CTCN 2025 Annual Operating Plan Report

Photo Credit: Miranda Tasker, Zimbabwe

Abbreviations and acronyms

AOP	Annual Operating Plan
COP	Conference of the Parties
CTCN	Climate Technology Centre and Network
CTN	Climate Technology Network
GCF	Green Climate Fund
GEF	Global Environment Facility
KMS	knowledge management system
LCIPP	Local Communities and Indigenous Peoples Platform
NDA	National Designated Authority
NDC	Nationally Determined Contribution
NDE	National Designated Entities
NSI	National System of Innovation
PCCB	Paris Committee on Capacity Building
PoW	Programme of Work
RMP	Resource Mobilization and Partnership
RD&D	Research, development, and demonstration
SB	sessions of the subsidiary bodies
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
TEC	Technology Executive Committee
TNA	technology needs assessment
TAP	technology action plan
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WGC	Women and Gender Constituency
YCI	Youth Climate Innovation

YOUNGO	Youth NGO Constituency
WIPO	World Intellectual Property Organization

Contents

I. Introduction

2025 marks the third year of implementation of the CTCN's third Programme of Work (PoW) for the period 2023 - 2027[1] with its five system transformation areas, its two enablers and the Technology Mechanism Joint Work Programme. The year also saw the completion of two programs: the European Commission-funded Climate Change and Security Programme and the first phase of the Adaptation Fund Innovation Accelerator (AFCIA I). Both programmes have resulted in important lessons learnt and findings which will be incorporated into CTCN service of technical assistances (TA) moving forward.

At the 26th Advisory Board meeting, Advisory Board members raised, for the first time ever, the ceiling for TA requests to USD 300,000, which will enable countries to access more substantial support for climate technology needs. At the 26th Advisory Board meeting, the Board also approved a nine percent increase in the 2026 budget compared to the 2025 approved budget, a significant step forward despite global financial headwinds.

The Advisory Board agreed to strengthen the CTCN's role as a facilitator of countries through the expansion of NDE Fora, convening a forum dedicated to Small Island Developing States (SIDS) in Brisbane in December 2025. To enhance NDE engagement and TA ownership, a post-implementation follow-up form was piloted in 2025 with roll-out in 2026. Logistical support to NDEs was also rolled out and in 2025 6 applications were received from Cambodia, Chile, Kenya, Lesotho, Somalia, and Sudan. One request is being developed for Solomon Islands. The support can be used to facilitate NDE's engagements with national actors to identify prioritized technology interventions needed by the country, or to assist with the monitoring of the project after delivery of technical assistance.

Processed CTCN TAs were up 56% year-on-year with 162 TAs being processed in 2025 compared to 105 in 2024.

The UNFCCC initiated the Third Independent Review of the CTCN, which assesses the Centre's effectiveness in supporting climate technology deployment in developing countries. Building on the findings of the previous reviews, this new assessment will help strengthen CTCN's responsiveness, impact, and alignment with Parties' needs. Ernst & Young (E&Y), the firm appointed to conduct the review, started collecting data and information in 2025.

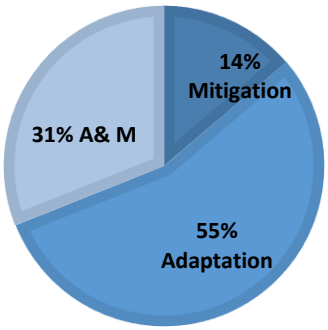
The 2025 Annual Operating Plan report presents the CTCN's activities conducted between January and December 2025, following the endorsed activities and budget for 2025 set by the CTCN Advisory Board. It is structured around the five themes of the Technology Framework (Innovation, Implementation, Enabling environment and capacity building, Collaboration and stakeholder engagement, and Support).

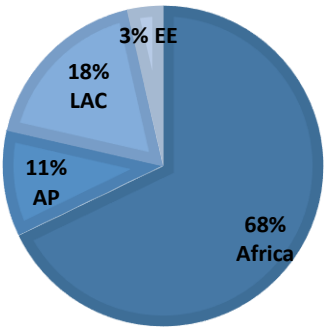
[1] https://www.ctc-n.org/resources/ctcn-third-programme-work-2023-2027

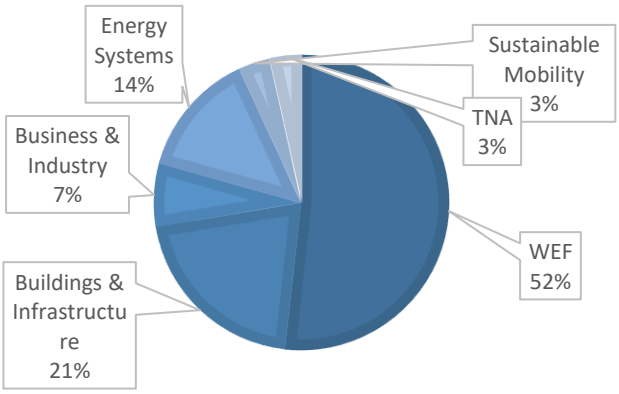
II. CTCN in 2025 by Numbers

162 Technical Assistance interventions at various stages of implementation[2]

29 Technical Assistance interventions completed in 2025, 15 of which in LDCs and 5 in SIDS.







9 AFCIA

1 GCF readiness project completed

2 TAs with ROK Pro-bono support

12 EC Funded TAs

68 policies, strategies, plans, laws, agreements, or regulations supported by the CTCN technical assistance

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59 technologies anticipated to be transferred or deployed as a result of CTCN technical assistance

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17 Global and Regional Capacity Building Programmes with **3,067** participants trained, organized by the CTCN in 2025

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71 new network members joined the CTN in 2025,

bringing the total number of members to **975** by the end of 2025.

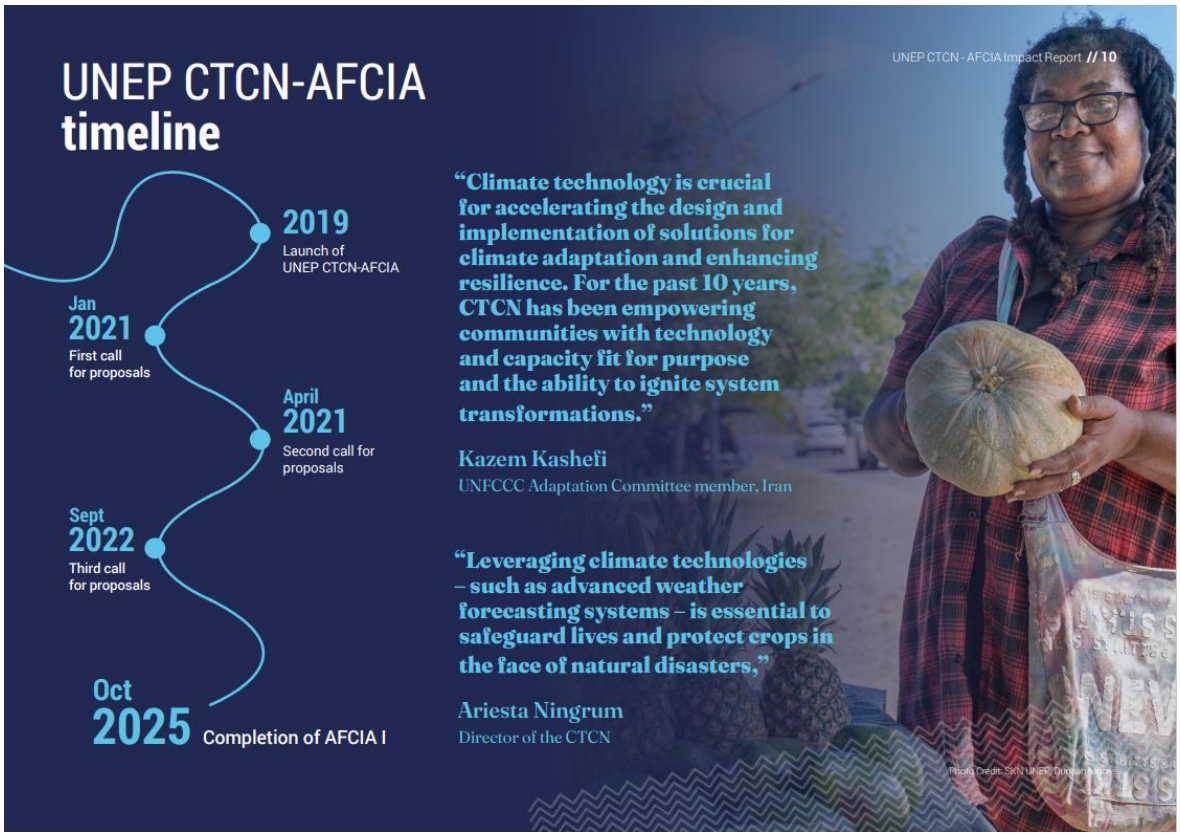
[2] Including 17 under review, 54 in design/new request stage (includes bidding stage), 62 in implementation stage, and 29 in completion stage

III. Innovation

CTCN Technical Assistance projects centered on the theme of innovation.

The Adaptation Fund Climate Innovation Accelerator (AFCIA)

AFCIA I, which was launched in 2020, was successfully completed in December 2025, culminating in 25 TAs implemented in 23 countries. Some of the technologies introduced include solar-powered irrigation pumps, blockchain insurance policies, and community-based data collection methods, spanning the full technology cycle from development to deployment.



The AFCIA I Impact report[3] summarizing the results and lessons learned of the programme was released on February 3, 2026 and will lay the foundation for the next phase, AFCIA II. The second programme started in April 2025 and will fund 60 technical assistances over five years for USD 10 million.

[3] Impact Report: Adaptation Fund Climate Innovation Accelerator (AFCIA) | Global Adaptation Network (GAN)

AFCIA I projects completed in 2025:

Bahamas	Developing a national framework for the standardization of stalls and procedures for a climate smart street side vendor in the Bahamas
Georgia	Building up integrated monitoring and early warning forest fires detection system in the Borjomi - Kharagauli National Park by innovative remote sensing tools
Malawi	Using simple mobile technologies to scale up digital collection & processing of climate observations for adaptation actions in Malawi
Malaysia	Development of a Multi-Hazard Platform for forecasting local level climate extremes and physical hazards for Iskandar Malaysia
Mali	Data-driven approach in flood mitigation: developing real-time mapping of floods in Mali
Mozambique	Implementation of Water-Food-Energy nexus using digital technologies for local communities in Mozambique
Suriname	Enhance the resilience of Suriname´s water supply system by modelling drought risks and developing a roadmap of prioritized alternatives for aquifer recharge

Thailand	Blockchain Technology for a real-time climate risk insurance system in Thailand's agricultural sector
Zambia	Aquifer mapping technologies for Zambia
USD 5 million Concept notes which will be submitted to the Adaptation for scaling up successful initiatives:	
Burundi	Easily deployable water-filled flood barrier that can be used to prevent damage from flooding and to store water vapor-tight to ensure water availability in times of drought. **Envisaged submission of CN to AF AB in October 2026.**
Maldives	Establishment of a skimming well gallery system for agricultural use in HDh. Nolhivaranfaru of Maldives. The Concept Note was formulated and is currently being revised by CTCN Secretariat. **Envisaged submission of CN to AF AB in October 2026 or April 2027.**

Photo credit: Miranda Tasker, Forest Fire Early Warning Technology in Borjomi-Kharagauli National Park, Georgia.

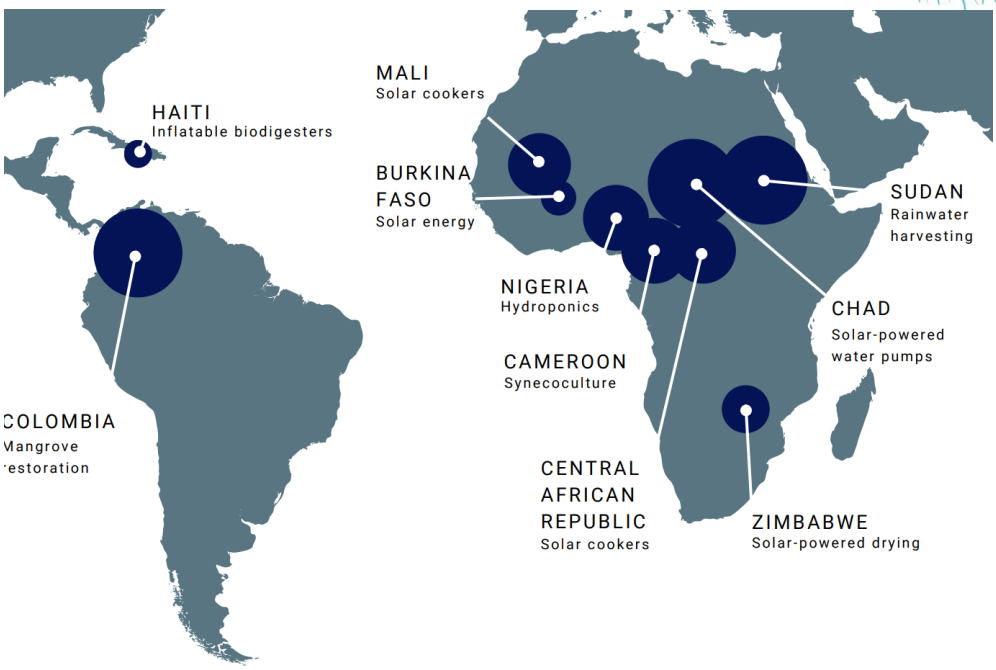
Additionally, UNEP-CTCN was selected to oversee the coordination of all AFCIA II grants across several implementing partners until 2029, with a budget of USD 2.7 million.

The first project under AFCIA II was officially kicked off in Liberia in September 2025, focusing on green and blue infrastructure in Monrovia and Paynesville.

EU-funded programmes

The European Commission is the biggest donor to the CTCN and in 2025, one of its two programmes concluded.

The graphics taken from the Impact Report of the Climate Change and Security (EC CC&S)[4] programme visualise the outcome that the 10 innovative community-based technologies have had for those at risk of conflict due to climate change.



The EC CC&S programme reached 8,166 direct and 515,700 indirect beneficiaries, 63% of these were women and 42% youth. These numbers are integrated into the overall CTCN reporting for 2025.

[4] EU Funded Climate Change and Security Programme Impact Report | Climate Technology Centre & Network | Thu, 11/13/2025

Photo credit: Miranda Tasker, Introducing syneoculture in Cameroon

The ongoing EC-funded programme Innovative Climate Solutions (ICS), with special focus on LDCs and SIDS, concluded one TA during the reporting period: on SF_6 phase-out in Kenya (see below paragraph for more information on SF_6). The programme, consisting of a USD 2.1 million grant, has been running since January 2024 and aims to bolster technology for climate action with seven TAs in developing countries (Colombia, Maldives, Mozambique, Peru, Senegal, Zimbabwe and one multi-country TA in Togo, DRC, Guinea and Senegal) before expected conclusion in December 2026.

SF6 phase-out and Climate Innovation in Cement and Concrete (CICC)

Since 2023, the CTCN, together with the NDE of Germany, has worked on setting up a global programme on SF_6 phase-out through capacity-building and learning activities in collaboration with key public and private partners, including the German Federal Ministry for Economic Affairs and Energy, the European Commission, and leading technology providers. These initiatives have demonstrated strong political and technical momentum and increasing availability of SF_6-free alternatives, while also highlighting the need for deeper, country-level support to move from knowledge exchange to implementation. Kenya's concluded TA with the CTCN in 2025, which is covering SF_6 inventories, national phase-out strategy development, governance frameworks, capacity building, and preparing of SF_6-free technology pilots, illustrates the potential impact of a structured approach, as well as the scale of effort required to translate emerging momentum into sustained national action.

The CTCN has dedicated considerable efforts for fundraising and is in conversation with the Mitigation Action Facility (MAF) and with GEF on resource mobilization – see section VII. Support for more information. The CTCN has also laid the foundation for establishing an SF_6 Transition Community, uniting key stakeholders to exchange knowledge and facilitate partnerships. An initial event was organized with the IEA's Regulatory Energy Transition Accelerator (RETA) on 9 December 2025, and further coordination was established with

IRENA's Utilities for Net Zero Alliance (UNEZA) and the Switching Gears to Net Zero Alliance uniting SF_6-free manufacturers. Discussions are underway with the International Energy Agency (IEA) regarding potential joint fundraising efforts. Furthermore, coordination with GIZ and World Bank has continued around a Global SF_6 Initiative.
The CTCN has also delivered multiple TAs on cement and concrete decarbonization in the past, and currently supports the development of cement roadmaps in Senegal and Zimbabwe, and a waste-to-energy pilot project under preparation at a cement plant in Algeria.

In addition, in 2025, the CTCN became a member of the Breakthrough Agenda on Cement Decarbonization, further enhancing its visibility and outreach in this sector, which has opened opportunities for collaboration with other members from private sector, the UN, and governments to advance the cement and concrete decarbonization agenda. This membership has already allowed to establish more coordination with other members, including the Global Cement and Concrete Association (GCCA), Lead Industrial Transition (LeadIT) and UNIDO.

The CTCN presented on 1 April 2025 to WTO trade delegates on technology transfer during the WTO Committee on Trade and Environment's Fifth Thematic Session: Technology Transfers to enhance outreach and share knowledge.

CTCN Capacity Building initiatives focused on the theme of innovation

In 2025, the CTCN PALO continued its exchange programme aimed at introducing NDEs to emerging and proven climate technologies through the Asian NDE forum and at the World Climate Industry EXPO. These activities facilitated matchmaking opportunities with technology providers in South Korea, who are network members, and fostered collaboration in climate technology development and transfer. This initiative was supported, through in-kind contributions, by the Korea Institute of Science and Technology (MSIT), the Korea Institute of Chemical Research (KRICT), and the National Institute of Green Technology (NIGT).

Throughout 2025, CTCN PALO advanced cRD&D through a series of structured engagements, partnership-building activities, and capacity-building events. In February, CTCN PALO, together with the TEC Secretariat, engaged with Korea University's Graduate School of Management of Technology to explore collaboration with its incubation and acceleration programmes supported by the Hyundai Motor Chung Mong-Koo Foundation, with a view to strengthening innovation and RD&D in climate technologies for developing countries.

Also in February 2025, the Mekong Institute (MI), in partnership with Korea's Ministry of Science and ICT and UNOSSC, led a Structured Learning Visit in Daejeon and Incheon. Officials from Cambodia, Lao PDR, Thailand, and Vietnam explored sustainable technologies for WEF initiatives. CTCN PALO introduced CTCN's TA projects, fostering interest in collaboration and capacity-building.

From 27–29 August, the CTCN and the TEC Secretariat co-organized the Collaborative RD&D Bridge-Building (CRD2B2) Workshop and Voluntary Technology Talks in Busan, held in conjunction with the 2025 World Climate Industry Forum. The workshop brought together NDEs from Gambia, Malaysia, Maldives, Panama, Tajikistan, Timor-Leste and Zimbabwe,

providing opportunities to identify priority climate technologies, explore potential technology providers, and generate concepts for future CTCN TAs. As part of the programme, participants took part in a voluntary technology tour of exhibition halls focused on future energy, clean power, carbon neutrality, climate meteorology, and environment and energy, during which countries shared challenges related to RD&D and energy system deployment.

On the margins of the CRD2B2 Workshop, the CTCN and the TEC, in partnership with KIER and the National Institute of Green Technology (NIGT), convened a cRD&D session on accelerating the deployment of energy storage systems to support clean energy transitions, highlighting ongoing policy research and project experiences. Additional capacity-building and outreach activities included an introductory webinar on cRD&D, outlining CTCN's strategic approach, cooperation models, and upcoming opportunities such as the 2026 learning visit and bridge-building workshop.

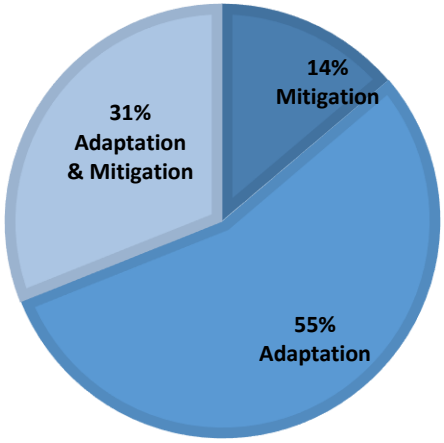
These efforts were complemented by a learning visit on green hydrogen production and fuel cell technologies hosted in Korea from 22–24 July, which brought together researchers from six countries to engage with Korean R&D centres and demonstration sites and explore opportunities for future collaboration.

At TA level, additional knowledge-sharing and innovation engagement took place, including a presentation at an RD&D Expo in Japan during the TA in CAR, and collaboration during the Malawi TA in NASA's SWOT Early Adopter Programme and ICESat-2 Early Adopter Programme.

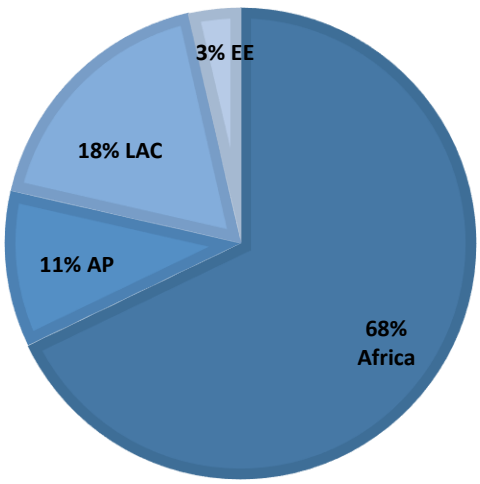
IV. Implementation

By the end of 2025, the CTCN was processing 162 TA. Out of these, 29 had been finished in 2025 and 133 projects at different stages of implementation: 17 projects were under review, 54 in design phase and 62 were being implemented. For reporting purposes and to prevent duplication, the AOP report will concentrate on the 29 TA completed in 2025. The significantly higher number of processed TAs in comparison to 2024's AOP, 162 vs 105, can partially be explained to 20 TAs being sourced for AFCIA II since its start in April 2025.

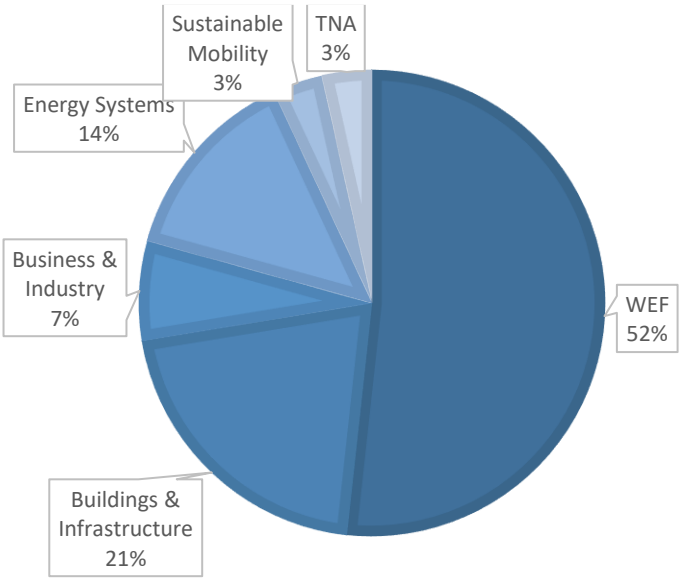
The Water–Energy–Food nexus remains the most prominent of the five system transformation areas in terms of Technical Assistance demand. Consistent with overall geographic trends, Africa continues to represent the region with the highest level of demand for CTCN technical assistance.



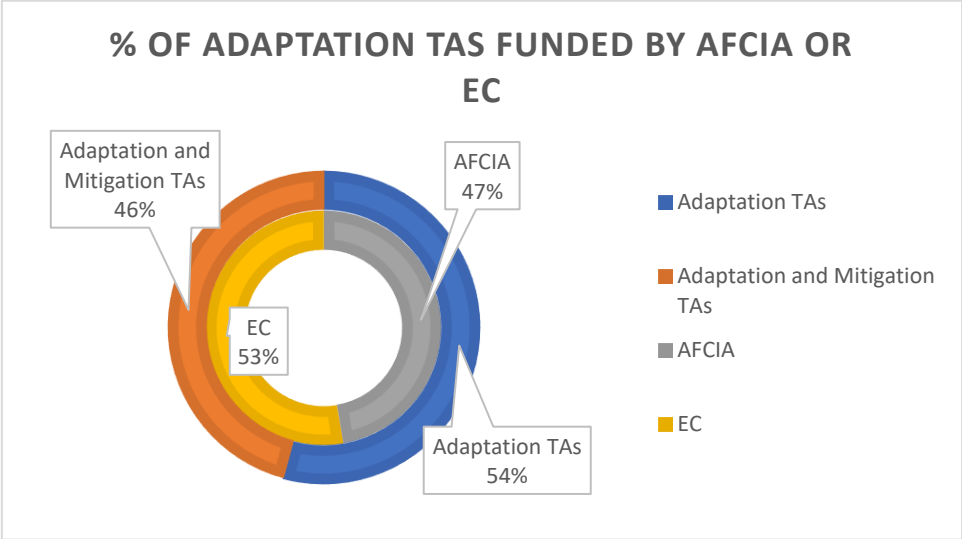
Among completed Technical Assistance projects, as visualized in the pie chart on the left, adaptation-focused interventions accounted for approximately 55 percent of all requests, largely driven by programmes funded under AFCIA and the European Commission. At the same time, the share of TAs addressing both adaptation and mitigation technologies continues to increase, reflecting a growing emphasis on integrated and cross-cutting climate solutions.



In terms of geographical distribution, as visualized in the pie chart on the left, Africa remains the most strongly represented region, accounting for approximately one third of total requests. This trend is consistent with the focus of AFCIA and the EC–funded programmes, which together constitute the two largest funding streams of CTCN and prioritize support to LDCs. As the majority of LDCs are located in Africa, this regional concentration is aligned with programme design.



As visualized in the pie chart on the left, the Water-Energy-Food nexus received the highest share of completed TAs with 52 %, while Sustainable Mobility had the lowest with 3 %. One TNA was conducted during 2025.



The following section provides a summary of the main outputs and anticipated impacts of completed TAs in 2025, categorized based on the five system transformation areas. For more details on each TA and one TNA, please see Annex I.

Buildings & Resilient Infrastructure

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

		adaptation and mitigation with a focus on the integration of peace in climate action in Colombia (EC CC&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 1)
Ghana	Mitigation	Development of Green Building Guidelines and Standards for Ghana
Malaysia	Adaptation	Development of a Multi-Hazard Platform for forecasting local level climate extremes and physical hazards for Iskandar Malaysia (AFCIA 1)
Mali (LDC)	Adaptation	Data-driven approach in flood mitigation: developing real-time mapping of floods in Mali (AFCIA 1)
Uganda (LDC)	Adaptation, Mitigation	Technical Assistance Towards the Development of a Project Proposal for the Implementation of Climate Adaptation and Mitigation Technologies to Address Climate Challenges in Specific Sectors Based on Uganda's Technology Needs Assessment Outcomes

Business and Industry

Country	Objective	Title
Chile, Dom Rep, Uruguay, Costa Rica	Adaptation, Mitigation	Multi-country Circular Economy Finance for MSMEs
Uganda (LDC)	Adaptation, Mitigation	Strengthening Waste Management Policymaking in Uganda in Response to Climate Change (Pro-bono K)

Energy Systems

Country	Objective	Title
Burkina Faso (LDC)	Adaptation, Mitigation	Reinforcing the implementation of actions to mitigate and adapt to climate change by developing solar energy systems for off-grid agro-industrial facilities through the establishment of a "Community Solar Platform" (EC CC&S)
Kenya	Mitigation	Development of a SF6 Phase-out Roadmap and Pilot Projects in Kenya (EC ICS)
Tanzania (LDC)	Mitigation	Feasibility Study of Optimal Design Conditions for Biogas Plant for the Improvement of CH4 Capture Efficiency in Tanzania (Pro-bono K)
Timor-Leste (LDC) (SIDS)	Mitigation	Formulating a National Electricity Grid Code and the Definition of a Net Metering Policy in Timor-Leste

Sustainable Mobility

Country	Objective	Title
Tanzania (LDC)	Mitigation	Developing a national framework for deploying and scaling up E-Mobility in Tanzania

Water-Energy-Food Nexus

Country	Objective	Title
Bahamas (SIDS)	Adaptation & Mitigation	Developing a national framework for the standardization of stalls and procedures for a climate smart street side vendor in the Bahamas (AFCIA 1)
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 CC&S)
Central African Republic (LDC)	Adaptation & Mitigation	Production of affordable solar cookers in the deforestation-threatened Bangui region of the Central African Republic (EC CC&S)
Chad (LDC)	Adaptation	Rehabilitation of wells in the commune of Liwa, capital of LIWA (Lake region), using solar-powered pumps and drawing up a guide to good practice for the consumption of this water, depending on the end use (drinking water, agriculture, livestock, sanitary in Chad (EC CC&S)
Haiti (LDC) (SIDS)	Adaptation	Technical Assistance to identify and prepare a system of payments for ecosystem services, in order to manage and protect their watersheds in Haiti (EC CC&S)
Jamaica (SIDS)	Adaptation	Enhancing multi-scalar mapping and research on food security risk due to the impacts of climate change on rural and urban environments in Jamaica
Malawi (LDC)	Adaptation	Using simple mobile technologies to scale up digital collection & processing of climate observations for adaptation actions in Malawi (AFCIA 1)
Mali (LDC)	Adaptation	Pilot project for the sustainable management of wood resources through the promotion of solar cookers and solar energy for the operation of electric cookers in a context of climate change (EC CC&S)
Mozambique (LDC)	Adaptation, Mitigation	Implementation of Water-Food-Energy nexus using digital technologies for local communities in Mozambique (AFCIA 1)
Nigeria	Adaptation	Empowering communities of Kaduna State, located in the North-west Nigeria with sustainable agricultural practices (Em-Hydro) (EC CC&S)
Sudan (LDC)	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 under EC Climate Change & Security Programme (EC CC&S)
Suriname (SIDS)	Adaptation, Mitigation	Enhance the resilience of Suriname´s water supply system by modelling drought risks and developing a roadmap of prioritized alternatives for aquifer recharge (AFCIA 1)
Thailand	Adaptation	Blockchain Technology for a real-time climate risk insurance system in Thailand's agricultural sector (AFCIA 1)
Zambia (LDC)	Adaptation	Aquifer mapping technologies for Zambia (AFCIA 1)
Zimbabwe	Adaptation	Piloting of a reliable solar powered drying facility for mopane worms in the Gwanda rural District of Zimbabwe (EC CC&S)

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 in Cote d'Ivoire (GCF Readiness)

The three ongoing (collaborative Research, Development and Demonstration) cRD&D projects in Papua New Guinea (PNG) "Pre-feasibility study on ocean energy focusing on salinity gradient energy technology and electrochemical ocean thermal energy conversion", in Côte d'Ivoire "Household waste to biochar: an alternative to charcoal in Savannah areas", and in Bangladesh "Introduce portable mini-solar cold storage for fruits, vegetables, and flowers" are being implemented and a fourth TA in Uzbekistan on a groundwater desalination feasibility study is being considered.

V. Enabling Environment & Capacity Building

More than half of the TA projects (55 percent of completed TAs) 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 (44%), technology identification and prioritization (37%) and recommendations for laws, policies and regulations (19%).

Examples of how CTCN support creates enabling environments include the development of a Multi-Hazard Platform for forecasting local level climate extremes and physical hazards in Malaysia, developing a national framework for deploying and scaling up E-mobility in Tanzania, building up an integrated monitoring and early warning forest fires detection system in a national park in Georgia, and the formulation of a national electricity grid code and the definition of a net metering policy in Timor-Leste.

Global Capacity Building Programme

The aim of the global capacity building forum was to enhance the understanding of climate finance architecture and key actors, strengthen NDEs' ability to link climate technology with financing mechanisms and building the capacity to evaluate and improve technical assistance requests.

To ensure tailored programming to regional contexts, the capacity-building programme in Asia was held on Digitalization and Finance, and the one in SIDS on co-creation for system transformation.

Table 1. Thematic Capacity Building Programme on Climate Finance and Co-creation

Region	Thematic Focus	Partners and co-hosts	Participants
Africa 23-25 Jul	Capacity Building on Climate Technology and Finance in Africa	Attended by representatives from AF, GCF, BOAD, Kenya Commercial Bank	60 including 45 NDEs
Asia 2-3 Sept	Capacity Building on Digitalization and Finance in Asia	Held with the World Bank, attended by speakers from GCF, ADB, KOICA, Korea Development Bank, Korea University, Naver, SK Ecoplant, BC Card, Global Industry Hub, Hyundai Motor	50 including 23 NDEs

		Chung Mong-Koo Foundation	
Small Island Developing States 3-4 Dec	**Capacity Building on Co-creation for System Transformation**	Held with Griffith University	55 including 15 NDEs
Latin America and the Caribbean 21-22 May	**Capacity Building on Climate Technology and Finance in Latin America and the Caribbean**	Held with the Panama Ministry of Environment, attended by GCF, CAF, IADB, and GFANZ	51 including 21 NDEs

Knowledge-Sharing Activities

Throughout 2025, CTCN delivered and contributed to a broad range of knowledge-sharing activities aimed at strengthening country capabilities, fostering collaboration, and advancing the implementation of climate technologies at over 20 global conferences and partner events, including during COP 30:

- On 28 February 2025, CTCN participated in a Climate-KIC workshop on adaptation acceleration and incubation, where the Centre shared learning outcomes from the Adaptation Fund Climate Innovation Accelerator.
- From 4–6 March 2025, CTCN partnered with the United Nations Office for Sustainable Development (under UN DESA), UNESCO, and the IHE Delft Institute for Water Education to co-organize a three-day workshop on accelerating progress on the Water–Energy–Food–Ecosystems (WEFE) Nexus in Sub-Saharan Africa, bringing together regional stakeholders to strengthen integrated approaches.
- From the 12-13th March 2025, CTCN contributed to the Global Technology Needs Assessment (TNA) Workshop on Scaling Implementation, organized by UNEP-CCC, marking a strategic shift from assessment to implementation by positioning TNAs and Technology Action Plans (TAPs) as operational links between national climate plans and investable project pipelines.
- On 17-18 April, a knowledge-sharing webinar on maximizing emerging trends in locally led AI solutions for climate action was organized, emphasizing inclusive, user-centered, and ethically grounded AI approaches aligned with UN frameworks.
- On April 24, CTCN also collaborated with the Maersk Mc-Kinney Møller Center for Zero Shipping Foundation and UNEP-CCC on a webinar addressing maritime decarbonization, highlighting its role within the broader global climate action agenda.
- On 22 May 2025, CTCN partnered with Youth4Capacity and Seedstars to deliver the "Becoming Climate Innovators" event, introducing the Youth Climate Innovation Programme and its ecosystem of support for young innovators.
- On 3 June 2025, CTCN and UNEP-DHI co-organized a webinar on scaling up implementation of CTCN technical assistance in early warning systems for flood and

drought management, featuring experience sharing by implementing partners and a panel discussion with country representatives from Ghana and Sudan, alongside experts from CTCN and the GCF. The webinar reached 71 participants from 33 countries and focused on translating TA outputs into scalable, fundable climate actions.

- On 1–2 July, CTCN presented the #AI4ClimateAction initiative at the International Conference on AI and Climate Change in Korea, followed on 3 July by an introduction to the UNFCCC Technology Mechanism's AI Innovation Grand Challenge, jointly delivered with KOICA to Korean Network members.
- During United Nations Ocean Conference, from 5 to 9 June 2025, the CTCN participated in a WIPO side event where the Vice-Chair of the CTCN Advisory Board and a CTCN Secretariat staff member were panellists.
- On 27 August 2025, CTCN joined the KOICA–SUSIF workshop, further reinforcing its role in bridging policy, technology, and finance for local climate resilience.
- CTCN also participated in capacity-building activities under development cooperation initiatives, including the KOICA-funded Philippine Climate Resilient Cities project, where it contributed to a hybrid workshop on 27-28 August on exploring climate adaptation technologies, sharing Asia-Pacific examples of technology-driven, gender-responsive, and community-focused adaptation.
- On 24 September, the CTCN also contributed to UN DESA's 9th Regional Symposium on Effective Governance and AI Transformation and participated in additional partner-led webinars, including with UNEP Finance Initiative.
- From 8-9 October 2025 in Tanzania, the CTCN participated in the first global forum on AI for Climate Action, organized by the TEC as part of their deliverable under the Technology Mechanism's AI4ClimateAction

Finally, CTCN played an active role in SB 62 and COP 30, hosting and co-hosting multiple side eventsincluding:

SB62:

- Building Tomorrow: Policy & Data-Driven Solutions For Financing Climate Technologies in Buildings at SB 62 (18 June 2025)

COP30:

Technology Mechanism/CTCN events:

- Technology Mechanism for Impact: Bridging Policy, Innovation, and Action for Climate Solutions in LDCs and SIDS (10 November 2025)
- Technology Mechanism AI for Climate Action Award (10 November 2025)
- Masterclass on AI for Energy Systems (15 November 2025)
- Matchmaking event between the private sector and NDEs (18 November 2025, with Business Sweden and the Swedish Energy Agency)

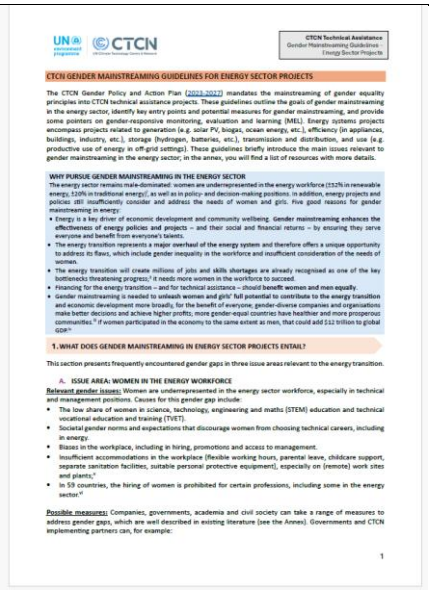
Partner events CTCN contributed to:

- 4th Edition of WIPO: Confronting climate disasters with innovation and technology (10 November 2025)

- Technology Day on Transformative Industry (12-13 November 2025 in collaboration with the TEC and UNIDO)
- Thematic Hub Investing in Impact: Women Entrepreneurs Driving Climate Innovation in the Global South, with focus on AFCIA I (13 November 2025)
- High-Level Dialogue: EU–UN Cooperation for Climate Security: Climate Change, Peace and Security: Scaling Locally Led Solutions (13 November 2025, in collaboration with UNEP-CCC)
- Gender Just Climate Solutions Award Ceremony (17 November 2025)

Complementing these activities, CTCN maintained strong outreach through its communication channels during the reporting period, publishing 14 news releases, 19 stories, 12 newsletters reaching 13,135 subscribers, and 444 social media posts, with a combined following of 16,196 followers across platforms.

New Knowledge Products by the CTCN	
This publication, developed by the Climate Technology Centre and Network (CTCN) in collaboration with the National Institute of Green Technology (NIGT), explores the transformative potential of artificial intelligence (AI) in advancing climate action across Asia-Pacific countries.	
The AFCIA Impact Report was published to document the progress, impact and lessons learned from this program. It has two volumes: UNEP CTCN-AFCIA and UNDP-AFCIA. The attached AFCIA I Impact Report is a quantitative and qualitative exploration of impact resulting from UNEP CTCN-AFCIA.	
The EU-funded Climate Change and Security Impact Report describes how the Climate Change and Security Programme has implemented 10 pilots in developing countries, to help fight climate change while strengthening the resilience of poor and vulnerable communities faced with insecurity on the ground.	

The CTCN developed two sector specific guidelines for National Systems of Innovation related Technical Assistances as well as Energy systems related TAs as per the Gender Policy and Action plan of the CTCN. The guidelines will amplify gender responsive TA implementation related to these thematic areas as per the CTCN's 3rd programme of work	

CTCN GENDER MAINSTREAMING GUIDELINES FOR ENERGY SECTOR PROJECTS

WHY PURSUE GENDER MAINSTREAMING IN THE ENERGY SECTOR

1. WHAT DOES GENDER MAINSTREAMING IN ENERGY SECTOR PROJECTS ENTAIL?

A. ISSUE AREA: WOMEN IN THE ENERGY WORKFORCE

Capacity building within technical assistance projects

In-country capacity building is also provided as part of CTCN TAs through hands-on expert advice, policy-oriented training, and peer-learning workshops. For example:

- In Cameroon, regular train-the-trainers sessions were conducted alongside outreach to schools and other community groups, supporting the development of community-led synecoculture practices.
- In Colombia, training focused on estimating field monitoring variables for mangrove conservation, building community capacity to establish monitoring plots and apply the methods needed to accurately measure key indicators.
- In Thailand, extensive stakeholder capacity building took place, including training cooperatives, agricultural workers, and local government on blockchain-based parametric insurance.
- In Zambia, the TA introduced a new aquifer-mapping technology (sTEM) alongside targeted capacity-building activities, including training on the use of the technology as well as broader skills development in aquifer mapping and groundwater development planning.

Several TAs also include South-South and North-South learning exchange visits:

- In Tanzania, a South-South learning exchange visit took place between the Arusha Vocational Training Centre (VETA) and the Research Institute for Sustainable Technology and Innovation (RISTI) and Scientists and Engineers without Borders (SEWB) in South Korea to implement a compressed biogas digester following a pro-bono TA.
- Somalia directly benefitted from the TA in Malawi as the technology was then replicated for EWS systems in partnership with a Somali consulting company with

funding received from the GSMA Innovation Fund for Climate Resilience and Adaption (funded by UK FCDO and Swedish SIDA).

- During the NDE forum in LAC, a panel discussion between the countries involved in the multi-country TA took place to facilitate in-person exchange and lesson learnt.
- During the implementation of the TA in the Central African Republic, the Implementing Partner connected with the youth network, Terre de Jeunes, to facilitated collaboration between the Central African Republic, Togo, Haiti and Ivory Coast as well as employing interns from Congo Brazzaville and Chad in the field.

VI. Collaboration and stakeholder engagement

National Designated Entities

In 2025, the CTCN continued to host its flagship regional NDE forums, organized in collaboration with the TEC and held, for the first time ever, a SIDS NDE forum:

LAC NDE Forum
Panama City, Panama
19-20 May

The LAC NDE Forum brought together 42 participants, including government officials, NDEs (22), CTCN Advisory Board members, Technology Executive Committee members, and CTCN Network Members.

Africa NDE Forum
Nairobi, Kenya
21-22 July

Over the course of two days, 44 NDEs from across Africa came together alongside key stakeholders to advance the continent's climate technology agenda. The Forum provided a platform to strengthen regional coordination, share knowledge, and explore concrete opportunities for technical assistance through the UNFCCC Technology Mechanism.

Asia NDE Forum
Seoul, Republic of Korea
1 September

Government representatives from more than 19 countries and 19 NDEs as well as climate technology experts came together in Seoul for the opening of the 2025 Asia NDE Forum and Capacity Building Programme on Digitalization and Finance. Hosted by the Republic of Korea's Ministry of Science and ICT (MSIT) in partnership with the UN Climate Technology Centre and Network and the World Bank Korea Office, the Forum provided a platform for Asian NDEs to share experiences and strengthen cooperation on climate technology transfer.

For the first time ever the NDEs of Iraq and Israel participated in the Asia NDE forum.

SIDS NDE Forum
Brisbane, Australia
1-2 December

The first-ever SIDS Forum for NDEs took place in Brisbane, bringing together NDEs from 15 small island nations to strengthen climate technology action. Hosted by the CTCN and Griffith University, the five-day programme equipped participants with practical tools, capacity-building opportunities, and new avenues for collaboration to support climate-resilient, low-emission development.

Statistics on TA requests resulting from capacity-building activities over the past four years have been compiled based on thematic focus areas and country participation in relevant NDE capacity-building forums. In 2022, four TA requests on digital agriculture were received; in 2023, six TA requests on green hydrogen were submitted; and in 2024, ten TA requests related to artificial intelligence were received. While additional TA concepts are likely to have

been generated through these capacity-building activities, the figures presented reflect those requests that can be directly linked to the respective thematic programmes.

Throughout 2023 to 2025, NDE engagement to access NDAs event grew from 5 countries to 15 countries, largely as a result of direct CTCN logistical assistance.

Furthermore, throughout 2025, several additional engagements with NDEs took place, including:

- Thematic capacity-building programs targeting NDEs on the themes of climate Fintech were led by a Network Member for six weeks from 7 July to 30 August open to NDEs and NDE-nominated colleagues
- On 27 October, a UNFCCC Technology Mechanism event with Eastern European NDEs, and
- On 28 October an introductory webinar on Collaborative Research, Development and Demonstration (cRD&D), which presented CTCN's strategic vision, cooperation models, lessons from 2024 research, and upcoming opportunities such as the 2026 Learning Visit and Bridge-Building Workshop were held.

Logistical support to NDEs

Under CTCN's logistical support framework, Cambodia served as a pilot country and, on 17 July, convened its first National Stakeholder Meeting on Climate Technology and Finance to enhance national coordination and dialogue.

In addition, 6 applications were received from Cambodia, Chile, Kenya, Lesotho, Somalia, and Sudan. Sudan, for instance, requested post-implementation assistance to connect a rainwater project with potential financial actors to support scale-up, with follow-up activities held in 2026 following the 2025 request. All other requests are for holding ideation workshops to identify prioritized technology interventions needed by the countries.

CTCN Network Members

The CTCN welcomed 71 new Network members in 2025, of which 42 were from developing countries, bringing the total number of Network members to 975 members by the end of the year.

In 2025, the CTCN actively engaged Network members to mobilize their technical expertise in all services areas of the CTCN. For instance, network members with emerging technical solutions (green hydrogen, AI for climate action,etc) were invited to share their innovations through various activities including publications, workshops, trainings and webinars fostering the exchange of knowledge. In addition, the CTCN featured their solutions through emails, newsletters, and social media networks, reaching a wider audience and showcasing their impacts within the network.

In 2025, to stimulate members' engagement, CTCN organized global Networking events:

- A CTCN Network member, Flinders University, supported collaborative development of a multi-country project proposal for the Pacific region under the AFCIA II funding opportunity, helping participants identify priority climate challenges and solution pathways aligned with national needs on 24 March 2025.
- On 17 April, CTCN partnered with the EmPower: Women for Climate-Resilient Societies Programme to deliver a webinar on leveraging artificial intelligence to advance the renewable energy sector in Asia and the Pacific, targeting regional and national renewable energy focal points.
- A specialised online certificate course "Understanding Digitalization and Climate Fintech: Legal and Regulatory Perspectives from the EU" from 7 July to 30 August 2025 was offered for free by network member BCI.
- Voluntary Technology talks (VTT) were organized in October 15-16, organized by Incheon University, supporting 4 NDEs from Central Asia to explore emerging technologies exhibited at the 2025 Incheon International Environmental Technology Confex.

Engagement with other UNFCCC constituencies and actors

UNFCCC Women and Gender Constituency

Gender Just Climate Solutions

As part of its collaboration with the Women and Gender Constituency (WCG) and Women Engaged for a Common Future (WECF), the CTCN supported the 2025 Gender Just Climate Solutions Award, including by serving on the jury to select a winner under the technical category for the 2025 edition at COP30[5]. CTCN also disseminated information about the award through its communication channels[6] and facilitated access to a year-long mentoring programme for the award winners.

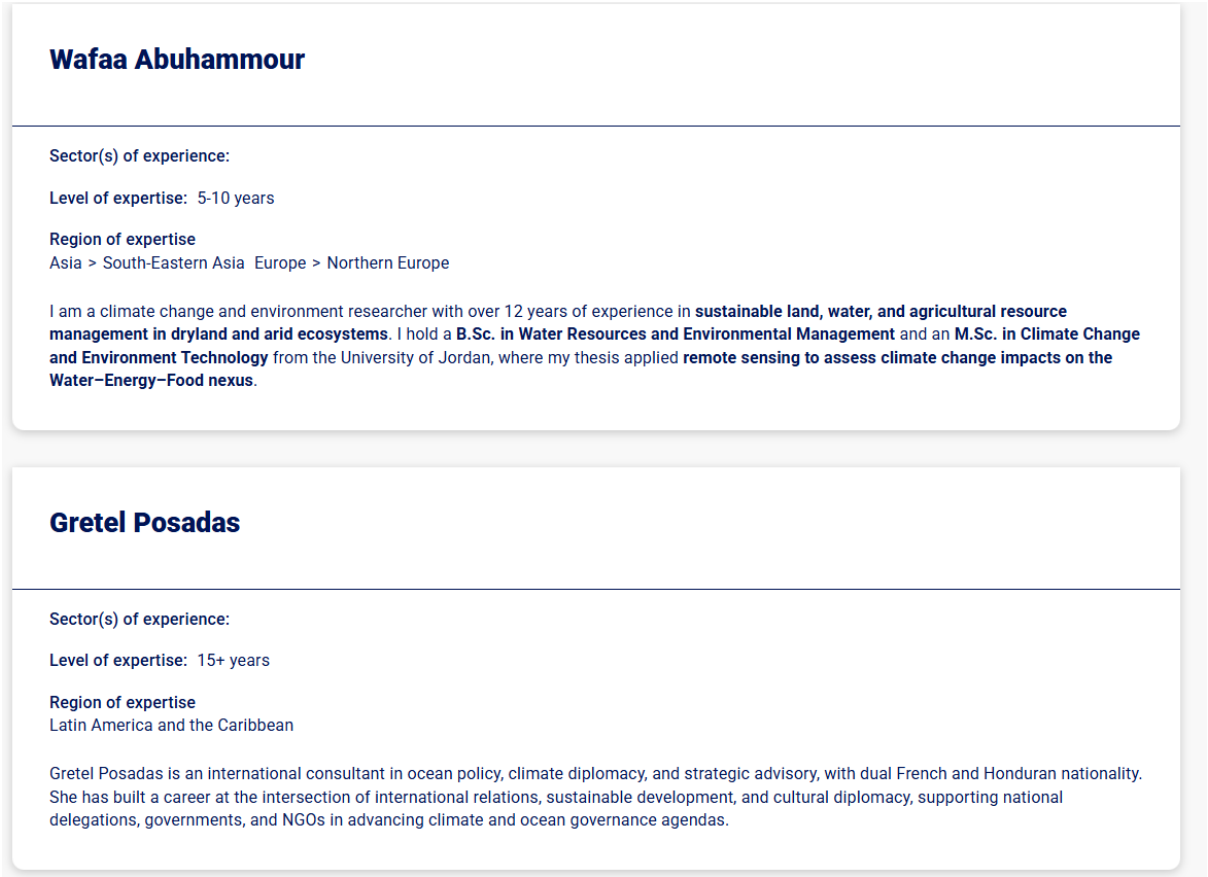
The 2025 edition of the Gender Just Climate Solutions awards marked the 10th year anniversary of this programme. It marked a decade of recognizing and uplifting grassroots climate actions that place women's leadership, gender equality, and social justice at the center of climate response.

Additionally, the CTCN contributed to the GJCS 2025 Publication by drafting 2 stories under the technical category.

The CTCN, jointly with the TEC, continued promoting the Technology Mechanism and Climate Technology Expert Roster. This global database, provided free of charge, features professionals, grassroots experts, and indigenous individuals with ancestral knowledge, all

[5] The 2025 Gender Just Climate Solutions Awardees - WECF
[6] TBA

recognized as experts in gender equality and climate technology and available to participate in studies, events, and projects.



Wafaa Abuhammour

Sector(s) of experience:

Level of expertise: 5-10 years

Region of expertise
Asia > South-Eastern Asia Europe > Northern Europe

I am a climate change and environment researcher with over 12 years of experience in **sustainable land, water, and agricultural resource management in dryland and arid ecosystems**. I hold a **B.Sc. in Water Resources and Environmental Management** and an **M.Sc. in Climate Change and Environment Technology** from the University of Jordan, where my thesis applied **remote sensing to assess climate change impacts on the Water–Energy–Food nexus**.

Gretel Posadas

Sector(s) of experience:

Level of expertise: 15+ years

Region of expertise
Latin America and the Caribbean

Gretel Posadas is an international consultant in ocean policy, climate diplomacy, and strategic advisory, with dual French and Honduran nationality. She has built a career at the intersection of international relations, sustainable development, and cultural diplomacy, supporting national delegations, governments, and NGOs in advancing climate and ocean governance agendas.

Furthermore, the CTCN continued implementation of its Gender Policy and Action Plan, endorsed at the 22nd Advisory Board Meeting, by developing the Gender Workplan for 2025. This Gender Workplan introduced specific targets across key areas, including CTCN Operations, Capacity Building, Network and Partnerships and Knowledge Sharing and Communication.

Implementation of the CTCN Gender Policy and Action Plan and Gender Assessment and Action Plan (GAAP) has commenced, supported by the development of sector-specific gender guidelines for energy systems and national systems of innovation as highlighted under the publications, with four additional guidelines under preparation. Each TA is required to ensure gender responsiveness across system transformation areas and enablers, supported by clear, practical guidance for implementing partners.

To strengthen accountability of its allocation of a minimum of 5 percent of the TA budget to gender mainstreaming activities, CTCN has initiated the development of a gender monitoring tool in collaboration with WECF, beginning in 2025. Progress to date includes exploratory interviews with past implementing partners, a literature review of existing gender budgeting tools, and the launch of a data collection phase led by WECF team, with completion of the tool expected in 2026.

The monitoring framework includes clear indicators to track utilization of the 5 percent gender budget and will support qualitative assessment of gender mainstreaming outcomes.

Youth and academic institutions

The second edition of the Youth Climate Innovation (YCI) Programme was launched in September 2024 and continued throughout 2025, with conclusion of this edition having been extended to April 2026. The programme supports young innovators across Africa, LAC, the Middle East and North Africa (MENA), and Asia-Pacific in identifying, developing, and scaling high-impact climate technology solutions. Structured in three phases—Idea Labs, a 12-week Incubator, and a hybrid Accelerator — the programme combines design thinking, mentoring, and partnership-building to advance early-stage climate innovations.

In April 2025, the Youth Climate Innovation Incubator officially commenced across all regions, engaging 32 promising teams in experimentation, validation, expert mentorship and networking events over a three-month period. These teams developed solutions addressing energy, water, food systems, and sustainable mobility challenges.

A virtual demo day was organized in July 2025 to listen to the progress made by the teams during the incubator, and one team per region was selected to receive more hands-on support during the accelerator phase. The selected teams include GreenBond for Africa (development of low-carbon cement building blocks), SolarEye for MENA (drone-enabled improvement of solar PV maintenance), Cacao Circular for LAC (using cocoa waste for production of sustainable textiles), and Sharee for Asia-Pacific (marketplace for sustainable farming solutions). The final in-person event was scheduled to take place at ChangeNow Summit in Paris, France on 30 March – 1 April 2026 to which the startups were invited to pitch and network with potential investors and partners.

Overall, the programme received 3,086 applications, demonstrating strong global demand. A total of 339 participants from 62 countries took part in the Idea Lab phase. From these, 33 teams (46% female participants) advanced to the Incubator phase, collectively benefiting from more than 380 hours of mentoring support. In addition, 114 Network partners were engaged

across the programme's activities, contributing technical expertise, mentorship, and ecosystem linkages.

The programme has led to the creation of 17 new companies to date, demonstrating the programme's contribution to strengthening youth-led climate entrepreneurship ecosystems and supporting scalable climate technology innovation in developing regions. Several teams were able to gain first customers and raise funding during the Programme period.

Throughout 2025, the CTCN engaged in collaborative efforts with several academic institutions.In May, CTCN PALO hosted 13 post-graduate students from Kookmin University's Department of Climate Technology Convergence. The visit provided a meaningful opportunity for both sides to engage and exchange knowledge. Students explored how CTCN operates – from its role within the global technology mechanism to the TA process – and were able to connect their academic studies with real-world applications.

Organized by the Incheon Metropolitan City Office of Education, CTCN PALO engaged at the 4th Incheon Global Citizen Education Festival from October 28 to 29 at Songdo. First launched in 2022, the festival welcomed youth, communities, and universities from the globe to exchange knowledges on various social, environmental, and health challenges.

UNFCCC Paris Committee on Capacity-building (PCCB)

At COP30, the Paris Committee on Capacity-building (PCCB), the CTCN, and the TEC in partnership with KOICA explored with participants how AI can be used for low-emission, climate-resilient energy systems and is part of the Technology Mechanism's Initiative on AI for Climate Action.

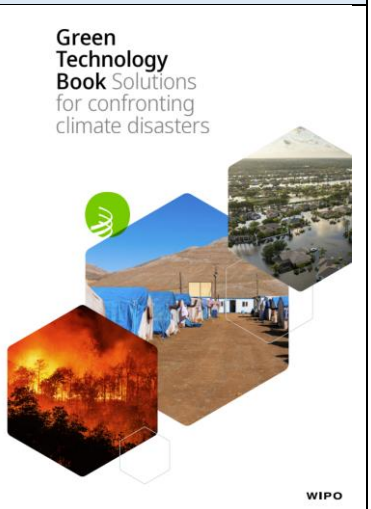
Publications the CTCN contributed to

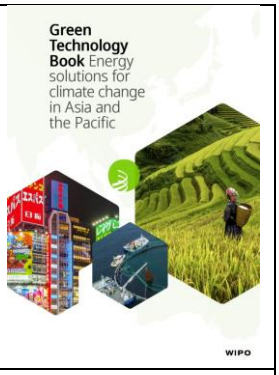
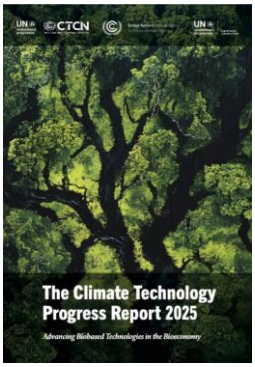
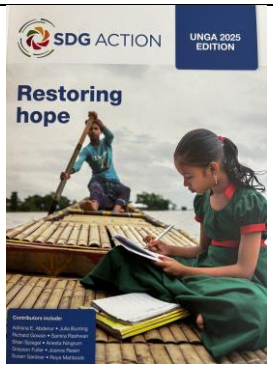
4th edition of the Green Technology Book

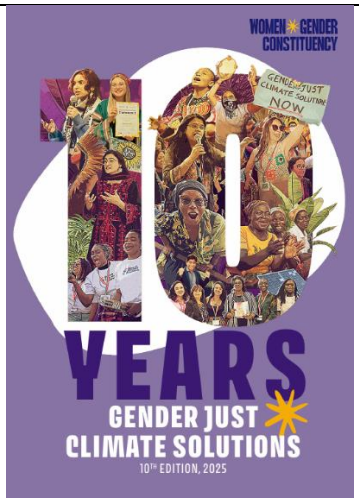
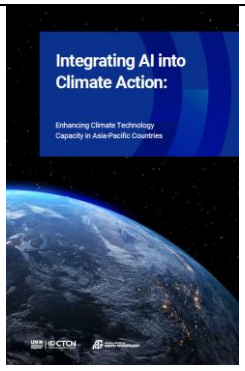
Solutions for confronting climate disasters 2025

In collaboration with the World Intellectual Property Organization (WIPO), the fourth edition of the book focuses on solutions for confronting climate disasters, highlighting how innovation is transforming disaster preparedness, response, and recovery. CTCN was one of the reviewers of this publication.

The WIPO database showcases a wider array of solutions and facilitates direct contact with technology proprietors. Additionally, the Green Technology Book serves as an important matchmaking tool for fostering connections and partnerships in the field.



WIPO Special Edition for EXPO 2025 in Asia Pacific This special edition of the Green Technology Book for EXPO 2025, Osaka, Japan, features 200+ examples of energy technologies and solutions from the Asia-Pacific region, dedicated to the diffusion of innovative green technologies by connecting the technology seekers and providers.	
The Climate Technology Progress Report - 2025 UNEP-Copenhagen Climate Centre, in collaboration with the TEC and the CTCN launched the 2025 edition of the Climate Technology Progress Report: **'Advancing biobased technologies in the bioeconomy'**. It examines how advancing the climate and nature agenda through the integration of technology and sustainable biobased solutions can offer a comprehensive and cost-effective pathway to achieving both objectives simultaneously. A CTCN case study on financing a just circular transition in Latin America, with focus on biobased technologies is featured in the report and members of the CTCN Secretariat and CTCN AB were on the steering committee.	
SDG Action Magazine: Bridging the divide: using technology and AI to close the development gap | SDG Action Digital innovation can drive progress toward the SDGs – yet the countries that stand to gain the most often face the highest barriers to adoption. We need a more inclusive model of technology transfer to close, not widen, the global development gap.	

Climate Technologies for Agrifood System Transformation: Placing food security, climate change and poverty reduction at the forefront The TEC, in collaboration with the FAO, analysed knowledge gaps and identifies relevant climate technologies to promote transforming the agrifood systems, as set out in its rolling workplan 2023-2027. The CTCN contributed to this report.	
Gender Just Climate Solutions 2025 (10th edition) In 2025, the Gender Just Climate Solutions programme continued to highlight clear evidence that climate technology deployment is most effective when gender equality is embedded from design to implementation. By showcasing women-led renewable energy, climate-resilient agriculture, water systems, and governance innovations, this CTCN funded initiative implemented one of the objectives of CTCN's Gender Policy and Action Plan which is to Increase women's and girls' access to knowledge, information, training, income and other resources that enable them to increase their resilience to climate change impacts as well as utilize and benefit from appropriate low carbon climate technologies.	
Integrating AI into Climate Action: Enhancing Climate Technology Capacity in Asia-Pacific Countries This publication, developed by the Climate Technology Centre and Network (CTCN) in collaboration with the National Institute of Green Technology (NIGT), explores the transformative potential of artificial intelligence (AI) in advancing climate action across Asia-Pacific countries. In response to the COP 28 mandate to enhance awareness of AI's role in climate solutions, the #AI4ClimateAction Initiative has facilitated knowledge exchange, policy discussions, and capacity-building efforts.	

VII. Support

Collaboration with the Adaptation Fund

Apart from collaboration on programmatic activities under AFCIA I and AFCIA II, the CTCN participated in the Adaptation Futures Conference from 13 to 16 October, participating in several events to showcase AFCIA I technical assistance pilots and impact.

Highlights included a joint panel with UNDP on "Scaling Innovation and Technology Transfer for Climate Adaptation: Insights from AFCIA I," and the Adaptation Fund Spotlights, which brought to life powerful stories of resilience and adaptation from communities on the front lines of climate change. Also, CTCN met with students from the University of Canterbury in Christchurch, New Zealand.

Furthermore, at COP30 in Belem, the CTCN collaborated with the Adaptation Fund's event on the AFCIA I programme, and helped develop communications assets for this event, such as an Impact Report, posters with project photos, and a video of project highlights.

Collaboration with the Global Environment Facility (GEF)

The CTCN increased its outreach to GEF, particularly to explore avenues of seeking GEF funding with a meeting between the CTCN Director and the GEF Secretariat as well as exploring, with UNEP, how to access GEF9 set-aside funding for TAs on SF6 phase out.

Collaboration with the Green Climate Fund (GCF)

The CTCN completed one GCF readiness projects in 2025:

Country	GCF project
Cote d'Ivoire	Updating of Technology Needs Assessment (TNA) and Technology Action Plan (TAP) for the implementation of NDC in Cote d'Ivoire

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 GCF Regional Dialogue with the Caribbean in March 2025 (4 NDEs) and with the Pacific in May 2025 (8 NDEs). Together with the GCF, a session on strengthening the link between UNFCCC's technology and finance mechanisms to drive country-led climate action was co-hosted at the regional dialogue in the Caribbean.

The full proposal by the KCB Bank on supporting SMEs in Kenya to adopt environmentally sound technologies, prepared with the support of PPF grant announced in November 2024 during COP29, was submitted to the GCF in 2025.

The GCF project proposal co-developed between CTCN and the Ugandan Ministry of Water and Environment to implement some of Uganda's TNA outcomes and TAPs by deploying prioritized climate technologies in Eastern Uganda is currently on hold while another GCF project proposal submitted by the Ugandan Ministry of Water and Environment is being processed by the GCF.

Pro-bono Technical Assistance Support

In 2025, two technical assistance requests were completed with pro-bono support in the amount of approximately 341.000 USD from the Republic of Korea.

Tanzania	Feasibility Study of Optimal Design Conditions for Biogas Plant for the Improvement of CH4 Capture Efficiency in Tanzania
Uganda	Strengthening Waste Management Policymaking in Uganda in Response to Climate Change

Engagement with the Private Sector and Philanthropies

Global Industry Engagement
Throughout 2025, CTCN strengthened engagement with private sector actors and industry platforms to advance climate technology deployment and foster collaboration under the UNFCCC framework. In March, CTCN participated in an ICC Business Webinar, which provided a platform to explore the role of the CTCN in advancing climate-resilient technologies. CTCN attended the 4th International Conference on Financing for Development (FfD4) in Sevilla, Spain in July 2025 and, the IDFC Sherpa in September in Rome, Italy to fundraise for programmatic and scale up activities.

Bilateral exchanges were held with a range of private and industry-related entities, including the China International Science and Technology Promotion Association (CISTPA), the

London Office of the Bank of China, members of the Breakthrough Agenda for Cement and Concrete, Regulatory Energy Transition Accelerator (RETA) facilitated by IEA and the Switching Gears to Net Zero Alliance, focused on advancing SF_6-free manufacturing and supporting industrial decarbonization pathways.

Philanthropic and Foundation Partnerships
CTCN engaged with several philanthropic foundations and corporate foundations to explore collaboration on climate innovation and systems transformation.

Exchanges took place with the Novo Nordisk Foundation, the Hyundai Motor Chung Mong-Koo Foundation, the ClimateWorks Foundation, Tara Foundation, and Zero Shipping Foundation. Private and philanthropic actors such as Naver, SK Ecoplant, BC Card, the Global Industry Hub, and the Korea Development Bank also engaged with CTCN in the context of innovation, climate finance, and partnership exploration.

In addition, representatives from philanthropic organizations and development finance institutions contributed as speakers and resource partners in CTCN-supported capacity-building activities, including the ClimateWorks Foundation, the GCF, the Asian Development Bank, KOICA, and Korea University.

A concept note co-written with the International Maize and Wheat Association (CIMMYT) was submitted to the Novo Nordisk Foundation on a two-year programme on crop diversification within agricultural mitigation.

Private Sector Collaboration

The CTCN is increasingly engaging with hybrid public–private partnership (PPP) platforms that operate at the interface between governments and the private sector. These collaborations aim to leverage such platforms both as knowledge partners and as entry points for identifying post-technical assistance (TA) scale-up opportunities. Examples include engagement with Business Sweden, Denmark's State of Green, and the East Lancashire Chamber of Commerce.

At the country level, CTCN TA's facilitated direct engagement with private sector entities to support implementation and scale-up. In Burkina Faso, implementation of a TA resulted in collaboration with the telecommunications company Orange.
In Malawi, a partnership was established with a rural bank, GAPI Investimentos, to support smallholder farmers, with stakeholders preparing a request to fund a pilot project as a follow-up to the completed TA.
These engagements demonstrate CTCN's role in connecting national institutions, private sector actors, and financial partners to create pathways for implementation, investment readiness, and scalable climate solutions.

The CTCN signed an MOU of continuing partnership with KCB in July 2025 in their effort to prepare a full project proposal using the PPF grant approved by GCF as announced in November 2024.
The CTCN continues to pursue partnerships with philanthropies, the private sector, and PPP platforms. While building these relationships is time-intensive—and competition, including within the UN system, has intensified—the CTCN is making solid progress with NNF and CIMMYT. Other potential partnerships remain at an early, exploratory stage.

Engagement with Multilateral Development Banks (MDBs)

CTCN Technical Assistances are increasingly serving as upstream investment pipelines with opportunities to transform completed TAs into investments linked to MDBs.

Asian Infrastructure Investment Bank (AIIB)

CTCN continues substantive discussions with AIIB regarding the potential scale up of a green hydrogen TA in Thailand completed in 2024. The TA resulted in a draft GCF Concept Note on waste-to-energy systems with biogas upgrading to hydrogen, aligned with Thailand's NDC and energy transition priorities. The Thailand NDE has expressed interest in advancing the Concept Note and in collaborating with AIIB in its role as a GCF Accredited Entity and the possibility of AIIB leading a GCF Project Preparation Facility (PPF) application or supporting development of a full funding proposal is currently under discussion.

Asian Development Bank (ADB)

The CTCN aims to position a TA request submitted by Tajikistan, which aligns closely with ADB's Glaciers-to-Farms programme and GCF-linked investments, as a near-term flagship TA with scale-up potential through ADB.

The CTCN is in dialogue with Indonesia's NDE on a completed CTCN TAs on electric vehicles in Jakarta and climate-smart agriculture. Discussions are focused on Indonesia's interest in ADB-supported investment scale-up and potential coordination with ADB's focal ministry, the Ministry of Finance.

CTCN participated in the ADB Study Visit on Early Warning Systems for Extreme Heat in Incheon, Republic of Korea, on 12 August 2025, bringing its decade of experience as part of the UNFCCC Technology Mechanism to strengthen gender-responsive, inclusive early warning systems.

Co-funding and in-kind support

The CTCN also received co-funding and in-kind support from various partners for technical assistance interventions, capacity building activities, and events:

In-kind	The Implementing Partner of the Malawi TA, Water in Sight Ltd, contributed USD 51,500 in-kind to ensure sustainability of the website that was set up.
In-kind	During the aquifer mapping TA in Zambia, OneWorld Sustainable Investments provided a contribution of USD 17,500 to support the procurement of a sTEM machine, strengthening the technical capacity and implementation of the groundwater assessment activities.
In-kind	A borehole has been funded by the Government of Zimbabwe to support improved water access for mopane worm washing and degutting activities, as well as bakery production and related hygiene requirements. The borehole will also serve the primary and secondary school, a local clinic, a business community development centre, and the broader community of Garanyemba Ward 13, which comprises of approximately 10,000 residents (4,700 males and 5,300 females). The Rural Infrastructure Development

	Agency (RIDA) provided a borehole drilling rig and operational staff, while the Zimbabwe Energy Regulatory Authority (ZERA) contributed 900 litres of fuel and piping and storage accessories, amounting to approximately USD 5,400.
Co-financing	UNEP FI, GO4SDGs, and the BASE Foundation collaborated with CTCN in implementing a circular economy (CE) finance project across Chile, Costa Rica, the Dominican Republic and Uruguay to empower financial institutions to scale up CE investments, particularly benefiting micro, small, and medium-sized enterprises (MSMEs), by addressing systemic barriers, improving taxonomy integration, and building internal capacities of financial institutions and USD 30,000 was received in co-financing from the UNEP Global Opportunities for Sustainable Development Goals accelerator for the circular economy project in Chile
Co-financing	USD 210,000 from UNEP for the green buildings project in Ghana
Co-financing	Arrangements were advanced with UNEP-DHI in Sudan, with USD 50,000 contributed by UNEP-DHI and USD 50,000 by CTCN to support software updates and related activities.
Total	5 activities resulting in USD **364,400** in in-kind or in co-financing activities

Concept Notes developed as part of Technical Assistances

The completion reports for CTCN TA projects outline potential additional financing opportunities resulting from the TA. However, securing such funding is not guaranteed and depends on factors beyond the CTCN's control. The below is an overview of potential leveraging of additional financing from CTCN TAs completed in 2025:

Country	TA name Information on Concept Note developed or follow-up action	Expected funding leveraged from the TA
Bahamas	After completion of the TA *Developing a national framework for the standardization of stalls and procedures for a climate smart street side vendor in the Bahamas*, a USD 8 million CN is being developed for green spaces in Bahamas and will be targeting the MDBs IDB Invest and Caribbean Development Bank.	8,000,000 USD
CAR	The "Production of affordable solar cookers in the deforestation-threatened Bangui region of the Central African Republic" TA foresees scale-up pursued in the amount of USD 246,000 USD.	246,000 USD
Suriname	A USD 14 million CN is being prepared after completion of the TA *Enhance the resilience of Suriname´s water supply system by modelling drought risks and developing a roadmap of prioritized alternatives for aquifer recharge* for the Suriname Water Utility Company to roll out aquifer recharge assessments into the mainland. Potential funders are 10 private sector companies, including Coca-Cola.	14,000,000 USD

Tanzania	Following the TA on *Developing a national framework for deploying and scaling up E-Mobility in Tanzania*, a USD 5.45 million GCF application for an e-mobility bus depot in Tanzania was prepared and engagement with the Accredited Entity, CRDB, continued. The Ministry of Transport adopted the EV Policy Framework, with a launch planned for July with the Ministry incorporating this strategy into a larger multi module e-strategy at national level.	5,450,000 USD
Thailand	A GCF concept note has been developed for 750.000 USD after the completion of the TA Blockchain Technology for a real-time climate risk insurance system in Thailand's agricultural sector.	750,000 USD
Timor Leste	Scale up from the TA *Formulating a National Electricity Grid Code and the Definition of a Net Metering Policy in Timor-Leste* is being worked on by a GCF CN for USD 7,1 million and USD 6.8 million to be mobilized by the private sector.	13,9 million USD
Uganda	An expected 3,200.000 USD is being anticipated as a result of the TA on Strengthening Waste Management Policymaking in Uganda in Response to Climate Change from a variety of sources, including the Uganda Ministry of Water and Environment and the Kampala Capital City Authority as well as from GCF and local waste management enterprises.	3,200.000 USD
Total	7 Concept notes and project proposals developed as a result of CTCN TAs completed in 2025	**31.560,000** USD

Post TA facilitation of funding

TAs starting implementation as of 2025, will have as a mandatory deliverable the completion of a concept note or other fundraising activities, such as workshops with financial institutions, to facilitate post-TA scale-up activities.

CTCN continued to strengthen coordination with multilateral development banks and financial institutions at TA level to enhance complementarity and avoid duplication of efforts. In Liberia, engagement with the African Development Bank (AfDB) and the World Bank focused on aligning ongoing activities, with CTCN concentrating on project selection and scale-up pathways in coordination with the World Bank.

In Burundi, discussions with AfDB explored potential co-financing opportunities related to the Slam Dam initiative, including a water balance monitoring and evaluation platform and climate risk insurance for farmers. AfDB is also implementing a cooling project that may provide complementary support to the water balance platform.

In Zimbabwe, engagement with a private financial institution, FBC Holdings, supported scale-up discussions related to a solar dryer initiative. The implementing partner remains actively engaged, and the bank has assessed that the business model is viable at a small-project scale.

In Sudan, the first request for the post-implementation modality under NDE logistical support was received, aimed at organizing a workshop with potential donors to scale up a pilot rainwater project.

Collaboration with international programmes and initiatives at TA level also progressed. In Ghana, following the completion of the UNEP Global Alliance for Buildings and Construction (GlobalABC) programme in 2025, coordination with GIZ focused on integrating lessons learned into sustainable building initiatives.

The CTCN is coordinating with UNIDO to align cement sector activities in Ethiopia to avoid overlap and explore co-organization of a regional capacity-building workshop on cement decarbonization in Africa and in Colombia, it is in consultations with FAO on a fire detection and management TA.

Photo credit: Miranda Tasker, Solar cooking in CAR

Throughout the two EC-funded programmes, coordination has taken place with the EU delegations at country level where applicable. For the TA in Togo, engagement with the EU delegation supported the development of a case study for a potential agrivoltaic farm in connection with Senegal's national solar farm and coordination calls with EU counterparts have taken place to coordinate activities.

In the Central African Republic, an in-person presentation of the technical assistance project was delivered at the 9th Tokyo International Conference on African Development (TICAD9) in Japan.

Technical assistance projects have also catalyzed follow-on funding commitments after the completion of the TA. These are counted separately from the in-kind and co-financing contributions outlined above:

- In Mozambique, USD 30,531 was mobilized through a bank (GAPI Investimentos' Rural Credit Line) as a follow-up to the TA.
- In Cameroon, stakeholders pledged an additional USD 22,000 to sustain project activities beyond completion of the TA.

In total, **USD 52,531** have been put forward in post-TA financial commitments.

Matchmaking

In line with the mandates and functions discussed at COP30 in Belem, the CTCN has increased its focus on post-TA financing and matchmaking. To expedite the development and transfer of technology and knowledge for low-carbon and climate-resilient initiatives, the CTCN has started engaging with trade associations, business associations and umbrella organizations for Private-Public-Partnerships. Assisted by the NDE of Sweden, a roundtable facilitated by Business Sweden, the Swedish Energy Agency International, and Sweden's Climate Ambassador and Head of Delegation to UNFCCC gathered in Stockholm in August 2025, to discuss

- how to match NDC-related projects with innovative technologies and expertise,
- tackle challenges in deploying climate solutions in developing countries,
- and integrate Swedish innovation into global mitigation and adaptation efforts.

This dialogue marked an important step toward strengthening network membership, partnerships, and collaboration and helping unlock solutions that accelerate climate action worldwide and was followed up by a COP 30 event at the Swedish Pavilion attended by 14 NDEs, and businesses from the private sector, organized by the CTCN, Business Sweden and the Swedish Energy Agency to drive the conversation forward.

The CTCN is engaging with the *East Lancashire Chapter of Commerce* and Denmark's *State of Green* to discuss similar collaborations around matchmaking.

VIII. Reporting against the 2025 Annual Operating Plan Indicators

Actions & Activities (as per the POW)	Updated Indicators (As approved at CTCN AB 22)	2024	Result for 2025
Impact indicators	Anticipated metric tons of CO2 equivalent (tCO2e) emissions reduced or avoided as a result of CTCN TA (disaggregated by annual and life of project)	No target for 3rd PoW For 2024: **Annual:** 43.927 million tCO2e **Life of the project:** 570.4 million tCO2e	**Annual:** 13,99 million tCO2e **Life of the project:** 44,22 million tCO2e
	Anticipated number of direct and indirect beneficiaries as a result of the TA	No target No target for 3rd PoW For 2024: 66 million indirect beneficiaries	20,970.789 direct and indirect beneficiaries
Innovation			
Intended outcome (from POW): Countries can accelerate innovation at different stages of the technology cycle through collaborative approaches.			
1.1 Support policies, institutional and regulatory frameworks and planning processes on innovation and strengthening National Systems of Innovation 1.2 Develop technological transition pathways and options for uptake of climate technologies	Number of countries that received. CTCN support for national institutional, legal, and regulatory frameworks to encourage climate technology RD&D and uptake (PMF indicator # 1.2.a)	4-5 for 3rd PoW For 2024: 9	9
	Number of countries with strengthened National System of Innovation as a result of CTCN support. (PMF indicator # 1.2.b)	5-7 for 3rd PoW. For 2024: 11	15
1.3 Promote collaboration and partnerships in climate technology	Number of climate technology RD&D and innovation-related events (PMF indicator # 1.1.a)	5 for 3rd PoW For 2024: 11	23
	Number of participants in	100-150 for	1239 total

RD&D activities	climate technology RD&D and innovation-related events (gender- disaggregated) (PMF indicator # 1.1.b)	Third PoW For 2024: 283 total (Men: 62%, Women: 38%)	(Men: 43%, Women: 57%)
	Number of knowledge resources related to RD&D and new and innovative technologies made available on the CTCN knowledge platform (PMF indicator # 1.1.c).	25-30 for Third PoW For 2024: 21	10
Implementation			
Intended outcome (from PoW): Countries have clear pathways and options to enhance inclusive, gender responsive, technology development and transfer, including endogenous and indigenous technologies			
2.1 Prioritize climate technologies and facilitate the development and implementation of NDCs, including TNAs, roadmaps and pilot studies and alignment with NAPs	Number of TAs supported (disaggregated by TA and FTA, and TNA/TAP/NDC) (PMF indicator # 2.1.a)	30 for Third PoW For 2024: 24	29 (28 TAs and 1 TNA) 162 TAs were in different phases of implementation in 2025: *28 TAs were completed *1 TNA was completed * 54 TAs were in design stage * 17 under review * 62 under Implementation
	NDE feedback on uptake of CTCN TA and non-TA recommendations and outcomes to enhance technology development and transfer	No target for Third PoW For 2024: 6	6
	Percentage of TA budget allocation targeting gender mainstreaming. (new)	5 % of each TA budget	5 % of each TA budget. Furthermore, the CTCN has consulted with WGC and is developing a monitoring tool that will be used

			to quantitatively measure and ensure that 5 % of the TA budget is used for gender mainstreaming and action. While every TA has a percentage of the budget that goes to gender mainstreaming, it is yet to be analytically quantified.
	Percentage of TA projects supported with a gender analysis (PMF Indicator # 4.2.e).	100% for Third PoW For 2024: 100%	100% As of 2024, all technical assistance response plans and those that were kicked off following the decision at the AB 2023, included a Gender assessment and action plan (GAAP) as one of the mandatory documents to guide the implementation of each TA.
Enabling environment and capacity-building			
Intended outcome (from PoW): Countries have enhanced enabling environments, including policy and regulatory environments to develop, transfer and deploy climate technologies			
3.1 Design policies, regulations and standards that create enabling environments for climate technologies and deliver capacity-building	Number of policies, strategies, plans, laws, agreements or regulations supported by the technical assistance (PMF indicator # 4.2.a)	10 for Third PoW For 2024: 21	68
3.2 Enhance the	Number of CTCN training sessions and capacity	10 for Third PoW	17

capacity of the NDEs to plan, monitor and achieve technological transformation	strengthening activities (PMF indicator # 4.2.b)	For 2024: 17	
	Number of participants attending CTCN training sessions and capacity strengthening activities (disaggregated by gender) (PMF indicator # 4.1.d.)	1000 – 1500 for Third PoW For 2024: 1158 (840 m, 318 f) (72,5% m, 27,5% f)	3067 (1367m, 1675 f) (45% m, 55% f)
	Total number of events organized or co-organized by the CTCN (PMF indicator # 4.1.c.)	15 for Third PoW For 2024: 38	22
	Number of technology descriptions, publications, national plans, and other information resources made available on the CTCN knowledge platform (PMF indicator # 4.1.a)	100 for Third PoW For 2024: ~100	~100
	Number of site visits to CTCN knowledge portal (indicator 4.1.e)	10% increase compared to 2024	257% increase 665K views in the last year, with 317K visits coming from organic search.
	Number of people reached through CTCN social media channels (PMF indicator # 4.1.f)	10% increase compared to 2024	Social Media followers increased by: 62.6% on LinkedIn (from 7006 followers to 11 177 followers) 10.5% on Facebook (from 4218 followers to 4427 followers) followers
	Number of mentions of CTCN in media (PMF indicator # 4.1.g)	30	CTCN was mentioned in the media

			(traditional and online) 1,341 times with total reach of approx. 483m people online. The most popular topics in the last year were: (NDE Forums (SIDS and Asia, AI Forum in Tanzania, job opportunities etc).
Collaboration and stakeholder engagement			
Intended outcome (from PoW): Stakeholders are actively engaged and have strengthened capacity to implement climate action through collaboration			
1.1 Promote collaboration and partnerships in climate technology RD&D activities	Number of partnership and twinning arrangements (new)	5- 10 for Third PoW For 2024: 5	5
1.1 Support policies, institutional and regulatory frameworks and planning processes on innovation and strengthening National Systems of Innovation (NSI)	Number of deliverables produced during the technical assistance) (PMF indicator # 3.1.a)	80-100 for Third PoW For 2024: 174	368
4.1 Strengthen knowledge and engagement in an inclusive manner and facilitate collaboration among relevant international organizations, the private sector, academia, and civil society	Total number of members in the CTC Network (PMF indicator # 3.2.a)	7.8% increase compared to 2023	8% increase compared to 2024
	Number of collaborations with international organizations, private sector, academia, civil society organizations and Network members for the co-development of activities, including trainings, workshops, and knowledge products. (new)	10 – 15 for Third PoW For 2024: 29	15 institutions
	Number of matchmaking events organized (new)	3-5 for Third PoW For 2024: 6	3
Support			
Intended outcome (from PoW): Countries have access to Technical Assistance and financial support to enhance development and transfer of gender responsive technologies			
5.1 Facilitate access	Number of events and trainings co-organized with	3-5 for Third PoW	11

to Financial Mechanism of the UNFCCC and mobilize various types of support including pro- bono and in-kind support	finance institutions including the operating entities of the Financial Mechanism (GEF, GCF), the Adaptation Fund and MDBs (PMF indicator # 5.1.a)	For 2024: 4	
	Percentage increase of funding mobilized from existing bilateral donors and through new donor Parties (revised from PMF indicator # 5.A)	Actual target dollar amount to be calculated based on the endorsed resource mobilization and partnership strategy which reads: At least 20% increase of the baseline over the PoW period. Baseline: 2018-2022 total contribution from bilateral donor: USD 37,503,081	% increase will be calculated at the end of the 5-year period Total contribution from bilateral donors thus far for 2023-2027: 24,686,490 (66% of the total funding that was mobilized for the 2nd PoW period has been mobilized at the beginning of the 4th year of the 3rd PoW period)
	Number of CTCN technical assistance supported by the GEF/GCF/AF (PMF indicator # 5.1.c)	8 – 10 for Third PoW For 2024: 9 (6 AFCIA; 3 GCF Readiness)	10 (9 AFCIA; 1 GCF Readiness)
	Percentage increase in funding mobilized through resources from relevant operating entities of the Financial Mechanism, the Adaptation Fund, and other international financial institutions (new)	Actual dollar amount target to be calculated based on the endorsed resource mobilization and partnership strategy which reads: At least 100%	USD $540,000 in PPF for KCB GEF project

		increase over the PoW period	
	Value of pro bono and in-kind support secured for CTCN activities (PMF indicator # 5.2.a)	Actual donor amount target to be calculated based on the endorsed resource mobilization and partnership strategy which reads: At least10 – 15 % increase over the PoW period	707,931
	Level of donor engagement (disaggregated by bilateral donor Parties, and international financial institutions) (PMF indicator # 5.2.b)	20 donors engaged for Third PoW For 2024: 20	20 (15 bilateral donors; 5 international financial institutions)
	Level of engagement with private sector and philanthropic organizations (new)	Develop partnerships with a minimum of 1 private sector and/or philanthropic organization for Third PoW For 2024: 1	2 partnerships with private sector or philanthropic organizations
	Number of technology proposals developed through CTCN technical assistance anticipated to be supported by the GEF/GCF/AF and other finance entities, including matchmaking (PMF indicator # 5.2.c)	3-5 for Third PoW For 2024: 13	7
	Number of impact stories developed and disseminated widely (new)	4-6 for Third PoW For 2024:	14 news pieces 19 stories

		28	

Annex 1: List of CTCN Technical Assistance Projects Completed in 2025

I. Technical Assistances in Buildings & Resilient Infrastructure

	Colombia			Adaptation, Mitigation			Community based Disaster risk reduction Ecosystems and biodiversity		National Systems of Innovation
Funded by the European Union		Sustainable Cuerval: Strategies for conservation, restoration and monitoring of the mangrove areas of the Cuerval for adaptation and mitigation with a focus on the integration of peace in climate action in Colombia (EC CC&S)						
The technical assistance aims to develop and implement effective restoration and monitoring strategies for the mangrove areas of the Cuerval Community Council (CCdC), ensuring their sustainable development. **Output:** • Work plan and communication documents: A comprehensive work plan and supporting communication materials to guide the restoration and monitoring initiatives. • Coordination mechanism: Establishment of a structured coordination mechanism to streamline collaboration and decision-making among stakeholders. • Mangrove restoration strategy: A tailored restoration strategy for the CCdC mangroves, focusing on the protected area, addressing underlying degradation processes, and promoting ecosystem recovery. • Community monitoring strategy: Design of a community-based MRV (Measurement, Reporting, and Verification) system to ensure the sustainability and effectiveness of restoration actions, fostering long-term environmental and socio-economic benefits. **Expected impact and/or follow-up action:** These strategies will enhance ecosystem services, support local livelihoods, and contribute to climate change mitigation through avoided emissions and sustainable resource management.								

	Georgia			Adaptation			Piloting and deployment of technologies in local conditions	

Building up integrated monitoring and early warning forest fires detection system in the Borjomi - Kharagauli National Park by innovative remote sensing tools
A site-specific fire monitoring policy will allow local populations with high risks of exposure to forest fire hazards to take appropriate actions to avoid or reduce risks and to prepare effective responses will be redacted, and users and administrators of the future system trained to its functionalities. Preservation of forests contributes to the significant reduction of Greenhouse Gas (GHG) removal towards the improvement of the resilience of ecosystems to climate change while minimizing the impact of extreme weather phenomena such as flooding. Therefore, it is very important to develop a system for early detection of wildfires towards protecting the environment contributing to climate change resiliency. **Output:** • To benchmark, select, design and test suitable integrated monitoring and early warning forest fire detection system in Borjomi-Kharagauli National Park. **Expected impact and/or follow-up action:** • The TA enabled better management of the Borjomi-Kharagauli National Park, which is a protected area. This will protect the ecosystems and biodiversity of the National Park. The early warning and integrated monitoring systems will also establish procedures to inform the populations leaving closed by and define an evacuation plan. Finally, it is expected that the early warning system will enable to manage future forest fires more efficiently and avoid the destruction of future forest lands, as well as the emissions of unexpected GHG emissions which result from forest fires.

|Ghana|	**| Adaptation, Mitigation|**	**| Recommendations for law, policy, and regulations |**
Development of Green Building Guidelines and Standards for Ghana		
Ghana's building and construction industry does not meet the sustainability nor the green demand, affecting economic output and long-term development prospects. This technical assistance aims to support the achievement of targets set by the Government of Ghana under various Conventions by developing the Green Building Standards for Ghana, which will ensure an environmentally responsible construction sector and green buildings. **Output:** • This technical assistance seeks to help Ghana in the development of effective green building standards, policy guidelines and Monitoring, Verification and Enforcement (MV&E) frameworks to introduce sustainable building practices nationwide, highlighting the use of local building materials.		

- The focus will be set on: reduced production of greenhouse gas emissions (particularly carbon dioxide); reduced use of natural resources, water, gas and electricity; enhanced usage of local sustainable building materials; reduced waste production and increased recycling; enhanced building occupant health, comfort, and safety; production of renewable resources; a collection of water for potable and non-potable uses; and recycling and treatment of sewage and wastewater.
- The CTCN technical assistance for the development of Ghana's green building guidelines and standards will be funded by the Transforming the Built Environment through Sustainable Materials project, and direct synergies will be established between this activity and the activities undertaken for the development of Ghana's National Buildings and Construction roadmap.

Expected impact and/or follow-up action:

- This Technical Assistance, based on the introduced green building standards and their operationalization, will stimulate Ghana's green building and construction sector and thereby contribute to its NDC targets by significantly reducing energy consumption and GHG emissions.

USD 210,000 from UNEP Global ABC for the green buildings project in Ghana

|Malaysia|	**| Adaptation|**	**|Decision-making tools and/or information provision|**	**Digitalization**

Development of a Multi-Hazard Platform for forecasting local level climate extremes and physical hazards for Iskandar Malaysia

Malaysia has developed national plans to enhance resilience against climate change, but the approach has been largely reactive and focused on structural mitigation measures such as canalization of rivers, raising river embankments and building multi-purpose dams. Better prediction is needed to enable proactive action to be taken.

One of the main barriers to the development of improved models is a lack of contextualized data from detailed local risk assessment, as data acquisition is challenging for various parameters such as terrain, infrastructure, pollution sources, geology, weather history and geological events. The institutional framework to address climate change is also fragmented and requires capacity development at the local level. Furthermore, most models were developed in middle and higher latitudes, while the meteorological and atmospheric conditions in tropical regions can be much more complex. Therefore, local observations need to be incorporated into models to produce localized forecast information. Lastly, coastal zone management in IM requires expertise in big data analytics and capacity building for scenario planning and forecasting climate risks.

Output:

- The project will adapt carefully selected meteorological and hazard models for tropical conditions in IM and integrate them into the Iskandar Malaysia Multi-Hazard Platform (MHP), a common platform, which will be developed using technology similar to the Kuala Lumpur Multi-Hazard Platform.
- The platform will be used by the five local authorities in IM to support the management and communication of risks and strengthen the management of flash floods, landslides, sinkholes, strong winds, urban heat and air pollution in the region, thereby enhancing disaster resilience.

Expected impact and/or follow-up action:

- This city-level forecasting system will provide the impetus for social innovation by facilitating community-level disaster preparedness and empowering special groups to participate in disaster risk reduction. Ultimately, the MHP will support increased emergency planning capacities through heightened awareness of critical events and disasters while protecting vulnerable communities and their livelihoods.
- Additionally, the MHP could support decision-making toward adaptive and holistic coastal zone management via specialist workshops and outreach events to enhance community awareness, and also through the provision of susceptibility maps for coastal hazards and floods. This could also include systematic monitoring and control measures to protect the existing mangrove areas, which have decreased at an alarming rate over the last few decades due to the development of the coastal region, intensified erosion, and the expansion of aquaculture activities.

|Mali|	**| Adaptation |**	**| Disaster risk reduction |**	**Endogenous technologies**

Data-driven approach in flood mitigation: developing real-time mapping of floods in Mali

Climate projections suggest that extreme rainfall (and therefore flooding) in Mali will become more frequent. The list below gives some examples of recent extreme hydro-climatic events in Mali over the past three years: from May to September 2018, more than 3,800 houses were damaged or destroyed, 70 water points were damaged, 1,700 head of livestock perished, more than 10,000 households were affected. In September 2017, over 11,000 people were affected by flooding, mainly in the north of the country, in June at the start of the rainy season (3 cases of death were recorded, over 1,200 houses destroyed, and around 500 others damaged). Pastoral communities were particularly hard hit, with over 26,000 animals lost.

Output:

- Through this technical assistance, the Climate Technology Centre and Network (CTCN) will aim to strengthen the existing early warning system for flood risk in Mali, based on rainfall and water level forecasts, with the help of remote sensing and deep learning. The specific objectives of this technical assistance are as follows:

- Overcome the lack of accurate data for developing hydrological models using deep learning models in a commune in Mali through the use of satellite and Unmanned Aerial Vehicles (UAVs) data;
- Characterization of infrastructure types in at-risk areas;
- Integrate the PGRCI's hydrological models and flood warning system in the selected rural commune;
- Implement a low-cost hazard monitoring technology using microcontrollers connected to a pressure sensor and a GSM card to transmit water levels in the selected area.

Expected impact and/or follow-up action:

- The Technical assistance helped improve the performance of the warning system deployed by the PGRCI, particularly in rural communes, by tackling the four obstacles identified.

|Uganda|	**| Adaptation, Mitigation|**	**|Economics and financial decision-making|**

Technical Assistance Towards the Development of a Project Proposal for the Implementation of Climate Adaptation and Mitigation Technologies to Address Climate Challenges in Specific Sectors Based on Uganda's Technology Needs Assessment Outcomes

Uganda is actively addressing the impacts of climate change, but the challenge of developing bankable project proposals to access climate finance through UNFCCC mechanisms hinders the effective execution of adaptation and mitigation strategies. To promote the implementation of climate technologies in Eastern Uganda, as outlined in the Technology Action Plan (TAP), a project proposal targeting the Green Climate Fund (GCF) is essential. This effort requires close collaboration with key national stakeholders, including the Ministry of Water and Environment, the Ministry of Agriculture, Animal Industry and Fisheries (as the GCF national direct access accredited entity), and local community organizations.

Output:

- The primary objective of this technical assistance was to develop a detailed and fundable project proposal for the Green Climate Fund. This proposal aims to secure the necessary funding to implement climate-resilient technologies in Eastern Uganda, as outlined in the national Technology Action Plan (TAP). The focus is on ensuring the proposal meets funding criteria and effectively supports the deployment of essential technologies to mitigate and adapt to the region's climate change impacts.

Expected impact and/or follow-up action:

- The TA aimed to enhance the capacity of key stakeholders to leverage their expertise in developing suitable and fundable project proposals for the Green Climate Fund (GCF). This will help secure financing for the nationwide deployment of climate technologies. Additionally, the project seeks to deepen stakeholders' understanding of climate technology financing mechanisms under the UNFCCC, thereby facilitating the acquisition of climate finance for future mitigation and adaptation initiatives.

II. Technical Assistances in Business and Industry

|Chile, Dom Rep, Uruguay, Costa Rica |	**| Adaptation, Mitigation|**	**|Decision-making tools and/or information provision|**

Multi-country Circular Economy Finance for MSMEs

The circular economy has been acknowledged as an effective strategy to achieve climate objectives by 11 countries in the Latin America and Caribbean (LAC) region in their NDCs. Of these countries, 4 (Chile, Costa Rica, Dominican Republic, and Uruguay) have a national circular economy strategy or policy. However, these countries do not yet have a standard methodology for estimating the impact of circular economy policies and actions on mitigation or adaptation objectives. In discussions with member countries of the LAC Circular Economy Coalition, a knowledge gap among local and national decision-makers in terms of monitoring and evaluation (M&E) systems in the circularity sector has been noted. The countries have also lamented the lack of knowledge exchange initiatives that would enable best practices to be shared among countries facing similar challenges. It is important to design an M&E system that captures best practices and collects and shares baselines that can feed into national, sub-national, and international reporting on climate change and sustainable development. M&E systems are also important in determining whether or not implemented measures are on track and how they can be improved.

Output:

- The objective of this multi-country assistance is to propose guidelines for establishing systems by which to measure and evaluate the impact of circular economy actions on national climate objectives. Recommendations will be compiled so that each country, based on its own priorities, strategies and actions, as well as the status of its information and reporting systems, can build and/or improve its M&E system of the portfolio of circular initiatives. The assistance will contribute common concepts, a generic matrix of indicators, and good practices for data collection, indicator estimation, updating and analysis.

Expected impact and/or follow-up action:

- The impact of the assistance has been to provide each participating country with technical guidelines with which to consolidate an M&E system for measures aimed at a circular economy, including their impact on climate change mitigation and

adaptation. The M&E system established by each country will enable tracking, monitoring of effectiveness, and identification of possible improvements. This TA also included a gender perspective in identifying indicators of adaptation and resilience to climate change, and in the search for a gender balance in the working group and capacity building activities. In the longer term, effects of the circular economy as a response to climate change will become more visible. Lastly, the TA contributed to the circular economy-related objectives articulated in country NDCs.

| Uganda |	**| Adaptation, Mitigation|**	**|Technology Identification and Prioritization |**

Strengthening Waste Management Policymaking in Uganda in Response to Climate Change (Pro-bono K)

Currently, the only operational landfill in Kampala, Kiteezi, has exceeded its capacity, handling around 1,200 tons of waste daily without proper waste reuse or treatment facilities. The landfill operates using open dumping methods, leading to serious environmental and health risks, including methane gas-related fires, soil contamination, and leachate pollution of nearby rivers.

To address these issues, the Kampala Capital City Authority (KCCA) is planning to develop a new landfill in Dundu and implement solid waste management guidelines based on Uganda's 2017 National Urban Solid Waste Management Policy.

Output:

- The CTCN Technical Assistance will support Uganda in developing national policies for effective waste landfill management while enhancing the capacity of government officials to implement climate-responsive waste management projects. This initiative will provide technical guidance on sustainable landfill operations, waste recycling infrastructure, and greenhouse gas mitigation strategies.

Expected impact and/or follow-up action:

- The impact of the assistance has been to provide each participating country with technical guidelines with which to consolidate an M&E system for measures aimed at a circular economy, including their impact on climate change mitigation and adaptation. The M&E system established by each country will enable tracking, monitoring of effectiveness, and identification of possible improvements. This TA also included a gender perspective in identifying indicators of adaptation and resilience to climate change, and in the search for a gender balance in the working group and capacity building activities. In the longer term, effects of the circular economy as a response to climate change will become more visible. Lastly, the TA contributed to the circular economy-related objectives articulated in country NDCs.

III. Technical Assistances in Energy Systems

| Burkina Faso |	| Adaptation, Mitigation|	| Recommendations for law, policy, and regulations |	Digitalization

Funded by the European Union

Reinforcing the implementation of actions to mitigate and adapt to climate change by developing solar energy systems for off-grid agro-industrial facilities through the establishment of a "Community Solar Platform" (EC CC&S)

Sahelia Solar, a Burkina Faso-based company, specializes in integrating solar photovoltaic systems to harness solar potential, reduce local energy costs, and combat climate change. By promoting solar energy in rural agro-industrial facilities through a "pay-as-you-go" model, Sahelia Solar has launched numerous projects in Burkina Faso. However, challenges in integrating energy for agricultural machinery and identifying specific energy needs have hindered progress.

To address these issues, technical assistance from the CTCN's national entity in Burkina Faso aims to expand technological solutions and payment systems. This includes analyzing payment method challenges, developing a new "pay-as-you-use" system, and recommending improvements for system management.

Output:

- The TA focused on identifying stakeholders, strengthening the institutional framework, and providing support to key players. It also revised the "pay-as-you-go" system and evaluated new payment models. Establishing quality standards and a marketing strategy will improve product reliability and availability, making solar energy more accessible. This will help Sahelia Solar promote renewable energy more effectively and sustainably in Burkina Faso.

Expected impact and/or follow-up action:

- The project aimed to introduce a "Pay As You Use" energy payment system to enhance sustainable energy access in Ouahigouya, addressing technical challenges to improve energy efficiency for households and SMEs through the specific objectives:
- Establish project foundations, including baseline definitions, monitoring indicators, impact and gender analyses, and the implementation schedule.
- Set up the project governance structure.
- Diagnose current payment methods used by Sahelia Solar.
- Propose, implement, and manage a new "Pay As You Use" system.
- Develop a system for project monitoring, optimization, and closure.

| Kenya |	|Mitigation|	|Technology Identification and Prioritization |

Funded by the European Union

Development of a SF6 Phase-out Roadmap and Pilot Projects in Kenya (EC ICS)

SF6-free technologies for medium and high voltage applications are increasingly available, being technically viable and financially competitive. However, SF6-free technologies haven't been adopted in Kenya so far. There is little awareness of SF6's impacts and the existence of alternatives amongst key stakeholders in Kenya. SF6 emissions aren't captured in Kenya's greenhouse gas (GHG) inventories and mitigation plans, baseline data on SF6 are lacking, there are no policies for an SF6 phase-out in place, and important capacities in terms of SF6 management are missing. This is putting Kenya on a trajectory of significantly increasing the electricity grid's carbon footprint.

Output:

- This technical assistance set the enabling environment for the transition to SF6-free technologies and phase-out of SF6 in Kenya. The objective of this technical assistance was to establish the enabling environment for SF6-free technology uptake and the phase-out of SF6 in Kenya.

Expected impact and/or follow-up action:

- Development of implementation planning and periodical reporting documents,
- The establishment of an SF6 inventory and MRV Framework,
- Introduction of safe management of technologies using SF6,
- Evaluation of appropriate SF6-free equipment options,
- Development of a national SF6 phase-out roadmap and policy recommendations, and
- Preparation of SF6-free technology pilots.

| Tanzania |	**|Mitigation|**	**|Endogenous technologies |**

Feasibility Study of Optimal Design Conditions for Biogas Plant for the Improvement of CH4 Capture Efficiency in Tanzania (Pro-bono K)

Output:

- A Technological Feasibility Study for Improving CH4 Collection Efficiency and Responding to Climate Change through Structural Design Improvement of Biogas Plant. Anticipated groups of activities was done
- technical measures were developed to derive optimal operating conditions according to the generous pressure standard. Rural Tanzania residents emit a large amount of CO2, a greenhouse gas that has a significant impact on climate change, because the main heat used at home is Biomass, such as Wood and Charcoal. If CH4 can be replaced with a major firepower through the improved Biogas plant, greenhouse gases generated by Biomass can be reduced, which is expected to have

a significant impact on climate change mitigation. However, since the currently operating Biogas plant is unsustainable due to low-efficiency CH4 collection technology, it is necessary to create an environment so that residents can not use Biomass again through improved technical assistance for the Biogas plant

Expected impact and/or follow-up action:

- CH4 emission monitoring report in Biogas plant through technical support
- Estimation of Greenhouse Gas Reduction by Using Existing Biomass by Using CH4 5
- Proposal of Technical Support for the Efficient Operation of Gas Pipeline
- Structural Improvement Design Report of Biogas Plant for Sludge Removal
- Improved Biogas Plant Survey Results Report by Collecting Residents' Opinions

| Timor-Leste |	**|Mitigation|**	**|Technology Identification and Prioritization |**	**Digitalization**

Formulating a National Electricity Grid Code and the Definition of a Net Metering Policy in Timor-Leste

Timor-Leste has a high potential for solar energy, particularly along the coastline with an estimated solar resource of up to 5.5-6 kWh/sq.m per day. As distributed generation grows, grid code requirements for DERs become increasingly important to ensure grid stability.
Solar resource assessments can gauge the potential volume of solar capacity that could be motivated through a net metering programme but typically needs highly resolved geographical information system (GIS) data on topography and land-use availability, solar resource data, and light detection and ranging (LiDAR) which can be used for mapping rooftop availability.

Output:

- Through this technical assistance, the Climate Technology Centre and Network aimed to provide Timor-Leste with insights on solar resources, including expected capacity factors across the country, and trained the government entities on how to use these data to further refine resource potential through the:
- Development of implementation planning and communication documents.
- Examine solar resource data for Timor Leste to provide insights into the renewable energy potential for the country.
- Report detailing the solar resource potential insights for Timor Leste and providing capacity factors across the country for different solar configurations.
- Develop a net metering policy for Timor Leste and calculate the payback period for solar projects under different scenarios.
- Develop one GCF Concept Note for a full-scale project and In-person workshop and project wrap-up – Compiling training and final deliverables.
- Develop the grid code, examining elements of IEEE 2800 and IEEE 1547-2018 that may help safely integrate inverter-based resources.

- Grid Code for DERs and IBRs in Timor Leste - Assessment of Current Grid Codes and Character of Service in Timor Leste.
- Grid Code for DERs and IBRs in Timor Leste - Examination of Grid Support Functions from Inverter Based and Distributed Energy Resources.
- Report on Grid Code for DERs and IBRs in Timor Leste.

Expected impact and/or follow-up action:

- With this TA, the CTCN assessed the potential volume of solar capacity that can be generated through a net metering programme, and examined the capacity factors across the island for different solar PV configurations.

IV. Technical Assistances in Sustainable Mobility

| Tanzania |	**|Mitigation|**	**| Recommendations for law, policy, and regulations |**	**National System of Innnovation**

Developing a national framework for deploying and scaling up E-Mobility in Tanzania

Tanzania is largely dependent on imported fossil and unrefined biomass fuels for economic and transport activities. The country's primary mode of transport is motor vehicles, which create emissions. Due to its rapid urbanization and increasing individual motorization, traffic congestion and air pollution have increased alongside GHG emissions. Dar es Salaam is ranked as the third fastest growing city in Africa, where public transport depends on a large fleet of privately-owned minibuses that are often not well maintained to keep on the road. Electric mobility has been recognized as a viable and attractive option that can create jobs, reduce energy imports, and spur green growth. In line with its National Transport Policy, which envisions improving the transport sector's efficiency, cost-effectiveness, accessibility and environmental degradation, Tanzania is seeking technical assistance for the development of an e-mobility program and implementation framework. The country has implemented policies and strategies to promote renewable energy technologies in various sectors of the economy. However, there has been no specific initiative or effort directly targeting e-mobility, nor any accompanying standards, guidelines, or regulations.

Output:

- Through this TA, a national e-mobility program and implementation framework was developed. Activities included a benchmark analysis of international policy, national market readiness and cost assessment for uptake of e-mobility, the development of

a technology roadmap, suitable investment plans, a detailed feasibility study for the selected interventions, and capacity development activities for relevant stakeholders. Financing models were identified and a GCF concept note was prepared to seek financing for the purpose of technology development, piloting, and transfer.

Expected impact and/or follow-up action:

- Transportation networks are a fundamental element of infrastructure and will improve access to essential resources for rural and vulnerable populations. The transition to more efficient transport technologies presents an opportunity to increase women's participation and to provide them with socioeconomic opportunities in new business models. The transition will also reduce the detrimental public health implications of using motorized transport equipment. The technical assistance is aligned with Tanzania's Nationally Determined Contribution, which aims at promoting the use of renewable energy in transportation systems.

V. Technical Assistances in Water-Energy-Food Nexus

| Bahamas |	**|Mitigation|**	**| Decision-making tools and/or information provision |**	**National System of Innovation**

Developing a national framework for the standardization of stalls and procedures for a climate smart street side vendor in the Bahamas

There is a consensus of the growing problem with street and roadside vendors in The Bahamas. Vendors are selling their goods without the necessary permits and breaching Covid-19 orders. The government of The Bahamas is taking steps to bring street vendors into the formal economy, with the development of enabling policies and fostering agriculture production. Currently, 90% of the food is imported in The Bahamas and there is an urgent need to become more self-sufficient.
The overall objective of the technical assistance was to build resilience in the agricultural sector to improve food distribution, and to an extent, improve food security.

Output:

- Support the organization of the informal sector of the economy into a more formalized sector, by developing a framework and feasibility study to implement standardization of stalls and a sustainable program for the establishment of open green market spaces for street side vendors.

Expected impact and/or follow-up action:

- This technical assistance seeks solutions for hazard risks to the island of New Providence from climate change events, advocates for the introduction of green spaces to increase liveability and proposes innovative mechanisms for storage of

produce and goods. This innovative new concept will be accompanied by a policy that will lead the vendors towards these open green spaces, so they will no longer be on the streets. Resilience will increase as a result, having a great impact on the livelihood of the people in The Bahamas, namely on the island of New Providence.

https://www.ctc-n.org/resources/afcia-fact-sheet-bahamas

Cameroon	**Adaptation**	**Community-based**

Funded by the European Union

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 CC&S)

Cameroon's National Development Strategy 2020-2030 aims to boost agricultural production, focusing on increasing yields, particularly on family farms. The country faces challenges from prolonged drought and rising temperatures.
Synecoculture, an environmentally-friendly farming technique from Japan, minimizes chemical inputs and promotes biodiversity while enhancing food production and environmental resilience. In response to climate challenges, Cameroon's updated Nationally Determined Contribution prioritizes promoting climate-smart agriculture.

Output:

- CTCN suppored a project to pilot synecoculture in Cameroon's northern region, specifically in the communes of Garoua 2 and Figuil (Mayo-Louti). This initiative aimed to enhance food security, improve nutritional profiles, soil quality, profitability, climate adaptation, and field biodiversity.
- Knowledge exchange is pivotal, focusing on sharing insights with stakeholders in similar environments across Cameroon facing analogous challenges. The project also included inviting two environmental experts from other African countries to participate in three-week visits to Cameroon, fostering collaborative learning and regional cooperation.

Expected impact and/or follow-up action:

- This TA aimed to enhance agricultural productivity by introducing synecoculture techniques tailored for subsistence farmers in the context of a hotter, drier climate. The TA objectives were:

- Capacity building for 500 individuals, primarily youth with 70% women, in synecoculture techniques to build resilience to climate change in Garoua 2 and Figuil (Mayo-Louti).
- Addressing identified community needs.
- Documenting quantitative data on the benefits of synecoculture compared to conventional farming, including irrigation efficiency, agricultural yields, soil health, and biodiversity, with the establishment of a monitoring and evaluation system.

| Central African Republic |	**|Adaptation, Mitigation|**	**| Community-based |**

Funded by the European Union

Production of affordable solar cookers in the deforestation-threatened Bangui region of the Central African Republic (EC CC&S)

Addressing deforestation, forest degradation, and the health impacts of biomass cooking is a priority of the Central African Republic. This issue is reflected in national planning documents, such as the updated Nationally Determined Contributions (NDC) and the National Adaptation Plan (NAP), which promote the use of improved cookstoves. However, despite the national emphasis on these issues, deforestation in CAR has continued at a steady pace.

Output:

- Increasing access to clean cooking technologies in CAR will help mitigate greenhouse gas emissions caused by traditional cooking methods. Additionally, CTCN support will promote climate change adaptation by enhancing the resilience of CAR's population, leading to improved health and well-being.
- By leveraging the expertise of the CTCN and its network, the Central African Republic's Ministry of the Environment and Sustainable Development will collaborate with the private sector to produce a prototype solar cooker. This initiative will reduce the risks associated with establishing manufacturing capacity and, through a small pilot project distributing subsidized solar stoves, ensure that user feedback, local food preferences, and contextual factors are integrated into the solar stove manufacturing process.

Expected impact and/or follow-up action:

- Establish an understanding of the opportunities and challenges associated with increasing the use of renewable solar energy for cooking in CAR and to develop the capacity for local manufacturing of solar cookers to reduce dependence on wood, charcoal, and other biomass for cooking.
- Specifically, the objectives include evaluating culturally appropriate solar cooking technologies for use in CAR, developing local manufacturing capacity for the selected technologies, implementing a pilot project in Bangui to understand the impacts and usage patterns of solar cooking appliances, and contributing to a plan to expand the production and use of solar cooking technologies across CAR.

Chad	**Adaptation**	**Community-based**

Funded by the European Union

Rehabilitation of wells in the commune of Liwa, capital of LIWA (Lake region), using solar-powered pumps and drawing up a guide to good practice for the consumption of this water, depending on the end use (drinking water, agriculture, livestock, sanitary in Chad
(EC CC&S)

Access to drinking water in Chad remains critically low. As of 2020, only 47% of the population had basic water services, with significant disparities between rural and urban areas. The lack of infrastructure and reliable data further exacerbates inequalities, disproportionately affecting women and children. In rural regions, communities often rely on unsafe water sources such as ponds and hand-dug wells, while high costs limit access to clean water in towns. Poor sanitation conditions contribute to the spread of diseases like hepatitis, typhus, and cholera.

Output:
The project aimed to bolster institutional and human capacities essential for advancing climate technologies. This initiative focused on enhancing capabilities critical for fostering climate resilience and sustainable development in the region through the outcome:

- Developed planning and communication documents.
- Established a governance framework to mobilize stakeholders effectively.
- Conducted an in-depth diagnosis of water management methods.
- Proposed and pilot a conceptual model for a new management system.
- Implemented mechanisms for project monitoring, optimization, and closure.
-

Expected impact and/or follow-up action:

- The goal was to rehabilitate existing wells by installing solar pumps and implementing innovative payment solutions.
- One specific initiative targeted the municipality of Liwa in the Lake District. This project aimed to manage surplus water through transit reservoirs, alleviating water scarcity for both residents and livestock, and addressed the severe impacts of climate change in the region.

Haiti	**Adaptation**	**Community-based**

Funded by the European Union

Technical Assistance to identify and prepare a system of payments for ecosystem services, in order to manage and protect their watersheds in Haiti (EC CC&S)

Due to its relief, climate, and insularity, Haiti benefits from a varied ecology and diversified natural resources; however, this biological diversity of the country's different ecosystems is rapidly disappearing. Similarly, the country has more than 30 watersheds that play an important role in the development of the agricultural sector (22% of the national GDP), as well as in the availability of drinking water and water for personal hygiene, laundry, livestock, etc. However, about 85% of these watersheds are heavily degraded or in the process of degradation, causing frequent floods, accelerated erosion of the soil's top layer, depletion or disappearance of the basic factors of agricultural production, with harmful effects on downstream production infrastructure. The main factors leading to this watershed degradation are the overexploitation of natural ecosystems due to agricultural practices.

Erosive farming, the demand for firewood to operate bakeries, laundries, for cooking, as well as the overexploitation of timber, sand mines, and rocks intended for construction, which increasingly grows with population growth. Since the beginning of the 20th century, the exploitation of natural ecosystems has reduced forest cover in ecosystems from 60% to 4%, causing severe degradation in 25 of the 30 watersheds in the country. Faced with this alarming situation, the protection and integrated management of watersheds constitutes one of the Haitian Government's major priorities. In 2014, the National System of Protected Areas (SNAP), led by the National Agency for Protected Areas (ANAP), was created by the government to preserve the country's natural heritage. In the Nationally Determined Contributions (NDCs), Haiti prioritized the 'Development of related initiatives payment for ecosystem services in watersheds" as an adaptation measure, arising from the National Adaptation Plan of Action (NAPA).

Ecosystem services refer to the various benefits that come from the natural environment, such as the provision of food for humans and animals, water, and wood (provisioning services); the regulation of air quality, climate, and flood risks (regulating services); opportunities for recreation, tourism, and education (cultural services); and essential underlying functions such as soil formation and nutrient cycling (supporting services); not to mention carbon (CO2) storage in a context where climate change continues to intensify. Payments for ecosystem services (PES) are systems in which the beneficiaries or users of ecosystem services provide compensation to the managers.

It is in this context that the government of Haiti requested technical assistance for the identification and preparation of a payment system for ecosystem services, in order to address challenges related to the management and protection of watersheds.

	Jamaica|	|Adaptation|		Decision-making tools and/or information provision		National System of Innovation

Enhancing multi-scalar mapping and research on food security risk due to the impacts of climate change on rural and urban environments in Jamaica

According to Jamaica's Food and Nutrition Security Policy, the island counts with low food production and high dependency on imported food, putting approximately 12.8% (400,000) of Jamaica's population in food insecurity. As a Small Island Developing State (SIDS), Jamaica is also vulnerable to the negative impacts associated with climate change. This may result in the loss of agricultural lands due to direct erosion, temporal flooding and contamination of the agricultural soil via salination, hence impacting livelihoods, production and economic output. The situation has been further compounded by the Covid-19 pandemic.

While the agricultural producing parishes across the island are well known, significant knowledge and technology gaps still remain. Policy makers as well as sector stakeholders have so far been unable to identify the food insecure regions across the island in relation to climate change. Knowledge on the spatial distribution of current and future food security risks across the island that ranges from the community scale to the parish level is therefore pivotal.

Output:

- Through the technical assistance, the CTCN supported Jamaica to increase its adaptive capacity and resiliency of the agriculture sector. Key questions of how changing climate conditions align with food scarcity and food prices were answered.

- The development of a technological tool/software application with support with a visual representation of food security risk and the spatial vulnerability of food insecure areas across the island to provide decision-makers with a holistic assessment of vulnerability to food insecurity and clarify areas or hot spots needed to be targeted for intervention strategies.

Expected impact and/or follow-up action:

- The expected impact is to contribute to more food system resiliency that anticipates risks and withstands economic and environmental shocks, therefore improving human development in Jamaica. The objective is to crystalize in a detailed manner food insecure or vulnerable communities across the island, the reasons for food insecurity and vulnerability as well as prognostics and potential solutions to improve their situations. Another expected outcome is to close significant knowledge and technology gaps to address current and future food security risks across rural and urban environments. By developing a baseline survey, Jamaica can shed light on the determinants and consequences of food insecurity within the context of climate change. The CTCN's technical assistance is expected to provide an opportunity to

generate country-wide data in a disaggregated format to capture the gendered nuances of food insecurity under changing climatic conditions.

| Malawi |	**|Adaptation|**	**| Decision-making tools and/or information provision |**	**National Systems of Innovation**

Using simple mobile technologies to scale up digital collection & processing of climate observations for adaptation actions in Malawi (AFCIA 1)

Malawi's Department for Climate Change and Meteorological Services (DCCMS) and Department for Water Resources (DWR) are looking for technical solutions to reactivate & expand many of its 700+ rainfall, and weather and water resources monitoring stations (surface and groundwater, including land-water processes such as sedimentation). The department argues that it is "one of the challenges the department is encountering in assessing, forecasting weather and developing climate futures for adaptation purposes" (DCCMS, 2020). Building adaptation to climate risks in Malawi depends on strengthening DCCMS with the capacity to use new additional technologies – thereby elevating its role in society with greater capacities to provide climate information services. This can be supported by providing technical assistance with training and with testing and rolling out the use of improved low-tech mobile and cloud technologies for comprehensive collections of daily observed records for application in impact modelling and adaptation.

Output:

- Diagnosis and prefeasibility of using simple mobile technologies as a solution to comprehensively collect and digitize weather and climate observations for application in impact modelling and developing climate futures for purposes of adaptation and disaster risk management
- Piloting the use of mobile phone technologies as a solution to comprehensively collect and digitize weather and climate observations
- Designing a financial mechanism that would make this technology concept sustainable in the context of Malawi
- Train future users, administrators and beneficiaries of the system

The Implementing Partner of the Malawi TA, Water in Sight Ltd, contributed USD 51,500 in-kind to ensure sustainability of the website that was set up.

Mali		Adaptation		Recommendations for law, policy, and regulations		National System of Innovation

Pilot project for the sustainable management of wood resources through the promotion of solar cookers and solar energy for the operation of electric cookers in a context of climate change

Mali's energy production is deficient, with low access to modern services, especially in rural areas. Despite this, Mali has substantial solar energy potential. Solar cookers can reduce CO2 emissions, save energy, and ease women's workloads, providing a sustainable solution.

Output:

- CTCN's support aims to enhance the adaptive capacities of rural and urban populations in Mali, particularly focusing on women's effective participation, to bolster resilience against climate change. This support seeks to reduce reliance on biomass for cooking by promoting the development, production, and dissemination of energy-efficient, clean, and affordable cooking technologies.

Expected impact and/or follow-up action:

- Transportation networks are a fundamental element of infrastructure and will improve access to essential resources for rural and vulnerable populations. The transition to more efficient transport technologies presents an opportunity to increase women's participation and to provide them with socioeconomic opportunities in new business models. The transition will also reduce the detrimental public health implications of using motorized transport equipment. The technical assistance is aligned with Tanzania's Nationally Determined Contribution, which aims at promoting the use of renewable energy in transportation systems.

Mozambique		Adaptation, Mitigation		Technology Identification and Prioritization		Digitalization

Implementation of Water-Food-Energy nexus using digital technologies for local communities in Mozambique
(AFCIA 1)

An estimated 80% of producers in the Central region of Mozambique, specifically in the Zambezi Valley, use motor pumps in the irrigation process, which significantly contributes to water pollution through the spillage of oils, lubricants and fuel. The use of fuels fossil (charcoal and firewood) contributes to air pollution, as does the reliance upon inorganic fertilizers. There is a lack of capacity and technical knowledge for the dissemination and adoption of sustainable technologies due to the absence of a local budget for the management and implementation of climate resilience programs and a sustainable mechanism for the continuity of post-financing projects, as well as lacking interinstitutional coordination and access to basic information on the technology diffusion process that underpins decision-making.

Output:

- The objective of this TA is to develop a fit for purpose system for one selected farm in the Zambezi Valley that includes aquaponic, biodigester, bio composting, and hydraulic management systems (including water storage and solar pumping integrated systems for drip irrigation). The assistance diagnosed the needs of local farmers and benchmarked international best practices and developed a complete flowchart of the system including the collection and pumping of the water through the photovoltaic system, the use of integrated reservoirs for fish production coupled with horticulture (aquaponics), the generation of compost, and the generation of biogas and biofertilizers as well as organic food for the selected farm. The cost of the fit-for-purpose system was estimated, and finally, training materials and workshops were developed.

Expected impact and/or follow-up action:

- The system reduced GHG emissions through the use of biogas and clean energy, reduced the use of inorganic fertilizers, developed efficient irrigation systems, increased food and nutrition security, and supported income generation.
- It is expected that additional funding will be leveraged to test and pilot the system in a second location and to scale it up to other locations in the Zambezi and throughout the country.

| Nigeria |	**|Adaption|**	**| Recommendations for law, policy, and regulations |**	**National System of Innnovation**
Funded by the European Union	Empowering communities of Kaduna State, located in the North-west Nigeria with sustainable agricultural practices (Em-Hydro) (EC CC&S)		

In Northern Nigeria, including Kaduna State, aridity, drought, and desertification disproportionately affect communities reliant on rain-fed agriculture. These environmental crises have triggered inter-communal conflicts between traditional farmers and nomadic herders due to scarce land and water resources. This has heightened violence from armed groups, including Boko Haram, bandits, and herdsmen. Kaduna State is identified as a conflict-affected and high-risk area under EU regulation 2017/821.
Highlighting the severity of the food security crisis, a recent report from the Food and Agriculture Organization of the United Nations indicates that 25.3 million Nigerians face acute food insecurity. Consequently, the National Council on Climate Change declared a state of emergency on July 14, 2023, regarding the nation's food security.

Output:
Piloting a small-scale solar-powered hydroponics system is a strategic solution aimed at addressing the interrelated challenges of climate change, insecurity, and food security in the region through the specific objectives of this technical assistance initiative as follows:
Pilot sustainable hydroponics systems powered by solar PV in the target community for demonstration and training.
Provide farmers with secure livelihood options to mitigate risks like kidnappings and reduce conflicts.
Train community members to construct, operate, and maintain hydroponics systems, reducing reliance on external agricultural services.
Develop tailored solutions to address the community's specific challenges and needs.
Increase crop yields through hydroponics adoption to enhance food security in project areas.
Integrate hydroponics with traditional farming methods to foster resilience against climate change impacts.

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| Sudan |	**|Adaptation, Mitigation|**	**|Technology identification and prioritization|**	**Endogenous technologies**
Funded by the European Union	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 under EC Climate Change & Security Programme (EC CC&S)		

In 2013, Sudan conducted a Technology Needs Assessment (TNA) focusing on adaptation and mitigation, identifying agriculture and water sectors as priorities. This assessment resulted in a Technology Action Plan (TAP). The proposed project aligns with Sudan's commitments under its Intended Nationally Determined Contributions (INDCs) from 2015 and its first Nationally Determined Contribution (NDC) from 2022, specifically targeting Integrated Water Resources Management (IWRM), water harvesting, and establishing revolving funds to support small-scale water projects.
Addressing these barriers is critical to improving Sudan's resilience to water challenges and achieving sustainable development goals amidst ongoing conflicts and climate pressures.

Output:

- This technical assistance assessed current rainwater harvesting technologies in Sudan, evaluated their effectiveness, proposed alternative technologies through a comprehensive database, piloted a selected technology (where feasible), and trained relevant stakeholders. This included government officials, researchers, engineers, technicians, farmers, and community members, to enhance existing practices and adopt new technologies.

Expected impact and/or follow-up action:

The TA provided the following support:

- Conducted assessments of existing water harvesting technologies and practices in Sudan.
- Assessed capacity needs and identified gaps in knowledge and skills related to water harvesting.
- Diagnosed the effectiveness and suitability of different water harvesting techniques in Sudan's diverse climatic conditions.
- Identified appropriate and innovative water harvesting technologies suitable for the Sudanese context and summarized this information into a catalogue or database.
- Facilitating the transfer of these technologies to local stakeholders through training programs, workshops, and demonstrations.
- Provided technical support for the installation, operation, and maintenance of one innovative water harvesting systems.

| Suriname |	**|Adaptation|**	**| Sectoral roadmaps and strategies|**	**National System of Innovation**
ADAPTATION FUND Climate Innovation Accelerator	Enhance the resilience of Suriname´s water supply system by modelling drought risks and developing a roadmap of prioritized alternatives for aquifer recharge		

The 2011 Suriname Water Supply Master Plan has flagged clear indications of saline intrusion in the northern stations of the Greater Paramaribo area, specifically in A Sand and Coesewijne. It was found that the available groundwater yield in this area is currently estimated at 12,500m3/h for the next 15 years. However, beyond this timeframe, the yield is anticipated to significantly decrease due to salinity increase resulting from extensive exploitation of the A-Sand and Coesewijne aquifers, which are confined and not replenished with fresh water. This trend indicates a long-term risk of salinity intrusion constraining water yield in various fields.

Output:

The primary objective of this TA was to pinpoint areas most vulnerable to droughts and subsequent water variability and shortages through drought risk assessment and mapping. Subsequently, this data was utilized to manage aquifer recharge (MAR) strategically, aiming to bolster water supply during dry spells and drought conditions by intentionally replenishing aquifers in regions facing the highest drought risk. This TA:

- Assessed drought risk and water resources in Suriname;
- Issued risk maps through Geographical Information Systems (GIS) software to identify the areas most at risk of droughts;
- Mapped aquifers suitable for recharge;
- Designed a fully integrated system that will enable Suriname to recharge its aquifer in times of drought in a sustainable, clean, and safe manner;
- Trained national officers in the use of the drought prevention model, and the designed system to manage the water resources in the aquifer in times of drought;

Expected impact and/or follow-up action:

- Mapped Stakeholders and establish a stakeholder working group;
- Assessed drought risk in Suriname and generate GIS risk maps;
- Designed a fully integrated system that will enable Suriname to recharge its aquifer in times of drought in a sustainable, clean, and safe manner;
- Benchmarked technologies for groundwater recharge, identification of the suitable technologies in the context of Suriname, including the prioritization and selection of the suitable technologies.

| Thailand |	**|Adaptation|**	**| Feasibility of technology options|**	**Digitalization**
ADAPTATION FUND Climate Innovation Accelerator	The opportunities of Blockchain Technology for a real-time climate risk insurance system in Thailand's agricultural sector		

Crop insurance is one of the key measures used to assist farmers in organizing their financial and production costs in the event of a disaster. Although several crop insurance products are existing on the Thai market, yet seem to be inaccessible to a large number of farmers due to multiple reasons such as lack of transparency, high transaction costs, slow indemnity payments, etc.

Output:

- This TA developed a technical and economic feasibility study for using blockchain technology for an improved parametric crop insurance product. Using blockchain technology has the potential to reduce transaction costs and automatize transparent indemnity payments, thus making crop insurance more attractive and accessible to farmers whilst remaining economically viable for insurance providers.
- Beyond the feasibility study, an implementation roadmap will support the national stakeholders in developing, testing, and implementing such a blockchain-based product beyond this technical assistance.
- The ultimate goal is to increase the resilience of Thai farmers to climate-induced extreme weather events.

Expected impact and/or follow-up action:

- By introducing blockchain-based parametric crop insurance, this TA will solve the existing challenges, such as high transaction costs, unclear terms and policies, and long indemnity payment times.
- Furthermore, a co-contribution of this technical assistance will be an enhanced capacity of understanding and application of blockchain technology of key stakeholders for potential projects beyond this technical assistance.

| Zambia |	**|Adaptation|**	**| Decision-making tools and/or information provision |**	**Digitalization**
ADAPTATION FUND Climate Innovation Accelerator	Aquifer mapping for technologies for Zambia		

Aquifer mapping would provide an accurate and comprehensive micro-level picture of groundwater in Zambia and enable the development of a robust groundwater management plan that will provide drinking water security, improved irrigation facilities and sustainable development of water resources in rural and peri-ubran areas. The Department for Water Resources and Development (DWRD) Groundwater Division staff have some level of understanding of the aquifer mapping; however, the department does not have the most recent technology for operational forecasts and systems. The specific barriers to be addressed include a lack of modern equipment and data analysis tools and lacking expertise in aquifer identification and mapping, inadequate financial resources to support exploratory drilling, limited capacity to assess technological options, and lack of skilled personnel.

Capacity development, knowledge and technical assistance are needed to develop aquifer management plans.

Output:

- The transfer of tools and methods for assessing the latest aquifer mapping and making the information available for long-term decision processes through the use of robust decision methods, thereby supporting climate resilient decision-making benefitting the water sector;
- Enhancement of skills and competencies within DWRD focusing on the use of advanced technology for data collection, processing, modelling and forecasting;
- A prolonged review and support phase in which partners continue to play a marginal role after the project's completion to support long-term sustainability.

Expected impact and/or follow-up action:

- Improved decision making through access to improved aquifer mapping information tools and technologies;
- Strengthening of staff skill sets and modelling capacity to assess the impact of climate change on groundwater resources;
- New technological products and decision support systems to manage groundwater resources efficiently;
- Framework for the assessment of resiliency of groundwater to climate change and evidence-based guidance on assessing how groundwater can support adaptation and build resilience to climate change;
- Possible support to neighbouring countries via South-South Cooperation through the sharing of information and knowledge in formal and informal forums;
- Advancement of Zambia's NDC to encourage and promote actions and projects that increase the availability of water in the context of climate change;
- Participation of women and girls in project activities, such as setting up and managing the Information Management System IMS, designing and carrying out groundwater and other field surveys/assessments;
- Participation of female experts in the project ICT and data components and gender-balanced participation in expert meetings, advanced and community-based training sessions; and
- Promotion of the recognition of (ground) water related work and services performed by women as an essential element of climate-resilient water supply and use systems.

| Zimbabwe |	**|Adaptation|**	**| Recommendations for law, policy, and regulations |**	**National System of Innnovation**
Funded by the European Union	Piloting of a reliable solar powered drying facility for mopane worms in the Gwanda rural District of Zimbabwe		

A recent study revealed that 66.7% of surveyed households in Zimbabwe participate in the mopane worm value chain, often engaging in multiple stages. Traditionally, mopane worms are dried using firewood, but this method is becoming unsustainable due to firewood shortages. Firewood accounts for 49% of the total energy used in Zimbabwe, with over 90% of rural and urban households relying on it due to frequent power outages. This growing demand, rapid land use changes, and deforestation have significantly reduced the firewood supply.
Efficient solar dryers are essential to ensure a high-quality and consistent food supply for growing populations. Solar dryers made from inexpensive, locally available materials are the best alternative, as they improve food quality and quantity while reducing postharvest losses.

Output:

- CTCN support for this pilot project focuses on establishing a solar-powered drying facility for mopane worms. This includes providing technical expertise and training to local farmers on constructing, operating, and maintaining renewable energy systems. The initiative aims to customize adaptation solutions that address the community's specific challenges, enhancing food security through sustainable practices and empowering residents with the skills needed for long-term resilience and self-sufficiency.

Expected impact and/or follow-up action:

- The technical assistance aims to pilot a solar-powered drying facility for mopane worms in Gwanda Rural District, Zimbabwe, with outcomes including:
- Establishment of a functional solar-powered drying facility.
- Capacity-building for local farmers in construction, operation, and maintenance of renewable energy drying systems.
- Customized adaptation solutions for community-specific needs.
- Improved food security through solar drying adoption.

A. Technical Assistance: Technology Needs Assessments

|Cote d'Ivoire|	**| Mitigation, Adaptation |**	**| Technology identification and prioritization |**	**|National Systems of Innovation|**
GREEN CLIMATE FUND	Technology Needs Assessment (TNA) and Technology Action Plan (TAP) for Cote D'Ivoire's NDC implementation		
Cote D'Ivoire plans to conduct its Technology Needs Assessment (TNA) with a Technology Action Plan (TAP), in view of the implementation of its Nationally Determined Contribution (NDC). Technology transfer will have impact toward reducing vulnerability of the population hence increased resilience to climate change and well as steering the country towards a low carbon development path.			

CTCN support:

To develop a TNA to identify and prioritize technology transfer and diffusion for climate change mitigation and adaptation in key sectors in Cote D'Ivoire.

Expected Impact:
This work will enable Cote D'Ivoire to organise its process for establishing a technology needs assessment, contribute directly to ongoing country programming process, establish a coordination mechanism and thereby aid the prioritization of actions and sectors that can be used by the government to develop its pipeline of projects to be submitted to the Green Climate Fund.
The anticipated outcomes are envisioned to present strategies for a long-term, participatory transformational measures across the identified and prioritised sectors that will drive climate resilient and low carbon growth. A key outcome also involves strengthening country capacity.