



**CTCN**  
CLIMATE TECHNOLOGY  
CENTRE & NETWORK

2018  
Progress  
Report



# 16 Years





# 79

**countries**







137

technology projects

A photograph of a vineyard with rows of grapevines supported by metal trellis structures. The sky is blue with large white clouds. The ground is dry and sandy.

**40**

**million USD  
invested by CTCN**



A group of women are seated outdoors, likely in a rural setting. They are wearing vibrant, patterned headwraps and traditional clothing. The background features lush green foliage and a stone wall. The overall atmosphere is one of community and traditional culture.

**2,500**  
people trained



**85**  
million  
anticipated  
beneficiaries

# 10,400,000

expected  
tonnes  
of CO<sub>2</sub>eq  
reduction  
per year



670,000,000

USD anticipated  
funding leveraged

# The CTCN:

**Mobilizing  
global expertise  
to deliver  
technology  
solutions,  
knowledge  
& financing  
for climate  
change action**

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# Foreword



To deliver on the lofty yet vital ambitions of the Paris Agreement, and to have any hope of following the 1.5C path laid out by the Intergovernmental Panel on Climate Change, we must collectively mobilize the full range of climate technologies on an unprecedented, global scale. This is precisely the mandate of the Climate Technology Centre & Network: to leverage the awareness of national technology focal points that can identify and prioritise needs on the ground; match their requests for climate technologies and know-how with world-class expertise; and scale up these investments in partnership with bilateral and multilateral funding. I am inspired to witness the progress that the CTCN has made over its first five years of operations and I look forward to working with the CTCN Secretariat and Advisory Board to deepen our engagement, partnerships and impact in the coming years.

**Maia Tskhvaradze**

Chair, CTCN Advisory Board

# Director's Overview



The first five years of the Climate Technology Centre & Network's operations are a reflection of what can be achieved with a clear mandate, strong partners, visionary support and a desire to make a difference on the ground to address climate change in developing countries.

The mandate of the CTCN was extended at COP23 in 2017 for a further four-year term, building on the successes we have achieved since 2013. The CTCN's founding consortium partners and hosting agencies, UN Environment and the UN Industrial Development Organization (UNIDO), provided solid institutional expertise from the very beginning, and will play an important part of ensuring our continued growth.

Reviews of our operations have been positive, and recommendations and lessons learned are already being incorporated into our planning. For example, we are now pivoting towards a geographic approach in our service delivery, with a clustering of capacity building and technical assistance service offerings, which will pay dividends as we facilitate more multi-country technical assistance requests. We will also aim to collaborate more closely with the regional development banks, and planned engagement with regional associations will boost membership and expertise in the Network.

The country-driven nature of the CTCN, with 160 National Designated Entities identifying climate technology needs based upon the goals set forth in Nationally Determined Contributions and National Adaptation Plans, is closely aligned with the Paris Agreement. Our interventions identify the best possible technology options for climate action, and support policy development and resource mobilization to enhance their uptake.

The recent IPCC 1.5C report could not be clearer in its warning of the need for urgent action. As countries around the world strive to meet their targets, the CTCN will continue to strengthen collective action by mobilizing global expertise to deliver the right solutions, knowledge and financing.

So as I step away from this initiative in early 2019, I feel confident in the Climate Technology Centre's future; grateful to those whose work helped deliver our impressive results thus far; and optimistic that we can realize the promise of climate technologies to deliver on the Paris Agreement.

**Jukka Uosukainen**

CTCN Director

“Accelerating the deployment of clean and green technologies is crucial for realizing the aims of the Paris Agreement and the Sustainable Development Goals. Over the past five years, the CTCN has served as a powerful example of a UNFCCC mechanism connecting developing countries to the innovative and relevant technologies they seek.”

—Patricia Espinosa

Executive Secretary, UN Framework Convention on Climate Change (UNFCCC)



“The Climate Technology Centre and Network has become a key component of positive global action to mitigate and innovate our way out of this climate change crisis. As a co-host of the Centre, UN Environment is enormously proud of the work to support the needs of developing nations and the Paris Agreement.”

—Joyce Msuya

Deputy Executive Director, UN Environment



“Over the last five years, the CTCN has provided targeted interventions to help countries meet their national climate change commitments – through its technology assistance, capacity building programmes and knowledge sharing initiatives. UNIDO is proud to support the Centre in its climate technology transfer mission.”

—Li Yong

Director General, United Nations Industrial Development Organization (UNIDO)



**1992 Convention**

Commitments established guiding Parties to the Convention, including for the funding and transfer of technologies to developing countries.

**1998 COP4**

Developing countries called to submit reports outlining their needs for climate technology transfer. All Parties called to stimulate private sector investment, identify cooperative approaches to support technology transfer.

**2012 COP18**

UN Environment and consortium partners selected as CTCN host. CTCN Advisory Board constitution adopted.

**2011 COP17**

CTCN terms of reference established.

**2007 COP13**

Bali Action Plan focuses on key elements of long-term cooperation, including technology transfer. Parties agree to undertake an assessment of gaps and barriers to the provision of, and access to, financing for technology transfer.

**February**

1st request for CTCN technical assistance received (from Chile)

**March**

1st Network members join the Centre: REEEP, REN21 and WIPO.

**August**

1st regional request for technical assistance submitted (from Ghana, Kenya, Mauritius, Namibia).

**May**

1st CTCN Advisory Board Meeting held.

**1992–2005****2006–12****2013****2014****2001 COP7**

Expert Group on Technology Transfer established; Convention framework to improve the transfer of and access to environmentally sound technologies agreed upon.

Financial Mechanism requested to support implementation of the technology framework.

**1995 COP1**

Inventory of environmentally sound technologies created and measures taken by developed countries in line with their technology transfer commitments.

**2010 COP16**

A Technology Mechanism consisting of a Technology Executive Committee (TEC) and a Climate Technology Centre and Network (CTCN) created.

CTCN functions established; countries directed to assign a National Designated Entity (NDE) the responsibility of interacting with the CTCN.

**2008 COP14**

Poznan Strategic Programme on technology transfer established to further accelerate investment in technology transfer.

**November**

Implementation for 1st technical assistance request initiated.

**December**

1st training for National Designated Entities (NDEs) held in Thailand.

**COP21**

CTCN operational launch announced.

**December**

CTCN online knowledge portal [www.ctc-n.org](http://www.ctc-n.org) launched.

# UNFCCC & CTCN Technology Milestones

## February

1st CTCN webinar conducted (on waste management and climate change).

## April

1st CTCN Regional Forum held (in Thailand).

## August

1st secondees from CTCN partner institutions welcomed.

## April

1st CTCN Private Sector Stakeholder Forum (in Kenya).

100th technical assistance request received (from Laos)

## May

1st CTCN proposal to GCF Readiness Programme approved.

## June

Decision to allocate minimum 1% of technical assistance budget to gender is made.

## August

First pro-bono technical assistance (provided by NEDO-Japan to Thailand).

## July

CTCN completes its first 50 technical assistance cases.

## 2015

## 2016

## 2017

## 2018

### September

1st consultations for Least Developed Countries under the Incubator programme occur.

### October

CTCN website reaches more than 100,000 visitors per year.

### COP21

Technology Framework established.

### December

100th Network member welcomed.

### COP22

Increased engagement of GCF and CTCN is welcomed.

Importance of collaboration between national focal points for technology and finance is underscored.

### September

CTCN Gender Policy and Action Plan drafted.

### October

400th member joins the Network.

### COP23

Hosting agreement of the CTCN by UN Environment is renewed.

CTCN requested to support integration of gender considerations in Technology Needs Assessments.

### August

2nd Radboud University/CTCN Climate Action Summer School organized.

### September

More than 17,000 climate technology publications, tools, case studies, and webinars available on [www.ctc-n.org](http://www.ctc-n.org).

# Providing Technical Assistance

Since its launch at COP 19, the CTCN has received requests from 79 countries for technical assistance spanning the breadth of climate adaptation and mitigation options. The Centre has responded, in collaboration with its National Designated Entities, Consortium and Network partners, to meet technology challenges and provide relevant interventions at all stages of the technology cycle. The solutions that countries seek are necessary to break through particular obstacles in technology decision making and prioritization, create enabling environments, and mobilize the financing needed to meet climate change goals.

Following the development of Nationally Determined Contributions (NDC) by countries in 2015, the majority of CTCN technical assistance has directly contributed to the achievement of these national commitments and the long-term goals of the Paris Agreement. Over the past five years, the Centre has built and refined its technical assistance process to support country needs, diversifying its service offering to include multi-country technical assistance, fast-track assistance, pro-bono support and assistance with the Green Climate Fund Readiness and Preparatory Support Programme.



## Technical Assistance Outcomes

137 technology solutions have been completed or are under way, contributing to 79 countries' Nationally Determined Contributions and/or National Adaptation Plans and all 17 Sustainable Development Goals.

Specifically, through its technical assistance, the CTCN has delivered:

# 59

decision-making tools

# 43

technology feasibility studies

# 33

technology identification and prioritization services

# 16

sectoral roadmaps and strategies

A close-up photograph of a smiling woman with dark skin, wearing a colorful headwrap, holding a large, dark, rectangular block of soil in her hands. The background is a blurred green, suggesting an outdoor setting.

**14**

technology  
pilots

**13**

finance  
facilitation  
services

**10**

recommendations  
for law, policy and  
regulations

**6**

technology  
research and  
development  
initiatives

**3**

private sector  
engagement and  
market creation  
processes

# Antigua & Barbuda: Improving severe weather resilience of essential public service buildings



## Adaptation

**SECTOR:** Infrastructure and Urban Planning

**APPLICANT:** Ministry of Health and Environment of Antigua and Barbuda

**NATIONAL DESIGNATED ENTITY:** H.E. Ms. Diann Black-Layne, Department of the Environment, Ministry of Health and the Environment

**BUDGET:** \$96,000 USD

**PLANNED BY:** UN Environment

**IMPLEMENTED BY:** Engineering Construction and Management Consulting Limited; UN Environment

Hurricanes, floods and droughts are becoming increasingly destructive in Antigua and Barbuda. In late 2017, Hurricane Irma left behind three casualties and 95 per cent of Barbuda's buildings and infrastructure damaged or destroyed, while all of Barbuda's 1,800 inhabitants had to be evacuated from the island. It is imperative to rebuild better and ensure that key public service buildings and emergency services can withstand major climate threats so that they can continue to provide critical services.

In order to lead a sustainable reconstruction process that reflects projected climate change impacts, Antigua and Barbuda needed technical assistance to adapt infrastructure for disaster resilience and safeguard key services during and following emergency situations. To respond to the islands' request, the CTCN's host organization, UN Environment, and Network member, Engineering Construction and Management Consulting Limited (based in St. Lucia), are collaborating with the Ministry of Health and Environment.

Together, they developed a comprehensive strategy to adapt the facilities of existing public utilities to maintain structural, electrical and water supply integrity under various disaster scenarios. Detailed work packages consisting of site plans, retrofit diagrams, and cost estimates for 34 key public buildings have been prepared. Technical and strategic input was provided into the Antigua and Barbuda Government's on-going planning for adaptation funding, policy, and legislative action with national capacity building as a crosscutting theme.

The results of this technical assistance are now informing the development of a concept note for Green Climate Fund reconstruction support. Rebuilding Barbuda with extreme climate resilience in mind will help ensure the continuity of critical services provided by public agencies, and reduce the risk of loss of life and property during a future hazardous event, preserving tens of millions of dollars of investment.

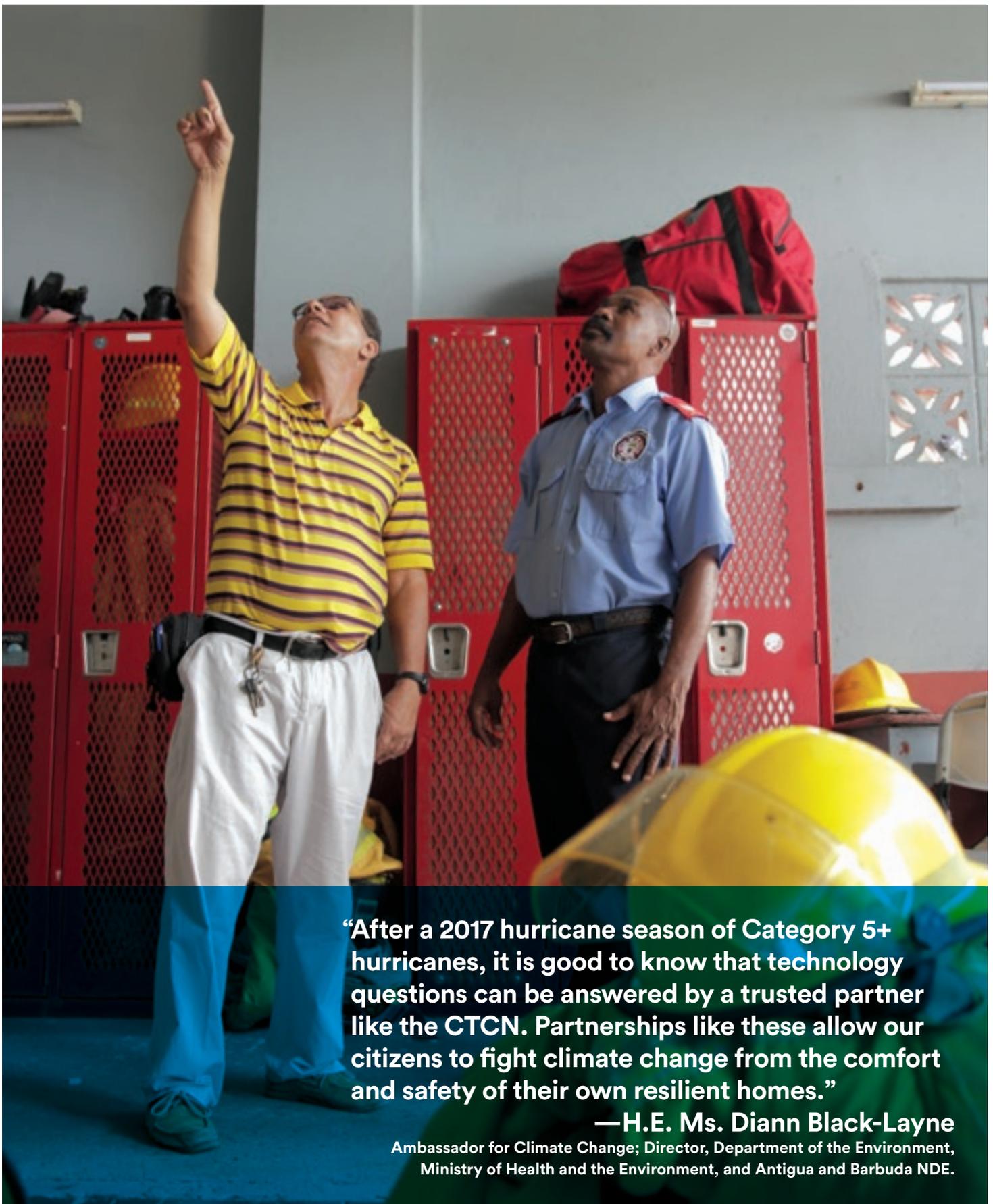
## This Assistance Supports

### Antigua and Barbuda's Nationally Determined Contribution:

- Improve and prepare all buildings for extreme climate events including drought, flooding and hurricanes by 2030.

## Sustainable Development Goals





**“After a 2017 hurricane season of Category 5+ hurricanes, it is good to know that technology questions can be answered by a trusted partner like the CTCN. Partnerships like these allow our citizens to fight climate change from the comfort and safety of their own resilient homes.”**

**—H.E. Ms. Diann Black-Layne**

Ambassador for Climate Change; Director, Department of the Environment, Ministry of Health and the Environment, and Antigua and Barbuda NDE.



**“After recent years of puzzling on the quality of solar PV technology, especially in homes, businesses and public services, it is now good to see that this challenge can be answered by a trusted partner like CTCN. The technical assistance on solar PV accreditation training program has managed to provide the needed locally customized training content in both English and Kiswahili languages for local technicians and vendors. The outcome of this is that soon the market will be populated with qualified technicians, thus allowing citizens to enjoy value for money for purchased solar PV products as well as reducing the chances of fake solar PV products in the market.”**

**—Dr. Gerald Majella Kafuku**

CTCN NDE, Tanzania Commission for Science and Technology

# Tanzania: Promoting sustainable solar photovoltaic technologies



## ↓ Mitigation

**SECTOR:** Renewable energy

**APPLICANT:** Tanzania Renewable Energy Association

**NATIONAL DESIGNATED ENTITY:** Dr. Gerald Majella Kafuku,  
Tanzania Commission for Science and Technology

**BUDGET:** \$160,000 USD

**PLANNED AND IMPLEMENTED BY:** National Renewable Energy  
Laboratory (NREL)

While 67% of Tanzanians live in rural areas, only 6.6% of rural inhabitants have access to grid electricity. Most rural and suburban communities instead use kerosene for lighting. Recognizing the opportunities for improved health and climate change impacts in Tanzania, the government is encouraging communities to access sustainable electricity using off-grid renewable energy technologies such as solar photovoltaic systems.

To support this effort, the Tanzania Renewable Energy Association requested assistance in promoting the use and maintenance of sustainable solar photovoltaic (PV) technologies. In response, the CTCN's Consortium partner, the National Renewable Energy Laboratory (NREL), developed course curriculum and a solar photovoltaic accreditation training programme for solar PV installers and technicians. This technical assistance has led to the institutionalization of solar PV module installation and maintenance training in vocational institutes throughout Tanzania.

The immediate impact of this activity is a reduction in electricity service interruptions due to electrical or system faults and other maintenance-related issues. With increased improvements in installation and maintenance of PV products, rural communities will be more likely to invest in and use this type of technology. Besides the health and climate benefits for rural Tanzanian communities, strengthening the Solar PV sector also supports growth of green jobs.

## This Assistance supports

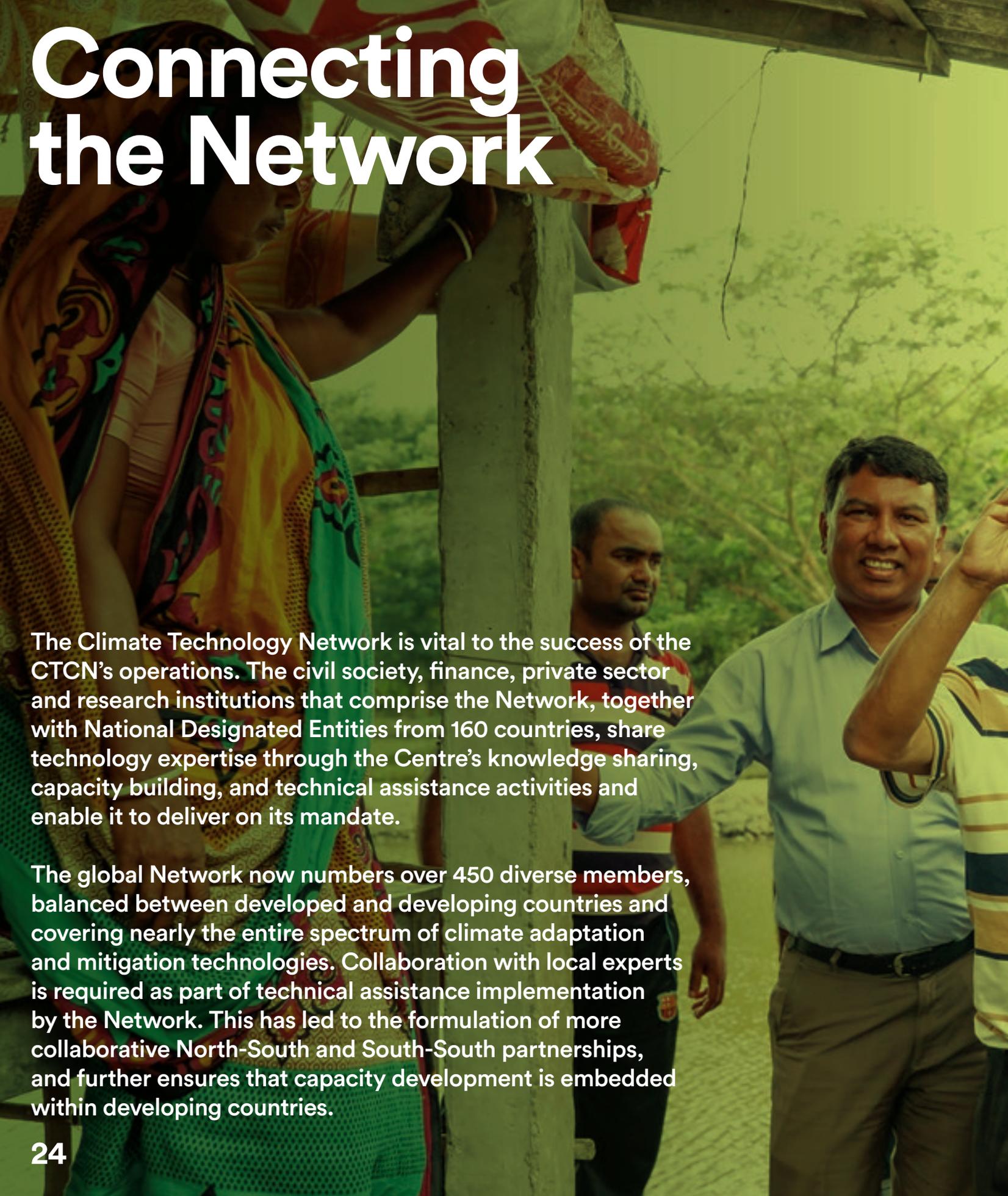
### Tanzania's Nationally Determined Contribution:

- Reduce greenhouse gas emissions by between 10–20% relative to the business as usual scenario by 2030.

## Sustainable Development Goals:



# Connecting the Network



The Climate Technology Network is vital to the success of the CTCN's operations. The civil society, finance, private sector and research institutions that comprise the Network, together with National Designated Entities from 160 countries, share technology expertise through the Centre's knowledge sharing, capacity building, and technical assistance activities and enable it to deliver on its mandate.

The global Network now numbers over 450 diverse members, balanced between developed and developing countries and covering nearly the entire spectrum of climate adaptation and mitigation technologies. Collaboration with local experts is required as part of technical assistance implementation by the Network. This has led to the formulation of more collaborative North-South and South-South partnerships, and further ensures that capacity development is embedded within developing countries.



## Network Outcomes

# 125+

Network Members have submitted bids for implementation of CTCN Technical Assistance

# 154

Network Members have participated in the Centre's regional forums and events

# 8,500+

information resources for online use at [ctc-n.org](http://ctc-n.org) provided by the Network

# Network engagement in pro-bono technical assistance

Recently, Climate Technology Network members have begun to implement selected technical assistance on a pro-bono basis. In some cases, Network members take an interest in a particular technical assistance request and tender their services for free. In other examples, National Designated Entities, such as in Japan, request that technology providers within their countries indicate their interest in providing pro-bono assistance. The Republic of Korea's NDE institution recently offered funding to conduct technical assistance requested by Sri Lanka and is launching a

tendering process in-country to procure the necessary expertise. In all of these examples, the requesting country's NDE reviews the proposed technical assistance plan and implementer for approval before commencing with the arrangement, according to the CTCN's standard technical assistance practice. The introduction of this type of matchmaking enables the CTCN to leverage additional resources for technology transfer and offers NDEs and Network members an additional avenue for technology engagement.

PRO-BONO IMPLEMENTER	TECHNICAL ASSISTANCE	DELIVERED TO	INTENDED IMPACT
Belgium: European Hydrogen Association \$50,000 USD	Organisation of a Brazilian hydrogen energy research and development network	Brazil	Brazilian Hydrogen Association receives support for the mobilisation of a hydrogen energy and fuel cells network in Latin America
Funded and tendered by Republic of Korea \$125,000 USD	Development of Kurunegala as a climate smart city	Sri Lanka	Increase urban resilience and reduce exposure to climate risk
Japan: New Energy and Industrial Technology Development Organization (NEDO) \$210,650 USD	Benchmarking energy consumption and GHG emissions of iron & steel industries; identification of technology and financing options	Thailand	Adoption of best available technologies will result in energy savings of 10–33% and contribute to Thailand's emissions reduction target in the energy and transport sector
USA: Clean Energy Solutions Centre (CESC); National Renewable Energy Laboratory (NREL) \$10,000 USD	Foreign Currency PPA Risk Analysis and Assessment of Financing Options for Renewable Energy Development	Uganda	Local energy regulatory authority received guidance on power purchase agreements to boost renewable energy deployment

# Bangladesh: Ensuring fresh water and resilient housing for coastal populations



## Adaptation

**SECTOR:** Water; Infrastructure

**APPLICANT:** Palli Karma-Sahayak Foundation

**NATIONAL DESIGNATED ENTITY:** Dr. Sultan Ahmed, Ministry of Environment, Forest and Climate Change

**BUDGET:** \$170,000 USD

**PLANNED & IMPLEMENTED BY:** Green Technology Centre Korea

Access to safe drinking water and adequate shelter are necessary for basic survival. Yet in Bangladesh, saline water intrusion in coastal areas is increasing due to cyclones, floods, and sea level rise, while fresh water flow is gradually decreasing. As a result, a growing area of land is becoming saturated with saline water, and potable water is becoming scarce. Approximately 38 million people are facing displacement due to water scarcity and housing that is not able to withstand such extreme weather events.

To tackle these challenges, Bangladesh's National Designated Entity (NDE) and the Palli Karma-Sahayak Foundation asked the CTCN to identify and introduce household-level desalination techniques and low-cost, climate-resilient housing options in coastal areas of Bangladesh.

The Green Technology Center (GTC) of Korea, a CTC Network member, provided expertise to develop appropriate solutions. "We recognized the need for a tailor-made approach to tackle these climate issues by taking into account the socioeconomic and cultural contexts, and by working together with local stakeholders to find the best solutions" said GTC Director Mr. Kyung-Nam Shin. "We also linked the climate technology to financing in order to ensure that the outcome would be sustainable."

As a result of building safe housing, local residents will no longer need to seek alternative shelter in times of inclement weather, nor rebuild or repair their homes every year. Having identified the most suitable technology solutions, the Governments of Bangladesh and the Republic of Korea have already agreed to scale up the project to other coastal communities.

## This Assistance Supports

### Bangladesh's Nationally Determined Contribution to address:

- Food security, livelihood and health protection (incl. water security)
- Coastal zone management including salinity intrusion control
- Building climate-resilient Infrastructure

## Sustainable Development Goals





**“I sincerely believe that our combined efforts provide a direct and positive impact on Bangladesh’s most vulnerable populations, including women and children, by providing clean drinking water and safe housing under these climate conditions.”**

**—Dr. Sultan Ahmed**

Bangladesh’s NDE and Director General of the Department of Environment,  
Ministry of Environment, Forest and Climate Change

# Building Capacity & Sharing Knowledge

A group of women are seated in a circle on a sandy ground outdoors, under the shade of a large, leafy tree. They are dressed in colorful, patterned traditional clothing. Some are wearing headwraps. The women appear to be engaged in a community meeting or training session. The scene is set in a rural or semi-rural environment.

Facilitating the provision of information and training to strengthen the capacity of developing countries to identify technology options, make technology choices, and operate, maintain and adapt technologies has been a key aspect of the Centre's work.



# Capacity Building



Over the last five years, the Centre has supported the creation of enabling environments for the development and deployment of climate technologies by designing university programmes and publications, drafting technology guides, training on specific technologies and sectors, and advising on national capacity-building programmes and institutions.

The Climate Technology Centre strengthened institutions in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) through its Incubator Programme, which provides NDE institutions and key stakeholders with tailored capacity building on the implementation of the technology aspects of NDCs, including technology road-mapping. The CTCN has also partnered with Radboud University of the Netherlands to host climate technology summer schools, with LDC participation sponsored by the Centre. Through the summer school, students engaged in an analysis of specific mitigation and adaptation technologies, practices and policies from environmental, technical, economic, social and institutional points of view.

The Centre has facilitated linkages between technical assistance and financing through regional meetings of NDEs with their climate financing counterparts, enabling information-sharing on processes available to access funds for follow-up to CTCN technology assistance and other climate technology activities. This has been supported through the Centre's efforts to build an enhanced relationship with the Green Climate Fund (GCF), sub-regional, regional and multilateral development banks and private financing sources.

Finally, the Centre responded to requests to support the creation of a pipeline of concept notes for submission to the GCF based upon national climate change priorities through the 'Vision to Concept' module and by convening of a series of workshops bringing together national focal points of the various climate mechanisms.

# Knowledge Sharing



The CTCN has become a trusted source of climate technology information, training, and support to build the capacity of developing countries to identify and implement the most contextually appropriate climate solutions. By collaborating with a growing number of knowledge partners, the Centre has built a substantial online offering of best practices, case studies, publications, technology descriptions and webinars through the CTCN Knowledge Portal, [www.ctc-n.org](http://www.ctc-n.org).

The Knowledge Portal offers information on a broad spectrum of adaptation and mitigation technology sectors, as well as cross-cutting approaches such as endogenous technologies and gender. Individual country profiles are also available, with relevant climate technology information, national plans and summaries of CTCN engagement in each country.

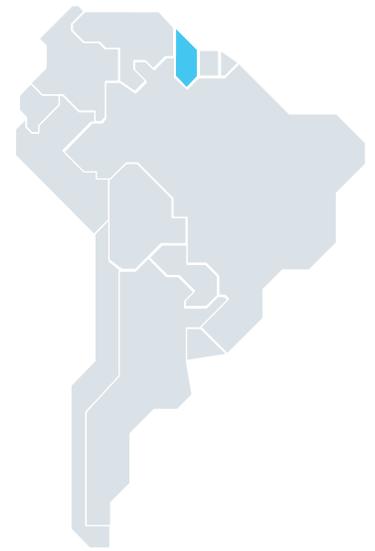
The CTCN also fostered knowledge transfer among its partner institutions through the Secondment Programme, which provides the Centre's partners with an opportunity to enable their experts to work at the CTCN Secretariat for a period of 6–12 months in order to exchange experience and knowledge.

**“Knowledge sharing in the development of the Climate-Smart Agriculture manual for Zimbabwe was critical as it is central to knowledge co-generation of information and designing socially acceptable, locally relevant and economically viable climate solutions. Education is central not only to the development of the manual but to the implementation as some of the Climate Smart Technologies require a new thinking and new behaviour more than equipment or other hardware.”**

**—Mr. Elisha N. Moyo**

NDE of Zimbabwe, Climate Change Management Department,  
Ministry of Environment, Water & Climate

# Guyana: From project visions to Green Climate Fund concept notes



While many countries have developed climate change planning documents such as Nationally Determined Contributions and National Adaptation Plans, there is often still a challenge in financing the projects envisioned in such plans.

In response to a request from the NDE of Guyana, the Climate Technology Centre, in collaboration with its Consortium Partner UNEP-DTU Partnership, and the Ministry of the Presidency of Guyana, organized a five-month capacity building module to help stakeholders access international financing for climate change action.

The capacity building aimed to enhance the skills of technical employees of government ministries and organizations in preparing concept notes for submission to the Green Climate Fund, based on the priorities identified by the government and selected by the GCF focal point.

The first phase of training presented the purpose and description of the GCF, along with the project idea note format which participants would use to formulate initial project ideas for further development. A capacity needs assessment was conducted and a thorough review and discussion of planning documents and participants' initial ideas were identified.

A week-long in-person training was then organized in Georgetown, Guyana which introduced concepts such as barrier analysis, climate impact potential, risk mitigation and use of a logical framework to construct project concepts. A more in-depth review of potential financial instruments in addition to the GCF was also provided.

This was followed by three months of remote mentoring, during which participants received several rounds of feedback as they refined their project concept notes.

Forty-one stakeholders participated in the training and developed concept notes on the following topics:

- Hydropower
- Catalysing sustainable towns
- Climate resilience in agriculture and water sectors
- Sustainable forest management
- Integrating coastal zone management for a climate resilient coastline

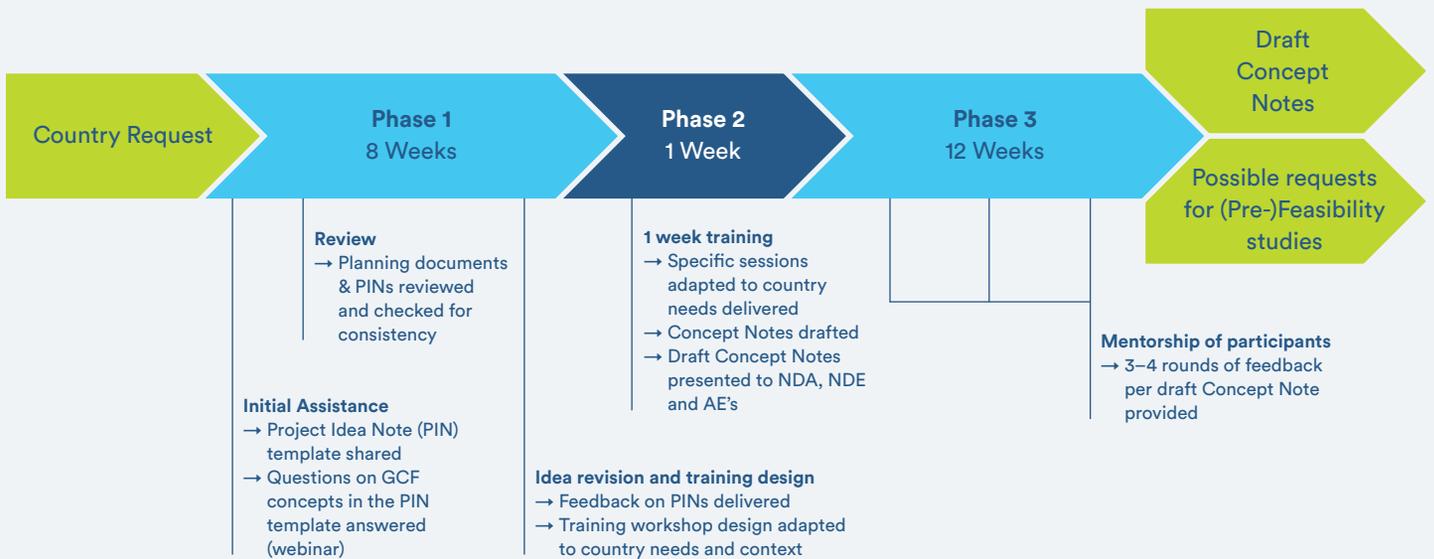


“I have every confidence that we as Guyanese can get this done and set an example for the rest of the world.”

—Mr. Gary Best

Presidential Advisor on the Environment, Guyana

Three phases of concept note development supported by the capacity building programme





**Capacity Building  
Outcomes**

**22**

**regional  
technology  
forums**

**9000**

**participants  
engaged in  
regional  
forums**

**12**

**Least Developed  
Countries  
participated  
in the Incubator  
Programme**

**17**

**TA requests  
as a result of  
the Incubator  
Programme**

# Knowledge Sharing Outcomes

Information available at  
[www.ctc-n.org](http://www.ctc-n.org):

# 11,865

technology  
publications,  
case studies,  
tools and  
videos

# 2,231

national  
plans

# 2,440

climate  
technology  
solutions

# 190

country energy  
profiles

# Bridging Gender & Technology

A photograph of a group of women sitting at a table in a meeting. The woman in the foreground is wearing glasses and a patterned scarf, looking towards the right. Other women are visible in the background, some wearing headscarves, engaged in conversation. The setting appears to be a professional or educational gathering.

Over the last five years, the Climate Technology Centre has systematically worked to incorporate gender considerations into all aspects of its operations and services. By appointing a gender focal point, developing a gender policy and action plan, and establishing measurable gender indicators, the Centre has created a structure to guide and support its efforts. Through the gender knowledge hub on the [ctc-n.org](http://ctc-n.org) portal, the distribution of gender guidelines for technical assistance implementers, and capacity building events conducted jointly with the Women and Gender Constituency, the CTCN has strived to raise awareness of the importance of gender in technology action and to ensure that stakeholders have the necessary knowledge and tools to incorporate these considerations into technology innovation and implementation.

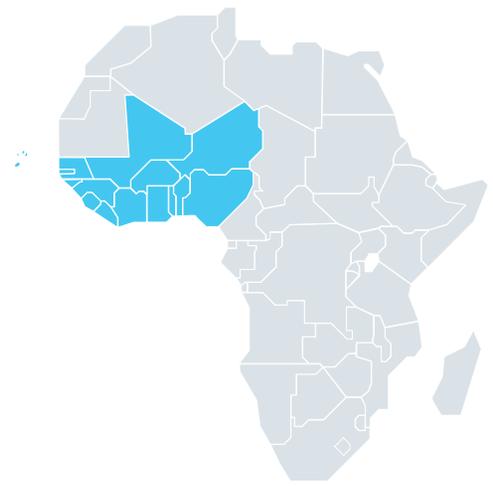


**“The CTCN has effectively supported the work of the Women and Gender Constituency and a better integration of gender equality by promoting the Gender Just Climate Solutions Awards—showcasing gender just solutions from all continents—and by actively building the capacities of grassroots women’s organisations on the UNFCCC’s climate technology transfer and development as well climate finance, via training sessions organized jointly with WECF. We are grateful for this valuable contribution to more gender-responsive climate action across the world.”**

**—Anne Barre**

Women Engage for a Common Future (CTC Network Member;  
UNFCCC Women & Gender Constituency Member)

# West Africa: Mainstreaming gender for a climate resilient energy system



## ↓ Mitigation

**SECTOR:** Energy

**APPLICANT:** ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)

**NATIONAL DESIGNATED ENTITY:** Mr. Joseph Amankwa Baffoe, Ghana Environmental Protection Agency, on behalf of the NDEs of Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo

**BUDGET:** \$125,000 USD

**PLANNED BY:** The Energy and Resources Institute (TERI) and ENDA Energie

**IMPLEMENTED BY:** Partners for Innovation BV; MDF West Africa Ltd; Private Finance Advisory Network (PFAN)

Energy poverty is high in West Africa: less than half of the population has access to electricity and women's potential as active participants in the energy sector has traditionally been underutilized. In order to improve access to affordable, reliable, and sustainable energy for all, the fifteen countries of the Economic Community of West African States (ECOWAS) adopted the first-ever regional policy on gender-responsive energy development.

In order to support the implementation of the policy, the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) asked the CTCN to strengthen local capacity, and to support investment promotion and business development among women entrepreneurs in the energy sector.

## Strengthening Gender Mainstreaming Capacity

Forty-two men and women within fifteen newly established energy ministry gender focal units, as well as civil society representatives, participated in a capacity assessment and training on gender analysis, gender mainstreaming and gender budgeting in the energy sector. During the training, which was presented by Network members Partners for Innovation and MDF West Africa Ltd, participants developed action plans to support the implementation of the gender integration policy through their ministries and organizations.

Participating organizations learned how to implement the gender and energy policy, train grassroots organisations to understand its implications, and gained confidence in monitoring the progress of its implementation. One participant said of the training session, "I feel fortunate to participate in this capacity building initiative that will enable me to set up a project or program while taking gender analysis into account."

## Support for Women Entrepreneurs in the Energy Sector

Through a regional call for proposals, Network partner Private Finance Advisory Network (PFAN) identified 50 renewable energy/energy efficiency projects with explicit gender considerations. PFAN coaches provided each of the selected projects with tailored support and advice on project development, structuring and financing. Once the projects were deemed investor-ready, they were introduced to investors, either on a one-to-one basis, or through an investor forum.



**“It was exciting to meet a lot of women from across the continent that are doing so much in the renewable energy space from off-grid energy to waste-to-energy. It was definitely an eye opener but also encouraging to see that there are a lot more of us out there doing good things.”**

**—Ms. Hannah Kabir**  
CEO, CREEDS ENERGY, Nigeria

The top four projects were invited to participate in a PFAN business plan competition. With a total investment request of over \$30 million USD, the projects were selected for their economic viability and their environmental and social benefits. A jury of high-level investors and climate financing experts chose Creeds Renewable Energy Ltd. and Vitalite Senegal as joint winners of the business plan competition. Vitalite Senegal proposes to roll out its high-quality solar home systems and efficient appliances to off-grid areas across Senegal, while Creeds offers powerful solar power systems on a rent-to-own basis to small- and medium-sized enterprises in Nigeria.

Overall, the CTCN and ECREEE collaboration contributed to institutionalising gender-inclusive energy policies in the ECOWAS region and to increase the capacities of several institutions and stakeholders to mainstream gender in clean energy activities and projects.

#### **This Assistance Supports**

#### **The Nationally Determined Contributions of:**

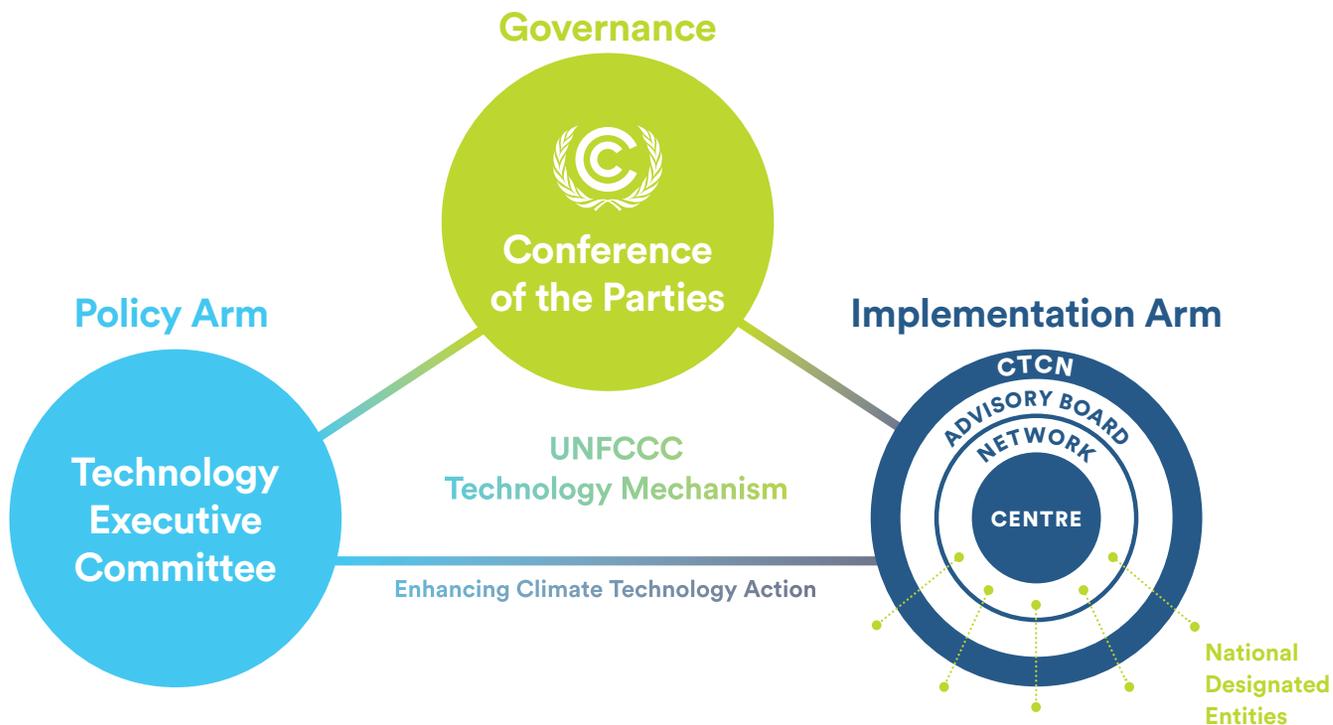
- Benin, Burkina Faso, Côte d’Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo, Cape Verde and Guinea Bissau with the aim to increase resilience for the vulnerable, and scale-up renewable energy penetration.

#### **Sustainable Development Goals**



# About CTCN

The Climate Technology Centre and Network promotes the development and transfer of climate technologies at the request of developing countries for energy efficient, low carbon and climate-resilient development. Working across numerous adaptation and mitigation sectors, the CTCN provides three core services: technical assistance, capacity building and knowledge sharing, and collaboration and networking.



# Partnerships for Climate Technology Transfer

The Climate Technology Centre is the implementation body of the United Nations Framework Convention on Climate Change (UNFCCC) Technology Mechanism. The CTCN works together with the Technology Mechanism's policy body, the Technology Executive Committee (TEC), to enhance climate technology transfer to developing countries.

The Centre is hosted and managed by UN Environment and the United Nations Industrial Development Organization (UNIDO). It is supported by its Consortium and nearly 450 Network partners around the world. In this way, the CTCN can harness the sectoral and regional technology expertise of a broad platform to deliver tailored technology solutions. Visit [www.ctc-n.org/network](http://www.ctc-n.org/network) to see a full list of Network members.

The Climate Technology Centre also partners with bodies of the Finance Mechanism under the UNFCCC. Through collaboration with the Adaptation Fund, Global Environment Facility and the Green Climate Fund, the Technology and Financial Mechanisms aim to ensure financial resources for, and scaling scaled up action on, technology development and transfer.

National Designated Entities (NDEs) serve as national focal points for the development and transfer of technologies and are selected by Parties to the UNFCCC. NDEs play a catalytic role on climate technology issues in their countries, by leading articulation and prioritization of requests to the CTCN for assistance from local and national stakeholders. They provide oversight on technical assistance and capacity building collaboration between requesting institutions and the Centre. National Designated Entities also participate in North-South and South-South knowledge transfer and coordinate with other focal points under the UNFCCC.

## Consortium Partners

 <p>Thailand</p>	 <p>Costa Rica</p>	 <p>South Africa</p>	 <p>Netherlands</p>
 <p>Senegal</p>	 <p>Argentina</p>	 <p>Germany</p>	 <p>USA</p>
 <p>India</p>	 <p>Denmark</p>	 <p>Denmark</p>	 <p>Kenya</p>

# Advisory Board 2013–2018

The Advisory Board meets twice a year and provides guidance on the Centre's fulfilment of the direction provided by the Conference of Parties. The CTCN thanks those individuals who served on the Advisory Board between 2013 and 2018.

## ANNEX 1

**Ms. Sara Aagesen Munoz**  
Spain

**Mr. Julian Frohnecke**  
Germany

**Ms. Moa Forstorp**  
Sweden

**Mr. Jürg Grütter**  
Switzerland

**Mr. David Henry**  
Canada

**Mr. Kazuhiko Hombu**  
Japan

**Ms. Orly Jacob**  
Canada

**Mr. Piotr Paschalis Jakubowicz**  
Poland

**Mr. Karsten Krause**  
European Union

**Mr. Matthew Kennedy**  
Ireland  
Chair 2015–2016

**Mr. Ian Lloyd**  
United States

**Mr. Michael Rantil**  
Sweden

**Mr David Reidmiller**  
United States of America

**Ms. Mette Moglestue**  
Norway  
Chair 2017–2018

**Ms. Lyne Monastesse**  
Canada

**Mr. Sergio La Motta**  
Italy

**Mr. Antonio Pflüger**  
Germany

**Mr. Griffin Thompson**  
United States of America  
Chair 2013–2014

## NON-ANNEX 1

**Mr. Samuel Adeoye Adejuwon**  
Nigeria, Africa

**Mr. Joseph Amankwah Baffoe**  
Ghana, Africa

**Mr. Pedro Borges**  
Bolivarian Republic of Venezuela,  
GRULAC

**Mr. Chen Ji**  
China, Asia-Pacific

**Mr. El Hadji Mbaye Diagne**  
Senegal, LDCs

**Mr. Pedro Garcia**  
Dominican Republic, GRULAC

**Mr. Collin Guiste**  
Dominica, SIDS

**Mr. Vatan Khan Moghaddam**  
Iran, Asia-Pacific

**Ms. Rose Mukankomeje**  
Rwanda, Africa

**Mr. Fred Machulu Onduri**  
Uganda, Africa  
Chair 2014–2015

**Mr. Thinley Namgyel**  
Bhutan, LDCs

**Ms. Claudia Villasana Octaviano**  
Mexico, GRULAC

**Mr. Pei Liang**  
China, Asia-Pacific

**Mr. Elpidio Peria**  
Philippines, Asia-Pacific

**Mr. Mohammad Sadeghzadeh**  
Iran, Asia-Pacific

**Ms. Marina Shvangiradze**  
Georgia, Eastern Europe

**Mr. Hamid Abakar Souleymane**  
Chad

**Mr. Majid Al Suwaidi**  
United Arab Emirates, Asia-Pacific

**Mr. Spencer Linus Thomas**  
Grenada, GRULAC  
Chair 2016–2017

**Ms. Maia Tskvaradze**  
Georgia, Eastern Europe  
Chair 2018–2019

**Mr. Wang Can**  
China, Asia-Pacific

## REPRESENTATIVES OF BODIES UNDER THE UNFCCC

**Ms. Diann Black-Layne**  
Standing Committee on Finance

**Mr. Gabriel Blanco**  
Chair of the TEC

**Ms. Dinara Gershinkova**  
Vice-Chair of the TEC

**Mr. Clifford Mahlung**  
Adaptation Committee

**Ms. Duduzile Nhlengethwa Masina**  
Chair of the TEC

**Ms. Vicky Noens**  
Standing Committee on Finance

**Ms. Claudia Villasana Octaviano**  
Chair of the TEC

**Ms. Renske Peters**  
Adaptation Committee

**Mr. Klaus Radunsky**  
Adaptation Committee

**Mr. Kunihiko Shimada**  
Vice-Chair of the TEC

Green Climate Fund Board has been  
represented by the Secretariat

## REPRESENTATIVES OF UNFCCC OBSERVER ORGANIZATION CONSTITUENCIES

**Ms. Shika Bhasin**  
Council of Energy Environment  
and Water

**Mr. Jean-Yves Caneill**  
Électricité de France

**Ms. Heleen de Coninck**  
Radboud University Nijmegen

**Mr. Niclas Hällström**  
What Next Forum

**Ms. Elenita (Neth) Daño**  
Action Group on Erosion,  
Technology and Concentration

**Mr. Soumya Dutta**  
Beyond Copenhagen Collective

**Mr. Matthew Kennedy**  
International Energy Research  
Centre

**Mr. Laurent Lambert**  
Qatar University

**Mr. Ahmed Abdel Latif**  
ICTSD

# 5 Things We've Learned

Experience from the last five years has taught us...

## 1 The benefits of a geographic focus.

The geographic approach adopted by the CTCN in 2018 better supports cooperation within regions, provides a single point of engagement for National Designated Entities, and encourages the engagement of the private sector and regional organizations by building on existing relationships.

## 2 That local knowledge is essential.

All CTCN technical assistance implemented by our expert Network members is now done in conjunction with a local partner, helping to ensure that an understanding of local circumstances is applied and that capacity is both built and retained in the host country.

## 3 The importance of scalability.

The challenge posed by climate change requires that we focus on identifying and implementing solutions that are replicable and scalable to ensure the greatest impact of climate technologies across all sectors. The CTCN's work has identified approaches that can be replicated in countries with similar national circumstances, leading to a potential for multi-country requests that amplify the impact of our interventions and increase the likelihood of funding from external investors.

## 4 That relationships matter.

Actively connecting developing country NDEs to other climate change focal points (including for the GEF and GCF) in their countries and regions improves coordination, financing and impact of technology transfer initiatives. It also positions them to engage more effectively with the full range of external stakeholders.

## 5 That measurement and communication of impact are vital to our success.

Our role as country-driven matchmaker of climate technology needs and expertise has been strengthened by the implementation of rigorous standards for the measurement and reporting of the impact of our interventions. Having the data to support the impact of what we do reassures recipients, donors, and investors that the implementation arm of the UNFCCC Technology Mechanism is functioning as intended and delivering needed solutions to developing countries.

# List of NDEs & Technical Assistance by Country

ER  
MOLTEN  
COPPER  
+ WATER  
EXPLOSION  
MOLTEN  
COPPER  
+ OIL  
EXPLOSION  
WET INLET  
+ MOLTEN  
COPPER  
EXPLOSION



<b>Afghanistan</b>	Mr. Gulam Hassan Amiry, National Environment Protection Agency of Afghanistan	 Support for the government in the identification of technology needs
<b>Albania</b> 1 Network Member	Ms. Enkelejda Malaj, Albanian Ministry of Environment, Forestry and Water Administration	 Regional energy efficiency action plan
<b>Algeria</b>	Mr. Noureddine Yassaa, Centre de Développement des Energies Renouvelables	 Establishment of a laboratory for accreditation and quality control of photovoltaic modules   Design and construction of a ground-based photovoltaic plant of 1MW rated capacity
<b>Antigua &amp; Barbuda</b>	Ms. Diann Black-Layne, Environment Division - Ministry of Agriculture, Housing, Lands and the Environment	 Workforce development strategy for Antigua and Barbuda's priority energy sectors   Resilience to climate variability in the building sector of Antigua and Barbuda
<b>Argentina</b> 5 Network Members	Mr. Gabriel Blanco, Ministry of Science, Technology and Productive Innovation	 Technologies for coastal management of the province of Buenos Aires
<b>Armenia</b>	Mr. Abovyan Mikael, Technology Transfer Association Union of Juridical Persons	 Identification of Technologies for Climate Change Mitigation and Adaptation
<b>Australia</b> 7 Network Members	Mr. Steven Turnbull, Sustainability and Climate Change Branch, Department of Foreign Affairs and Trade	
<b>Austria</b> 7 Network Members	Ms. Doerthe Kunellis, Division V/7 - Environmental Protection at Company Level and Technology, Federal Ministry of Agriculture, Forestry, Environment and Water Management	
<b>Azerbaijan</b>	Mr. Gulmali Suleymanov, Climate Change and Ozone Center within the Ministry of Ecology and Natural Resources	 Strengthening capacities to assess climate change vulnerability and impacts to shape investments in adaptation technology for Azerbaijan's mountain regions
<b>Bahamas</b>	Ms. Rhianna Neely, Ministry of the Environment and Housing	 Countrywide grid stability in the Bahamas

## Bangladesh

5 Network Members

Mr. Sultan Ahmed,  
Department of Environment

-  Technology for monitoring and assessment of climate change impact on geomorphology in the coastal areas
-  Saline water purification for households and low-cost durable housing for coastal areas
-  Development of a certification course for energy managers and energy auditors of Bangladesh

## Barbados

1 Network Member

## Belarus

Mr. Andrey Pilipchuk, Ministry of Natural Resources and Environmental Protection

## Belgium

6 Network Members

## Belize

Mr. Lennox Gladden, Ministry of Agriculture, Fisheries, Forestry, Sustainable Development, the Environment, Climate Change and Solid Waste Management Authority

-  Development of an integrated and comprehensive agroforestry policy

## Benin

Mr. Aminou Raphiou Adissa, Ministère de l'Environnement Charge de la Gestion des Changements Climatiques, du Reboisement et de la Protection des Ressources Naturelles et Forestières

-  Feasibility study and development of an action plan to promote the manufacture of components of small power wind turbines
-  Establishment of a sustainable system for the collection and dissemination of agro-meteorological information for producers
-  Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
-  West African coastal classification, hazard management and standardized communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)

## Bhutan

Mr. Karma Tshering, National Environment Commission Secretariat

-  Preparing an integrated flood management plan for Dungsumchu Basin in Samdrupjongkhar
-  Improving urban transport for key municipalities in Bhutan for reducing GHG emissions
-  Reducing GHG emissions from transport by improving public transport systems

## Bolivia

Mr. Ivan Zambrana-Flores, Plurinational Authority of Mother Earth

## Bosnia & Herzegovina

1 Network Member

Mr. Goran Trbic, Faculty of Sciences,  
University of Banja Luka

↓ Rehabilitation and modernization of the district heating system in the City of Banja Luka

## Botswana

Ms. Penny Lesolle, Botswana Institute for  
Technology Research

↓ Development of a regional efficient appliance and equipment strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)

## Brazil

3 Network Members

Mr. Márcio Rojas da Cruz, General  
Coordination of Climate, Ministry of  
Science, Technology, Innovations and  
Communications

↓ Internationalization of the Brazilian hydrogen energy research and development network

↻↓ Diagnóstico de la situación actual de la Economía Circular para el desarrollo de una Hoja de Ruta

## Burkina Faso

Mr. Ouedraogo Pamoussa,  
Conservation de la Nature

↻↓ Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)

## Burundi

Mr. Renilde Ndayishimiye,  
Institut Géographique du Burundi

## Cambodia

Mr. Sum Thy, Ministry of Environment

## Cameroon

2 Network Members

Mr. Forghab Patrick Mbomba,  
National Observatory on Climate Change

## Canada

24 Network Members

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Canada

Ms. Diana Cartwright, Energy and  
Environment Policy Division, Natural  
Resources Canada

## Cape Verde

1 Network Member

## Central African Republic

Mr. Monssana Ozore, Ministre de  
l'Environnement, de l'Ecologie et du  
Développement Durable

↻↓ Development of low carbon strategy

## Chad

Mr. Mahamat Hassane Idriss, Direction des  
Ressources en Eau et de la Météorologie,  
Centre et Réseau des Technologies  
Climatiques pour le compte du Tchad

<b>Chile</b> 6 Network Members	Ms. Paulina Ulloa, National Council for Clean Production	<ul style="list-style-type: none"> <li> Incubating Climate Technologies in Small and Medium Enterprises</li> <li> Design of an ecological response and restoration platform against fires for silvo-farming sector</li> <li> Support of the replacement of F-refrigerants used in refrigeration system in food processing production and exports (fruits and vegetables)</li> <li> Design of Biodiversity Monitoring Network in the context of Climate Change</li> </ul>
<b>China</b> 8 Network Members	Mr. Chen Ji, National Center for Climate Change Strategy and International Cooperation	
<b>Colombia</b> 3 Network Members	Ms. Mariana Rojas Laserna, Directorate of Climate Change of the Ministry of Environment and Sustainable Development	<ul style="list-style-type: none"> <li> Development of a mechanical-biological treatment pilot project of the waste NAMA in Cali</li> <li> Monitoring and evaluation of national promotion policies for energy efficiency and renewable energy within industrial and transport sectors</li> <li> National adaptation monitoring system</li> </ul>
<b>Comoros</b>	Ms. Fatima Athoumani, Ministère de la Production, de l'Environnement, de l'Energie, de l'Industrie et de l'Artisanat	
<b>Congo</b>	Joseph Badevokila, Ministère du Tourisme et de l'Environnement, Ministère de la Recherche Scientifique et de l'Innovation	<ul style="list-style-type: none"> <li> Industrial production of alternative charcoal and related products</li> </ul>
<b>Cook Islands</b>	Mr. Wayne King, Climate Change Cook Islands, Office of the Prime Minister	
<b>Costa Rica</b> 2 Network Members	Ms. Andrea Meza Murillo, Climate Change Directorate (DCC), Ministry of Environment and Energy	<ul style="list-style-type: none"> <li> Development of a protocol for the planning, management and implementation of adaptation measures in land use planning</li> <li> Design of a Knowledge Management System for tropical forests management and ecosystem services</li> </ul>

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## Côte d'Ivoire

Mr. Kumassi Philippe Kouadio,  
Sustainable Environment and Energy  
Development Consulting Center

- ↻ Establishment of an Environmental Information System capable of guiding the choice of a good policy for sustainable development and promote optimal management of climate change issues
  - ↓ Developing a strategy for the reduction of air pollution in the autonomous district of Abidjan in order to contribute to efforts to reduce the harmful effects of climate change
  - ↻↓ Mainstreaming gender for a climate resilient energy system in ECOWA (Benin, Cameroon, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
  - ↻ West African coastal classification, hazard management and standardised communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)
  - ↓ Support for the implementation of an agricultural waste recovery unit
- 

## Cuba

1 Network Member

Mr. Armando Rodríguez Batista,  
Science, Technology and Innovation  
Department, Ministry of Science,  
Technology and Environment

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## Czech Republic

Mr. Pavel Zámyslický,  
Ministry of the environment

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## Democratic Republic of the Congo

Mr. Bernard Ndaye Nkanka, Centre  
d'Études et de Recherches sur les Énergies  
Renouvelables kitsisa de L'institut  
Supérieur des Techniques Appliquées-ISTA

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## Denmark

7 Network Members

CTCN DONOR



Mr. Hans Jakob Eriksen, International  
Department, Ministry of Energy, Utilities  
and Climate

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## Djibouti

Idriss Ismael Nour, Direction de  
l'Aménagement du Territoire et de  
l'Environnement

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## Dominica

Mr. Lloyd Gabriel Pascal, Environmental  
Coordinating Unit of the Ministry of  
Environment, Natural Resources, Physical  
Planning and Fisheries

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## Dominican Republic

2 Network Members

Mr. Pedro García Brito, Dirección de Cambio Climático, Ministerio de Medio Ambiente y Recursos Naturales

-   Capacity building to develop a biological mountain corridor in los Haitises
-  Developing a NAMA to leapfrog to advanced energy-efficient lighting technologies
-  Community-based early warning system in every pocket from Santo Domingo, D.N.

## Ecuador

3 Network Members

Mr. Ricardo Proaño, Undersecretariat of Climate Change, Ministry of Environment

-  Technology transfer and spread of gasifiers and biodigesters of residual biomass to minimize greenhouse gas emissions from MSW
-   Design and scale-up of climate resilient waste management and energy capture technologies in small and medium livestock farms

## Egypt

1 Network Member

Mr. M. Hamdy Darrag, Egyptian Environmental Affairs Agency

## El Salvador

Mr. Luis Eduardo Menjívar Recinos, Ministerio de Medio Ambiente y Recursos Naturales

## Equatorial Guinea

Mr. Santiago Francisco Engonga Osono, Direction Générale de l'Environnement, Ministère de la Pêche et de l'Environnement

## Eritrea

Mr. Seid Abdu Salih, Department of Environment, Ministry of Land, Water and Environment

## Eswatini

Mr. Bafana Simelane, Ministry Tourism and Environmental Affairs, Meteorology Department

-   Building capacity for climate change science
-  Development of a regional efficient appliance and equipment strategy in Southern Africa (Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia, Zimbabwe)

## Ethiopia

1 Network Member

Ms. Yamelakesira Tamene Bekele, Ministry of Environment and Forest

-   Financing strategy for Addis Ababa light rail transit
-  Development of product standard & comparative labeling of Electric Injera Mithad

## European Union

CTCN DONOR

Mr. Martin Kaspar, European Commission



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## Fiji

Mr. Mahendra Kumar, Climate Change Division, Ministry of Foreign Affairs and International Cooperation

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## Finland

4 Network Members

CTCN DONOR



Sari Tasa, Ministry of Employment and the Economy

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## France

15 Network Members

Mr. Laurent Caillierez, Agence de l'environnement et de la maîtrise de l'énergie

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## Gabon

Mr. Brice Biyo'o Bi Mbeng, Agence Gabonaise de Normalisation

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## Gambia (the)

Mr. Lamin Jatta, Gambia Technical Training Institute

- ↓ Improving capacity for recycling of waste & organic materials
  - ↻ Community based livelihood improvement program
  - ↻↓ Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
  - ↻ West African coastal classification, hazard management and standardised communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)
- 

## Georgia

4 Network Members

Mr. Grigol Lazriev, Ministry of Environmental and Natural Resources Protection

- ↻ Building capacity in ecosystem-based adaptation in mountain regions
  - ↻ Assessment of suitable flood mitigation measures in Tbilisi
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## Germany

22 Network Members

CTCN DONOR



Mr. Antonio Pflüger, Federal Ministry for Economic Affairs and Energy

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## Ghana

1 Network Member

Mr. Joseph Amankwa Baffoe,  
Environmental Protection Agency

-  Improving resiliency of crops to drought through strengthened early warning
-  Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
-  West African coastal classification, hazard management and standardised communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)
-  Green Cooling Africa Initiative (GCAI) (Ghana, Kenya, Mauritius, Namibia)

## Greece

1 Network Member

## Grenada

Ms. Merina Jessamy, National Designated Entity: Ministry of Climate Resilience, the Environment, Forestry, Fisheries, Disaster Management and Information

-  Improvement of water supply management through GIS-based monitoring and control system for water loss reduction

## Guatemala

Mr. Carlos Walberto Ramos Salguero,  
Ministerio de Ambiente y Recursos Naturales

-  Strengthening technical capacities for the implementation of an online climate online platform

## Guinea

1 Network Member

Mr. Mamady Kobélé Keita,  
Direction Nationale de l'Environnement

-  Support awareness raising and training of local producers of metal-ceramic fire places
-  Support for the installation of a compost production plant
-  Mobilization of financial resources for deploying adaptation technologies
-  Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
-  West African coastal classification, hazard management and standardised communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)

## Guinea-Bissau

Mr. José Carlitos Iala, Instituto Nacional de Investigacao e Tecnologia Aplicada - Ministério dos Recursos Naturais

-  Capacity building in ecosystem-based methods and green infrastructure for sustainable agriculture intensification and disaster risk management (Guinea-Bissau, Mali)

## Guyana

Mr. Gary Best, Office of the Presidential Advisor on Environment

<b>Haiti</b>	Mr. Pachuco Jean-Baptiste, Direction Changements Climatiques du Ministère de l'Environnement	
<b>Honduras</b> 1 Network Member	Mr. Sergio Adrian Palacios, National Climate Change Directorate - Energy, Natural Resources, Environment and Mining Secretariat of Honduras	<ul style="list-style-type: none"> <li>↻↓ Design of a national framework of climate change related indicators</li> <li>↓ Developing a NAMA to leapfrog to advanced energy-efficient lighting and refrigeration technologies</li> </ul>
<b>Hungary</b>	Ms. Kinga Csontos, Ministry of National Development	
<b>India</b> 17 Network Members	Mr. Ravi Shanker Prasad, Ministry of Environment, Forests and Climate Change	
<b>Indonesia</b> 3 Network Members	Ms. Nur Masripatin, Directorate General of Climate Change, Ministry of Environment and Forestry	<ul style="list-style-type: none"> <li>↓ Development of anaerobic digester technology for palm oil EFB waste</li> <li>↻ Hydrodynamic modelling for flood reduction and climate resilient infrastructure development pathways in Jakarta</li> </ul>
<b>Iran</b> 5 Network Members	Mr. Seyed Ali Akramifar, Presidency Center for Innovation and Technology Cooperation	<ul style="list-style-type: none"> <li>↓ Optimization of energy savings through implementation of fume treatment and energy recovery system</li> <li>↓ Desalination plant including power generation</li> <li>↓ Micro combined heat and power technology</li> <li>↓ Technology of photovoltaic solar cell design and manufacturing</li> </ul>
<b>Iraq</b> 1 Network Member	Susan Sami Al-Banaa, Climate Change Centre, Ministry of Environment	
<b>Ireland</b> 1 Network Member CTCN DONOR	Mr. Matthew Kennedy, Sustainable Energy Authority of Ireland	
		
<b>Israel</b> 1 Network Member	Ms. Ayelet Rosen, Ministry of Environmental Protection	
<b>Italy</b> 6 Network Members CTCN DONOR	Mr. Sergio La Motta, Italian National Agency for New Technologies, Energy and Sustainable Economic Development	
		

## Jamaica

2 Network Members

Ms. Una May Gordon, Ministry of Economic Growth and Job Creation

## Japan

9 Network Members

CTCN DONOR



Mr. Takayuki Hirabayashi, Ministry of Economy

Mr Michihiro Oi, Trade and Industry, Ministry of the Environment

## Jordan

Ms. Sara Qais Al Haleeq, Ministry of Environment

↓ Accreditation of energy efficiency lighting laboratory

 ↓ Strengthening capacity to access international financing

## Kazakhstan

3 Network Members

Mr. Olzhas Agabekov, Ministry of Energy

## Kenya

5 Network Members

Mr. Kelvin Khisa, Kenya Industrial Research and Development Institute

 Catalysing low cost green technologies for sustainable water service delivery in northern Kenya

↓ Green Cooling Africa Initiative (GCAI) (Ghana, Kenya, Mauritius, Namibia)

## Kiribati

Ms. Taare Uriam Aukitino, Office of the President

 Capacity development to address risks in coastal zones (Kiribati, Marshall Islands, Palau, Solomon Islands)

## Korea, Democratic People's Republic of

Mr. Pae Yong Hyon, State Commission of Science and Technology

## Kuwait

Mr. Sheikh Abdullah Ahmad AlHumoud Alsabah, Environment Public Authority (EPA)

## Lao People's Democratic Republic

Mr. Syamphone Sengchandala, Ministry of Natural Resources and Environment, Department of Disaster Management and Climate Change

 City climate vulnerability assessment and identification of ecosystem-based adaptation intervention

## Latvia

Mr. Raimonds Kass, Ministry of Environmental Protection and Regional Development

## Lebanon

Ms. Samar Malek, Ministry of Environment

<b>Lesotho</b>	Mr. Lefa Thamae, Ministry of Communications, Science and Technology, Department of Science and Technology	↓ Development of a Regional Efficient Appliance and Equipment Strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)
<b>Liberia</b>	Ms. Ophelia Weeks, T.J.R. Faulkner College of Science and Technology, University of Liberia	↻↓ Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
<b>Lithuania</b>	Mr. Ricardas Valanciauskas, Agency for Science, Innovation and Technology	
<b>Madagascar</b>	Mr. Michel Laivao, Ministère de l'Environnement, de l'Ecologie et des Forêts	↻↓ Creating a technology development and education centre to address climate change
<b>Malawi</b> 1 Network Member	Mr. Lyson Kampira, National Commission for Science and Technology	↓ Development of a Regional Efficient Appliance and Equipment Strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)
<b>Malaysia</b> 1 Network Member	Mr. Gary Theseira, Environment and Climate Change Division, Ministry of Natural Resources and Environment	
<b>Maldives</b>	Mr. Amjad Abdulla, Climate Change Department, Ministry of Environment and Energy	
<b>Mali</b>	Mr. Birama Diarra, L'Agence Nationale de la Météorologie	<ul style="list-style-type: none"> <li>↻ Design and financing for crop drying and storage technologies to strengthen food security</li> <li>↻ Identification of climate adaptation technologies with rural communities</li> <li>↻↓ Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)</li> <li>↻ Capacity building in ecosystem-based methods and green infrastructure for sustainable agriculture intensification and disaster risk management (Guinea-Bissau, Mali)</li> </ul>
<b>Marshall Islands</b>	Mr. Clarence Samuel, Office of Environmental Policy and Planning Coordination	↻ Capacity development to address risks in coastal zone (Kiribati, Marshall Islands, Palau, Solomon Islands)
<b>Mauritania</b>	Mr. Sidi Mohamed Ould El Wavi, Ministère de l'Environnement et du Développement Durable	

## Mauritius

2 Network Members

Ms. Sin Lan Ng Yun Wing,  
Ministry of Environment and  
Sustainable Development

-  Climate change vulnerability and adaptation study for the port of Port Louis
-  Identification, characterization and exploitation of potential offshore sand banks/deposits
-  Assessment and identification of technology needs and best practices for reducing the GHG emissions in the energy sector
-  Green Cooling Africa Initiative (GCAI) (Ghana, Kenya, Mauritius, Namibia)

## Mexico

4 Network Members

Ms. María Amparo Martínez Arroyo,  
National Institute for Ecology and  
Climate Change

## Moldova

Ms. Ala Druta, Climate Change Office,  
Ministry of Environment

## Mongolia

1 Network Member

Ms. Anand Tsog, Climate Change and  
International Cooperation Department,  
Ministry of Environment and Tourism of  
Mongolia

## Montenegro

Ms. Biljana Kilibarda, Ministry of  
Sustainable Development and Tourism

## Morocco

Mr. Mustapha Bendehbi, Unité chargée  
des changements climatiques, Ministère  
de l'environnement

## Mozambique

Mr. Antonio Jorge Raul Uaissone,  
Ministry for Science and Technology

-  Feasibility study to use waste as fuel for cement factories
-  Development of a Regional Efficient Appliance and Equipment Strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)

## Myanmar

Mr. Min Maw, Environmental  
Conservation Department, Ministry of  
Environmental Conservation and Forestry

-  Promoting data for climate change, drought and flood management

## Namibia

Dr. Jonathan Mutau Kamwi,  
Department of Environmental Affairs

-  Identification and prioritization of technologies to address water scarcity and climate change impacts
-  Green Cooling Africa Initiative (GCAI) (Ghana, Kenya, Mauritius, Namibia)
-  Development of a Regional Efficient Appliance and Equipment Strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)

<b>Nauru</b>	Mr. Reagan Moses, Ministry of Commerce, Industry and Environment	
<b>Nepal</b> 2 Network Members	Mr. Ram Hari Pantha, Ministry of Population and Environment	<ul style="list-style-type: none"> <li>Technical support to formulate a national agroforestry policy</li> <li>Developing policy framework and business model to promote sustainable use of biomass briquettes</li> </ul>
<b>Netherlands</b> 11 Network Members		
<b>New Zealand</b> 1 Network Member	Ms. Kiri Stevens, Environment Division, Ministry of Foreign Affairs and Trade	
<b>Nicaragua</b> 1 Network Member		
<b>Niger</b>	Mr. Kamayé Maâzou, Cabinet du Premier Ministre	Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
<b>Nigeria</b> 1 Network Member	Mr. Chukwuemeka Okebugwu, Department of Climate Change, Federal Minister of Environment	Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
<b>Norway</b> 2 Network Members CTCN DONOR		
		
<b>Pakistan</b> 1 Network Member	Mr. Muhammad Irfan Tariq, Ministry of Climate Change - Pakistan	<ul style="list-style-type: none"> <li>Technology guidance and support for conducting the technology needs assessment</li> <li>National certification system for energy auditors</li> </ul>
<b>Palau</b>	Mr. David Idip, Palau Automated Land and Resource Information System Office, Ministry of Finance	Capacity development to address risks in coastal zones (Kiribati, Marshall Islands, Palau, Solomon Islands)
<b>Palestine</b> 1 Network Member	Mr. Nedal Katbeh-Bader, Environment Quality Authority	Technology Roadmap for Palestine's Implementation of Climate Action Plans INCR, NAP and NDC
<b>Panama</b> 1 Network Member	Mr. Emilio Sempris, Autoridad Nacional del Ambiente	Accelerating the transition to sustainable mobility and low carbon emissions in Panama City

## Papua New Guinea

Mr. Joe Pokana, Climate Change and Development Authority

↓ Energy efficiency on refrigeration and air conditioning sector regulations development options

## Paraguay

1 Network Member

Mr. Gustavo Evelio González Chávez, Secretaría del Ambiente

↻ Design of a methodology for determining and evaluating environmental flows and basin management plans

## Peru

5 Network Members

Ms. Silvia Cristina Rodriguez Valladares, Dirección de Cambio Climático y Desertificación, Ministerio del Ambiente

↻ Development of a methodological framework for incorporating ecosystem-based adaptation in the process of planning and management of protected areas

## Philippines

1 Network Member

Mr. Emmanuel M. De Guzman, Climate Change Commission

## Poland

Ms. Agnieszka Kozłowska-Korbicz, Ministry of the Environment

## Portugal

1 Network Member

## Republic of Korea

57 Network Members

CTCN DONOR



Mr. Min Pyo KIM, Strategic Technology Policy Division, Ministry of Science and ICT (MSIT)

## Romania

1 Network Member

## Russian Federation

1 Network Member

Mr. Sergei Vasin, Ministry of Education and Science

## Rwanda

1 Network Member

Faustin Munyazikwiye, Rwanda Environment Management Authority

## Saint Kitts & Nevis

1 Network Member

June Hughes, Department of Environment

## Saint Lucia

2 Network Members

Ms. Debra Charlery, Ministry of Education, Innovation, Gender Relations and Sustainable Development, Department of Sustainable Development

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## Samoa

Mr. Suluimalo Amataga Penaia, Ministry of Natural Resources and Environment

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## Saudi Arabia

Mr. Abdullah N. Alsarhan, Ministry of Petroleum and Mineral Resources

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## Senegal

1 Network Member

Mr. Issakha Youm, Centre d'Etudes et de Recherches sur les Energies Renouvelables

- ↓ Green technology deployment in industrial zones
  - ↓ Development of energy efficiency projects in industries and services
  - ↻↓ Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
  - ↻ Sustainable land and runoff water management to increase agricultural productivity in Senegal
  - ↻ West African coastal classification, hazard management and standardized communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)
- 

## Serbia

1 Network Member

Mr. Vladica Bozic, Ministry of Agriculture and Environmental Protection

- ↓ Modernization of the district heating system and improvements of energy efficiency of buildings in Belgrade
- 

## Seychelles

Mr. Will Agricole, Energy and Climate Change Department, Ministry of Environment, Energy and Climate Change

- ↓ Formulating a National Electricity Grid Code for Seychelles
  - ↓ Assistance in developing a ToR as a first step in creating an Electricity Masterplan
- 

## Sierra Leone

Mr. Ibrahim Lamin Mohamed Sesay, National Science and Technology Council

- ↻↓ Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
  - ↻ West African coastal classification, hazard management and standardized communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)
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## Singapore

1 Network Member

Mr. Sin Liang Cheah, National Climate Change Secretariat

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## Slovakia

Mr. Igor Veres, Ministry of the Environment

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## Slovenia

Mr. Zoran Kus, Ministry of Agriculture and Environment

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## Solomon Islands

Mr. Douglas Yee, Ministry of Environment, Climate Change, Disaster Management and Meteorology

 Capacity development to address risks in coastal zones (Kiribati, Marshall Islands, Palau, Solomon Islands)

## South Africa

13 Network Members

Mr. Henry Roman, Department of Science and Technology

 Development of Technology Needs Assessment at subnational level

 Substantial GHG emissions reduction in the cement industry

 Development of a regional efficient appliance and equipment strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)

## South Sudan

Mr. David Batali Oliver Samson, Ministry of Environment - South Sudan

## Spain

27 Network Members

CTCN DONOR



Ms. Sara Aagesen-Munoz, Spanish Climate Change Office, Ministerio de Agricultura, Alimentación y Medio Ambiente

## Sri Lanka

3 Network Members

Mr. Anura Dissanayake, Ministry of Mahaweli Development and Environment

 Technical Assistance for the Development of a Climate Smart City in Kurunegala

## Sudan

1 Network Member

Ms. Huyam Ahmed Abdalla, Ministry of Environment, Natural Resources and Physical Development of Sudan

## Suriname

Ms. Haydi Berrenstein, Office of the President of the Republic of Suriname

## Sweden

2 Network Members

CTCN DONOR



Mr. Michael Rantil, Swedish Energy Agency

## Switzerland

9 Network Members

CTCN DONOR



## Syria

Mr. Ammar Abbas, Ministry of Local Administration and Environment

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## São Tomé & Príncipe

Mr. Abenilde Tomé Pires dos Santos,  
Direcção de Indústria/Serviço Nacional  
da Propriedade Industrial

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## Tajikistan

2 Network Members

Mr. Nasimjon Rajabov, State  
Administration for Hydrometeorology

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## Thailand

3 Network Members

Mr. Surachai Sathitkunararat, National  
Science Technology and Innovation Policy  
Office, Ministry of Science and Technology

-  Strengthening Bangkok's early warning system to respond to climate induced flooding
  -  High resolution regional climate model projections
  -  Technology development for climate resilience and efficient use of resources in the agricultural sector
  -  Assessment of energy efficient street lighting technologies and financing models for Thai municipalities
  -  Fostering green building in Thailand for a low carbon society
  -  Benchmarking energy & GHG intensity in Thailand's metal industry
  -  Technical assessment to enable readiness for up scaling investments in building energy efficiency for achieving NDC goals in Thailand
- 

## Timor-Leste

Mr. Luis dos Santos Belo, National  
Directorate for Climate Change, Ministry  
of Commerce, Industry and Environment

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## Togo

Ms. Mery Yaou, Direction de  
l'Environnement, Ministère de  
l'Environnement et des Ressources  
Forestières

-  Mainstreaming gender for a climate resilient energy system in ECOWAS (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo)
  -  West African coastal classification, hazard management and standardized communication scheme with the Coastal Hazard Wheel (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)
- 

## Tonga

Mr. Paula Pouvalu Ma'u, Ministry of  
Meteorology, Energy, Information,  
Disaster Management, Environment,  
Climate Change and Communications

-  Development of a Tonga energy efficiency master plan
- 

## Trinidad & Tobago

1 Network Member

## Tunisia

Mr. Bouzghaya Fethi, Direction Générale du Développement Durable, Ministère de l'Équipement, de l'Aménagement du Territoire et du Développement Durable

- ↓ Capacity building to gain expertise in efficient lighting systems

## Turkey

Mr. Bilgin Hilmioglu, The Scientific and Technological Research Council of Turkey - Marmara Research Center (Environment and Clean Production Institute)

## Uganda

1 Network Member

Mr. Maxwell Otim Onapa, Uganda National Council of Science and Technology

-  Climate resilient decision making methods for Lake Victoria
-  ↓ Formulating geothermal energy policy, legal and regulatory framework
- ↓ Strategy for a national pay-as-you-go policy and mechanism to enhance rural off-grid solar energy access and clean cookstoves
- ↓ Foreign Currency PPA Risk Analysis and Assessment of Financing Options for Renewable Energy Development in Uganda

## Ukraine

Mr. Anatolii Shmurak, Ministry of Ecology and Natural Resources of Ukraine, Climate Change and Ozone Layer Protection Department

## United Arab Emirates

1 Network Member

## United Kingdom of Great Britain & Northern Ireland

17 Network Members

Ben Lyon, Department of Energy and Climate Change (DECC)

## United Republic of Tanzania

2 Network Members

Dr. Gerald Majella Kafuku, Tanzania Commission for Science and Technology

-  ↓ Promoting the sustainable use of solar photovoltaic technology
-  ↓ Enabling community of Pwani, Lindi and Mtwara access efficient and low emission biomass stoves for the household and institutional cooking
- ↓ Development of a regional efficient appliance and equipment strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)

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## United States of America

29 Network Members

CTCN DONOR



Mr. Ian Lloyd, U.S. Department of State,  
Bureau of Oceans and International  
Environmental and Scientific Affairs,  
Office of Global Change

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## Uruguay

2 Network Members

Mr. Ignacio Lorenzo, Climate Change  
Division - Ministry of Housing, Land  
Planning and Environment

↻ Development of technology tools for the  
assessment of impacts, vulnerability and adaptation  
to climate change in the coastal zones

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## Uzbekistan

Mr. Victor Chub, Centre of  
Hydrometeorological Service

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## Vanuatu

Mr. Jesse Benjamin, The Ministry of  
Climate Change Adaptation, Meteorology,  
Geo-Hazards, Environment, Energy and  
Disaster Management

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## Viet Nam

12 Network Members

Mr. Pham Van Tan, Ministry of Natural  
Resources and Environment of Vietnam

↓ Pilot demonstration of ESCO model for GHG  
mission reduction in the cement sector in Viet Nam

↓ Bio-waste minimization and valorization for low  
carbon production in rice sector

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## Yemen

Mr. Ammar Abbas, Ministry of Local  
Administration and Environment

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## Zambia

Mr. Ben Makayi, Ministry of Higher  
Education

↓ Development of a regional efficient appliance and  
equipment strategy in Southern Africa (Botswana,  
Lesotho, Malawi, Mozambique, Namibia, South  
Africa, Swaziland, Tanzania, Zambia, Zimbabwe)

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## Zimbabwe

6 Network Members

Mr. Elisha N. Moyo, Climate Change  
Management Department, Ministry of  
Environment, Water & Climate

↻↓ Piloting rapid uptake of industrial energy efficiency  
and efficient water utilisation in selected sectors

↻↓ Developing a climate-smart agriculture manual for  
agriculture education

↓ Development of a regional efficient appliance and  
equipment strategy in Southern Africa (Botswana,  
Lesotho, Malawi, Mozambique, Namibia, South  
Africa, Swaziland, Tanzania, Zambia, Zimbabwe)

# Facts & Figures



**“The European Commission has been a strong supporter of the CTCN since its inception, and believes its activities make an important contribution towards supporting the full scope of low-carbon technologies and adaptation technologies that enable developing countries and emerging economies to achieve their climate change goals.”**

**—Yvon Slingenberg**

Director, International Mainstreaming and Policy Coordination, DG CLIMA, European Commission

**“We welcome the Climate Technology Centre and Network’s five-year report and commend the CTCN for its considerable progress. Canada is proud to be part of this expanding global network. This work is helping to ensure that developing countries have access to innovative clean technology solutions that help to reduce emissions while moving developing nations closer to meeting their climate goals under the Paris Agreement.”**

**—Catherine Mary McKenna**

Minister of Environment and Climate Change, Canada

**“The Government of the Republic of Korea is pleased to support the meaningful projects being undertaken by the CTCN. Our bilateral contributions, both financially and through the expertise of our 57 Network member organizations, assist developing countries to achieve their climate change objectives.”**

**—Byung-Seon JEONG**

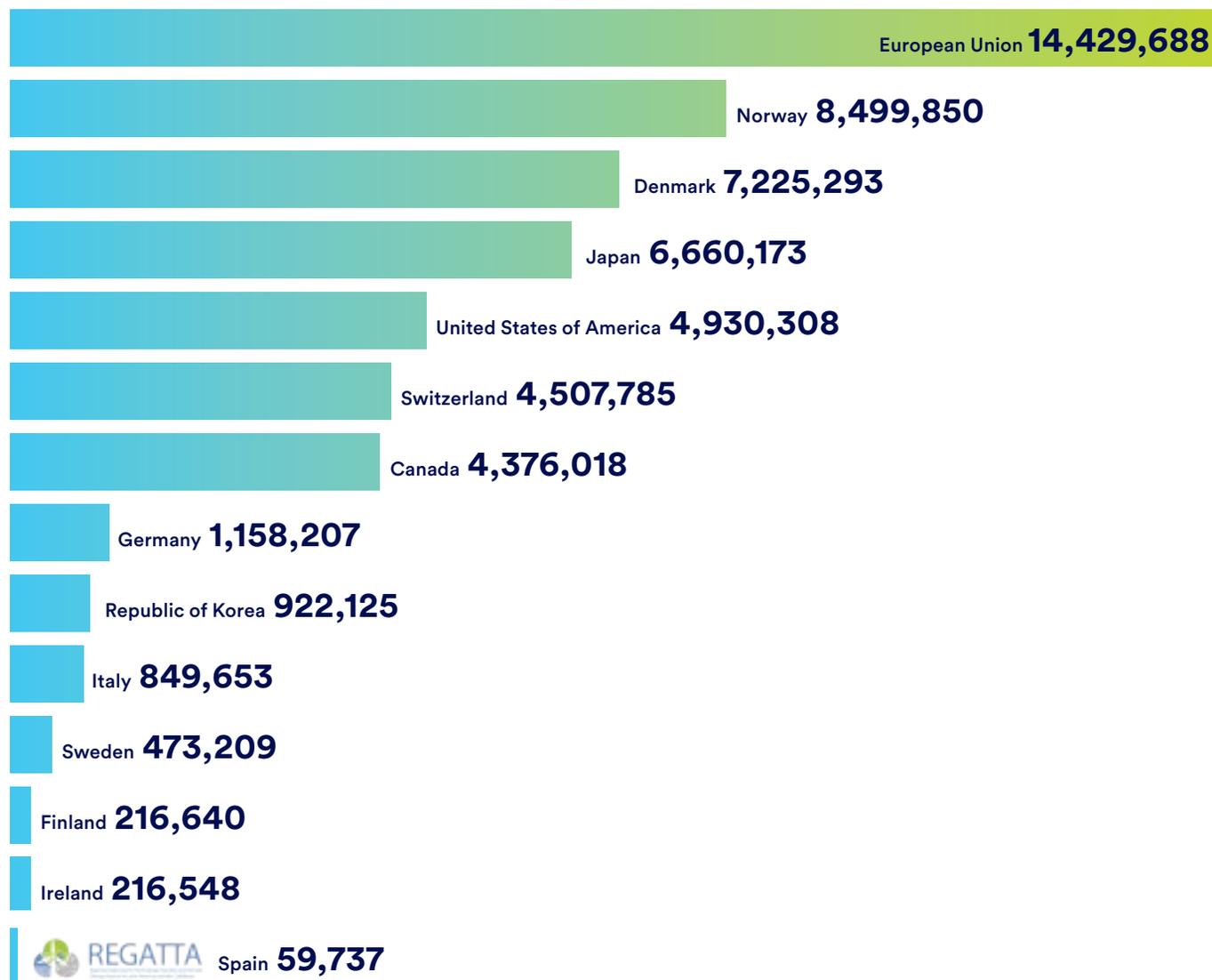
Assistant Minister, Ministry of Science and ICT, Republic of Korea

# Financial Information

USD **59,038,848**  
Total Voluntary Contributions

USD **39,503,000**  
Total Expenditures

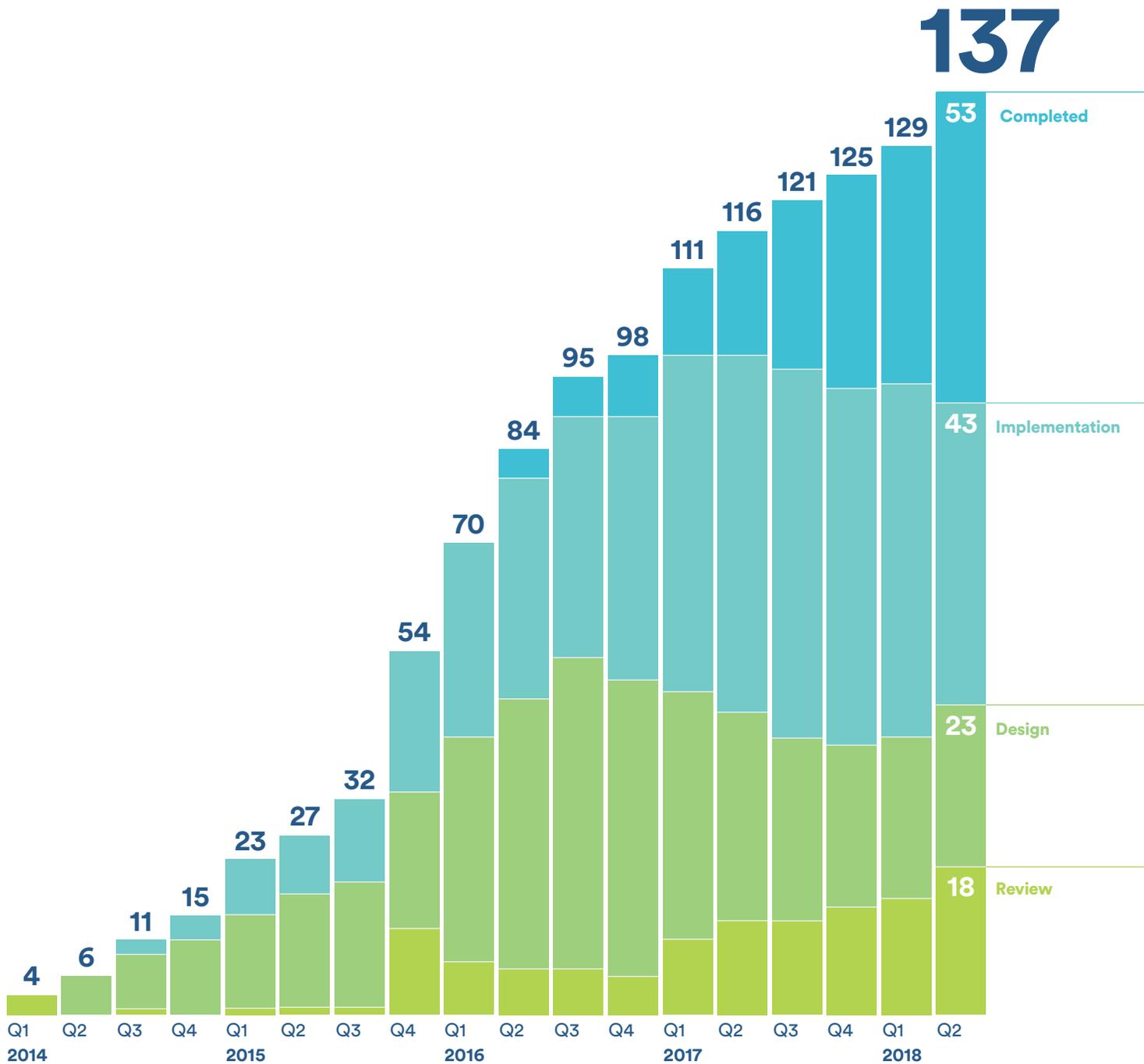
USD **54,525,234** CONTRIBUTIONS FROM COUNTRIES



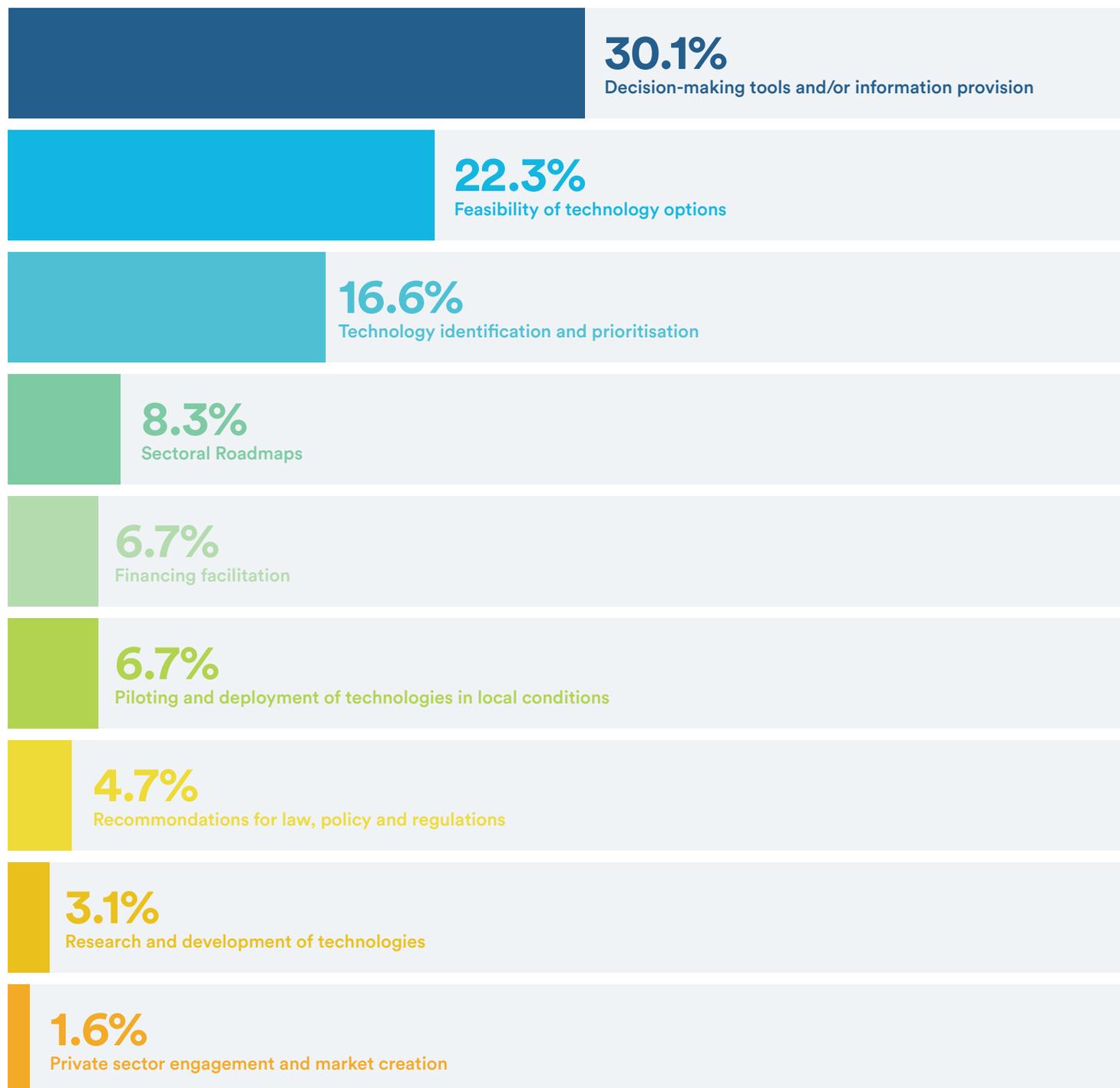
USD **4,513,614** FROM OTHERS



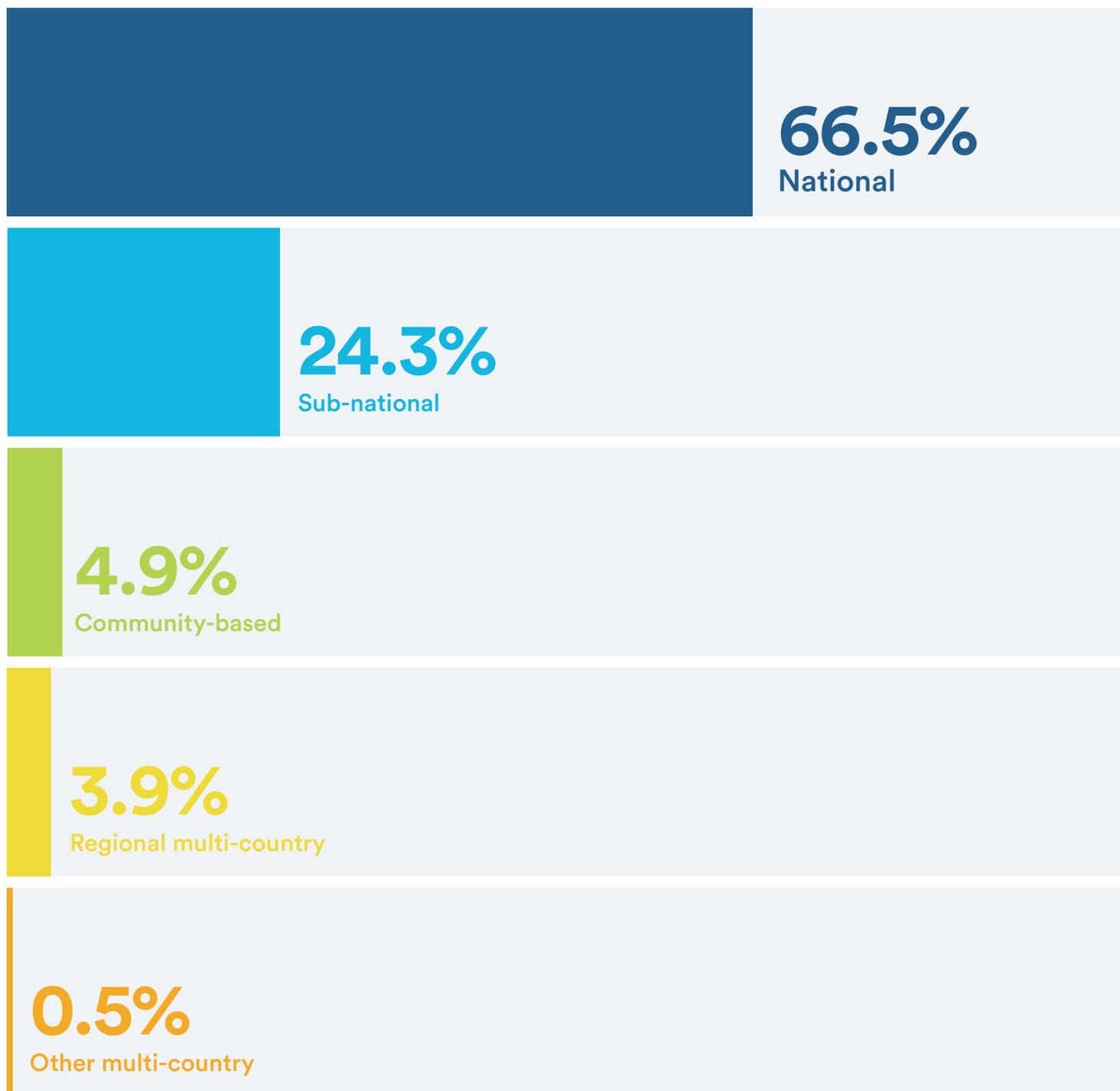
# Distribution of Technical Assistance Requests by Stage



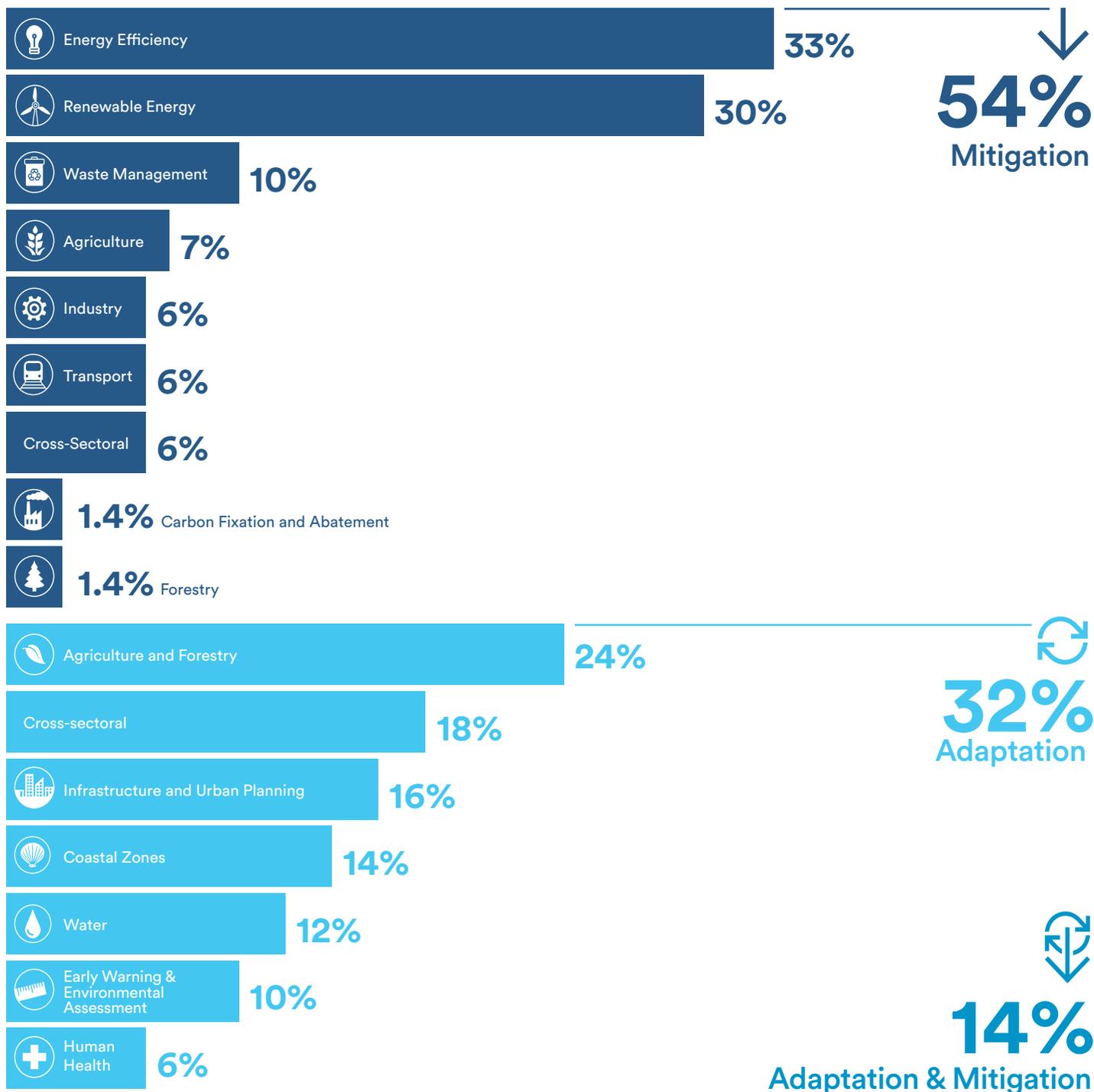
# Distribution of Technical Assistance Requests by Type of Assistance



# Distribution of Technical Assistance Requests by Geographical Scope



# Distribution of Technical Assistance Requests by Sector



## Distribution of Network Members by Type of Expertise

**338**

**Knowledge Sharing**

**334**

**Policy and Planning**

**301**

**Capacity Building**

**180**

**Technology  
Development/Transfer**

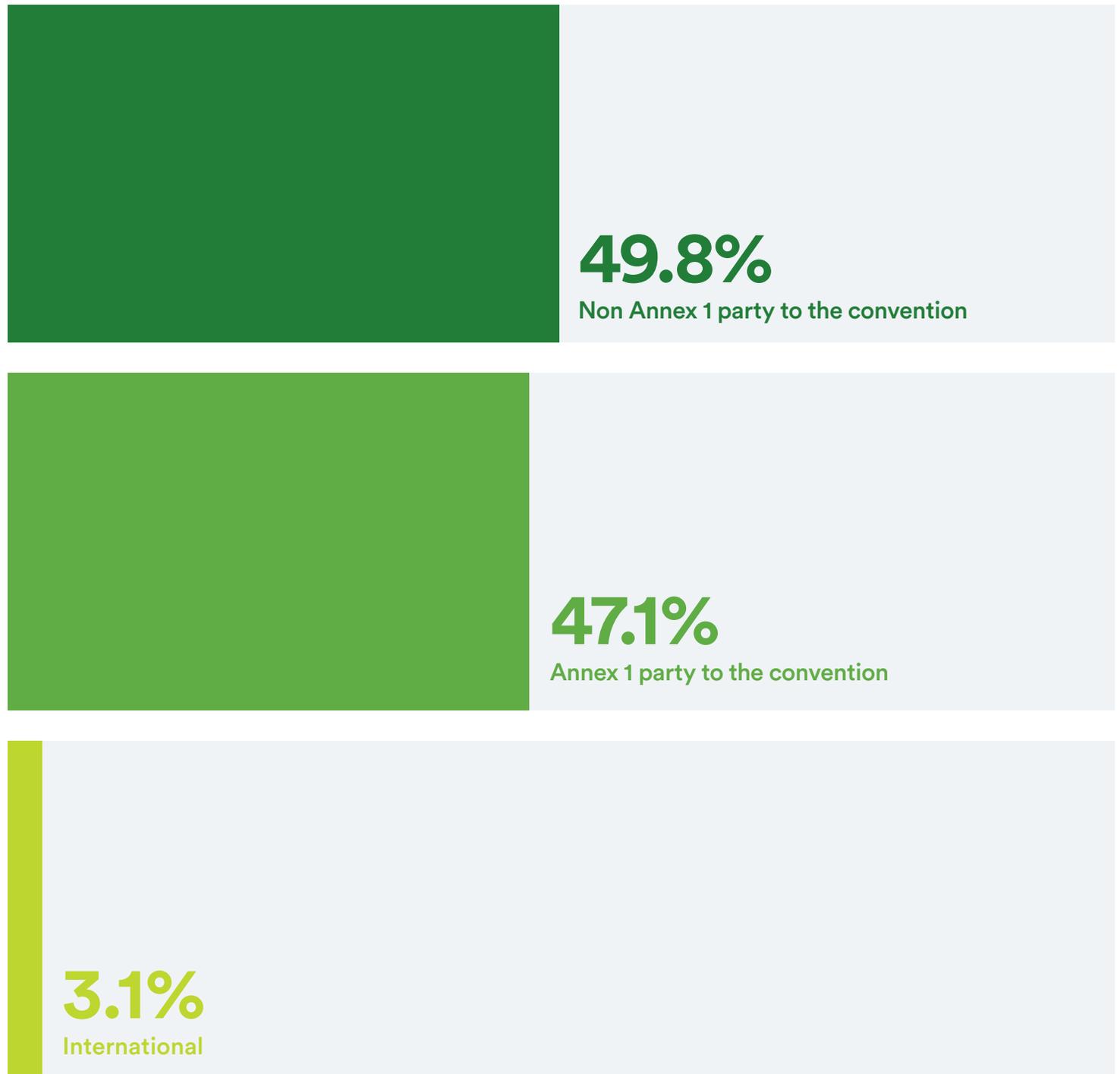
**158**

**Collaboration  
in Innovation**

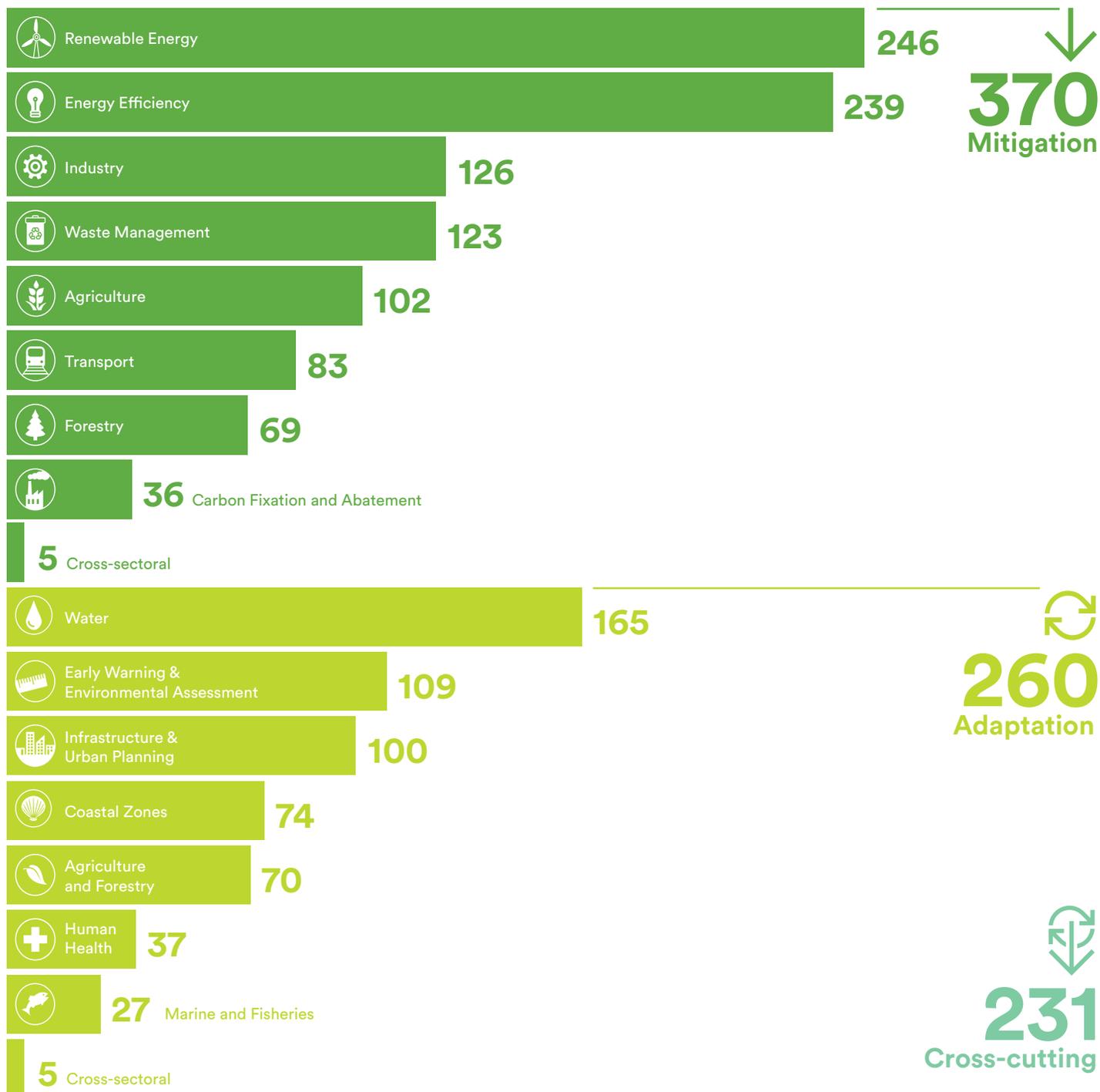
**127**

**Investments**

# Distribution of Network Members by UNFCCC Annex 1 Status



# Distribution of Network Members by Sector

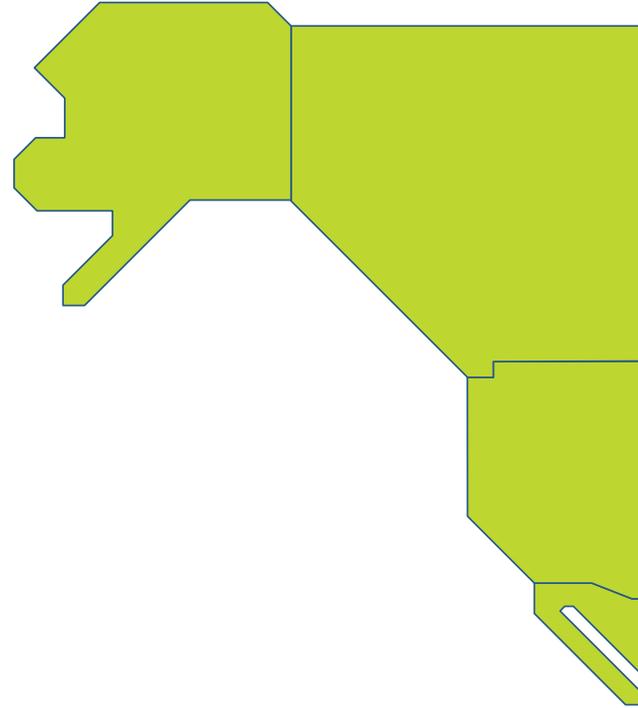


# Distribution of Network Members by Type of Institution



**448**

**Network  
Members**



**79**

**Countries  
receiving  
technical  
assistance**



The Climate Technology Centre and Network (CTCN) fosters technology transfer and deployment in developing countries through three core services: technical assistance, knowledge sharing and scaling up international collaboration. The CTCN is the operational arm of the United Nations Framework Convention on Climate Change (UNFCCC) Technology Mechanism. The CTCN is hosted and managed by UN Environment and the United Nations Industrial Development Organization (UNIDO).

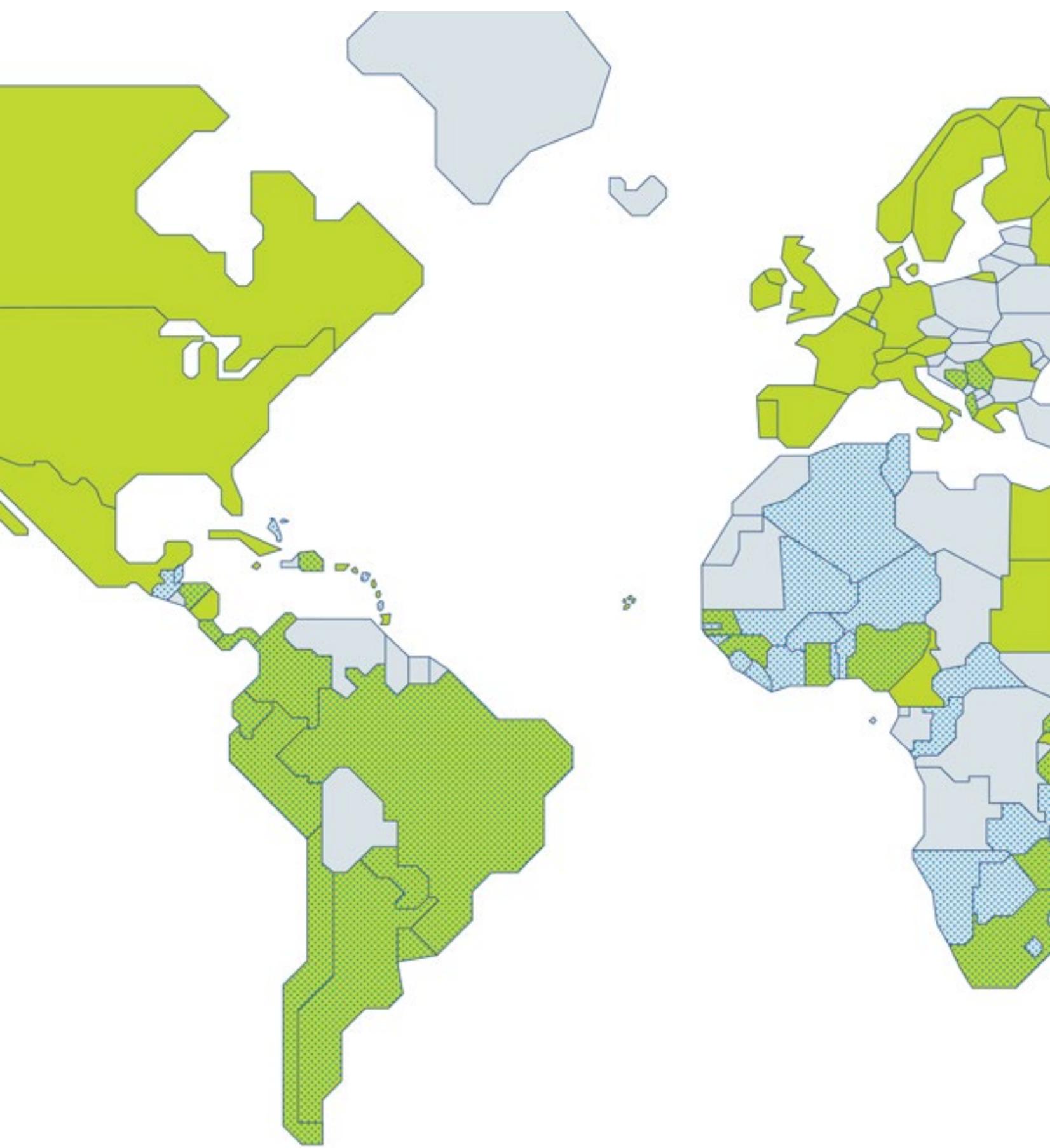
CTCN promotes environmentally sound practices globally and in its own activities. This report is printed on paper from sustainable forest. The paper is chlorine-free. Our distribution policy aims to reduce CTCN's carbon footprint.

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Written by Karina Larsen with Irma Juskenaitė, with thanks to the CTCN team for their collaboration.

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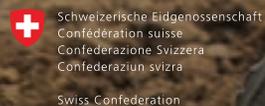
- Countries with Network members**
- Countries receiving technical assistance**
- Countries that have Network members and are receiving technical assistance**

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