



CTCN
CLIMATE TECHNOLOGY
CENTRE & NETWORK

Technology

ACCELERATING CLIMATE
ACTION ON THE GROUND

2017 Progress Report



It's not just about windmills and solar panels. Technologies of all kinds are helping us to lower emissions, increase resilience, and develop sustainably. Making technology transfer work for countries requires getting all of the necessary elements in place.

It's about...

Ghana, Kenya, Mauritius, and Namibia are preparing for a transformational change towards sustainable cooling appliances. By working with the Climate Technology Centre to identify the most suitable green refrigeration and air conditioning technologies, and develop supportive policy measures and technology roadmaps, these countries are utilizing their economies of scale to mitigate ozone depletion and greenhouse gas emissions while fostering sustainable industrial development.



1 Identifying and Prioritizing Technologies

Tunisia is transitioning to energy-efficient lighting on a national scale. In order to build the necessary capacity to implement Tunisia's ambitious National Energy-Efficient Lighting Transition Strategy, the CTCN is developing educational materials on the design and management of energy-efficient lighting systems, regulations, and government policies. It is also instructing over 100 key Tunisian technicians, architects, and engineers who will then serve as trainers themselves, thereby expanding the national skill pool and promoting wider implementation of energy-efficient and low-emission systems.



Strengthening Capacities

Cote d'Ivoire is strengthening its ability to make informed climate change decisions by building an environmental information system to coordinate relevant data from around the country. The CTCN worked closely with national stakeholders to develop environmental indicators, propose a sustainable data collection strategy and explore technology options for the design and implementation of the platform. With relevant information from a variety of sectors (agriculture, energy, water, etc.) collected in an integrated data repository, the environmental information system will facilitate sound planning and policy making for the future.



Enhancing Decision Making Tools & Information

Tanzania is working to protect its forests and the health of its population by deploying low emission biomass stoves for household and institutional cooking. The Climate Technology Centre is working with the communities of Lindi, Mtwara and Pwani to develop sustainable charcoal and wood fuel value chains, including charcoal and cook stove production for use in both rural and urban areas. This effort will be combined with best practices from other initiatives and developed into a plan for scaling up sustainable wood fuel cooking systems in other areas of Tanzania.

4

Assessing Feasibility, Piloting & Deployment

Costa Rica is increasing its resilience to climate change by designing a protocol that enables local governments to incorporate adaptation and mitigation measures into local land use plans. The CTCN is facilitating south-south transfer between Costa Rica and other countries to share good practice, knowledge and experience in introducing climate change considerations into land use planning, and providing guidance on development of a legal instrument that forges links between biodiversity conservation, reducing natural disaster vulnerability, coastal area management, infrastructure and urban areas, and water protection in order to reinforce medium and long-term resilience.



5

Supporting Enabling Environments

Myanmar is expanding adaptation efforts within its agricultural and water sectors with the help of improved data analysis and financial support. By creating linkages with the Green Climate Fund's Readiness Programme, the CTCN is helping Myanmar establish systems to capture reliable and timely data that will inform climate change assessments as well as drought and flood management. This will improve the country's access to the most relevant climate models, ensuring that up-to-date climate projections are available to stakeholders for planning and development of climate resilient solutions.



6

Increasing Access to Finance

By mobilizing global expertise to deliver the right solutions, knowledge, and financing, we strengthen collective action and leverage technologies to achieve our common goals.



MISSION

Stimulating technology cooperation and enhancing the development and transfer of technologies to developing country Parties at their request.



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2017 has been an important year for the Climate Technology Centre and Network. The CTCN moved from establishing its value-added as an operational body under the climate convention to providing concrete examples of how a country-driven mechanism can meet the climate technology needs of developing countries.

COP22 in Marrakech delivered a series of decisions designed to guide the collaboration between national technology and finance focal points. It also featured an announcement from new and recurring donors to provide necessary funding to support the ongoing operations of the CTCN and its network of 157 country technology focal points (National Designated Entities, or NDE).

CTCN NDEs continue to play a prominent role not just in the day-to-day operations of the CTCN but in the context of its external relationships as well. Developing country NDEs presented at both meetings of the Advisory Board in 2017 on their experience working with the CTCN and its Network and Consortium implementing partners, and reported encouraging results. The CTCN partnership with NDEs forms the basis for linking with the Financial Mechanism of the Convention as we scale up opportunities based on CTCN technical assistance and will play a role in advancing collaborative research, development and demonstration of climate solutions, as discussed at the Eighteenth Meeting of the Green Climate Fund Board.

The Advisory Board established two task forces in 2017 to enhance the guidance it provides to the CTCN. In addition to providing strategic and operational advice, these task forces considered the provision of in-kind and pro-bono support to the CTCN. These approaches will deepen engagement with donor nations and diversify its sources of funding, while matching country needs for climate technologies with emerging approaches and advancing development priorities. The CTCN

now considers the impacts of its operations against the targets and associated indicators of the Sustainable Development Goals (SDG) and is contributing in its capacity as a constituted body of the UNFCCC to share lessons learned with complementary initiatives as part of the Technology Facilitation Mechanism under SDG17.

The CTCN and its Advisory Board will incorporate the direction received from Parties at COP23 and look forward to working with the Fijian Presidency to ensure an appropriate balance between greenhouse gas emission mitigation and adaptation initiatives to build resilience to a changing climate. The Atlantic hurricane season of 2017 served as a reminder that we must act to protect Least Developed Countries and Small Island Developing States, and the CTCN is well-positioned to continue to advocate strongly on their behalf.

COP23 will also consider the independent review of the CTCN, and I am confident that its findings will serve as a reference from which the CTCN can lay out its vision for the future. Raising the profile of the organization, its NDE and Network members and the work being done to secure longer-term, country-, region- and sector-focused partnerships with other like-minded institutions will remain a priority as we scale-up the impacts of the work of the CTCN and its partners. I am confident 2018 will be a successful year in this regard.

Ms. Mette Møglestue
CHAIR, CTCN ADVISORY BOARD

FOREWORD

“Consider the CTCN as your own Convention body, driven and guided by your goals and needs. We are not a project, not a workshop, but a long term assistant to help in every day work and challenges in implementing your climate actions.”

JUKKA UOSUKAINEN
CTCN DIRECTOR



The widespread deployment of climate technologies is fundamental to combating climate change and building climate-resilient societies. Meeting this global challenge requires the coordinated action of the UNFCCC, multilateral organisations, governments, civil society and the private sector.

This Progress Report tells the story of the CTCN for 2017, the milestones we have achieved over the past year, and the steps we are taking to scale up the impacts of our activities. Our network of implementing partners has grown to over 400 institutions, organizations, and companies from 75 countries (with equal representation from the global North and South) that provide expertise to serve countries with the targeted solutions they need to implement their climate objectives.

The CTCN continues to deliver practical technical assistance, including support to Algeria for the design and construction of a solar photovoltaic facility and recommendations to Antigua and Barbuda for priority renewable energy technologies. A CTCN intervention in Jordan is strengthening its capacity to access international financing for priority technologies, and development of policy, legal and regulatory frameworks in Uganda is guiding the development of geothermal energy in the country.

We are working actively with the Green Climate Fund (GCF) to scale up deployment of the technologies countries have identified as central to meeting their national climate objectives. The scope of activities targeted thus far includes developing a Master Plan for Energy Efficiency in Tonga; improved dry season planning and management in Ghana; and data gathering systems to support Myanmar's planning and adaptation efforts in the water and agriculture sectors. The CTCN is also collaborating with the Global Environment Facility on technical assistance in seven countries, including work on the replacement of F-refrigerants in Chile's food production system and in the development of a green industrial zone in Senegal.

In 2017 the CTCN participated in discussions of the Paris Committee on Capacity Building, sharing our experience in developing in-country capacity to benefit from our partner expertise. Our web portal, www.ctc-n.org, now provides access to over 14,600 curated technology publications, webinars and case studies. We also hosted an innovation-focused meeting of the global research and development community, and will work with the GCF to advance solutions that address challenges early in the technology cycle.

Technology is not gender-neutral, and the CTCN strives to ensure that women are engaged in decision-making processes, capacity building, and the use of technologies so that they can benefit from and participate in the delivery of solutions. In an area where over half of the population does not currently have access to electricity, fifteen countries in West Africa reinforced the important role of gender in addressing climate change by jointly requesting the CTCN to provide technology and capacity building assistance to mainstream gender into a climate-resilient energy system throughout the region.

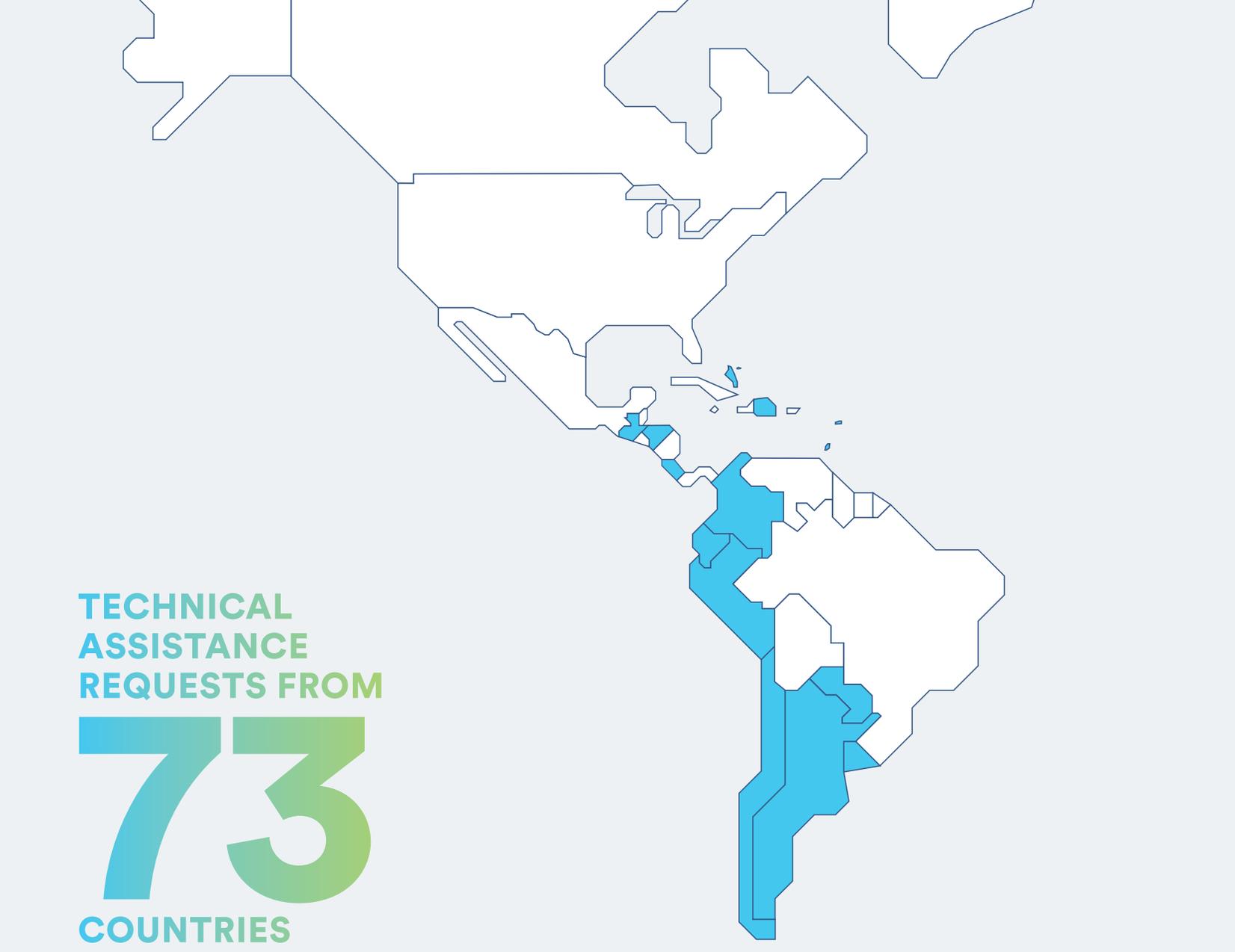
Technology transfer alone will not be able to build the needed resilience in our agricultural, transport, energy and other interconnected systems to get us to where the science tells us we need to be. But by building and securing local capacity, creating enabling environments to foster investment, and supporting multilateral financial institutions with the technical expertise they need to scale up the full range of transformational climate technologies, the Climate Technology Centre and Network is playing an important role in securing a low-carbon, climate-resilient future.

DIRECTOR'S OVERVIEW



Technology transfer does not take place in a vacuum. The performance of a given technology is dependent on a wide range of factors including the objectives and capacity of a country, adequate information and decision-making tools, enabling environments and access to adequate finance for technology deployment and up-scaling.

The Climate Technology Centre and Network provides support across all of these areas in order to assist countries in making sound policy, technology, and investment choices that lead to a reduction in greenhouse gas emissions and better approaches to adaptation.



TECHNICAL
ASSISTANCE
REQUESTS FROM

73

COUNTRIES

Afghanistan

Albania

Algeria

Antigua and Barbuda

Argentina

Armenia

Azerbaijan

Bahamas

Bangladesh

Benin

Bhutan

Bosnia and Herzegovina

Botswana

Burkina Faso

Central African Republic

Chile

Colombia

Congo

Costa Rica

Côte d'Ivoire

Dominican Republic

Ecuador

Ethiopia

Gambia

Georgia

Ghana

Grenada

Guatemala

Guinea

Guinea-Bissau

Honduras

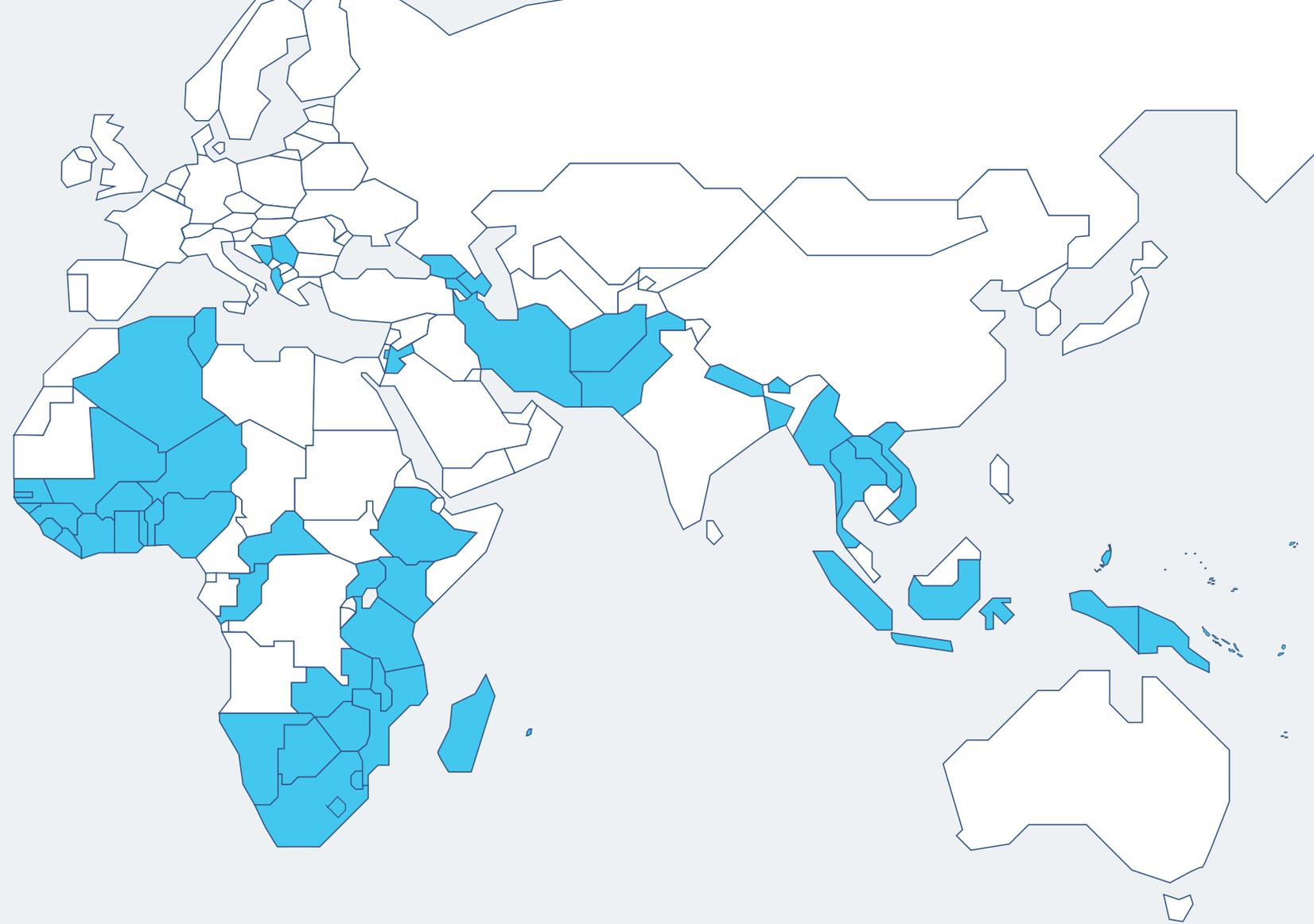
Indonesia

Iran

Jordan

Kenya

Kiribati



Laos

Lesotho

Liberia

Madagascar

Malawi

Mali

Marshall Islands

Mauritius

Mozambique

Myanmar

Namibia

Nepal

Niger

Nigeria

Pakistan

Palau

Palestine

Papua New Guinea

Paraguay

Peru

Senegal

Serbia

Seychelles

Sierra Leone

Solomon Islands

South Africa

Swaziland

Tanzania

Thailand

Togo

Tonga

Tunisia

Uganda

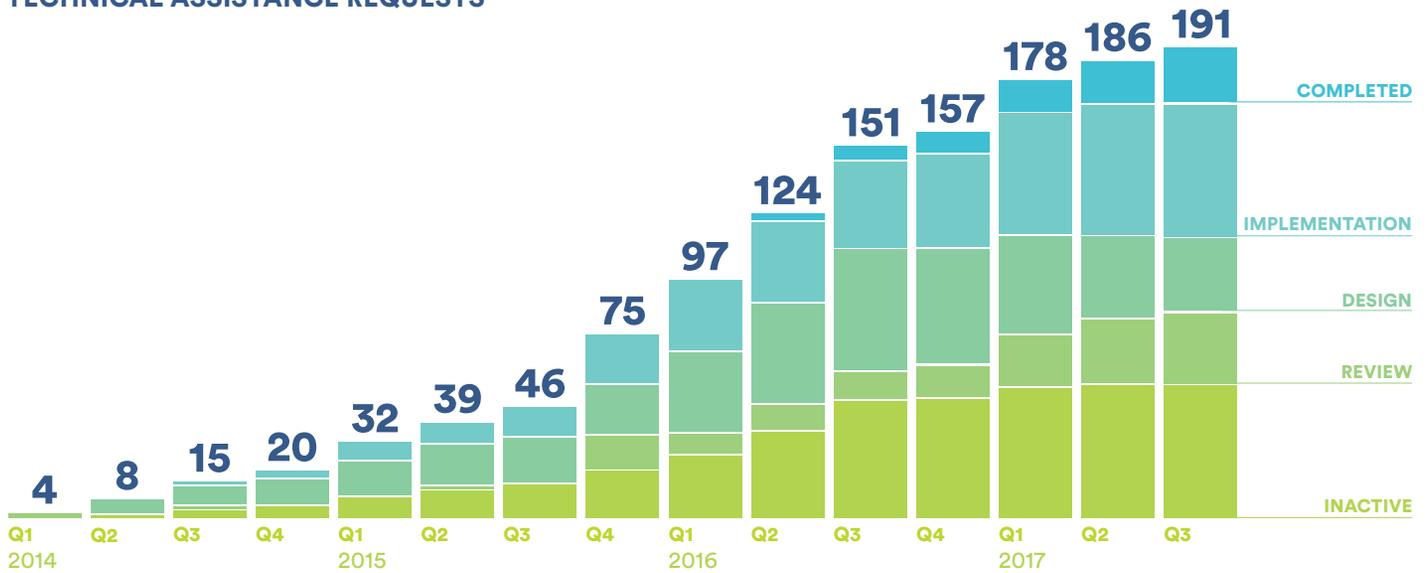
Uruguay

Viet Nam

Zambia

Zimbabwe

TECHNICAL ASSISTANCE REQUESTS



BY GEOGRAPHICAL SCOPE

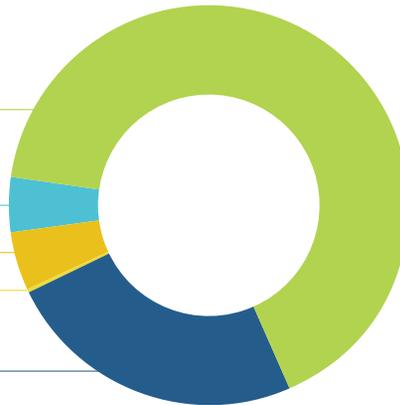
66.3% National

4.2% Regional Multi-country

4.7% Community-based

0.5% Other Multi-country

24.2% Sub-national



BY TYPE OF ASSISTANCE

3.4% Research and Development of Technologies

1.7% Private Sector Engagement and Market Creation

7.3% Financing Facilitation

2.3% Recommendations for Law, Policy and Regulations

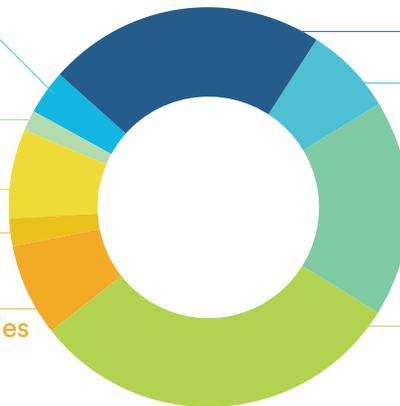
7.3% Sectoral Roadmaps and Strategies

Feasibility of Technology Options 22.6%

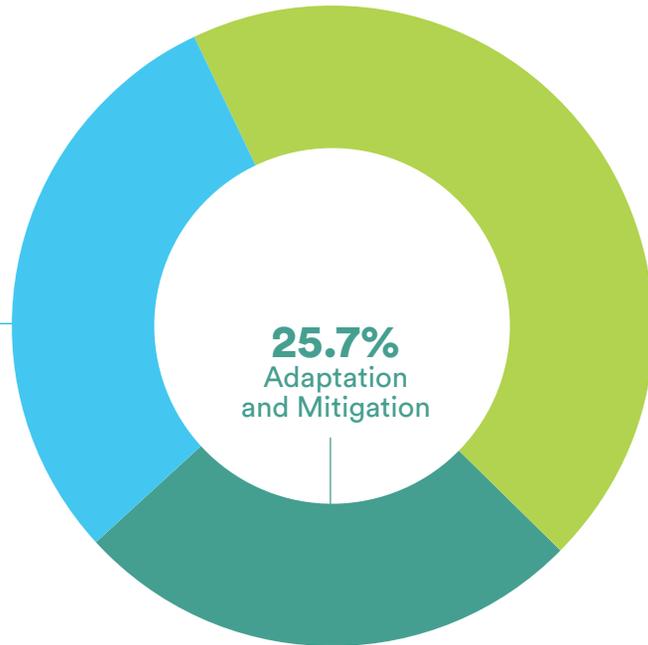
Piloting and Deployment of Technologies in Local Conditions 7.3%

Technology Identification and Prioritisation 17.5%

Decision-making Tools and/or Information Provision 30.5%



BY OBJECTIVE



29.8%
Adaptation



44.5%
Mitigation

25.7%
Adaptation
and Mitigation

ADAPTATION BY SECTOR



29.2% Agriculture & Forestry



18.8% Cross-sectoral



16.7% Water



12.5% Coastal Zones



10.4% Early Warning & Environmental Assessment



8.3% Infrastructure & Urban Planning



4.2% Human Health

MITIGATION BY SECTOR

Energy Efficiency 33.3%



Renewable Energy 30.3%



Waste Management 12.1%



Agriculture 9.1%



Industry 6.1%



Transport 4.5%



Cross-Sectoral 4.5%



FROM REQUEST TO IMPLEMENTATION: HOW CTCN TECHNICAL ASSISTANCE WORKS



Interested parties in developing countries contact their national focal point (National Designated Entity (NDE)) to request climate technology assistance.

The NDE confirms the alignment of the request with its national climate priorities and passes it along to the CTCN.

The CTCN collaborates with the NDE and applicants to develop a tailored technology transfer plan.

The Climate Technology Centre selects a Consortium or Network member to implement the technology solution.

TECHNICAL ASSISTANCE IS PROVIDED:

- At the local, national, or multi-country level
- For a broad range of adaptation and mitigation technologies
- Free of charge (up to a 250,000 USD value)
- To stakeholders from academic, local and national government, civil society and/or private sector entities

TECHNICAL ASSISTANCE TRENDS:

Many technical assistance requests have been cross-sectoral in nature, especially those focused on adaptation. Indeed, there are often opportunities for cross-sector synergies between water, food security, forests and energy. Therefore the CTCN's technology assistance has utilized integrated approaches and collaboration with numerous stakeholder groups in order to meet the complex needs of countries in this regard.

Demand for technology support in waste management and waste to energy is growing. Recent experience has shown that this can be a challenging sector in terms of feasibility of technologies requested by countries to fit within local contexts including infrastructure, finance and regulatory systems. The CTCN is therefore striving to ensure that each technology will be environmentally sound in its operating locale as well as over its operational life cycle, and that the proposed solutions are both economically viable and socially acceptable.

Most requests for technical assistance now also explicitly include appeals for identifying sources of finance. In response, the CTCN is helping to strengthen country capacities to access external funding and is collaborating with the Financial Mechanism of the Convention to support technology financing linkages.

In the following pages, the Climate Technology Centre and Network provides further information on its support for various elements of technology transfer. Specific examples demonstrate how the CTCN and National Designated Entities are collaborating in countries to improve understanding, utilization and replication of technologies.

“The CTCN’s role as a matchmaker has been very useful – they are able to mobilise their network to find technical expertise that is very relevant to our situation.”

THINLEY NAMGYEL
CHIEF ENVIRONMENT OFFICER AT THE NATIONAL ENVIRONMENT
COMMISSION, BHUTAN



1

IDENTIFYING AND PRIORITIZING TECHNOLOGIES

The effectiveness of any given technology is dependent on a wide variety of factors, and therefore a solution that is considered to be applicable in one context may not be feasible in another. It is therefore essential that selected technologies meet the specific objectives of a particular country with consideration of environmental, social and enabling frameworks. The CTCN works with countries to support their realisation of national climate change commitments through a thorough technology selection and prioritization process. In this way, selected technologies will be better suited to local conditions and their implementation and outcomes more effective.

Afghanistan: Identification of technology needs

SECTOR: Cross-sectoral (Adaptation & Mitigation)

APPLICANT: National Environment Protection Agency of Afghanistan

NATIONAL DESIGNATED ENTITY: Mr. Gulam Hassan Amiry, National Environment Protection Agency of Afghanistan

DURATION: 12 months

STATUS: Completed

BUDGET: 39,950 USD

PLANNED AND IMPLEMENTED BY: UN Environment

CHALLENGE

As a mountainous country, with dry lands and frequent droughts, Afghanistan's geography presents challenges regarding the availability of water, as well as opportunities for utilization of renewable energy. The government of Afghanistan therefore requested assistance in identifying technology needs for three priority sectors: agriculture, energy and water resources.



CTCN TECHNOLOGY SUPPORT

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

INTENDED IMPACT

The government of Afghanistan now has at its disposal a compendium of technologies that will be instrumental to implementing its Nationally Determined Contribution. The roadmap and capacity building will inform new policies to be developed and will provide a solid basis for the country to conduct a Technology Needs Assessment and Technology Action Plan.

THIS ASSISTANCE SUPPORTS

AFGHANISTAN'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Identify and mainstream climate change adaptation technologies into the sectoral policies, strategies and development plans, and promotion of regional and international cooperation and coordination for adaptation technology transfer

SUSTAINABLE DEVELOPMENT GOALS



“We appreciated the will of all partners to make the assistance a success. The CTCN heard our call for help: for populations affected by climate changes, in need of additional expertise and the engagement of the key stakeholders. Without CTCN’s support and its organizational skills, nothing would have been possible.”

DR. JONATHAN MUTAU KAMWI
CTCN NDE, NAMIBIAN MINISTRY OF ENVIRONMENT AND TOURISM

Namibia: Identifying potential for sustainable borehole system rehabilitation

SECTOR: Water (Adaptation)

APPLICANT: Department of Environmental Affairs

NATIONAL DESIGNATED ENTITY: Mr. Jonathan Kamwi, Ministry of Environment and Tourism

DURATION: 22 months

STATUS: Completed

BUDGET: 152,132 USD

PLANNED BY: Council for Scientific and Industrial Research (CSIR); UNEP DTU Partnership (UDP)

IMPLEMENTED BY: CSIR, UDP, and Carbon Trust

CHALLENGE

Namibia is the most arid African country south of the Sahara. Rainfall is infrequent and highly inconsistent. What little rainfall that occurs is almost all evaporated, with only 2% of rainfall ending up as surface run-off and a meagre 1% available to recharge groundwater supplies. Climate change is likely to increase the frequency of droughts and the irregularity of rainfall. Dependency on groundwater is likely to increase as a result. Therefore, Namibians need access to sustainable, reliable and affordable water.



CTCN TECHNOLOGY SUPPORT

Policy review and the development of a list of viable technology actions:

- Identification of technology options
- Prioritization of 4 technologies
- Based on the list of prioritised technologies, the implementers engaged with the Ministry of Environment to prepare a list of potential projects to attract potential investors
- Two concept notes were collaboratively developed, focusing on: (i) borehole rehabilitation, and (ii) desalination

INTENDED IMPACT

Depending on the context, this assistance could result in up to 3,000 people supplied with reliable access to clean water. Assuming borehole rehabilitation would otherwise be diesel-powered, this would also result in approximately 300–600 tons of CO₂ avoided over a 20 year lifespan. The pilot demonstrated how sustainable borehole systems can overcome the various challenges that are currently faced by rural water supply boreholes. The boreholes will be rehabilitated with improved technologies, such as prepaid water meters, photovoltaic pump systems, mobile payment solutions and smart water technologies.

THIS ASSISTANCE SUPPORTS

NAMIBIA’S NATIONALLY DETERMINED CONTRIBUTION TO:

- Implement soil and water conservation policies and practices and improve rural water supply

SUSTAINABLE DEVELOPMENT GOALS:



2 STRENGTHENING CAPACITIES

The ability for countries to deploy technologies that may be new to local contexts often necessitates building the domestic capacity to identify the best-suited technologies, adapt them for local conditions, and manage their use and advancement. Targeted investments in strengthening technical, vocational, entrepreneurial, managerial, and/or policy capacities factor into most CTCN interventions. In some cases however, capacity building itself is the primary focus of a country's technical assistance request. The Climate Technology Centre and Network works in partnership with governments, the private sector, civil society, and academia to build these enhanced capabilities to support all phases of climate technology transfer.

Swaziland: Building capacity for climate change science

SECTOR: Cross-Sectoral

APPLICANT: Coordinating Assembly of NGOs (CANGO)

NATIONAL DESIGNATED ENTITY: Mr. Bafana Simelane, Ministry of Tourism and Environmental Affairs, Meteorology Department

DURATION: 9 months

STATUS: Completed

BUDGET: 50,000 USD

PLANNED AND IMPLEMENTED BY: UNEP-DTU Partnership

CHALLENGE

Climate change negatively impacts key economic sectors of Swaziland, including energy, water, agriculture, forestry, and human health. However, low awareness of climate change by non-governmental organizations poses a barrier to effectively addressing these impacts. Climate change education, training and public awareness about national climate change technology challenges and priorities are crucial building blocks in remedying these challenges.



CTCN TECHNOLOGY SUPPORT

Capacity building for civil society organizations on:

- National climate change related priorities
- Mitigation and adaptation technologies
- Proposal development and funding sources
- Creation of a 'Civil Society Climate Change Task Team' for coordination and implementation

INTENDED IMPACT

- 44 civil society representatives from 37 different organizations trained
- Creation of a climate change task force for all NGOs in Swaziland
- Increased understanding of climate change and an improved capacity to incorporate a climate change perspective into NGO programmes.

THIS ASSISTANCE SUPPORTS

SWAZILAND'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Reduce vulnerability to the impacts of climate change by building adaptive capacity
- Facilitate the integration of climate change adaptation into relevant new and existing policies, programmes and activities

SUSTAINABLE DEVELOPMENT GOALS:





Bhutan: Improving public transport systems through capacity building for GHG emission reductions

SECTOR: Transport (Mitigation)

APPLICANT: National Environment Commission Secretariat

NATIONAL DESIGNATED ENTITY: Mr. Karma Tshering, National Environment Commission Secretariat

DURATION: 6 months

STATUS: Completed

BUDGET: 50,000 USD

PLANNED AND IMPLEMENTED BY: UNEP DTU Partnership, UNEP - Asian Development Bank, United Nations Industrial Development Organization (UNIDO)

IMPLEMENTED BY: UNEP DTU Partnership, UNEP - Asian Development Bank, UNIDO

CHALLENGE

The transport sector in Bhutan is characterized by the dominance of road transport and accounts for the highest energy-related greenhouse gas (GHG) emissions for Bhutan, at 44%. The number of vehicles is also growing at 9–10% per annum and the consumption of petroleum products for surface transport is likely to triple by 2020. There has been a significant shift from public transport to private vehicles as seen in the rate of registered vehicles on roads. Bad road quality and difficult terrain which hinders road expansion also adds to complications in managing transport. As the public transport system is not adequate, taxis and personalized vehicles serve the travel needs of the majority. This has resulted in traffic congestion and an increase in vehicular emissions.

CTCN TECHNOLOGY SUPPORT

The CTCN facilitated South-South collaboration between the NDEs of Thailand and Bhutan, and together with the UNEP DTU Partnership convened a workshop that provided Bhutan's participants with an overview of Thai experience in intelligent public transport systems in Bangkok and Chiang Mai. Through practical examples and case studies presented by Thai private and public agency experts, the workshop enhanced participants' knowledge of technologies and approaches relevant to the Bhutanese context. Participants also had the opportunity to observe Thailand's intelligent transport management and public transport systems first hand, and interacted with experienced officials and engineers.

INTENDED IMPACT

- Strengthening transport department and its personnel in acquiring necessary skills and resources for implementation and management of Intelligent Transport Systems
- Revamping of public transport system with improved efficiency through use of appropriate technologies and capacity building of relevant managers.
- Reduction in GHG emissions due to promotion, improvement and strategy development for low carbon transport options in the country.

THIS ASSISTANCE SUPPORTS

BHUTAN'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Promote low carbon transport systems

SUSTAINABLE DEVELOPMENT GOALS:



Having access to the right data and information is critical for determining the direction that climate change efforts should take. In fact, over 30% of incoming requests to the Climate Technology Centre & Network deal with support for decision-making and the provision of appropriate information. Tools such as climate models and monitoring systems can assist in simulating future scenarios as well as with measuring impacts of adaptation and mitigation efforts. The synthesizing of data, combined with reviews of best practices and lessons learned for given technology solutions, can bring the relevant factors together to enable sound decision making.

Chile: Improving climate technology investment by agrifood enterprises

SECTOR: Cross-sectoral (Adaptation and Mitigation)
APPLICANT: National Council for Clean Production
NATIONAL DESIGNATED ENTITY: Ms. Paulina Ulloa, National Council for Clean Production
DURATION: 12 months
STATUS: Implementation
BUDGET: 152,000 USD
PLANNED BY: Carbon Trust
IMPLEMENTED BY: Carbon Trust

CHALLENGE

The agriculture sector is an important contributor to the Chilean economy in terms of exports, jobs and GDP, but it is also responsible for 15% of the country's GHG emissions. Micro, small- and medium enterprises (MSMEs) make up nearly all Chilean firms. However, there is a low uptake of climate technologies by MSMEs despite available financial instruments. This underscores the need to better understand the barriers hindering the use of these technologies by Chilean agrifood enterprises.

CTCN TECHNOLOGY SUPPORT

- Identify the main barriers to investment in clean technologies by Chilean agri-chain enterprises and potential interventions to overcome them
- Detail the main opportunities to reduce the environmental impact and increase the resilience to climate change of selected agri-chains through the use of clean technologies
- Analyse the effectiveness of selected national and international financial instruments to help promote the uptake of clean technologies in MSMEs
- Propose additional financial and non-financial instruments that are tailored specifically to support agri-chain enterprises in Chile to adopt clean technologies
- Build capacity to raise awareness on the tools and instruments available to MSMEs

INTENDED IMPACT

The adoption of climate technologies in this sector has the potential to reduce 18.4 million tonnes of carbon dioxide emissions. The CTCN's assistance will improve understanding of the limited implementation of climate technologies to date by agri-food enterprises, and to inform the development of initiatives and instruments that can successfully address these challenges. The technical assistance will also contribute to strengthening local institutional capacity so that authorities can replicate their efforts in other agri-chains and potentially other sectors, catalysing further sustainable growth within Chile's micro, small- and medium enterprises.

THIS ASSISTANCE SUPPORTS

CHILE'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Reducing GHG emissions intensity (per unit of GDP) by 30% below 2007 levels by 2030. This technical assistance aims to catalyse a significant reduction in GHG emissions from the agricultural sector.

SUSTAINABLE DEVELOPMENT GOALS:





Indonesia: Hydrodynamic modelling for flood reduction and climate resilient infrastructure development in Jakarta

SECTOR: Infrastructure, Transport, Urban Design (Adaptation)

APPLICANT: Jakarta Research Council

NATIONAL DESIGNATED ENTITY: Ms. Nur Masripatin, Ministry of Environment and Forestry

DURATION: 12 months

STATUS: Under implementation

BUDGET: 240,000 USD

TECHNICAL ASSISTANCE PLANNED BY: UNEP DHI Partnership

IMPLEMENTED BY: DHI Indonesia and Jakarta Research Council

CHALLENGE

Jakarta is increasingly threatened by flooding due to a combination of rising sea levels, land subsidence, and higher river levels due to extreme weather. Government agencies need to identify proven flood prevention policies and technologies for urban areas. Land subsidence, sea level rise, and increasing precipitation will increase river flood risk in Jakarta from 2015 to 2030 by 180%.

CTCN TECHNOLOGY SUPPORT

- Develop a hydrodynamic model to evaluate hard and soft engineering solutions to reduce flooding risks in a pilot area of Jakarta
- Conduct a socio-cultural survey to identify impacts of different adaptation options on inhabitants and the local economy
- Produce recommendations for climate-resilient urban infrastructure development to reduce flooding risks
- Organize technology transfer workshops to strengthen local expertise in hydrological modelling and urban infrastructure options

INTENDED IMPACT

- With the implementation of hydrodynamic modelling software, the government of Jakarta has identified areas of the city which are most vulnerable, as well as the most relevant technology solutions to apply.
- Government agencies now have strengthened expertise to formulate policy and action plans to reduce flooding and advance climate resilient city planning in Jakarta.
- In sharing practical decision making tools and lessons-learned with other major Asian coastal cities, the impact of this intervention is greatly magnified.
- As a result of capacity building on financing, Jakarta has received funding interest from the government of South Korea and World Bank to finance expansion of the original pilot to all affected areas of Jakarta.
- With modelling, technology identification, and flood prevention implementation for vulnerable areas of Jakarta, a significant reduction in loss of life and property can be expected.

THIS ASSISTANCE SUPPORTS

INDONESIA'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Improved knowledge management and convergent policy on climate change adaptation and disaster risk reduction (reduce risks on all development sectors by 2030)
- Develop key measures on coastal and flood protection

SUSTAINABLE DEVELOPMENT GOALS:



4 FEASIBILITY, PILOTING AND DEPLOYMENT

In order to successfully deploy technologies, solutions need to be analysed to determine whether they meet user requirements and are well-suited to local environmental and regulatory settings. Sometimes feasibility studies demonstrate a lack of viability under current circumstances but can point to interventions that will improve a technology's prospects for sustainable deployment. Piloting enables potential solutions to be tested in a closely monitored environment in order to inform whether various factors need to be adjusted. Once reaching the deployment stage, environmentally sound technologies are elaborated, implemented and potentially scaled up. This work embodies the crux of technology transfer efforts and is reflected by the fact that nearly one-third of countries' requests to the CTCN focus on feasibility, piloting and deployment of climate technologies.

Ecuador: Design and scale-up of climate resilient waste management and energy capture technologies in small and medium livestock farms

SECTOR: Agriculture and forestry (Adaptation and Mitigation)

APPLICANT: Ministry of Environment

NATIONAL DESIGNATED ENTITY: Mr. Ricardo Proaño,
Ministry of Environment

DURATION: 12 months

STATUS: Implementation

BUDGET: 230,000 USD

PLANNED BY: Centre Internacional de Mètodes Numèrics en l'Enginyeria, Instituto Nacional de Eficiencia Energetica y Energias Renovables, Instituto Nacional De Investigaciones Agropecuarias

IMPLEMENTED BY: Centre Internacional de Mètodes Numèrics en l'Enginyeria, Instituto Nacional de Eficiencia Energetica y Energias Renovables, Instituto Nacional De Investigaciones Agropecuarias

CHALLENGE

The Ecuadorean agricultural sector consists of predominantly small- and medium-sized farms. There is an opportunity for them to take advantage of their own organic waste to recover energy and nutrients through the implementation of biodigesters. The waste generated from the production process in the agriculture sector represents an opportunity to produce various products, including energy and biofertilizers, instead of representing a source of pollution for soils, water and air, with a negative impact on public health and biodiversity conservation.

CTCN TECHNOLOGY SUPPORT

- Identify the agricultural sectors and regions with the greatest potential and interest in biodigesters
- Analyze the most appropriate small and medium scale biogas technologies for the Ecuadorian context
- Provide capacity building for technicians and farmers in the operation of biodigester and use of by-products
- Develop a plan for the development of a sustainable biodigesters sector in Ecuador

INTENDED IMPACT

- Greater recognition that the agriculture sector is responsible for nearly 15 megatons of CO₂ emissions and that biodigesters have the potential to reduce these greenhouse gas emissions.
- 100 local livestock farmers with increased capacity in the use of biodigesters
- The performance of 10 biodigester technologies from different sectors are characterized
- 10 important actors are identified for the development of a sustainable biodigesters sector in Ecuador
- Inclusion of the biodigester component in Ecuador's National Biomass Programme (Programa Nacional de Biomasa de Ecuador, PNABE)

THIS ASSISTANCE SUPPORTS

ECUADOR'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Contribute to the diffusion of technology and knowledge in the agriculture and livestock sector at the local level, as a tool for improving lifestyle and diversification of production
- Strengthen adaptive capacity in at least 50% of the most vulnerable cantons of the national territory.

SUSTAINABLE DEVELOPMENT GOALS:



“The CTCN has been highly valuable for demonstrating energy efficiency and GHG emissions reductions when utilising rice husk. This is a key priority for Vietnam and we want to use CTCN results for further climate technology transfer and deployment.”

MR. LE NGOC TUAN

CTCN NDE, MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT, VIETNAM

Vietnam: Bio-waste minimization and valorisation in the rice sector

SECTOR: Waste management (Mitigation)
APPLICANT: Vietnam Cleaner Production Centre
NATIONAL DESIGNATED ENTITY: Mr. Le Ngoc Tuan, Ministry of Natural Resources and Environment
DURATION: 12 months
STATUS: Implementation
BUDGET: 250,000 USD
PLANNED BY: Energy Research Centre of the Netherlands (ECN); The Energy and Resources Institute (TERI)
IMPLEMENTED BY: ECN

CHALLENGE

Vietnam relies on coal as its main energy source. Meanwhile, the country's production of rice results in a large amount of residual waste which is often burned in open air, creating a significant source of pollution. Conversion of rice production bio-waste into a viable energy source offers potential as an alternative to coal. However there is limited local knowledge about relevant technologies and business models to better utilize this resource.

CTCN TECHNOLOGY SUPPORT

- Supporting the selection of appropriate technology options for paddy drying, briquette production and combustion
- Identifying a business development strategy for industrial use, with the ultimate objective of unlocking investments

INTENDED IMPACT

Estimated reduction of 180 kilotons of carbon dioxide equivalent over 10 years with the potential to replicate the intervention throughout Vietnam's entire rice production sector.

THIS ASSISTANCE SUPPORTS

VIETNAM'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Reduction of greenhouse gas emissions from rice production which is the most predominant agricultural crop in Vietnam
- Greenhouse gas reductions in combination with technical and financial awareness contribute to Vietnam's national climate change mitigation targets

SUSTAINABLE DEVELOPMENT GOALS:



The uptake of technologies can be significantly influenced by the availability of supporting policy, legal and regulatory frameworks. By creating consistency in these systems, uncertainty regarding investment in new technologies can be minimized and economic, social and environmental accountability can be promoted. The CTCN conducts analysis of policy options, evaluates existing frameworks, and provides recommendations for legislative and policy reform to strengthen enabling environments and ensure that technology transfer initiatives are compatible with national sustainable development agendas.

Colombia: Policies for energy efficiency and renewable energy in Colombia's industrial and transport sectors

SECTOR: Cross-Sectoral (Mitigation)

APPLICANT: Ministry of Environment and Sustainable Development

NATIONAL DESIGNATED ENTITY: Mr. Rodrigo Suárez, Ministry of Environment and Sustainable Development

DURATION: 6 months

STATUS: Completed

BUDGET: 60,000 USD

PLANNED AND IMPLEMENTED BY: Bariloche Foundation, supported by ECN and NREL

CHALLENGE

The government of Colombia has implemented national policies to promote increased adoption of energy efficiency measures and renewable energy sources. In order to maintain economic growth while reducing greenhouse gas emissions, the government wanted to improve monitoring and evaluation of the effectiveness of its efforts as well as to explore additional types of incentives.



CTCN TECHNOLOGY SUPPORT

- Development of evaluation indicators and a monitoring methodology
- Evaluation of the effectiveness of existing incentives
- Prioritization of economic sectors with the highest potential to improve energy efficiency.
- Based on the analysis, transport and industry sectors were prioritized
- New actions, policy instruments, and transversal measures were proposed for the country to implement

INTENDED IMPACT

- CTCN recommendations were incorporated into a new national policy framework, the Program for Promotion of Rational and Efficient Use of Energy (PROURE), which provides incentive guidelines and informs relevant processes for the next 5 years. Colombian policymakers are also equipped with a monitoring methodology to assess the new instruments.
- Effective monitoring, evaluation and adjustment of incentive structures will economically benefit industries and stakeholders that commit to reducing their environmental and climate footprints

THIS ASSISTANCE SUPPORTS

COLOMBIA'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Reduce its greenhouse gas emissions by 20% by 2030 compared to the business as usual scenario
- The Colombian Strategy for Low Carbon Development (ECDBC), and the Program for Promotion of Rational and Efficient Use of Energy (PROURE)

SUSTAINABLE DEVELOPMENT GOALS:



“In our recent CTCN project in Uganda we were able to bring evidence from Asia, Africa, Central and South America to help strengthen the case for government to scale-up efforts on low carbon technology deployment, as well as drawing on these experiences to prepare a strategy describing the means and methods to do so.”

PAUL ZAKKOUR
DIRECTOR, CARBON COUNTS

Uganda: Developing a policy, legal and regulatory framework for geothermal energy

SECTOR: Cross-sectoral (Mitigation)

APPLICANT: Ministry of Energy and Mineral Development

NATIONAL DESIGNATED ENTITY: Dr. Maxwell Otim Onapa, Uganda National Council of Science and Technology

DURATION: 12 months

STATUS: Completed

BUDGET: 194,000 USD

TECHNICAL ASSISTANCE PLANNED BY: UN Environment & National Renewable Energy Laboratory

IMPLEMENTED BY: Carbon Counts

CHALLENGE

Geothermal technology presents a strong potential to provide affordable, efficient, large scale, renewable power to Uganda. However, there is a lack of a clear and coherent geothermal legal, policy, and regulatory framework to promote and facilitate geothermal energy production and investment in the country.

CTCN TECHNOLOGY SUPPORT

- Review and analysis of global experiences in geothermal energy development to convey key recommendations for policy, legal and regulatory development
- Broad consultation with government, industry, donors, financiers and local communities to identify their needs and concerns regarding geothermal energy development in Uganda
- Formulation of a policy, legal and institutional framework that enables sound governance of geothermal energy production while attracting private sector investments

INTENDED IMPACT

When the appropriate policy and legal framework has been implemented, the development of 100 MW of geothermal energy production can provide a clean, secure, reliable and affordable source of power for over 500,000 households.

THIS ASSISTANCE SUPPORTS

UGANDA'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Promote a national target for renewable electricity generation capacity of at least 3,200 MW by 2030
- Geothermal energy and electricity production are expected to play a key role in meeting the national target

SUSTAINABLE DEVELOPMENT GOALS:



6

INCREASED ACCESS TO TECHNOLOGY FUNDING

The Climate Technology Centre is receiving an increasing number of requests which identify a need for technology financing as part of a larger request for technology assistance. In some cases, strengthening access to sources of finance comprises the main focus of the technical assistance. The CTCN works with countries to identify funding opportunities via multilateral and regional financing organizations as well as through private investment. In assisting countries to clearly communicate their technology objectives and build capacity to prepare strong funding proposals, the CTCN is helping countries strengthen the investment case for projects that will support the implementation of Nationally Determined Contributions, National Adaptation Plans and other national climate plans.

Guinea: Optimising access to climate change adaptation funding

SECTOR: Cross-sectoral (Adaptation)

APPLICANT: Direction Nationale de l'Environnement

NATIONAL DESIGNATED ENTITY: Mr. Mamady Kobélé Keita, Direction Nationale de l'Environnement

DURATION: 7 months

STATUS: Completed

BUDGET: 142,715 USD

PLANNED BY: ENDA Energie and UNEP-DHI

IMPLEMENTED BY: Group for the Environment, Renewable Energy and Solidarity (GERES)

CHALLENGE

The Republic of Guinea has put together a series of policies aiming to improve resilience in the face of the harmful effects of climate change. Implementation of the project ideas and strategies for adapting to climate change is, however, still very limited due to lack of needed expertise to develop “bankable” projects that can be financed by climate donors.

CTCN TECHNOLOGY SUPPORT

- Training national climate technology project developers to mobilise public and private sector financing
- Supporting access to finance of specific adaptation technologies including ecosystem restoration and conservation plans; improved weather forecasting and hydro-meteorological networks; and increasing crop resilience and productivity
- Gathering donors, the Ministry of Environment and five teams representing different adaptation project ideas to liaise directly. Donors from the European Commission, Japan International Cooperation Agency, French Development Agency and the Embassy of Japan demonstrated strong interest in the presented projects

INTENDED IMPACT

- Creation of a “community of specialists” within national institutions and organizations able to identify and design bankable adaptation projects (30 people trained)
- Improved knowledge and capacity to attract investors and donors for project funding
- Greater ability to finance implementation of national climate change strategies and plans and to deploy and scale up climate technologies for adaptation

THIS ASSISTANCE SUPPORTS

GUINEA'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Address local consequences of climate change. Guinea's NDC stresses that adaptation is vital to reduce the costs and damage that climate change is anticipated to cause. However, the estimated funding deficit for adaptation is around \$2 billion USD for the period 2015–2030.

SUSTAINABLE DEVELOPMENT GOALS:



“Jordan now has 25 certified engineers, who can translate any project idea into complete concept note for submission to the Green Climate Fund. We will prepare national courses to train more and more engineers.”

ENG. HANADI MARIE
NATIONAL DESIGNATED ENTITY, JORDAN

Jordan: Strengthening capacity to access international financing

SECTOR: Cross-sectoral (Adaptation & Mitigation)

APPLICANT: Ministry of Environment

NATIONAL DESIGNATED ENTITY: Mr. Hanadi Marie, Ministry of Environment

DURATION: 8 months

STATUS: Completed

BUDGET: 55,500 USD

PLANNED AND IMPLEMENTED BY: UNEP DTU Partnership

CHALLENGE

Jordan recently completed its Technology Needs Assessment (TNA), but required capacity building for technical employees in the Ministry of Environment as well as relevant NGOs and consultancies, in order to develop these ideas into fundable proposals relevant to both domestic and multilateral donors and investors.

CTCN TECHNOLOGY SUPPORT

- Feedback on project idea notes (including by the Green Climate Fund National Designated Authority)
- Targeted 5 day training for 26 engineers and civil society actors to develop understanding of finance mechanisms and climate change project proposals development
- Feedback provided on participants' draft concept notes

INTENDED IMPACT

- Increased financing available to deploy technology priorities that address Jordan's climate challenges, with anticipated 206 million USD of public/donor investment mobilized for climate change activities as a result of the technical assistance
- From the implementation of two concept notes developed, an estimated reduction of 2,000 metric tons of CO₂ and an estimated 208,400 people with enhanced climate resilience

THIS ASSISTANCE SUPPORTS

JORDAN'S NATIONALLY DETERMINED CONTRIBUTION TO:

- Develop the National Strategy and Action Plan for Transitioning towards the Green Economy in Jordan 2016–2025

SUSTAINABLE DEVELOPMENT GOALS:

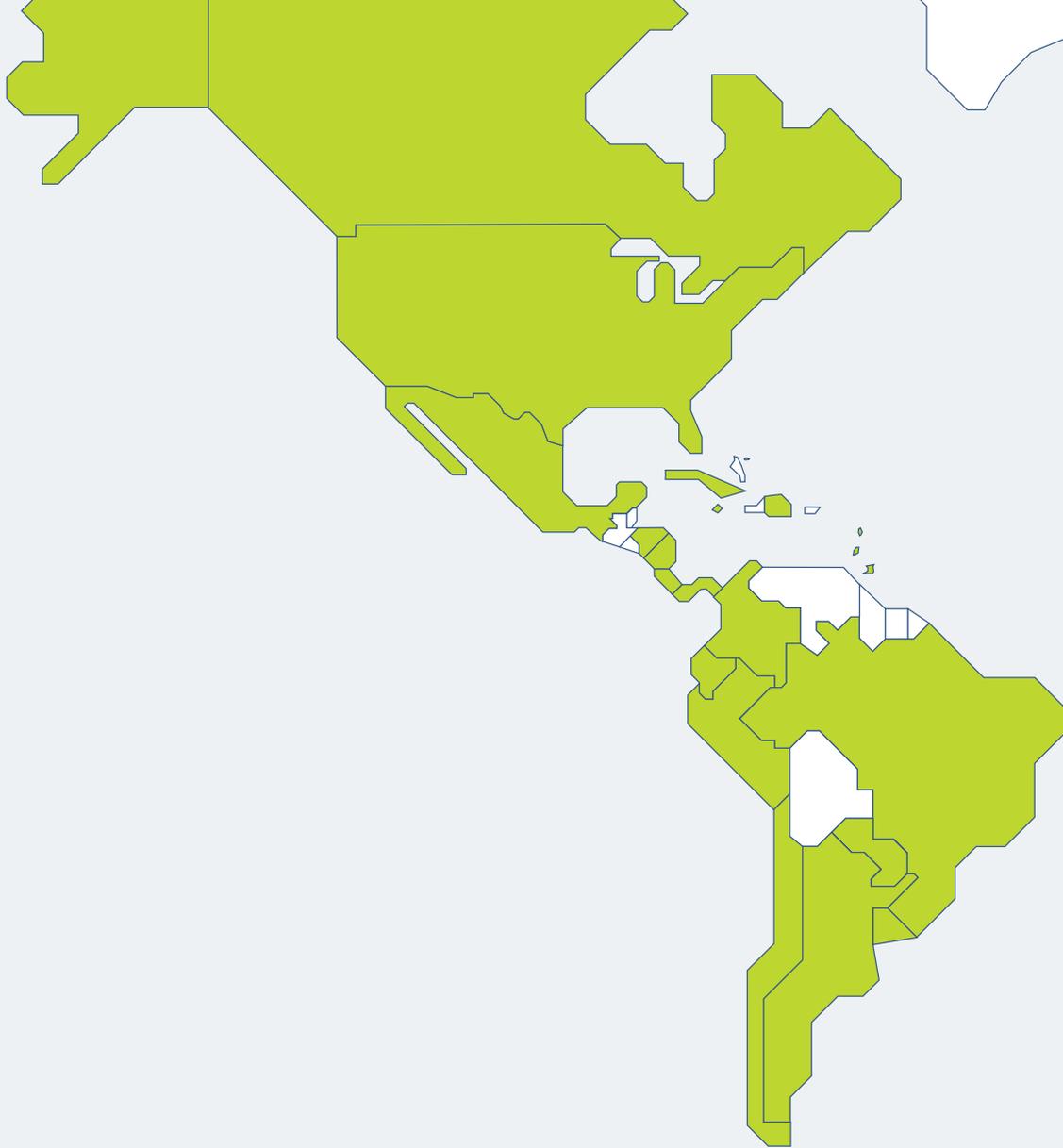




The Climate Technology Network is comprised of close to **400 expert organizations** from all over the world, with almost equal representation from the Global South and North. The Centre utilizes the expertise of these institutions to deliver technical assistance and capacity building at the request of developing countries.

Network members represent a broad array of expertise in technology development, deployment, capacity building, finance, investment and policy. As the Climate Technology Centre helps countries create environments that are conducive to attracting and supporting technology implementation, its technology support focuses on both soft and hard technologies, and takes the form of training, assessments, feasibility studies and providing guidance on policy and regulatory structures.

CONNECTING
THE NETWORK

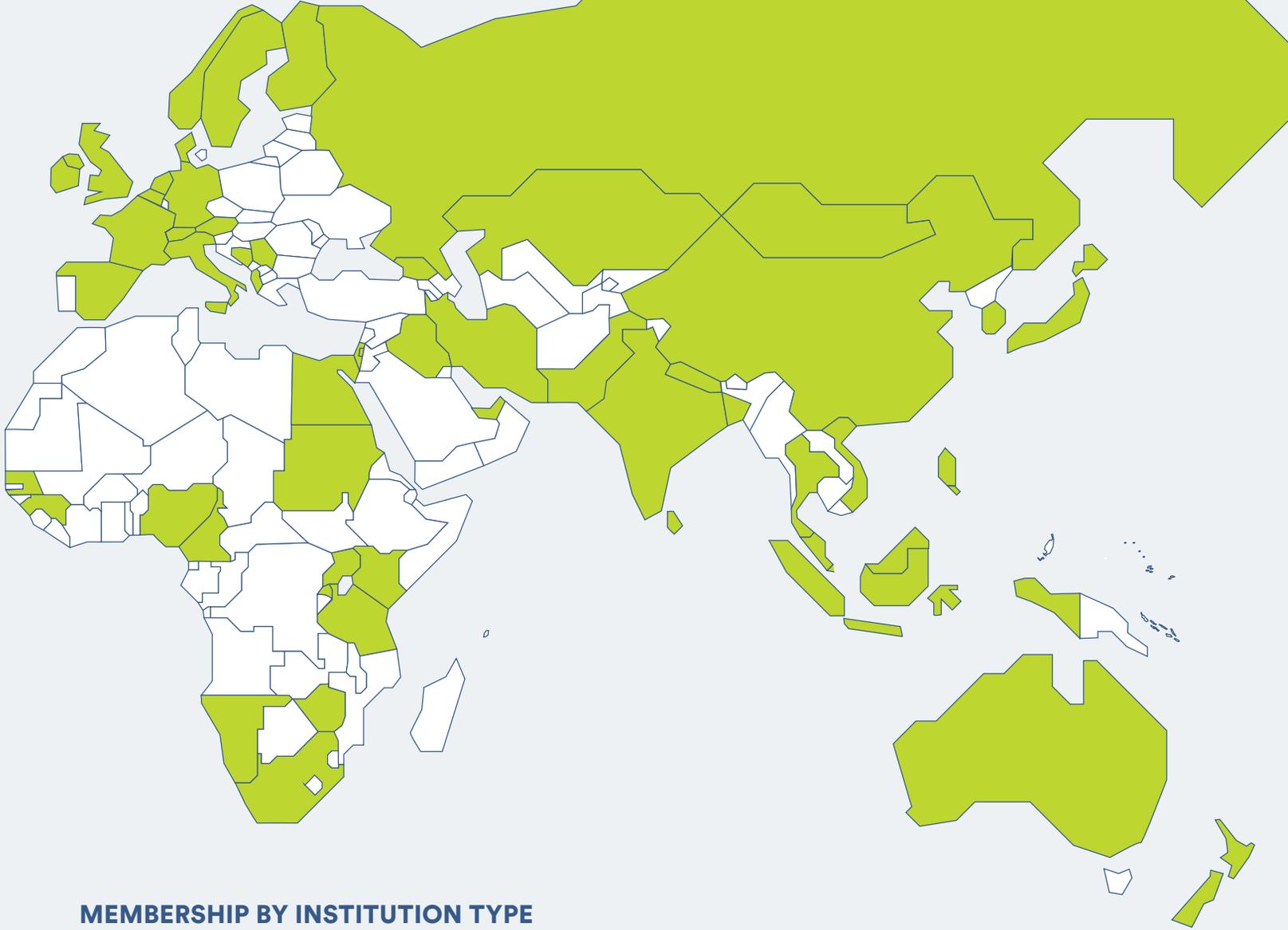


OUR NETWORK HAS NEARLY

400 IN **75**

MEMBERS

COUNTRIES



MEMBERSHIP BY INSTITUTION TYPE



41.4%
Private Sector
Organization



24.1%
Research/Academic
Institution



21.3%
Non-Profit/NGO



7.6%
Public Sector Organization



3%
Intergovernmental/
Regional Organization



2.2%
Partnership/Initiative



0.5%
Financial Institution

MEMBERS BY SECTORAL EXPERTISE



324

MITIGATION



218

ENERGY EFFICIENCY



217

RENEWABLE ENERGY



120

INDUSTRY



113

WASTE MANAGEMENT



84

AGRICULTURE



79

TRANSPORT



59

FORESTRY

33

CARBON FIXATION AND ABATEMENT



221

ADAPTATION



138

WATER



91

EARLY WARNING AND ENVIRONMENTAL ASSESMENT



75

INFRASTRUCTURE AND URBAN PLANNING



65

COASTAL ZONES



61

AGRICULTURE AND FORESTRY

35

HUMAN HEALTH

25

MARINE AND FISHERIES



192

CROSS-CUTTING

BY TYPE OF SERVICE



281

KNOWLEDGE MANAGEMENT

279

POLICY AND PLANNING

263

CAPACITY BUILDING

145

COLLABORATION IN INNOVATION

144

TECHNOLOGY DEVELOPMENT / TRANSFER

105

INVESTMENTS

“As a member of the CTCN network, Econoler has gained access to tremendous new opportunities to expand on its mission to promote sustainable energy solutions to developing and emerging economies. Participating in two CTCN technical assistance projects in Vietnam and Madagascar has not only enabled our company to deepen its core expertise in energy efficiency, but also to broaden the scope of its operations to encompass climate change adaptation activities. Being part of the CTCN network has enabled Econoler to foster our role as a change agent in the fight against climate change.”

MICHÈLE CALDERON

IFI RELATIONS & PARTNERSHIPS DIRECTOR,
ECONOLER, (CTC NETWORK PARTNER)

TECHNOLOGY TRANSFER TO THE WORLD

Through its network of national climate technology focal points and reputation as a trusted technology broker, the CTCN creates opportunities for companies and organizations to find partners for project implementation that supplement their regional and sector expertise. Thus far, more than 80 network members have submitted proposals to provide technical assistance in response to developing country requests through the CTCN’s competitive bidding process.

This year, the Climate Technology Centre is piloting a new approach to technical assistance through which interested Network members may elect to co-finance technology support to requesting countries, often leveraging their own host country funding sources to do so. For example, because Thailand’s iron and steel industry is the country’s largest energy consuming and greenhouse gas emitting sector, the Iron and Steel Institute of Thailand sought assistance to establish baselines and benchmarks for the industry. In response to this request, the New Energy and Industrial Technology Development Organization (NEDO) of Japan is studying the energy consumption and GHG emissions baseline of other countries as a benchmark to support Thailand’s NAMA implementation, identify best practices and energy efficient technologies, and recommend methods for energy use and GHG emission reductions.

VISIBILITY AND NETWORKING

In addition to providing technology and capacity building assistance, the Climate Technology Centre serves as a platform for engagement between Network members, government representatives, civil society and financing agencies. Climate Technology Network members also have the opportunity to disseminate information about their areas of technology expertise by presenting interactive webinars to a global audience and sharing publications and event information on the CTCN Knowledge Portal, www.ctc-n.org.

HOW TO JOIN THE NETWORK

The CTCN actively seeks members from all geographic regions who have capacity building and technology expertise in one or more adaptation and/or mitigation sectors. Membership is free. To apply, please visit www.ctc-n.org/network to download the application form.



“CTCN’s ability to convene network members from government, non-government and expert organizations from across the globe, not only to benefit from CTCN’s support but more importantly from sharing of experiences, is incomparable, particularly for the promotion of first-of-a-kind technologies for climate mitigation and adaptation.”

NAND KISHOR AGRAWAL
PROGRAMME COORDINATOR, INTERNATIONAL CENTRE
FOR INTEGRATED MOUNTAIN DEVELOPMENT (ICIMOD)
(CTC NETWORK PARTNER)



Over the past year, the Climate Technology Centre has utilized guidance from the Conference of Parties, the Paris Agreement, and its own National Designated Entities and Advisory Board to develop a series of innovative knowledge and capacity building offerings for developing countries.

The themes are practical and timely:

- Implementation of Nationally Determined Contributions (NDCs) and other national climate strategies
- Connecting technology and finance
- Fostering innovation
- Knowledge sharing on climate technologies

SHARING
KNOWLEDGE AND CAPACITY BUILDING

“This workshop marks the beginning of synergies between the various focal points. This will enable us to launch activities that will contribute to development and to the fight against climate change. I hope this first step won’t be the last, so that we can renew regularly these exchanges and continue these efforts.”

M. MOHAMED LAMINE DOUMBOUYA

GCF FOCAL POINT, DIRECTOR

DIRECTION NATIONALE DE L'ENVIRONNEMENT, GUINEA

MAINSTREAMING TECHNOLOGY IN CLIMATE ACTION PLANS

Developing countries are making tremendous efforts to advance their national climate actions through programmes and initiatives offered by national, bilateral, and multilateral agencies. Within the UNFCCC context alone, many national initiatives are running in parallel, and close coordination is needed to mainstream technology into national climate agendas and support implementation of Nationally Determined Contributions (NDCs) and other national climate strategies. To address this need, the CTCN organized a series of workshops that assembled national focal points of climate initiatives such as the CTCN, Green Climate Fund, and Global Environment Facility together with officials responsible for Technology Needs Assessments (TNAs), Nationally Appropriate Mitigation Actions (NAMAs), and National Adaptation Plans (NAPs) to discuss country priorities and strengthen coordinated action for technology transfer and scale up in order to achieve NDC targets.

CTCN INCUBATOR PROGRAMME: DEVELOPING TECHNOLOGY ROADMAPS

The CTCN Incubator Programme provides tailored support to National Designated Entities from Least Developed Countries (LDCs) to strengthen institutional capacities, identify technology priorities and achieve adaptation and mitigation targets. Based on feedback received from participating countries and COP guidance to the CTCN, the Incubator Programme now supports participating countries in implementing climate change action as identified in their Nationally Determined Contributions (NDCs) through the development of technology roadmaps. This new approach has been tested in a number of countries over the past year.



CLIMATE CHANGE MITIGATION: OPTIONS AND POLICY

The Climate Technology Centre organized a Climate Change Mitigation: Options and Policy course together with CARISMA (Coordination and Assessment of Research and Innovation in Support of Climate Mitigation Actions) at the Radboud Summer School in Nijmegen, Netherlands. The course brought together 24 PhD students and junior professionals from 19 countries to further their knowledge of mitigation options and policies through lectures and group work. CTCN sponsored participants from six LDCs nominated by their countries' National Designated Entities and selected through a competitive process. Following presentations by the LDC participants on each of their countries' NDCs, relevant technologies for NDC implementation were selected through a team-based interactive process. The groups also created hypothetical action plans for scaling up of selected technologies in respective countries.

The Incubator Programme in Zambia: The CTCN supported the organization of national consultations, linked with discussions on the implementation of its Nationally Determined Contribution and Technology Needs Assessment. After a review of technologies, agroforestry practices were prioritized for the country and a roadmap to support the deployment of agroforestry solutions in Zambia is now under development.

CONNECTING TECHNOLOGY AND FINANCE

CTCN REGIONAL FORUM FOR THE CARIBBEAN	JAMAICA	24–25 August 2017
CTCN REGIONAL FORUM FOR PACIFIC ISLAND COUNTRIES	TONGA	17–20 July 2017
CTCN REGIONAL FORUM FOR CENTRAL ASIAN AND EASTERN EUROPE	GEORGIA	30 May – 01 June 2017
CTCN REGIONAL FORUM FOR LATIN AMERICA AND THE CARIBBEAN	HONDURAS	30 Nov – 02 Dec
CTCN REGIONAL FORUM FOR FRANCOPHONE AFRICA	MOROCCO	11–12 October 2016
CTCN REGIONAL FORUM FOR ANGLOPHONE AFRICA	KENYA	26–28 September 2016

REGIONAL FORUMS: STRENGTHENING LINKAGES BETWEEN NATIONAL CTCN AND GCF REPRESENTATIVES

This year's Regional Forums were organised in parallel with the Green Climate Fund's Structured Dialogues in an effort to enhance coordination between CTCN National Designated Entities and GCF National Designated Authorities and in line with guidance from Parties at COP22. These in-person meetings are particularly valuable given the complementary nature of the strengths of each respective office. The events included joint sessions, enabling NDEs and NDAs to articulate concrete proposals for climate technology financing in support of national climate change implementation. The Forums also facilitated:

- sharing CTCN technical assistance experiences and best practices (including those involving GCF collaboration);
- increasing South-South transfer; and
- networking opportunities to demonstrate innovative climate technologies corresponding to countries' priorities.

BUILDING CAPACITIES TO ACCESS GREEN CLIMATE FUND FINANCING

As part of its efforts to facilitate investment in climate technology projects, the CTCN developed a capacity building module to help countries create a pipeline of concept notes for the Green Climate Fund. The training prepares technical employees of relevant government ministries, institutions, and entities to transform priorities outlined in Nationally Determined Contributions,

Technology Needs Assessments, Green Climate Fund country programmes and other planning documents into concrete project or programme ideas to be considered by the GCF. The CTCN has piloted the module in Guyana, Pakistan, Tanzania and Zimbabwe thus far, and following the endorsement of this approach by the GCF Board at B.18 the CTCN plans to expand to additional countries using GCF Readiness Support funds.

CTCN/PFAN CLEAN ENERGY FINANCING FORUM

The Climate Technology Centre, together with its Network partner, the Private Financing Advisory Network (PFAN), organized a workshop to develop and strengthen the regional network of NDEs and their relationship with small and medium enterprises (SME) and clean energy technology stakeholders. The two-day workshop, held in Singapore, aimed to identify matchmaking opportunities and follow-up actions through the CTCN for clean technology investments in South-East Asia. Participants identified barriers and opportunities for technology transfer by small and medium enterprises, and how these can be addressed by CTCN technical assistance. Next, SME participants presented business plans that aim to be financially, socially and environmentally viable for review by potential investors as part of PFAN's Asia Forum for Clean Energy Financing.

FOSTERING INNOVATION



SUPPORTING TECHNOLOGY INNOVATION AND RD&D

The COP decisions adopted as part of the Paris Agreement requested the Technology Executive Committee and the Climate Technology Centre and Network to undertake further work relating to technology research, development and demonstration (RD&D) as well as the development and enhancement of endogenous capacities and technologies. Based on this mandate, the CTCN organised a scoping workshop on Supporting “First-of-a-Kind” Climate Technology in Copenhagen, Denmark. Eighty-three participants from over 30 countries participated in the workshop, which aimed to:

- define the status and potential for matchmaking support of first-of-a-kind climate technologies to developing countries through the CTCN
- identify means of de-risking public and private sector investment in these technologies
- adapt technologies to local and regional contexts; and
- design enabling policies and fiscal instruments to support the development of robust markets.

The workshop concluded that private sector involvement and funding are needed, together with political and policy support, for promoting first-of-a-kind technologies. This approach needs to be disruptive and transformational to be most effective, and demands innovative business models, market innovation and up-scaling of appropriate solutions to be examined and appropriately addressed. Finally, the role these interventions can play in job creation and economic growth needs to be effectively communicated to stakeholders to ensure buy-in. CTCN Director Jukka Uosukainen encouraged countries to envision the future they want for themselves, identify needed technologies and capacities, and seek assistance from the CTCN to realize that vision.

KNOWLEDGE SHARING ON CLIMATE TECHNOLOGIES



CTCN KNOWLEDGE PORTAL: WWW.CTC-N.ORG

The CTCN Knowledge Portal, www.ctc-n.org, reaches thousands of climate change professionals, government officials, researchers, and students around the world. It enables users to access information on CTCN activities and their impacts, download publications and case studies, watch live technology-related webinars, and learn more about climate change technologies to reduce GHG emissions and build resilience in developing countries. The Portal plays an important role in facilitating knowledge sharing by offering access to a broad range of curated climate technology information, and features contributions from nearly a hundred CTCN Network Members and Consortium Partners.

The Portal provides relevant information on hard as well as soft technologies, along with cross-cutting themes such as ecosystems, gender, and disaster risk reduction. Multiple points of entry and inter-connected keywords allow users to search by country, technology sector and cross-cutting approaches to access the mitigation and adaptation knowledge they need to take effective action.

PUBLICATIONS

The Climate Technology Centre and Network strives to share the experience gained from each of its technical assistance initiatives by making all project documents and deliverables available through the CTCN Knowledge Portal at www.ctc-n.org and by developing technology transfer publications.

WHAT CAN YOU FIND IN THE KNOWLEDGE PORTAL?

10,000 technology publications, case studies, tools and videos (more than 1000 added this year)

2,105 climate technology solutions

1,620 national plans (Technology Needs Assessments, Nationally Determined Contributions, National Adaptation Plans, etc.)

190 country energy profiles

87 webinars

35 original CTCN publications

CTCN KNOWLEDGE PORTAL
CONTENT BY SECTOR AND THEME



196
COASTAL ZONES



1,759
ENERGY
EFFICIENCY



2,325
AGRICULTURE
AND FORESTRY



170
EARLY WARNING
AND ENVIRONMENTAL
ASSESSMENT



275
HUMAN HEALTH



232
INFRASTRUCTURE
AND URBAN
PLANNING



109
MARINE AND FISHERIES



1,186
WATER



170
CARBON FIXATION
AND ABATEMENT



959
INDUSTRY



3,144
RENEWABLE ENERGY



265
TRANSPORT



352
WASTE
MANAGEMENT



597
CAPACITY BUILDING
AND TRAINING



795
COMMUNICATION
AND AWARENESS



564
ECONOMICS
AND FINANCIAL
DECISION-MAKING



1,158
GOVERNANCE
AND PLANNING



2,031
COMMUNITY
BASED



660
DISASTER RISK
REDUCTION



134
ECOSYSTEMS AND
BIODIVERSITY



367
GENDER

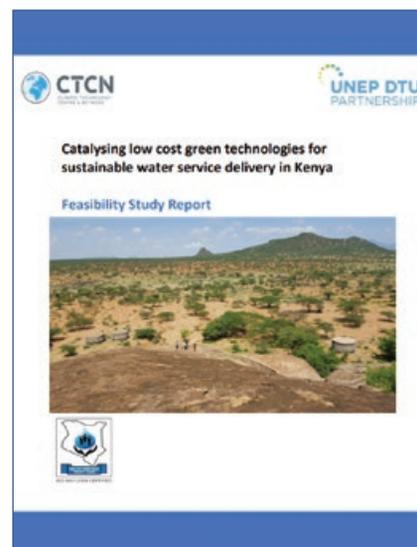
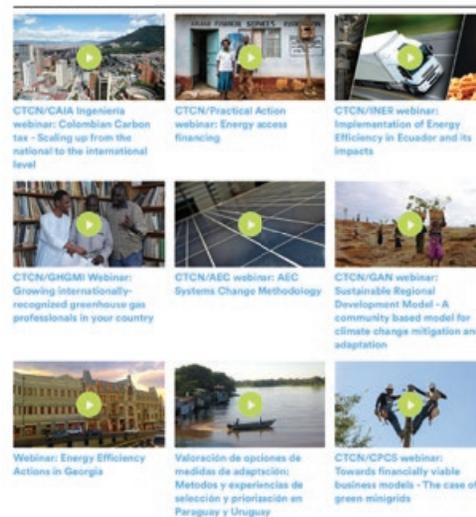
**12 NEW WEBINARS WERE PRODUCED THIS YEAR
BY THE CLIMATE TECHNOLOGY CENTRE AND ITS NETWORK:**

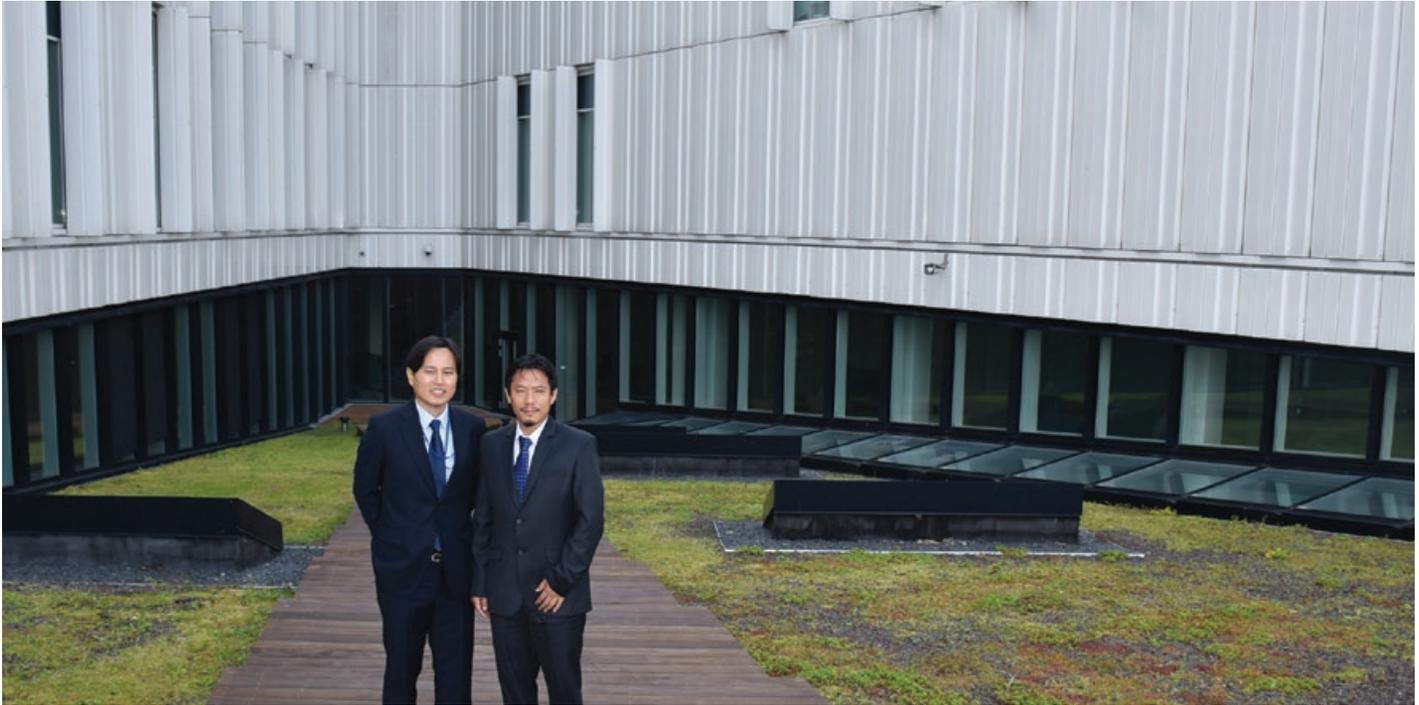
- » Climate technology cluster development and innovation deployment
- » Risk mapping for climate change adaptation: Using open GIS data and tools to build resilience
- » Tools for measuring and managing biomass carbon stocks in forest landscapes
- » Green resilience: adaptation & mitigation synergies
- » Integrated environmental analysis in monitoring for adaptation: getting the right data, doing effective analysis
- » Mechanizing climate resilience in agriculture: The case of smallholder farmers in Paraguay
- » Towards financially viable business models: The case of green mini-grids
- » Sustainable regional development model: A community-based model for climate change mitigation and adaptation
- » Advanced energy centre systems change methodology
- » Growing internationally-recognized greenhouse gas professionals in your country
- » Implementation of energy efficiency in Ecuador and its impacts
- » Energy access financing

CTCN PUBLICATIONS

- » Geothermal Resource Policy Uganda, October 2016
- » Geothermal Resources Development Act Uganda, October 2016
- » Improving Resiliency of Crops to Drought through Early Warning-Ghana Needs Assessment Report, December 2016
- » Strengthening Bangkok's Early Warning System to Respond to Climate Induced Flooding, February 2017
- » Sistema de Alerta Temprana en la Republica Dominicana, March 2017
- » Technology Funding to Address Water Scarcity Impacts in Namibia, March 2017
- » Catalysing Green Technologies for Sustainable Water Service Delivery Kenya-Feasibility Study Framework, May 2017
- » Design and Construction of a Ground-based Photovoltaic Plant of 1MWp Rated Capacity in Algeria, December 2016

Recorded webinars





ENDOGENOUS TECHNOLOGY INFORMATION

COP 21 provided guidance to the Climate Technology Centre on supporting development and enhancement of endogenous capacities and technologies. As part of its response, the Centre and its Consortium Partner, ENDA Energie, initiated collaboration to identify and detail endogenous climate technologies for mitigation and adaptation. The initial research focuses on selected African countries, and will result in a catalogue of endogenous technology descriptions providing specific technical aspects, successful experiences and best practise, as well as the necessary conditions for replication. The technologies will be shared through the CTCN's Knowledge Portal and in ENDA communications.

“While conducting the research in South Korea, I have realised that it is required to have practical experience for delivering the most relevant solution with regards to the evaluation and implementation of climate technologies to developing countries. During the period of the Secondment programme, I would like to learn CTCN's practical capabilities to strengthen the capacities of developing countries using a variety of technical and knowledge support to adapt to climate change”

HO-SIK CHON
SENIOR RESEARCHER, THE GREEN TECHNOLOGY CENTER
CTCN SECONDEE, KOREA

SECONDMENT PROGRAMME

The Climate Technology Centre welcomed two new participants to its Secondment Programme this year. Langa Dorji joined the CTCN from Bhutan, where he serves as District Environment Officer in the National Environment Commission Secretariat, Royal Government of Bhutan. Ho-Sik Chon was seconded from his position as Senior Researcher at the Green Technology Center, a technology-based policy research institution supported by the South Korean Government and member of the Climate Technology Network.

The Secondment programme aims to foster knowledge transfer among the CTCN and its partner institutions and thereby enhance international cooperation on technologies for climate change adaptation and mitigation. Staff from among Climate Technology Network member organizations (including NDE institutions) and CTCN Consortium Partners are eligible to apply for a six-month secondment at the CTCN Secretariat in Copenhagen.



In 2017, a gender analysis of the CTCN, its functions, activities, and main stakeholders was conducted; and recommendations were made to enable the CTCN to implement a more comprehensive and consistent gender mainstreaming strategy. Several of these recommendations are currently being implemented by the Centre.

GENDER MAINSTREAMING IN CTCN SERVICES

“Beyond the vulnerabilities resulting from differing gender roles, women can be key agents of change for sustainable energy, as consumers, producers, intermediaries, researchers and influencers of the sustainable energy future.”

MONICA MADUEKWE

RENEWABLE ENERGY PROGRAM OFFICER,
ECONOMIC COMMUNITY OF WEST AFRICAN STATES CENTRE
FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY (ECREEE)

TECHNICAL ASSISTANCE REQUESTS

All incoming requests for technical assistance submitted by countries are reviewed to determine the extent that the support will promote and demonstrate gender equality, and empowerment of vulnerable groups, including women and youth.

CTCN GENDER MAINSTREAMING TOOL

An initial gender mainstreaming guideline has been created to inform the development of CTCN response plans, and applies to the design, implementation and monitoring of technical assistance. Sector-specific (agriculture, energy, etc.) tools are now being drafted to further elaborate gender considerations in the delivery of technology support.

KNOWLEDGE SHARING & OUTREACH

The CTCN web portal www.ctc-n.org now offers a Gender hub which provides over 300 relevant information resources (i.e. publications, webinars, and case studies).

GENDER FINANCE

The CTCN's co-host, UN Environment, provides specific guidance on use of financial resources for gender mainstreaming actions in its *Policy and Strategy for Gender Equality and the Environment 2014-2017*, in which it states that its initiatives “will allocate not less than 1 per cent of programme and operations funds to gender mainstreaming actions and, where appropriate, at least 1 per cent of project funds.” In adherence to this guidance, a minimum of 1% of the total budget for each technical assistance is expected to be allocated to gender mainstreaming. This may take the form of conducting gender assessments, performing gender analysis, monitoring and evaluation, etc.

THE NETWORK

The Climate Technology Network currently has 28 members out of 341 with demonstrated gender expertise. Work is on-going to generate awareness among climate and gender organizations of Network membership opportunities.

CTCN GENDER COLLABORATION UNDER THE CONVENTION



PARTICIPATION IN GENDER-RELATED UNFCCC MEETINGS

The CTCN has participated and reported on its gender mainstreaming activities in the following UNFCCC meetings:

- UNFCCC Secretariat (Sept 2016): The CTCN participated in an inter-agency Knowledge Exchange Dialogues organized by the UNFCCC secretariat and UN Women.
- COP22 (Nov 2016): The CTCN provided an update on its gender mainstreaming work during a “Feedback session on the secretariat’s work to support the implementation of the Lima Work Programme on Gender”.
- SBI 46 (May 2017): The CTCN participated in the “In-session workshop on the development of a gender action plan under the UNFCCC”

ADVISORY BOARD REPRESENTATION

The CTCN Advisory Board is currently comprised of 6 women and 17 men. Though this distribution of 26% female and 74% male members does not achieve a gender balance, it represents an improvement over previous CTCN Board compositions.

COLLABORATION WITH THE UNFCCC WOMEN AND GENDER CONSTITUENCY AND OTHER GENDER ORGANIZATIONS

The CTCN engages with the Women and Gender Constituency (WGC), a stakeholder group of the UNFCCC, in order to provide updates on the Centre’s general operations and gender mainstreaming; to receive input from the Constituency on its priorities; and to generate awareness about CTCN technical assistance, capacity building and Network opportunities for the member organizations of the Constituency. In 2016 through mid-2017, the CTCN met with the Constituency during COP22 and SBI 46 and a member of the WGC participated in the 9th CTCN Advisory Board meeting as an observer.

The CTCN has also conducted direct outreach with organizations focused on climate and gender, and participated in relevant meetings organized by such organizations. For example, the CTCN participated in the opening plenary session of the Global Gender and Climate Alliance (GGCA) Innovation Forum: Alliance Building, Advocacy and Action on Gender and Climate Change in November 2016.



“Accelerating the deployment of clean and green technologies is going to be crucial for realizing the aims of the Paris Agreement and the Sustainable Development Goals. Finance will also be key if that deployment is to happen at the speed and scale required. I would urge others to see how they can contribute so that the CTCN realizes its full potential in connecting developing countries to the innovative and relevant technologies they seek.”

PATRICIA ESPINOSA

EXECUTIVE SECRETARY

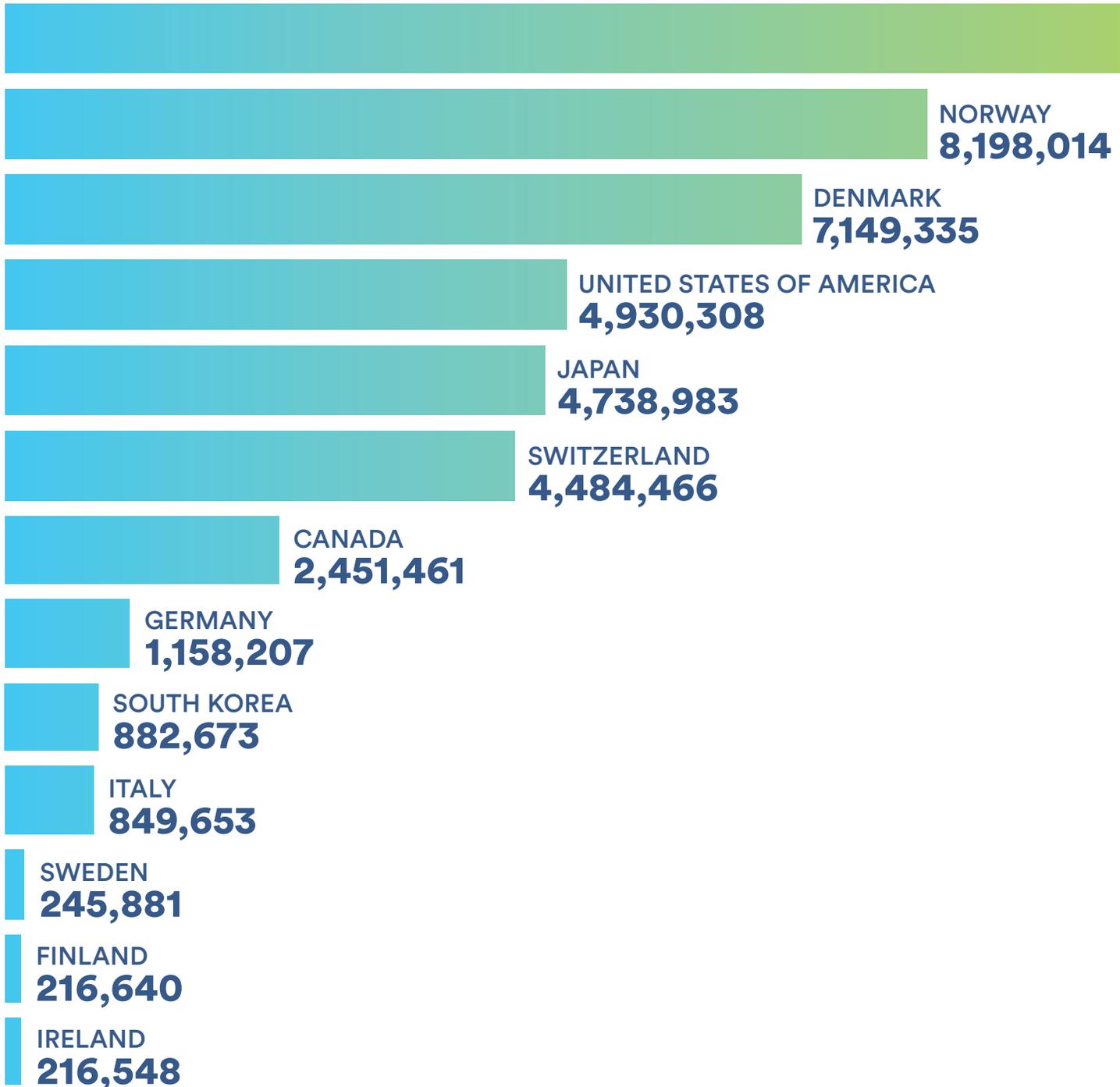
UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

COP22 PRESS CONFERENCE ANNOUNCING FUNDING SUPPORT BY 8 COUNTRIES AND THE EUROPEAN UNION

COUNTING
FINANCIAL OVERVIEW

USD **53,886,608** TOTAL VOLUNTARY CONTRIBUTIONS

USD 49,951,858 CONTRIBUTIONS FROM COUNTRIES



The Government of Spain has supported CTCN activities through REGATTA.

USD **32,002,042** TOTAL EXPENDITURES

EUROPEAN UNION
14,429,688

USD 3,934,750 FROM OTHERS



GLOBAL ENVIRONMENT FACILITY
1,971,000



UN INDUSTRIAL DEVELOPMENT ORGANIZATION
1,125,000



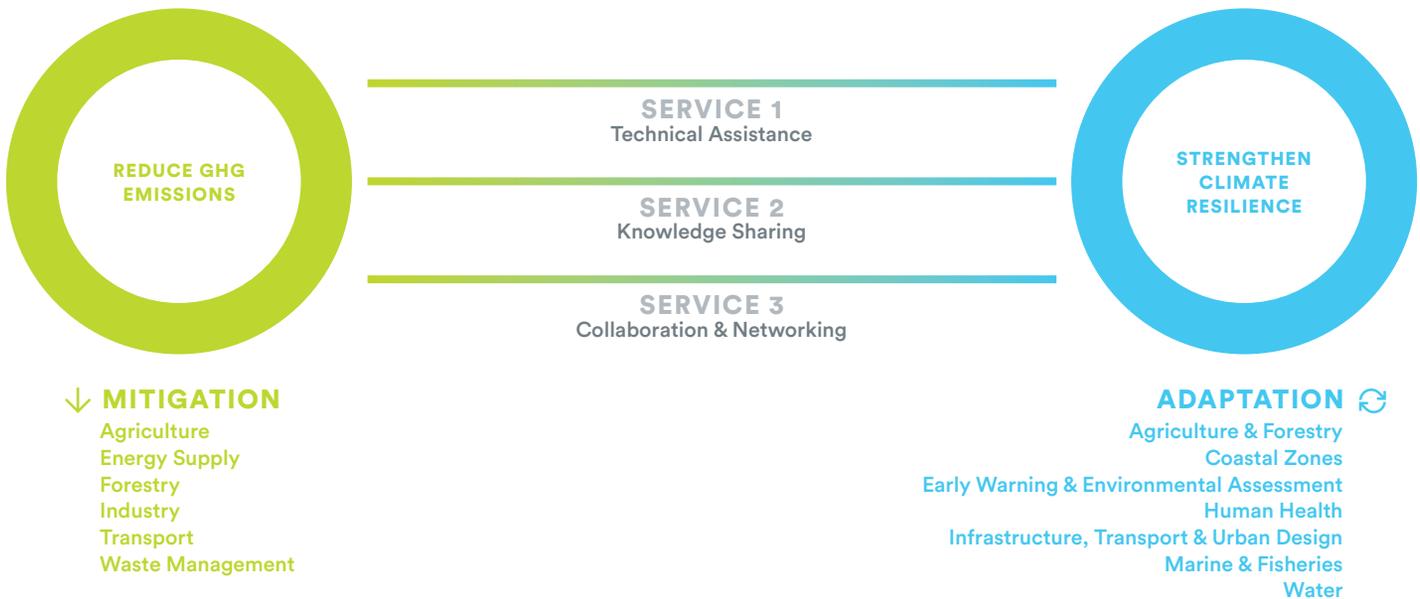
GREEN CLIMATE FUND
838,750



The Climate Technology Centre and Network (CTCN) promotes the development and transfer of climate technologies at the request of developing countries for energy efficient, low carbon and climate-resilient development.

SUPPORTING
ABOUT CTCN

CTCN SERVICE AREAS AND CORE SECTORS



TECHNICAL ASSISTANCE

The CTCN provides technical assistance and capacity building in response to requests submitted by developing countries via their National Designated Entities (NDEs), or nationally-selected focal points. Upon receipt of such requests, the Centre mobilizes its global Network of climate technology experts to design and deliver a customized solution tailored to local circumstances.

COLLABORATION AND NETWORKING

The CTCN brings together a diverse global community of climate technology users and providers, decision makers, and funders to identify barriers, share best practices, and identify matchmaking opportunities. Under the umbrella of the UNFCCC Technology Mechanism, Network members gain the opportunity to showcase relevant technologies, policies and practices, and to facilitate their deployment in developing countries.

KNOWLEDGE SHARING

Through regional forums, publications, an online portal (www.ctc-n.org), and its Incubator Programme, the CTCN creates environments for capacity building and knowledge sharing on climate technology solutions. The Centre engages its Network and National Designated Entities in highlighting technology best practices, south-south transfer examples, and learning from existing technical assistance experiences.



COLLABORATIONS UNDER THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE

THE UNFCCC TECHNOLOGY MECHANISM

The Climate Technology Centre and Network (CTCN) is part of the United Nations Framework Convention on Climate Change (UNFCCC) Technology Mechanism. The Mechanism consists of two complementary bodies: the Technology Executive Committee (TEC), whose focus is to develop technology policies and recommendations to support country efforts, and the CTCN, which provides technology implementation at the request of developing countries. The CTCN ensures its accountability to the UNFCCC Conference of Parties through the oversight of the CTCN Advisory Board.

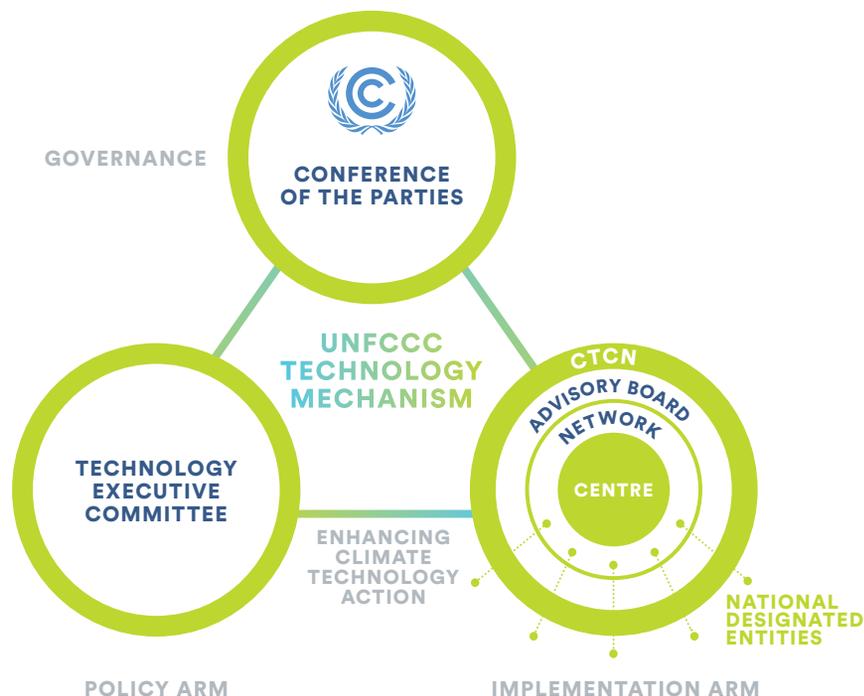
THE ADAPTATION FUND

The CTCN partners with the Adaptation Fund to provide complementary capacity building support for the design of projects and programmes that implementing entities can submit to the Adaptation Fund Board for funding approval.

Through CTCN's partnership with the Adaptation Fund, countries seeking project financing from the Adaptation Fund can request complimentary technical assistance from the CTCN to address specific challenges to remove technology barriers and deploy specific adaptation technology solutions. This CTCN technical assistance can enable countries to strengthen design of their project concepts and proposals submitted to the Adaptation Fund through early stage feasibility assessments for deployment of specific adaptation technologies, market studies, recommendations for regulatory reform, and other technical analysis.

GLOBAL ENVIRONMENT FACILITY

At COP17, the Global Environment Facility (GEF) was requested to support the operationalization and activities of the CTCN. The GEF's role and long-term expertise in establishing conducive market conditions for technology deployment serves to support CTCN's technology transfer efforts and accelerates the achievement of global environmental benefits in targeted countries. Moreover, the GEF's financial support to CTCN activities in countries contributes to project visibility while reducing real and perceived risks, thereby acting as a catalyst for third-party capital providers.



GREEN CLIMATE FUND

The Climate Technology Centre and Network and the Green Climate Fund (GCF) collaborate to support green technology deployment in developing countries. Such cooperation opens a wide range of possibilities to foster integrated implementation of countries' climate commitments.

The CTCN and GCF have organized parallel regional meetings for nationally selected representatives (National Designated Entities and National Designated Authorities) of both mechanisms to exchange updates and identify areas to work together. For example, in July 2017 the respective national representatives from Pacific island countries met in Tonga to discuss priorities and how GCF can help advance countries' green technology needs. This followed similar meetings in Indonesia in April during the GCF Structured Dialogue with Asia, and a GCF Regional Workshop for Eastern Europe and Central Asia in Georgia in June.

This year, the CTCN and GCF strengthened their cooperation by enabling countries to receive Readiness and Preparatory Support from the GCF for green technology assistance delivered by the CTCN. Such assistance includes:

- Support for feasibility assessments, testing concepts and developing GCF concept notes, and
- Strengthening proposals with key technical inputs

“The collaboration between GCF and CTCN directly responds to GCF Board guidance that encourages the enhancement of cooperation and coherence between these two mechanisms of the UN Framework Convention on Climate Change (UNFCCC).”

HOWARD BAMSEY
GCF EXECUTIVE DIRECTOR



THE CTCN AND GCF EXPAND GREEN TECHNOLOGY ASSISTANCE IN DEVELOPING COUNTRIES

As part of the increased collaboration between the CTCN and Green Climate Fund, the GCF Readiness Programme has approved funding to support the governments of Ghana, Myanmar and Tonga in advancing green technology initiatives to be delivered by the Climate Technology Centre and Network.

The scope of activities includes conducting feasibility studies and assessments, collecting key data and establishing the necessary systems and institutional capacities needed to introduce or scale up renewable energy sources, climate-resilient agriculture technologies, and climate information and early warning systems, among others. 890,000 USD in Readiness resources have been approved for the three countries' technical assistance plans with CTCN.

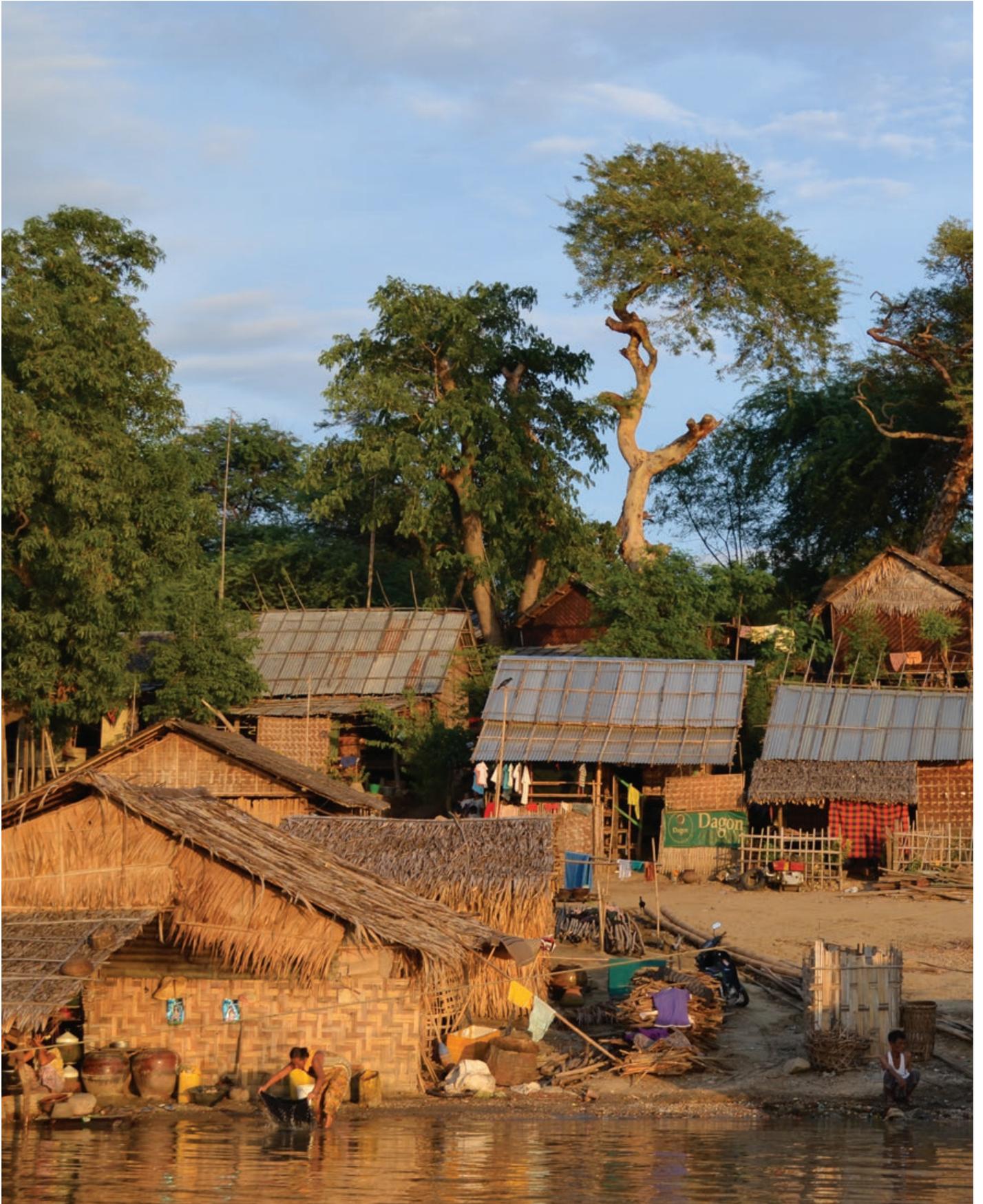
[Information on the first three countries to be approved for CTCN and GCF Readiness activities:](#)

GHANA The Climate Technology Centre is providing technology transfer and capacity building to relevant Ghanaian organizations and government agencies for dry season management and planning. The support aims to enhance knowledge of spatially distributed drought issues; increase data accessibility of satellite information; and build capacity for drought forecasting and warning system management. This will

enable national and local decision-makers, including farmers, to use the transferred knowledge, practices and technologies for dry season planning.

MYANMAR The assistance of CTCN was requested to enable improved information gathering that is needed to develop climate-resilient solutions for key sectors in the country. The CTCN is helping Myanmar establish systems to capture reliable and timely data that will inform climate change assessments and drought and flood management. This will improve the country's access to the latest available climate models, increase use of relevant technologies and enhance knowledge for climate-related studies. Once available, this data will be used to steer Myanmar's planning and adaptation efforts within the water and agriculture sector.

TONGA The CTCN will assist Tonga in developing an energy efficiency plan for the country's power, transport, infrastructure, tourism, education, fisheries and agriculture sectors. The CTCN will conduct data collection and a baseline/benchmarking study to measure Tonga's energy use, energy costs, and greenhouse (GHG) emissions, including gender-focused baseline studies, for key sectors. Based on these findings, the CTCN will propose energy efficiency and GHG targets as well as cost-effective and gender responsive means of achieving these objectives. Initial training for Tongan Energy Department staff and identification of a longer-term capacity building plan will also be delivered.



CTCN ADVISORY BOARD

The Advisory Board meets twice per year and provides guidance on the CTCN's fulfilment of the direction provided by the Conference of Parties. The CTCN thanks those individuals who served on its Board in 2016 and/or 2017.

NON-ANNEX 1



Samuel Adeoye Adejuwon
NIGERIA



Joseph Amankwa Baffoe
GHANA



Pedro García Brito
DOMINICAN REPUBLIC



Collin Guiste
DOMINICA



Thinley Namgyel
BHUTAN



Vatankhan Moghaddam
IRAN



Spencer Linus Thomas
GRENADA, GRULAC



Can Wang
CHINA

Fred Machulu Onduri (Uganda, Africa) AB1 – AB8
Mohammad Sadeghzadeh (Iran, Asia-Pacific) AB5 – AB8
Chen Ji (China, Asia-Pacific) AB7 – AB8

Marina Shvangiradze (Georgia, Eastern Europe) AB5 – AB8
Pedro Borges (Venezuela, GRULAC) AB1 – AB8

NON-GOVERNMENT MEMBERS



Diann Black-Layne
(FUTURE NOTE: STARTED AT AB4)
STANDING COMMITTEE



Clifford Mahlun
ADAPTATION COMMITTEE
(CO-REPRESENTATIVE)



Renske Peters
ADAPTATION COMMITTEE
(CO-REPRESENTATIVE)



Duduzile Nhlengethwa Masina
SWAZILAND, TECHNOLOGY EXECUTIVE
COMMITTEE (TEC) VICE CHAIR



Jukka Uosukainen
DIRECTOR

Klaus Radunsky, Adaptation Committee, AB5 – AB8

ANNEX 1



Kazuhiko Hombu
JAPAN



Karsten Krause
EUROPEAN COMMISSION



Ian Lloyd
UNITED STATES OF AMERICA



Mette Moglestue
NORWAY



Sergio La Motta
ITALY



Sara Aagesen Muñoz
SPAIN



Antonio Pfüger
GERMANY



Michael Rantil
SWEDEN

Lyne Monastesse (Canada) AB7 – AB8

Matthew Kennedy (Ireland) AB1 – AB8

Jürg Grütter (Switzerland) AB1 – AB8

OBSERVER ORGANIZATION CONSTITUENCIES



Ambuj Sagar
RESEARCH AND INDEPENDENT
NON-GOVERNMENTAL ORGANIZATIONS
(RINGOS)

Roque Pedace, ENGO



John Scowcroft
BUSINESS AND INDUSTRY
NON-GOVERNMENTAL ORGANIZATIONS
(BINGOS)

Tanya Morrison, BINGO



Kelly Stone
ENVIRONMENTAL NON-GOVERNMENTAL
ORGANIZATIONS (ENGOS)

Shikha Bhasin, RINGO, AB8 – AB9

PARTNERSHIPS FOR CLIMATE TECHNOLOGY TRANSFER

The CTCN's operations are hosted by UN Environment in collaboration with the United Nations Industrial Development Organization (UNIDO) and supported by 11 Consortium institutions and strategic partner, DNV GL. Together these institutions represent a wealth of sectoral and regional expertise in climate technology implementation.



● Network members are based in over 75 countries

CTCN REGIONAL PRESENCE

The CTCN's Consortium Partners provide a strong regional presence for the Centre's services. To facilitate coordination of CTCN services, the CTCN has a regional coordinator for Asia (based in Thailand), a regional coordinator for Latin America and the Caribbean (based in Panama) and a regional coordinator for Africa (based in Senegal). These coordinators play an important role in direct outreach to countries and in leveraging partnerships with key regional institutions in order to create enhanced impact for technology transfer in the regions.

DNV GL STRATEGIC PARTNERSHIP

After almost four years, the CTCN's strategic partnership with Norwegian-based DNV GL is coming to an end. During this partnership, DNV GL has supported the Centre's operations by utilising its experience in capacity building, climate technology, and knowledge management.

In particular, DNV GL has overseen the technical development of the Climate Technology Centre's knowledge portal, www.ctc-n.org. In addition, a CTCN stakeholder engagement strategy was developed and has been further elaborated with implementation tools such as a Business Module Canvas and Technical Assistance Analytics for use by the CTCN and National Designated Entities. These facilitate a more direct engagement with stakeholders, particularly with the private sector. DNVGL has also supported the development of the CTCN's Monitoring and Evaluation framework, which is utilized to evaluate the impacts of the Centre's operations. Over the last year, DNV GL experts also began to engage in delivery of CTCN Technical Assistance in select countries.

Operating in more than 100 countries, DNV GL's 16,000 professionals are dedicated to helping make the world safer, smarter and greener. The Climate Technology Centre recognizes and thanks DNV GL for its partnership.





Within each country, National Designated Entities (NDEs) are selected by their governments to serve as national technology focal points. In this role, NDEs facilitate CTCN technology transfer in their countries, ensuring that requests reflect national priorities and coordinating technical assistance and capacity building collaboration between applicants and the CTCN. A list of National Designated Entities, Network members, and CTCN technical assistance is available by country in the Annex.

ANNEX

NATIONAL DESIGNATED ENTITIES (NDEs), TECHNICAL ASSISTANCE, AND NETWORK MEMBERS BY COUNTRY

Afghanistan	NDE	Mr. Gulam Hassan Amiry National Environment Protection Agency of Afghanistan (NEPA)	
	TECHNICAL ASSISTANCE	Support for the government in the identification of technology needs	 
Albania	NDE	Ms. Enkelejda Malaj, Albanian Ministry of Environment Forestry and Water Administration	
	NETWORK MEMBERS	Environmental Center for Administration and Technology	
	TECHNICAL ASSISTANCE	Regional energy efficiency action plan	 
Algeria	NDE	Mr. Noureddine Yassaa Centre de Développement des Energies Renouvelables (CDER)	
	TECHNICAL ASSISTANCE	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	
Antigua and Barbuda	NDE	Ms. Diann Black-Layne, Ministry of Agriculture, Housing, Lands, and Environment	
	TECHNICAL ASSISTANCE	Workforce development strategy for Antigua and Barbuda's priority energy sectors	 
Argentina	NDE	Mr. Gabriel Blanco, Ministry of Science, Technology and Productive Innovation	
	NETWORK MEMBERS	Black Soil Centro de Investigaciones del Mar y la Atmósfera Fundacion Torcuato di Tella Instituto Nacional Del Agua	
	TECHNICAL ASSISTANCE	Technologies for coastal management of the province of Buenos Aires	
Armenia	NDE	Mr. Abovyan Mikael, Technology Transfer Association Union of Juridical Persons	
	TECHNICAL ASSISTANCE	Identification of Technologies for Climate Change Mitigation and Adaptation	 
Australia	NDE	Ms. Antonella Heggie, Department of Foreign Affairs and Trade	
	NETWORK MEMBERS	Australian CleanTech Global Carbon Capture and Storage Institute IT Power (Australia) Pty Ltd The Permaculture Research Institute SPC-CPS Climate Change and Environmental Sustainability Section	
Austria	NDE	Ms. Doerthe Kunellis Federal Ministry of Agriculture, Forestry, Environment and Water Management	
	NETWORK MEMBERS	Austrian Energy Agency Energy Changes Projektentwicklung GmbH GWCC INTERIVAL ZT GmbH Pöyry Energy GmbH STENUM GmbH Umweltbundesamt GmbH	

Azerbaijan	NDE	Mr. Gulmali Suleymanov, Ministry of Ecology and Natural Resources	
	TECHNICAL ASSISTANCE	Strengthening capacities to assess climate change vulnerability and impacts to shape investments in adaptation technology for Azerbaijan's mountain regions	↻
Bahamas	NDE	Mr. Gulmali Suleymanov, Ministry of Ecology and Natural Resources	
	TECHNICAL ASSISTANCE	Countrywide grid stability in the Bahamas	↓
Bangladesh	NDE	Ms. Rhianna Neely, Ministry of the Environment and Housing	
	NETWORK MEMBERS	Bangladesh Centre for Advanced studies Bangladesh Unnayan Parishad Christian Commission for Development in Bangladesh International Centre for Climate Change and Development (Independent University Bangladesh) KOTHOWAIN (vulnerable peoples development organization)	
	TECHNICAL ASSISTANCE	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	↻ ↻
Belarus	NDE	Mr. Andrey Pilipchuk, Ministry of Natural Resources and Environmental Protection	
Belgium	NETWORK MEMBERS	Agriconsulting Europe S.A. Antea Belgium European Hydrogen Association Global e-Sustainability Initiative Revelle Group Vlaamse Instelling Voor Technologisch Onderzoek	
Belize	NDE	Mr. Colin Young, Ministry of Energy, Science and Technology and Public Utilities	
Benin	NDE	Mr. Aminou Raphiou Adissa Ministere de l'Environnement Charge de la Gestion des Changements Climatiques, du Reboisement et de la Protection des Ressources Naturelles et Forestieres	
	TECHNICAL ASSISTANCE	Feasibility study and development of an action plan to promote the manufacture of components of small power wind turbines	↓
	TECHNICAL ASSISTANCE	Establishment of a sustainable system for the collection and dissemination of agro-meteorological information for producers	↻
	TECHNICAL ASSISTANCE	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	NDE	Mr. Karma Tshering, National Environment Commission Secretariat	
	TECHNICAL ASSISTANCE	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 (Plurinational State of)	NDE	Mr. Ivan Zambrana-Flores, Plurinational Authority of Mother Earth	
Bosnia and Herzegovina	NDE	Mr. Goran Trbic, University of Banja Luka	
	NETWORK MEMBERS	Association Centre for Energy, Environment and Resources	
	TECHNICAL ASSISTANCE	Rehabilitation and modernization of the district heating system in the City of Banja Luka	
Botswana	NDE	Ms. Penny Lesolle, Botswana Institute for Technology Research	
	TECHNICAL ASSISTANCE	Development of a regional efficient appliance and equipment strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)	
Brazil	NDE	Mr. Márcio Rojas da Cruz, Ministry of Science, Technology and Innovation	
	NETWORK MEMBERS	Fundação Brasileira para o Desenvolvimento Sustentável Instituto Venturi para Estudos Ambientais	
Burkina Faso	NDE	Mr. Ouedraogo Pamoussa, Conservation de la Nature	
	TECHNICAL ASSISTANCE	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	NETWORK MEMBERS	Mr. Renilde Ndayishimiye, Burundi Geographic Institute	
Cambodia	NDE	Mr. Sum Thy, Ministry of Environment	
Cameroon	NDE	Mr. Forghab Patrick Mbomba, National Observatory on Climate Change	
	NETWORK MEMBERS	Association pour la Recherche et la Promotion de l'Energie Durable en Afrique Centrale Sustainable Solution Services Sarl	

Canada CTCN DONOR 	NDE	Ms. Diana Cartwright, Natural Resources Canada	
	NETWORK MEMBERS	Advanced Energy Centre CMC Research Institutes, Inc CPCS Transcom Limited Cowater International Inc. DE Design and Environment Inc. Ecoation Innovative Solutions Inc. Econoler ESSA Technologies Ltd. FOKABS INC. HabitatSeven Inc. Island Water Technologies inc. Le Groupe-conseil baastel Okapi Environmental Consulting Incorporated R.J. Burnside International Limited Solar for Life SunFarmer Windiga Energy Inc. W.F. Baird & Associates Costal Engineering Ltd. United Nations University—Institute for Water, Environment and Health	
Cape Verde	NETWORK MEMBERS	ECOWAS Centre for Renewable Energy and Energy Efficiency	
Central African Republic	NDE	Mr. Monssana Ozore, Ministre de l'Environnement, de l'Ecologie et du Développement Durable	
	TECHNICAL ASSISTANCE	Development of low carbon strategy	 
Chad	NDE	Mr. Mahamat Hassane Idriss Centre et Réseau des Technologies Climatiques pour le compte du Tchad	
Chile	NDE	Ms. Paulina Ulloa National Council for Clean Production (Consejo Nacional de Producción Limpia)	
	NETWORK MEMBERS	Agencia Chilena de Eficiencia Energética Asociación Adapt Chile Centro Mario Molina, Chile Instituto de Ecología y Biodiversidad Pontificia Universidad Católica de Valparaíso Sud Astral Consulting SpA	
	TECHNICAL ASSISTANCE	Incubating Climate Technologies in Small and Medium Enterprises Design of an ecological response and restoration platform against fires for silvo-farming sector Support of the replacement of F-refrigerants used in refrigeration system in food processing production and exports (fruits and vegetables) Design of Biodiversity Monitoring Network in the context of Climate Change	   

China	NDE	Mr. Chen Ji National Center for Climate Change Strategy and International Cooperation (NCSC)	
	NETWORK MEMBERS	China National Cleaner Production Center CVDT Consulting (Beijing) Ltd Environment Quality Protection Foundation Energy and Environmental Development Research Center Global Efficient Lighting Centre Shanghai Environment and Energy Exchange Taiwan Research Institute UMORE Consulting	
Colombia	NDE	Ms. Mariana Rojas Laserna Dirección de Cambio Climático del Ministerio de Ambiente y Desarrollo Sostenible	
	NETWORK MEMBERS	CAIA Ingeniería Grupo Laera Ltda	
	TECHNICAL ASSISTANCE	Development of a mechanical-biological treatment pilot project of the waste NAMA in Cali Monitoring and evaluation of national promotion policies for energy efficiency and renewable energy within industrial and transport sectors National adaptation monitoring system	↓ ↓ ↻
Comoros	NDE	Ms. Fatima Athoumani Ministère de la Production, de l'Environnement, de l'Energie, de l'Industrie et de l'Artisanat	
Congo	NDE	Mr. Joseph Badevokila Ministère du Tourisme et de l'Environnement Ministère de la Recherche Scientifique et de l'Innovation	
	TECHNICAL ASSISTANCE	Industrial production of alternative charcoal and related products Feasibility study on health and environmental risk monitoring	↓ ↻
Democratic Republic of the Congo	NDE	Mr. Bernard Ndaye Nkanka Centre d'Études et de Recherches sur les Énergies Renouvelables kitsisa de L'institut Supérieur des Techniques Appliquées-ISTA (CERERK-ISTA)	
Cook Islands	NDE	Ms. Ana Tiraa, Climate Change Cook Islands, Office of the Prime Minister	
Costa Rica	NDE	Ms. Andrea Meza Murillo, Ministry of Environment and Energy	
	NETWORK MEMBERS	Foundation for the Development of the Central Volcanic Mountain Range Fundación Centro de Gestión Tecnológica e Informática Industrial	
	TECHNICAL ASSISTANCE	Development of a protocol for the planning, management and implementation of adaptation measures in land use planning Development of a national metrics system for climate change Design of a Knowledge Management System for tropical forests management and ecosystem services	↻ ↻ ↓ ↻ ↓

Côte d'Ivoire	NDE	Mr. Kumassi Philippe Kouadio Sustainable Environment and Energy Development Consulting Center (SEED CC)	
	TECHNICAL ASSISTANCE	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, 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)	↻
		Support for the implementation of an agricultural waste recovery unit	↓
Cuba	NDE	Mr. Armando Rodríguez Batista, Ministry of Science, Technology and Environment	
	NETWORK MEMBERS	Centre for Information Management and Energy Development	
Czech Republic	NDE	Mr. Pavel Zámyslický, Ministry of the Environment	
Denmark CTCN DONOR UDENRIGS-MINISTERIET DANIDA	NDE	Mr. Hans Jakob Eriksen, Ministry of Energy, Utilities and Climate	
	NETWORK MEMBERS	Ecology Management ApS Grue + Hornstrup A/S KenTec Denmark ApS NIRAS A/S Quercus Group Ramboll Danmark A/S	
Djibouti	NDE	Mr. Idriss Ismael Nour, Direction de l'Aménagement du Territoire et de l'Environnement	
Dominica	NDE	Mr. Lloyd Gabriel Pascal Ministry of Environment, Natural Resources, Physical Planning and Fisheries	
Dominican Republic	NDE	Mr. Pedro García Brito, Ministerio de Medio Ambiente y Recursos Naturales	
	NETWORK MEMBERS	Enda Dominicana Instituto Dominicana de Desarrollo Integral	
	TECHNICAL ASSISTANCE	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	NDE	Mr. Ricardo Proaño, Subsecretaría de Cambio Climático	
	NETWORK MEMBERS	Eficiencia Energética y Ambiental Efficacitas Consultora Cia. Ltda. Instituto Nacional de Eficiencia Energetica y Energías Renovables Instituto Nacional De Investigaciones Agropecuarias	
	TECHNICAL ASSISTANCE	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	NDE	Mr. M. Hamdy Darrag, Egyptian Environmental Affairs Agency (EEAA)	
	NETWORK MEMBERS	Egypt National Cleaner Production Center	
El Salvador	NDE	Mr. Luis Eduardo Menjívar Recinos, Ministro de Medio Ambiente y Recursos Naturales	
Equatorial Guinea	NDE	Mr. Santiago Francisco Engonga Osono Ministère de la Pêche et de l'Environnement	
Eritrea	NDE	Mr. Seid Abdu Salih, Ministry of Land, Water and Environment	
Ethiopia	NDE	Ms. Yamelakesira Tamene Bekele, Ministry of Environment and Forest	
	TECHNICAL ASSISTANCE	Financing strategy for Addis Ababa light rail transit Development of product standard & comparative labeling of Electric Injera Mithad	↻ ↓ ↓
European Union CTCN DONOR	NDE	Mr. Karsten Krause European Commission	
 European Commission			
Fiji	NDE	Mr. Mahendra Kumar, Ministry of Foreign Affairs and International Cooperation	
Finland CTCN DONOR	NDE	Sari Tasa, Ministry of Employment and the Economy	
	NETWORK MEMBERS	Gaia Consulting Ltd GreenStream Network Plc Motiva Services Oy Solved—The Cleantech Company Oy	
 MINISTRY FOR FOREIGN AFFAIRS OF FINLAND			

France	NDE	Mr. Laurent Caillierez, Agence de l'environnement et de la maîtrise de l'énergie (ADEME)	
	NETWORK MEMBERS	3Wayste AER AERA GROUP ALTEREA Artelia Eau & Environment CARBONIUM Eco-Tech Ceram ENEA Consulting The European Network of Excellence on the Geological Storage of CO2 Group for the Environment, Renewable Energy and Solidarity I CARE & CONSULT Institut de recherche pour le développement International Technical Centre on Air Pollution and Climate Change METEOLIEN ScopARL ONF International	
Gabon	NDE	Mr. Nestor Mintsa, Agence Gabonaise de Normalisation (AGANOR)	
Gambia (the)	NDE	Mr. Lamin Jatta, Gambia Technical Training Institute (GTTI)	
	TECHNICAL ASSISTANCE	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	NDE	Mr. Grigol Lazriev, Ministry of Environment and Natural Resources Protection	
	NETWORK MEMBERS	DG Consulting Ltd Environment and Development Saunders Group Ltd The Union for Sustainable Development Ecovision	
	TECHNICAL ASSISTANCE	Building capacity in ecosystem-based adaptation in mountain regions Assessment of suitable flood mitigation measures in Tbilisi	 

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NDE	Mr. Antonio Pflüger Federal Ministry for Economic Affairs and Energy
NETWORK MEMBERS	AD Solutions UG CONSULAQUA Hamburg Beratungsgesellschaft mbH ECO Consult Sepp & Busacker Partnerschaft Envidatec GmbH Frankfurt School UNEP Collaborating Centre for Climate & Sustainable Energy Finance Fraunhofer Institute for Solar Energy Systems Gesellschaft fesellschaft für Organisation, Planung und Ausbildung mbH Green Cooling Initiative HEAT- Habitat, Energy Application & Technology Helmholtz-Zentrum Geesthacht HYDROC MicroEnergy International GmbH Mobisol GmbH NewClimate Institute Perspectives Climate Group GmbH Roedl & Partner Wuppertal Institute for Climate, Environment and Energy

Ghana

NDE	Mr. Joseph Amankwa Baffoe, Environmental Protection Agency
TECHNICAL ASSISTANCE	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) 

Grenada

NDE	Mr. Kevin Andall Ministry of Education, Human Resource Development and the Environment
TECHNICAL ASSISTANCE	Improvement of water supply management through GIS-based monitoring and control system for water loss reduction 

Guatemala

NDE	Ms. Silvia Janeth Zuñiga Orellana de Ordóñez Ministerio de Ambiente y Recursos Nacionales (MARN)
TECHNICAL ASSISTANCE	Strengthening technical capacities for the implementation of an online climate online platform  

Guinea	NDE	Mr. Mamady Kobélé Keita, Direction Nationale de l'Environnement	
	NETWORK MEMBERS	Carbone Guinée	
	TECHNICAL ASSISTANCE	Support awareness raising and training of local producers of metal-ceramic fire places	↓
		Support for the installation of a compost production plant	↓
TECHNICAL ASSISTANCE	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 Whee (Benin, Côte d'Ivoire, Gambia, Ghana, Guinea, Senegal, Sierra Leone, Togo)	↻	
Guinea-Bissau	NDE	Mr. José Carlitos lala, Ministério dos Recursos Naturais	
	TECHNICAL ASSISTANCE	Capacity building in ecosystem-based methods and green infrastructure for sustainable agriculture intensification and disaster risk management (Guinea-Bissau, Mali, Niger)	↻
Guyana	NDE	Mr. Gary Best, Office of the Presidential Advisor on Environment (OPAE)	
Haiti	NDE	Mr. Pachuco Jean-Baptiste, Ministère de l'Environnement	
Honduras	NDE	Mr. Sergio Adrian Palacios National Climate Change Directorate - Energy, Natural Resources, Environment and Mining Secretariat of Honduras	
	NETWORK MEMBERS	Centro Nacional de Produccion mas Limpia de Honduras	
	TECHNICAL ASSISTANCE	Design of a national framework of climate change related indicators	↻ ↓
Developing a NAMA to leapfrog to advanced energy-efficient lighting and refrigeration technologies		↓	
Hungary	NDE	Ms. Kinga Csontos, Ministry of National Development	
India	NDE	Mr. Ravi Shanker Prasad, Ministry of Environment, Forests and Climate Change	
	NETWORK MEMBERS	Confederation of Indian industry, CII- Sonrabji Godrej Green Business Centre Development Environergy Services Limited Energy Efficiency Services Limited Federation of Indian Chambers of Commerce & Industry Fourth Partner Energy Private Limited Gujarat Cleaner Production Centre Nansen Environmental Research Centre National Council for Climate Change Sustainable Development and Public Leadership (NCCSD) National Productivity Council NTPC Limited PwC Price Water House Coopers- India SBA Enviro Systems Private Limited Shree Cement Society for Socio Economic and Ecological Development TARU Leading Edge Pvt. Ltd. UDYAMA	

Indonesia	NDE	Ms. Nur Masripatin, Ministry of Environment and Forestry	
	NETWORK MEMBERS	Center for International Forestry Research Deputy of Natural Resources Development Technology, Agency for the Assessment and Application of Technology Forest Carbon Ltd	
	TECHNICAL ASSISTANCE	Development of anaerobic digester technology for palm oil EFB waste Hydrodynamic modelling for flood reduction and climate resilient infrastructure development pathways in Jakarta	↓ ↻
Iran (Islamic Republic of)	NDE	Mr. Seyed Ali Akramifar Iranian Presidential Center for Innovation and Technology Cooperation (CITC)	
	NETWORK MEMBERS	AMID Development Management Consultant Team Foolad Technic International Engineering Company Haamoon corporation Khavaran Institute of Higher Education	
	TECHNICAL ASSISTANCE	Optimization of energy savings through implementation of fume treatment and energy recovery system Desalination plant including power generation Micro combined heat and power technology Technology of photovoltaic solar cell design and manufacturing	↓ ↓ ↓ ↓
Iraq	NDE	Ms. Susan Sami Al-Banaa, Ministry of Environment	
	NETWORK MEMBERS	Kirkuk Technical College	
Ireland CTCN DONOR	NDE	Mr. Matthew Kennedy Sustainable Energy Authority of Ireland	
	NETWORK MEMBERS	Environmental Research Institute, University College Cork	
Israel	NDE	Ms. Ayelet Rosen, Ministry of Environmental Protection	
	NETWORK MEMBERS	Natural Resources and Environmental Research Center, University of Haifa	
Italy CTCN DONOR	NDE	Mr. Sergio La Motta Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)	
	NETWORK MEMBERS	Centro Internazionale in Monitoraggio Ambientale Dipartimento di Ingegneria Civile e Ambientale Università degli Studi di Firenze Ecosoluzioni Snc European Academy of Bozen-Bolzano (EURAC Research) Fondazione Centro Euro-Mediterraneo sui Cambiamenti RINA Consulting	
Jamaica	NDE	Ms. Una May Gordon, Ministry of Economic Growth and Job Creation	
	NETWORK MEMBERS	Smith Warner International Ltd.	

Japan CTCN DONOR  	NDE	Mr. Takayuki Hirabayashi; Mr. Michihiro Oi Ministry of Economy, Trade and Industry(METI), Ministry of the Environment (MOE)	
	NETWORK MEMBERS	Climate Technology Initiative - Private Financing Advisory Network Deloitte Tohmatsu Financial Advisory LLC Global Environment Centre Foundation Institute for Global Environmental Strategies Japan Environmental and Sanitation Centre New Energy and Industrial Technology Development Organization Overseas Environmental Cooperation Center Research Institute of Innovative Technology for the Earth	
Jordan	NDE	Mr. Hanadi Marie, Ministry of Environment	
	TECHNICAL ASSISTANCE	Accreditation of energy efficiency lighting laboratory Strengthening capacity to access international financing	  
Kazakhstan	NDE	Mr. Kanat Baigarin Nazarbayev University Research and Information Systems (NURIS)	
	NETWORK MEMBERS	Coalition for “green” economy and development “G-Global” Regional Environmental Centre for Central Asia Scientific Research and Education Center “Green Academy”	
Kenya	NDE	Mr. Charles Z. M. Moturi, Kenya Industrial Research and Development Institute (KIRDI)	
	NETWORK MEMBERS	Carbon Africa Ltd Climate Innovation Centre Kenya EED Advisory Limited Kenya National Cleaner Production Centre	
	TECHNICAL ASSISTANCE	Catalysing low cost green technologies for sustainable water service delivery in northern Kenya Green Cooling Africa Initiative (GCAI) (Ghana, Kenya, Mauritius, Namibia)	 
Kiribati	NDE	Ms. Taare Uriam Aukitino, Office of the President (Te Beretitenti)	
	TECHNICAL ASSISTANCE	Capacity development to address risks in coastal zones (Kiribati, Marshall Islands, Palau, Solomon Islands)	
Democratic People’s Republic of Korea	NDE	Mr. Pae Yong Hyon State Commission of Science and Technology	
Kuwait	NDE	Mr. Sheikh Abdullah Ahmad AlHumoud Alsabah, Environment Public Authority (EPA)	
Lao People’s Democratic Republic	NDE	Mr. Syamphone Sengchandala, Ministry of Natural Resources and Environment (MONRE)	
	TECHNICAL ASSISTANCE	City climate vulnerability assessment and identification of ecosystem-based adaptation intervention	

NATIONAL DESIGNATED ENTITIES (NDEs), TECHNICAL ASSISTANCE, AND NETWORK MEMBERS BY COUNTRY

Latvia	NDE	Mr. Raimonds Kass Ministry of Environmental Protection and Regional Development of Republic of Latvia	
Lebanon	NDE	Ms. Samar Malek, Ministry of Environment	
Lesotho	NDE	Mr. Lefa Thamae, Ministry of Communications, Science and Technology	
	TECHNICAL ASSISTANCE	Development of a Regional Efficient Appliance and Equipment Strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)	↓
Liberia	NDE	Ms. Ophelia I. Weeks, T.J.R. Faulkner College of Science and Technology, University of Liberia	
	TECHNICAL ASSISTANCE	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)	↻ ↓
Lithuania	NDE	Mr. Ricardas Valanciauskas, Agency for Science, Innovation and Technology (MITA)	
Madagascar	NDE	Mr. Michel Laivao Ministère de l'Environnement, de l'Ecologie et des Forêts	
	TECHNICAL ASSISTANCE	Creating a technology development and education centre to address climate change	↻ ↓
Malawi	NDE	Mr. Lyson John Kampira, National Commission for Science and Technology	
	TECHNICAL ASSISTANCE	Development of a Regional Efficient Appliance and Equipment Strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)	↓
Malaysia	NDE	Mr. Gary William Theseira, Ministry of Natural Resources and Environment	
	NETWORK MEMBERS	Bionas Agropolitan Technology Corridor Development Berhad	
Maldives	NDE	Mr. Amjad Abdulla, Ministry of Environment and Energy	
Mali	NDE	Mr. Birama Diarra, L'Agence Nationale de la Météorologie (MALI-METEO)	
	TECHNICAL ASSISTANCE	Technical support for the CSP - Pilot Plant	↓
		Design and financing for crop drying and storage technologies to strengthen food security	↻
		Identification of climate adaptation technologies with rural communities	↻
		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)	↻ ↓
Capacity building in ecosystem-based methods and green infrastructure for sustainable agriculture intensification and disaster risk management (Guinea-Bissau, Mali, Niger)	↻		
Marshall Islands	NDE	Mr. Clarence Samuel Office of Environmental Policy and Planning Coordination	
	TECHNICAL ASSISTANCE	Capacity development to address risks in coastal zone (Kiribati, Marshall Islands, Palau, Solomon Islands)	↻

Mauritania	NDE	Mr. Sidi Mohamed Ould El Wavi, Ministère de l'Environnement et du Développement Durable	
Mauritius	NDE	Ms. Sin Lan Ng Yun Wing, Ministry of Environment and Sustainable Development	
	TECHNICAL ASSISTANCE	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	NDE	Ms. María Amparo Martínez Arroyo, National Institute for Ecology and Climate Change	
	NETWORK MEMBERS	Energías Renovables Exacta S. de R.L. de C.V. SUNCURRENT SA de CV Instituto Internacional de Recursos Renovables A.C. Fideicomiso para el Ahorro de Energía Eléctrica	
Moldova	NDE	Ms. Ala Druta, Ministry of Environment	
Mongolia	NDE	Mr. Gerelt-Od Tsogtbaatar, Ministry of Environment and Green Development of Mongolia	
	NETWORK MEMBER	XacBank, LCC	
Montenegro	NDE	Ms. Biljana Kilibarda, Ministry of Sustainable Development and Tourism	
Morocco	NDE	Mr. Bendehbi Mustapha, Ministry of Environment	
Mozambique	NDE	Mr. Antonio Jorge Raul Uaissone, Ministry for Science and Technology	
	TECHNICAL ASSISTANCE	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	NDE	Mr. Min Maw, Ministry of Environmental Conservation and Forestry	
	TECHNICAL ASSISTANCE	Promoting data for climate change, drought and flood management	↻
Namibia	NDE	Dr. Jonathan Mutau Kamwi, Department of Environmental Affairs	
	TECHNICAL ASSISTANCE	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)	↓
Nauru	NDE	Mr. Reagan Moses, Ministry of Commerce, Industry and Environment	

Nepal	NDE	Mr. Ram Hari Pantha, Ministry of Science, Technology and Environment	
	NETWORK MEMBERS	Clean Energy Nepal International Centre for Integrated Mountain Development	
	TECHNICAL ASSISTANCE	Technical support to formulate a national agroforestry policy Developing policy framework and business model to promote sustainable use of biomass briquettes	  
Netherlands	NETWORK MEMBERS	Adverio BV Alterra, Stichting DLO Climate-KIC Holding B.V. DELTAES Ecofys Netherlands B.V. FutureWater Partners for Innovation SNV Netherlands Development Organization Stichting Katholieke Universiteit (Radboud University Nijmegen) Vereniging FME-CWM Women Engage for a Common Future	
New Zealand	NDE	Ms. Kiri Stevens, Ministry of Foreign Affairs and Trade	
	NETWORK MEMBER	CLIMsystems Ltd	
Niger	NDE	Mr. Kamayé Maázou, Cabinet du Premier Ministre	
	TECHNICAL ASSISTANCE	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) Capacity building in ecosystem-based methods and green infrastructure for sustainable agriculture intensification and disaster risk management (Guinea-Bissau, Mali, Niger)	  
Nigeria	NDE	Mr. Chukwuemeka Okebugwu, Federal Minister of Environment	
	NETWORK MEMBERS	National Horticultural Research Institute	
	TECHNICAL ASSISTANCE	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)	 
Norway CTCN DONOR	NETWORK MEMBERS	GRID-Arendal Carbon Limits AS	



Pakistan	NDE	Mr. Muhammad Irfan Tariq, Ministry of Climate Change	
	NETWORK MEMBERS	Leadership for Environment and Development Pakistan	
	TECHNICAL ASSISTANCE	Technology guidance and support for conducting the technology needs assessment National certification system for energy auditors	  
Palau	NDE	Mr. David Idip, Ministry of Finance	
	TECHNICAL ASSISTANCE	Capacity development to address risks in coastal zones (Kiribati, Marshall Islands, Palau, Solomon Islands)	
Palestine	NDE	Mr. Nedal Katbeh-Bader, Environment Quality Authority	
	TECHNICAL ASSISTANCE	Technology Roadmap for Palestine's Implementation of Climate Action Plans INCR, NAP and NDC	 
Panama	NDE	Mr. Emilio Sempris, Autoridad Nacional del Ambiente (ANAM)	
	NETWORK MEMBERS	Centro del Agua del Trópico Húmedo para América Latina y el Caribe	
Papua New Guinea	NDE	Mr. Joe Pokana, Climate Change and Development Authority	
	TECHNICAL ASSISTANCE	Energy efficiency on refrigeration and air conditioning sector regulations development options	
Paraguay	NDE	Mr. Gustavo Evelio González Chávez, Secretaría del Ambiente (SEAM)	
	NETWORK MEMBERS	Centro de Ecoeficiencia Paraguay — Asociación Paraguaya para la Calidad	
	TECHNICAL ASSISTANCE	Design of a methodology for determining and evaluating environmental flows and basin management plans	
Peru	NDE	Ms. Claudia Figallo de Ghersi, Ministerio de Ambiente	
	NETWORK MEMBERS	Consortium for the Sustainable Development of the Andean Ecoregion GRUPO GEA Libélula Comunicación, Ambiente y Desarrollo Sac	
	TECHNICAL ASSISTANCE	Development of a methodological framework for incorporating ecosystem-based adaptation in the process of planning and management of protected areas Development of a climate change strategy for the sector of fisheries and aquaculture	 
Philippines	NDE	Ms. Frances Veronica Victorio, Climate Change Commission	
	NETWORK MEMBERS	International Rice Research Institute	
Poland	NDE	Ms. Agnieszka Kozłowska-Korbicz, Ministry of the Environment	

Republic of Korea
CTCN DONOR



NDE	Mr. Yoon Eok Choi, Ministry of Science, ICT and Future Planning
NETWORK MEMBERS	<p>APEC Climate Center Byucksan Engineering Co., Ltd Byucksan Power Climate Change Center Daegu Gyeongbuk Institute of Science and Technology ECO & PARTNERS FORCEBEL Co. Ltd. Green Asia Network Green Technology Center Gwangju Institute of Science and Technology Korea Astronomy and Space Science Institute Korea Electric Power Corporation Korea Electrotechnology Research Institute Korea Energy Management Corporation Korea Environment Corporation Korea Environment Institute Korea Environmental Industry and Technology Institute Korea Institute for Advancement of Technology Korea Institute of Civil Engineering and Building Technology Korea Institute of Energy Research Korea Institute of Geoscience and Mineral Resources Korea Institute of Machinery and Materials Korea Institute of Materials Science Korea Institute of Ocean Science & Technology Korea Institute of Science and Technology Korea National Cleaner Production Center Korea Railroad Research Institute Korea Research Institute of Bioscience and Biotechnology Korea Research Institute of Chemical Technology Korea Technology Finance Corporation Korean Research Institute of Standards and Science Korea Forestry Promotion Institute Korea Water Resources Corporation Korea Atomic Energy Research Institute Korea Productivity Center Quality Assurance Korea Carbon Capture and Sequestration R&D Center KPMG Samjong Accounting Corp. LSIS Co., Ltd. National Fusion Research Institute POSTECH (Pohang University of Science and Technology) POSCO ENERGY Co., Ltd. Samil PricewaterhouseCoopers, Sustainability and Climate Change (S&CC) Service Science and Technology Policy Institute Sea & River Technology SLG Co., Ltd. SUNJIN Engineering and Architecture</p>

Republic of Moldova

NDE	Ms. Ala Druta Ministry of Environment
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Romania

NETWORK MEMBERS	National Centre for Sustainable Production and Consumption
------------------------	--

Russian Federation

NDE	Mr. Sergei Vasin, Ministry of Education and Science
NETWORK MEMBERS	National Cleaner Production Centre of the Russian Federation

Rwanda	NDE	Mr. Faustin Munyazikwiye, Rwanda Environment Management Authority	
	NETWORK MEMBERS	Rwanda Resource Efficient and Cleaner Production Centre	
Saint Kitts and Nevis	NDE	Ms. June Hughes, Department of Environment	
Saint Lucia	NDE	Organisation of Eastern Caribbean States Commission	
Samoa	NDE	Mr. Suluimalo Amataga Penaia, Ministry of Natural Resources and Environment	
Saudi Arabia	NDE	Mr. Abdullah N. ALSarhan, Ministry of Petroleum and Mineral Resources	
Senegal	NDE	Mr. Issakha Youm, Centre d'Etudes et de Recherches sur les Energies Renouvelables (CERER)	
	NETWORK MEMBERS	Audit et Gestion d'Energie	
	TECHNICAL ASSISTANCE	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	NDE	Mr. Vladica Bozic, Ministry of Agriculture and Environmental Protection	
	NETWORK MEMBERS	Faculty of Technology and Metallurgy, Cleaner Production Centre Serbia	
	TECHNICAL ASSISTANCE	Modernization of the district heating system and improvements of energy efficiency of buildings in Belgrade	
Seychelles	NDE	Mr. Will Agricole, Ministry of Environment, Energy and Climate Change	
	TECHNICAL ASSISTANCE	Formulating a National Electricity Grid Code for Seychelles	
Sierra Leone	NDE	Mr. Ibrahim Lamin Mohamed Sesay, National Science and Technology Council	
	TECHNICAL ASSISTANCE	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)			
Singapore	NDE	Mr. Sin Liang Cheah, National Climate Change Secretariat	
	NETWORK MEMBERS	Obi Energy Pte. Ltd.	

Slovakia	NDE	Mr. Igor Veres, Ministry of the Environment	
Slovenia	NDE	Mr. Zoran Kus, Ministry of Agriculture and Environment	
Solomon Islands	NDE	Mr. Douglas Yee Ministry of Environment, Climate Change, Disaster Management and Meteorology	
	TECHNICAL ASSISTANCE	Capacity development to address risks in coastal zones (Kiribati, Marshall Islands, Palau, Solomon Islands)	
South Africa	NDE	Mr. Henry Roman, Department of Science and Technology	
	NETWORK MEMBERS	EcoMetrix Africa Energy Research Centre, University of Cape Town Environmental Resources Management Southern Africa Pty Ltd. Institute of Natural Resources NPC National Cleaner Production Centre South Africa Pegasys Institute Promethium Carbon (Pty) Ltd SSR Green Holdings (Pty) Ltd Sustainable Energy Africa NPC	
	TECHNICAL ASSISTANCE	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	NDE	Mr. David Batali Oliver Samson, Ministry of Environment	
Spain CTCN DONOR	NDE	Ms. Sara Aagese-Muñoz, Ministerio de Agricultura, Alimentación y Medio Ambiente	
	NETWORK MEMBERS	ACCIONA Ingenieria, S.A. ARCA Consortium S.A. Aquatec, Proyectos Para el Sector Del Agua BlacktoGreen Consulting, S.L. CENER, National Renewable Energy Centre of Spain Centre for Energy, Environment and Technology Research Centre Internacional de Mètodes Numèrics en l'Enginyeria Centro GlobalCAD 3.0 SL Centro Nacional de Energias Renovables CETEC SL Creara Consultores SL Dabar Ingenieros SL Environmental Hydraulics Foundation EQO-NIXUS Advisory, Management and Training Services, SL Factor Ideas Integral Services, S.L. Fundación CIRCE - Centro de Investigación de Recursos y Consumos Energéticos Fundación Tecnalia Research and Innovation Gas Natural Fenosa Engineering, S.L. Gómez-Acebo & Pombo Abogados, S.I.P. IDOM Consulting, Engineering, Architecture S.A.U LAVOLA, 1981, SA METEOSIM, S.L. Oiko Logica S.L. Perspectives Climate Change	

Sri Lanka	NDE	Mr. R.D.S. Jayathunga, Ministry of Environment and Renewable Energy	
	NETWORK MEMBERS	Integrated Development Association International Water Management Institute National Cleaner Production Centre of Sri Lanka	
Sudan	NETWORK MEMBERS	Agricultural Technology Transfer Society	
Suriname	NDE	Ms. Haydi Berrenstein, Office of the President of the Republic of Suriname	
Swaziland	NDE	Mr. Bafana Simelane, Ministry Tourism and Environmental Affairs	
	TECHNICAL ASSISTANCE	Building capacity for climate change science Development of a regional efficient appliance and equipment strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)	  
Sweden CTCN DONOR	NDE	Mr. Michael Rantil, Swedish Energy Agency	
	NETWORK MEMBERS	Solvatten InnoVentum AB	
Switzerland CTCN DONOR	NETWORK MEMBERS	Basel Agency for Sustainable Energy CCn Environment A.G CEMENTIS GmbH Institut International de l'Écologie Industrielle et de l'Économie Verte International Union for Conservation of Nature and Natural Resources Sofies SA South Pole Carbon Asset Management	
Syrian Arab Republic	NDE	Mr. Ammar Abbas, Ministry of State for Environment Affairs	
São Tomé and Príncipe	NDE	Mr. Abenilde Tomé Pires dos Santos Direcção de Indústria/Serviço Nacional da Propriedade Industrial	
Tajikistan	NDE	Mr. Nasimjon Rajabov; Mr. Anvar Homidov Climate change and Ozone center; State Administration for Hydrometeorology	

Thailand	NDE	Mr. Surachai Sathitkunararat, Ministry of Science and Technology	
	NETWORK MEMBERS	Full Advantage Co International Institute for Energy Conservation	
	TECHNICAL ASSISTANCE	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	 		
Timor-Leste	NDE	Mr. Luis dos Santos Belo, Ministry of Commerce, Industry and Environment	
Togo	NDE	Ms. Mery Yaou, Ministère de l'Environnement et des Ressources Forestières	
	TECHNICAL ASSISTANCE	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	NDE	Mr. Paula Pouvalu Ma'u, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)	
	TECHNICAL ASSISTANCE	Development of a Tonga energy efficiency master plan	
Trinidad and Tobago	NETWORK MEMBERS	Alpha engineering & design (2012) ltd	
Tunisia	NDE	Mr. Bouzghaya Fethi Ministère de l'Équipement, de l'Aménagement du Territoire et du Développement Durable	
	TECHNICAL ASSISTANCE	Capacity building to gain expertise in efficient lighting systems	

Turkey	NDE	Mr. Bilgin Hilmioglu The Scientific and Technological Research Council of Turkey (TÜBİTAK) – Marmara Research Center (Environment and Clean Production Institute)	
Uganda	NDE	Mr. Maxwell Otim Onapa, Uganda National Council of Science and Technology (UNSCT)	
	NETWORK MEMBERS	Uganda Cleaner Production Centre	
	TECHNICAL ASSISTANCE	Strategy for a national pay-as-you-go policy and mechanisms to enhance rural off-grid solar energy access and clean cookstoves Climate resilient decision making methods for Lake Victoria Formulating geothermal energy policy, legal and regulatory framework	   
Ukraine	NDE	Ms. Viktoriia Shtets, Ministry of Ecology and Natural Resources	
United Arab Emirates	NETWORK MEMBERS	Dubai Carbon Centre of Excellence PJSC	
United Kingdom of Great Britain and Northern Ireland	NDE	Mr. Ben Lyon, Department of Energy and Climate Change (DECC)	
	NETWORK MEMBERS	3 ideas Ltd Acclimatise Group Ltd Building Research Establishment Limited Carbon Counts Carbon Trust Eco Ltd International Energy Agency Greenhouse Gas R&D Programme International Synergies Limited Jeremy Benn Associated Limited LTS International Practical Action Consulting Limited Pure Energy Center Ricardo-AEA Ltd The University of Sheffield World Coal Association	
United Republic of Tanzania	NDE	Dr. Hassan Mshinda, Tanzania Commission for Science and Technology (COSTECH)	
	NETWORK MEMBERS	Cleaner Production Centre of Tanzania Tanzania Renewable Energy Association	
	TECHNICAL ASSISTANCE	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)	    

United States of America

CTCN DONOR



NDE	Mr. David Reidmiller, U.S. Department of State
NETWORK MEMBERS	Bishop Land Design The Bureau of Economic Geology at The University of Texas at Austin Burleson Institute Inc. Business Council for Sustainable Energy Center for Clean Air Policy Clean Energy Solutions Center The Climate Registry Collaborative Labeling and Appliance Standards Program, Inc. Department of Civil and Environmental Engineering, Massachusetts Institute of Technology Epsilon Innovation Group Inc. Greenhouse Gas Management Institute GreenMax Capital Advisors Integra Government Services International LLC International Fertilizer Development Center International Food Policy Research Institute Low Emission Development Strategies Global Partnership Milepost Consulting Inc. Orizon Consulting LLC School of Natural Resources and the Environment, University of Michigan Sustainable Capital Advisors Tambourine Innovations Ventures Inc. Woods Hole Research Center Wildlife Conservation Society Winrock International Institute for Agricultural Development Women Organizing for Change in Agriculture and Natural Resources Management

Uruguay

NDE	Mr. Ignacio Lorenzo, Ministry of Housing, Land Planning and Environment
NETWORK MEMBERS	Asesoramiento Ambiental Estratégico Faculty of Engineering of the University of the Republic (UDELAR)
TECHNICAL ASSISTANCE	Development of technology tools for the assessment of impacts, vulnerability and adaptation to climate change in the coastal zones 

Uzbekistan

NDE	Mr. Victor Chub, Centre of Hydrometeorological Service
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Vanuatu

NDE	Mr. Jesse Benjamin, The Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy and Disaster Management
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Viet Nam	NDE	Mr. Pham Van Tan, Ministry of Natural Resources and Environment of Viet Nam	
	NETWORK MEMBERS	Center for Creativity and Sustainability Study and Consultancy Centre for Energy and Green Growth Research Energy Conservation and Research Development Center Energy and Environment Consultancy Joint Stock Company EPRO Consulting JSC Institute for Agricultural Environment Institute of Energy Institute of Water Resources Planning Van Phu Joint Stock Company Vietnam Cleaner Production Centre Co. Ltd Vietnam Institute of Meteorology, Hydrology and Climate Change Vietnam Institute of Geosciences and Mineral Resources	
	TECHNICAL ASSISTANCE	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	↓
Yemen	NDE	Mr. Mohamed Said El-Mashjary, Environment Protection Agency (EPA)	
Zambia	NDE	Mr. Ben Makayi, Ministry of Education, Science, Vocational Training and Early Education	
	TECHNICAL ASSISTANCE	Development of a regional efficient appliance and equipment strategy in Southern Africa (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe)	↓
Zimbabwe	NDE	Mr. Elisha N. Moyo, Ministry of Environment, Water & Climate	
	NETWORK MEMBERS	Ali-Douglas Research Network Scientific and Industrial Research and Development Centre Zimbabwe National Cleaner Production Centre	
	TECHNICAL ASSISTANCE	Capacity building on project planning, development, management, implementation, monitoring and translation of strategies/policies into bankable investments	 ↓
		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)	 ↓
			↓



The Climate Technology Centre and Network (CTCN) fosters technology transfer and deployment in developing countries through three core services: technical assistance, access to information 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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Climate Technology Centre and Network 2017
Written by Karina Larsen with Irma Juskenaitė, with thanks to the CTCN team for their collaboration.

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EL CENTRO Y RED DE TECNOLOGÍA PARA EL CLIMA (CTCN) promueve el desarrollo acelerado y la transferencia de tecnologías climáticas para un desarrollo eficiente en energía, bajo en carbono y resistente al clima.

En su rol como brazo implementador del Mecanismo Tecnológico del Convenio Marco de las Naciones Unidas para el Cambio Climático, el Centro de Tecnología para el Clima (CTC) está hospedado y administrado por la Organización de las Naciones Unidas para el Desarrollo Industrial (ONUDI) y respaldado por 400 socios de la red en todo el mundo.

El Centro utiliza la experiencia de estas instituciones para prestar asistencia técnica y capacitación a petición de los países en desarrollo para contribuir al cumplimiento de sus contribuciones nacionales determinadas (NDCs). Los países, que trabajan a través de representantes nacionales, las Entidades Designadas Nacionales (NDE), transmiten sus solicitudes de necesidades de tecnología.

Las transferencias de tecnología están en marcha en más de 70 países en sectores que van desde la agricultura y la energía hasta la industria y el transporte.

El CTCN busca activamente a miembros de todas las regiones geográficas y que tienen experiencia en cualquier sector relevante al cambio climático. La membresía es gratuita. Para solicitarlo, visite <https://www.ctc-n.org/network> para descargar el formulario de solicitud.

Para obtener más información, visite <https://www.ctc-n.org/>

FR

LE CENTRE ET RÉSEAU DES TECHNOLOGIES CLIMATIQUES (CTCN) promeut le développement et le transfert accéléré des technologies climatiques pour un développement bas-carbone, l'efficacité énergétique, et la résilience aux changements climatiques. En tant que bras opérationnel de la Convention Cadre des Nations Unies sur le Changements climatiques (CCNUCC), le Centre est hébergé et géré by l'ONU Environnement et par l'Organisation des Nations Unies pour le Développement Industriel (ONUDI) et soutenu par un réseau de près de 400 partenaires à travers le monde.

Le Centre utilise l'expertise de ces institutions pour répondre aux demandes d'assistance technique et de renforcement de capacités des pays en développement qui cherchent à remplir leurs contributions déterminées au niveau national. Les pays, au travers de leur Entités Nationales Désignées (END), transmettent leurs requêtes technologiques. Le transfert de technologies est en cours dans plus de 70 pays dans un large spectre de secteurs, de l'agriculture à l'énergie, en passant par l'industrie et les transports.

Le CTCN recherche activement des membres pour son réseau dans toutes les régions du monde, et dans de nombreux secteurs d'expertise. L'adhésion au réseau est gratuite. Pour le rejoindre, veuillez visiter www.ctc-n.org/network pour télécharger le formulaire de candidature.

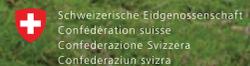
Pour plus d'informations, visitez <https://www.ctc-n.org/>



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