Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AC</td>
<td>Adaptation Committee</td>
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<td>AGN</td>
<td>African Group of Negotiators</td>
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<td>CODES</td>
<td>Coalition for Digital Environmental Sustainability</td>
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<tr>
<td>CMA</td>
<td>Conference of the Parties serving as the meeting of the Parties to the Paris Agreement</td>
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<td>COP</td>
<td>Conference of the Parties</td>
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<td>CTC</td>
<td>Climate Technology Centre</td>
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<td>CTCN</td>
<td>Climate Technology Centre and Network</td>
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<td>GCF</td>
<td>Green Climate Fund</td>
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<td>GEF</td>
<td>Global Environment Facility</td>
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<td>IPO</td>
<td>Indigenous Peoples Organisations</td>
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<td>IsDB</td>
<td>Islamic Development Bank</td>
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<td>LCIPP</td>
<td>Local Communities and Indigenous Peoples Platform</td>
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<td>MENA</td>
<td>Middle East and North Africa</td>
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<td>NAP</td>
<td>national adaptation plan</td>
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<td>NDA</td>
<td>national designated authority</td>
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<td>NDC</td>
<td>nationally determined contribution</td>
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<td>NDE</td>
<td>national designated entity</td>
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<td>OTEC</td>
<td>ocean thermal energy conversion</td>
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<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<td>PCCB</td>
<td>Paris Committee on Capacity Building</td>
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<tr>
<td>PALO</td>
<td>Partnership &amp; Liaison Office</td>
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<td>PSP</td>
<td>Poznan strategic programme on technology transfer</td>
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<td>PoW</td>
<td>programme of work</td>
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<td>PPF</td>
<td>Project preparation facility</td>
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<td>SB</td>
<td>sessions of the subsidiary bodies</td>
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<td>TA</td>
<td>technical assistance</td>
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<td>TEC</td>
<td>Technology Executive Committee</td>
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<td>TNA</td>
<td>technology needs assessment</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNEA</td>
<td>United Nations Environment Assembly</td>
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<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
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<td>WGC</td>
<td>Women and Gender Constituency</td>
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<td>YOUNGO</td>
<td>Children and Youth Constituency</td>
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I. Report on the activities and performance of the Climate Technology Centre and Network in 2022

A. Advisory Board meetings and membership

1. At the 19th Advisory Board meeting\(^1\), held in a hybrid format on 28-30 March 2022, the Board elected Mr. Omedi Moses Jura (Kenya) as its new Chair, and Mr. Erwin Rose (USA) as its Vice-Chair. The Board thanked Ms. Moa Forstorp (Sweden) for her service as previous Chair.

2. Following the COP26 decision\(^2\) on the review of the CTCN Advisory Board constitution, the Board welcomed one additional Annex I Party representative, Mr. Stephanos Minas (Greece); one additional non-Annex I Party representative, Mr. Fred Onduri (Uganda); as well as three additional UNFCCC observer organization constituency representatives: Ms. Anne Barre (Women and Gender Constituency), Mr. Handaine Mohamed (Indigenous Peoples Organisation), and Ms. Honourine Tambe (Children and Youth Constituency).

3. In addition, the following members were elected or replaced members who completed their term: Mr. Pedro Borges (Venezuela), Mr. Nicolas Galudec (European Union), Mr. Christian Lohberger (Papua New Guinea), Mr. Ichiro Sato (Japan), and Mr. Jacek Trzosowski (Poland). Mr. Ambrosio Yobanolo Del Real (Chile) and Mr. Stig Svenningsen (Norway) joined the Advisory Board as the recently elected TEC Chair and Vice Chair, respectively.

4. At its 19th meeting, the Advisory Board discussed key results from the implementation of CTCN 2021 activities and endorsed the CTCN’S 2021 Financial Statement. In view of the development of the CTCN’s third Programme of Work (PoW) (2023-2027), the Secretariat shared updates on the proposed timeline and development methodology.

5. Six intersessional taskforce meetings were held to discuss outcomes from COP26, resource mobilisation efforts, the 19th Advisory Board meeting, and the development of the CTCN’s third PoW.

6. The 20th Advisory Board meeting\(^3\) took place from 9-14 September 2022, where it [PLACEHOLDER for outcomes from 20th AB meeting]

B. Activities of the Climate Technology Centre and Network

7. Following a COP26 decision\(^4\), the memorandum of understanding between the Conference of the Parties and the UN Environment Programme regarding the hosting of the CTC was renewed for a further five-year period.

8. Following this decision, the CTCN initiated the development of its third Programme of Work (2023-2027). The PoW is aligned to the Technology Framework\(^5\) of the Paris Agreement and follows a country-driven approach. [PLACEHOLDER for outcomes from 20th AB meeting]

9. The approach to developing the third PoW (2023-2027) was highly consultative and inclusive in nature, incorporating consultations with key stakeholders including Advisory Board members, National Designated Entities,

\(^1\)https://www.ctc-n.org/calendar/events/19th-ctcn-advisory-board-meeting-presentations-and-recordings


\(^3\)https://www.ctc-n.org/calendar/events/20th-ctcn-advisory-board-meeting-be-held-9-14-september-2022

\(^4\)https://unfccc.int/sites/default/files/resource/cop26_auv_9d_CTCN_review.pdf, para 9

\(^5\)https://unfccc.int/sites/default/files/resource/cp24_auv_cop_4_TF.pdf
Network Members, and UNFCCC Constituencies and Constituted Bodies, among several others.\(^6\) The consultations engaged 138 participants from 60 countries.

10. The CTCN’s next 5 years (2023-2027) foresee a suite of activities contributing to the development, strengthening, and enhancement of countries’ capabilities to take effective climate action in the context of the Paris Agreement and its Technology Framework.

11. For the 3\(^{rd}\) PoW, the CTCN will maintain a country demand driven approach, as well as its alignment with the Technology Framework, while acknowledging [PLACEHOLDER for PoW details] resulting in more effective delivery on the goals of the Technology Framework.

12. To support the implementation of the new PoW, the CTCN developed a Resource Mobilization and Partnership Strategy.

13. The CTCN 2023 Annual Operating Plans, guided by the Programme of Work, set targets on an annual basis in line with resources available to support the CTCN’s operations.

14. With support from the Republic of Korea, the CTCN successfully launched a Partnership and Liaison Office in Songdo. The new Office will support the CTCN’s implementation work as guided by the Technology Framework by enhancing linkages between the Technology Mechanism and the Financial Mechanism and strengthening existing efforts on innovation and collaborative research, development, and demonstration through North-South, South-South and triangular collaboration.\(^7\)

15. The official launch of the Partnership and Liaison Office took place on 21 July 2022. In attendance for the official launch event were the Minister of the Korean Science and ICT Ministry (MSIT), the Deputy Minister of Foreign Affairs and Korea’s Climate Ambassador, the Mayor of Incheon Metropolitan City, the Chair of G77 and China, ambassadors, Korean government officials, representatives of the Korean Development Bank, World Bank, Green Technology Centre, and several UN agency officials.

16. The CTCN expresses its sincere appreciation for the financial and substantive support provided by Parties, and the active engagement of the Advisory Board members, NDEs, and Network members in 2022 to implement the following activities in the five thematic areas of the Technology Framework.

b. Innovation

17. The Youth Climate Innovation Labs continued in Latin America, concluding with a Demo Day in November 2021. Over 500 applications were received for the Labs, 86 attendees were selected from 16 Latin American countries, and 24 mentors engaged with 19 final teams.

18. The Middle East and North Africa Climate Innovation Lab took place in September, while the Academy is set to take place later in 2022. [PLACEHOLDER to update or save this item for 2023 JAR]

19. The CTCN and UNDP jointly produced the Africa Innovates II magazine “Climate Champions: 50 Homegrown African Innovations Tackling Climate Change”\(^8\), which showcases innovation from across Africa to fight climate change. The publication was presented at the UNFCCC 56\(^{th}\) Session of the Subsidiary Bodies at a meeting of the African Group of Negotiators.

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\(^6\) Primary consultees included: Advisory Board members; Adaptation Fund, Constituencies including IPO, RINGO, WGC, YOUNGO; Green Climate Fund; Groups such as the Africa Group of Negotiators, G77 and China, LDC Group, and Alliance of Small Island States; NDEs from both Annex I and Non-Annex I countries; selected country governments; Standing Committee on Finance; TEC Chair & Vice-Chair; and UNFCCC Secretariat representatives.


20. In 2020, the CTCN was selected to manage the Adaptation Fund’s 5 million USD Climate Innovation Accelerator programme. Since its launch in 2020, over 200 requests were received from more than 60 countries in response to the first 2 calls for proposals. Eleven projects were selected for implementation starting in 2022. The third and final call for applications was launched and will close 30 September 2022. The CTCN is co-funding 5 additional adaptation projects.

21. A webinar was held in June to share lessons learned from the first two AFCIA calls. Key lessons learned highlight the continued need to support developing countries in articulating their adaptation technology demands. A combination of adaptation and mitigation technologies should be encouraged where applications are cross-sectoral in nature to generate transformative impact.

22. In 2021, the CTCN initiated capacity building activities on “Emerging Digital Technologies for Climate Policy Implementation” focusing on blockchain technology, together with Network member Blockchain and Climate Institute (BCI), with the objective of building knowledge among NDEs and the climate policy community in developing countries on blockchain technology. An online course was delivered to 74 NDEs in September-October 2021. 57% were from Africa, 29% from Latin America and 14% from Asia-Pacific. 31 participants provided detailed post-course feedback.

23. Following the online course limited to NDEs, 6 webinars delivered in November 2021-January 2022 were accessible to the public. Overall, the webinars attracted 1346 registered participants.

24. The CTCN hosted an event at the 7th Multi-stakeholder Forum on Science, Technology, and Innovation for the Sustainable Development Goals in May, providing an overview of the benefits of digitalization for SDGs and climate action, and showcasing experiences in developing countries. The CTCN technical assistance cases reflected the growing role of digital systems in sectors like agriculture.

25. In Mali, for example, the CTCN supported the creation of an application with Mali-meteo to address lacking weather data for specific crops and information in local languages. In Eswatini, the CTCN supported strengthening capacity in the application of UAV and remote sensing technologies for climate resilience.

26. The CTCN produced two academic journal publications addressing innovation in the journal Sustainability. The first, Digitalization to Achieve Technology Innovation in Climate Technology Transfer 9, explored digitalization as an innovative tool to address climate change. A second, New Strategy for Innovative RD&D in View of Stakeholder Interaction during Climate Technology Transfer 10, reviewed three elements of innovation (technology, market, and regulation) in CTCN RD&D activities and proposed new strategies.

27. In August 2022, the CTCN participated in the US-Korea Conference 2022: Science and Technology in the Wake of the Pandemic, providing an overview of the CTCN’s achievements and lessons learned on innovation. The CTCN also met with Korean Delegates from the Ministry of Science and ICT to discuss Korean support and the new Songdo office launch.

28. The CTCN was invited by the Massachusetts Institute of Technology (MIT) to serve as a Challenge Leader in the MIT Solve Climate: Ecosystems and Housing Challenge. 11 The challenge selects eight innovative technology-based solutions supporting communities with either natural ecosystems or low-carbon homes at scale.

29. Several technical assistance cases have provided innovative solutions. For example, the CTCN has supported Indonesia on its e-mobility transition in Jakarta since 2020. In March 2022, a high-level ceremonial event introduced Jakarta’s

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9 https://www.mdpi.com/2071-1050/14/1/63
10 https://www.mdpi.com/2071-1050/14/14/8363
commitment to electrify public transportation fleets, during which the CTCN formally presented the electrification roadmap for 2030, developed as a result of the technical assistance, to the Jakarta Transportation Agency.

b. Implementation

30. In 2022, the CTCN continued supporting the development of institutional capacities to identify, disseminate and develop analytical tools, policies, and best practices to facilitate the uptake of environmentally sound climate technologies through the implementation of technical assistance.

31. As of [14 July 2022], the CTCN received a total of 360 requests for technical assistance from 109 developing country Parties, including 15 multi-country requests and 35 fast technical assistances (FTA). Approximately half (155) of the requests received have been completed, while 73 are currently under implementation, 90 are in the response plan design phase, and 42 are under review. Between October 2021 and [July 2022], the CTCN received 33 new requests for technical assistance. Comoros, Morocco, and Seychelles submitted their first requests to the CTCN this year.

Figure 1. Status of responses to requests for technical assistance from the Climate Technology Centre and Network (2014-2022)

32. Figure 2 shows the distribution of the type of technical assistance requested. Requests for decision-making or information tools (25 per cent) are received most frequently, followed by requests for technology feasibility studies (21 per cent) and technology identification and prioritization (15 per cent).

Figure 2. Requests for technical assistance from the Climate Technology Centre and Network, by type of assistance (2014-2022)
33. Figure 3 indicates the regional distribution of technical assistance demand: 44% of requests originate from Africa, 32% from Asia-Pacific, 23% from Latin America and the Caribbean, and 1% from Europe. Requests from Least Developed Countries (LDCs) represent 33% of all technical assistance requests, while Small Island Developing States (SIDS) represent 14%.

Figure 3. Requests for technical assistance from the Climate Technology Centre and Network, by region and subregion (2014-2022)

34. Key trends emerging from recent requests for assistance by region are as follows:

In the Pacific, demand has increased for renewable energy, energy efficiency, and low-carbon transport. In Asia, there was an increase in adaptation and cross-sectoral requests, green hydrogen with carbon capture, OTEC, and e-mobility. Support is needed on decision support systems, cross-cutting technologies addressing energy-water-food security, improved early warning systems, sustainable urban planning,
feasibility studies, e-mobility and green hydrogen roadmaps, and policy/regulatory support on energy efficiency in buildings/appliances.

35. In Africa, requests for circular economy and solar PV support in the context of energy-water-food have increased. Continued support is needed on cross-cutting technologies addressing the energy-water-food security nexus, e-mobility regulations and incentives, and TNAs.

36. In Latin America and the Caribbean, requests have focused on adaptation and cross-cutting technologies (circular economy, TNAs and TAPs), and mitigation technologies for e-mobility and renewable energy. Adaptation requests cover a diversity of tools addressing risk management for food security, water management, coastal zone management, nature-based solutions, and adaptation monitoring.

1. Mitigation and adaptation action

37. Figure 4 provides a breakdown of CTCN technical assistance requests since its inception (2014-2022) according to climate change objective. 12 45% of requests support mitigation goals, 29% adaptation goals 13, and 26% support a combination of adaptation and mitigation goals. The largest categories for mitigation requests relate to energy efficiency, renewable energy, agriculture, and waste management while the largest adaptation categories are water, agriculture and forestry, and early warning and environmental assessment.

38. The focus of TA requests has shifted in recent years. Mitigation requests are decreasing, adaptation requests are increasing, and cross-sectoral requests have increased during the last 2 years. 14

Figure 4. Requests for technical assistance from the Climate Technology Centre and Network, by objective (2014-2022)

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12 See https://www.ctc-n.org/technical-assistance/request-visualizations.
13 This percentage only reflects Requests that were implemented but the number of requests is much higher with demand having been stimulated by the AFCIA project.
14 The increase in adaptation requests is as a result of the AFCIA project.
39. The CTCN online technical assistance dashboard provides data visualizations of its technical assistance portfolio.\(^{15}\)

2. Multi-country and programmatic implementation

40. The CTCN continued to replicate its multi-country and programmatic approaches in implementing technical assistance activities.

41. Multi-country projects promote capacity building, analysis and research at a regional level that permeate direct support at country level but also present several efficiency gains such as lower transactional costs and harmonization of policies and regulations across a region.

42. The CTCN’s multi-country technical assistance across 15 countries in Africa to assess the bio-energy potential from sustainable sources included a component specifically to identify market opportunities for the private sector in order to bypass the exploitation of traditional biomass.

43. The CTCN programmatic approach uses a common framework of activities based on a theme or focus area adapted to different national circumstances, and can be used across a subregion, region, or continents. Larger scale funding and multiple implementing partners and twinning/partnership arrangements are employed. There is large potential for harmonization of policies and market consolidation, enhanced stakeholder engagement, scalable impacts, and North-South and South-South collaboration.

44. The programmatic approach has been tested for 4 distinct themes: minimum energy performance standards (MEPS) for transformers and refrigerators (USD 2.8 million; 9 countries); TNAs (USD 4 million; 13 countries); circular economy roadmaps (USD 3 million; 20 countries); and e-mobility (USD 1.5 million; 7 countries).

c. Technology Needs Assessments and Nationally Determined Contributions

45. In the reporting period, the CTCN is supporting the implementation of 11TNAs/TAPs using countries' GCF readiness funding allocations. In Gabon, technical assistance supported the development of its first TNA and TAP, and the

\(^{15}\) See [https://www.ctc-n.org/technical-assistance/request-visualizations](https://www.ctc-n.org/technical-assistance/request-visualizations).
formulation of coordination mechanisms to govern the TNA process in order to better coordinate national climate action. The technical assistance is guiding Gabon in developing its climate finance pipeline, and bolstering technologies, enabling environment and investments to achieve its NDC and increase future ambition.

46. All recently approved GCF TNA readiness proposals include the formulation of at least one GCF Concept Note based on the project ideas identified in the TAP and aligned with revised NDCs. For example, Côte d’Ivoire will benefit from a climate technology innovation system aligned with the cross-cutting measures in its revised NDC.

47. At COP26, the CTCN collaborated with a Network member, the University of Michigan School of Environment and Sustainability (SEAS), to present a demonstration of an online tool depicting technology priorities cited in NDCs and TNAs using data visualization and analytics.

48. The CTCN shared its experience supporting countries in accessing technical assistance for the TNA process during a side event at SB5616 which aimed to enhance understanding of the synergies between TNAs and NDCs, highlight countries’ experiences, and discuss TNA funding opportunities.

d. Gender mainstreaming

49. Guided by its Gender Policy and Action Plan (2019-2022)17, the CTCN builds on existing efforts to implement gender mainstreaming in all activities and operations. For technical assistance projects completed this year, funding has been used to hire gender experts to conduct gender analyses.

50. In Nauru, the recently concluded Ocean Energy Technical Pre-Feasibility Study included a gender analysis of the introduction of ocean energy technology, which revealed the extent of gender responsive consideration in technology acquisition and utilization.

c. Enabling environment and capacity-building

1. Facilitating endogenous and gender-responsive technologies for mitigation and adaptation actions

51. Since 2018, the CTCN has collaborated with the UNFCCC Women and Gender Constituency (WGC) to provide capacity development and mentoring support to Gender-Just Climate Solutions Awards programme winners.

52. 157 applications were received following the 2021 global call for applications and three winners were selected. Winners received a small grant, travel to attend the COP27 Awards Ceremony and a 2-day capacity-building workshop, and access to a year-long mentoring programme led by the CTCN.

53. A Gender-Just Climate Solutions publication 18 was developed and disseminated in English, French and Spanish providing information on the winning solutions and several finalist solutions (a total of 22). The report was launched during the Gender-Just Climate Solutions awards ceremony at COP26 (also livestreamed). 800 people viewed the event.

54. Three Gender-Just Climate Technologies workshops were held in Asia-Pacific, Anglophone Africa, Francophone Africa, and LAC. 16 awardees participated in a training-of-trainers session hosted by WECF with the support of the CTCN.

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55. The 7th edition of the Gender Just Climate Solutions Award was launched in June 2022\(^1\). The CTCN will participate in the jury to select new awardees at COP27.

56. In Mozambique, CTCN technical assistance will introduce solar systems into rural communities for agricultural activities and involve women in the value chain of a business model called “Pay as you irrigate.” Its objective is ensuring that rural farmers can afford the crop field irrigation systems that contribute to offsetting the water deficit imposed by climate change and aims to support women in particular.

2. **Assisting countries in developing and implementing policies for enabling environments to incentivize the private and public sector to fully realize the development and transfer of climate technologies.**

57. Several requests for technical assistance seek CTCN support to provide policy, legal and regulatory guidance to create enabling environments for the private and public sectors with respect to the development and transfer of climate technologies.

58. In Africa, several circular economy initiatives have benefited from CTCN technical assistance targeting the enabling environment. Côte d’Ivoire benefited from an effective CE roadmap. Zimbabwe requested CTCN assistance to develop a coherent national strategy. In Kenya, the CTCN supported the development of an action plan outlining recommendations for extended producer responsibility policies, the inclusion of the informal sector, and digital platforms to connect households, collectors, and recycling facilities.

3. **Fostering private sector involvement in climate technologies**

59. The CTCN increasingly attracts private sector Network members with technology solutions, services, and knowledge to combat specific climate challenges. Approximately 52% of Network members represent private sector organizations and over Q1-2 of 2022, 71% of newly joined members came from the private sector. The figure below shows the range of Network expertise. The largest group of members specialises in renewable energy (57%), and energy efficiency (50%), followed by water (38%), infrastructure and urban planning (35%) and agriculture (35%). Figure x shows the growth of the Network by type of organization from 2014-2021.

**Figure x. New Network members by type of organization (2014-2021)**

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Following two workshops on private sector contributions to climate change adaptation last year, the CTCN joined the January 2022 workshops in Indonesia and Thailand, organized by Japan, Indonesia, and Thailand. The workshops stressed the need for adaptation technologies, imperative for funding, and importance of collaboration between national focal points.

The CTCN, in partnership with The Energy and Resources Institute (TERI) and the GTC, organized a 4-day South-South Knowledge Exchange Programme on low emission transportation in Delhi for NDEs and their representatives in Africa, Asia and the Pacific. 10 NDEs participated.

4. **Facilitating information-sharing on technology development and transfer**

The CTCN web portal is one of the largest online sources of climate technology information in the world and can be viewed in six UN languages. Visitors can access climate technology case studies, descriptions, national planning documents, publications, tools, and webinars. The most visited web pages included the AFCIA page, technology descriptions, and technical assistance descriptions.

Among the top 50 countries who spend the most time on www.ctc-n.org, 98% are developing and 46% are LDCs. Africa represents 54% of the users spending the most time on the site, followed by Asia-Pacific and Latin America & the Caribbean at 22% each.

5. **Enhancing public awareness on climate technology development and transfer**

The CTCN earned 345 million media impressions and appeared 974 times in the national and global press (double the previous year). Twenty e-newsletters provided updates on technical assistance, learning opportunities, and events to over 22,500 subscribers, together with daily posts on Facebook (3,535 followers) and Twitter (4,437 followers).

The CTCN was invited to share knowledge on the development and transfer of climate technologies at several global events throughout the year, including the Ellen MacArthur Foundation Summit on circular economies; the World Maritime University international seminar on “The role of green technologies and capacity building in maritime decarbonisation;” the UN Multi-stakeholder Forum on Science, Technology and Innovation for SDGs Goals on the “Key role of digital technologies in developing countries to enhance climate action;” and the UN ESCAP “Strategic
Priorities for Adoption of Emerging Technologies in the Energy Sector for Climate Change Mitigation.”

6. Enhancing the capacities of climate technology stakeholders

66. The CTCN provides information, training, and support to build and strengthen the capacity of developing countries on technology development and deployment. As part of this effort, the CTCN supports the development of analytical tools, policies, and best practices through NDE training, webinars and in-person workshops.

67. The CTCN organised webinars on a variety of technology sectors, often in partnership with Network members, which attracted over 1,200 people across 135 countries. For example, one webinar showcased the experience of Antigua and Barbuda in developing a decision-support tool for Multilateral Environmental Agreements, while another presented Jamaica’s multidisciplinary research and technological development agenda.

d. Collaboration and stakeholder engagement

1. Engagement with NDEs

68. NDEs are essential for the implementation of the CTCN Programme of Work. Continuously building the capacity of NDEs and national stakeholders to strengthen skills to develop and monitor technical assistance requests is essential to the CTCN’s work and mandate.

69. To support NDEs, the CTCN organizes regional forums that bring together diverse stakeholders as part of the UNFCCC Regional Climate Weeks. These open forums are followed by closed sessions with NDEs from the region. The 2022 LAC NDE forum was held between 18-22 July in Santo Domingo, followed by the Africa NDE forum held from 28 August-31 August in Libreville.

70. As the main beneficiaries of the CTCN are the developing country Parties, including NDEs, 6 regional workshops were organised to gather insight from NDEs toward the development of the third PoW. 72 NDEs attended. Figure 3 presents a synthesis of these regional workshops that ascertained their views on the most important topics and challenges.21

Figure 3: Synthesis of Regional NDE workshops, most dominant themes (by region)

Figure 4 presents a synthesis of the dominant challenges facing NDEs at a global level. In parentheses are the total numbers of NDEs raising this theme throughout all workshops.

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21 The numbers reflect how many individual NDEs raised this theme throughout individual regional workshops.
1. Approximately 30 NDEs attended a meeting organized by the CTCN and TEC on the margins of SB56 to share progress on their respective work plans/programmes of work, to seek further input into these plans, and to ask questions and share country priorities.

2. Enhanced engagement with Network members, including the private sector

72. In the last year, the CTCN welcomed 88 new Network members (of which 12 were from developing countries), bringing the total number to 742.

73. Private sector organizations represent half of members (53%), followed by research and academic institutions (18%) and non-governmental organizations (11%). 53% of Network members represent non-Annex 1 country Parties, while 47% represent Annex 1 country Parties. Their largest service areas are policy and planning (78%), knowledge management and capacity building (70%), technology transfer and development (50%), collaboration in innovation (42%), and investments (34%).

74. 41.7% of technical assistance cases were implemented by Network members and 8 webinars, consultations, and trainings co-organised by the CTCN and Network members, attracting over 850 participants.

75. Following the official launch of the Songdo office, a networking event for Korean Network members was hosted by the CTCN and GTC to encourage Network members to showcase, adapt and improve their technology solutions. The first session explored challenges and lessons learned about scale-up following the completion of Korean pro bono technical assistance cases, while session two focused on co-creation and matched “future champions” with experts who provided technical feedback on solutions.

3. Gender-responsive engagement

76. The CTCN strives to generate greater awareness of the important relationship between gender, climate change and technology among the broader climate change community. A dedicated gender and technology library can be accessed on the CTCN website to find gender-related publications, partners, CTCN technical assistance, technologies, and other information.

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22 [https://www.ctc-n.org/technology-sectors/gender](https://www.ctc-n.org/technology-sectors/gender)
77. The CTCN engages with the WGC as an Advisory Board member on the Gender-Just Climate Solutions programme and in seeking the overall representation of women throughout CTCN activities.

78. The CTCN Director contributed to the UNDP newsletter Gendered Voices. The edition “Women in technology, Seychelles” provides insights into the experiences of five Seychellois women working in different spheres of technology.23

79. In partnership with the TEC and WGC, the CTCN worked to develop a Global Roster of Experts to enhance women’s leadership and gender expertise in climate change technologies.

4. Collaboration with youth

80. The CTCN has increasingly engaged young people with the joint goals of offering technology services to youth and providing a platform for sharing their insights and experience in climate change technologies. The CTCN collaborates with the UNFCCC youth constituency and the CTCN Advisory Board welcomed a YOUNGO representative this year following the COP 26 decision to include the constituency in the AB. The CTCN is working with the YOUNGO representative to develop a programme of work to support capacity building for youth.

81. The CTCN co-organized two COP26 side events with YOUNGO: “The role of youth in Climate Technology,” and “Being part of the solution – Youth Engagement in Climate Technology.” Both events utilised interactive debates on the importance of youth engagement in climate processes and as innovators, researchers, and climate tech entrepreneurs.

82. As part of CTCN-YOUNGO collaboration, the CTCN hosted two Youth Knowledge Specialists for a four-month period to support the Centre’s work on youth, gender, and indigenous peoples’ engagement with climate technologies.

83. The Mexican COP 26 delegation and the CTCN Youth Knowledge Exchange Programme jointly organized a webinar series in February-March entitled “Climate Technology and the potential of youth” with the objective of making climate technology more tangible to youth and engaging the Spanish speaking community in Mexico and Latin America. A total of 333 youth registered for the webinars.

5. Engagement of Indigenous People and Local Communities

84. Following the COP26 decision on the review of the constitution of the Advisory Board, the Board welcomed a new member representing the IPO constituency group of the UNFCCC.

85. The CTCN held an in-person meeting with the Local Communities and Indigenous Peoples Platform co-chair, while the AB Chair participated in an event of the Indigenous People at COP26. A virtual meeting was held to explore possible collaboration on enhancing indigenous technologies for climate action. The CTCN also participated in the Informal Briefing for Partners to share its work and mandates.

6. Collaboration with other stakeholders

86. The CTCN expanded UNDP collaboration on technical assistance implementation. In addition to the ongoing work in Togo, the CTCN is in advanced stages of finalising joint implementation of technical assistance in Seychelles and Tanzania. The CTCN also collaborated with the UNDP country office in Gabon to organize the CTCN Regional NDE Forum for Africa.

87. The CTCN is supporting the five Central Asian countries of Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan to establish a regional climate technology centre to enable the countries to undertake a common approach to addressing their climate change challenges.

88. The CTCN has been requested by the Office of the Under-Secretary-General, UN Department of Operational Support to provide support to the UN Mission in South Sudan and UN Stabilization Mission in the Democratic Republic of Congo to identify feasible, scalable energy technologies that can be implemented through public-private partnerships for longer term sustainability beyond the life of the UN missions.

89. The CTCN participated in the MENA Climate Week 2022 through the co-organization of a side event with the Islamic Development Bank entitled “Promoting South-South Cooperation in Climate Action to advance implementation of Nationally Determined Contributions.” The IsDB and the CTCN shared their experiences through the IsDB’s Reverse Linkages Programme, technical assistance, and use of peer-to-peer learning and endogenous capacity-building.

90. The CTCN participates regularly as an observer at Adaptation Committee meetings. Following discussions held at the 20th and 21st AC meetings, the CTCN collaborated on two technical papers.25,26

91. The CTCN participated in an event to promote the Paris Committee on Capacity-building Toolkit, providing perspectives on tools and methodologies used to assess capacity-building in the CTCN, as well as challenges linked to effectively assessing capacity needs and gaps.

92. The CTCN presented at the OECD-PCCB Network Workshop, sharing success as an implementing partner of the GCF in accessing climate finance across a range of sectors (e.g. tourism, water and sanitation, renewable energy) and countries (e.g. Eswatini, Sudan, Seychelles, Tunisia, Mozambique).

93. In March 2022, the CTCN participated in a UNEA 5.2 side event hosted by the Coalition for Digital Environmental Sustainability (CODES) initiative which is part of the Secretary-General’s Roadmap on Digital Cooperation.

e. Support

1. Enhancing the collaboration of the Technology Mechanism with the Financial Mechanism for enhanced support for technology development and transfer

94. Countries are increasingly seeking CTCN support through technical assistance utilizing their GCF Readiness and Preparatory Support Programme allocation. Two additional Readiness proposals for TNAs and associated action plans (by Côte d’Ivoire and Paraguay) were approved by the GCF in this reporting period, alongside a TNA/TAP for Chile under CTCN regular technical assistance. 30 GCF readiness proposals implemented by the CTCN have been approved to date, totaling almost 10 million USD. Several technical assistance cases have included the development of a concept note for further financing as a direct deliverable of the project. Most are intended for GCF full scale implementation.

95. As part of the CTCN - GEF Challenge Programme for Adaptation Innovation, representatives of the three participating countries - Antigua and Barbuda, Lao PDR, and Mozambique met to discuss the project and define their roles, as well as those of the project partners.

96. The CTCN Director gave a keynote interview, “Marrying climate finance with climate tech,” for the Economist’s Sustainability Week US series, in which she addressed climate change tech and innovation, speaking about promising technologies and ways in which government might incentivize investment.

2) Enhancing the mobilization of pro bono and in-kind support

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24https://unfccc.int/MENA-CW2022
25https://unfccc.int/sites/default/files/resource/ac21_7e_technologies_0.pdf
26https://unfccc.int/sites/default/files/resource/2022_ac_navigating.pdf
The CTCN continues its efforts to mobilize pro bono and in-kind contributions, in order to support programme implementation. 300,000 USD was secured in pro-bono support in 2022, including support received from the Republic of Korea and from Japan’s Ministry of Environment (MOE). Furthermore, with co-funding of USD 250,000 from UNDP Togo, the CTCN is supporting the government to develop a conceptual framework for climate smart communes.

5) Facilitating access to financing through technical assistance

The CTCN includes specific deliverables in TA work plans aimed at equipping stakeholders with the skills and resources needed to mobilise finance from the GCF and other financing entities in order to further implement the results of the assistance. Since 2018, the CTCN’s Vision-to-Concept capacity building module has supported skill building efforts in preparing these GCF concept notes.

In Mozambique, the CTCN is helping identify the most appropriate rainwater harvesting system by assessing effectiveness and providing a cost-benefit analysis, and a concept paper that can be used for funding proposals. Similarly, in Eswatini, the CTCN is providing technical assistance to promote solar energy in irrigation systems for emerging commercial small-scale cane growers by undertaking a feasibility study and preparing a funding proposal.

3) Developing and/or enhancing a system for monitoring and evaluation and tracking of actions

2022 marks the Centre’s fourth year of operationalization of the Technology Framework and the third year of implementation of the updated monitoring and evaluation system. Impact data was recorded for all completed capacity building and technical assistance activities through aggregated output, outcome, and impact indicators.

The CTCN publishes all core documents related to its technical assistance projects (including requests, response plans and project deliverables) on its website, as well Advisory Board reporting.

The 2022 NDE Survey recorded a 30.8% response rate, with a total of 53 responses received out of 172 surveys successfully sent. 41 out of 42 respondents were non-Annex I countries. Figure 5 presents the breakdown of responses by region.

66% of NDE respondents who had received technical assistance support confirmed that recommendations from this assistance had been further implemented or utilized to enhance technology development and transfer to establish long-term climate policies or technology roadmaps. Over 50% of respondents believed that the medium-term outcome of technical assistance would significantly contribute to ‘enhancement of environmental protection and environmental safeguards.’ Regarding scale-up, 59% considered it ‘very likely’ for mitigation support, with 55% acknowledging that it made a clear contribution to their NDCs, while 64% considered scale-up ‘likely’ for adaptation.

Figure 5. NDE Survey responses by region
C. Organizational structure of the Climate Technology Centre and Network

a. Climate Technology Centre

104. COP18 mandated that UNEP shall select and appoint a small core staff to support the CTC in an effective and efficient manner, to be managed by the Director of the Centre.\(^{27}\) The CTCN Director, Ms. Rose Mwebaza, provides direction and strategy in the implementation of the Centre’s approved programme of work. She is supported by a small team of professional and administrative staff, together with technical experts. The secretariat has now been augmented with the establishment of the PALO in Songdo, Korea, in July 2022.

Figure 6. 2022 CTCN Organigram.

b. Climate Technology Network

105. In order to deliver timely mitigation and adaptation assistance to requesting countries, the CTCN leverages the expertise of a global Network of 744 civil society, finance, private sector, and research institutions from 101 countries in the global South and North to provide customized technology solutions.

\(^{27}\) Decision 14/CP.18, annex I, paragraph 9.
c. National designated entities

106. The CTCN’s work would not be possible without the NDEs, who serve as Technology Mechanism focal points nominated by their country and who manage CTCN services at the national level. 161 countries have nominated NDEs to date.

d. Update from the United Nations Environment Programme

107. Following the COP26 decision, the memorandum of understanding between the Conference of the Parties and the UN Environment Programme regarding the hosting of the Climate Technology Centre was renewed for a further five-year period.

108. Following the completion of the UNFCCC’s second independent review of the CTCN in August 2021, UNEP provided a management response, the findings of which (including the recommendations regarding enhancing the performance of the CTCN) were submitted for consideration by COP26.

109. The UNFCCC launched the first Periodic Assessment of the effectiveness and adequacy of the support provided to the Technology Mechanism in supporting the implementation of the Paris Agreement on matters relating to technology development and transfer. The findings of the review, including the recommendations provided to both the TEC and the CTCN, will be submitted for consideration by COP27.

110. The findings of the first Periodic Assessment made several recommendations pertaining to the CTCN briefly mentioned below.

111. The report encourages the TEC and the CTC to identify areas of work to be prioritized when developing their future work plan, as per the guidance given by the Technology Framework and the findings of the Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

112. It also encourages the TEC and CTCN to co-create and disseminate knowledge products.

113. The report also recalled that COP 18 called on parties in a position to do so to support the CTCN by providing financial and other resources. Therefore, parties should be encouraged to contribute to the CTCN Trust Fund to enable it to deliver on its mandate under Article 10 of the Paris Agreement and in the delivery of the third programme of work (2023-2027).

e. Funding

114. COP 18 decided that the CTC and the implementation of services by the Network should be funded from various sources, including the Financial Mechanism, philanthropic, and private sector sources, and by financial and in-kind contributions. Parties in a position to do so were invited to support the CTCN by providing financial and other resources.

115. Since its inception, the CTCN has secured 99,444,855 USD in financial contributions. As of 15 August 2022, the CTCN received a cash income of USD 7,569,433 in 2022. The breakdown is presented in the table below.

<table>
<thead>
<tr>
<th>Cash receipts for the Climate Technology Centre and Network in 2022</th>
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<tbody>
<tr>
<td><strong>Donor</strong></td>
</tr>
<tr>
<td>Republic of Korea</td>
</tr>
<tr>
<td><em>Adaptation Fund</em></td>
</tr>
<tr>
<td>Denmark</td>
</tr>
</tbody>
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28Decision 14/CP.18, annex I, paras. 22–23.
30Decision 2/CP.17, para. 141.
116. The CTCN carried over approximately 25 million USD into 2022. CTCN’s approved annual operating budget for 2022 is just over 10 million USD and its projected expenditure for 2022 is 11.4 million USD. The projected fund balance of the CTCN at the end of 2022 is approximately 15.5 million USD. The projected fund balance includes carry-over of 7.2 million USD, and pending cash receipts of 3.2 million USD in 2023, 3 million USD in 2024, and 2.1 million in 2025 against previous year commitments.

117. 10.4 million USD is projected in 2023. However, the challenge is of flexibility in allocation of funds, as only 31% of the funds are unearmarked. Therefore, apart from the projected income of approximately 6.3 million USD from Republic of Korea during 2023-2025 and 2 million USD from Adaptation fund in 2023-24, CTCN do not have any further Secured income.

D. Action taken in response to the 2021 independent review of the Climate Technology Centre and Network

118. Since the first independent review of the CTCN was conducted in 2017, the Centre has consistently endeavoured to incorporate the recommendations entailed therein. A second review was concluded in 2021. Most recently, the following areas have been acted upon.

1) Resource Mobilization

119. The CTCN, via its host UNEP, has continued to partner with the GCF under the GCF Readiness and Preparatory Support Programme through provision of services and expertise in response to requests utilising GCF country resources. During the 33rd Board meeting of the GCF, the Board approved the reaccreditation and upgrade to accreditation of UNEP to the medium-sized projects category with project budgets of up USD 250 Million. This new reaccreditation by UNEP will enable CTCN to work within the COP guidance to utilise the PPF to implement larger scale projects.

120. A donor roundtable was convened by the CTCN and its host institutions during COP26, under the auspices of the governments of Denmark and the United Kingdom, to renew and strengthen the Centre’s sustained funding. Several nations, including Canada, Germany, Japan, the Republic of Korea, Spain, and the United States announced funding commitments to support the CTCN. The European Union, the largest donor to the CTCN since its inception, also announced its intention to further support the CTCN.

2) Technical assistance efficiency and impact

121. The Centre’s alignment of services with a more regional focus has enabled the CTCN to identify regional technology demand trends more effectively; and NDEs have gained a dedicated team for discussing needs and accessing services. As a result, the quality and efficiency of technical assistance requests and their implementation have seen significant improvement.
122. With the CTCN technical assistance process firmly in place, the CTC will build on initial efforts to demonstrate more thoroughly the long-term impacts of its services.

3) Reinforcing Network member involvement

123. The CTCN has continued to strengthen its engagement with Network members. As an example, the CTCN website was improved to better communicate opportunities for procurement, events, and workshops for Network members31.

124. In addition, efforts have been made to improve the on-boarding process for new members and attract potential members in key deficit areas (i.e., hard technology holders, start-ups, financial institutions, etc). For example, introductory calls are organised to elaborate the service offering of the CTCN and explore potential areas of collaboration. The CTCN partnered with other regional and thematic initiatives such as Global Cement and Concrete Association, AIM4Climate, and South-South Galaxy to fully garner synergies with the Network. Furthermore, a digital network application form was launched to streamline the process and guide prospective applicants through applications.

125. The CTCN also incorporates requests from Network members into its long-term strategies and planning. In particular, 4 regional consultations were conducted to obtain feedback from Network members for the development of the Third Programme of Work (2023-2027).

Challenges and lessons learned

126. COP 22 invited the CTCN to report on challenges and lessons learned in implementing its mandate,32 and COP 24 encouraged the strengthening of that reporting.33 CMA2 and COP25 invited the CTCN to continue to report on progress,34 challenges and lessons learned in implementing the technology framework under the Paris Agreement.35 Because the activities undertaken by the CTCN in 2022 are in line with the technology framework, these are reported jointly in the following paragraphs.

2. Diminishing resources for the operationalisation of the CTCN

127. Insufficient funding continues to be a key challenge. In early 2022, 75% of the available funding was already earmarked, significantly limiting the CTCN’s capacity to respond to country driven demands. The new programme of work will be accompanied by a resource mobilization strategy.

128. In order to ensure that the CTCN can meet the growing demand for its services, the new programme of work for the period 2023-2027 will be accompanied by a resource mobilisation strategy.

129. Closure reports submitted by implementors point to challenges in accessing financial resources to implement recommendations, including a shift in focus on human and financial resources to address the health impacts of the COVID-19 crisis and war in Ukraine, and difficulties experienced by smaller municipalities to access financing.

31https://www.ctc-n.org/engage-with-network
32Decision 15/CP.22, para. 6.
33Decision 13/CP.24, para. 4.
34The ‘progress’ element is covered in the reporting on the activities of the CTCN in this document.
35Decision 15/CMA.1, para. 5.
E. Key messages for the Conference of the Parties and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement

130. The CTCN managed to implement its full work plan for 2022 and to maintain organizational continuity by focusing on the implementation of technical assistance requests and shifting stakeholder engagement and capacity building activities to internet-based conferencing and trainings.

131. The CTCN continues to enhance its collaboration with the Financial Mechanism. As reported by the GCF, the CTCN remains the largest provider of GCF readiness support for technology, even with the reduction in proposals submitted in 2022 in order to focus on the development of the third CTCN programme of work and to respond to the large number of COP decisions from COP26. Fruitful discussions were held between the CTCN and the Adaption Fund on advancing collaboration on adaptation technologies. The CTCN is closely following the development of GEF 8 and will seek to enhance its engagement within the context of the new programme of work.

132. The CTCN has endeavoured to make technology development and transfer more inclusive, through implementation of its Gender Action Plan, and engagement with gender, youth, and indigenous peoples and local community constituencies transition.

133. Surveys and evaluations conducted by the CTCN, or independent institutions have highlighted the added value of the CTCN in creating enabling environments and laying the groundwork, through early-stage support, for the early adoption and scale-up of climate technologies.

134. The CTC, with guidance from the Advisory Board, prepared its third Programme of Work for the period 2023 – 2027. The Third Programme of Work will continue to follow a country demand-driven approach while aiming to enhance transformational impact and build scale across its core service areas through [PLACEHOLDER until these details are confirmed]. This approach will aid the CTCN in delivering upon the Technology Framework of the Paris Agreement.