Climate Technology Centre and Network
2019 Annual Report

Prepared for the fifteenth Advisory Board meeting of the CTCN
March 2020

Abbreviations and acronyms

AOP	Annual Operating Plan
COP	Conference of the Parties
CTCN	Climate Technology Centre and Network
GCF	Green Climate Fund
GEF	Global Environment Facility
KMS	knowledge management system
NAP	national adaptation plans
NDA	National Designated Authority
NDC	nationally determined contributions
NDE	National Designated Entities
SB	sessions of the subsidiary bodies
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SDG	Sustainable Development Goal
TEC	Technology Executive Committee
TEM	technical expert meeting
TEP	technical examination process
TNA	technology needs assessment
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UNFCCC	United Nations Framework Convention on Climate Change

Table of Contents

I.   Executive summary

2019 marked the first full year that the Climate Technology Centre and Network delivered its technology services with a regional focus. The regional approach enabled the CTCN to strengthen its relationship with National Designated Entities as well as regional initiatives and organisations. It also facilitated the enhanced identification of national and regional climate technology needs and opportunities, which contributed to the highest number of multi-country requests since the CTCN's launch. The past year also witnessed the CTCN complete its 100th technical assistance intervention.

The CTCN welcomed a Deputy Director in February and a new Director in August. The Centre also initiated new partnerships (with the Adaptation Fund and NDC Partnership, for example) and enhanced existing ones, such as with the Green Climate Fund (through the Centre's accredited co-hosts UNEP and UNIDO).

The Climate Technology Centre welcomed its 500th Network member in 2019 and engaged over eighty countries in forums convened in parallel with the three regional Climate Weeks. Multiple matchmaking workshops were convened to connect NDEs with solution providers from civil society and the private sector; and more than a dozen countries submitted their first requests to the Centre to implement priorities identified in their Nationally Determined Contributions.

The CTCN knowledge portal, www.ctc-n.org, is now among the largest online sources of climate technology information in the world and provides access to a wealth of information resources. Targeted sectoral workshops and knowledge sharing with local experts supported endogenous capacities to innovate and implement technology solutions in several countries.

The CTCN continues to prioritize the incorporation of gender considerations across the full scope of the Centre's operations, and also undertook new cooperation with YOUNGO, the UNFCCC's youth constituency. Throughout this past year, the CTCN worked to strengthen and focus its monitoring and evaluation system. Guided by a thorough external review and revised processes and methodologies, the Centre and its implementing partners will now be able to more consistently and concretely capture anticipated and achieved impacts.

The 2019 Annual Operating Plan, approved by the Advisory Board at its 12th meeting, sought to structure the Centre's activities according to the new geographical focus while still emphasizing delivery of the CTCN's core services and cross-cutting themes.

This report provides an overview of the CTCN's 2019 accomplishments as directed by the Annual Operating Plan (AOP). For purposes of more effective reporting, individual action items listed in the AOP have been grouped into key focus areas and are cited by AOP item number for easy reference.
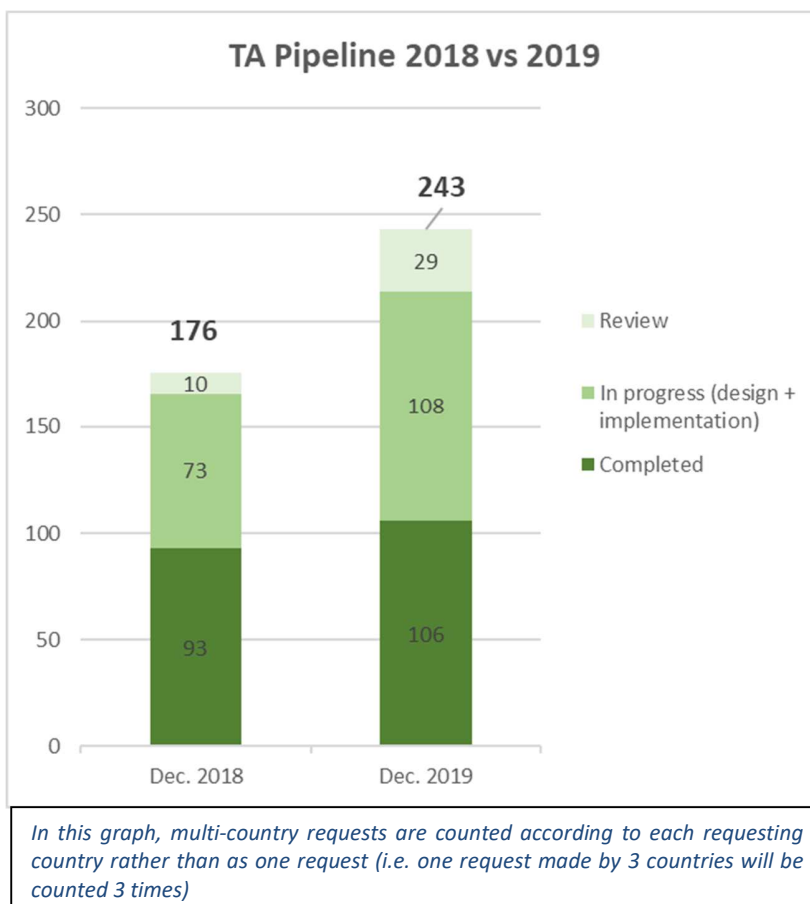
II.   Technical Assistance
        A.   Overview

Demand for the technical assistance services of the Climate Technology Centre and Network (CTCN) in 2019 doubled over the previous year (49 vs 24 requests). When multi-country requests are counted individually by each submitting country, then the difference in the number of requests in 2019 grows considerably (69 vs 27). The CTCN also completed its 100th technical assistance[1] intervention in 2019.

Better identification of needs and regional TAs (AOP 3.A.8)

Much of the increase in requests can be attributed to alignment of the CTCN's services with a more regional focus. Regional teams have been able to more effectively identify regional trends in terms of demand for technologies and sectors of interest; and National Designated Entities have gained a dedicated team for accessing CTCN services and discussing their technical assistance and capacity building needs. As such, the Centre has been able to further facilitate South-South cooperation and the development of multi-country requests. These multi-country and programmatic approaches increased the efficiency of CTCN activities by enabling economies of scale and consistent approaches across countries.

The past year also saw an increase in eligible technical assistance requests which can be attributed in part to closer collaboration between NDEs and the regional teams.

In this graph, multi-country requests are counted according to each requesting country rather than as one request (i.e. one request made by 3 countries will be counted 3 times)

CTCN analyses NDCs, NAPs, TNAs and other planning documents to identify technologies with the potential for transformative impact (AOP 3.A.1)

For example, to further inform an understanding of needs in Africa, the CTCN conducted an analysis of African countries' Nationally Determined Contributions (NDCs) to identify priority sectors and technologies. This analysis was used as a basis for discussion with countries on technical assistance request ideas both at a bilateral and regional level.

---

[1] A complete list of CTCN technical assistance, searchable by country and sector, is available on the CTCN website at https://www.ctc-n.org/technical-assistance/data

Supporting technical assistance through innovative partnerships (AOP 2.21) and engaging in the definition of operational modalities between the UNFCCC Technology Mechanism and the Finance Mechanism to continue building trust and operational relationships. (AOP 3.B.7)

The CTCN regional teams were very proactive in terms of engaging with regional entities and multilateral bodies alike to build new partnerships in support of technical assistance in 2019.

Adaptation Fund Innovation Grants Programme

Based upon a submission developed by the Centre's staff managing the Asia region, the Adaptation Fund announced in December that it had selected the CTCN (via the UN Environment Programme) and UNDP to jointly manage a new $10 million USD pilot innovation programme. The programme will foster innovation in adaptation in developing countries, and will target a broad range of potential recipients, including non-governmental organizations, community groups, young innovators and the private sector. The CTCN will receive $5 million USD over a five-year period and will utilise its existing technical assistance services to solicit and select relevant adaptation-related requests from non-Annex I countries to be addressed under the new innovation track at a maximum value of $250,000 USD each. CTCN communications and knowledge sharing work will contribute to raising awareness of the innovation programme and disseminating lessons learned from the pilot.

Green Climate Fund

The CTCN's team managing the Africa region has been at the forefront of building upon the Centre's partnership with the Green Climate Fund in terms of linking National Designated Entities (NDEs) with the GCF's National Designated Authorities to identify climate change priorities and develop relevant readiness project proposals. A total of 20 proposals were coordinated by the CTCN and submitted to the GCF in 2019. Fourteen of the 2019 readiness proposals, as well as a proposal submitted in 2018, have thus far been approved and will mobilize $4.939.095 from the GCF for implementation. Six readiness proposals are currently under review.

Status	2017	2018	2019	2020	Total
Submitted	6	1	20	0	27
Approved	4	2	3	12	21

GCF readiness proposals submitted by CTCN via its host agencies

Global Environment Facility (GEF)

Meanwhile, as a result of an application developed by the Centre's regional team responsible for Latin America and the Caribbean, the CTCN via UNIDO was selected in December as one of nine winners of the **GEF's inaugural Challenge Program for Adaptation Innovation**, a new competition supporting private sector remedies for climate risk in developing countries. The program supports scalable, bankable solutions that can help industries and communities cope with the adverse impacts of climate change and build economies that are resilient to changing weather and water patterns. More than 400 submissions were received following a call for proposals in August.

The CTCN's proposal focuses on helping mid-size cities access innovative financing for climate adaptation technologies. The project aims to assist urban planners in building their capacity to produce and fund climate resilient urban plans. In particular, the project will build an understanding of possible financial tools and mechanisms for climate change adaptation technologies and will build relationships between medium-size cities, their private sector, and national and international financial markets and infrastructure funds. In doing so, the project will also increase the awareness of the investment –

worthiness of climate change adaptation actions among international financiers while supporting cities to develop financing proposals that meet the needs and expectations of such investors. Contingent upon final project proposal review and approval, the CTCN should receive $677,000 USD over a period of three years, starting in 2020, to implement the project in three medium-sized cities from small island developing states and least developed countries to be selected in the during the PPG phase of the project work.

NDC Partnership
With the launch of the **Climate Action Enhancement Package (CAEP)** in 2019, the CTCN collaborated with the NDC Partnership to serve country requests submitted to the Partnership through CTCN technical assistance. The Centre identified opportunities to leverage the technical expertise of its Network to support 11 countries under CAEP. $585.000 USD in CAEP funds will be provided to the CTCN for technical assistance implementation, while the Centre will co-finance, and in some cases completely finance, the remainder of individual technical assistance costs.

Pro bono support for technical assistance
The Republic of Korea also provided pro bono support to four technical assistance projects in 2019, equivalent to $419.948 USD:
- Development of Kurunegala as a climate smart city – Adaptation elements (Sri Lanka)
- Incorporating innovative renewable and waste heat technologies in Belgrade's district heating system (Serbia)
- Water recycling technologies (Namibia)
- Financing strategy for Addis Ababa Light Rail Transit (Ethiopia).
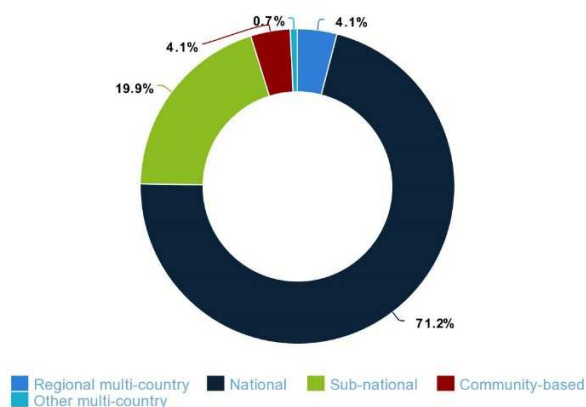
The table below provides a summary of 2019 engagement results.

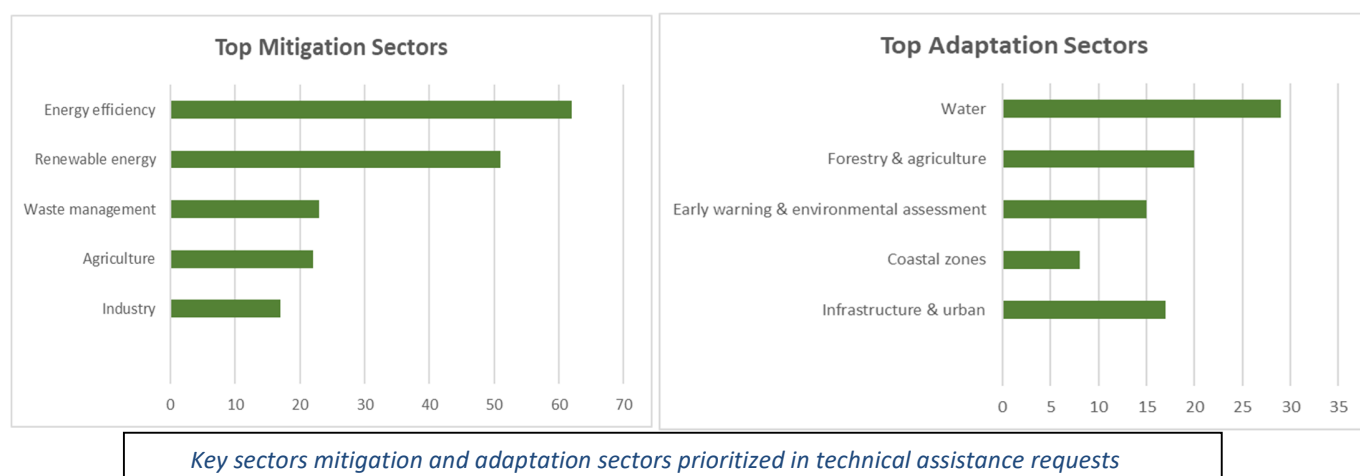| Institution	Cooperation	Financial Details
Adaptation Fund	5-year mgmt. of Innovative Adaptation Grants pilot	$5 million USD provided to UNEP/CTCN over a 5-year period starting in 2020
Green Climate Fund	27 readiness projects submitted (20 of these in 2019); 21 approved; 6 still under review	$4.939.095 USD thus far for 15 approved 2018-19 proposals
GEF	Challenge Program for Adaptation Innovation (to be finalized in 2020)	$677.000 USD over 3 years to UNIDO/CTCN starting in 2020
NDC Partnership	Climate Action Enhancement Package (CAEP) TA support for 11 countries	$585.000 USD provided by CAEP, with CTCN co-financing or completely financing the remainder of costs
Pro bono support	Technical assistance in 4 countries	Support equivalent to $419.948 USD

Distribution of technical assistance requests

The scope of the majority of technical assistance requests are aimed at the national level. This is a continuation of previous trends though the number of national level requests increased in 2019, while the number of requests with a sub-national or community-level focus were fewer.

Technical assistance requests focusing on greenhouse gas mitigation comprised 51.6% of total CTCN requests, while adaptation-related requests represented 27.5%. The remaining 20.9% of requests have both an adaptation and mitigation objective. The sectors representing the greatest technical assistance demand are depicted below.

Legend: Regional multi-country · National · Sub-national · Community-based · Other multi-country

0.7% · 4.1% · 4.1% · 19.9% · 71.2%

Distribution of total requests by geographical scope

Top Mitigation Sectors

- Energy efficiency
- Renewable energy
- Waste management
- Agriculture
- Industry

Top Adaptation Sectors

- Water
- Forestry & agriculture
- Early warning & environmental assessment
- Coastal zones
- Infrastructure & urban

Key sectors mitigation and adaptation sectors prioritized in technical assistance requests

In 51.4% of countries, a national technology needs assessment (TNA) was conducted prior to submission of a CTCN technical assistance request. In 45.1% of countries the TNA was not conducted prior to submission. 3.5% of applications have been multi-country requests and therefore the TNA status of the request was not possible.

In terms of the types of assistance requested by countries, while demand remains strong for decision making tools and feasibility of technology options, there has been a growth in the demand for sectoral roadmaps and strategies; recommendations for law, policy and regulations; and private sector engagement in the past year.

Feasibility of technologies and piloting of appropriate technologies (AOP 3.A.2, 3.A.6)

The highest number of requests in 2019 were for assistance in ascertaining the feasibility of technologies as well as piloting and deploying technologies. These requests spanned both mitigation and adaptation objectives.

Support for new market creation including business plans and roadmaps (AOP 3.A.3, 3.B.4)

Several African nations submitted requests for mitigation related requests that included a focus on new market creation and the development of roadmaps. The themes included valorisation of forest biomass waste into energy, direct use applications for geothermal systems, and building markets for energy-efficient refrigerators and distribution transformers. In Latin America and the Caribbean, a number of multi-country requests concentrated on support for the development of circular economies.


Total distribution of requests by type of assistance 2014-2019
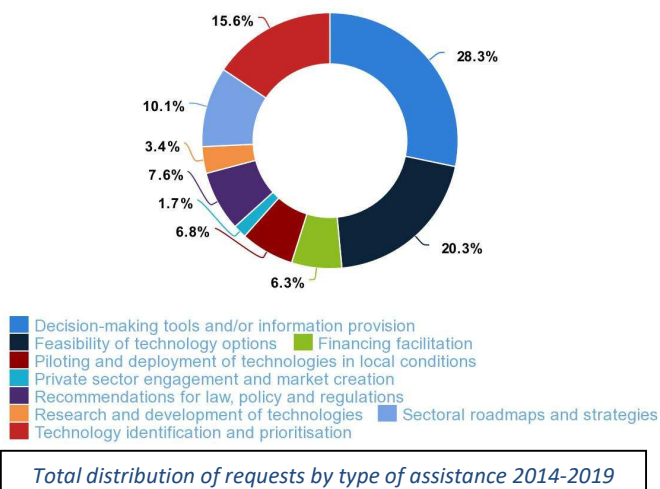
Benchmarking and national standards (AOP 3.A.10)

The CTCN collaborated with countries to establish baselines for measurements as part of greenhouse gas mitigation strategies, and also developed methodologies for monitoring progress and impacts. The Centre also worked on comparing the national standards of various countries and proposing new standards in conjunction with national efforts.

Policy and regulations (AOP 3.A.11)

Throughout the regions that the CTCN supports, demand grew for assistance in the development of laws, policy and regulations. From agroforestry in Kenya to e-mobility in Cambodia, the countries and sectors varied but a need for policies to support climate change transformation was evident.

Select examples of anticipated funding mobilised by technical assistance in 2019 in millions of USD
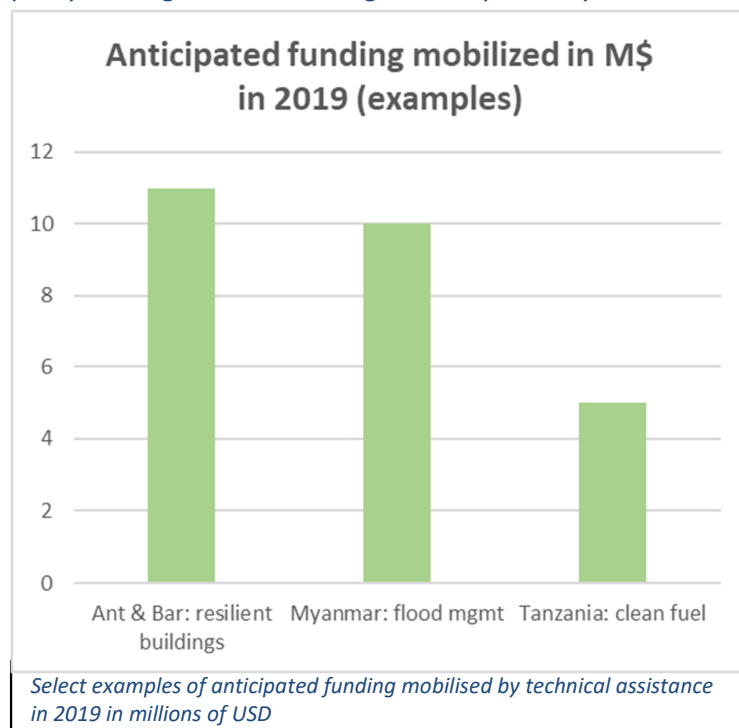
Specific examples of the above types of assistance are provided under the regional technical assistance experience section of the report.

CTCN technical assistance in 2019 also resulted in the development of concept notes and funding proposals to various institutions, including the Green Climate Fund, from which the amounts in the graph to the left are anticipated to be leveraged. These figures should be considered indicative and serve as an example of overall anticipated funding as it is yet too early to provide confirmation on actual funding leveraged from 2019 technical assistance activities.

Case story: Emission Reduction Potential from Briquette Production in Gambia

The CTCN supported an in-depth analysis of the fuelwood, charcoal & agricultural residue sectors in Gambia, as well as the establishment of a competitive briquette value chain. Training was also provided in the production and use of briquettes. The training is expected to result in a subsequent upscaling of briquette production to 5.000 tonnes per year, for which the emission of 32.500 tonnes CO2-eq will be avoided each year. During trainings and throughout the implementation of the technical assistance, nearly 15 tons of briquettes were produced, already preventing the emission of 90 tonnes CO2-eq. and avoiding the cutting of 50 tons of anhydrous wood. This is the equivalent of 2 hectares of mature eucalyptus plantations.

Furthermore, the situation analysis showed a potential for unused and easily accessible agricultural and forestry residue. This potential would allow the annual production of 20.000 tonnes of briquettes. The benefit of their substitution to charcoal would reduce the use of the latter by 71% and avoid the emission of 140.000 tonnes CO2-eq., a reduction of 22,3% in the year.

CTCN technical assistance contributes to all 17 of the Sustainable Development Goals. All CTCN technical assistance supports Sustainable Development Goal 13: Climate Action. The distribution and size of the other SDGs in the above image indicates the relative frequency with which the Centre's technical assistance contributes to the SDG's achievement. As can be seen, a large number of technical assistance interventions support SDGs 7, 8, 9 and 11.

B.   Regional technical assistance experience

As can be seen in the graph to the right, 2019 technical assistance requests are shown by region. However, it should be noted that the graph counts each multi-country requests as an individual request. Considering that Africa, Asia-Pacific and the LAC region all received multi-country requests in 2019, the overall request figures increase from a total of 49 to 69 if each country's request is tallied.

In the following section, a description of CTCN technical assistance trends and actions are provided, together with specific examples, according to each region.

1.   Africa

TA requests received by region

Region	In 2019	Total
Africa	35	134
Asia-Pacific	10	82
LAC	4	52
Europe	0	6
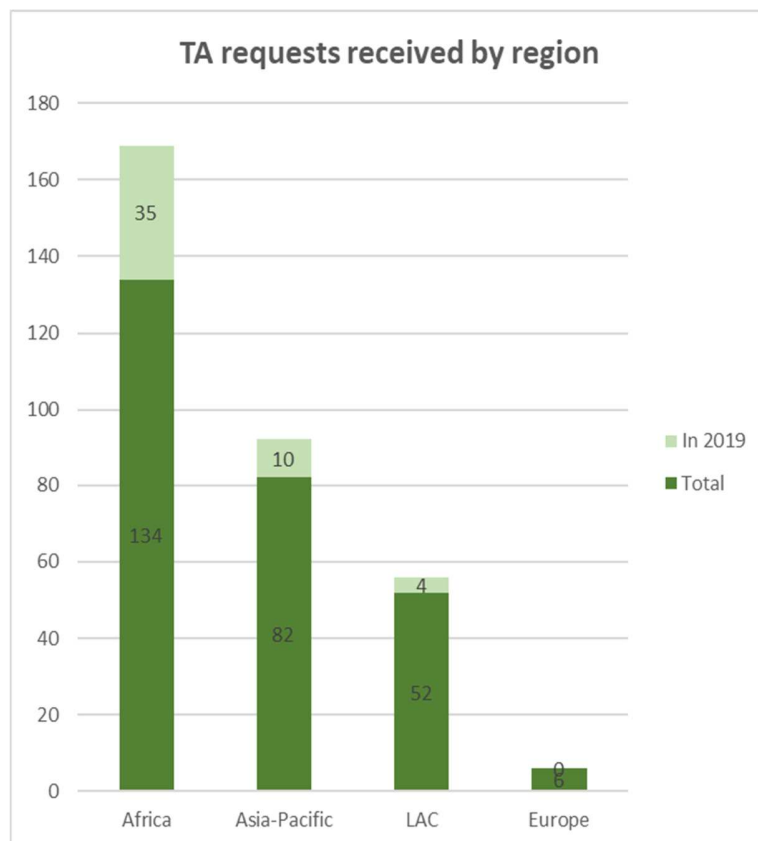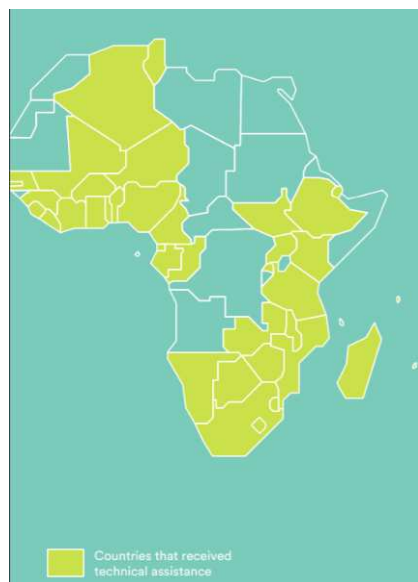
Across Africa in 2019, technology innovation and implementation were used to address key climate change goals. However, significant challenges were still observed in terms of supportive policy and regulatory environments, capacity building and financing. This is reflected in the CTCN technical assistance requests made by African countries over the last year, which included a focus on climate smart agriculture policies, energy efficiency regulatory frameworks, land restoration and management, and a strong overarching demand for capacity building.

Identifying and acting on regional needs and opportunities (AOP 3.A.8)

In terms of engaging countries, the Democratic Republic of Congo, Equatorial Guinea, Gabon, Liberia, Sierra Leone, and Sudan all submitted their first CTCN technical assistance requests this year, bringing the number of African countries that the CTCN serves to 38. Other trends observed in this region were the submission of several Green Climate Fund Readiness requests for CTCN assistance, as well as numerous multi-country technical assistance requests, which provided an opportunity for knowledge sharing between countries and the development of complementary policies. For example, the CTCN facilitated a regional request for a study on the valorisation of forest biomass waste into energy in 15 countries in west and central Africa. The

CTCN also supported several countries in developing requests for assistance in conducting technology needs assessments (TNAs). These countries include Cameroon, Congo, Equatorial Guinea, Gabon and Nigeria (AOP 3.A.1).

Supporting technical assistance through innovative partnerships (AOP 2.21)
The CTCN has engaged with a variety of bilateral and multilateral partners in Africa to facilitate delivery of technical assistance to countries. Working together with African NDEs and GCF NDA, the CTCN facilitated the development of **16 Green Climate Fund readiness proposals in Africa** (see table below). Out these, 13 proposals have been approved while 3 are under review by the GCF secretariat.

Country	GCF Readiness Proposal
Botswana	Developing Technology Road Maps and Updating of TNA for NDC implementation
Botswana	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Botswana (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Cameroon	"Conducting a Technology Needs Assessment (TNA) and a Technology Action Plan (TAP) for the implementation of NDCs"
DRC	"Conducting a Technology Needs Assessment (TNA) and a Technology Action Plan (TAP) for the implementation of NDCs"
Equatorial Guinea	"Conducting a Technology Needs Assessment (TNA) and a Technology Action Plan (TAP) for the implementation of NDCs"
Eswatini	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Eswatini (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Gabon	"Conducting a Technology Needs Assessment (TNA) and a Technology Action Plan (TAP) for the implementation of NDCs"
Kenya	National Framework for Industrial Energy Efficiency Regulations (IEER) in Kenya
Lesotho	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Lesotho (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Malawi	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Malawi (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Namibia	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Namibia (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Nigeria	"Technology Needs Assessment and associated action plan for climate change mitigation and adaptation in Nigeria's most vulnerable economic sectors"
South Sudan	"Technical guidance and support for conducting the Technology Needs Assessment, including engagement of international consultant and sourcing of funds/grants for South Sudan "

Tanzania	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Tanzania (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Zambia	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Zambia (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Zimbabwe	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Zimbabwe (Refrigerators and Distribution Transformers) through regulatory and financing mechanism

The CTCN has also collaborated with the NDC Partnership through the **Climate Action Enhancement Package (CAEP)** to serve country needs. As a result of the first round of CTCN-CAEP engagement in 2019, the CTCN is preparing to deliver 7 technical assistance interventions in four African countries.

Country	Description	Resources to be provided CAEP	CTCN co-financing	Notes
Eswatini	Organize high-impact activities to advance mitigation and adaptation measures, gender equality and women's empowerment.			This activity will be implemented through existing work of CTCN in the country
Eswatini	National actors (public and private) capacitated to access, blend, catalyse and coordinate climate finance.	$35,000	$35,000.00	
Eswatini	Sectoral MRV systems designed and/or strengthened to ensure transparent MRV of multiple impacts, including contribution to SDG targets.			This activity will be implemented through existing work of CTCN in the country
Nigeria	Development of pipeline of Adaptation project & Development of Financial cost for Adaption measures within the sectoral Action Plans of the NDC			This activity will be implemented through existing work of CTCN in the country
Sudan	Vulnerability assessment and climate hotspots; and Mapping of communities at Vulnerability risk	$150,000	$250,000.00	
Sudan	Capacity building programmes in project identification and preparation	$35,000	$35,000.00	

Uganda	Define the country's vulnerability index to inform updating of that national level indicators for measuring resilience	$250,000	$250,000.00	

From the perspective of bilateral support, the CTCN engaged the pro-bono support of the Government of Korea on two technical assistance interventions whose implementation is ongoing.
- Water recycling technologies (Namibia); and
- Financing strategy for Addis Ababa Light Rail Transit (Ethiopia).

Feasibility of technologies and piloting of appropriate technologies (AOP 3.A.2, 3.A.6)
The CTCN facilitated development of a multi-country technical assistance request by six countries in East Africa for a pre-feasibility study to identify the most suitable direct-use applications and technologies for low to medium temperature geothermal systems.

Support for new market creation including business plans and roadmaps (AOP 3.A.3, 3.B.4)
In Gambia, the CTCN collaborated with the Women's Initiative of Gambia and Network member ECO Consult Sepp & Busacker Partnerschaft of Germany to develop a sustainable waste management value and supply chain for energy and livelihoods. An in-depth analysis of waste from fuel, food, & agricultural sectors in the area, and identified appropriate technologies for producing charcoal briquettes out of dry leaves, saw dust and coconut shells by women in rural settings to increase women's livelihoods diversification and improve sustainable energy production. 17 communities were trained on appropriate technologies and strategies for recycling of non-biodegradable materials. The assistance also entailed conducting a feasibility and market assessment of potentially scaling the effort up to a national level, as well as a road map for a scalable model for waste management value and supply chain.

The CTCN is also currently supporting 6 countries in Africa and Asia to develop their Technology Needs Assessment (TNA) and TNA road maps. This work is expected to effectively coordinate climate technology transfer to key sectors prioritized in the countries NDCs.

Benchmarking and national standards (AOP 3.A.10)
In eight southern African countries, the CTCN provided assistance to develop a regional efficient appliance and equipment strategy. This collaboration entailed developing assessments which indicate the financial, energy, and climate potential of accelerating a market transformation for each of the prioritized products. The technical assistance resulted in an the creation of an interactive dashboard displaying the potential for increasing the energy efficiency of selected products in Southern Africa by providing a technical market assessment of current conditions and policies for five product categories. The work included development of a Green Climate Fund readiness proposal which has been approved for the 8 countries with implementation set to begin in 2020.

ETHIOPIA: New product standards for an ancient cooking tool could lead to significant energy savings

"*The Energy Efficiency standard and labeling on locally manufactured electric stoves shall be a priority and urgent issue to be addressed in Ethiopia. The energy savings obtained could be used for rural electrification, manufacturing, industrialization, and export programs contributing to the sustained rapid and broad–based economic growth of the country. Therefore, this project will have a significant impact both on product standards, energy efficiency and GHG emissions.*"
YAMELAKESIRA TAMENE BEKELE, ENVIRONMENT, FOREST AND CLIMATE CHANGE COMMISSION DIRECTOR, MINISTRY OF ENVIRONMENT AND FOREST, ETHIOPIA, CTCN NATIONAL DESIGNATED ENTITY, ETHIOPIA

The government of Ethiopia has developed energy efficiency targets in order to reduce demands on the country's electricity system, powered mainly by hydro power. Ethiopia's household sector accounts for 89% of total energy consumption, and electric mitads (cookstoves utilized for traditional Ethiopian injera bread) are the most prevalent and energy-intensive appliances. While an electric mitad is believed to have been on the market for at least 40 years, its energy efficiency capacity has been little improved during that time.

The Ethiopian Energy Authority therefore sought to develop mitad energy efficiency standards and a labelling program. It worked together with CTCN Network members Motiva Services of Finland and Ethiopian-based Swan Management to develop a testing procedure for measuring and certifying the energy performance of locally manufactured electric stoves. It also developed an energy efficient electric injera mitad prototype product. The team also formulated a capacity building and communication strategy for transferring technology knowledge to local manufacturers and for informing the public about energy efficient stoves.

The short-term impact of this technology collaboration is that through the use of energy efficiency standards for electric mitad production and certification, the stove's energy efficiency will improve and generate less demand on Ethiopia's electric system. In the longer term, as rural electrification progresses throughout the country, energy efficient electric stoves can become an attractive alternative to wood stoves and thereby reduce deforestation, improve air quality in homes, reduce time spent on fuelwood collection, and make a 20% contribution to Ethiopia's total potential for emission reduction annually by 2030.

This assistance advances:

Ethiopia's Nationally Determined Contribution to:

• Leapfrog to modern and energy efficient technologies in transport, industry and building sectors.

• Protect and re-establish forests for their economic and ecosystem services, while sequestering significant amounts of carbon dioxide and increasing the carbon stocks in landscapes.

Sustainable Development Goals:

Policy and regulations (AOP 3.A.11)

Through a consultative and participatory framework, the CTCN is helping the government of Kenya to develop the country's National Agroforestry Strategy 2020 – 2030 that is deliberately designed to enhance the country's resilience to climate change through improved and accelerated adoption of proven agroforestry practices.

The CTCN implemented a multi-country technical assistance in 11 West African countries on coastal classification, hazard management and development of a standardized communication scheme utilizing the Coastal Hazard Wheel. The coastal zones of these countries are responsible for a large part of the region's economic activity and changing coastal dynamics are already threatening societal and economic interests. Therefore, the CTCN's coordination and implementation of the regional coastal hazard management programme will help to ensure sustainable coastal areas and timely adaptation to climate change.

2.   Asia-Pacific

The Asia Pacific region covers an immense and diverse geographical area and faces an equally broad variety of climate change challenges. At the end of 2019, the CTCN was serving 32 countries throughout Asia and the Pacific, including Cambodia, the Cook Islands, Iraq, Nauru, Timor-Leste and Vanuatu, which made their first requests for CTCN technical assistance in the past year. Low-emission transportation, vulnerability modelling, energy efficiency and climate-smart cities emerged as priority climate technology areas for the region. There have also been an increasing number of pro bono technical assistance cases delivered in Asia. 11 new requests were made in the region during 2019.

Identifying and acting on regional needs and opportunities (AOP 3.A.8)

Working with a regional focus, the CTCN was able to facilitate technical assistance requests which served similar needs express by a number of countries. For example, Kiribati, Marshall Islands, Palau, and the Solomon Islands are now jointly undertaking capacity development to address risks in coastal zones associated with climate change. The assistance, now under implementation by Network member GRID-Arendal of Norway, is providing policy-relevant data that will assist in the development of early warning systems and the implementation of appropriate climate change adaptation actions in the four countries. This assistance will contribute to diminishing economic and personal loss and exposure to natural hazards as a result of climate change.

In other instances, the CTCN was able to identify similar needs among countries, which led to individual requests along the same programmatic theme. One such example is a programmatic approach on low-carbon transportation which led to requests by Cambodia, Fiji, Indonesia, Sri Lanka and Vanuatu.

Partnerships to support technical assistance (AOP 2.21)

2019 saw the completion of the first **CTCN-Green Climate Fund Readiness** project in Asia. Myanmar requested assistance in utilizing enhanced data for better management of drought and flooding due to climate change. The GCF provided $336,520 USD and the UNEP-DHI Partnership collaborated with the Myanmar Institute for Integrated Development to deliver a web portal for Myanmar with state-of-the-art

remote sensing data and information, tools and reporting abilities. A national flood and drought web portal was also developed: www.flooddroughtmonitor/myanmar. Selected remote sensing datasets were validated and an interconnected user community was established through training and capacity building of 23 organizations. By ensuring an equal number of female and male training participants and utilising a gender approach in the implementation of the activities, this assistance narrowed the gender gap in Myanmar in terms of access to climate change information and decision making. The anticipated amount of funding mobilized as a result of the assistance is $10 million USD.

Three other GCF readiness project proposals were prepared in the Asia Pacific region. Iraq and Palestine have been approved and Timor-Leste is still under review.

Country	GCF Readiness Proposal
Iraq	Technology Needs Assessment and associated action plan for climate change mitigation and adaptation in Iraq most vulnerable sectors
Palestine	Technology Road Map for Palestine's Implementation of Climate Action Plans (INCR, NAP and NDC)
Timor-Leste	Capacity building in renewable energy sector, photovoltaic solar cell installation and maintenance for technical and management levels

Pro bono: The Republic of Korea provided pro bono support on the development of a framework for the adaptation elements of a Climate Smart City plan in Kurunegala. Please see the text box under the Policy and Regulations section below for a detailed description of the technical assistance.

Feasibility of technologies and piloting of appropriate technologies (AOP 3.A.2, 3.A.6)
Eight of the technical assistance cases in Asia included feasibility studies to determine the appropriateness of climate technologies under given circumstances. In Nauru, the CTCN developed a feasibility study for sustainable land transport to analyse the business potential for Nauru's transport sector, including through vehicle fleet characterization and fuel economy analysis. An analysis was also made of the country's sustainable transportation policy and technology options, for which a roadmap was developed to convert the policies and measures into financeable investment strategies. To facilitate implementation of this roadmap, training and capacity building was provided to key stakeholders on sustainable transportation. Transportation is a key area of action to reduce GHG emissions in Nauru's INDC (2015). The transport sector has the largest share (17.27 % -3.332 Gg CO_2e) in GHG emissions for the base year 2000, including emissions from road transportation from combustion of fossil fuel used in internal combustion engines (Nauru's Second National Communication to UNFCCC, 2015).

Support for new market creation including business plans and roadmaps (AOP 3.A.3, 3.B.4)
Several technical assistance cases in Asia demonstrate the economic co-benefits of the CTCN's technology interventions. For example, Bangladesh and Pakistan are developing energy audit and certification programmes. These technical assistance cases take their inspiration from the energy auditors and managers certification system in India, which enabled successful implementation of the Perform Achieve and Trade Mechanism (PAT) resulting in 8.67 million tons of oil energy per year savings (30% above the targeted savings from 8 energy intensive sectors in the first programmatic cycle).

The development of the energy auditor and energy manager certification programme in both countries is expected to develop a new qualified and recognized workforce segment to drive the energy efficiency planning and policies of each nation, helping the countries to achieve their climate change mitigation

commitments. Economic benefits include lower operating costs due to energy efficiency improvements, increased competitiveness of industries implementing recommended energy efficient measures, and increased employment. In Bangladesh, the outcomes of the technical assistance are already becoming visible. Energy audits are set to be mandated for large industries and approximately 175 candidates are going to sit for exams to become qualified energy auditors who will undertake energy audits for the first 100 designated companies. In Pakistan, where the technical assistance is under implementation, the development of the energy audit and certification programme will assist the country in implementing its National Energy Efficiency and Conservation Act and contribute to potential energy savings estimated at $5 billion USD per year, reducing 42kTonnes of CO2 emissions per annum.

In Timor-Leste, the CTCN is supporting the government in buildings its national solar workforce within rural communities by strengthening the capacity of the national training institute to provide trainings and certifications related to solar PV implementation. By placing particular focus on the transfer of skills and trainings at village level, the work force within the communities will be best positioned to promote the benefits and co-benefits of solar PV while considering social, cultural and religious aspects and to influence the willingness of the user to pay for the services. The training focuses on increasing capacities of government staff, youth retailers, technicians, engineers and other relevant stakeholders in the value chain.

Benchmarking and national standards (AOP 3.A.10)

The CTCN facilitated the development and enforcement of an efficient appliance strategy in Lebanon, where the country's new strategy will help to integrate standards and labels in the Lebanese appliances market and increase the level of energy efficiency of the appliances.

Likewise, in Tonga, the government continued its collaboration with the CTCN to support the development and implementation of the country's the Tonga Energy Efficiency Master Plan. This assistance aims to provide the information needed to successfully advocate for the adoption of improved standards for energy services, appliances, technologies, building and vehicles. The assistance will also be leveraged to develop financial proposals and business models for market uptake of various low GHG measures under electricity and transport sector in the country.

In Bangladesh, support was provided to set a benchmark and identify the most promising and low-cost domestic climate-resilient housing technology solutions for local conditions. The same approach was applied to identify the most suitable technologies for purification of saline water at the household level. Uptake of these technologies were supported by capacity building of communities on proposed technology solutions, identification of future pilot projects and support for identification of funding opportunities to upscale their deployment.

Policy and regulations (AOP 3.A.11)

In Indonesia, the CTCN supported the development of an investment plan to deploy a fleet of electric buses, including through preparation of procurement documents for e-bus inductions. To ensure policy coherence, the CTCN assessed the policy requirements and necessary actions by the government of Jakarta and the government of Indonesia to facilitate the deployment of e-buses and related infrastructure. The support also included development of a feasibility study for integrating renewable energy supply to the mobility operations of Trans Jakarta, including solar roofing for bus and/or the mass rapid transit stations.

SRI LANKA: Development of Kurunegala as a climate-smart city - adaptation

Kurunegala is one of the most intensively developing economic and administrative cities in Sri Lanka. In recent years, however, the city has experienced severe droughts contrasted with floods and landslides that have taken the lives of over 100 people and displaced half a million, with economic damages estimated at $2 billion USD.

To address these factors, the Sri Lankan Ministry of Mahaweli Development and Environment and Municipal Council Kurunegala partnered with the CTCN and the Korean Environment Institute to identify feasible climate adaptation measures for integrated planning for climate change adaptation. The collaboration began with an assessment of Kurunegala's baseline data and climate change vulnerability, including the impact of heat stress and water scarcity upon various sectors of the economy and society. An action plan to address the identified risks was then developed. Based on its guidance, capacity building will be provided to city planners and policy makers in order to implement the measures.

The proposed adaptation action plan will guide policymakers and stakeholders in relevant departments of the city government on how to increase the climate resilience to the impacts of climate change. In the longer term, the increased capacity of policymakers and stakeholders can enable them to conduct future assessments for themselves to support the integration of climate adaptation aspects in urban development planning.

The outputs delivered during this assistance follow, many of which will be used for replication in other Sri Lankan cities.

- A literature review and collection of information for vulnerability and risk assessment
- Risk assessment guidelines including the methodology used during the TA
- Report on the results of the vulnerability and risk assessment, and the field survey
- Report on the capacity gap analysis
- Stakeholder consultant workshop for building capacity of city planners and policy makers
- Development of adaptation action plan on water scarcity and heat stress in Kurunegala
- Training workshop for building capacity of city planners and policy makers
- Training manual to guide city planners in Kurunegala city

Following this assistance, the CTCN was asked to implement again in Kurunegala, this time providing guidance on key greenhouse gas mitigation in the city. The government of South Korea agreed to provide pro bono assistance in this case as well.
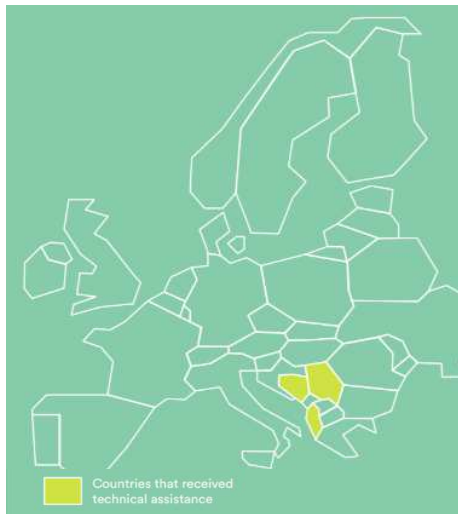
This assistance advances

Sri Lanka's Nationally Determined Contribution to:

• Build climate resilience of sectors such as health, water management, urban infrastructure and settlement, which are vulnerable to the adverse impact of climate change.

Sustainable Development Goals:

3.   Europe

A few European countries are designated as non-Annex I nations and are therefore eligible for CTCN support. Albania and Bosnia & Herzegovina have previously collaborated on CTCN technical assistance for the development of energy efficiency plans and modernization of district heating systems, respectively. Serbia is the most recent country to request technical assistance support, in this case for the modernization of the district heating system in the country's capital, Belgrade which was implemented in 2019.

Countries that received technical assistance

SERBIA: Incorporating innovative renewables and waste heat technologies in Belgrade's district heating system
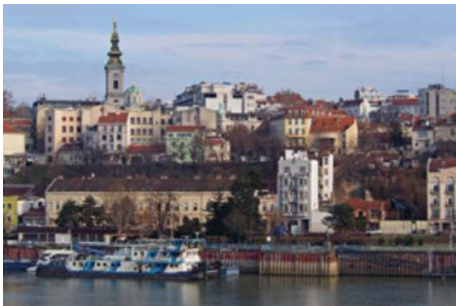
The City of Belgrade's district heating (DH) system is one of the largest in Europe with a total network length of 1420 km and capacity of over 2800 MW. Most of the network is run on natural gas boilers and fuel oil boilers with no utilization of waste heat from cogeneration or other sources, as well as a low integration of renewables (0.75% of capacity). In addition, the buildings are not very energy efficient and energy consumption rates are high. In view of the need for a harmonized approach towards energy efficiency, the CTCN received a request from Serbia to modernize the district heating system and increase the rate of renewables integration. The CTCN responded to the request by facilitating pro-bono support via the Republic of Korea.

"Thanks to the CTCN and its partners, we will be able to incorporate innovative renewables and waste heat technologies in Belgrade's district heating system. Such demonstrations are highly replicable to the other 58 Serbian cities. We hope that the prepared feasibility study will help us to attract third-party finance", noted Dr. Vladica Bozic, Head of Section for Implementation of Project, Ministry of Environmental Protection of Republic of Serbia, CTCN National Designated Entity.

The activities in the Serbian capital began in 2016 as part of the Sustainable Energy for All (SEforALL) Energy Efficiency Accelerator Platform, the District Energy in Cities Initiative. The experts helped Serbia to develop a deep assessment of the city, including an Action Plan for District Energy of the City of Belgrade, envisioning the next 20 years. In addition, a pre-feasibility study is being developed that evaluates the possibilities for interconnection of the existing district heating network and introduction of alternative energy sources. Another deliverable agreed with the city of Belgrade is a study on available renewable energy sources, with an emphasis on solar thermal district heating, which is being prepared by the Korean Government, Korea District Heating Corporation and Yujin Energy.

This assistance contributes to
Sustainable Development Goals:

4.   Latin America and Caribbean

Over the last year, much focus in Latin America has been on enhancing policy and regulatory frameworks and strengthening capacities to access finance. However, the theme of circular economy was also predominant for the region in terms of CTCN technical assistance requests, with 10 countries submitting requests to develop roadmaps to facilitate and guide transformation from traditional, linear economies to more regenerative economic models. Updates to Technology Needs Assessments were also highlighted as an area in need of technical support. Bolivia, El Salvador, and Mexico made their first CTCN technical assistance requests this year, bringing the number of Latin American and Caribbean (LAC) countries to engage in CTCN technology support to 20. Several of these countries have engaged in multiple technical assistance collaborations through the CTCN.

Identifying and acting on regional needs and opportunities (AOP 3.A.8)
The CTCN facilitated the development of a multi-country circular economy request by Brazil, Chile, Mexico, and Uruguay. During the 2019 LAC National Designated Entity (NDE) Forum, this multi-country request was presented to NDEs and generated significant interest that led to a subsequent multi-country circular economy request by Cuba, Dominican Republic, Ecuador, El Salvador, and Paraguay, and an individual related request by Antigua and Barbuda.

Supporting technical assistance through innovative partnerships (AOP 2.21)
The CTCN developed a readiness proposal for submission to the **GCF** in collaboration with the NDE and NDA of the Bahamas. The proposal, which aimed to provide technical assistance to conduct a country wide grid stability study, was approved and is now under implementation.

As part of the **NDC Partnership's Climate Action Enhancement Package** initiative, the CTCN began assisting four countries in the LAC region through the following technical assistance:

Country	Description	Resources to be provided CAEP	CTCN co-financing	Notes
Belize	Analyse the national mitigation and adaptation potential to identify priority sectors and mitigation options	$40,000	$40,000.00	
Dominican Republic	Mapping of Contribution from private sector on mitigation and adaptation targets.			This activity will be implemented through existing work of CTCN in the country
Guatemala	Developing a systemic vulnerability assessment of the Guatemalan extended Dry Corridor.	$75,000		
Jamaica	Identification of a climate change research agenda to include collaboration with academia			This activity will be implemented through existing work of CTCN in the country

Feasibility of technologies and piloting of appropriate technologies (AOP 3.A.2, 3.A.6)
Technical assistance in Uruguay focused on developing a national roadmap for geothermal energy, in terms of thermal heating, ventilation and air-conditioning in the residential, industrial and commercial sectors. This include conducting a technical and economic pre-feasibility study for the implementation of a pre-commercial-scale residential HVAC pilot project.

A technical assistance on building resilience to climate variability in the building sector of Antigua and Barbuda resulted in a feasibility study on proposed upgrade and retrofitting to the existing public building portfolio of the Government of Antigua and Barbuda to adapt to climate change.

In the Bahamas, the CTCN is performing a countrywide grid stability study for the implementation of a higher renewable energy penetration level.

Support for new market creation including business plans and roadmaps (AOP 3.A.3, 3.B.4)
A number of technical assistance cases in Latin America support new market creation. For example, assistance in Ecuador focused on design and scale-up of climate resilient waste management and energy capture technologies in small and medium livestock farms. The methods and technologies identified, such as biodigesters, also offered other economic opportunities to be utilised by agricultural producers.

Benchmarking and national standards (AOP 3.A.10)

Technical assistance in Cuba developed an initial baseline for GHG emissions from cattle farming and estimated the potential reduction that could be achieved by implementing recommended practices and relevant technologies that could result in low-emissions livestock farming for small land holders. The CTCN also analysed and presented the socio-economic benefits of applying these practices and provided capacity building for local governments, and institutions and policy makers.

Policy and regulations (AOP 3.A.11)

In Belize, the development of an integrated and comprehensive national agroforestry policy (NAP), will provide practical knowledge and skills to the national team to understand and use a tested and successful process to develop a National Adaptation Plan. The national policy is expected to facilitate and support the mitigation and adaptation to climate change and guide Belize towards more sustainable and resilient agriculture.

PERU: Incorporating ecosystem-based adaptation in the management of national protected areas

"This project is very important for Peru. The guidelines established in the practical manual will guide the managers of the National Service of Protected Natural Areas by the State and other actors in designing and implementing the ecosystem-based adaptation options at the national level. The results from this technical assistance are a key source of information that will be incorporated in the National Adaptation Plan."

MARCO ANTONIO ARENAS, CONSERVATION AND CLIMATE CHANGE SPECIALIST, NATIONAL SERVICE OF PROTECTED NATURAL AREAS BY THE STATE
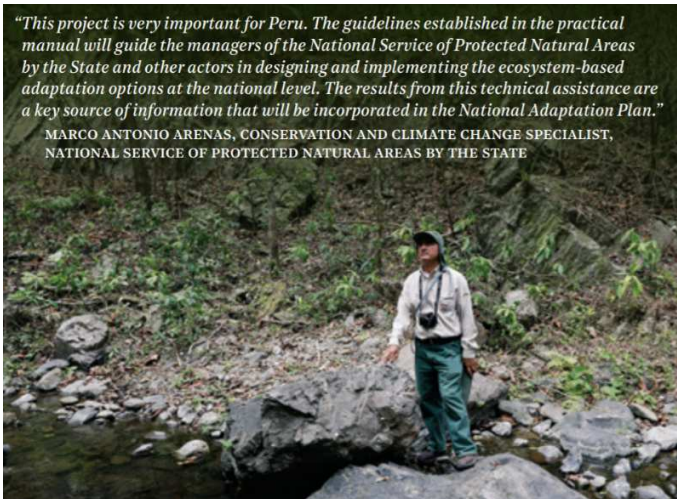
Peru's Protected Natural Areas (PNAs) are the cornerstone of the country's biodiversity conservation strategy. They include unique and often fragile ecosystems that also provide essential services to communities outside their boundaries. For instance, 60% of the hydroelectricity produced in Peru comes from rivers in protected areas (a service estimated at $320 million USD), while seven of its most popular tourist destinations are PNAs.

Peru's national policies and objectives on the management of protected areas did not previously consider potential climate change impacts or plans to ensure resilience. The National System of Protected Natural Areas therefore sought to strengthen adaptive capacity through sound ecosystem management.

In order to meet Peru's goals, CTCN Network member Asesoramiento Ambiental Estratégico of Uruguay provided technical and strategic input into management plans for protected natural areas and developed an ecosystem-based adaptation manual to guide the work of area managers. The integration of the manual was piloted in 4 natural areas, including providing recommendations for mainstreaming ecosystem-based adaptation in budgeting processes. Finally, national training was delivered to area managers to develop their capacity to implement recommended ecosystem-based adaptation activities.

This assistance is improving the capacity of 59 protected natural area managers to mainstream ecosystem-based adaptation into their management plans. Implementation of the plans is expected to positively impact flood control and water provision and decrease overall climate change vulnerability for an area of 20 million hectares, corresponding to roughly 15% of Peru's total area.

This assistance contributes to

Peru's Nationally Determined Contribution to:

• Encourage and promote actions and projects that increase the availability of water in the context of climate change.

• Promote comprehensive land management, oriented to increase forests resilience to climate change, and reduce the vulnerability of local populations.
Sustainable Development Goals:

C. Progress against targets

Relevant Annual Operating Plan 2019 targets and achievements are reflected in the table below.

Output	Total Target	Africa	Asia-Pacific	Europe	LAC	TOTAL OUTPUT
A. Technical Assistance[2]						
TA requests with response plans under design includes regional requests	30-40	6	11	0	7	40
TA requests under implementation and concluded	25-35	12	14	1	14	41
Fast Technical Assistance implemented (includes GCF proposal preparation)[3]	25-40	16	1	0	5	22

III. Strengthening Networks and Capacity Building
A. Network

By December 2019, 46 new members joined the Climate Technology Network and brought the total number of members to 522. Private sector organisations represented the highest number of new applications, followed by research and academic institutions.

In the summer of 2019, the CTCN conducted a survey of Network members which aimed to assess their level of engagement and areas of interest among the Centre's service areas. 119 respondents from Network members completed the survey. The respondents evaluated their membership experience as being 'beneficial' on average yet expressed interests in various technical assistance bidding opportunities wider in scope and regions. In addition, the survey provided qualitative feedback on the CTCN's services

---

[2] Numbers are counted per request, such that an individual request signed by multiple countries is counted only as one request.

[3] The figure represents the FTAs which were submitted through formal requests. In addition, there were five cases in which the Centre provided fast technical support in response to informal requests (Georgia, Namibia, Seychelles, Uganda, Zimbabwe).

indicating a desire to utilise the knowledge management platform to facilitate bi-directional communication with the CTCN and information sharing.

Networking events (AOP 3.B.1)

Deep Dive Workshop on Accelerating Clean Energy Transformation in Partnership with the Private Sector: In June, approximately 100 energy professionals gathered on the opening day of the Asia Clean Energy Forum 2019 in Manila, Philippines to participate in the workshop organized by the CTCN and the Asian Development Bank, with support from the European Commission and the Japanese Ministry of Economy, Trade and Industry. The workshop was designed to enhance private sector participation in clean energy technology partnerships. Perspectives of government agencies and private sector partners on the benefits and challenges of public-private partnerships for clean energy transitions were presented. Some challenges identified by participants for further support included a lack of:

• Awareness among policy makers about clean energy technologies, innovations and opportunities to leverage private sector funding
• Adequate information on countries' requirements that obstruct the private sector from conducting economic analyses of relevant clean energy technologies
• Suitable scale and sustainable incentive mechanisms for small and medium-sized enterprises which constitute a large proportion of the private sector.

Technology Transfer Matchmaking Event: The CTCN in partnership with GSTIC conducted a matchmaking event during GSTIC 2019 in Brussels. The objective was to increase private sector engagement in technology transfer to developing countries in the area of climate change mitigation, specifically energy. The matchmaking event developed and utilised an online platform by which NDEs, development organizations and businesses from 29 countries uploaded their climate technology needs and offers. It led to about 70 bilateral meetings among the NDEs and climate technology providers during the GSTIC event held on 20 and 21 November 2019.

Asia Matchmaking Workshop: The CTCN also organized regional workshops with NDEs and Network members. With support from the European Commission, the CTCN organized the first private sector matchmaking event for NDEs in Asia-Pacific. More than 60 participants from 29 countries including NDEs, governments, climate technology service providers, and private sector representatives participated. During the 2-day event, about 90 meetings were scheduled involving NDEs and technology providers. As a result of the event, 10 technical assistance requests were developed by NDEs for assistance with various technologies.
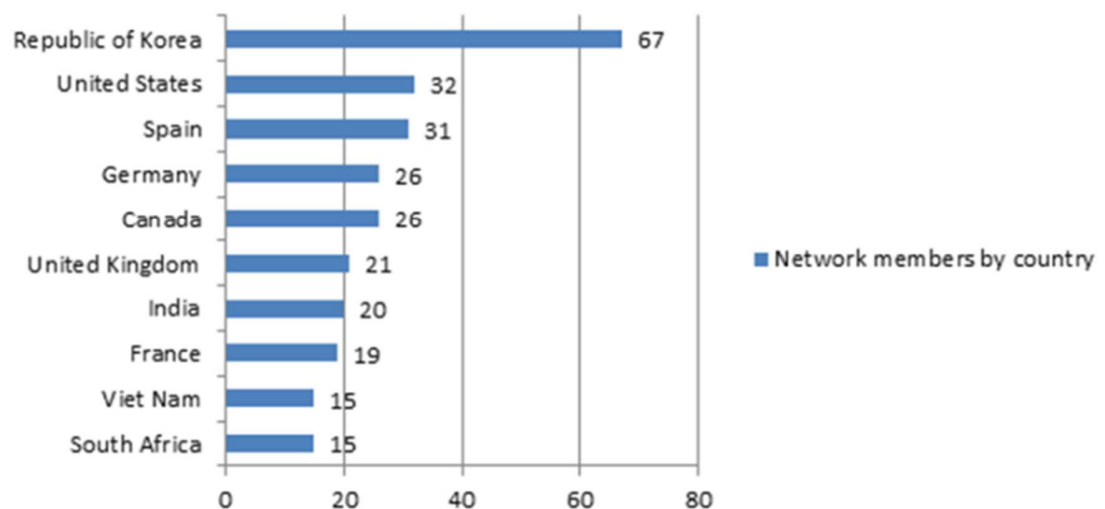
Building capacity on climate technologies and mobilizing and engaging with private sector: In September, the CTCN, the West African Development Bank, the Central African Forest Commission, and the Central African Development Bank jointly organized a multi-day workshop in Douala, Cameroon to introduce climate focal points to private sector and financial representatives. During the event, examples of transformational climate technology initiatives were presented, and matchmaking was conducted among companies from the region as well as outside Africa together with financial organisations. The B2B meetings produced a series of concept ideas to be developed in collaboration with the two regional banks. In addition, numerous potential CTCN technical assistance ideas were discussed. Likewise, capacity building was conducted in terms of how to access financing from relevant financial mechanisms.

Countries with most Network members

Network members by Parties to the convention

■ Annex I ■ Non-Annex I ■ International partnerships/initiatives

International partnerships/initiativ es
2%

Annex I
47%

Non-Annex I
51%
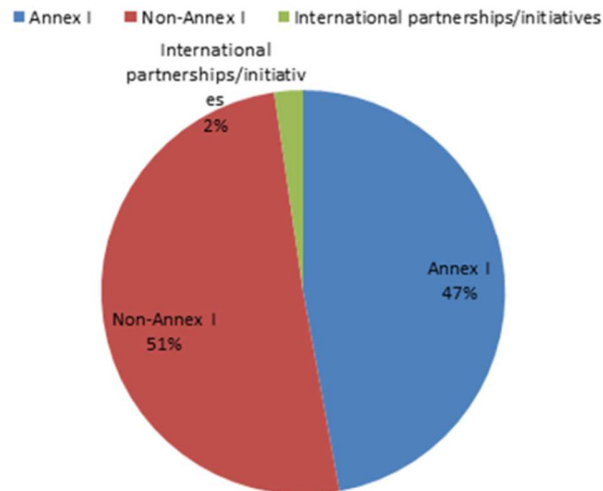
Network members by expertise (Mitigation)

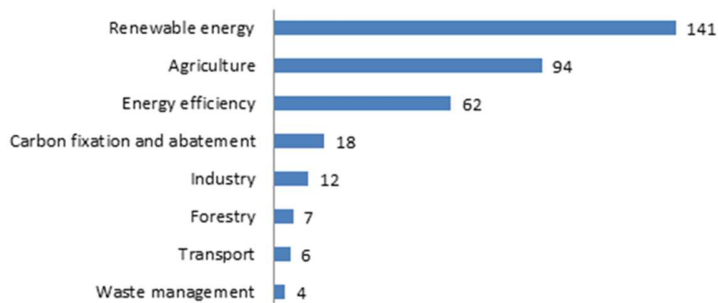| Expertise	Value
Renewable energy	141
Agriculture	94
Energy efficiency	62
Carbon fixation and abatement	18
Industry	12
Forestry	7
Transport	6
Waste management	4

Network members by expertise (Adaptation)

Expertise	Value
Early warning and Environmental...	42
Coastal zones	36
Forestry	31
Infrastructure and Urban planning	14
Water	12
Marine and Fisheries	2
Human health	2
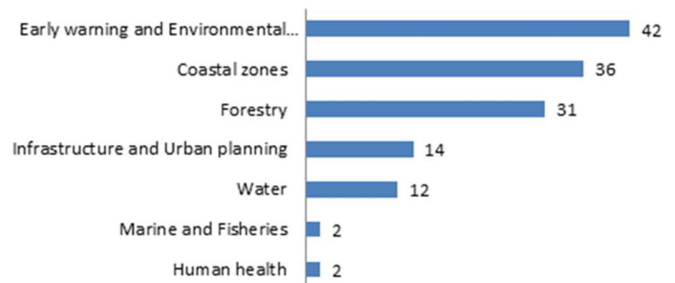
B.   Capacity building:
1.   Global:

Climate weeks/regional forums (AOP 2.14)
The Centre continued to engage National Designated Entities through CTCN Regional Forums, which were held alongside regional UNFCCC Climate Weeks in order to provide NDEs with the opportunity to interact with representatives of relevant climate change initiatives and the bodies of the Financial Mechanism. Further information on the Regional Forums can be found below under each specific region.

Secondment Programme:
The CTCN's Secondment Programme provides a valuable platform to expand the CTCN's abilities to respond to developing country needs by utilizing the expertise of its Network members, NDE institutions, and Consortium partners, while providing those partners with hands-on experience with the CTCN's global climate technology work. In 2019, the Centre welcomed a number of new Secondees from partner institutions including the Centre's Consortium Partner, the Energy and Resources Institute (TERI) as well as the Green Technology Centre (GTC) Korea and the Korean Ministry of Science and ICT.

Webinars:
In 2019, the Centre continued its series of climate technology webinars to provide tutorials on a variety of technology sectors, share guidelines for appropriate business models as well as sustainable ways to finance climate technology through impact investment. Five webinars were presented this year, attracting 357 participants from 114 countries. The webinars mobilised the Centre's pool of experts including NDEs of France, Germany and Togo, as well as Consortium and Network members.
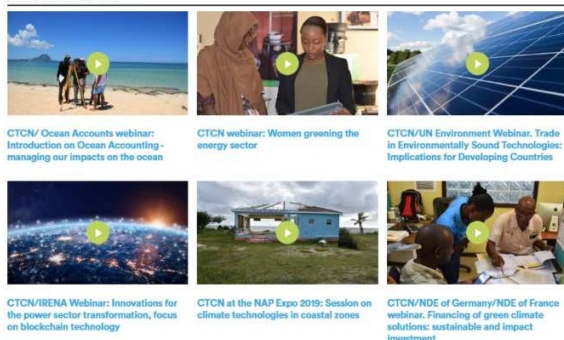
During each webinar, participants have shown a strong interest in presented topics and many requested follow- up webinars about specific cases or to apply the knowledge or tool learned from the webinar into their own cases. The webinars received positive feedback from the post-webinar surveys, with 94% of responses indicating that webinars contributed to improving the level of their knowledge on the topic.

Webinars featured in 2019 and their presenters:

- The Shand CCS Feasibility Study - Second Generation CCS for the Globe and Multi-Sector (CTCN/The International CCS Knowledge Centre)
- Financing of green climate solutions: sustainable and impact investment (CTCN/NDE of Germany/NDE of France)
- Innovations for the power sector transformation, focus on blockchain technology (CTCN/IRENA)
- Trade in Environmentally Sound Technologies: Implications for Developing Countries (CTCN/UN Environment)
- Webinar on Women Greening the Energy Sector (CTCN/TERI/S2 Services/NDE of Togo)

2.   Regions

Africa:

NDE Forum (AOP 2.14, 3.C.5)

The CTCN Regional Forum for Africa was organized in March in Ghana in parallel with Africa Climate Week. The Forum gathered over 40 African National Designated Entities as well as CTCN Advisory Board members, Consortium Partners and Network members to share experiences in technology development and transfer, especially in terms of those technical assistance cases which have led to financing. Interaction between participants during the Forum led to the creation of new technical assistance requests, such as multi-country technical assistance requests on geothermal direct use applications; developing a Framework for Energy Efficiency Act; and exploring the concept of centres of excellence for renewable energy testing protocols.

Facilitating NDE interaction with national representatives of other bodies (AOP 2.8, 2.18, 3.B.2)

A workshop held in March aimed at strengthening linkages across Africa between National Designated Entities and National Designated Authorities. Among the outcomes of the meeting were five Technology Needs Assessment requests developed for GCF Readiness Support and a multi-country technical assistance request on biomass value chains submitted to CTCN by 14 countries.

In addition, a workshop held in Malabo, Equatorial Guinea resulted in the development of requests for GCF readiness proposals submitted by five countries (Cameroon, Congo, DRC, Equatorial Guinea, and Gabon) to conduct technology needs assessments (TNA). Four of these were submitted to the GCF and were approved in December 2019 and January 2020.

Capacity building workshops (AOP 2.11, 3.C.5)

In addition to the workshop held in Cameroon (described under the Network section) which was both a networking and capacity building event, work began in 2019 on the development of a small and medium sized enterprise Technology Clinic in Kenya and Tanzania. The CTCN aims to strengthen developing countries' industrial small and medium enterprises (SMEs) in order to help them move from conventional technologies to climate-friendly technologies. The intended impact is the transformation of the industrial SME markets is to mitigate climate change while also increasing their efficiency and business competitiveness. The programme consists of the following elements:

- introducing climate technologies and international suppliers to the local SMEs,
- creating linkages to finance,
- building the capacity and awareness of the local industrial SMEs.

In Kenya and Tanzania, the clinic programme includes introducing climate technologies and international suppliers to the local SMEs through matchmaking forums, creating linkages to finance, and building the capacity and awareness of the local industrial SMEs.

Moreover, the CTCN provided extensive capacity building in Africa as part of its technical assistance delivery in 2019. Examples of these include:

- ***Enabling Pwani, Lindi and Mtwara communities to access efficient and low emission biomass stoves for household and institutional cooking (Tanzania):*** Through this assistance, representatives of government, civil society, research and training organizations, community based organizations, charcoal producers, traders and users received training on climate friendly cooking systems. Participants applied a co-learning approach in designing a grassroots training for communities and ultimately 76 men and 42 women completed the course to provide training on sustainable cooking systems at the grassroots level in the three target regions.
- ***Recycling of Organic Waste for Energy and Smallholder Livelihood (Gambia):*** 17 training programmes were conducted in the selected sub-region including 2 char powder production trainings and 15 briquettes production trainings. In all, 322 people were trained as part of the technical assistance to develop a sustainable waste management value and supply chain for improved energy and livelihoods that can be scaled up to national levels.
- ***Capacity building to gain expertise in efficient lighting systems (Tunisia):*** In order to create a local pool of efficient lighting experts in Tunisia and to create a favourable environment for developing other energy-efficient lighting projects, the CTCN developed energy-efficient lighting training materials and delivered train-the-trainer courses to approximately 100 Tunisian professionals. The new trainers will further expand the local skills pool, helping to secure the long-term viability of the national strategy, and promoting wider uptake of energy-efficient and low-GHG-emissions systems.

Asia:

NDE Forum (AOP 2.14, 3.C.5)
The CTCN held its Regional Forum for National Designated Entities of Asian Countries in September during the Asia-Pacific Climate Week in Bangkok, Thailand. The Forum brought together 40 participants representing NDEs from Asian countries, selected Consortium Partners and Network Members, and representatives of the TEC and Green Climate Fund to promote knowledge exchange and strengthen collaboration between CTCN stakeholders and counterparts from other mechanisms under the Convention. Networking opportunities were also created through showcasing of innovative climate technologies that respond to country priorities and support implementation of NDCs. From building energy efficiency in Thailand to enhancing flood and drought management in Myanmar, participants demonstrated the breadth of scope addressed by the CTCN's Asian portfolio. Examples from across Asia highlighted the importance of financing and supportive policy

frameworks for technologies and shined a spotlight on successful examples of engagement with industry as well as the successful leveraging of funds.

Facilitating NDE interaction with national representatives of other bodies (AOP 2.8, 2.18, 3.B.2) and capacity building workshops (AOP 2.11, 3.C.5)
As was referred to in the Forum section above, the Asian Regional Forum provided a platform for discussions among NDEs of the Technology Mechanism together with GCF NDAs and representatives from other Convention bodies.

In addition, the Climate Technology Centre Network and the Economic Commission for Western Asia Technology Centre in cooperation with the National Council for Scientific Research in Lebanon organized a workshop to support countries in accessing technical and financial opportunities in the Arab region. The meeting brought together NDEs and NDA as well as ESCWA representatives, regional experts and researchers. The objective of the workshop was to discuss green and climate technology deployment and access to finance as key means of implementation to accelerate the achievement of the Sustainable development Goals and Nationally Determined Contributions in the Arab region. The participants discussed the importance of investment and technical assistance for the transfer of green technology in the Arab region, including in the field of energy, industry, water and agriculture, and the management of the remnants of war and occupation. The representatives from CTCN as well as the National Designated Entities of Tunisia and Palestine presented technology transfer stories from the region.

Europe:

Capacity building workshops (AOP 2.11, 3.C.5)

In June, the Climate Technology Centre partnered with the European Commission's Directorate-General for International Cooperation and Development to host a workshop at the 2019 European Development Days in Brussels. The workshop focused on eco-villages and how they are serving, in effect, as living laboratories, pioneering innovative solutions testing low-carbon, resource-efficient community design. Speakers discussed differences in eco-village objectives and designs, with examples from West Africa, Asia and Europe. Four factors (culture, ecology, economy, and social systems) were highlighted as key sustainability dimensions of all eco-village models. Workshop panellists and participants then brainstormed together on ways to apply learning from ecovillages in other communities as well as how to up-scale ecovillage initiatives in order to reduce inequalities in addressing climate change.

Latin America and the Caribbean:

NDE Forum (AOP 2.14, 3.C.5)
The CTCN held its annual regional National Designated Entity Regional Forum on August 19-20, 2019 during the Latin America and the Caribbean Climate Week in Salvador Bahia, Brazil, followed by bilateral meetings with countries organised on 21 and 22 August. The Forum was attended by over 46 participants including NDEs, Consortium Partners and Network Members and provided an opportunity to

the NDEs and Network members based in the region to interact and strengthen their relationship with representatives of key financial institutions, regional partners, and others.

The Forum served as an opportunity to present the CTCN regional assistance on circular economy, which Brazil, Chile, México and Uruguay were undertaking. As a result of the knowledge sharing during the forum, 7

other countries from the region also submitted circular economy requests (namely, Antigua and Barbuda, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador and Paraguay).

In addition, three Network members, Carbon Trust (England), Estudio OCA (Spain), and Implementa Sur (Chile) shared best practices during the Forum on topics including climate innovation centres, energy efficiency/ renewable energy, climate finance and policy, and urban design.

C.   Progress against targets

Relevant Annual Operating Plan 2019 targets and achievements are reflected in the table below.

B. Outreach, Networking and Stakeholder Engagement					
Output	Target	Africa	Asia-Pacific	LAC	TOTAL
Number of Private Sector Engagement Events hosted[4]	10-12	2	3	1	6
Number of network members with gender expertise	20-25	-	-	-	44
Number of trained CTCN NDEs	80-100	37	22	24	83
New Network institutions	60-75	-	-	-	46
Number of TA requests implemented by Network members	20-25				20
C. Knowledge Management, peer learning and capacity building					
Regional Forums organized	3-5	1	1	1	3
Thematic programme training sessions organized	10-12	3	5	2	10
National events supported[5]	20-25	1	8	7	16

---

[4] While these activities were included in the AOP, the actual flow of finances prohibited further event organization. In addition, some private sector events which were planned for 2019 in conjunction with other activities have been moved to 2020 to accommodate date changes for those activities.

[5] Figure does not include national events organized as part of technical assistance implementation, which would raise the total number to 26.

Number of trained CTCN clients	500	466	512	543	1521
Number of new countries enrolled in the Incubator Programme[6]	10				0
Number of Secondees	4				4

IV.   Fostering collaboration through access to information

A.   Overview

In 2019, a comparative analysis was conducted between the CTCN knowledge portal, www.ctc-n.org, and similar sites and it was found that **the CTCN knowledge portal is now one of the world's largest online source of climate technology information in the world**. The CTCN knowledge portal also experienced a **70% increase in users** over the past year. Through the application of online analysis tools, it was determined that the most popular search keywords were related to various climate technologies, such as 'solar water purification' or 'surface runoff harvesting'. The CTCN ensured continued accessibility to its more than 16,700 information resources, such as technology descriptions, publications, case studies and national plans, through search engine optimisation methods which enabled the CTCN to filter out broken links and raise the profile and visibility of the website on external search engines. The climate technology information resources are collected, shared and developed by the CTCN's now 120 Knowledge Partners, of which 29 contributed to the CTCN Knowledge Platform in 2019 (3.C.4, 3.C.8). By also maintaining updated information on the CTCN's technical assistance, bidding opportunities, training workshops and

12,012 **Publications**   2,893 **Climate technology descriptions**   1620 **National plans**   125 **Webinars**
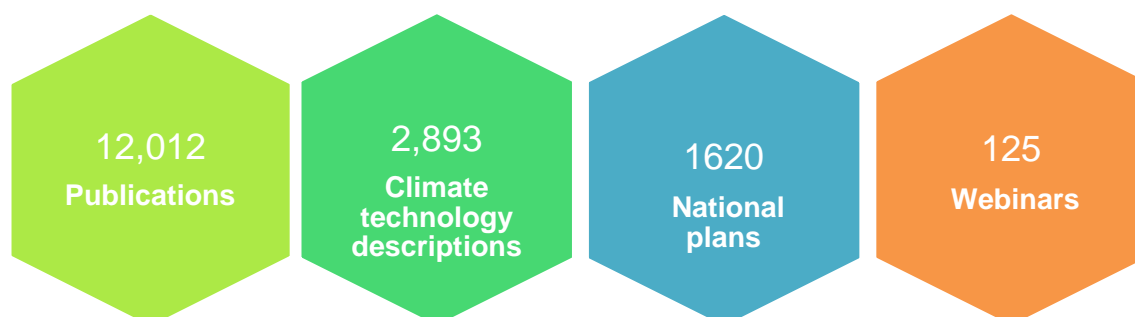
Example of climate technology resources available on www.ctc-n.org

---

[6] The Incubator programme serves LDCs and SIDs, many of which have already been supported over the past few years by the CTCN, GCF, etc. For example, many LDCS have now developed requests for TNA assistance through the CTCN via GCF readiness funds.

webinars searchable by country and theme, users were provided with opportunities to both engage and learn (2.9, 3.C.1, 2.20).

Progress in ensuring long-term sustainability of knowledge platform (AOP 3.C.1, 3.C.8)

In 2019, a comprehensive migration of the CTCN knowledge portal's content management framework Drupal 7 to Drupal 8 was performed. The effort has concluded successfully and will now ensure continued and improved functionality without need for updates for the next two years. In order to maintain not only the functionalities of the knowledge platform, but also better access to its resources, the CTCN worked with a search engine optimization company to systematically identify and correct broken resource links, and address measures to increase the website's visibility on external search engines.

Regional knowledge networks (AOP 2.14, 3.C.2)

By adding keywords to individual knowledge resources based on geographical relevance, theme and specific technologies, users can access information through several different entry points on the CTCN knowledge portal. Due to increased focus on a regional approach in its operations, the CTCN developed a concept for regional knowledge networks with the aim of sharing best practices and lessons learned, maintain stakeholder engagement over time, and support the Centre's identification of regional climate technology priority areas and addressing knowledge gaps. The concept will be piloted in 2020 and lessons learned will provide valuable input to the development of targeted CTCN climate technology knowledge briefs with the aim of addressing needs of key stakeholders and support NDC implementation.

Knowledge resources by region
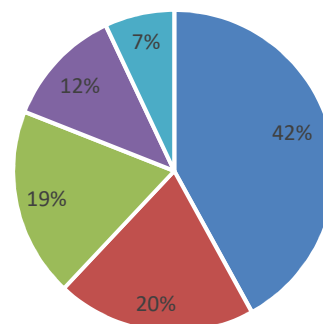
- Asia-Pacific
- Africa
- Europe
- LAC
- North & Central America

42%
20%
19%
12%
7%

Private sector information (AOP 3.B.5)
Examples of targeted resources added to the CTCN knowledge portal in 2019 include publications and case studies on climate funding, investments and de-risking mechanisms of interest to the private sector and institutions. These can be found on the newly created private sector space on the website: https://www.ctc-n.org/node/16467. This page will continue to be further developed now that the Drupal transfer is complete and further web development is again possible.

Knowledge resources by sector

- 14%
- 8%
- 11%
- 17%
- 21%
- 30%

■ Other   ■ Industry   ■ Water

■ Energy efficiency   ■ Agriculture & forestry   ■ Renewable energy
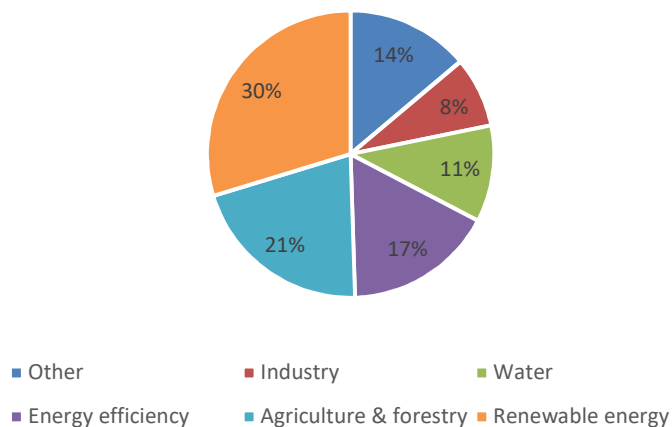
Top 10 countries with most site visits	Top 10 countries which spend most time on the website
- United States - India - United Kingdom - Philippines - Germany - Canada - Nigeria - South Korea - Japan - Kenya	- Turks & Caicos Islands - Iraq - Gibraltar - South Korea - Djibouti - British Virgin Islands - Kyrgyzstan - New Caledonia - Guinea - Tonga

Top 5 most downloaded resources	Top 5 most visited CTCN web pages
- CTCN information brochure - CTCN Progress Reports - CTCN taxonomy - Technical assistance Closure Reports - AB documents	- CTCN homepage - Technical assistance info page - Technical assistance facts & figures - Network info page - Technology brief: solar water purification

Development of communication and knowledge products (AOP 2.20)
In addition to curating available, relevant climate technology information within key sectors, the CTCN also produced original communication and knowledge products in 2019 such as the CTCN Progress Report, Climate Change Strategies 2020 publication, and case studies on gender mainstreaming of energy supply chains in India and Nepal.

CTCN Communication and Knowledge products produced in 2019:
- Climate Change Strategies 2020
- CTCN Annual Report 2019
- Gender-Just Climate Solutions Publication 2019
- Gender resource guide
- Women in Energy: Breaking Stereotypes and Inspiring Change
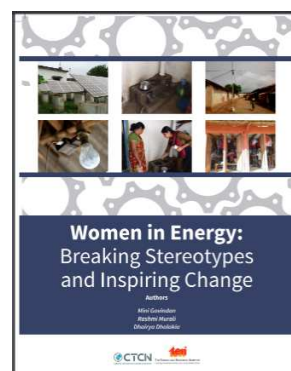
Furthermore, the technical assistance projects implemented in 2019 resulted in numerous key deliverables such as technical briefs, roadmaps, recommendations and other climate technology documents; a number of which have been summarized below.

Examples of CTCN climate technology documents produced in 2019:

Country	Support	Technical document(s)
Antigua and Barbuda	Public building climate adaptation upgrade programme	Feasibility study
Bangladesh	Development of a certification course for energy managers and energy auditors	Course materials, training modules and manuals
Ecuador	Towards a sustainable biodigester sector	Technical inputs for a biodigester component
Ethiopia	Minimum energy performance standards and label design for electric stoves	• Benchmark • Awareness raising and communication strategy

		• Testing procedures for electric stoves
Gambia	Recycling of organic waste for energy and smallholder livelihood	• Situation and synthesis report • Stakeholder analysis • Action plan • Training manual
Ghana, Kenya Mauritius and Namibia	Green Cooling Africa: refrigeration and air conditioning	• GHG inventory for the cooling sector • Technology gap analysis • Policy analysis and recommendations • Technology roadmap
Grenada	Improvement of water supply management through GIS system	Evaluation report of potential GIS software, database and mobile/web software options
Nigeria	Carbon capture and storage potential	GCF readiness proposal
Republic of Congo	Industrial charcoal production	Feasibility study
Thailand	Cassava precision farming to increase productivity and improve water use	Technical proposal
Uruguay	Tools for vulnerability analysis and climate adaptation in coastal zones	User manual
Zimbabwe	Energy and water management in selected sectors	Manual

B.   Progress against targets

Relevant Annual Operating Plan 2019 targets and achievements are reflected in the table below.

Output	2019 Target	2019 Results
Number of social media followers	2500	5796
CTCN-produced materials on technical assistance	25-30	212
Online tools and information materials, including coverage of lessons and best practices captured	3000	320 [7]

---

[7] Due to need for content management migration in 2019, KMS focused more on supportive infrastructure and SEO activities, including review and removal of broken pages with resources linked to external knowledge databases. As a result, the content is now more stable, curated and accessible.

Number of knowledge partners contributing to KMS	25-30	29
Number of thematic events hosted	4-6	30
Annual number of KMS site visits	100,000	251,516

V.   Crosscutting Themes

Gender mainstreaming, youth, communications and monitoring and evaluation are principal crosscutting activities engaged in by the CTCN that support, and are measured across, the full scope of operations. This section of the AOP2019 Report addresses these crucial areas of the Centre's work.

A.   Gender mainstreaming

Technology transfer and uptake can be scaled-up by ensuring men and women's equal access to climate decision-making, finance, and technical skills development. In 2019, the CTCN built on its commitment to ensure delivery of gender-just climate technologies to developing countries through the CTCN Gender Policy and Action Plan, which aims to systematically integrate gender considerations throughout CTCN operations and service areas.

Acknowledgment by the COP
During the COP 25 SBI discussion on the Joint Annual Report of the TEC and CTCN, the Conference of the Parties noted with appreciation the continued efforts of the CTCN in mainstreaming gender considerations in its operations and technical assistance activities and encouraged the CTCN to continue these efforts and to report thereon.

Gender-responsive technology support (AOP I.3, 3.A.5, 3.A.9)
The CTCN Gender Policy and Action Plan was completed in 2019 to guide operations within all CTCN service areas. To support implementation of the action plan, such as for technical assistance, the Centre continues to dedicate *a minimum* of 1 per cent of the budget for mainstreaming of gender considerations. This has resulted in implementers contracting gender experts to perform gender analysis and, if applicable, develop gender action plans as part of the technical assistance. Gender is also more systematically considered throughout TA request development, review process, response plan development, TA implementation and final monitoring & evaluation. As an example, CTCN's criteria for prioritization of technical assistance reflect if the request for technical assistance promotes and demonstrates gender equality, and empowerment of vulnerable groups, including women and youth. The extent and quality of gender mainstreaming will be evaluated in 2020, to report on the newly added gender indicator in the CTCN monitoring & evaluation system. The CTCN Gender Policy and Action Plan also guides the CTCN to consider gender in its own organizational structure as well as enhance its collaboration with key stakeholders.

Enhanced collaboration with UNFCCC Women and Gender Constituency
 In 2019, the CTCN enhanced its collaboration with the UNFCCC Women and Gender Constituency through the organization of the Gender Just Climate Solutions Award. The CTCN was for the third year a member of the jury which selected winners from among nearly 100 organizations. The award was followed by a two-day training workshop for the winners, with the aim of building their capacity to scale up their gender

just climate initiatives through access to funding. The collaboration has now laid the groundwork for an enhanced proposal to scale up the mentoring programme for the organizations.

Case story: Impact stories from the gender mentoring programme
The participants from the mentoring programme hosted for 3 years have reported that the award and previous participation in CTCN and WGC workshops have strengthened their capacities and credibility to key stakeholders in their home countries. In Laos, the award has enabled the organization Gender Development Association (GDA) to collaborate closer with the Lao's Women's Union and Ministry of Forestry on forest protection and gender-responsive non-timber forest production. In India, the winner Bhungroo was empowered to develop a new funding structure for dissemination of their water management technology through a franchise system. As a result, they have increased the reach of their technology four times since last year and now reach thousands of farmers in India, enabling them to grow crops year-round. In South Africa, Gender CC launched a new initiative to support agricultural cooperatives from various regions. Utilizing training from the Upscaling Workshop, Gender CC leaders led the cooperatives in identifying new product lines that offered more drought resistance and trained 6000 farmers on business planning, restructuring their cooperatives and climate-smart farming methods.

Building capacity through trainings and access to information (AOP 3.C.7)
The CTCN online Gender Hub[8] now contains nearly 700 publications, tools and case studies on gender and climate. In addition, the CTCN collaborated with its Consortium partner The Energy and Resources Institute (TERI) to develop case studies on women's empowerment in energy supply chains in India and Nepal. The launch of the publication "Women in Energy: Breaking Stereotypes and Inspiring Change" was followed by a webinar. Other publications developed on gender and technology in 2019 include the Gender-Just Climate Solutions Publication and the Gender resource guide.

The Centre also continues to recognize the importance of building internal capacity on gender and its interlinkages with climate and technology. At AB14, the Board took part in a gender workshop organized by Wiebke Bender, UNFCCC Gender Team, and Karina Larsen, CTCN Gender Focal Point, on steps towards understanding unconscious gender bias and work underway through the Gender Action Plan of the UNFCCC and the Gender Strategy of the CTCN to incorporate gender considerations into the full scope of its work. A similar training was presented to TEC members at their 18th meeting in March.

---

[8] https://www.ctc-n.org/technology-sectors/gender

The following gender-related events and trainings were hosted in 2019:
Events/Meetings:
- Gender-Just Climate Solutions Award ceremony
- SB50: The impact of the Lima Work Programme on Gender and its Gender Action Plan. The CTCN reported on its response to the Gender Action Plan while contributing to the acceleration of technology development and transfer and facilitated workgroup discussions
- SB50: Implementing gender responsive NDC's from the bottom up. The CTCN was invited to present at the Women and Gender Constituency event

Training/Workshops:
- Mainstreaming gender in Technology Needs Assessments
- Women in energy: breaking stereotypes and inspiring change
- Upscaling gender-just climate solutions
- Gender training and technology for TEC members, March 2019
- Gender and technology training for CTCN Advisory Board members, September 2019

Webinar:
- Women in energy: breaking stereotypes and inspiring change

Press conference:
- Presenting winners of the Gender-Just Climate Solutions Award

Gender expertise of the CTCN network
The CTCN has grown its network of organizations with gender expertise and is actively seeking partnerships with organizations experienced in gender and climate. The Climate Technology Network currently has 31 members out of 400 with demonstrated gender expertise. Work is ongoing to generate awareness among climate and gender organizations of Network membership opportunities as well as to engage existing members with gender expertise in knowledge sharing, capacity building and TA activities.

Advisory Board representation
COP guidance specifies that: "Groups or constituencies are encouraged to nominate the government representatives to the Board, with a view to achieving an appropriate balance of expertise relevant to the development and transfer of technologies for adaptation and mitigation, taking into account the need to achieve gender balance in accordance with decisions 36/CP.7 and 23/CP.18." (Annex II Rules of procedure of the Advisory Board of the Climate Technology Centre and Network, Decision 25/CP.19 - Modalities and procedures of the Climate Technology Centre and Network and its Advisory Board).

The CTCN Advisory Board is currently comprised of 9 women and 14 men: a gender distribution of 39% female and 61% male members. This composition represents an improvement over the years. As a comparison, the Advisory Board at AB10 comprised of 26% female and 74% male members.

B.   Youth engagement
The CTCN Secretariat together with the Chair of the CTCN Advisory Board, met with the UNFCCC youth constituency YOUNGO at SB50 in June 2019 to build on previous discussions on enhanced collaboration between the CTCN and youth. The meeting was followed up with the development of a joint workplan. The intention is to provide a platform for youth voices on climate technologies, strengthen capacities, and ensure that CTCN services remain inclusive, relevant and mindful of all stakeholders. YOUNGO, while being a constituency to UNFCCC processes, has its operations and activities spread across 200+ youth-led NGOs, and over 3500 individuals, several of which work on or around the focus areas of the CTCN.

The workplan includes the hosting of joint events, learning workshops and webinars with a focus on youth, climate and innovation. It also aims to provide YOUNGO representatives with internship opportunities with the CTCN to support delivery on the Centre's mandate. Internship focus areas and opportunities which have been identified so far are in the area of research and analysis of trends and impacts, as well as gender mainstreaming and strategic communication. As part of the joint workplan for collaboration, YOUNGO was invited to write an opinion piece on climate technologies and the role of youth for the CTCN 2019 Progress Report. It highlighted the role of youth as drivers of innovation, and the importance of strengthening youth engagement in identification, assessments and decision-making for climate technology implementation.

Furthermore, the CTCN and YOUNGO collaborated at COP25 through a side-event titled 'when youth creates its own future- a focus on climate technologies'. The aim of the event was to highlight youth engagement in climate processes and their role as innovators and climate tech entrepreneurs. The event guided the audience through questions and myths related to youth, climate technologies and innovation. Representatives from the UNFCCC youth constituency as well as a youth entrepreneur presented examples of the kind of ideas and solutions that can be unlocked if youth are empowered with the tools and access to knowledge, capacity building and funding to up-scale their solutions. In view of this event, YOUNGO prepared a roster of youth speakers form which the CTCN could identify a suitable entrepreneur. This roster, if expanded, could be utilized to identify youth representatives for future CTCN events and meetings.

C. Communications and Outreach

Communications strategy (AOP 2.9, 2.16, 3.B.3, 3.C.3, 3.C.4, 3.C.6, 4.1,10)

The Climate Technology Centre implemented its international communication strategy in order to promote the use of CTCN services, engagement of key stakeholders, and demonstration of technology transfer activities and outcomes. The Centre also developed and started implementing regionally tailored communications strategies for the first time in 2019 through social media and collaboration with regional partners.

Communication activities focused on conveying timely information on the delivery of CTCN technology transfer, capacity building and knowledge sharing as well as on generating, gathering and sharing best practice examples on the CTCN web portal and through social media channels. A variety of media channels were utilised including social media and e-newsletter updates, the CTCN Progress report, videos, presentations, web content, technical assistance-related publications, and media engagement. The Centre also developed a private sector page and relevant stories on the CTCN website, articles in the media and CTCN social media channels and newsletter). Tailored materials were also shared at the request of individual National Designated Entities.

The following are examples of communications work completed in 2019:

Videos

Climate Technology Centre & Network (CTCN) collaboration with Antigua and Barbuda

- **CTCN collaboration with Antigua and Barbuda**
  The CTCN video presented technical assistance collaboration with Antigua and Barbuda on rebuilding key public service buildings to withstand extreme weather conditions. More than 100,000 people were reached via social media with 41,000+ views.
  https://www.ctc-n.org/news/ctcn-video-see-how-antigua-and-barbuda-are-building-back-better-after-hurricane
- **Renforcer la participation du secteur privé en Afrique**
  The CTCN together with the West African Development Bank (BOAD) and the Central African Forest Commission (COMIFAC) organized a workshop aiming at strengthening the capacity in terms of climate technologies and engaging with the private sector. The video presented this collaboration.
  https://www.ctc-n.org/news/video-renforcer-la-participation-du-secteur-priv-en-afrique

Media coverage

The CTCN communicated with national and international media in order to raise awareness about the Centre and its operations. As a result, **more than 80 articles** appeared in the local and international media worldwide in 2019. Examples include:

- Africa Climate Week Signals Continent's Huge Investment Opportunity https://www.africanews.com/2019/03/20/africa-climate-week-signals-continents-huge-investment-opportunity/
- Centro da ONU recebe propostas de pesquisa sobre economia circular no Brasil, Chile, México e Uruguai https://nacoesunidas.org/centro-da-onu-recebe-propostas-de-pesquisa-sobre-economia-circular-no-brasil-chile-mexico-e-uruguai/
- L'Ougandaise Dr.Rose Mwebaza prend les rênes du centre et réseau des technologies climatiques des nations unies https://afrique-infos.cm/lougandaise-dr-rose-mwebaza-prend-les-renes-du-centre-et-du-centre-et-reseau-des-technologies-climatiques-des-nations-unies/
- Regional experts meet to promote green technology development https://menafn.com/1098830054/Regional-experts-meet-to-promote-green-technology-development

Press releases:

- Japan contributes 1.9 million USD to boost support for climate technology transfer to developing countries https://www.ctc-n.org/news/japan-contributes-19-million-usd-boost-support-climate-technology-transfer-developing-countries
- First Deputy Director appointed for the CTCN https://un.dk/news-and-media/first-deputy-director-appointed-for-the-un-climate-technology-centre-and-network
- Climate Technology Centre and Network welcomes its new Director https://www.unido.org/news/climate-technology-centre-and-network-welcomes-its-new-director
- The CTCN reports record number of requests for climate technology transfer https://www.unenvironment.org/news-and-stories/press-release/ctcn-reports-record-number-requests-climate-technology-transfer
- CTCN, Adaptation Fund and UNDP launch new grant programme to foster innovation of adaptation practices https://www.adaptation-undp.org/adaptation-fund-launches-new-grant-programme-foster-innovation-adaptation-practices-vulnerable
- Gender Just Climate Solutions Awards: Winners announced https://www.ctc-n.org/news/cop25-gender-just-climate-solutions-awards-winners-announced

- Winners of GEF Challenge Program for Adaptation Innovation announced https://www.thegef.org/news/winners-gef-challenge-program-adaptation-innovation-announced

Press events
- Gender Just Climate Solutions Awards, COP25
- Circular economy trends, COP25

CTCN Newsletters
The CTCN distributed 23 e-newsletters to over 18,000 subscribers. E-newsletters contain information on relevant climate technology events, trainings, and technical assistance.

Social media
The CTCN utilised select social media sites (including Facebook, Twitter, YouTube, and Vimeo) to broadly disseminate information on the Centre's work. CTCN communications include a variety of different formats, including text, pictures, and videos and content was updated daily. In December 2019, there were more than 5,603 followers on social media. The CTCN also utilised the social media channels of UNEP, the UNFCCC and UNIDO to further broadcast its messaging.

Top 3 most popular social media posts
• Video from Antigua and Barbuda • It's one week to go until Asia-Pacific Climate Week in Bangkok • CTCN vacancy: Adaptation Specialist, Asia-Pacific

Presentations at international/regional events

The CTCN presented at 60 international and national events throughout 2019 in order to generate awareness of CTCN services and share technology information. Some events were hosted or co-hosted by the CTCN while others were organized by CTCN partners in which the CTCN was invited to present.

Top 3 most visited events
• COP25 UNFCCC Technology Mechanism side event • Deep Dive Workshop, Asia Clean Energy Forum 2019 • COP25 Gender-Just Climate Solutions award ceremony

COP 26 highlights
Negotiators spent a considerable amount of time discussing CTCN operations and delivery including reporting on results and impact and financial Sustainability of the CTCN as part of the discussion of the CTCN Joint Annual report with the TEC.

Technology Mechanism collaboration:
• Event engagement: the CTCN and TEC organized and co-hosted the Technology Mechanism side event "Delivering technological trans-formation to support countries in implementing the Paris Agreement", Endogenous Technologies Side Event; Meeting of Technology Mechanism Chairs

- Joint Technology Mechanism pavilion: the CTCN designed and contracted the building of a pavilion to represent the Technology Mechanism at COP25. More than 600 people visited the pavilion, there were held numerous bilateral meetings.

The CTCN undertook several engagements with the **Financial Mechanism** of the UNFCCC that included bilateral consultations and formal joint events (including the Adaptation Fund, the Green Climate Fund, the Global Environment Facility). The CTCN Director also met with the **executives of the CTCN's host agencies,** Executive Director of the UN Environment Programme, Inger Andersen, and the Director General of UNIDO, Li Yong).

The CTCN Director participated in a number of **ministerial meetings** with the Ugandan Delegation and Minister of Environment, the Minister of Environment from Rwanda, and the Minister of Environment from Zimbabwe. The CTCN also organized a meeting with the Chair of the Africa Group of Negotiators and a joint meeting of the NDEs from Annex 1 and non-Annex 1 countries. In addition, several high-level meetings were organised with relevant private sector representatives throughout the COP.

CTCN events

30 events organized/contributed and hundreds of meetings at the UNFCCC Technology Mechanism Pavilion at COP25. The total estimated number of COP participants attending events in which the CTCN was featured totalled 1680.

Key communications facts:	
30	events organized or presented at during at COP25
1680+	participants at CTCN events at COP25
600+	people visited CTCN Pavilion at COP25
90,000+	people reached with CTCN video from Antigua and Barbuda
18,000+	people subscribed to CTCN newsletters
86	media mentions
54.8K EUR	value of media mentions per month
18%	increase in social media followers in 2019

D.   Monitoring & evaluation

Additional attention will be given to results-based management including through building staff capacity, aligning financial planning and reporting to expected results, and further refining the theory of change to match actions to intended impacts. (AOP 1.6)

In the development of its 2020 Annual Operating Plan, the CTCN Secretariat took several steps to ensure that the activities planned, and the budget allocated, would best serve the Centre's mission. The AOP was structured according to the Paris Agreement Technology Framework, and activities contained under the five Framework elements were planned by each of the Centre's teams in consultation and coordination with the Director and the full CTCN staff. In this way, the Secretariat ensured that the planned activities were strongly aligned with the proposed budget, made use of synergies among various activities, and that activities contribute to concrete outcomes under the Technology Framework.

Reporting procedures for CTCN activities, including to donors, will be revised in order to facilitate ease in assessing the timeliness and effectiveness of CTCN actions. This will include uniform and systematic annual reports to the Advisory Board corresponding to the Annual Operating Plans. (AOP 1.6)

The Secretariat further systematized its method of reporting to donors to ensure consistency and timeliness of reporting. An internal donor reporting database was created to track reporting requirements and deadlines, in order to ensure the coordinated approach to resource mobilization and donor engagement. Existing templates, donor agreements, pledge letters and reports have been reorganized to ensure effective data collection and information accessibility.

The transparency of CTCN funding arrangements will be strengthened and communication on impacts will be enhanced. (AOP1.6)

To the extent possible, CTCN funding agreements are made available on the CTCN knowledge platform. The work carried out in 2019 on the development of a new monitoring and evaluation system will enhance the CTCN's ability to report on its impact in a consistent manner.

The CTCN will continue to refine and enforce its framework to monitor and evaluate the effectiveness of the assistance it provides to countries. The CTCN aims at ensuring its support is targeted towards activities that demonstrate concrete quantitative impact or new and transformative policies and measures. It will do so, also through a Monitor and Evaluation section in the CTCN Knowledge Management System that enables an easier and more consistent way to capture key data. (AOP 2.19)

In order to better evaluate the effectiveness of the assistance it provides to countries and to demonstrate impact, the Secretariat engaged the support of a monitoring and evaluation (M&E) expert from its Network to undertake a comprehensive restructuring of the CTCN M&E system. In addition, and with thanks to pro-bono support from USAID, a review of the new M&E system was made by an expert in February 2020. The CTCN M&E system was developed in parallel to the development of a similar M&E system for the Technology Executive Committee. The two systems were informed by a thorough review of reporting needs, COP guidance and previous Advisory Board recommendations. A key feature of the new CTCN M&E system is its alignment with the Technology Framework and its five themes. This will support the CTCN in planning and reporting on activities under these thematic areas. A post-implementation survey for NDEs has also been developed to capture actions on the ground upon completion of CTCN technical assistance.

> **At the core of the new M&E system are 44 indicators to capture qualitative and quantitative data. These have been simplified, clarified and harmonized across the CTCN's three main service areas. The indicators now lay the foundation for the 2020 Annual Operating Plan.**

M&E system infrastructure at a glance

This section provides a brief overview of the components of the new M&E system:

- **Theory of Change (ToC):** Guided by the Technology Framework and CTCN Programme of Work 2019-2022, the ToC provides a strategic overview of the CTCN activities aligned with Technology Framework themes, and supports the Secretariat's decision-making and planning processes by illustrating the main anticipated outputs, outcomes and impacts to be achieved by the CTCN.

- **Performance Measurement Framework (PMF):** The PMF translates the ToC into specific indicators to capture the outputs, outcomes and anticipated impacts from all service areas to be reported on by CTCN Secretariat and technical assistance implementers. Collection of data on the PMF indicators will support CTCN in its reporting to COP, host agencies, donors and public communication of its impact.

- **44 indicators:** The number of indicators in the M&E system have been reduced by 30% to a total of 44 indicators which cover both qualitative and quantitative data. The indicators include 4 core impact indicators for technical assistance.

- **4 indicator methodologies:** Core impact indicators were provided with more detailed definitions, descriptions and methods for data collection to support CTCN technical assistance implementers in responding to the indicators in a harmonized and standardized manner.

- **6 data collection tools:** To assist data collection, 6 templates and surveys have been updated and developed. These include Impact and Closure Report templates that need to be completed by technical assistance implementers, event reporting and training feedback templates, NDE feedback forms, and a survey that will be circulated among NDEs every two years with the aim of collecting post-implementation data. (AOP I.6).

- **Online M&E platform:** To ensure transparency, and a reliable and consistent management of data, an online M&E software has been set up for data storage, management and visualisations. As data is collected in 2020, the aim is to provide dynamic and real-time visualisations on the CTCN's website.

A visual overview of CTCN M&E system
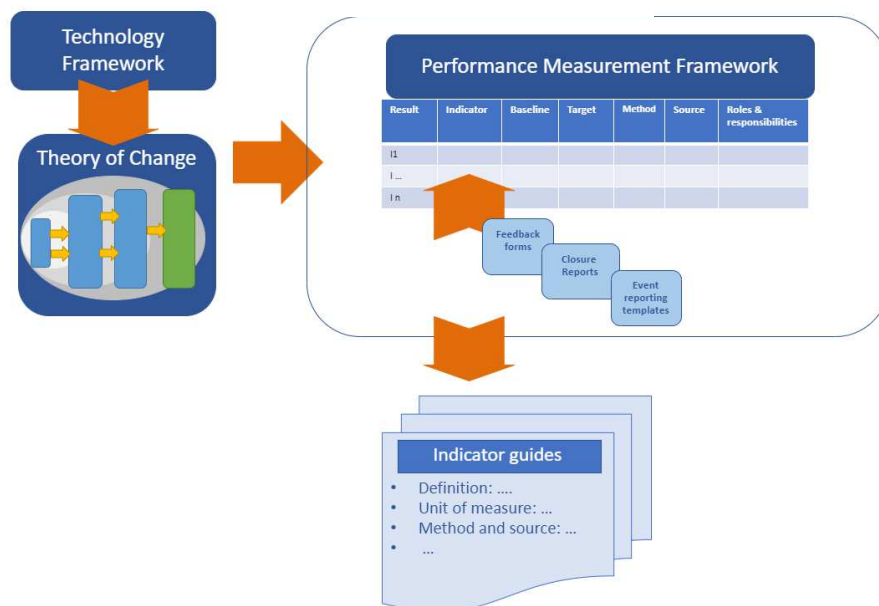
	Greenhouse Gas Reporting Guidance for Technical Assistance Implementers

The indicator quantifies the anticipated volume of tonnes of carbon dioxide equivalent (tCO_2e) of emissions reduced or sequestered as a result of CTCN technical assistance and subsequent activities. The indicator applies to all CTCN technical assistance (TA) expected to result in project activities with climate change mitigation objectives or with mitigation effects as co-benefits.

Anticipated: This indicator estimates emission reductions that are likely to occur as a result of the implementation of the project activity. As this indicator is reported on at the completion of the TA deliverables and prior to implementation, GHG emission reductions are those anticipated as a result of future project activities.

Project activity: Technical assistance deliverables may contain actionable recommendations or next steps for a variety of stakeholders. A post-TA project activity occurs as a result of stakeholders implementing these recommendations or procedures. The scope of the anticipated post-TA project activity, for the purposes of this indicator, should be commensurate with the scope of the recommendations or implementation plan included in the TA deliverable(s).

Annual: The average estimated emission reductions expected to occur in a calendar year as a result of the project activity compared to the baseline scenario (tCO_2e per year).

Total: The total estimated emission reductions expected to occur as a result of the project activity compared to the baseline scenario for the entire life-of-project.

Life-of-project: The estimated time in which a technology or other project activity is expected to remain in place and operational. Various technologies will have different life-of-project estimates. Local operating conditions

and other factors must also be considered when estimating life-of-project time periods for anticipated project activities.

The methodology for quantifying this indicator is based on the World Resources Institute's 'GHG Project Protocol for Project Accounting'[9], the "Project Protocol".

Unit of measure	Metric tons of CO_2 equivalent (tCO_2e)
Disaggregation	Annual (emissions per year) Total (life-of-project emissions)
Theory of change	Reducing or avoiding CO_2 emissions is part of the long-term desired impact of the CTCN services, contributing to the mitigation of climate change and to the transformational change and low-emissions development strategy set forward by the Paris Agreement.
Risks and assumptions	Ex-ante emission reduction estimations are subject to different degrees of precision, depending on the available data and the quantifiers' knowledge and skills. It is assumed that the NDEs and/or TA implementers have sufficient technical capacities and access to quantified data to perform an adequate ex-ante quantification of expected GHG emission reductions. Anticipated emission reductions have not yet occurred but are likely to occur if the recommendations or next steps described in the TA deliverables are fully implemented. However, full implementation is not assured.

Data, method and source	The basic steps for an ex-ante estimation of GHG emissions reductions or sequestration for a technology development, deployment and/or transfer project are detailed in the Project Protocol. These guidelines should be used and applied by TA implementers while estimating anticipated GHG emissions reduced or avoided on an ex-ante basis, and can be summarised as follows:
	
	    a) Defining the GHG Assessment Boundary (Chapter 5 of the Project Protocol)
	
	    Defining a GHG assessment boundary involves:
	
	    - identifying the expected post-TA project activity (or activities);
	    - identifying the primary and secondary effects associated with each post-TA project activity; and
	    - thoroughly analysing the secondary effects to determine which are significant for the purpose of estimating and quantifying GHG reductions.
	
	    b) Selecting a Baseline Procedure (Chapter 6 of the Project Protocol)
	
	    For each primary effect associated with a post-TA project activity, the TA implementer shall select and justify the choice of baseline procedure used to estimate baseline emissions. As mentioned above, two procedures exist for estimating baseline emissions associated with an expected post-TA project activity's primary effect: the project-specific and performance standard procedures.
	
	    c) Identifying the Baseline Candidates (Chapter 7 of the Project Protocol)

---

[9] http://ghgprotocol.org/standards/project-protocol

Baseline candidates are alternative technologies or practices within a specified geographic area and temporal range that could provide the same product or service as the post-TA project activity. They can involve both existing and potential technologies and practices. For each expected post-TA project activity, the TA implementer shall develop a complete list of baseline candidates that will be used in the baseline procedures to represent possible alternatives to the project activity. The following steps are required:

- Define the product or service expected to be provided by the post-TA project activity.
- Identify possible types of baseline candidates.
- Define and justify the geographic area and the temporal range used to identify baseline candidates.
- Define and justify any other criteria used to identify baseline candidates.
- Identify a final list of baseline candidates.
- Identify baseline candidates that are representative of common practice (for the project-specific baseline procedure).

d) Estimating Baseline Emissions - Project Specific Procedure (Chapter 8 of the Project Protocol) and Performance Standard Procedure (Chapter 9 of the Project Protocol)

The TA implementer must select or establish referential and operational modalities for the identification and evaluation of baseline scenarios. The baseline scenario must accurately reflect what would have occurred in the absence of the project/technical assistance. For the majority of projects, emissions are not stable in baseline scenarios: businesses would continue to grow; new technologies would have been adopted; and business practices would have become more efficient, even without the new technology. In order to establish these specific dynamics, the TA implementer must document what would have occurred based on the best available project and contextual information and put forward assumptions to cover for information gaps.

The project-specific procedure produces an estimate of baseline emissions for a post-TA project activity's primary effect through the identification of a baseline scenario linked to the specific circumstances surrounding the post-TA project activity. The baseline scenario is identified through a structured analysis of the post-TA project activity and the baseline candidates. This procedure has two components. The first component involves identifying the baseline scenario. The second component involves estimating the GHG emissions associated with the baseline scenario.

The performance standard procedure analyses the GHG emission rates of all baseline candidates to construct a GHG emission performance standard against which expected post-TA project activity emissions can be compared. The performance standard is used to determine baseline emissions for the post-TA project activity's primary effect. Once a performance standard is developed, any number of similar project activities may be compared to it. A performance standard is periodically updated to reflect changing circumstances within the relevant geographic area or temporal range.

e) Quantifying GHG reductions (Chapter 10 of the Project Protocol)

	GHG reductions shall be quantified using the following steps:
	- Identify the time period over which GHG reduction might be quantified (typically the estimated life-of-project for the project activity or service). - Quantify the expected GHG reductions for the post-TA project. The TA implementer must apply the appropriate standards and methodologies to quantify GHG emission reductions and GHG removals. Emissions reductions or increases in GHG removals must be quantified as the difference between emissions and / or removals from sources, sinks and reservoirs of relevant GHGs for the project and those relevant to the baseline scenario. The TA implementer should quantify emission reductions separately for each relevant GHG and its sources, sinks and reservoirs in the project and baseline scenario. The TA implementer must use the tCO_2e as the unit of measure and must convert the quantification of each type of GHG, using the 100-year global warming potentials (GWPs).
Reporting frequency	The GHG baseline should be established during the inception phase of the TA and reported in the TA's monitoring & evaluation (M&E) plan. The final GHG baseline and emission reduction estimate and supporting narratives should be reported in the TA closure report (see TA closure report for required narratives).
Additional resources	A variety of online emissions calculators are freely available. For example: • Clean Energy Emission Reduction (CLEER) Tool https://www.cleertool.org/ • Agriculture, Forestry and Other Land Use (AFOLU) Carbon Calculator http://www.afolucarbon.org/ • Agriculture and Land Use (ALU) National Greenhouse Gas Inventory Software https://www.nrel.colostate.edu/projects/alusoftware/home • GHG Protocol Calculation Tools https://ghgprotocol.org/calculation-tools

VI.   Joint action with the Technology Executive Committee

CTCN engages in the definition of operational modalities between UNFCCC TM and FM to continue building trust and operational relationships. (AOP 3.B.7)

In response to the mandate for the TEC and the CTCN to implement the technology framework, the TEC and the CTCN Advisory Board convened back-to-back meetings and a joint session for the first time in March 2019 in Copenhagen to identify additional areas for collaboration and activities to be undertaken jointly in support of the implementation of the Paris Agreement. Both the TEC and the CTCN Advisory Board recognize the benefits of this collaboration and will consider future opportunities to meet in joint session. A gender workshop was organised by Wiebke Bender, UNFCCC Gender Team, and Karina Larsen, CTCN Gender Focal Point at the 18th meeting of the TEC in order to facilitate a discussion on incorporation of gender considerations into the TEC's workplan.

The identified areas for collaboration for 2019–2022 are research, development and demonstration; uptake of existing technologies; long-term technological transformation; TNAs; monitoring and evaluation of impacts; and communication and outreach. The TEC and the CTCN Advisory Board worked together to

identify activities in each of these areas as well as the possible roles and contributions of each body and will continue to develop them inter-sessionally.

In response to a mandate from COP 23 and guidance contained in the technology framework, the TEC and the CTCN also worked together to develop a system for monitoring and evaluating the impacts of activities under the Technology Mechanism, including indicators and methodologies for tracking progress and support received. Collaboration in this area is expected to continue during implementation of the system to ensure that the two bodies remain responsive to any future relevant guidance from Parties.

The TEC and the CTCN continued to jointly promote and share information on the work of the Technology Mechanism, including through side events and exhibits at sessions. For example, during the Bonn Climate Change Conference (SB50), the two bodies of the Technology Mechanism co-hosted a side event to provide an update on their work. At COP25, the CTCN and TEC organized and co-hosted the Technology Mechanism side event "Delivering technological transformation to support countries in implementing the Paris Agreement". The two bodies also hosted the Technology Mechanism pavilion which provided COP delegates the opportunity to learn more about the CTCN and TEC's work. More than 600 people visited the pavilion and numerous bilateral meetings were in conducted in the space. The CTCN, as host of the Capacity Building Hub's Means of Implementation Day, also invited the TEC to be represented in various events including the TEC organized side event on endogenous technologies.

The TEC and the CTCN also continued to strengthen their engagement with NDEs as well as regional and global stakeholders at CTCN regional forums and UNFCCC regional Climate Weeks. In August, the two bodies organised a regional TEM on mitigation and circular economy solutions and innovation in water and energy management for the agri-food chain, held during Latin America and Caribbean Climate Week. In September, they hosted a regional TEM on mitigation on decentralized solutions for smart energy and water use in the agri-food chain, held during Asia-Pacific Climate Week. The TEC and the CTCN also continued to collaborate with other constituted bodies under the Convention, and on strengthening linkages with the Financial Mechanism. The Chairs of the TEC and of the CTCN Advisory Board participated in:
- The 3rd annual meeting of the GCF with the constituted bodies, at COP 24, to enhance cooperation and coherence of engagement between the GCF and the Technology Mechanism
- The 3rd meeting of the Paris Committee on Capacity-building, at SB 50, to provide input on how to enhance coherence and coordination of capacity-building activities under the Convention
- The UNFCCC gender workshop at SB 50, which focused on mainstreaming gender considerations in the work of the Technology Mechanism
- The informal dialogue of the Local Communities and Indigenous Peoples Platform with constituted bodies at SB 50.

In addition, the TEC and the CTCN met, on the margins of SB 50, with the Chairs of the subsidiary bodies, the high-level champions and the Co-Chairs of the Adaptation Committee to exchange views on the TEP and how the findings from it may be considered at COP 25.

The TEC and CTCN staff and Chairs also met during COP25 to further plan joint activities under the Technology Framework for 2020.

VII.   Resource Mobilisation and Finances
A.   Resource mobilisation

Strengthening cooperation with bilateral programmes and multilateral (including regional) organizations to contribute in-kind and pro bono support to CTCN activities (AOP 2.21)

As described in section II.A. Technical Assistance Overview, extensive efforts undertaken by the CTCN regional teams during 2019 have led to considerable progress in strengthening cooperation with multilateral organizations in terms of supporting CTCN technical assistance and knowledge sharing work.

Identifying roles and responsibilities for resource mobilisation, including through explicit resource mobilization tasks within the annual work plans of CTCN staff (AOP 2.21)

In February 2019, UNIDO hired a Deputy Director to assume responsibility for the CTCN's resource mobilization strategy and efforts.

Establishing clear annual targets for resource mobilization (AOP 2.21)

In the Annual Operating Plan and Budget 2020, the CTCN set annual targets for resource mobilization as below:

- Annual funding mobilized: 10% increase in funding mobilized for CTCN activities
- Value of pro bono and in-kind support secured: USD 500,000 – 1 million
- Level of donor engagement: 10 donors engaged
- Number of technology proposals supported by GEF/GCF: 3-5

Establishing a platform for dialogue with funding partners to enhance transparency with regard to operations, administration, funding agreements, and impacts. (AOP 2.21)

To enhance donor transparency and funds and project management, the Secretariat further systematized its method of reporting to donors to ensure consistency and timeliness of the reporting. An internal donor reporting database was created to track reporting requirements and deadlines, in order to ensure the coordinated approach to resource mobilization and donor engagement. Existing templates, donor agreements, pledge letters and reports have been reorganized to ensure effective data collection and information accessibility. Furthermore, the work carried out in 2019 on the development of a new monitoring and evaluation (M&E) system will enhance CTCN's ability to report on the impact realized by its services in a consistent manner. (For further details, please see the M&E section under Cross-Cutting Themes).

B.   CTCN Financial Statement 2019
1.   2019 Final Financial Report by CTCN Service Areas

The Advisory Board at its 13th meeting approved an Operational Budget of $9.2 million USD (net of PSC) for the year 2019. The CTCN incurred a total expenditure of $6.5 million USD including pro-bono support in the amount of $ 401,998 USD.   46% of the expenditures were for technical assistance; 33% for CTCN operations; 11% for outreach, networking & stakeholder engagement, and 10% for knowledge sharing, peer learning and capacity building. The CTCN achieved an implementation rate of 71% (net of PSC) in 2019.
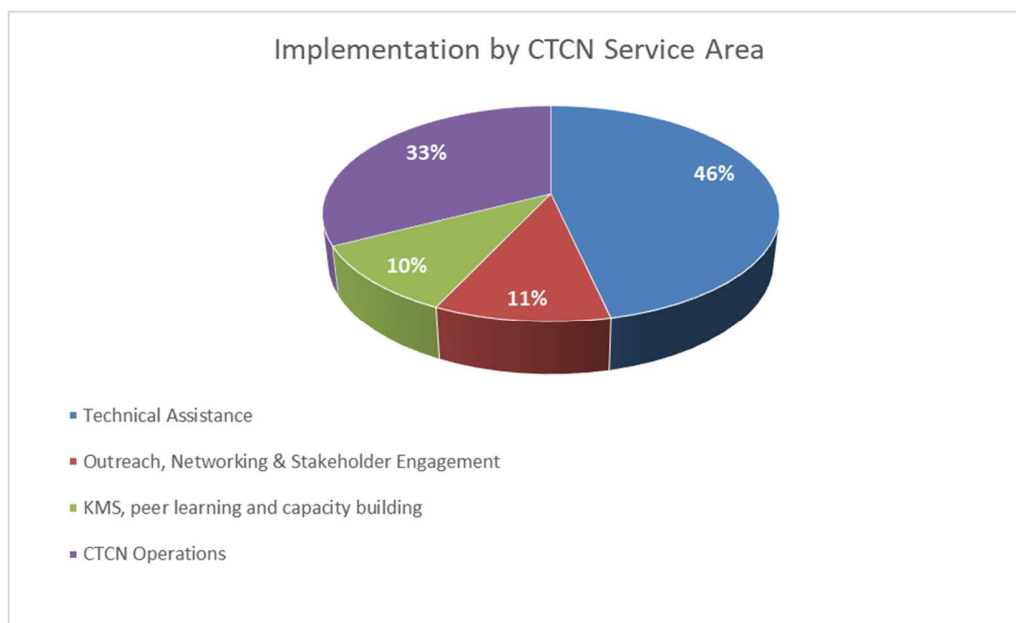
CTCN Service Area	2019 Budget (USD)	CTCN 2019 Final Expenditure 2019 (USD)	CTCN Probono (USD)	CTCN 2019 Final Expenditure 2019, including pro-bono (USD)	Imp Rate (%)
Requests coordination, refinement, support	590,000	256,683		256,683	44%
Requests implementation	4,460,000	2,368,023	419,948	2,787,971	63%
Total – Technical Assistance	5,050,000	2,624,706	419,948	3,044,654	60%
Outreach and Communication	200,000	158,534	-	158,534	79%
CTCN NDEs and Networking Engagement	550,000	397,867	-	397,867	72%
Stakeholder Engagement	180,000	130,854	-	130,854	73%
Total – Outreach, Networking & Stakeholder Eng.	930,000	687,255	-	687,255	74%
KMS Technical Development	300,000	109,132	-	173,186	58%
KMS Content Development		64,054	-		
Capacity Building activities and material	470,000	472,121	-	472,121	100%
Monitor and Evaluation	60,000	35,802		35,802	60%
Total - KMS, peer learning and capacity building	830,000	681,109	-	681,109	82%
CTCN operations	2,200,000	1,954,168	-	1,954,168	89%
AB Meetings and other UN meetings	200,000	181,731	-	181,731	91%
Total – CTCN Operations	2,400,000	2,135,899	-	2,135,899	89%
Grand Total (net of PSC)	9,210,000	6,128,969	419,948	6,548,917	71%
ESTIMATED PROGRAMME SUPPORT COST	850,000	530,542	-	530,542	62%
Grand Total (including PSC)	10,060,000	6,659,511	419,948	7,079,459	70%

2. Final Statement of Income and Expenditure

The Final Statement of Income and Expenditure is the official statement of UNEP Accounts elaborating expenditure by accounting categories as on 31 December 2019. The document also provides for information only, the total income and expenditure by CTCN in 2019, including by UNIDO. The UNIDO expenditures are reported against UNEP accounting categories, as there is a slight variation in the names of the accounting categories.

Climate Technology Centre and Network			
FINAL STATEMENT OF INCOME AND EXPENDITURE **FOR THE PERIOD 1 January - 31 December 2019**			
USDs	**UNEP**	**UNIDO**[A]	**TOTAL CTCN**
INCOME	2019	2019	2019
Voluntary Contributions	2,473,171	1,350,794	3,823,965
Total Income	2,473,171	1,350,794	3,823,965
EXPENDITURE			
Staff and Personnel Costs	1,472,470	788,659	2,261,129
Consultants	-		-
Contractual Services (Implementing Partners)	2,326,881	540,631	2,867,512
Contractual Services (Commercial)	61,044		61,044
Travel	474,256		474,256
Meetings and Conferences	-	204,141	204,141
Acquisitions	5,277	5,185	10,462
Rentals	-		-
Operating Expenses	179,358	71,069	250,426
Reporting Costs	-		-
Sundry	-		-
Foreign Exchange Loss	-		-
TOTAL EXPENDITURE exl PSC	4,519,285	1,609,685	6,128,969
Programmes Support Costs	368,108	162,434	530,542
TOTAL EXPENDITURE	4,887,393	1,772,118	6,659,511
EXCESS OF INCOME OVER EXPENDITURES	(2,414,222)	(421,324)	(2,835,546)
FUND BALANCE AT THE BEGINNING OF THE PERIOD	7,347,208	3,065,707	10,412,915
Refund to Donor	(4,819)	-	(4,819)
FUND BALANCE AT THE END OF THE PERIOD	4,928,167	2,644,383	7,572,551

[A] *The UNIDO Expense categories are adjusted according to the UNEP categories to deal with the slight variations in the description of the accounting catergories*

_____

Amanda Lees
Administrative Officer
CTCN, Economy Division
United Nations Environment Programme

The income (cash receipts) in 2019 amounted to $3.8 million USD. The distribution is as follows:

Amount	Source	Comments
$ 354,045	Republic of Korea	against 2017 pledge
$ 751,792	Canada	against 2018 pledge
$ 401,998	Republic of Korea	for the personnel cost of Secondee from RoK
$ 200,518	GCF	new in 2019
$ 750,000	MoE, Japan	new contribution in 2019
$ 112,438	Spain	new contribution in 2019
$ 1,150,276	METI, Japan	new contribution in 2019
$ 102,897	Sweden	new contribution in 2019

3.   Projected funds available at the end of 2019

The fund balance at the end of 2019 was approximately $7.0 million USD. Projected Cash inflow in 2020 is USD 7.3 million (EC, Republic of Korea, and MoE, METI, & MOFA, Japan)
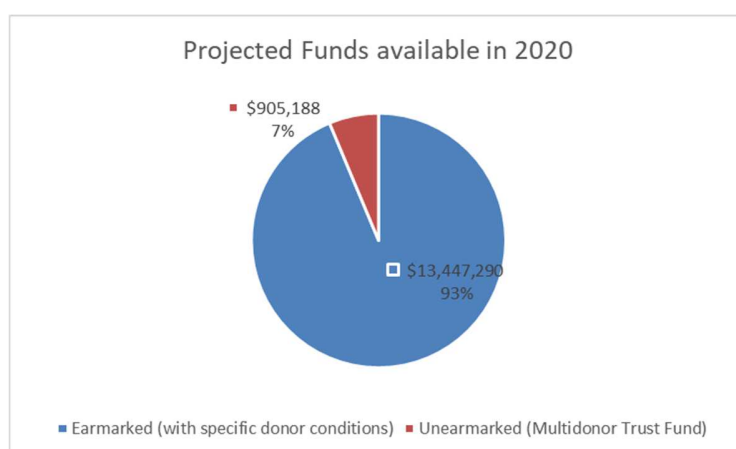
Total Funds Available for 2020

Donor Agreement Conditions	Donor	USD	
Approved Budget	EC	4,013,850	Projected Cash inflow
		1,040,000	Carryover end of 31.12.2019
Capacity Building, Network, Stakeholder Engagement	Republic of Korea	354,045	New Contribution in 2020
		400,000	Carryover end of 31.12.2019
Asia - Mitigation (engery ralated CO2 emissions)	Japan (MOE)	1,600,000	Carryover end of 31.12.2019
Developing Countries - Mitigation (engery ralated CO2 emissions)	Japan (MOE)	460,000	New Contribution in 2020
		750,000	Carryover end of 31.12.2019
Approved Budget	SECO	700,000	Carryover end of 31.12.2019
Technical Assistance + project costs	Japan (METI)	1,400,000	Carryover end of 31.12.2019
Technical Assistance + project costs	Japan (METI)	689,216	New Contribution in 2020
Approved Budget	Japan (MOFA)	1,800,179	New Contribution in 2020
Approved Budget	UNIDO RB	240,000	Carryover end of 31.12.2019
Unearmarked	Multidonor	850,000	Carryover end of 31.12.2019
		55,188	Projected Cash inflow

Total Funds available 2020 onwards	**14,352,478**

Only 7% of the total funds projected in 2020 (carryover + projected cash inflow) are unearmarked.

Projected Funds available in 2020

- $905,188 7%
- $13,447,290 93%

■ Earmarked (with specific donor conditions) ■ Unearmarked (Multidonor Trust Fund)

4. Total funds secured by the CTCN (2013-2020)

Apart from the projected income of $4.0 million USD, the CTCN has not secured any new pledges for 2020 and beyond. This fiscal challenge places the future operations of the CTCN at serious risk, especially from 2021 onwards.

Donor	Cash received (USD)	Balance to be received (USD)	Total Pledged Amount (USD)
Received by UNEP	*47,113,078*	*4,069,038*	*51,182,116*
Canada	4,357,277	-	4,357,277
Denmark	7,225,293	-	7,225,293
European Commission	10,415,838	4,013,850	14,429,688
Finland	216,640	-	216,640
GCF	1,415,534	-	1,415,534
Germany	1,158,207	-	1,158,207
Ireland	216,548	-	216,548
Italy	849,653	-	849,653
Japan	5,816,708	-	5,816,708
Norway	8,499,850	-	8,499,850
Republic of Korea	1,256,575	-	1,256,575
Spain	172,176	55,188	227,363
Sweden	582,471	-	582,471
USA	4,930,308	-	4,930,308
Received by UNIDO	*13,408,834*	*-*	*13,408,834*
GCF	200,518	-	200,518
GEF	1,971,000	-	1,971,000
Japan	5,693,136	-	5,693,136
Switzerland	4,296,515	-	4,296,515
UNIDO RB	1,247,665		1,247,665
Received TOTAL	*60,521,912*	*4,069,038*	*64,590,950*