



CTCN

CLIMATE TECHNOLOGY CENTRE & NETWORK
UNFCCC Technology Mechanism

Introduction to the Climate Technology Centre and Network of the UNFCCC

Workshop “Mainstreaming Technology in Climate Action Plans”, 7 June 2018, Tashkent, Uzbekistan

UN 
environment



Overview

I. Presenting the CTCN:

- CTCN Mission
- CTCN Core Sectors
- CTCN Services

II. The CTCN within the UNFCCC framework: key COP23 outcomes for CTCN

III. Linkages with the Financial Mechanism of the UNFCCC

IV. Towards a CTCN approach on National Systems of Innovation (NSI)

V. Towards a CTCN approach on Incubators/Accelerators

VI. Technology Framework

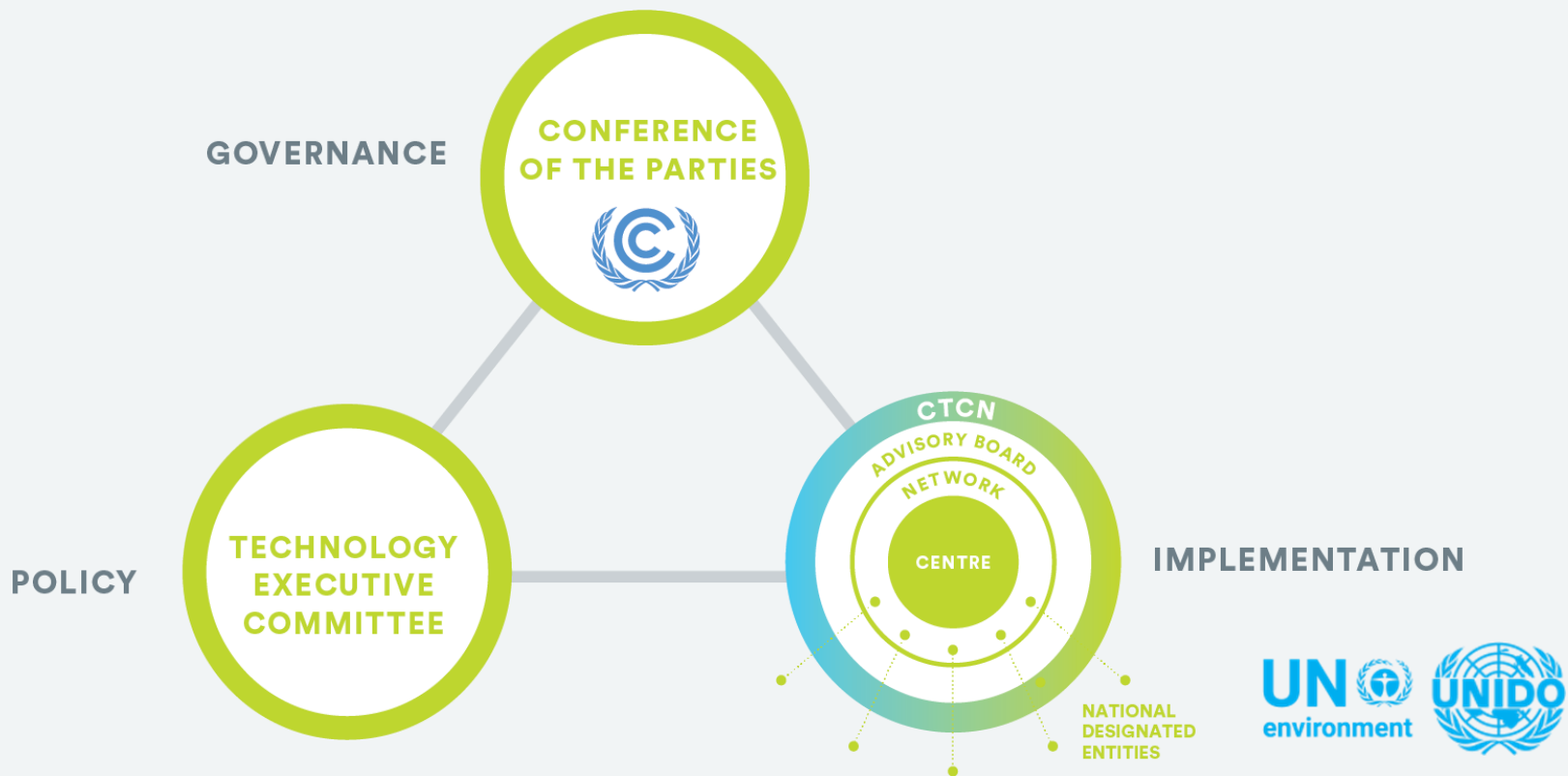
VII. Other key strategic CTCN priorities

CTCN Mission

To promote the accelerated development and transfer of climate technologies at the request of developing countries for energy-efficient, low-carbon and climate-resilient development



The CTCN, Anchored in the UNFCCC





Our network has
417 members in **80** countries

MEMBERSHIP BY INSTITUTION TYPE



43,5 %
 Private Sector
 Organization



23 %
 Research/Academic
 Institution



20,8 %
 Non-Profit/NGO



7.6%
 Public Sector Organization



2,6 %
 Intergovernmental/
 Regional Organization



1,9 %
 Partnership/Initiative



0.5%
 Financial Institution

CTCN core sectors



↓ MITIGATION

- Agriculture
- Energy Supply
- Forestry
- Industry
- Transport
- Waste Management

↻ ADAPTATION

- Agriculture & Forestry
- Coastal Zones
- Early Warning & Environmental Assessment
- Human Health
- Infrastructure, Transport & Urban Design
- Marine & Fisheries
- Water

CTCN Services: matching developing country needs for climate technologies with global expertise



1. Technical Assistance

- TA is the primary service offering of the CTCN
- Respond to requests from NDEs – country driven approach

2. Capacity building & Knowledge Management

- Strengthen enabling environments
- Access vetted climate technology information

3. Network & Collaboration

- 417 Network members
- Competitive bidding for targeted implementation

Key COP23 Outcomes for CTCN

1. Joint Annual Report of TEC & CTCN

- Strengthened collaboration with TEC, GCF, GEF, MDBs, other stakeholders
- Continued CTCN support for enhancing capacity of NDE
- Noted funding challenges and that further financial support should be provided

2. Independent Review

- 4-year renewal of CTC hosting MOU between UNFCCC and UN Environment
- Invited UN Environment to prepare a management response to be considered at SB48



Key COP23 Outcomes for CTCN

3. Talanoa Dialogue/pre-2020

- Support Paris work programme
- Year-long facilitative discussion chaired by COP presidencies
- Action towards long-term goal, guide NDC preparation
- Technology Expert Meetings
- Technical examination process (including regional/thematic mtgs)

4. Technology Framework

- Continued & additional collaboration with TEC

5. Gender

- CTCN role in FCCC Action Plan

6. Poznan Strategic Programme

- GEF7 + STAR allocation reporting for TNA & technology pilots
- CTCN to report via GEF to COP on focal point collaboration



Linkages with the Financial Mechanism of UNFCCC

UNFCCC Technology/Financial Mechanism Linkages discussion ongoing since 2015; strong decisions from COP21&22, resuming at COP24

GEF + recipient countries urged to explore with CTCN

- Ways to support technology through GEF6
- And new ways to support technical assistance

Country-level guidance (Marrakesh)

- Importance of strong collaboration between national GCF, GEF and technology focal points
- Developing countries invited to submit projects based on TNA + CTCN Technical Assistance to GCF
- NDA invited to use GCF Readiness funds to undertake technology needs assessments and implement technology action plans

Towards a CTCN approach on National Systems of Innovation (NSI)

Possible reactive activities (in response to country requests)

- Strengthening enabling frameworks (e.g. develop sector-specific innovation roadmaps; policies that incentivize investments in innovation; standards and certifications for emerging technologies; procurement guidelines)
- Strengthening capacity of “coordinating institutions”
- Developing innovation elements of funding proposals
- Engaging stakeholders (e.g. stimulate the linkages between government, academia, the private sector and research organization/institutions)
- Facilitating twinning arrangements between countries’ research institutions on climate technology innovation

Possible proactive activities

- Evaluate opportunities for collaborations with TEC to
 - develop tools and methodologies for countries to map and define quality of innovation systems (building on existing initiatives)
 - develop indicators to measure success of support towards innovation
- Share best practices and tools from Network and Technical Assistances

Towards a CTCN approach on Incubators/Accelerators

CTCN should not engage in the establishment, promotion, or operation of an incubator – accelerator programme.

CTCN could:

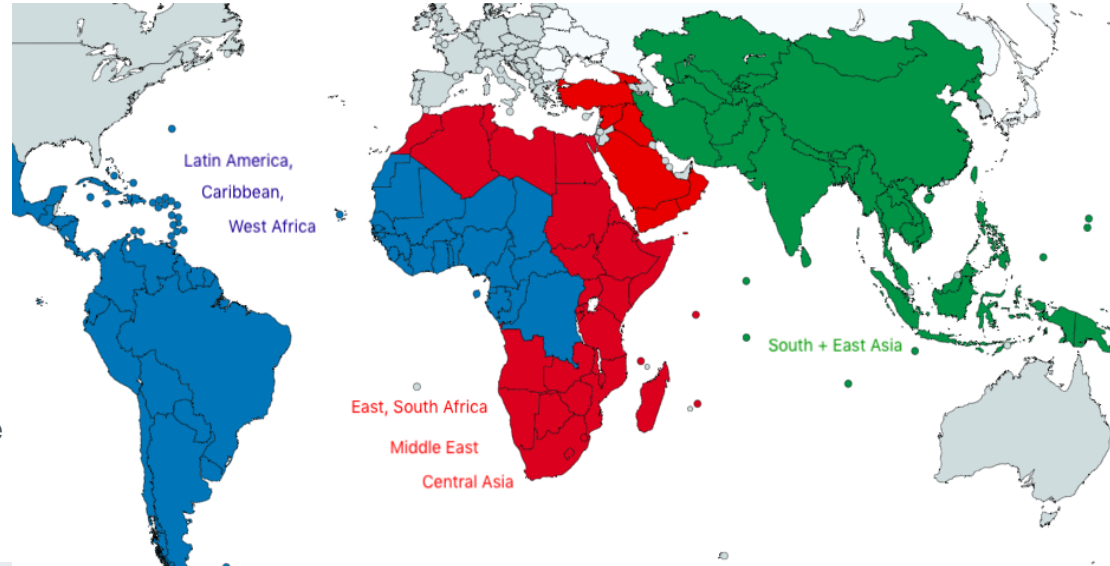
- Use its convening power to establish a network of incubators
- Draw and share lessons learnt from technical assistance
- Distil knowledge and information from the network: what is working – what is not
- Provide support – strengthen capacities of existing institutions
- Focus strongly on adaptation as it is more dependent on best practices, promotion of local solutions, and endogenous technologies

Technology Framework

- Article 10 of Paris Agreement (2015) calls for a Technology Framework supported by the Technology Mechanism
- Considered at upcoming UNFCCC Negotiation (May '18); decision at COP24 (December '18)
- Early identification of roles for CTCN:
 - Collaborative RD&D
 - Use of Network + NDE to engage private sector
 - Capacity Building
 - Support to NDE
 - Adoption of transformational approaches
 - Reporting on provision of support

Other key strategic priorities

- 2018-2021 Programme of Work, w/ focus on:
 - Transformational impact
 - Regional requests
 - Maximizing use of resources
- Reorganization of CTCN
 - Regional basis
 - Single point of entry
- Implications for NDE
- Fast Technical Assistance
- GCF – Vision to Concept
- Technology Clinics- Small and Medium Scale Enterprises



Some key priority technologies

Adaptation priorities

- Agro-meteorological forecasting systems for farmers and local decision-makers
- Small scale water delivery technologies for irrigation and domestic use
- Urban adaptation planning tools
- Hydro-dynamic modelling merging user need projections
- Data systems development in support of integrated coastal zone management for adaptation measures
- Monitoring systems and indicators for adaptation planning (local and national)
- GIS-based tools for water management

Mitigation priorities

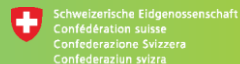
- Minimum energy performance standards (MEPS) & energy labelling (in light of market creation)
- Industrial energy efficiency (EE)
- Electric grid stability and renewable energy (RE) penetration
- Policies, master plans and market assessments for RE and EE
- Building codes
- Planning for sustainable cities
- Waste-to-energy solutions in both agriculture and municipalities
- Low-carbon mobility
- Gender mainstreaming in energy access
- Circular economy: waste and industrial symbiosis (this topic may combine number 7 and 2)

- Secure our role in the Paris Agreement + raise profile outside the Convention
- Empower National Designated Entities among key climate focal points
- Optimize Consortium Partner services, build Network, leverage pro-bono \$
- Deepen engagement with existing and potential bilateral donors
- Formalize linkages with GCF, build on relationship with GEF
- Engage Regional Development Bank technology centres
- Reinvigorate Private Sector Engagement Strategy
- Focus on key sectors + regional transformative interventions



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UNFCCC Technology Mechanism



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MINISTRY FOR FOREIGN
AFFAIRS OF FINLAND



Comhahool, Pobel agus Rialtas Ábhaí
Environment, Community and Local Government



Government Offices of Sweden
Ministry of the Environment and Energy

Thank you



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UNFCCC Technology Mechanism

CTCN Activities and Updates

Workshop “Mainstreaming Technology in Climate Action Plans”, 7 June 2018, Tashkent, Uzbekistan



National level

- Technical assistance: 203 country-driven requests received from 85 countries; 42 completed to date, 73 under implementation
- Incubator programme for LDC and SIDS
- 'Vision to Concept' programme to help develop GCF concept notes

Regional level

- Regional forum with NDEs, network members & the private sector
- Workshops for the various national focal points under UNFCCC

International level

- 417 Network members + Consortium partners
- Webinars on climate technologies, information portal
- Online technology library

CTCN Technical Assistance

Provided:

- To developing countries upon their request
- State of the art and locally relevant expertise
- To academic, public, NGO, or private entities
- For a broad range of adaptation and mitigation tech

At all stages of the technology cycle:

- Identification of technology needs
- Prioritization of technologies
- Feasibility analysis of deploying specific technologies
- Support to identify funding for specific technologies
- Support testing of technologies
- Support laws and policy frameworks

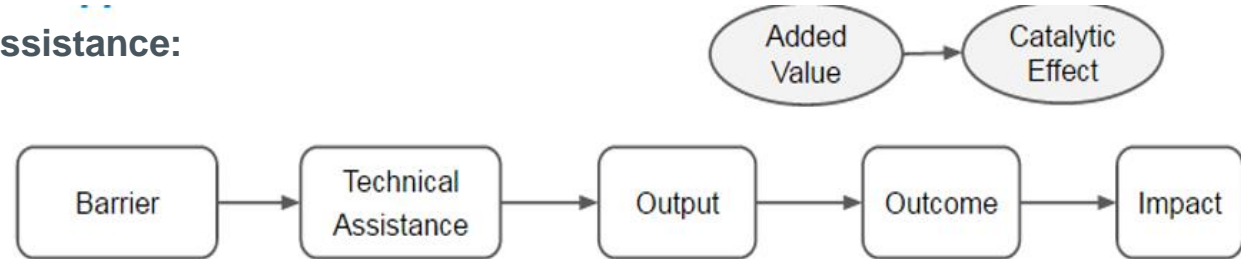
“The CTCN can accurately find the right experts, help to develop technology options, remove the barriers and also identify financial partners to implement technologies in countries.”

MR. ISSAKHA YOUM
CENTRE D'ETUDES ET DE RECHERCHES SUR LES
ENERGIES RENOUVELABLES, SENEGAL (ICTCN NDE)



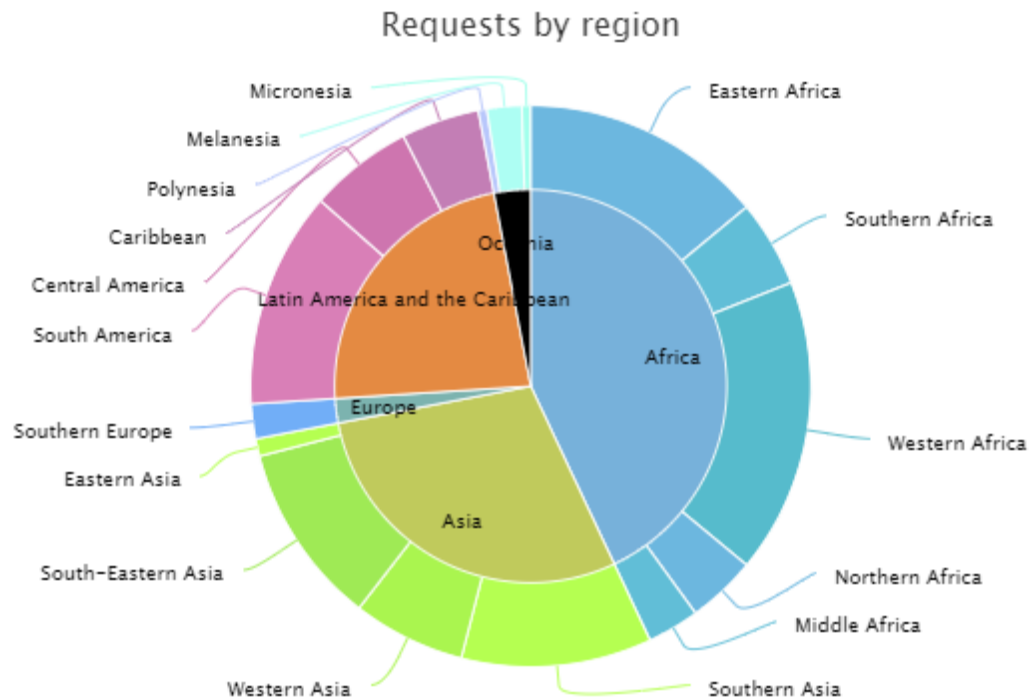
CTCN Technical Assistance

CTCN approach to technical assistance:



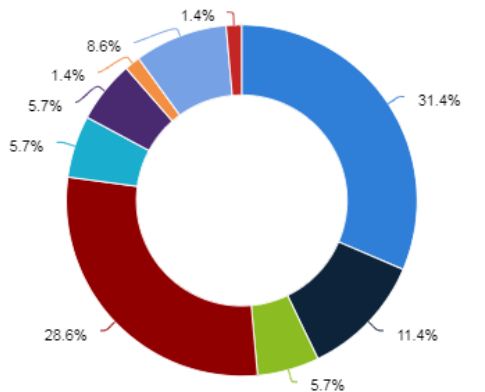
- **Country-driven:** Commitment and interest of request proponent, stakeholders and beneficiaries, strong political commitment, funding interest/co-financing
- **Results-based:** Identification of expected results and specific plan to use the deliverables produced
- **Barrier remover:** Identification of a specific area of intervention even in complex settings (specific barrier, specific type of technology)
- **Integrated:** Providing a missing component leveraging existing resources and capacity, complementing existing efforts (avoid duplication)
- **Catalyzer for action**– involve stakeholders that have the potential to trigger concrete results and deploy technologies

Technical Assistance Requests by Region

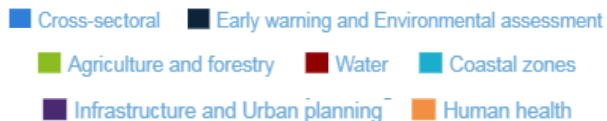
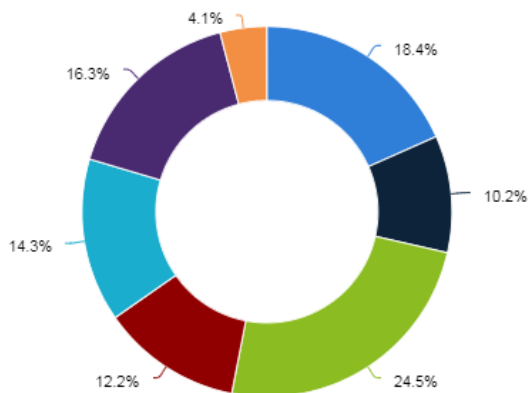


Mitigation and Adaptation Requests by Sector

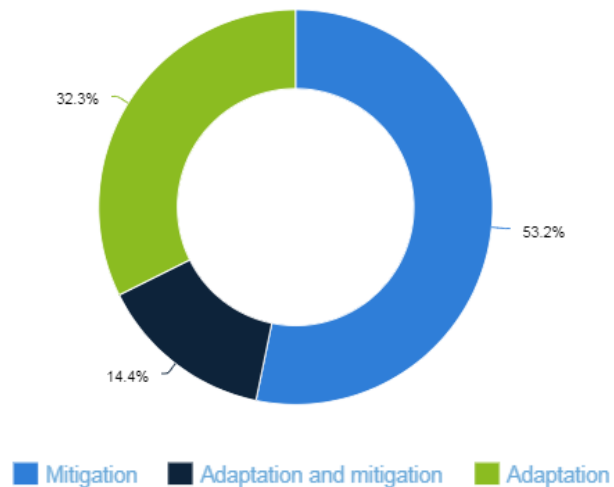
Mitigation



Adaptation



Distribution of requests



Example of CTCN Assistance: Photovoltaic solar cell design and manufacturing in Iran

Request objective

- Enable PV module producers to enhance quality and quantity
- Providing training for local installers
- Use projects as research facility for operation and maintenance

Expected result: assess feasibility and support investments

CTCN response

- Inventory of needs and requirements for PV pilot line
- Recommendations for design of PV industry in Iran
- Recommendation for PV cell manufacturing pilot plant
- Financial analysis



Myanmar: Strengthened drought and flood management through improved science-based information

Request objective:

- Increased resilience to changing climate patterns, flood and drought events threatening agricultural productivity and water availability
- Address the lack of data access in Myanmar to manage extreme events

CTCN response

- Development of a web-based portal for flood and drought management to allow rapid access and use of freely available, reliable, real-time data that can be used for planning and decision-making
- Purpose and test information system
- Train national stakeholders to use the system and ensure adaptability and sustainability of the system in the country



Afghanistan: Identification of Technology Needs

Request objective:

- As a mountainous country, with dry lands and frequent droughts, challenges regarding the availability of water and agricultural production, while opportunities for renewable energy
- Need to identify specific technologies that can be instrumental to implementing Nationally Determined Contributions.

CTCN Response

- Creation of a compendium of climate technology options and priority project concepts
- Development of a planning roadmap for mainstreaming climate technology priorities in key sectors
- Briefing papers and training materials to build capacity of policy makers and other key stakeholders to incorporate climate technology priorities into national planning



Multi-country: Development of a Regional Efficient Appliance and Equipment Strategy in Southern Africa

Request objectives

- Country assessments
- Targeted appliances and equipment prioritization
- Regional strategy for efficient appliances and equipment
- Funder engagement

CTCN response

- Prioritized relevant energy efficient products and concrete actions to capitalize on countries financial, energy, and climate benefits by 2030
- Improved energy productivity and possibilities for the region to cope with growing demand electricity and reduce grid instability, ensuring future economic development



Three ways to access CTCN technical assistance:

- ✓ **Fast Technical Assistance:** international expert advice (remotely or through short in-country mission), duration of up to 2 months, value up to USD 30,000
- ✓ **Technical Assistance:** one request per country per year, within CTCN funds availability, assistance worth max USD 250,000
- ✓ **Technical Assistance through GCF Readiness:** can be coupled with CTCN regular TA. Support to the country to access GCF readiness funds (Max \$1M/country/year.)

CTCN Fast Technical Assistance (FTA)



Developing countries contact their NDE to request climate technology assistance.

NDE confirms alignment of the request with national climate priorities and sends to CTCN.

CTCN prepares TORs to select the international expert in collaboration with the NDE and with the requesting organization

CTC selects independent expert who will implement the assistance

CTCN Regular Technical Assistance Process



Developing countries contact their NDE to request climate technology assistance.

NDE confirms alignment of the request with national climate priorities and sends to CTCN.

CTCN-led stakeholder collaboration on development of a TA Response Plan.

CTC selects Consortium or Network member to implement the technology solution.

CTCN technical assistance through GCF Readiness funding

GCF Secretariat approves
Readiness proposal.



Developing countries
contact their NDE to
request climate
technology assistance.

NDE/NDA engagement.

NDE confirms
alignment of the
request with national
climate priorities and
sends to CTCN.

CTCN-led stakeholder
collaboration on
development of a TA
Response Plan that
forms the basis for the
GCF Readiness
proposal.

CTC selects Consortium
or Network member to
implement the GCF
Readiness proposal.

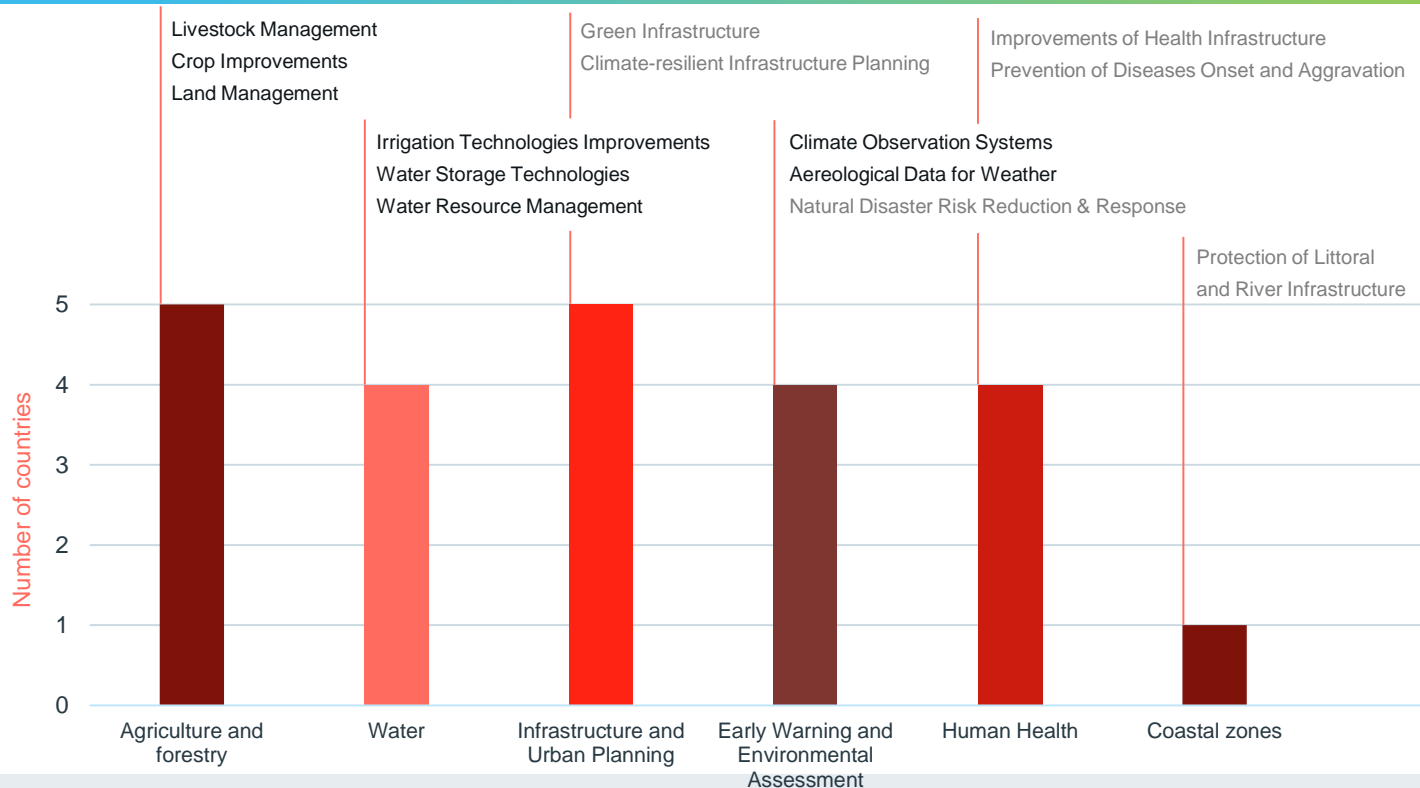
GCF disbursement of funds
prior to CTCN engagement
with winner of bid process.

Pro-bono Technical Assistance

The CTCN also acts as matchmaker by sharing TAs opportunities with Network members and NDEs

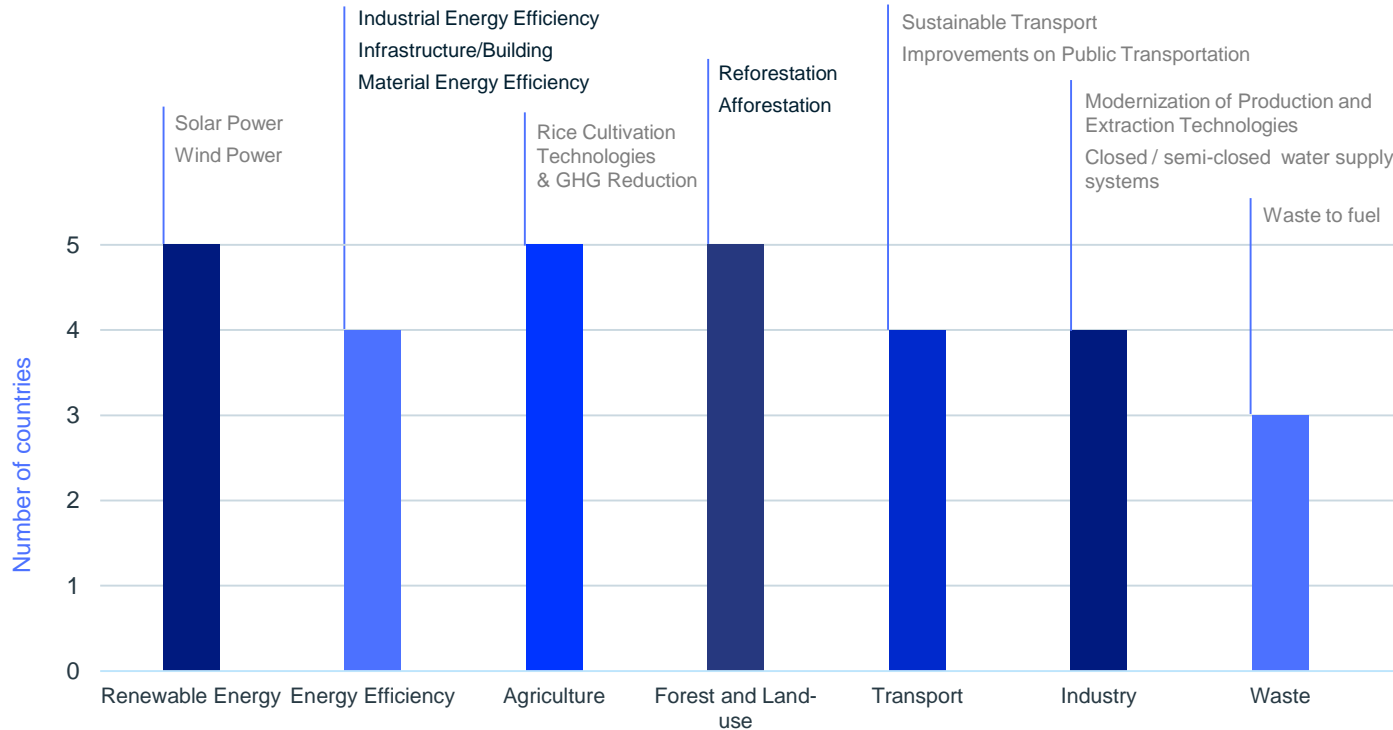
Country	Subject	Budget (USD)	Partner
South Africa	Substantial GHG emissions reduction in the cement industry by using waste heat recovery combined with mineral carbon capture and utilization	250k (50k pro-bono)	RITE (Japan)
Thailand	Benchmarking Energy and GHGs Intensity in Metal Industry of Thailand	210k	NEDO (Japan)
Brazil	Technical Assistance for the internationalisation of the Brazilian Hydrogen Energy Research and Development Network	50k (25k pro-bono)	EHA (European Hydrogen Association)
Dominican Republic	A Community based early Warning System in every pocket from Santo Domingo	250k (+250k pro-bono)	GIZ (Germany)

Sub-regional adaptation priorities from NDCs



Sectors

Sub-regional mitigation priorities from NDCs



Sectors

Capacity Building activities – Ongoing and Planned

- **Focal points workshop on linking UNFCCC mechanisms and initiatives to accelerate technology transfer**
 - CTCN NDEs, GCF NDAs, GEF, TNA, NAMA and NAP focal points discuss country priorities and how to strengthen synergies to accelerate technology transfer
- **Regional Forum for National Designated Entities**
 - Organised back to back with the GCF structured dialogue
 - Objective to strengthen linkages and enhance collaboration between NDAs and NDEs
- **Incubator Programme for LDCs**
 - To support countries achieve commitments in their NDCs through technology roadmaps



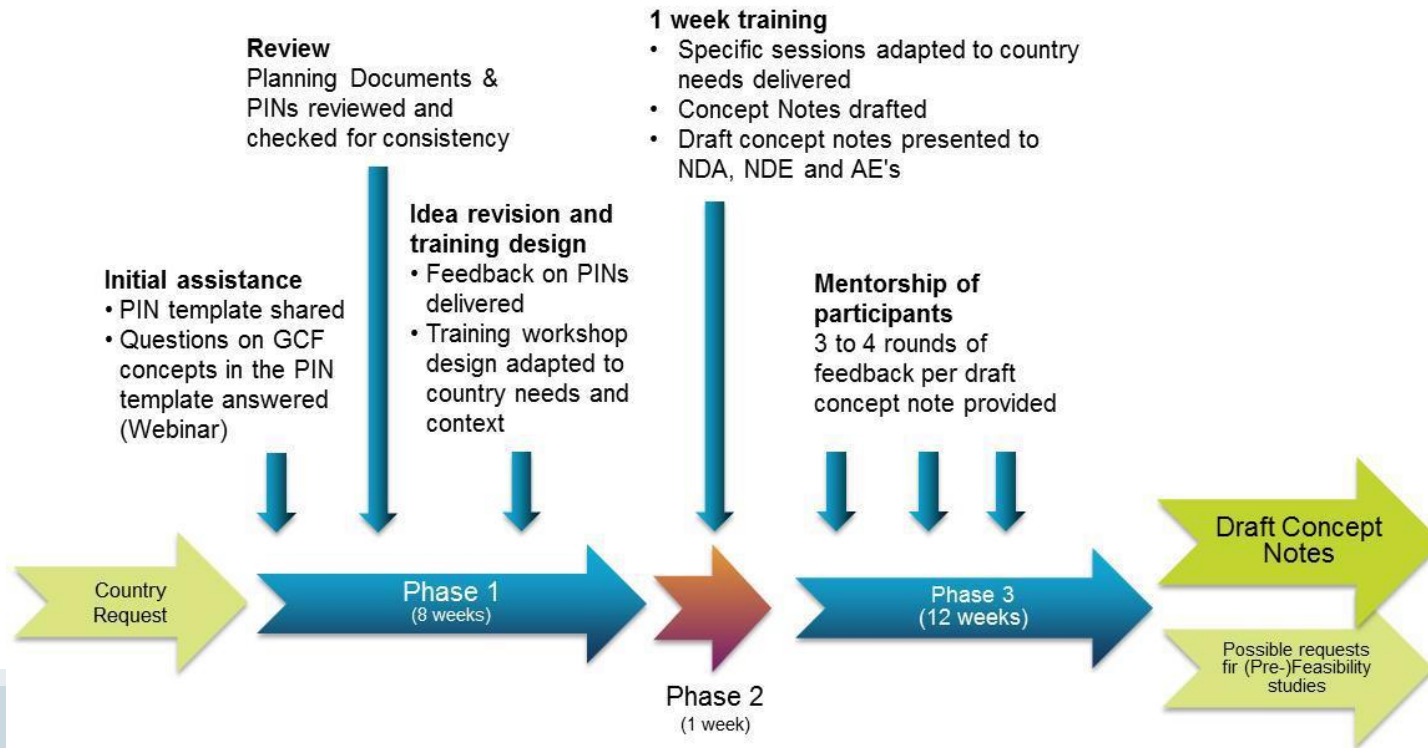
Vision to Concept Programme: Building capacity for GCF concept notes



- Enhance the skills of project proponents in preparing GCF concept notes for future submission to the GCF, based on the project visions identified as priorities in the country's climate change process (NDCs, GCF country programme, TNAs, NAPs, etc.)
- Responded to requests submitted by countries to the CTCN (Jordan, Guyana)
- Pilot funded by CTCN and implemented by UDP and AIT in Guyana, Tanzania, Zimbabwe, and Pakistan
- Module to be funded by GCF Readiness Support Programme going forward (following NDA / NDE endorsement). Guatemala and Nepal already expressed interest

Vision to Concept Programme: Building capacity for GCF concept notes

Three phases of the module:



Network members from the Central Asia region

- 4 network members based in the region
- Public sector, non-governmental and and academic institutions

Expertise in renewable energy, energy efficiency, water, transport, waste management, agriculture and forestry, early warning and environmental assessment.



Network members operating in the Central Asia region

- 105 network members working in the region
- Public, private sector, not-for-profit, intergovernmental, research, academic institutions and partnerships

Expertise in renewable energy, energy efficiency, agriculture, coastal zones, early warning and environmental assessment, human health, transport, waste management, water, carbon fixation and abatement, forestry, marine and fisheries, infrastructure and urban planning.



CTCN Knowledge Portal: Webinars

Recorded webinars



CTCN/Viresco Solutions webinar:
Agricultural Carbon Markets - Building the Biological Bridge



CTCN/The International CCS Knowledge Centre webinar: **BD3 CCS Integrated Facility - Technical Capabilities**



CTCN/HGF webinar: **Vulnerability Reduction Credits (VRCs™) enabling better adaptation to climate change**



CTCN/UNU-INWEH webinar:
Wastewater management in developing countries



CTCN webinar: **CTCN Technical Assistance Bidding - Practical Guidance to Climate Technology Network Members**



CTCN/The International CCS Knowledge Centre webinar: **CCS Takes the Biggest Bite Out of CO2 - Small scale is not enough!**

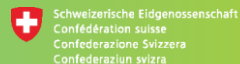
- Tutorials on a broad range of technology sectors related to climate mitigation and adaptation strategies
- Conducted with CTCN Consortium Partners and Network members; experts from around the world
- Open to the public and accessible anytime

Possibility for joint webinars with Bio-Bridge Initiative on biodiversity topics



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MINISTRY FOR FOREIGN
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Comhahool, Pobel agus Rialtas Ábháil
Environment, Community and Local Government



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Understanding climate technology priorities and plans for implementation of INDC/NDC

Workshop “Mainstreaming Technology in Climate Action Plans”, 7 June 2018, Tashkent, Uzbekistan



Objectives of the Session

Presentations from national delegates: Climate technology priorities in the countries of Central Asia (based on needs assessments and NCs):

What are countries' technology priorities to achieve NDC implementation and how they can be scaled-up?

What are the barriers faced by the countries to trigger funding and investments for these priorities?

How can CTCN support to overcome these barriers and challenges?



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CLIMATE TECHNOLOGY CENTRE & NETWORK
UNFCCC Technology Mechanism

Enhancing linkages between Technology Mechanism and the Financial Mechanism of the Convention

Workshop “Mainstreaming Technology in Climate Action
Plans”, 7 June 2018, Tashkent, Uzbekistan



Objectives of the Session

Discuss on how to enhancing linkages between Technology Mechanism, the Financial Mechanism of the Convention at the national level, and other climate initiatives

How could collaboration between the Technology Mechanism, the Financial Mechanism and the TNA be enhanced?

How to frame an efficient coordination mechanism to follow up on the existing synergies between the CTCN, the Financial Mechanism and the various UNFCCC initiatives?

What is the existing process at the national level for setting the national climate agenda and for coordinating under the different climate mechanisms and initiatives?

How could cooperation and collaboration among the various focal points be strengthened at operational level and country levels?

Linkages with the Financial Mechanism of UNFCCC

- Continued GCF/CTCN collaboration via
 - Annual and GCF Board meeting participation
 - Use of GCF Readiness and Project Preparation Facility for Technical Assistance
- COP23 Exchange of Letters between UN Environment – GCF identifies additional options:
 1. Collaboration on **Technical Assistance**, including through development of **standardized modules** for capacity-building, project formulation trainings
 2. Demand-driven GCF – CTC **coordination mechanism**
 3. Enhanced **NDE – NDA** collaboration
- GCF B.18 (October 2017):
 1. Path forward on Collaborative RD&D
 2. Elements to further enhance cooperation with CTCN/Technology Mechanism

Ongoing collaboration between the GCF and the CTCN

Following guidance on the need to increase linkages between the Finance and Technology mechanism of the UNFCCC:

1. Opportunity for countries to submit, with support from the CTCN, **Readiness proposals** to the GCF Secretariat for technical assistance
2. CTCN developed a **Capacity Building module** to develop GCF concept notes
3. CTCN and GCF started organizing **regional meetings/ structured dialogues** with NDEs and NDAs back to back with each other

As part of regular technical assistance, the CTCN is also supporting country access and linking to GCF funding opportunities :

- Support to feasibility / testing concept & developing GCF concept note (i.e. Exploring with Zimbabwe for piloting uptake of industrial energy efficiency and efficient water utilisation in selected sectors)
- Support to strengthened proposal with key technical inputs (i.e. Lao PDR Climate vulnerability assessment and ecosystem-based adaptation in 6 Laotian cities)

CTCN technical assistance through GCF Readiness funding

Country	Subject	Status	Budget (USD)
Tonga	Development of an Energy Efficiency Master Plan	Approved (2017)	200,000
Ghana	Early drought warning and forecasting considering climate change and climate variability	Approved (2017)	300,000
Myanmar	Promoting data for climate change, drought and flood management	Approved (2017)	336,520
Mauritius	Climate Change Vulnerability and Adaptation Study for Port of Port Louis	Approved (2017)	324,764
Palestine	Technology Road Map for the Implementation of Climate Action Plans	Approved (2017)	254,100
Bahamas	The Bahamas Power System Stability Study for Implementation of a Higher Renewable Energy Penetration Level	Endorsed (2018)	369,715
		TOTAL	

+ Pipeline of proposals submitted or under preparation