

23. In its BTR1, Italy 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.

24. Italy described its national circumstances and institutional arrangements relevant to the provision of technology development and transfer, and capacity-building support. Development cooperation projects and projects addressing climate change in developing countries are funded by a variety of entities, primarily the Ministry of Foreign Affairs and International Cooperation, MASE and the Ministry of Economy and Finance. The activities are to be implemented in accordance with Italy's programming and policy planning document for international development cooperation, and each ministry manages its own funding independently, including for the monitoring and evaluation phase.

25. The Party's BTR1 describes the institutional arrangements for reporting. MASE is the focal point and submits the BTR to the secretariat. Most of the information is drawn from data on international cooperation collected by the Development Assistance Committee of the Organisation for Economic Co-operation and Development. The Ministry of Economy and Finance receives the data provided by international financial institutions and communicates it to MASE. MASE is responsible for integrating information into the BTR from climate-specific funds not included in the database of the Development Assistance Committee, as well as consolidating the data and assessing whether flows are climate-specific. MASE prepares the BTR and asks for input and feedback on the draft from the institutions involved in providing the information.

26. Italy'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.

27. Italy's BTR1 also contains key information on underlying assumptions, methodologies and definitions used by the Party to identify and/or report information on technology development and transfer, and capacity-building support provided.

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

(a) Bilateral, regional and other channels

28. Italy provided financial support through bilateral, regional and other channels, with a focus on Africa. Support to Africa accounted for 47 per cent of projects. Countries with the highest number of projects in Africa are Burkina Faso, Cameroon, Ethiopia, Kenya, Mozambique, Senegal, Tunisia, Uganda and the United Republic of Tanzania. Two Just Energy Transition Partnership projects in Indonesia and Viet Nam accounted for 45 per cent of the total amount provided.

29. The majority of financial support provided through bilateral, regional and other channels was allocated to the following sectors, based on the number of projects: agriculture (27 per cent), water and sanitation (13 per cent), education (13 per cent), government and civil society (8 per cent), cross-cutting (8 per cent) and energy (7 per cent). In terms of the amount of financial support provided, the key sectors were energy (50 per cent), water and sanitation (15 per cent) and agriculture (9 per cent).

¹⁵ As per para. 146(c) of the MPGs.

30. Table 6 summarizes information on financial support provided by the Party through bilateral, regional and other channels by type of support.

Table 6

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

<i>Type of financial instrument</i>	<i>Amount (climate-specific) (face value – USD million)</i>				<i>Share of total for bilateral, regional and other channels (%)</i>
	<i>Adaptation</i>	<i>Mitigation</i>	<i>Cross-cutting</i>	<i>Total</i>	
Grant	164.91	49.74	174.71	389.36	33.2
Concessional loan	–	526.52	71.52	598.04	51.1
Equity	–	41.40	141.92	183.32	15.7
Total	164.91	617.66	388.15	1 170.72	100.0
Share of total for bilateral, regional and other channels (%)	14.1	52.8	33.1	100.0	–

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

(b) Multilateral channels

31. Italy provided financial support through multilateral channels, focusing mainly on global support and support for the Latin American and Caribbean and the African regions. Multilateral climate-specific support was allocated to mitigation (31.2 per cent of support), adaptation (37.7 per cent) and cross-cutting (31.1 per cent) (see table 7). Almost 80 per cent of the support provided by the Party focused on four multilateral institutions: the African Development Bank, the Green Climate Fund, the UNFCCC and the World Bank.

32. Table 7 summarizes information on financial support provided by the Party through multilateral channels by type of support.

Table 7

Summary of financial support provided through multilateral channels in 2021–2022 by Italy

(Millions of United States dollars)

<i>Institution</i>	<i>Climate-specific inflows (face value)</i>			
	<i>Adaptation</i>	<i>Mitigation</i>	<i>Cross-cutting</i>	<i>Total</i>
Adaptation Fund	10.53	–	–	10.53
African Development Bank	41.42	22.90	–	64.32
Asian Development Bank	1.51	1.23	–	2.74
Global Environment Facility	10.10	11.58	16.38	38.06
Green Climate Fund	24.65	35.46	13.67	73.78
Inter-American Development Bank	0.17	1.81	0.05	2.03
UNFCCC trust fund for supplementary activities	–	–	178.40	178.40
United Nations Development Programme	0.33	–	–	0.33
United Nations Environment Programme	–	–	–	–
World Bank	130.19	121.72	14.67	266.58
Other				
Council of Europe Development Bank	–	0.01	0.005	0.015
International Centre for Advanced Mediterranean Agronomic Studies	7.86	–	–	7.86
Development Bank of Latin America	11.83	15.38	–	27.21
Food and Agricultural Organization of the United Nations	1.56	–	1.53	3.09
International Fund for Agricultural Development	32.75	2.89	–	35.64
IPCC	–	–	0.56	0.56

<i>Institution</i>	<i>Climate-specific inflows (face value)</i>			<i>Total</i>
	<i>Adaptation</i>	<i>Mitigation</i>	<i>Cross-cutting</i>	
Multilateral Fund for the Implementation of the Montreal Protocol	–	17.59	–	17.59
United Nations Convention to Combat Desertification	0.55	–	–	0.55
United Nations Industrial Development Organization	–	–	5.18	5.18
World Food Programme	5.90	–	–	5.90
Total	279.35	230.57	230.45	740.37
Share of total (%)	37.7	31.2	31.1	100

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

33. Italy's support provided through multilateral institutions was mostly provided as grant-based resources (96 per cent), with only 4 per cent provided as concessional loans.

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

34. Italy 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 has increasingly used memorandums of understanding relating to the implementation of projects involving the transfer of technologies, tailored to the circumstances of recipient countries. All projects considered knowledge transfer and courses for installing and maintaining equipment (soft technologies) and for transferring essential technologies (hard technologies). The support mainly focused on technologies based on solar energy, which account for 89 per cent of support provided.

35. Italy provided support for the deployment and enhancement of the endogenous capacities and technologies of developing country Parties. Two examples illustrating the Party's approach were given in the BTR1 (section 5.4): a project implemented in Burkina Faso involving the use of solar-powered machinery for food-processing and the promotion of local food, and a project implemented in Senegal involving the development of a mobile module powered by a photovoltaic energy system for producing dehydrated, vacuum-packed mango, aimed at promoting the processing of mango directly on the harvest site in rural areas.

36. Italy considered private sector activities aimed at supporting developing country Parties with technology development and transfer when preparing bilateral cooperation agreements with countries. In particular, MASE considers the potential contribution of the private sector, including by publishing calls for expressions of interest on the Ministry website; identifying companies holding specific technologies; and promoting and organizing seminars, workshops and events.

37. Italy supported measures and activities related to technology development and transfer that focused mainly on solar energy systems (89 per cent of the support provided). Such measures and activities covered the following target sectors: energy (45 per cent), water and sanitation (16 per cent), education (13 per cent), agriculture (10 per cent), health (8 per cent) and other (8 per cent). Most of the technology development and transfer support provided related to mitigation (46 per cent), followed by cross-cutting (34 per cent) and adaptation (20 per cent). The recipient entities for Italy's technology development and transfer support were operating at the national level.

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

38. Italy provided capacity-building support to developing country Parties for mitigation, adaptation and cross-cutting needs. The Party stated in its BTR1 that on-the-ground hands-on capacity-building activities are a key component of almost all bilateral projects. The Party adopts an integrated, multi-level approach, leveraging collaboration among local actors, public institutions and international partners. The Party's capacity-building support is designed to respond to the existing and emerging needs and priorities of developing countries.

39. The Party gave several examples illustrating the effectiveness of this design and provided more detail on five key projects. The Project to Support Public Policy Development provides capacity-building support to government officials, equipping them with evidence-based tools for planning and policy development. The Smart Climate project in Malawi strengthens the skills of local farmers by introducing technologies for efficient water and soil management. An e-GEOS project focuses on transferring advanced Earth observation technologies and geoinformation systems, equipping local institutions to improve monitoring of climate risks and implement data-driven adaptation measures through the use of satellite imagery and geospatial data. The Sumud project in the State of Palestine supports economic inclusion by addressing the need of vulnerable populations to access finance and market opportunities. A capacity-building project in Lebanon gives local authorities technical skills for enhancing territorial governance.

40. Most of the capacity-building measures or activities related to cross-cutting (50 per cent), followed by adaptation (30 per cent) and mitigation (20 per cent). Many of the activities presented are focused on improving rural livelihoods in Africa. The recipient entities for Italy's capacity-building support were operating at the national and regional level.

D. Identification of areas of improvement¹⁶

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

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

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

44. The EU and its member States have a joint NDC with a target of an economy-wide net domestic reduction in emissions of at least 55 per cent by 2030 compared with the 1990 level. In its BTR1 Italy described its contributions towards the joint EU NDC target. The TERT noted that the consideration of progress by the EU and its member States towards the joint EU NDC is contained in the report on the technical expert review of the BTR1 of the EU, which states that the EU and its member States are on track to achieve the joint 2030 NDC target by implementing mitigation actions; however, maintaining this pace of emission reductions will require the full implementation of the EU 2030 legal framework and supporting investment flows.

45. The TERT notes that policies relating to tax deductions for building renovations and energy upgrades and combined heat and power and district heating continue to make a significant contribution to GHG emission reductions in the energy sector. Recent policies, such as incentives for renewable electricity generation, have the potential to significantly reduce GHG emissions over their implementation period. The TERT further noted that Italy's GHG emissions including LULUCF between 2007 and 2022 show a decreasing trend, which can be attributed to a significant decrease in GHG emissions from the power and manufacturing industries. GHG emissions from the transport sector increased between 1990 and 2022, and emissions from the commercial and residential sectors have not seen a significant reduction. The increase in GHG emissions in these sectors has outpaced the implementation of mitigation PaMs in these sectors in the short term.

46. Italy continued to provide financial support through bilateral, regional and other channels and through multilateral channels to developing countries. The financial support

¹⁶ As per para. 146(d) of the MPGs.

through bilateral, regional and other channels in 2021–2022 totalled USD 1.17 billion. Similarly, financial support through multilateral channels in 2021–2022 amounted to USD 0.74 billion (inflows). Total support provided for 2021–2022 amounted to USD 1.91 billion, an increase of 63 per cent compared with the total for 2019–2020.

47. Italy continued to provide support for technology development and transfer, and capacity-building. Priority for technological support was given to projects and programmes related to providing and installing solar energy technologies. Priority for capacity-building support was given to projects and programmes that align with the Sustainable Development Goals and promote sustainability, inclusion and local ownership.

Annex

Documents and information used during the review

A. Reference documents

BTR1 of Italy. Available at <https://unfccc.int/first-biennial-transparency-reports>.

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

BTR1 of the EU. Available at <https://unfccc.int/first-biennial-transparency-reports>.

BTR1 CTF tables of the EU. Available at <https://unfccc.int/first-biennial-transparency-reports>.

CRTs of Italy. Available at <https://unfccc.int/first-biennial-transparency-reports>.

“Guidance for operationalizing the modalities, procedures and guidelines for the enhanced transparency framework referred to in Article 13 of the Paris Agreement”. Decision 5/CMA.3. FCCC/PA/CMA/2021/10/Add.2. Available at <https://unfccc.int/documents/460951>.

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>.

Report on the technical expert review of the BTR1 of the EU. Available at <https://unfccc.int/first-biennial-transparency-reports>.

B. Additional information provided by the Party

Responses to questions during the review were received from Emanuele Peschi and Daniela Romano (Italian Institute for Environmental Protection and Research), including additional material. The following references were provided by Italy and may not conform to UNFCCC editorial style as some have been reproduced as received:

G. Molle, M. Decandia, A. Cabiddu, S.Y. Landau, A. Cannas. *An update on the nutrition of dairy sheep grazing Mediterranean pastures*. Available at <https://doi.org/10.1016/j.smallrumres.2008.03.003>.

Laura Valli, Giuseppe Bonazzi, Claudio Fabbri, Rocío D. Córdor Golec. *Progetto Meditairaneo Settore Agriocultura*. Agenzia per la Protezione dell'Ambiente e per i Servizi Tecnici.