

Draft CTCN Chapter of the Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network for 2024

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

A. Advisory Board meetings and membership¹

42. At its 23rd meeting, held in Copenhagen from 19 to 24 April 2024, the CTCN Advisory Board elected Fred Machulu Onduri (Uganda) as its Chair and Stephen Minas (Greece) as its Vice-Chair. The Board thanked the outgoing Chair, Erwin Rose (United States of America), for his service.

43. In addition, key results of CTCN activities in 2023 were presented and the 2023 financial statement of the CTCN was endorsed. The Board provided further guidance on the implementation of 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.

44. [At its 24th meeting, held in Bonn from 20 to 25 September 2024, the Advisory Board endorsed the appointment of and welcomed the new Director of the CTCN and Secretary to the Board, [placeholder for name of selected candidate]. In addition, the Board approved the CTCN section of the Joint Annual Report of the TEC and CTCN for 2024 to COP 29 and the CTCN annual operating plan and budget for 2025.]

45. Two Advisory Board taskforces were in effect in 2024, one on Resource Mobilization and one on Technical Assistance Prioritization Criteria.

46. All CTCN Advisory Board meeting documents, webcasts and reports are available on the CTCN web pages.²

B. Activities of the Climate Technology Centre and Network

47. In 2024, the programme of work of the CTCN for 2023–2027 entered its second year of implementation. The remainder of this chapter provides an overview of CTCN activities conducted between October 2023 and September 2024, structured around the five themes of the technology framework under the Paris Agreement.³

¹ Numbering begins at 42 to facilitate the integration of the Joint TEC-CTCN Chapter and the TEC Chapter in the 2024 Joint Annual Report of the TEC and CTCN.

² See <https://www.ctc-n.org/about-ctcn/advisory-board>.

³ Decision [15/CMA.1](#), annex, para. 4.

1. Innovation

48. Several TA projects completed during the reporting period focused on promoting or introducing innovative and emerging climate technologies. Examples include a feasibility study on the use of green hydrogen for combined heat and power supply in Mongolia, the development of a national hydrogen plan in Thailand, and the deployment of a smart drinking water network in Tunisia.

49. Digitalization, one of the CTCN's key enablers, remains a significant focus area for TA projects. Examples include a groundwater monitoring system for aquifer management in Belize, a customized weather and climate information system for climate-resilient agriculture in Nepal, and a methodology for estimating carbon sinks in the forestry sector using Earth observation technology in Samoa.

50. The CTCN continued to implement several innovation-focused programmes and initiatives, as follows:

(a) AFCIA phase I: more than 400 applications for TA were received, and 25 TA projects on innovation in adaptation practices from 23 countries, including 10 from the LDCs and 3 from SIDS, were selected to receive AFCIA funding. Six of the projects were completed during the reporting period.

(b) AFCIA phase II: the CTCN administers USD 10 million for phase II since July 2024, which will fund 60 TA projects over five years.

(c) Climate Technology for Communities at Risk of Climate-induced Conflicts: this programme, funded by the European Commission (EC) in the amount of USD 3.28 million, was launched in June 2023. During the reporting period, implementation commenced in 10 countries.⁴

(d) The EC also awarded the CTCN a USD 2.1 million grant for the Innovative Climate Solutions programme, the aim of which is to align seven innovative solutions with countries' needs for transformative and inclusive climate action.

51. Since opening in 2022, the CTCN Partnership and Liaison Office (PALO), which serves as a centre of excellence for research, development and demonstration (RD&D) on climate technology, pilots several global collaborative RD&D activities to support national systems of innovation (NSI) and enhance endogenous capacity-building of developing countries. PALO activities in this area include:

(a) Supporting TA projects that pilot innovative technologies or support RD&D initiatives. For example, in Côte d'Ivoire, the CTCN is assisting improving the quality of locally produced biochar. In Papua New Guinea, the CTCN is conducting a pre-feasibility study on ocean energy technologies.

(b) Conducting capacity-building initiatives related to RD&D. It held two webinars on collaborative RD&D in key system transformation areas.⁵ Capacity-building for NDEs on green hydrogen technologies was conducted in Benin in October 2023 (jointly with the West African Development Bank) and in Chile in November 2023 (together with the National Renewable Energy Laboratory of the United States and the United Nations Economic Commission for Latin America and the Caribbean).

(c) Furthermore, the CTCN launched a global capacity-building programme under the AI for climate action initiative.⁶ As part of this programme, the CTCN held capacity-building workshops for NDEs focusing on AI's potential and challenges for climate action for Asia and the Pacific in July 2024 and for Africa in August 2024.

⁴ See <https://www.ctc-n.org/technical-assistance/climate-change-and-security>.

⁵ <https://www.ctc-n.org/calendar/events/developing-endogenous-capacity-climate-technology-through-collaborativerdd>

⁶ <https://www.ctc-n.org/capacity-building/artificial-intelligence>

(d) Developing knowledge products, such as the Digital Readiness Index (DRI) and handbook on emerging digitalization options for the energy sector developed in collaboration with the National Institute of Green Technology of the Republic of Korea and The George Washington University Environmental and Energy Management Institute. The Index will help assess a country's digital maturity and potential to apply digital tools, initially focusing on energy infrastructure, and will also help the CTCN tailor TA projects to local needs and digital maturity.

2. Implementation

(a) Supporting development and transfer of climate technologies

52. As at August 2024, the CTCN had received, since its inception, 410 TA requests from 115 developing country Parties, out of which 39 per cent had been completed.⁷ Of those requests, 46 per cent originate from Africa, 30 per cent from Asia and the Pacific, 23 per cent from Latin America and the Caribbean and 1 per cent from Europe. The LDCs accounted for 24 per cent of requests and SIDS for 10 per cent.

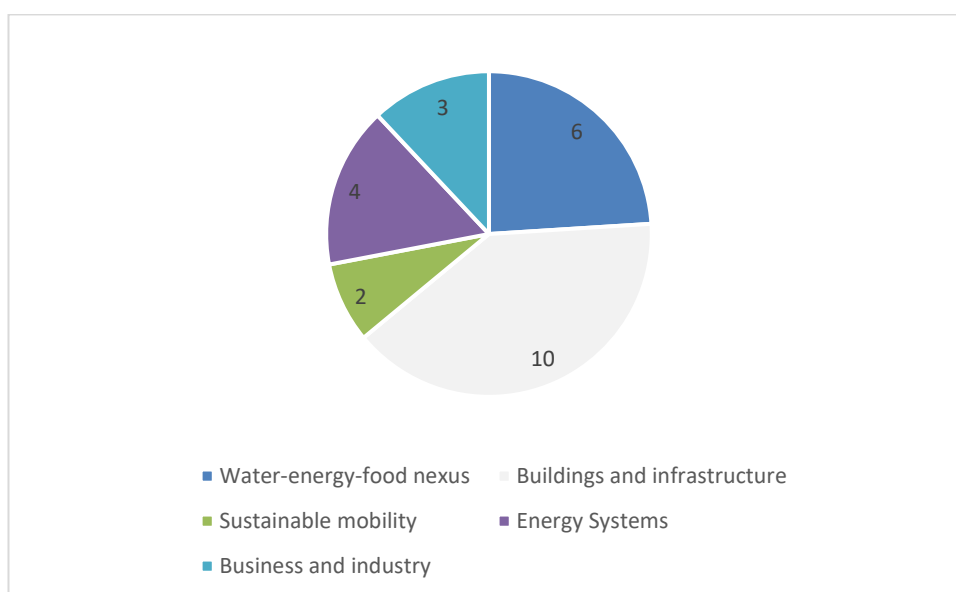
53. The received TA requests relate to mitigation (37 per cent), adaptation (22 per cent) or, increasingly, both (41 per cent). Most mitigation-related requests concern energy efficiency, renewable energy or agriculture, while adaptation-related requests concern mainly water, agriculture and forestry, 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. Figure 1 illustrates the distribution of TA projects completed during the reporting period according to the CTCN's five areas of system transformation. Of these, 21 TAs leveraged NSI as a key enabler for system transformation, while 7 utilized digitalization. Annex II provides an overview of all TA projects completed in the reporting period.

Figure 1

Number of Climate Technology Centre and Network technical assistance projects completed during the reporting period by area of system transformation



Note: The CTCN completed 28 TA projects during the reporting period, but three, for TNAs, do not fall under a single area of system transformation and are not included in this figure.

⁷ See [Requests | Climate Technology Centre & Network | Fri, 02/09/2024 \(ctc-n.org\)](https://www.ctc-n.org/)

56. The TA projects completed during the reporting period reveal several key trends: (1) a growing interest in exploring green hydrogen to inform national strategies, such as in Mongolia and Thailand, while some countries, including Costa Rica and Mexico, are developing circular economy strategies; (2) an emphasis on conducting economic feasibility studies and market assessments and developing financing mechanisms to scale up climate technologies, in both adaptation and mitigation, across all regions; (3) gained traction globally in applying digital technologies in climate information systems such as agrometeorological information systems and early warning systems; and (4) a notable effort to enhance urban infrastructure and promote e-mobility, particularly in the Asia-Pacific region.

57. The CTCN continued to respond to TA requests in a demand-driven manner while also developing a pipeline of projects using a programmatic approach, and it commenced raising resources for the following programmatic windows: (1) the water–energy–food nexus, including projects on agrivoltaics, hydroponics and aquaponics; (2) national systems of innovation, including establishing such systems for climate action and conducting TNAs; (3) energy systems, including initiatives for net metering, green hydrogen development and grid decarbonization by phasing out sulfur hexafluoride; and (4) business and industry, with efforts targeting the cement industry.

58. At its 23rd meeting, the CTCN Advisory Board endorsed the revised prioritization criteria for the assessment of TA requests submitted by NDEs.⁸ Internal guidance on applying the criteria has been developed and is being implemented.

59. The CTCN revised its TA documents, including the TA response plan and closure report templates, to incorporate gender-mainstreaming, encourage post-implementation reflection, and better align with TAP technologies and national priorities.⁹

(b) Conducting technology needs assessments and implementing their results

60. The CTCN supported the completion of three TNAs during the reporting period, two of which were funded through the GCF Readiness Programme. Eight preliminary project concept notes were developed based on project ideas identified in the TAPs prepared as part of the TNAs. The TNA projects were conducted in:

(a) Chile: as part of the project, the CTCN conducted three national workshops for government officials, academia, NGOs and the private sector, to ensure national ownership and deployment of the TAPs. The results from the TNA, which include four technology action plans, are being integrated into the 17 sectoral plans that make up Chile's Climate Change Law.

(b) Georgia: the CTCN supported the update of Georgia's second TNA from 2012, which now also includes a finance mobilization strategy to secure investment for the technologies identified in the associated TAPs. Representatives of accredited entities and private sector were involved in updating the TNA; their engagement was facilitated during a stakeholder engagement workshop. One of Georgia's concept notes is in the process of accessing GCF funds.

(c) Kyrgyzstan: as part of the project, a Kyrgyz delegation visited several Danish water companies, and one Danish water technology provider made a reciprocal visit to Kyrgyzstan. The aim of this exchange was to explore the potential for a partnership bringing Danish expertise on leakage management solutions to Kyrgyzstan's water network.

61. Outcomes from countries' past TNAs continue to inform their requests for TA. For example, the TNA conducted in Tunisia in 2017 led to a TA project completed in 2023 on a smart drinking water network. The success of the technologies piloted in the cities of Sousse and Monastir prompted the national designated authority for the GCF and Tunisia's National Water Distribution Utility to seek resources for scaling up the project. Similarly, the TA project completed in Belize during the reporting period arose from the TNA conducted in 2017. The project resulted in the implementation of a drought monitoring system for northern

⁸ [AB-2024-23-21 Approved Prioritization Criteria for Technical Assistance](#)

⁹ [Submit a request | Climate Technology Centre & Network](#)

Belize. Additionally, a TNA in Uganda in 2021 resulted in a TA to support the development of a fundable GCF project proposal seeking funds to implement its TAPs.

3. Enabling environment and capacity-building

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

62. 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 (25 per cent of completed TAs). Other significant means of creating enabling environments were technology identification and prioritization (18 per cent) and recommendations for laws, policies and regulations (18 per cent).

63. Examples of how CTCN support creates enabling environments include: the ‘pay as you irrigate’ model in Mozambique, developed for smallholder farmers, with a focus on women, which enables beneficiaries to plan, procure and sustainably implement solar powered irrigation systems, considering both their environmental and economic conditions; and the strategy developed for the use of green hydrogen technologies in Thailand, which includes guidance for creating associated policies, a regulatory framework and infrastructure.

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

64. Following the endorsement of the CTCN gender policy and action plan 2023–2027 in September 2023, annual gender workplans are being developed and monitored.¹⁰ A Gender Assessment and Action Plan was introduced during the development of TA response plans to ensure gender mainstreaming is integrated from the outset and carried through the entire implementation of the project. Furthermore, the percentage of the budget of TA projects dedicated to gender mainstreaming has increased from 1 to 5 per cent under the new policy. Gender funds support, inter alia, the hiring of gender experts and the development of gender policy briefs, as, for example, in the TA project completed in Georgia.

65. The CTCN actively promoted the Technology Mechanism gender and climate technology expert roster, including by referring to it in the updated TA request template and encouraging Network members and NDEs to engage roster experts.

66. Several TA projects completed during the reporting period promoted endogenous technologies by making use of local resources and knowledge. For example, the CTCN supported nature-based solutions in Honduras aimed at boosting the resilience of rural and Indigenous communities in Montaña de Celaque National Park against extreme weather; the tailoring of river basin data management models to local conditions in Viet Nam to improve transboundary water management; and the scaling up of solar irrigation technologies, integrating local expertise with innovative financing, supportive policy frameworks and tailored training, in Ghana to enhance the climate adaptation of smallholder farmers.

(c) Building capacity

67. Several TA projects completed during the reporting period included South–South and North–South learning exchange visits. National experts from the Lao People’s Democratic Republic conducted a South–South exchange of experience with representatives of transport institutions in the Republic of Korea on public transport administration and bus rapid transit implementation. Both TA projects in Bangladesh included South–South learning visits: under the project on coastal geomorphology adaptation, Bangladeshi policymakers attended a three-day knowledge exchange in Thailand; and under the project on real-time transport information systems, representatives of the Dhaka Transport Coordination Authority visited the Republic of Korea.

¹⁰ See [AB-2024-23-27 CTCN Gender Work Plan](#)

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

68. TA projects were showcased at several regional, national and local events to raise awareness of climate technologies and disseminate project findings, for example, in Tunisia, the TA project benefited from comprehensive media coverage, including television, which also reported on the project's outcomes, while in Chile, a high-level closure meeting was held, attended by over 80 representatives from ministries and key stakeholders.

69. At the global level, the CTCN collaborated with:

(a) the World Intellectual Property Organization by contributing to its *Green Technology Book* – both the 2023 edition on climate change mitigation solutions and the 2024 edition on energy solutions, to disseminate information on technology trends;¹¹

(b) the UN Economic and Social Commission for Asia and the Pacific (ESCAP) on the *Asia-Pacific Digital Transformation Report 2024*;

(c) UNEP Copenhagen Climate Centre on the 2023 edition of the climate technology progress report on urban system transformation.

70. The CTCN was invited to share knowledge on climate technologies at more than ten global conferences and partner events. The Advisory Board Chair presented an overview of CTCN initiatives on AI at an event for members of United States Council for International Business, while the Advisory Board Vice Chair presented on the CTCN at the UN Climate Change Global Innovation Hub's Eighth Systemic Innovation Workshop. [The BINGO Advisory Board representative also presented on the CTCN during the United Nations General Assembly.] The CTCN presented at a workshop organized by UN ESCAP and the Asian and Pacific Center for Transfer of Technology in the Philippines on *Strategic Approaches to Assessing Market Potential for Technology Innovations*. During COP 28, the CTCN took part in 14 climate technology related events.

71. The CTCN launched an awareness-raising campaign marking its first decade of operations. Using the hashtag #CTCNInnovationDecade a report celebrating the 10-year anniversary was published on this occasion.¹² 1,107 social media posts were published showcasing TA results and disseminating knowledge and best practices. A total of 13 issues of the CTCN newsletter were sent to its more than 12,500 subscribers, and information about learning opportunities and events was disseminated to more than 14,308 social media followers.

4. Collaboration and stakeholder engagement

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

72. A variety of actors engage in TA projects. For example, in Honduras, the CTCN collaborated closely with community resilience experts from the Government, the United Nations Educational, Scientific and Cultural Organization and two Danish universities to support the development of nature-based solutions. In Ghana, the CTCN organized workshops to introduce solar irrigation technology options to Government officers, investors, private sector representatives and smallholder farmers (as future users), facilitating their adoption.

73. At the global level, the CTCN formed strategic partnerships with various actors, including the German Agency for International Cooperation (GIZ), with which it is collaborating on a global programme to phase out sulfur hexafluoride. As part of this programme, a high-level panel was held during COP 28. In addition, the CTCN partnered with the Global Cement and Concrete Association to support countries in implementing projects for developing deep decarbonization road maps for the cement industry. As part of its global capacity building programme the CTCN engaged systematically with partners, including organizations such as

¹¹ <https://www.wipo.int/web/green-technology-book>

¹² [10 years of technology solutions & innovation for climate action](#)

Data Science Africa, the Green Digital Innovation Hub, and Microsoft's AI for Good research lab, as part of its AI capacity building programme.

(b) Engaging with national designated entities

74. Beyond working with NDEs on ongoing technical assistance projects, the CTCN actively engaged with over 50 NDEs to provide technical support and guidance in preparing new submissions. All requests submitted to the CTCN receive approval and are submitted through the respective country's NDE.

75. NDEs received technical and logistical support from the CTCN to enable them to attend several events, such as:

(a) The regional NDE forums for Latin America and the Caribbean, held in Panama in October 2023 (24 NDEs); Asia and the Pacific, held in Malaysia in November 2023 (18 NDEs); Asia and the Pacific, both held in the Republic of Korea in July 2024 (25 NDEs); and Africa, held in Kenya in August 2024 (50 NDEs);

(b) Two capacity-building sessions on green hydrogen technologies as mentioned in paragraph 51;

(c) The GCF regional dialogue with Eastern Europe and Central Asia in March 2024 (five NDEs), and the GCF regional dialogue with the Middle East and North Africa in June 2024 (three NDEs were invited).

76. At its 23rd meeting, the CTCN Advisory Board was introduced by the CTCN Secretariat to several new processes aimed at enhancing NDE ownership of TA projects: (1) two mandatory activities, namely, forming a project steering committee (comprising the implementing team, NDE, project proponents and CTCN representatives) on project commencement and holding a workshop for local financing institutions and other stakeholders on project completion; (2) a post-implementation monitoring template designed to involve NDEs in project follow-up and provide a clear overview of project outcomes and (3) a process for NDEs to request logistical support to address specific needs, featuring a tailored template that was discussed during the regional NDE forums held in 2024.

(c) Network members

77. The CTCN welcomed 64 new Network members, of which 36 are from developing countries, bringing the total number of Network members to 874 as at August 2024. Private sector organizations represent more than half of the new members (59 per cent), followed by NGOs (11 per cent) and non-profit organizations (9 per cent). Parties not included in Annex I to the Convention represent 56 per cent of the new members and Parties included in Annex I to the Convention 44 per cent.

78. The CTCN facilitated two network engagement events in June and September 2024 as part of its Voluntary Technology Talk programme. The June event, held in conjunction with the Environmental Exhibition on Environmental Technology & Green Energy in Seoul, featured a two-day in-person workshop where six NDEs met with Korean Network members. The September edition focused on NDEs from SIDS and LDCs and took place in Busan alongside the World Climate Expo 2025.

(d) Collaborating with UNFCCC constituted bodies and constituencies

79. The CTCN engaged with the Glasgow Committee on Non-Market Approaches (NMA) to feature the CTCN on the newly developed NMA online platform. This platform facilitates matchmaking between service providers and support seekers by recording and exchanging information on non-market approaches.

80. In September 2024, the CTCN, in coordination with YOUNGO and Network members Seedstars and the Swiss Association for Entrepreneurship in Emerging Markets, launched the second phase of the Youth Climate Innovation programme. This programme serves as an incubator and accelerator, providing support to young innovators in developing countries to create and scale up climate technology solutions.

81. As part of its ongoing collaboration with WGC, the CTCN supported the 2023 Gender Just Climate Solutions Awards, disseminating information thereon via the Network and providing access to a year-long mentoring programme to the winners, and is currently serving on the jury to select the award winners for 2024.

5. Support

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

82. The CTCN has supported the implementation of 31 GCF readiness projects as at September 2024 (in the amount of USD 11 million), 2 of which were completed during the reporting period.

83. The CTCN and the GCF participated in several of each other's events, fostering collaboration and knowledge exchange: The CTCN and NDEs took part in two GCF regional dialogues during the reporting period; the Advisory Board Chair participated in the GCF webinar on the FP198 CATALI.5^oT Initiative for technology incubation and acceleration; the GCF contributed to CTCN learning events and technical workshops, engaging experts on topics such as buildings and infrastructure and the water–energy–food nexus; the GCF hosted NDE delegations from Samoa and Zambia at its headquarters; the GCF participated in the regional NDE forums held during the reporting period.

84. With the GEF, the NDEs of Ghana, Jordan, Kazakhstan, Lebanon and Nigeria participated in the GEF national dialogues in their respective countries to facilitate further coordination with GEF operational focal points and explore potential cooperation with them at the national level.

85. With the Adaptation Fund, the CTCN is actively involved in supporting three ongoing Adaptation Fund programmes. It participated in the 2023 annual climate finance readiness seminar for accredited national implementing entities¹³ and co-organized with the Fund side events for the Adaptation Futures 2023 conference¹⁴.

(b) Facilitating access to finance through technical assistance

86. The CTCN includes specific deliverables in its TA to empower stakeholders to secure finance for implementing project outcomes. For example, for the TA project in Belize, a cost analysis was conducted and a financing strategy prepared for developing the comprehensive groundwater monitoring system. Many projects culminate in a final deliverable that includes a concept note on funding projects arising from the TA for submission to financing institutions.

87. As part of the AFCIA Phase I program, the initiative has successfully generated promising technology ideas, leading to the scaling up of funding for three projects. Notably, a 5 million USD concept was submitted to the Adaptation Fund for Burundi, 7.5 million USD was leveraged from the Canadian government for a project in Mongolia, and 100,000 USD was secured from the Caribbean Public Health Agency for a project in Saint Kitts and Nevis.

88. The results from the third biennial NDE survey relating to nine TA projects completed in 2023 highlight several key aspects regarding the facilitation of access to financing. Of those projects, five of the respective NDEs are actively implementing the recommendations of the CTCN, although they have reported challenges such as financial and human resource constraints, difficulties in influencing sectoral actors and the need for broader stakeholder involvement. The positive outcomes of these projects were attributed to capacity-building, financial support, strong stakeholder engagement and tailored measures. Notably, two of the projects have successfully secured or are in the process of securing funding, one through the GCF and the other through the Adaptation Fund.

¹³ [Readiness News and Capacity Building Events - Adaptation Fund](#)

¹⁴ [Adaptation Futures Conference 2023](#)

(c) Enhancing mobilization of support

89. The Advisory Board’s task force on resource mobilization is guiding and monitoring implementation of the CTCN resource mobilization and partnership strategy for 2023-2027¹⁵, endorsed at the 22nd Advisory Board meeting, and met regularly during the reporting period.

90. The CTCN maintained its relationship with existing donors and partners, including the Danish International Development Agency (‘Danida’), to which it submitted a proposal for the CTCN’s Third Programme of Work for USD 4.38 million, and the Governments of Germany, Japan, the Republic of Korea, Spain and Sweden, from which it received continued support.

91. The CTCN is enhancing and diversifying its engagement with development financing sources and international financial institutions, with a particular focus on multilateral development banks [PLACEHOLDER and is signing a memorandum of understanding with Eurasian Development Bank].

92. Two new TA projects were identified for implementation through pro bono support during the reporting period, one from Japan and the other from the Republic of Korea, representing a total of USD 350,000.

93. Several co-financing and in-kind contributions were made by Network members and partners for TA project implementation or capacity-building activities, including approximately USD 30,000 in co-financing from the UNEP Global Opportunities for Sustainable Development Goals accelerator for a circular economy project in Latin America and the Caribbean and USD 210,000 from UNEP for a green buildings project in Ghana.

(d) Monitoring and tracking actions and activities undertaken

94. The UNEP-commissioned evaluation of the overall performance of the CTCN from 2013 to 2022 was completed in June 2024¹⁶. The evaluation resulted in six recommendations, for which the CTCN has developed an implementation plan. The UNEP evaluation office will track the implementation status of the planned actions twice, at six-monthly intervals.

C. Organizational structure of the Climate Technology Centre and Network

95. The CTCN secretariat is based in Copenhagen, Denmark, and its technical specialists work out of regional offices in Bangkok, Thailand; Nairobi, Kenya; Panama City, Panama; and Songdo, Republic of Korea. The CTCN Partnership and Liaison Office is in Songdo.

96. The CTCN includes an international Network of 874 organizations and institutions as at August 2024 that can respond to requests from developing countries related to climate technology development and transfer, and 165 NDEs nominated by their countries.

A. Funding overview

97. The CTCN has secured USD 124.2 million in financial contributions since its inception in 2014. As at August 2024, the CTCN had received funds for 2024 in the amount of USD 3,149,320 (see the table below).

Cash receipts for the Climate Technology Centre and Network in 2024

<i>Donor</i>	<i>Amount (USD)</i>
Republic of Korea ^a	2 005 281
Adaptation Fund ^b	485 545
Japan ^c	361 877
Sweden ^c	188 763

¹⁵ [AB2023.22.22.1 Resource Mobilization and Partnership strategy for 2023-2027](#)

¹⁶ [Evaluation Management Responses \(unep.org\)](#)

Spain ^c	New	107 854
Total		3 149 320

^a Contribution against 2021 pledge.

^b Contribution against 2020 pledge.

^c New contribution.

98. The CTCN carried over a fund balance of approximately USD 20.3 million into 2024. Its approved annual operating budget for 2024 is just over USD 10 million and its projected expenditure for the year is USD 10.2 million. The CTCN projected fund balance at the end of 2024 is approximately USD 22.4 million. This includes carry-over of USD 7.5 million and pending cash receipts of USD 1.6 million in 2024, USD 8.8 million in 2025, USD 2.5 million in 2026, USD 1.5 million in 2027 and USD 469,000 in 2028 against signed agreements.

99. The annual operational budget of the CTCN of USD 2.2 million covers salaries, fixed office expenses, and costs related to meetings of the Advisory Board and other meetings, such as COP and UNFCCC SBs. Of the current balance of USD 7.8 million in the multi-donor trust fund, USD 6.6 million must be reserved for operational costs, leaving only USD 1.2 million available for project activities other than TA during 2025–2027.

100. A funding gap of approximately USD 8 million is projected for the remaining period, 2025–2027, of the programme of work of the CTCN for 2023–2027. This estimate is based on the current unearmarked balance in the multi-donor trust fund, anticipated donor contributions in the coming years relative to pledges (which include both earmarked and unearmarked funds), and a required annual budget of at least USD 10 million for the CTCN.

D. Challenges and lessons learned

101. Both the scaling up of TA projects and transformation of national systems pose challenges arising from limited coordination between the focal points of the Technology Mechanism and Financial Mechanism. Coordination and collaboration between NDEs and national designated authorities for the GCF and operational focal points for the GEF remains insufficient and suffers from a lack of alignment between the Technology Mechanism and the Financial Mechanism. Increasing NDE participation in GCF regional dialogues and GEF national dialogues would offer an opportunity to strengthen the linkages between the two mechanisms and produce concrete outcomes at the country level. Organizing regional NDE forums alongside GCF regional dialogues could enhance synergies between the two events and promote closer collaboration of NDEs with the GCF.

102. While Government-generated ideas for CTCN TA projects ensure strong country ownership, there is a need to engage more non-governmental stakeholders in the TA process and, more broadly, to promote opportunities for local experts to drive transformational change.

103. Developing countries, particularly the LDCs and SIDS, continue to require CTCN support for identifying and evaluating digitalization technologies and innovation due to limited data availability and capacity to transition to advanced technologies.

104. TNAs effectively identify and prioritize required technologies under specific sectors, but further analysis – including accessing data, developing baselines and conducting feasibility studies – is often required to translate the outcomes of a TNA into fundable project concepts. This follow-up work could be addressed more frequently by CTCN TA. The TNAs conducted during the reporting period highlight that while TNAs constitute a valuable tool for assessing technology needs and integrating technology into national strategies, successful implementation of the TAPs and projects arising from the outcomes of a TNA depends on strong public policy support and sufficient funding.

105. Building the capacity of countries to access TA through AFCIA is essential, as only 10 per cent of cumulative applications submitted met all eligibility criteria. The focus of AFCIA on supporting individual technologies rather than the entire innovation ecosystem has highlighted the need for integrating pilot technologies into broader innovation systems.

106. The programmatic approach applied under AFCIA has proven effective in achieving concrete outcomes for TA projects, and allocating resources from the outset for scaling up a technology ensures that the most promising innovations can be taken forward without significant delays once a project is completed.

107. The presence of PALO in Songdo has enhanced collaboration with the GCF, which is also headquartered there, a success factor highlighted by the GCF during the in-session workshop held at SBI 60 on linkages between the Technology Mechanism and the Financial Mechanism. Representatives of the Office and the GCF co-facilitated regional dialogues between NDEs and national designated authorities during the reporting period, highlighting the potential for establishing joint capacity-building programmes to enhance national coherence on climate technology and finance innovation.

108. PALO has facilitated collaboration with implementing partners in the Republic of Korea, which has, in turn, led to successful applications for scaling up funding for TA projects after completion.

109. The CTCN faces significant challenges arising from limited and earmarked funding, which restricts its ability to address the increasing number of TA requests. During the reporting period, the CTCN received 50 new TA requests but owing to budget constraints could only consider less than 50 per cent of them. Some requests were, therefore, included in the pipeline for the following year.

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

110. As Parties prepare their first biennial transparency reports for submission at the end of 2024 and update their NDCs in 2025, they are encouraged to identify their technology needs and specify how the outcomes of TA can support the national priorities outlined in those documents.

111. It is crucial to strengthen collaboration between NDEs and national focal points of the Financial Mechanism to effectively design CTCN TA projects and develop fundable projects for climate technology transfer and deployment from their outcomes. Parties are encouraged to foster closer collaboration and coordination between NDEs and focal points at the national level to ensure alignment and mutually reinforcing delivery.

112. The CTCN needs to move from operating in a ‘business as usual’ scenario to a more expanded model to fully implement all aspects of its mandate but does not have the funding to do so and is calling for the Advisory Board to engage more actively so as to mobilize resources for the CTCN, including the Financial Mechanism, bilateral, multilateral and private sector channels, philanthropic sources and financial and in-kind contributions from UNEP as host organization and participants in the Network.

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
Ghana	Adaptation	Promoting and upscaling appropriate solar irrigation technology options for smallholder farmers in Ghana through innovative climate adaptation financing mechanisms, a conducive policy framework for technology regulation and tailored training modules (AFCIA)
Indonesia	Adaptation	Identification of technical practices for climate-smart agriculture (CSA) in Indonesia
Liberia	Adaptation	Upscaling lowland rice production to improve food security through improved solar powered irrigation practices (AFCIA)
Mozambique	Adaptation	Solar based irrigation for women's empowerment - "pay as you irrigate" as a means of water management and food security in Mozambique (AFCIA)
Seychelles	Adaptation	Formulation of a Pre-Concept Proposal to the Innovation Facility of the Adaptation Fund, for a holistic watershed management approach including wetland creation for water supply (FTA)
Tunisia	Adaptation, Mitigation	Smart drinking water network in Tunisia: first phase in Sousse and Monastir

Buildings & Infrastructure

Country	Objective	Title
Bangladesh	Adaptation	Technology for Monitoring & Assessment of Climate Change Impact on Geomorphology in the Coastal Areas of Bangladesh
Belize	Adaptation	Groundwater monitoring for mapping aquifers in Belize as a tool for climate change adaptation planning
Honduras	Adaptation	Designing nature-based solutions with an ethnic and gender-equity approach, to increase the resilience of rural mountain communities in protected natural areas affected by extreme weather events in Honduras (AFCIA)
Mexico	Mitigation	Analysis of the current situation of the construction and demolition sector in respect of the Circular Economy in Mexico City
Nepal	Adaptation	Customized weather and climate information system for climate-resilient agriculture in Nepal (AFCIA)
Pakistan	Adaptation, Mitigation	Adoption of green buildings in Pakistan to achieve Pakistan's Nationally Determined Contributions
Peru	Adaptation	Monitoring system of adaptation measures in the water sector, analysis of barriers and financial sustainability for its implementation
Samoa	Adaptation, Mitigation	Developing a Framework and methodology to carbon sinks from the forestry sector using Earth Observation in Samoa

Togo	Adaptation, Mitigation	Development of a methodology to create climate-smart municipalities in Togo and the preparation of action plans for adaptation and mitigation to climate change for 4 of these municipalities (Co-financed by UNDP)
Vietnam	Adaptation	Localization of water resources management technology to adapt to climate change in Hong-Thai Binh river basin (AFCIA)

Sustainable Mobility

Country	Objective	Title
Bangladesh	Mitigation	Development of Framework for Real-Time Transport Information Systems for Public Transport in Greater Dhaka
Laos	Adaptation, Mitigation	Technical Capacity Enhancement for Planning an Urban Public Transport System in Vientiane, Lao PDR (Pro-bono – Republic of Korea)

Energy Systems

Country	Objective	Title
Dominica	Adaptation, Mitigation	Technical and economic feasibility of solar units and water storage on public buildings in Dominica
Mongolia	Adaptation, Mitigation	Feasibility study of a combined heat and power supply using green hydrogen
South Africa	Mitigation	Capacity Development for the Deployment of Demand Response (DR) in South Africa to Mitigate against Carbon Emissions and Electricity Supply Shortages
Thailand	Mitigation	Development of a national hydrogen strategy and action plan for accelerating Thailand's net-zero target

Business and Industry

Country	Objective	Title
Cambodia	Adaptation, Mitigation	Market assessment in the application of climate technologies in the agricultural sector for rural development in Cambodia
Costa Rica	Adaptation, Mitigation	Supporting the transition to a circular economy in Costa Rica
Mexico	Mitigation	Analysis of the current situation of the construction and demolition sector in respect of the Circular Economy in Mexico City

Technology Needs Assessment

Country	Objective	Title
Chile	Adaptation, Mitigation	Technology Needs Assessment (TNA) and Technology Action Plan (TAP) for Chile's NDC implementation
Georgia	Adaptation, Mitigation	Updating of Georgia's technology needs assessment (TNA) through development of technology road maps for prioritized technologies (GCF Readiness)
Kyrgyzstan	Adaptation, Mitigation	The Technology Needs Assessment (TNA) and Technology Action Plans (TAPs) for the Kyrgyz Republic (GCF Readiness)