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Sixty-third session
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Item 15(a) of the provisional agenda
Matters relating to technology development and transfer
Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network

Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network for 2025*

Summary

This report covers the activities and performance of the Technology Executive Committee and the Climate Technology Centre and Network since the publication of their joint annual report for 2024, including in their third year of implementing the joint work programme of the Technology Mechanism for 2023–2027 and in implementing the technology framework under the Paris Agreement. It contains information on the bodies' meetings and joint activities, deliverables and engagement with stakeholders, as well as key messages and recommendations for the Conference of the Parties at its thirtieth session and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its seventh session.

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* This document was scheduled for publication after the standard publication date owing to circumstances beyond the submitter's control.

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Abbreviations and acronyms

AF	Adaptation Fund
AFCIA	Adaptation Fund Climate Innovation Accelerator
AI	artificial intelligence
Annex I Party	Party included in Annex I to the Convention
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
COP	Conference of the Parties
CTCN	Climate Technology Centre and Network
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GEF	Global Environment Facility
LDC	least developed country
NAP	national adaptation plan
NDA	national designated authority
NDC	nationally determined contribution
NDE	national designated entity
non-Annex I Party	Party not included in Annex I to the Convention
SB	sessions of the subsidiary bodies
SIDS	small island developing State(s)
SJWA	Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security
TA	technical assistance
TEC	Technology Executive Committee
TNA	technology needs assessment
TT:CLEAR	technology information clearing house
UNEP	United Nations Environment Programme
UNEP-CCC	United Nations Environment Programme Copenhagen Climate Centre
UNIDO	United Nations Industrial Development Organization

I. Introduction

A. Mandate and background

1. COP 16 established the Technology Mechanism, comprising the TEC and the CTCN, to facilitate implementation of enhanced action on technology development and transfer to support action on mitigation and adaptation in order to achieve full implementation of the Convention.[1]

2. CMA 1 adopted the technology framework under Article 10, paragraph 4, of the Paris Agreement to provide overarching guidance to the work under the Technology Mechanism in promoting and facilitating enhanced action on technology development and transfer to support implementation of the Paris Agreement.[2]

3. In accordance with relevant COP[3] and CMA[4] decisions, the TEC and the CTCN prepare a joint annual report for consideration by the COP and the CMA through the subsidiary bodies.

4. In 2025, the TEC and the CTCN entered their third year of implementing the joint work programme of the Technology Mechanism for 2023–2027,[5] which is aimed at facilitating coherence and synergy and ensuring effective implementation of the work of both bodies. It comprises joint activities and common areas of work of the bodies, the rolling workplan of the TEC for 2023–2027[6] and the programme of work of the CTCN for 2023–2027.[7]

B. Scope

5. This report summarizes the key activities and outcomes of the work of the TEC and the CTCN since the publication of their joint annual report for 2024.[8] Chapter II below highlights and tracks progress in the bodies' collaborative and joint efforts. Chapters III–IV below describe the activities and results of the work of the TEC and the CTCN respectively during the reporting period, including information on common areas of work and challenges and lessons learned in implementing their mandates. Annex I presents key messages and recommendations of the TEC for consideration at COP 30 and CMA 7, annex II provides an overview of CTCN TA projects completed during the reporting period, and annex III provides an overview of CTCN success stories from the reporting period.

C. Possible action by the subsidiary bodies

6. The subsidiary bodies may wish to consider this report and to recommend draft decisions for consideration and adoption at COP 30 and CMA 7.

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[1] Decision 1/CP.16, para. 117.

[2] Decision 15/CMA.1, para.1.

[3] Decisions 2/CP.17, paras. 142–143; 1/CP.21, para. 68; 12/CP.21, para. 2; 15/CP.22, para. 6; 15/CP.23, para. 4; and 14/CP.25, para. 8.

[4] Decisions 15/CMA.1, paras. 4–5; and 8/CMA.2, para. 4.

[5] Available at https://unfccc.int/ttclear/tec/documents.html.

[6] Available at https://unfccc.int/ttclear/tec/workplan.

[7] Available at https://pow.ctc-n.org/programme.html.

[8] FCCC/SB/2024/3.

II. Joint chapter of the Technology Executive Committee and the Climate Technology Centre and Network

7.   The joint sessions[9] of the TEC and the CTCN Advisory Board, held in 2025 on 4 April and 12 September in conjunction with the bodies' meetings, continued to provide a valuable opportunity for systematically exchanging feedback on the work of each body and taking stock of their joint work, including in implementing the joint work programme of the Technology Mechanism.

8.   The TEC and the CTCN continued to collaborate on joint activities and in common areas of work, reflecting their efforts to respond in synergy under the Technology Mechanism to the technology-related outcomes of the first global stocktake[10] and thus demonstrating the central role of the Technology Mechanism in translating global ambition into action.

9.   The TEC and the CTCN continued to implement joint activities under the Technology Mechanism initiative on AI for climate action,[11] which explores the role of AI in developing and scaling up transformative solutions for climate change mitigation and adaptation in developing countries, with a focus on the LDCs and SIDS, including by:

(a)   Co-organizing an event with the Paris Committee on Capacity-building, the COP 29 Presidency and Enterprise Neurosystem on how AI-powered solutions can accelerate adaptation and mitigation action in developing countries and how AI-related capacity-building gaps and needs of the LDCs and SIDS can be addressed;

(b)   Hosting the Technology Mechanism AI for Climate Action Award 2025, in partnership with the Korea International Cooperation Agency and in collaboration with the incoming COP 30 Presidency and Enterprise Neurosystem, to identify and promote AI-powered solutions for effective adaptation and mitigation actions in the LDCs and SIDS;

(c)   Continuing to develop, in collaboration with the Digital Public Goods Alliance, the AI Climate Application Hub to serve as a repository of AI-powered open-source climate applications.

10.   The CTCN collaborated with the TEC on expanding the gender and climate technology expert roster. As at August 2025, 172 experts were registered on the roster, representing a 52 per cent increase since October 2024.

11.   The TEC and the CTCN issued the 2024 monitoring report on the implementation of their joint activities[12] and continued to work on elaborating indicators for measuring the impacts of the Technology Mechanism.

12.   The TEC and the CTCN continued to collaborate in the common areas of work under the joint work programme of the Technology Mechanism, including by:

(a)   Holding during the joint session of the TEC and the CTCN Advisory Board on 4 April 2025 a thematic dialogue on financing national systems of innovation, where discussions focused on overcoming barriers to accessing finance for such systems and the potential role of actors, including the TEC and the CTCN, in enhancing financing for national systems of innovation;[13]

(b)   Holding, in collaboration with FAO, a high-level dialogue at COP 29 that brought together key stakeholders to explore how climate technologies can support the transformation of agrifood systems and the acceleration of NDC implementation;[14]

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9   Information on the joint sessions, including recordings, is available via https://unfccc.int/ttclear/tec/meetings.html.

10   See https://unfccc.int/topics/global-stocktake/about-the-global-stocktake/outcome-of-the-first-global-stocktake.

11   See https://unfccc.int/ttclear/artificial_intelligence.

12   See TEC document TEC/2025/30/15, annex, chap. 3.

13   See https://unfccc.int/ttclear/events/2025/2025_event01 and https://unfccc.int/news/accelerating-climate-innovation-financing-national-systems-of-innovation-for-action.

14   See https://unfccc.int/ttclear/events/2024/2024_event05.

(c)   Contributing inputs to the annual synthesis report on activities related to the SJWA[15] and participating in the workshop at SB 62 on systemic and holistic approaches to implementation of climate action on agriculture, food systems and food security, understanding, cooperation and integration onto plans;[16]

(d)   Holding, in collaboration with the Global Alliance for Buildings and Construction and the Massachusetts Institute of Technology Climate Policy Center, a side event at SB 62 titled "Building Tomorrow: Policy and Data-Driven Solutions for Financing Climate Technologies in Buildings";[17]

(e)   Co-hosting with UNEP-CCC and the COP 29 Presidency a side event at COP 29 on implementing technology action plans to realize NDCs,[18] where the TEC launched a report analysing success stories from implemented technology action plans in six developing countries.[19]

13.   The TEC and the CTCN continued to collaborate and exchange information, including by:

(a)   Holding a side event at COP 29 to celebrate over a decade of action on climate technology since the establishment of the CTCN and showcase the impacts of the TA delivered under the Technology Mechanism in developing countries to accelerate implementation of climate technology solutions.[20] At the event, the TEC shared insights on the role of the CTCN in supporting the implementation of TNA outcomes in developing countries emerging from its analytical work on the topic (see paragraph 29 below). The GCF announced the approval of funding under its Project Preparation Facility for an initiative led by Kenya Commercial Bank, while the Ministry of Water and Environment of Uganda provided information on a project addressing the country's TNA outcomes, for which an application for funding under the GCF Project Preparation Facility has been submitted. Both projects were initially supported by the CTCN;

(b)   Contributing to each other's events and activities, for example by engaging with NDEs at the regional NDE forums for Africa, Asia and Latin America and the Caribbean (see para. 83 below); and convening a collaborative research, development and demonstration bridge-building workshop, where the TEC and the CTCN presented information on their respective activities and joint work. Furthermore, the CTCN nominated representatives for TEC open-ended activity groups;[21]

(c)   Participating in the Implementation Forum Technology Lab[22] at the first Climate Week of 2025, including engaging with NDEs and discussing the role of emerging technologies in the context of developing countries and issues relating to practical, accessible and affordable solutions for developing countries and sectors with limited technology infrastructure;

(d)   Continuing efforts to mobilize resources collaboratively for implementing the joint work programme of the Technology Mechanism, with the support of the secretariat, through a joint call for partnerships aimed at accelerating technology development and transfer through the joint work programme;

(e)   Undertaking joint communication and outreach efforts, including via the CTCN newsletter and the UN Climate Change Technology group on LinkedIn, which as at September 2025 reached more than 13,000 subscribers and 2,849 followers respectively,

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[15] FCCC/SB/2025/4.

[16] See https://unfccc.int/event/in-session-workshop-on-systemic-and-holistic-approaches-to-implementation-of-climate-action-on-0.

[17] See https://unfccc.int/ttclear/events/2025/2025_event03.

[18] See https://tech-action.unepccc.org/events/cop29-side-event-implementation-of-technology-action-plans-to-realize-ambitious-and-feasible-ndcs/.

[19] This and all other TEC publications are available at https://unfccc.int/ttclear/tec/documents.html.

[20] See https://www.ctc-n.org/whats-happening/events/climate-technologies-impact-stories-country-support-through-unfccc.

[21] See https://unfccc.int/ttclear/tec/workplan (under the workplan document "TEC open ended activity group members").

[22] See https://unfccc.int/topics/climate-weeks#2025.

representing an 8 and a 23 per cent increase respectively compared with the previous reporting period;

(f)   Updating the guidance note on the role of NDEs from Annex I Parties,[23] which is included in NDE welcome packs, where relevant, and has been circulated to the UNFCCC national focal points.

14.   The TEC and the CTCN continued to strengthen linkages between the Technology Mechanism and the Financial Mechanism through engagement with the GCF and the GEF, including by:

(a)   Participating in the annual meeting between the GCF and UNFCCC constituted bodies[24] at COP 29 to share views on the role of the GCF in implementing the technology-related outcomes of the global stocktake and highlight existing collaboration and further opportunities for synergistic engagement between the TEC, the CTCN and the GCF under the Strategic Plan for the GCF 2024–2027;

(b)   Attending and contributing to the GCF regional dialogues with the Caribbean and with SIDS in Asia and the Pacific, where the TEC and the CTCN co-hosted a session on strengthening linkages between the Technology Mechanism and the Financial Mechanism;

(c)   Submitting joint inputs on technology-related elements of the programming for the climate change focal area under the ninth replenishment of the GEF (2026–2030).[25]

15.   The TEC and the CTCN issued a document providing information on their individual and joint actions to address mandates from COP 29 and CMA 6.[26]

III.   Activities and performance of the Technology Executive Committee

A.   Meetings and membership

16.   The TEC convened its 30th meeting from 1 to 4 April 2025 in Copenhagen, Denmark, and its 31st meeting from 9 to 12 September 2025 in Bonn, Germany.

17.   At its 30th meeting the TEC elected Dietram Oppelt (Germany) as its Chair and Thibyan Ibrahim (Maldives) as its Vice-Chair for 2025.[27]

18.   At the same meeting the TEC decided to amend its rules of procedure[28] to include an option for the positions of members unable to participate for a temporary period to be filled.

19.   The meetings of the TEC were webcast live and attended by observers, including representatives of Parties and admitted observer organizations who actively contributed to the discussions. All meeting documents, webcasts and reports are available on TT:CLEAR.[29]

B.   Implementation of the rolling workplan for 2023–2027

20.   In 2025, the TEC revised its rolling workplan for 2023–2027,[30] prioritizing the activities therein by taking into account the resource requirements and financial implications of their implementation. This section, which is structured around the four workstreams of the

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[23]   Available at https://www.ctc-n.org/about-ctcn/nde.
[24]   Activity D.1.2 of the TEC rolling workplan for 2023–2027.
[25]   Pursuant to decision 4/CP.29, para. 2(f).
[26]   Available at https://unfccc.int/ttclear/tec/documents.html (under annual reports and related documents).
[27]   A list of the TEC members is available at https://unfccc.int/ttclear/tec/members.html.
[28]   Available at https://unfccc.int/ttclear/tec.
[29]   https://unfccc.int/ttclear/tec/meetings.html.
[30]   As footnote 6 above.

workplan, highlights the key activities undertaken and deliverables issued during the reporting period.[31]

21.   The work of the TEC during the reporting period reflects its growing role in brokering knowledge, promoting transformative technology solutions and fostering stronger collaboration with its partners. By generating targeted knowledge outputs, contributing to key international processes and UNFCCC work programmes, and engaging with UNFCCC constituted bodies on climate technology related issues, the TEC reinforced its commitment to supporting countries in scaling up technology-driven climate action.

22.   A highlight of the work of the TEC was the publication of the following three knowledge products:

(a)   A TNA guidebook on renewable energy;

(b)   A policy brief on deploying established climate technologies and solutions for buildings;

(c)   A technical paper titled "Artificial Intelligence for Climate Action: Advancing Mitigation and Adaptation in Developing Countries".

23.   In addition, the TEC co-led with partner organizations the organization of 5 events[32] and participated in 10 events[33] organized by partners or as part of the UNFCCC process in various thematic areas of work.

24.   Building on its work, the TEC developed key messages and recommendations in two thematic areas for consideration at COP 30 and CMA 7 (see annex I).

1.   Workstream 1: national systems of innovation, collaborative research, development and demonstration, and general-purpose technologies

25.   Under the work on national systems of innovation (activities A.1.1–A.1.2 of the rolling workplan), a common area of work under the joint work programme of the Technology Mechanism, the TEC, in collaboration with the CTCN, held a thematic dialogue on financing national systems of innovation (see para. 12(a) above). The TEC also developed a concept for a mapping tool to support the identification of country needs for establishing and implementing national systems of innovation. The tool will be finalized in 2026 and a knowledge product will be prepared in 2027.

26.   In the area of incubators and accelerators (activity A.2.2), the TEC concluded a scoping exercise to define the focus of work in consultation with the AF, the CTCN, the GCF, the GEF and UNIDO, among others. The TEC subsequently initiated preparation of a knowledge product, in partnership with UNIDO, to map, analyse and share policy insights from the development and operation of climate technology incubators and accelerators in developing countries, including insights on enabling environments and financing modalities.

27.   In the area of emerging and transformational adaptation technologies (activity A.3.1), the TEC launched a policy brief on innovation and technology in support of risk-informed climate resilience policy and action at Earth Information Day 2024, The brief was used by the United Nations Office for Disaster Risk Reduction to inform the chapter on technology and innovation for risk knowledge of its 2024 report *Global Status of Multi-Hazard Early Warning Systems*.[34] In 2025, the TEC launched a partnership with the International Organization for Migration and initiated the development of a policy brief, to be published in 2027, on advancing community-based early warning systems, with a focus on low-technology, accessible, last-mile solutions, informed by the aforementioned policy brief.

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[31]   An overview of the performance of the TEC is available at https://unfccc.int/ttclear/tec/performance.html.

[32]   For a calendar of TEC events and links to event pages, see https://unfccc.int/ttclear/events/index.html.

[33]   For information on TEC participation in events, see https://unfccc.int/ttclear/events/participation.

[34]   United Nations Office for Disaster Risk Reduction and World Meteorological Organization (2024). *Global Status of Multi-Hazard Early Warning Systems*. Geneva, Switzerland.

28.   Under the work on digital technologies (activity A.4.1), the TEC co-hosted, with Enterprise Neurosystem, the AI Innovation Grand Challenge award ceremony[35] at COP 29. In July 2025, the TEC launched the technical paper on AI for climate action (advancing mitigation and adaptation in developing countries) referred to in paragraph 22(c) above at the AI for Good Global Summit 2025.[36] Recommendations for consideration at COP 30 and CMA 7 derived from the technical paper are included in annex I. Furthermore, the TEC initiated preparation of a policy brief on opportunities, risks and challenges related to using AI for climate action and a concept note on practical ways to support AI implementation for transformative climate solutions. The TEC also initiated organization of an event on AI for climate action in developing countries, to be held in Dar es Salaam, United Republic of Tanzania, in October 2025.

2.   Workstream 2: technology needs assessment and technology planning tools to support implementation of nationally determined contributions

29.   Continuing its work on TNAs (activity B.1.1 of the rolling workplan), a common area of work under the joint work programme of the Technology Mechanism, the TEC published, in collaboration with UNEP-CCC, the analysis report referred to in paragraph 12(e) above. The report was launched at an event at COP 29 and its findings were featured at relevant side events (see paras. 12(e) and 13(a) above) and disseminated at a global workshop held under the GEF-funded global TNA project[37] implemented by UNEP-CCC. The TEC contributes to work under phase V of that project through the participation of a TEC member in the steering committee for the project.

30.   The TEC published the TNA guidebook on renewable energy with aspects of just transition referred to in paragraph 22(a) above in partnership with UNIDO and UNEP-CCC. The guidebook provides up-to-date information on a wide range of technology options for energy supply, storage, transmission and distribution, as well as on enabling conditions, barriers and good practices for their deployment. The guidebook is informing the work of national TNA teams working on energy-related issues under phase V of the global TNA project. The TEC, in collaboration with UNIDO and UNEP-CCC as well as the CTCN, promoted the guidebook among stakeholders through digital means (e.g. newsletters, media releases and social media) and at key events, including SB 62, International Renewable Energy Agency Innovation Week 2025 and the regional NDE forums for Africa and Asia in 2025.

31.   Using a new format for its outputs, the TEC developed a knowledge product[38] on how developing countries can be supported for conducting or updating their TNAs.[39] Building on previous work of the TEC and diverse country examples, it provides an overview of steps and considerations in planning and mobilizing support for conducting a TNA, including on understanding institutional context, identifying support providers, and utilizing modalities and innovative approaches for assessing and/or updating the assessment of technology needs and priorities and formulating associated implementation pathways. The TEC will test the usability of the knowledge product in 2026 through engagement with relevant national focal points and with support from interested partners.

3.   Workstream 3: transformative and innovative solutions

32.   In the area of water–energy–food systems (activity C.1.1 of the rolling workplan), a common area of work under the joint work programme of the Technology Mechanism, the TEC Chair participated in a workshop at SB 62 under the SJWA and presented the key messages and recommendations from a joint publication by the TEC and FAO on climate technology uptake in agrifood systems. The TEC also provided a submission[40] for the 2025 Forum of the Standing Committee on Finance on accelerating climate action and resilience

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[35] See https://unfccc.int/ttclear/events/2024/2024_event04.

[36] See https://aiforgood.itu.int/event/navigating-the-intersect-of-ai-environment-and-energy-for-a-sustainable-future/.

[37] See https://tech-action.unepccc.org/events/tna-workshop-2025.

[38] Available at https://unfccc.int/ttclear/tec/support.html#Practicalguide.

[39] Pursuant to document FCCC/SBI/2022/10, para. 98.

[40] Available at: https://unfccc.int/event/2025-forum-of-the-standing-committee-on-finance.

through financing sustainable food systems and agriculture. The submission highlights the importance of integrating climate technologies into agrifood systems to strengthen resilience against climate extremes while achieving significant emission reductions.

33.   Under buildings and infrastructure (activity C.2.1), a common area of work under the joint work programme of the Technology Mechanism, the TEC, in collaboration with the Global Alliance for Buildings and Construction and the Massachusetts Institute of Technology Climate Policy Center, developed a policy brief on deploying established climate technologies and solutions for buildings,[41] including key messages and recommendations for consideration at COP 30 and CMA 7 (see annex I). The policy brief, to be launched at an event at COP 30, highlights use of innovative materials; application of the principles of circular economy; and development of advanced solutions such as modular construction and heat pumps, emphasizing their importance for scalable deployment across diverse climatic zones.

34.   With regard to transformative industry (activity C.3.1), the TEC hosted, in partnership with UNIDO at COP 29, Technology Day on Transformative Industry,[42] at which the TEC launched a policy brief on integrating hard-to-abate industries in the process of preparing and implementing NDCs.[43]

35.   In addition, the TEC commenced an analysis of standards and labels for low- and near-zero emission production and products in hard-to-abate industries, in collaboration with UNIDO and the Industrial Transition Accelerator.

36.   In the area of innovative ocean climate solutions (activity C.4.1), the TEC contributed to an information note[44] for the annual ocean and climate change dialogue. The contribution highlighted scalable technological solutions and coastal zone technologies with significant potential in climate change adaptation and mitigation.

4.   Workstream 4: collaboration with constituted bodies and engagement in processes under the UNFCCC and with other United Nations agencies

37.   As per the corresponding activities outlined in its rolling workplan, the TEC:

(a)   Provided inputs to the Standing Committee on Finance on its draft guidance for the operating entities of the Financial Mechanism for consideration at COP 30 and CMA 7 (activity D.1.1);[45]

(b)   Invited representatives of the AF, the GCF and the GEF to participate in its meetings and events with a view to enhancing information exchange and collaboration (activity D.1);

(c)   Contributed to the UNEP-CCC series of Climate Technology Progress Reports. Three TEC members participated in their capacity as technology experts in the steering committee that guided the preparation of the report for 2025 (activity D.6.1);

(d)   Participated in and contributed to the meetings of the Adaptation Committee NAP task force (activity D.2.1).

5.   Monitoring and evaluation of impacts

38.   In 2024, the TEC developed a tracking system to generate information on the progress of implementation of its rolling workplan for 2023–2027 and has since published its first monitoring and evaluation progress report, for 2024.[46] The report provides an assessment of progress using performance measurement framework indicators, with a focus on the four

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[41]   Available at https://unfccc.int/ttclear/tec/buildings-and-infrastructure.html.

[42]   See https://unfccc.int/ttclear/events/2024/2024_event03.

[43]   TEC and UNIDO. 2024. *Integrating hard-to-abate industries in the process of preparing and implementing NDCs*. Bonn: UNFCCC. Available at https://unfccc.int/ttclear/tec/documents.html.

[44]   Available at https://unfccc.int/documents/647197.

[45]   See TEC document TEC/2025/31/16, annex III.

[46]   See TEC document TEC/2025/30/12.

workstreams of the rolling workplan. In addition, the TEC launched work on monitoring its impact on the global climate process and identifying suitable indicators for this purpose.

6. Outreach

39.   The TEC continued enhancing its communications and developing outreach activities in alignment with the TEC communications and outreach strategy adopted in 2020,[47] including by organizing and participating in global and regional events, making use of TT:CLEAR (which had received 28,600 page views as at September 2025, which is a 22 per cent increase from the 2024 level) and publishing 10 articles on the UNFCCC Newsroom. The TEC also made use of the UN Climate Change Technology group on LinkedIn (which as at September 2025 had more than 2,800 members) and partner platforms to enhance its visibility and reach.

7. Gender mainstreaming

40.   The TEC, with the support of its gender focal points and in collaboration with the UNFCCC gender team, continued mainstreaming gender in implementing its rolling workplan (under activity D.4), including by considering this matter at every TEC meeting.[48]

C.   Challenges and lessons learned

41.   The TEC noted the following challenges and lessons learned in implementing its rolling workplan for 2023–2027:

(a)   Full membership of the TEC has not been achieved, owing to Parties not being able to nominate the new members, which has prevented the TEC from operating at full capacity;

(b)   Many NDEs have limited awareness about the work of the TEC, its role and the ways in which it can support NDEs in promoting technology development and transfer, as highlighted at the regional NDE forums, potentially hindering the effective use of the outputs of the TEC and its support of national efforts to implement climate technologies;

(c)   In order to strengthen engagement with NDEs, the TEC will continue participating in the regional NDE forums organized by the CTCN, and directly engage NDEs in its ongoing work, including the development of the mapping tool referred to in paragraph 25 above.

IV.   Activities and performance of the Climate Technology Centre and Network

A.   Advisory Board meetings and membership

42.   In December 2024, Ariesta Ningrum took up her position as new Director of the CTCN, also serving as Secretary to the Advisory Board. At its 25th meeting, held in Copenhagen, Denmark, from 4 to 9 April 2025, the Advisory Board[49] elected Stephen Minas (Greece) as its Chair and Christian Lohberger (Papua New Guinea) as its Vice-Chair. The Board thanked the outgoing Chair, Fred Machulu Onduri (Uganda), for his service.

43.   In addition, key results of CTCN activities in 2024 were presented and the 2024 financial statement of the CTCN was endorsed. The Advisory Board provided further guidance on implementing the third programme of work of the CTCN, for 2023–2027, as part of the joint work programme of the Technology Mechanism for 2023–2027.

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[47] Available at https://unfccc.int/ttclear/tec/documents.html (under strategies and guidelines).
[48] For information on gender mainstreaming efforts, see TEC documents TEC/2025/30/17 and TEC/2025/31/16.
[49] See https://www.ctc-n.org/about-ctcn/governance.

44.   At its 26th meeting, held in Bonn, Germany, from 12 to 17 September 2025, the Advisory Board approved the CTCN chapter of the joint annual report of the TEC and the CTCN for 2025 and the CTCN annual operating plan and budget for 2026.

45.   All Advisory Board meeting documents, webcasts and reports are available on the CTCN web pages.[50]

B. Activities of the Climate Technology Centre and Network

46.   In 2025, the CTCN entered its third year of implementing its programme of work for 2023–2027. The remainder of this chapter provides an overview of CTCN activities conducted between October 2024 and September 2025, structured around the five themes of the technology framework under the Paris Agreement.[51]

1. Innovation

47.   Several CTCN TA projects completed during the reporting period focused on promoting or introducing innovative and emerging climate technologies. Examples include using multi-scalar mapping to enhance food security in Jamaica, using simple mobile technologies to scale up digital collection and processing of climate observation data to inform adaptation actions in Malawi, and conducting a feasibility and viability study on using blockchain technology in Thailand.

48.   Under digitalization, the CTCN supported the development of an integrated forest fire monitoring and early warning system using remote sensing for Borjomi-Kharagauli National Park in Georgia, the use of tree monitoring for climate adaptation in South Africa, and the formulation of a national electricity grid code and the development of a net metering policy in Timor-Leste.

49.   CTCN TA was featured in the implementation framework of the COP 29 Declaration on Green Digital Action,[52] which has been endorsed by 82 States and over 1,500 non-State actors.

50.   The CTCN continued to implement the following innovation-focused programmes and initiatives:

(a)   AFCIA I: of 25 TA projects, 8 were completed during the reporting period. AFCIA I is scheduled to conclude in October 2025, with lessons learned planned to be used to inform phase II;[53]

(b)   AFCIA II: the CTCN has administered USD 10 million for phase II since the sourcing of TA projects started in July 2024, which is expected to fund 60 TA projects over five years, making the CTCN the largest executing entity for phase II. A series of webinars, starting in October 2024, was held as a virtual launch for phase II. Of the TA requests, 5 were in the bidding phase and 15 were in the design phase;

(c)   Climate Technology for Communities at Risk of Climate-induced Conflicts: this programme, funded by the European Commission in the amount of USD 3.28 million and launched in June 2023, supports 10 TA projects and is scheduled to conclude in October 2025.[54] During the reporting period, five TA projects under the programme were completed;

(d)   Innovative Climate Solutions Programme:[55] the European Commission awarded the CTCN a USD 2.1 million grant for the Programme, launched during the reporting period, which aligns seven innovative solutions with the climate needs of seven LDC and SIDS.

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[50] https://www.ctc-n.org/about-ctcn/governance.
[51] Decision 15/CMA.1, annex, para. 4.
[52] See https://cop29.az/en/pages/cop29-declaration-on-green-digital-action.
[53] See https://www.ctc-n.org/technical-assistance/adaptation-fund-climate-innovation-accelerator-afcia-I.
[54] See https://www.ctc-n.org/technical-assistance/climate-change-and-security.
[55] See https://www.ctc-n.org/whats-happening/news/cop29-side-event-showcases-role-rdd-and-tailored-approaches-climate-action.

51. Since opening in 2022, the CTCN Partnership and Liaison Office, supported by the Republic of Korea, has piloted several global collaborative research, development and demonstration) activities, including:

(a) Supporting TA projects that pilot innovative technologies or promote collaborative research, development and demonstration initiatives, including ongoing projects in Bangladesh, Côte d'Ivoire and Papua New Guinea, and a pre-feasibility study on groundwater desalination and resource recovery in Uzbekistan;

(b) Conducting capacity-building activities related to collaborative research, development and demonstration:

(i) In October 2024, an AI-focused capacity-building session for NDEs in Latin America and the Caribbean was held in San José, Costa Rica;

(ii) In 2025, capacity-building sessions on climate technology and finance were hold in Panama City, Panama, in May and in Nairobi, Kenya, in July, while sessions on digitalization and finance were held in Seoul, Republic of Korea, in September;

(iii) Two collaborative research, development and demonstration bridge-building workshops aimed at fostering South–South, North–South and triangular partnerships were held in October 2024 and July 2025 respectively in the Republic of Korea;

(iv) A learning visit on green hydrogen production and fuel cells was conducted in the Republic of Korea in July 2025 and attended by five researchers nominated by NDEs;

(c) Developing knowledge products, including the second part of a series of reports on green hydrogen technologies for systems transformation, in collaboration with UNEP-CCC, and on integrating AI into climate action, prepared jointly with the National Institute of Green Technology of the Republic of Korea.

2. Implementation

(a) Supporting development and transfer of climate technologies

52. As at August 2025, the CTCN had received, since its inception, 439 TA requests from 115 developing country Parties, of which 167 (38.0 per cent) had been completed, 81 (18.5 per cent) were under implementation, 123 (28.0 per cent) were in the design phase and 68 (15.5 per cent) were under review.[56] Of those requests, 48 per cent originated from Africa, 29 per cent from Asia and the Pacific, 22 per cent from Latin America and the Caribbean and 1 per cent from Europe. The LDCs accounted for 35 per cent of requests and SIDS for 10 per cent.

53. The TA requests received since inception have related to mitigation (41 per cent), adaptation (31 per cent) or both (28 per cent). Most mitigation-related requests concern renewable energy, energy efficiency or agriculture, while adaptation-related requests concern mainly water, agriculture and forestry, or coastal zones.

54. In terms of type of assistance, requests for decision-making tools and/or information were received most frequently (accounting for 25 per cent of all requests), followed by requests for technology feasibility studies (21 per cent) and technology identification and prioritization (15 per cent).

55. A total of 29 TA requests were received during the reporting period, constituting a more than two-fold increase compared with the previous reporting period, when 9 TA requests were received. It is worth highlighting that, during the reporting period, the CTCN completed one TA request and is processing one other TA request from Eastern Europe.

56. A total of 32 TA projects and one TNA were completed during the reporting period. Of these, 14 TA projects (42.5 per cent) were on adaptation, 13 TA projects and one TNA (42.5 per cent) were on both adaptation and mitigation and 5 TA projects (15.0 per cent) were on mitigation. In terms of regional distribution, 18 TA projects and one TNA (58 per cent)

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[56] See https://www.ctc-n.org/facts-and-figures/requests?chart=by_stage.

were implemented in Africa, 8 TA projects (24 per cent) in Latin America and the Caribbean, 5 TA projects (15 per cent) in Asia and the Pacific and 1 TA project (3 per cent) in Eastern Europe. Of the 32 completed TA projects, 13 leveraged national systems of innovation as a key enabler for system transformation, while 7 leveraged digitalization. An overview of all TA projects completed during the reporting period is provided in annex II. The figure below illustrates the distribution of TA projects completed during the reporting period according to the CTCN five areas of system transformation and the percentage of TA projects from the LDCs (the number of projects was 10), SIDS (6) and other developing countries (16).

Percentage of Climate Technology Centre and Network technical assistance projects completed between October 2024 and September 2025, by area of system transformation and developing country status
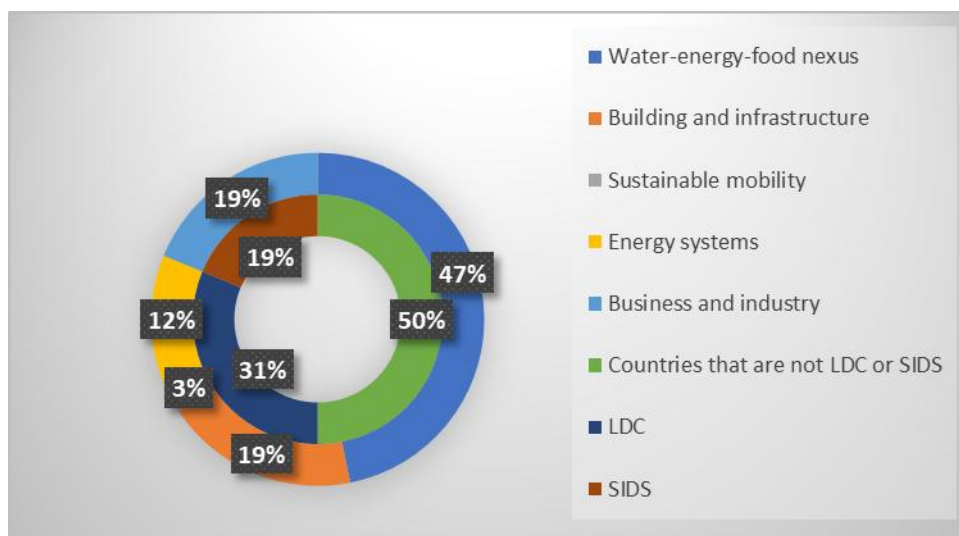
57. The TA projects completed during the reporting period reveal that an increased focus on adaptation in the CTCN project portfolio is a continuing trend. The implementation of AFCIA I in 2024 focused primarily on providing TA related to the water–energy–food nexus, leading to more TA requests in this area than in other areas of system transformation. One TA request in the area of sustainable mobility was completed during the reporting period. TA requests for applying digital technologies in climate information systems, such as agrometeorological information systems and early warning systems, continue to represent a large proportion of TA requests.

58. The CTCN continued to respond to TA requests in a demand-driven manner using a programmatic approach involving implementation of three key programmes: (1) AFCIA I, focused on the water–energy–food nexus and early warning systems; (2) Climate Technology for Communities at Risk of Climate-induced Conflicts, which includes 10 TA projects that are due to be completed by December 2025; and (3) the Innovative Climate Solutions Programme, targeting seven LDCs and SIDS. All these programmes include elements of TA, capacity-building and knowledge transfer, in line with the mandate of the CTCN.

59. The CTCN concluded implementation of a multi-country TA project on circular economy financing in Latin America and the Caribbean, for which it was important to ensure that the outcomes and deliverables for each of the four countries involved were aligned while the approaches to decarbonization were national and led by each country.

60. At its 26th meeting, the CTCN secretariat delivered a presentation on progress in TA delivery, timeliness and effectiveness; the prioritization criteria used to assess TA requests; and application of the threshold of USD 250,000 for each TA request. The Advisory Board decided to increase the threshold per TA request to USD 300,000. It considered the timeliness and responsiveness of the TA submitted to the CTCN and took note that the CTCN has taken measures to expedite the processing of submissions.

(b) **Conducting technology needs assessments and implementing their results**

61. The CTCN supported the completion of a TNA funded through the GCF Readiness and Preparatory Support Programme. The TNA, for Côte d'Ivoire, was aimed at reassessing priority technologies in key sectors and establishing a national system of innovation led by a climate technology incubation hub.

(c) **Aligning technical assistance provided by the Climate Technology Centre and Network with implementation of nationally determined contributions**

62. TA provided by the CTCN directly supports countries in implementing NDCs. In Asia and the Pacific, the TA delivered in Pakistan resulted in the development of a technology road map for NDC implementation, identifying priority technologies in the water and waste sectors and improving coordination among stakeholders. In Africa, the TA delivered in the Sudan resulted in progress towards achieving NDC targets by enhancing water resource management, piloting innovative technologies and aligning sectoral priorities with national adaptation and mitigation goals. In Latin America and the Caribbean, TA helped Chile, Costa Rica and Suriname, among other countries, to strengthen institutional capacities and financing mechanisms for circular economy and climate-resilient water systems, which are key enablers for implementing their NDCs.

3. Enabling environments and capacity-building

(a) **Creating enabling environments and favourable market conditions for climate technologies**

63. Many TA projects completed during the reporting period were aimed at creating enabling environments for technology development and transfer through the provision of decision-making tools and information (21 per cent of completed TA projects). Other means of creating enabling environments were technology identification and prioritization (7 per cent) and recommendations for laws, policies and regulations (3 per cent).

64. Examples of how CTCN support creates enabling environments include groundwater management planning in Zambia helping to ensure water security; a climate-smart street vending framework in the Bahamas supporting formalization of the informal sector; and an e-mobility framework in the United Republic of Tanzania promoting clean transport and women's participation.

(b) **Promoting gender-responsive and endogenous technologies and harnessing Indigenous Peoples' knowledge**

65. Since endorsing its gender policy and action plan 2023–2027[57] in 2023, the CTCN has been developing and monitoring annual gender workplans. The CTCN integrates a gender assessment and action plan into all TA response plans and 5 per cent of the TA budget for projects is dedicated to gender mainstreaming. This allocation was used during the reporting period to support activities such as hiring gender experts and producing policy briefs.

66. During the reporting period, the CTCN promoted the Technology Mechanism gender and climate technology expert roster, including by referring to it in the updated TA response plan template and encouraging Network members to engage experts from the roster.

67. Several TA projects completed during the reporting period promoted endogenous technologies by making use of local resources and knowledge. For example, the CTCN supported the use of climate-smart agriculture for local communities in Mozambique; and piloted solar-powered hydroponics in Nigeria, integrating training into the curricula of agricultural colleges to build local expertise.

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[57] See https://www.ctc-n.org/sites/default/files/AB2023.22.24_CTCN_Gender_Policy_and_Action_Plan_2023_2027_Endorsed.pdf.

(c) **Building capacity by exchanging knowledge and experience**

68.   Several TA projects completed during the reporting period included South–South and North–South learning exchange visits. Regional collaboration among the four countries in Latin America and the Caribbean participating in the multi-country TA project on circular economy fostered South–South exchange of experience and lessons learned. The pro bono support for biogas production in the United Republic of Tanzania included training and knowledge exchange with universities in the Republic of Korea.

69.   To promote nationally led and sustainable outcomes and build national and local expertise, CTCN TA projects have since inception required a local organization or expert with a clearly defined role and expertise to work with the implementing partner.

(d) **Enhancing public awareness of and information-sharing on climate technology development and transfer**

70.   TA projects were showcased at several regional, national and local events to raise awareness of climate technologies. For example, the multi-country TA project on circular economy in Latin America and the Caribbean was showcased at the World Circular Economy Forum 2025; the United Republic of Tanzania's e-mobility TA project was presented at Innovation Week Tanzania 2025, where the national electric vehicle policy framework was also endorsed; and Zimbabwe's TA project on green buildings assistance was featured at a COP 29 event hosted by Zimbabwe.

71.   The CTCN collaborated with the following partner organizations in disseminating information on climate technology:

(a)   The World Intellectual Property Organization, by contributing to the 2024 edition, on energy solutions, of its Green Technology Book series to disseminate information on technology trends, and by participating in its side event held at the 2025 United Nations Ocean Conference;

(b)   UNEP-CCC, by contributing to the 2024 edition, on renewable energy, of the series of Climate Technology Progress Reports;

(c)   EmPower: Women for Climate Resilient Societies, by participating in a capacity-building seminar on promoting renewable energy adoption in Asia and the Pacific using AI;

(d)   UNEP in Asia and the Pacific, by co-delivering two webinars on using AI to advance renewable energy and integrating gender equality and social inclusion in energy and climate change solutions;

72.   The CTCN secretariat and Advisory Board members participated in 14 climate technology related events at COP 29, including a side event on national systems of innovation and collaborative research, development and demonstration,[58] as well being invited to share knowledge on climate technology at more than 20 global conferences and partner events;

(a)   The Chair of the Advisory Board highlighted the role of AI in climate action during Oman Sustainability Week 2025 and in a publication by *Environmental Finance*, while a joint opinion piece by the Chair and Vice-Chair of the Board was published in the Lowy Institute's *The Interpreter*;

(b)   Four Advisory Board members participated in a workshop at SB 62 on food systems and climate action under the SJWA;

(c)   The CTCN Director presented success stories to visiting Secretaries of State from Denmark, Finland, Norway and Sweden, and held a bilateral meeting with Sweden's Climate Ambassador while in Sweden.

73.   Representatives of the CTCN secretariat participated in several events, including the fourth International Conference on Financing for Development, introducing the CTCN new programme on phasing out sulfur hexafluoride; and presented an International Chamber of

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[58] See https://www.ctc-n.org/whats-happening/news/cop29-side-event-showcases-role-rdd-and-tailored-approaches-climate-action.

Commerce business webinar facilitated by the UNFCCC constituency of business and industry non-governmental organizations. The CTCN developed factsheets, videos and web stories for the two programmes funded by the European Commission and for AFCIA I.

74. The CTCN conducted several awareness-raising campaigns, including on green hydrogen, AI integration in climate action, and youth-led initiatives under the Youth Climate Innovation programme.

75. In addition, the CTCN published 1,107 social media posts highlighting TA results and best practices. A total of 13 issues of the CTCN newsletter were sent to more than 13,500 subscribers, and information on events and learning opportunities reached 18,366 social media followers.

4. Collaboration and stakeholder engagement

(a) Engaging with local communities, authorities, civil society organizations and the private sector

76. The CTCN continued to engage a range of stakeholders in delivering its services. For example, during implementation of a TA project in Colombia, the Cuerval Community Council and the Cauca Regional Autonomous Corporation took part in implementing mangrove conservation, restoration and monitoring strategies and other measures designed to respond to climate threats. The CTCN also engaged with the European Union to explore potential areas of collaboration under Copernicus, the Earth observation component of the European Union's space programme, in Latin America and the Caribbean.

77. The CTCN served as a coordinating partner for United Nations Sustainable Development on a workshop on the water–energy–food–ecosystems nexus held in Addis Ababa, Ethiopia, from 4 to 6 March 2025.

78. The CTCN worked together with the National Institute of Green Technology of the Republic of Korea, the World Bank, the GCF, Griffith University in Australia and a number of other collaborators in supporting the global capacity-building programme on climate technology and finance for NDEs in Africa, Latin America and the Caribbean, and the Pacific, and for NDEs in Asia with a focus on digitalization and finance.

79. The CTCN partnered with the Global Cement and Concrete Association to provide technical support for developing deep decarbonization road maps for the cement industry in Africa and explore possibilities for joint fundraising for the multi-country programme on climate innovation in concrete and cement.

80. The CTCN continued its collaboration with Seedstars in implementing the Youth Climate Innovation programme, which has been in place since 2020.

81. The CTCN, in collaboration with the Swedish Energy Agency and Business Sweden, held a round table in August 2025 with Swedish business leaders to promote the work of the CTCN and explore opportunities for the Swedish private sector to collaborate with the CTCN in providing technology solutions for developing countries.

(b) Engaging with national designated entities

82. Beyond working with NDEs on ongoing TA projects, the CTCN provided technical support and guidance to more than 50 NDEs in preparing new TA requests and ensured that funding entities were invited to stakeholder meetings on TA closure. In addition, on request from NDEs, the CTCN provided follow-up technical support for TA projects that had concluded, for example by connecting NDEs with Network members and potential funders regarding scaling up TA projects, providing advice on developing concept notes and convening bilateral meetings between NDEs and accredited entities.

83. The CTCN continued to engage with NDEs at various forums and meetings aiming to equip and support them for undertaking their functions, as well as providing them with an opportunity to interact with other NDEs, NDAs and accredited entities, such as:

    (a) The regional NDE forums for Latin America and the Caribbean, held in Costa Rica in October 2024 (22 NDEs) and in Panama in May 2025 (21 NDEs); Africa, held in

Kenya in July 2025 (45 NDEs); and Asia, held in the Republic of Korea in September 2025 (23 NDEs);

(b) An onboarding session in January 2025, delivered in English, French and Spanish, attended by a total of 99 NDEs;

(c) The GCF regional dialogue with the Caribbean, held in Saint Kitts and Nevis from 17 to 20 March 2025 (four NDEs); and the GCF regional dialogue with SIDS in Asia and the Pacific, held in Cook Islands from 6 to 9 May 2025 (eight NDEs).

84. The CTCN secretariat developed modalities for operationalizing NDE technical and logistical support, which were agreed on by the Advisory Board at its 25th meeting. The CTCN secretariat is implementing these modalities and collecting lessons learned. It had received three requests for logistical support as at 25 August 2025 and had been informed of 15 expressions of interest for logistical support from NDEs as at 16 September 2025.

(c) Engaging with Network members

85. The CTCN has welcomed 46 new Network members since September 2024, bringing the total number of Network members to 941 as at 15 September 2025. Private sector organizations represent 61 per cent of new members, followed by non-governmental organizations (22 per cent) and non-profit organizations (9 per cent). Non-Annex I Parties account for 52 per cent of the new members and Annex I Parties for 48 per cent.

86. The CTCN facilitated several Network engagement events during the reporting period, including a webinar on AI and digital climate solutions, held in May 2025; and a webinar organized jointly with the UNEP-DHI Centre on Water and Environment on scaling up TA for flood and drought early warning systems, held in June 2025. Furthermore, a Network member held a session at Stockholm World Water Week 2025, where a TA project was presented.

87. The CTCN secretariat is reinvigorating its engagement with Network members, including by conducting a survey in 2025 and developing a network engagement strategy that will be launched in 2026.

(d) Collaborating with UNFCCC constituted bodies and constituencies

88. The CTCN, in collaboration with the UNFCCC children and youth constituency and the Paris Committee on Capacity-building, hosted a climate youth innovators event at COP 29 to showcase climate technology start-ups. In addition, it organized, jointly with Youth4Capacity and Seedstars under the Youth Climate Innovation programme, an interactive design thinking workshop, held in May 2025, aimed at supporting young climate entrepreneurs.

89. As part of its ongoing collaboration with Women Engage for a Common Future and the UNFCCC women and gender constituency, the CTCN supported the 2025 Gender Just Climate Solutions Awards, promoting them via its Network, providing the winners with access to a year-long mentoring programme and serving on the jury to select the award winners. The CTCN also worked with Women Engage for a Common Future and the women and gender constituency on developing a gender mainstreaming monitoring tool to ensure efficient use of the TA budget allocated to gender-related activities.

5. Support

(a) Enhancing collaboration with the operating entities of the Financial Mechanism and the Adaptation Fund

90. The TNA conducted in Côte d'Ivoire, which was completed during the reporting period, was initiated under the previous GCF readiness modality. The CTCN, in collaboration with the GCF, continued engaging with interested NDEs on how to use CTCN TA under the GCF Readiness and Preparatory Support Programme for 2024–2027. The CTCN and the GCF also continued identifying opportunities for interaction between NDEs and NDAs to facilitate the alignment of technology priorities with country strategies for readiness.

91.   The CTCN and the GCF strengthened their collaboration by participating in several of each other's events. The CTCN fostered the participation of NDEs in the GCF regional dialogues with the Caribbean and with SIDS in Asia and the Pacific to enhance coordination with NDAs and accredited entities. In turn, the GCF contributed to CTCN learning events, technical workshops and regional NDE forums.

92.   The CTCN continued implementing the ongoing AF programme (AFCIA I and II); and signed a contract regarding coordination of implementing entities under AFCIA II between UNEP-CTCN and the AF, partnering with the United Nations Development Programme to provide those services.

(b)   **Facilitating access to finance through technical assistance**

93.   The CTCN includes specific deliverables as part of its TA to empower stakeholders to secure finance for implementing project outcomes. Many TA projects culminate in a final deliverable that includes one or more concept notes for projects arising from the TA for submission to financial institutions. Four concept notes were developed and USD 158,000 was leveraged as part of the TA project in Pakistan on implementing its NDC.

94.   In the United Republic of Tanzania, a TA project included a USD 5.2 million GCF concept note for public bus electrification, and supported the adoption of an electric vehicle policy framework, which was adopted by the Ministry of Transport in the country and secured funding of USD 15,000 from the Government of the Kingdom of the Netherlands, and USD 90,000 from Enabel, the Belgian agency for international cooperation, for follow-up activities following the TA project completion.

95.   Under AFCIA I, a concept note for a Burundi project targeting USD 5 million was submitted to the AF, and a concept note for a Maldives project worth USD 5 million will be submitted to the AF.

96.   At COP 29, the GCF approved USD 540,000 in funding under its Project Preparation Facility for a Kenya Commercial Bank project initially developed together with the CTCN and Sustainable Solutions for Africa. In July 2025, the CTCN signed a memorandum of understanding to continue its partnership with the Bank to ensure successful delivery of the project.

97.   A concept note for a project in Uganda targeting USD 25 million was submitted to the GCF by the Ministry of Water and Environment of Uganda on 11 September 2025.

(c)   **Enhancing mobilization of support**

98.   The Advisory Board's task force on resource mobilization is overseeing implementation of the CTCN resource mobilization and partnership strategy for 2023–2027.[59] The task force met regularly during the reporting period.

99.   The CTCN maintained strong ties with key donors, including the European Commission – its largest contributor – and the Governments of Canada, Denmark, Germany, Japan, the Republic of Korea, Spain and Sweden. It also resumed its engagement with former donors (the Governments of Norway, Switzerland and the United Kingdom of Great Britain and Northern Ireland) and it has initiated dialogue with potential new Party donors.

100.   The CTCN is, together with the Global Cement and Concrete Association, fundraising for its multi-country programme on climate innovation in cement and concrete for countries in Africa. Furthermore, the CTCN is fundraising for its global programme on phasing out sulfur hexafluoride; and the third phase of the Youth Climate Innovation programme. The CTCN is enhancing and diversifying the engagement it has with philanthropic foundations, development finance sources and international financial institutions. It is in discussion with the International Maize and Wheat Improvement Center concerning potential collaboration on a global programme on agriculture.

101.   The CTCN engaged in discussions regarding potential collaboration on TA projects with the Inter-American Development Bank in Latin America; the Asian Development Bank

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[59] See CTCN Advisory Board document AB/2023/22/22.1.

on scaling up TA in Asia; and the Eurasian Development Bank on TA in Central Asia. The discussions with the latter were discontinued when the Bank closed its sustainability unit. The CTCN initiated discussions on potential collaboration with the Asian Infrastructure Investment Bank.

102. Three new TA projects were identified for implementation with pro bono support from the Republic of Korea, totalling USD 472,000.

103. Several co-financing and in-kind contributions were made by Network members and partners for TA project implementation or capacity-building, including free access to an online course on financial technology, worth USD 27,600, provided by the Blockchain and Climate Institute for 92 NDEs from non-Annex I Parties, and a contribution of USD 210,000 from UNEP for a green buildings project in Ghana.

(d) Monitoring and tracking

104. At the 24th Advisory Board meeting, the CTCN addressed the Board's recommendation to monitor and follow up on the post-implementation phase of TA by introducing a post-implementation form, which is being piloted in 2025 with selected countries.

C. Organizational structure of the Climate Technology Centre and Network

105. The CTCN secretariat continued to maintain a lean structure during the reporting period. Its headquarters is in Copenhagen, Denmark, and its technology specialists work out of regional offices in Nairobi, Kenya; Panama City, Panama; and Songdo, Republic of Korea. The CTCN Partnership and Liaison Office in Songdo supports CTCN activities related to its collaboration with the GCF, collaborative research, development and demonstration, and capacity-building.

106. As at 28 July 2025, the CTCN included an international Network of 929 organizations and institutions that can respond to requests from developing countries related to climate technology development and transfer, and 165 NDEs nominated by their countries.

D. Funding overview

107. The CTCN has secured USD 132.78 million in financial contributions since it commenced operations in 2014. As at July 2025, the CTCN had received funds for 2025 in the amount of USD 14,467,917 (see the table below).

Cash receipts for the Climate Technology Centre and Network in 2025
(United States dollars)

Donor	Amount
Adaptation Fund[a]	9 090 910
Denmark[a]	2 096 114
Republic of Korea[b]	1 892 950
Canada[c]	1 026 066
Japan[a]	361 877
Total	**14 467 917**

[a] New contribution.
[b] USD 1.67 million against 2021 pledge; USD 215,000 new contribution.
[c] Cash against 2024 pledge.

108. The CTCN carried over a fund balance of approximately USD 32.5 million into 2025. Its approved annual operating budget for 2025 is just over USD 10 million and its projected expenditure for the year is USD 9.79 million. The CTCN projected fund balance at the end of 2025 is approximately USD 21.55 million, which includes pending cash receipts of

USD 0.73 million in 2025, USD 3.52 million in 2026 and USD 2.23 million in 2027 against signed agreements. The projected unearmarked fund balance at the end of 2025 is USD 10.13 million.

109.   In 2027, the CTCN will have available only USD 1.86 million for project activities that require unearmarked funding. This estimate takes into account USD 4.70 million reserved for operational costs of the CTCN in 2026–2027 and USD 3.57 million allocated to project activities in 2026. A funding reserve of USD 4.70 million is required to enable the CTCN secretariat to operate (e.g. for salaries, fixed office expenses, and Advisory Board and other meetings) until the end of its current programme of work in 2027.

E.   Challenges and lessons learned

110.   The CTCN has found success with two TA delivery models. The programmatic approach applied under AFCIA and the two European Commission programmes has proven effective in delivering efficient, scalable and results-focused support owing to its combination of TA, capacity-building and knowledge-sharing. The multi-country TA approach, such as the TA project on circular economy in Latin America and the Caribbean, has proven effective in addressing needs common to countries in the region and fostering regional cooperation, as well as enhancing cost-effectiveness, thereby helping the CTCN meet diverse priorities while maximizing resources. The CTCN intends to promote the use of these two delivery models in implementing the remainder of its programme of work for 2023–2027.

111.   Coordination among NDEs, NDAs and GEF operational focal points is critical to the effective scaling up of TA and the advancement of technology development and transfer at the national level. Yet, as observed by the CTCN during the delivery of its services, coordination remains limited. To help address this challenge, the CTCN has supported the participation of several NDEs in the GCF regional dialogues, where they benefited from structured discussions with NDAs and accredited entities.

112.   Developing and implementing a strategy dedicated to guiding the growth of the Network and engagement among its members could enhance the Network's reach and impact, as well as leverage its members' expertise in the areas of TA, capacity-building and knowledge-sharing. Enhancing collaboration with its Network will help the CTCN to identify financing opportunities for scaling up projects arising from TA.

113.   To strengthen collaboration between the CTCN and the GCF, the CTCN Partnership and Liaison Office will continue finding opportunities to enhance interaction between NDEs and NDAs, including through joint capacity-building on climate technology and innovation in financing as well as scaling up projects arising from TA. The Office will continue collaborating with implementing partners in the Republic of Korea and other stakeholders on collaborative research, development and demonstration.

114.   The CTCN continues to face challenges arising from limited funding and earmarked funds, which limit its ability to respond to the increasing number of TA requests and ensure a balance in the number of mitigation and adaptation projects. Continued funding under AFCIA as it moves from phase I to II has resulted in adaptation-related projects constituting a large share of the CTCN TA portfolio. To increase the share of mitigation projects, the CTCN has undertaken targeted outreach on mitigation topics. However, such efforts are resource intensive. Given global funding uncertainties, the CTCN needs flexible, predictable funding to ensure that it can provide timely support to address countries' needs.

115.   In implementing its resource mobilization and partnership strategy, which emphasizes the need to move beyond a 'business as usual' approach, the CTCN has reached out to non-traditional donors, including multilateral development banks and philanthropic entities. Establishing trust and identifying modalities for partnership that incorporate the priorities of both the CTCN and donors requires time and resources before partnerships can be established. This situation is exacerbated by the global funding landscape, which has deteriorated since adoption of the resource mobilization and partnership strategy and is more challenging than at any other time since operationalization of the CTCN.

116.   Effective and proactive support from UNEP as the CTC host organization has been vital to enable the CTCN to fulfil its potential and meet stakeholder expectations, including with respect to the uptake of CTCN outputs and communications and in terms of its visibility, partnerships and resource mobilization.

F.   Key messages for the Conference of the Parties and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement

117.   As Parties increasingly seek integrated support across the planning, financing and implementation phases of climate technology interventions, the CTCN stands ready to enhance its role in supporting the implementation of TNA outcomes and providing TA in the context of implementing NAPs, NDCs and other national climate plans and strategies.

118.   The CTCN offers a unique value proposition in providing early intervention services and experience in delivering multi-country and programmatic TA. Further, the CTCN has assisted several countries in TA follow-up activities, including the preparation of project concept notes and initial funding proposals.

119.   The CTCN is strengthening its matchmaking efforts to connect TA outcomes with suitable funding sources, thereby ensuring continuity and scalability of the support provided to developing countries for implementing climate technology solutions. The CTCN will require adequate resourcing and institutional support to enable it to play this role effectively and deliver sustained impact at scale.

120.   Increasing the participation of NDEs in events and dialogues organized by the AF, the GCF, the GEF and other relevant bodies and aligning regional NDE forums with these events could help to foster coherent, results-focused, country-level outcomes. As contributions to the strategic planning processes of financial mechanisms remain complex, the CTCN welcomes further guidance from Parties on its role in facilitating coordination between the focal points of the Financial Mechanism and the Technology Mechanism, particularly in the light of limited resource availability and evolving mandates.

121.   A delayed decision on the hosting of the CTC will be detrimental to CTCN resource mobilization efforts.

Annex I

Key messages and recommendations of the Technology Executive Committee for the Conference of the Parties and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement*

[English only]

1.   On the basis of the work carried out during the reporting period,[1] the TEC wishes to deliver, for consideration at COP 30 and CMA 7, the key messages and recommendations set out in this annex, which are organized according to the implementation of activities in the four workstreams of its rolling workplan for 2023–2027.

I.   Recommendations on Artificial Intelligence for Climate Action: Advancing Mitigation and Adaptation in Developing Countries

2.   Promote the use of open-source AI applications in climate change mitigation and adaptation strategies in developing countries, ensuring they are deployed and are the most suitable tool for the task.

3.   Encourage the use of AI for climate action by promoting supportive policies, local training, and resources to empower stakeholders to use AI to reduce GHG emissions and build climate-resilience.

4.   Integrate AI technologies into national and regional climate strategies where they can enhance areas such as early warning systems, optimization of resource allocation, and data-driven decision-making in climate adaptation and mitigation efforts.

5.   Strengthen global partnerships and knowledge sharing by fostering international cooperation and developing capacity-building programmes to enhance the skills and capabilities of local stakeholders, promoting knowledge-sharing and collaboration to maximize AI's potential in climate strategies.

6.   Develop inclusive and sustainable policies and establish governance approaches, enabling data-driven decision-making and access to climate regulatory frameworks and state-of-the-art research.

7.   Reduce the energy consumption and carbon footprint of AI by implementing energy-efficient algorithms, promoting the use of Small Language Models and adopting renewable energy sources for AI infrastructure.

8.   Strengthen data security and ethical governance by developing robust data governance frameworks to ensure privacy, security, and ethical use of data, protecting against unauthorized access and breaches.

9.   Address gender bias by applying inclusive design practices, generating and using diverse datasets, and establishing gender-responsive policies, particularly in climate-related applications.

10.   Bridge the digital divide through equitable access by investing in infrastructure development and capacity-building initiatives in developing countries to promote equitable access to AI technology and resources.

11.   Invest in AI research, development, and innovation tailored to local contexts and priorities by:

(a)   Collaborating with local communities, governments, and organizations to identify specific climate challenges and priorities;

(b)   Supporting research initiatives that create AI solutions aligned with the unique environmental, social, and economic conditions of different regions;

(c)   Allocating funding for local AI innovation hubs to foster relevant and sustainable home-grown solutions;

(d)   Expanding access to AI resources for climate solutions by facilitating the availability of AI tools, data, and technical expertise to support effective, locally relevant AI-driven climate responses at local and national levels in regions facing significant climate challenges.

12.   Enable AI deployment for climate action in developing countries with a focus on SIDS and LDCs by facilitating relevant infrastructure and skills development, financial support and the establishment of governance and policy frameworks.

13.   Integrate local knowledge into AI-powered solutions:

(a)   Engaging local and indigenous communities to incorporate traditional knowledge into datasets and the development of AI models for local context-specific climate action. This is particularly relevant in sectors such as land management, disaster preparedness, and biodiversity conservation, where local insights complement AI-generated predictions.

14.   Ensure gender-responsive approaches in AI development by:

(a)   Investing in gender disaggregated data generation, collection and use to feed AI-powered climate solutions;

(b)   Involving women and gender experts throughout all phases of the design, development, and implementation of such solutions;

(c)   Promoting inclusivity by addressing the specific needs, contributions, and lived experiences of women and girls, particularly in contexts where socio-economic disparities limit access to climate technologies;

(d)   This is especially pertinent in climate adaptation policies, disaster resilience planning, and AI applications in sectors such as sustainable agriculture and water resource management, where gender-differentiated vulnerabilities and contributions must be considered.

15.   Establish robust monitoring and evaluation frameworks to assess the impact, effectiveness, and ethical implications of AI applications in achieving climate goals by:

(a)   Developing clear metrics and indicators to evaluate the impact of AI on environmental, social, and economic outcomes relating to climate goals;

(b)   Implementing regular monitoring processes to adjust AI interventions based on their effectiveness;

(c)   Establishing ethical review boards to oversee AI projects, ensuring adherence to ethical guidelines and preventing the exacerbation of inequalities or environmental challenges.

II. Deploying Established Climate Technologies and Solutions for Buildings

16.   The TEC highlights the following key messages drawn from the findings in this policy brief "Deploying Established Climate Technologies and Solutions for Buildings" prepared in collaboration with the Global Alliance for Buildings and Construction and the Massachusetts Institute of Technology Climate Policy Center:

(a)   Buildings account for nearly 40 per cent of global energy-related greenhouse gas emissions. Yet significant disparities exist among countries in access to proven climate technologies, with developing countries, especially LDCs and SIDS, facing particular

challenges due to resource constraints, inadequate policy frameworks, and limited technical capacity, therefore, scaling up established climate technologies in buildings is essential to achieving global climate goals while addressing rapid urbanization;

(b)   A wide array of high-impact, cost-effective, market-ready climate technologies have demonstrated effectiveness in reducing emissions and enhancing resilience across diverse climatic zones, and their impact is greatest when applied in an integrated manner. This means combining hardware solutions (advanced heat pumps, highly-energy efficient cooling systems with climate- and environmentally friendly refrigerants, high-performance insulation), software measures (energy management systems), and orgware approaches (green building codes, traditional knowledge). Solutions range from nature-based approaches like green roofs to advanced technologies like modular construction and renewable energy systems;

(c)   Traditional building practices rely on low-specification materials and energy-intensive systems, missing opportunities to leverage cost-effective solutions. While the importance of sustainable buildings in climate strategies is recognized at the national level, there is a limited integration of specific climate technologies in national planning documents, such as NDCs, NAPs, and other national climate strategies. Therefore, the gap between recognition and implementation highlights the need for targeted technical assistance and capacity-building support;

(d)   Access to affordable financing remains a critical barrier, particularly in developing countries. Innovative mechanisms—including green bonds, revolving loan funds, public-private partnerships, and pay-as-you-save models -have proven effective in reducing barriers and enabling adoption. Long-term financing mechanisms are key to overcoming high upfront costs and scaling integrated climate technology solutions;

(e)   Community-based approaches integrating traditional knowledge with modern technologies demonstrate superior acceptance, particularly in developing countries, especially in SIDS and LDCs. Technologies utilizing locally available materials, such as treated bamboo, rammed earth, and traditional passive cooling, leverage traditional knowledge while creating affordable solutions, and thereby address resource constraints while supporting local economies;

(f)   Despite technology availability, adoption faces obstacles including outdated building codes, limited expertise, and insufficient stakeholder engagement. Successful deployment requires comprehensive enabling environments with robust regulatory frameworks and inclusive approaches prioritizing gender equity and social considerations. Creating enabling environments through supportive policies and capacity-building is essential for overcoming persistent barriers to deployment.

17.   To accelerate the deployment of climate technologies and solutions in the buildings sector, the TEC recommends that the COP and the CMA encourage Parties, international organisations and stakeholders, as relevant, to:

(a)   Consider climate technologies for buildings when preparing and updating NDCs, national climate policies strategies and plans, where appropriate, prioritizing the development and implementation of comprehensive green building codes;

(b)   Mobilize scalable financing solutions by leveraging resources from climate funds, development banks, and innovative financial instruments, including green bonds, revolving loan funds, green public procurement programs, national taxonomies integrating standard low- and net-zero-emission buildings, and public-private partnerships that reduce upfront cost barriers and support green building code compliance;

(c)   Leverage international cooperation and technology transfer initiatives to strengthen institutional capacity for developing and implementing green building codes, facilitate knowledge sharing on best practices, and enable access of developing countries, and especially in SIDS, and LDCs to cutting-edge climate technologies;

(d)   Support the integration of traditional knowledge with modern climate technologies through updated green building codes that recognize locally available materials,

technologies and climatic conditions, thereby creating affordable pathways that enhance community ownership and long-term sustainability;

(e)   Build comprehensive enabling environments through robust green building codes with clear enforcement mechanisms, institutional coordination, and digital monitoring systems that ensure compliance while addressing regulatory gaps and streamlining implementation processes;

(f)   Promote inclusive and equitable deployment through green building codes that prioritize affordability and social justice, ensuring that climate technology benefits reach marginalized communities through targeted subsidies, microfinance mechanisms, and community-based implementation models.

Annex II

Climate Technology Centre and Network technical assistance projects completed during the reporting period for each area of system transformation*

[English only]

Water-Energy-Food Nexus

Country	Objective	Title
Bahamas	Adaptation, mitigation	Developing a national framework for the standardization of stalls and procedures for a climate smart street side vendor in the Bahamas (AFCIA I)
Cameroon	Adaptation	Local climate resilience through synecoculture, a high-yield agricultural technique in the northern region of Cameroon (mainly in the commune of Garoua 2 and in Figuil (Mayo-Louti) (EC C&S)
Jamaica	Adaptation	Enhancing multi-scalar mapping and research on food security risk due to the impacts of climate change on rural and urban environments
Malawi	Adaptation	Using simple mobile technologies to scale up digital collection & processing of climate observations for adaptation actions in Malawi (AFCIA I)
Maldives	Adaptation	Establishment of a skimming well gallery system for agricultural use in HDh.Nolhivaranfaru of Maldives (AFCIA I)
Mozambique	Adaptation, mitigation	Implementation of Water-Food-Energy nexus using digital technologies for local communities in Mozambique
Nigeria	Adaptation	Empowering communities of Kaduna State, located in the North-west Nigeria with sustainable agricultural practices (Em-Hydro) (EC C&S)
Pakistan	Adaptation	Improving adaptive capacities of water sector through surface rainwater harvesting technology adoption
Pakistan	Adaptation, mitigation	Technologies Framework for Implementation of Nationally Determined Contributions for Pakistan
Sudan	Adaptation, mitigation	Improving the efficiency and sustainability of water harvesting technologies in Sudan by providing technical assistance in terms of enhancing; technology transfer, capacity building, and research collaboration (EC C& S)
Sudan	Adaptation	Soil erosion valuation to support climate resilient agriculture and food security (AFCIA I)
Suriname	Adaptation	Enhance the resilience of Suriname´s water supply system by modelling drought risks and developing a roadmap of prioritized alternatives for aquifer recharge (AFCIA I)
Thailand	Adaptation	Feasibility and Viability Study of Using Blockchain Technology for a Real-time Climate Risk Insurance System in Thailand's Agricultural Sector (AFCIA I)
Zambia	Adaptation	Aquifer mapping technologies for Zambia
Zimbabwe	Adaptation	Piloting of a reliable solar powered drying facility for mopane worms in the Gwanda rural District of Zimbabwe (EC CC&S)

Buildings & Infrastructure

Country	Objective	Title
Colombia	Adaptation, mitigation	Sustainable Cuerval: Strategies for conservation, restoration and monitoring of the mangrove areas of the Cuerval for

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* Not formally edited.

Country	Objective	Title
		adaptation and mitigation with a focus on the integration of peace in climate action in Colombia (ECC&S)
Georgia	Adaptation	Building up integrated monitoring and early warning forest fires detection system in the Borjomi - Kharagauli National Park by innovative remote sensing tools (AFCIA I)
Ghana	Adaptation, mitigation	Development of Green Building Guidelines and Standards for Ghana
Mali	Adaptation	Data-driven approach in flood mitigation: developing real-time mapping of floods in Mali (AFCIA I)
South Africa	Adaptation	Tree Monitoring for climate adaptation in the city of Mbombela (Pro-bono Korea)
Zimbabwe	Adaptation, mitigation	Development of Green Building Standards for Zimbabwe

Sustainable Mobility

Country	Objective	Title
United Republic of Tanzania	Mitigation	Developing a national framework for deploying and scaling up E-Mobility in Tanzania

Energy Systems

Country	Objective	Title
Lebanon	Mitigation	Development and implementation of an efficient appliance strategy
Nigeria	Mitigation	Developing an Institutional Framework for the Energy Efficiency Act and Regulations targeting energy intensive sectors (household and industries) in Nigeria
Tanzania	Mitigation	Feasibility Study of Optimal Design Conditions for Biogas Plant for the Improvement of methane (CH_4) Capture Efficiency (Pro-bono Korea)
Timor-Leste	Mitigation	Formulating a National Electricity Grid Code and Development of a Net Metering Policy in Timor-Leste

Business and Industry

Country	Objective	Title
Chile	Adaptation, mitigation	Multi-country Circular Economy Finance for Micro, Small, and Medium Enterprises (MSMEs)
Costa Rica	Adaptation, mitigation	Multi-country Circular Economy Finance for MSMEs
Dominican Republic	Adaptation, mitigation	Multi-country Circular Economy Finance for MSMEs
Uganda	Adaptation, mitigation	Strengthening Waste Management Policymaking in Uganda in Response to Climate Change (Pro-bono Korea)
Uruguay	Adaptation, mitigation	Multi-country Circular Economy Finance for MSMEs
Zambia	Adaptation, mitigation	Development of a framework and roadmap for a National Innovation System to foster low-carbon and climate resilient economic development in Zambia

Technology Needs Assessment

Country	Objective	Title
Cote d'Ivoire	Adaptation, mitigation	Updating of Technology Needs Assessment (TNA) and Technology Action Plan (TAP) for the implementation of NDC (GCF Readiness)

Annex III

Climate Technology Centre and Network success stories from the reporting period*

[English only]

1.　The multi-country technical assistance successfully strengthened the enabling environment for circular economy (CE) finance across Chile, Costa Rica, Uruguay, and the Dominican Republic, directly supporting climate and development priorities. Through tailored diagnostic analyses, a standardized Circular Economy Categorization System for financial institutions, and capacity-building activities, the TA enhanced institutional understanding of CE as a pathway to achieving NDC targets. It empowered public and private financial institutions to identify and support MSMEs engaged in circular practices, laying the foundation for CE-aligned financial products and strategies. By integrating gender and "just transition" considerations, and fostering cross-sector collaboration, the TA positioned these countries to scale inclusive, climate-resilient economic models aligned with national decarbonization goals. The key takeaway is the need for a common language for financial institutions in order to understand and assess the profitability and risk of the circular economy projects.

2.　A $5.45 million GCF application for an e-mobility bus depot in Tanzania was prepared, based on a CTCN TA completed in 2022. Initial funding of USD 15,000 was provided by the Embassy of the Netherlands and USD 90,000 from Enabel, the Belgian agency for international cooperation.

3.　At COP 29, the GCF approved USD 540,000 in funding under its Project Preparation Facility for a Kenya Commercial Bank (KCB) project initially developed together with the CTCN and Sustainable Solutions for Africa. In July 2025, the CTCN signed a memorandum of understanding to continue its partnership with the KCB to ensure successful delivery of the project. The full-scale project, valued at $218 million, has been submitted to the GCF in September 2025.

4.　A GEF8 project of USD 9,1 million was approved in December 2024 for Zimbabwe to pilot and scale electric mobility and public transport. In 2022, with the support from CTCN, Zimbabwe's government developed a National Electric Mobility Policy and Roadmap, targeting 17.9% electric vehicles sales by 2035. On that basis, the Zimbabwean Climate Change Department applied for GEF8 funding to implement the policy and roadmap, and finance the pilot project.

5.　Success stories from AFCIA I:

(a)　A small-scale hydroponics pilot aims to transform how local communities grow food in Kaduna State, one of Nigeria's regions hardest hit by climate pressures and insecurity. This small-scale hydroponic farm is an innovative, closed-loop system where nutrient-rich water circulates through pipes, trays, and troughs, powered by solar pumps humming steadily in the background. The design maximizes vertical space, with water flowing through tubes across multiple levels, supporting 1,000 plants in layered arrangements on just 150 square meters, less than half the area typically required in traditional farming.

(b)　In Garoua 2 and Figuil in Cameroon, five hundred students and dozens of farmers are breaking new ground with Cameroon's first synecoculture initiative. This is a farming method that mimics natural ecosystems by growing diverse, edible plants densely and without chemicals, or tilling. By covering the ground with a variety of plants and avoiding monocultures, the resilience of the soil grows and yields increase.

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* Not formally edited.