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 UNFCCC Technology Mechanism.

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Governments of Switzerland and Germany

Supported by
Climate change is a complex issue that demands a coordinated, global response, and 2015 is the year in which we have shown ourselves worthy of this challenge. The momentum that has been building among nations, through civil society and across the UN process is set to culminate in Paris with an agreement that reflects the urgent need for action. Governments, guided by clear scientific evidence, are set to agree to long-term commitments that will leverage all of the tools at our disposal and effectively address the full scope of our climate change concerns.

2015 also marks the second full year of operation of the Climate Technology Centre and Network (CTCN), in which we began delivering on the promise of the UNFCCC’s Technology Mechanism and responding to countries’ identified climate technology needs. These needs range from enhancing industrial competitiveness, to limiting vulnerabilities associated with fossil fuel dependence, and addressing the threat of climate change through adaptation. The CTCN contributes to this transition by assisting lower income countries onto low-carbon and climate resilient pathways.

The countries most affected by climate change are often also confronted with economic, institutional or technological barriers to action. Supporting their empowerment requires awareness of local conditions, and a strengthening of human and technological capacities to enable full transfer of climate technologies. The CTCN provides this tailored assistance along all stages of the technology cycle: from identifying technology needs, through assessing, selecting and piloting technological solutions, to their customization and widespread deployment. By responding to the requests of countries, the CTCN and its partners have the potential to be the link between identified technology needs and the private sector innovators and civil society experts designing solutions to respond to these challenges.

The CTCN recognizes the need to channel innovation and empower domestic actors, expanding access to knowledge and delivering action at the national and regional level. We are committed to working with countries to create national systems of innovation, remove barriers and create sound economic and regulatory frameworks that facilitate technology transfer.

We look forward to another year of building on this platform of success, and stand ready to assist additional countries in implementing the technology objectives agreed in Paris.

*Dr. Matthew Kennedy*
Chair of CTCN Advisory Board
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Directors overview

The Climate Technology Centre and Network (CTCN) facilitates the transfer of climate technologies by providing technical assistance, improving access to technology knowledge, and fostering collaboration among climate technology stakeholders. Through hard work and partnership, the CTCN is now actively producing results in each of our key service areas, as mandated by the Conference of Parties (COP) and guided by our Advisory Board.

On a weekly basis, we are receiving multiple requests from developing countries for technical assistance that spans numerous sectors across adaptation and mitigation goals, from agricultural resilience in Mali; early warning systems in the Dominican Republic; transportation efficiency in Bhutan; to waste management in Indonesia. We have received 50+ requests in total.

Upon receipt of these requests, the Centre quickly mobilizes technology experts from around the world to design and deliver a customized solution. Our Network includes over 100 organizations from academia, civil society, the private sector, and research institutions with expertise on the full spectrum of climate technology research, assessment, policy and implementation.

In October, the 135th National Designated Entity (NDE) was selected. NDEs are the national focal points that ensure country-level ownership and alignment of our activities with national climate change priorities.

Building on the findings of reports, including INDCs, NAPs, TNAs and TAPs, we work with NDEs to design solutions that transform plans into implementation while creating linkages with financing.

As part of the CTCN’s effort to enhance knowledge of adaptation and mitigation technologies, the CTCN Knowledge Portal (http://www.ctc-n.org) hosts a series of technology webinars, provides access to information about each country’s technical assistance, and offers a wealth of technology information from other organizations. The Centre also conducts Regional Forums to facilitate linkages between NDES, Consortium and Network members, and other key stakeholders, including public and private sector finance.

The CTCN is grateful for the funding provided on a voluntary, bilateral basis to support technology transfer. As we respond to a growing number of requests from developing countries, we will seek greater bilateral involvement as well as additional funding sources. At the same time, we will be actively linking with new technology experts for the Network to add capacity and ramp up our service offering to match the scale of the challenge at hand. We welcome your engagement and insights.

Jukka Uosukainen
Director, CTCN
October 2015
“As an active member of CTCN, our government, with support from national organizations and institutions involved in the Network, is willing to help consolidate CTCN as the global technical platform for transfer and sharing. We aim to benefit from the CTCN knowledge base and at the same time, generate a catalytic affect that multiplies sharing of good adaptation and mitigation practices.”

Dr Edgar E. Gutiérrez Espeleta, Minister of Environment and Energy
“Countries around the world are developing plans for adaptation to and mitigation of climate change. Sometimes, countries meet a challenge to moving forward in terms of planning, implementation, and/or financing. This is where CTCN can be called upon to create a bridge to essential knowledge, capacity, technical guidance, or financing so that countries can reach their climate and development objectives.”

Jukka Uosukainen, CTCN Director

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

The CTCN at your service
The CTCN & Network fosters technology development and transfer across numerous adaptation and mitigation sectors via three core services:

1. Technical Assistance
The CTCN provides technical assistance in response to requests submitted by developing countries via their nationally-selected focal points, or National Designated Entities (NDEs). Upon receipt of such requests, the Centre quickly mobilizes its global Network of climate technology experts to design and deliver a customized solution tailored to local needs. CTCN technical assistance aims to create opportunities and remove barriers for financial investment from the UNFCCC Finance Mechanism institutions, Development Banks and/or the private sector.

2. Knowledge Sharing
The online Technology Portal serves as a gateway to the CTCN’s technical assistance and capacity building services, where users can access technology webinars and practical information about climate technology solutions. The CTCN also provides tailored knowledge exchanges and training for one or multiple countries, upon request.

3. Collaboration & Networking
The CTCN links together a diverse global community of climate technology users, public and private sector decision-makers, technology providers and investors: we facilitate networking through annual regional CTCN Forums.
Organizational structure

CTCN Origins
Nations confirmed the importance of the development and transfer of climate technologies to developing countries in 2010, when the Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) established the Technology Mechanism. The Mechanism strives to achieve a common objective through two complementary bodies: the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN).

Global collaboration to support countries’ climate goals
The CTCN and the TEC work together to enhance climate technology transfer. The TEC builds the foundation for technology policy and develops recommendations to support country efforts; and the CTCN responds to country requests for planning and implementation assistance related to specific technologies.

The CTCN was launched in 2014 and is built on a global platform of climate technology expertise. CTCN operations are hosted by the United Nations Environmental Programme (UNEP) in collaboration with the United Nations Industrial Development Organization (UNIDO) and supported by 11 Consortium partner institutions with expertise in climate technologies. The Centre facilitates a Network of national, regional, sectoral and international technology centres, networks, organizations and private sector entities. In this way, the CTCN can call upon the regional and sectoral expertise across this structure and create the greatest efficiencies.

“The CTCN is a powerful example of a UNFCCC mechanism making a difference on the ground, facilitating the delivery of climate technology expertise in support of developing country objectives.”

Christiana Figueres
UNFCC Executive Secretary
The Climate Technology Centre and Network is accountable to the UNFCCC Conference of Parties through the CTCN Advisory Board. The Advisory Board meets twice per year and provides direction on the CTCN's fulfilment of the Conference's guidance. The CTCN thanks those individuals who served on the CTCN Advisory Board during one or more of the Advisory Board meetings which took place in 2014 and 2015.

Non-Annex 1 Countries
Mr. Fred Machulu Onduri (Uganda, Africa) – Chair, Vice-Chair
Ms. Rose Mukankomeje (Rwanda, Africa)
Mr. Samuel Adeoye Adejuwon (Nigeria, Africa)
Mr. Elpidio Peria (Philippines, Asia-Pacific)
Mr. Mohammad Sadeghzadeh (Iran, Asia-Pacific)
Mr. Majid Al Suwaidi (United Arab Emirates, Asia-Pacific)
Mr. Pedro Borges (Venezuela, GRULAC)
Mr. Spencer Linus Thomas (Grenada, GRULAC)
Mr. Collin Guiste (Dominica, SIDS)
Mr. El Hadji Mbaye Diagne (Senegal, LDCs)
Ms. Marina Shvangiradze (Georgia, Eastern Europe)

Annex 1 Countries
Mr. David Henry (Canada)
Mr. Karsten Krause (European Union)
Mr. Matthew Kennedy (Ireland) – Chair, Vice-Chair
Mr. Kazuhiko Honbu (Japan)
Mr. Piotr Paschalis Jakubowicz (Poland)
Ms. Sara Aagesen Múnoz (Spain)
Mr. Michael Rantil (Sweden)
Mr. Jürg Grütter (Switzerland)
Mr. David Reidmiller (United States of America)
Mr. Griffin Thompson (United States of America) – Chair

Non-government members
Technology Executive Committee: Mr. Gabriel Blanco and Mr. Kunihiko Shimada
Green Climate Fund Board: N/A
Adaptation Committee: Mr. Clifford Mahlung/ Mr. Klaus Radunsky
Standing Committee: Ms. Diann Black-Layne
CTCN: Mr. Jukka Uosukainen
Observer organization constituencies:
Business and Industry NGOs: Mr. Jean-Yves Caneill/ Ms. Tanya Morrison
Environmental NGOs: Ms. Elenita (Neth) Daño/ Mr. Niclas Hällström
Research and Independent NGOs: Ms. Heleen DeConinck/ Mr. Ahmed Abdel Latif
National Designated Entities (NDEs)

CTCN National Designated Entities
National Designated Entities (NDEs) serve as the national focal points for CTCN and are designated by each country that is a Party to the UNFCCC. NDEs play a catalytic role on climate technology issues in their country, including in leading efforts to ensure that requests submitted to the CTCN reflect national circumstances and priorities. They also coordinate CTCN assistance at the national level with other processes that address climate change. For example, they ensure the engagement of relevant ministries, provincial and local governments, the private sector, civil society and academia in the relevant process to guarantee feasibility of proposals developed at all levels.

NDEs facilitate CTCN support to their countries by:
- Serving as national focal point on CTCN activities
- Leading articulation and prioritization of requests from local and national stakeholders
- Providing oversight on technical assistance/capacity building collaboration between requesting institutions and the CTCN
- Participating in regional and global peer learning and collaborative projects conducted by the CTCN

“We feel that for our country, the CTCN is very important for the support it has given us in evaluation of technological needs. The training we have participated in is a unique opportunity and the teachings have now been replicated in the country. The government of Mozambique is thankful for the immense opportunity that CTCN is giving us.”

Antonio J. R. Uaisone,
NDE of Mozambique

What is technology transfer?
Technology transfer encompasses the broad set of processes that cover the flows of knowledge, experience, and equipment for mitigating and adapting to climate change among different stakeholders. It comprises the process of learning to understand, utilize, and replicate the technology, including the capacity to choose it, adapt it to local conditions, and integrate it with indigenous technologies.

## CTCN National Designated Entities by Country

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<th>Institution</th>
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<td>Mr. Gulam Hassan Amiry, Head of Climate Change</td>
<td>National Environment Protection Agency of Afghanistan (NEPA)</td>
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<tr>
<td>Albania</td>
<td>Ms. Enkelejda Malaj, Director of the Directory of Integration and Projects</td>
<td>Focal Point of the Albanian Ministry of Environment, Forestry and Water Administration for the UNFCCC</td>
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<tr>
<td>Algeria</td>
<td>Mr. Noureddine Yassaa, Director; Mr. Samy Bouchaib, Head of Department</td>
<td>Centre de Développement des Energies Renouvelables (CDER)</td>
</tr>
<tr>
<td>Antigua and Barbuda</td>
<td>Ms. Diann Black-Layne, Ambassador of Climate Change, Chief Environment Office</td>
<td>Environment Division, Ministry of Agriculture, Housing, Lands, and Environment</td>
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<tr>
<td>Argentina</td>
<td>Ms. Marcela Gregori</td>
<td>Ministry of Science, Technology and Productive Innovation</td>
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<tr>
<td>Armenia</td>
<td>Mr. Abovyan Mikael, President of the Board of Technology Transfer Association UJP</td>
<td>Technology Transfer Association Union of Juridical Persons</td>
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<tr>
<td>Australia</td>
<td>Mr. Byron Fay, Policy Officer</td>
<td>Sustainability and Climate Change Branch, Department of Foreign Affairs and Trade</td>
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<tr>
<td>Austria</td>
<td>Ms. Doerthe Kunellis</td>
<td>Division V/7 - Environmental Protection at Company Level and Technology, Federal Ministry of Agriculture, Forestry, Environment and Water Management</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>Mr. Gulmali Suleymanov, Director</td>
<td>Climate Change and Ozone Center within the Ministry of Ecology and Natural Resources</td>
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<tr>
<td>Bangladesh</td>
<td>Mr. Raisul Alam Mondal, Director General</td>
<td>Department of Environment, Ministry of Environment and Forests</td>
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<tr>
<td>Belarus</td>
<td>Mr. Andrey Plipchuk, Head of Unit of regulation on the atmosphere and the ozone layer</td>
<td>Ministry of Natural Resources and Environmental Protection</td>
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<tr>
<td>Belize</td>
<td>Mr. Colin Young</td>
<td>Ministry of Energy, Science and Technology and Public Utilities</td>
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<tr>
<td>Benin</td>
<td>Mr. Aminou Raphiou Adissa, Direction Generale de la Gestion des Changements Climatiques</td>
<td>Ministere de l’Environnement Charge de la Gestion des Changements Climatiques, du Reboisement et de la Protection des Ressources Naturelles et Forestieres</td>
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<tr>
<td>Bhutan</td>
<td>Mr. Karma Tshering</td>
<td>National Environment Commission Secretariat</td>
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<tr>
<td>Bolivia (Plurinational State of)</td>
<td>Ms. Maria René Pinto Romero, Adviser to the Office of the Ministry of Environment and Water</td>
<td>Viceministry of Environment, Biodiversity, Climate Change and Management of Forest Development</td>
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<tr>
<td>Bosnia and Herzegovina</td>
<td>Mr. Goran Trbic, Professor Associate</td>
<td>Faculty of Sciences, University of Banja Luka</td>
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<td>Botswana</td>
<td>Ms. Penny Lesolle, Researcher</td>
<td>Botswana Institute for Technology Research</td>
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<td>Brazil</td>
<td>Mr. Márcio Rojas da Cruz, Coordinator for Global Climate Change</td>
<td>Coordination of Global Climate Change, Ministry of Science, Technology and Innovation</td>
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<td>Burkina Faso</td>
<td>Mr. Ouedraogo Pamoussa, Représentant Directeur Général</td>
<td>Conservation de la Nature</td>
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<td>Burundi</td>
<td>Mr. Renilde Ndayishimiye, Director General, Mr. Alexis Nimubona</td>
<td>Burundi Geographic Institute</td>
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<td>Cambodia</td>
<td>Mr. Sum Thy</td>
<td>Ministry of Environment</td>
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<td>Canada</td>
<td>Director of the Energy and Environment Policy Division / (Alternate) Mr. Rob James, Manager, Energy and Environment Policy Division</td>
<td>Energy and Environment Policy Division, Natural Resources Canada</td>
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<tr>
<td>Central African Republic</td>
<td>Mr. Monssana Ozore</td>
<td>Ministre de l’Environnement, de l’Ecologie et du Développement Durable</td>
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<td>Chad</td>
<td>Mr. Mahamat Hassane Idriss</td>
<td>Direction des Ressources en Eau et de la Météorologie, Centre et Réseau des Technologies Climatiques pour le compte du Tchad</td>
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<td>Chile</td>
<td>Mr. James Robinson</td>
<td>National Council for Clean Production (Consejo Nacional de Producción Limpia)</td>
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<td>China</td>
<td>Mr. Zhang Xiaohua, Director of International Cooperation Division of NCSC</td>
<td>National Center for Climate Change Strategy and International Cooperation (NCSC), National Development and Reform commission (NDRC)</td>
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<tr>
<td>Colombia</td>
<td>Mr. Rodrigo Suárez</td>
<td>Dirección de Cambio Climático del Ministerio de Ambiente y Desarrollo Sostenible</td>
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<td>Congo</td>
<td>Mr. Joseph Badevokila, Mr. Andre Mfoukou Tsakala</td>
<td>Ministère du Tourisme et de l’Environnement, Ministère de la Recherche Scientifique et de l’Innovation</td>
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<td>Costa Rica</td>
<td>Ms. Ana Luisa Leiva Vega</td>
<td>Climate Change Directorate (DCC), Ministry of Environment and Energy</td>
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<td>Côte d’Ivoire</td>
<td>Mr. Kumassi Philippe Koudio</td>
<td>Sustainable Environment and Energy Development Consulting Center (SEED CC)</td>
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<td>Cuba</td>
<td>Mr. Armando Rodriguez Batista, Director</td>
<td>Science, Technology and Innovation Department, Ministry of Science, Technology and Environment</td>
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<td>Czech Republic</td>
<td>Mr. Pavel Zámyslický, Director</td>
<td>Energy and Climate Protection Department Ministry of the Environment</td>
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<td>Denmark</td>
<td>Mr. Hans Jakob Eriksen, Special Advisor</td>
<td>International Department, Ministry of Energy, Utilities and Climate</td>
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<td>Djibouti</td>
<td>Mr. Idriss Ismael Nour, Directeur Adjoint de l’Environnement</td>
<td>Direction de l’Aménagement du Territoire et de l’Environnement</td>
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<td>Dominica</td>
<td>Mr. Lloyd Gabriel Pascal, Director Environmental Coordinating Unit</td>
<td>Environmental Coordinating Unit of the Ministry of Environment, Natural Resources, Physical Planning and Fisheries</td>
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<td>Dominican Republic</td>
<td>Mr. Pedro García Brito, Director of Climate Change Technology Department</td>
<td>Dirección de Cambio Climático, Ministerio de Medio Ambiente y Recursos Naturales</td>
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<tr>
<td>Ecuador</td>
<td>Mr. Angel Valverde Gallardo, Undersecretary</td>
<td>Undersecretariat of Climate Change, Ministry of Environment</td>
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<tr>
<td>Egypt</td>
<td>Mr. M. Hamdy Darrag, Director of Climate Change Technology Department</td>
<td>Egyptian Environmental Affairs Agency (EEAA)</td>
</tr>
<tr>
<td>El Salvador</td>
<td>Mr. Francisco Ernesto Durán García, Especialista de Cambio Climático</td>
<td>Ministro de Medio Ambiente y Recursos Naturales</td>
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<tr>
<td>Equatorial Guinea</td>
<td>Santiago Francisco Engonga Osono, Directeur Général de l’Environnement</td>
<td>Direction Générale de l’Environnement, Ministère de la Pêche et de l’Environnement</td>
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<tr>
<td>Eritrea</td>
<td>Mr. Seid Abdu Salih, Regional Climate Modelling Expert, National Climate Change Coordinator</td>
<td>Department of Environment, Ministry of Land, Water and Environment</td>
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<td>Ethiopia</td>
<td>Ms. Yameleskira Tamene Bekele, Director, Technology Transfer and Technical Support</td>
<td>Ministry of Environment and Forest</td>
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<td>European Union</td>
<td>Mr. Karsten Krause</td>
<td>European Commission</td>
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<td>Finland</td>
<td>Juho Kortenemi, Ministerial Advisor</td>
<td>Ministry of Employment and the Economy</td>
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<td>France</td>
<td>Mr. Jean-Pierre Tabet</td>
<td>Agence de l'environnement et de la maîtrise de l'énergie (ADEME)</td>
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<td>Fiji</td>
<td>Mr. Mahendra Kumar</td>
<td>Climate Change Division, Ministry of Foreign Affairs and International Cooperation</td>
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<tr>
<td>Gabon (the)</td>
<td>Mr. Lamin Jatta, Head of Department</td>
<td>Gambia Technical Training Institute (GTTI)</td>
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<tr>
<td>Georgia</td>
<td>Mr. Grigol Lazriev (Head of Division), Mr. Jens Mundhenke and Ms. Angelika Koppitz</td>
<td>Division Climate Change, International Environmental Policy of the Federal Ministry of Economics and Technology</td>
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<tr>
<td>Ghana</td>
<td>Mr. Joseph Amankwa Bafioe, Senior Programme Officer</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>Guatemala</td>
<td>Mr. Juan Pablo Vidaune Avita (focal point), Ms. Ericka Leticia Lucero Del Aguila</td>
<td>Consejo Nacional de Ciencia y Tecnología (CONCYT), Ministerio de Ambiente y Recursos Nacionales (MARN)</td>
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<td>Guinea</td>
<td>Mr. Mamady Kobélé Keita</td>
<td>Direction Nationale de l'Environnement</td>
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<td>Guinea-Bissau</td>
<td>Mr. Carlos Sanca, General Director OAPI – Guinea Bissau</td>
<td>Organisation Africaine de la Propriété Intellectuelle (OAPI) - Guinea-Bissau</td>
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<td>Guyana</td>
<td>Rear Admiral (rtd) Gary Best, Presidential Advisor on the Environment</td>
<td>Office of the Presidential Advisor on Environment (OPAE)</td>
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<tr>
<td>Hungary</td>
<td>Mr. Akos Lukacs, Head of Department for Climate Policy</td>
<td>Ministry of National Development</td>
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<tr>
<td>India</td>
<td>Mr. Ravi Shanker Prasad, Joint Secretary</td>
<td>Ministry of Environment, Forests and Climate Change (Chairman organization)</td>
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<tr>
<td>Indonesia</td>
<td>Ms. Nur Masripatin, Director General</td>
<td>Directorate General of Climate Change, Ministry of Environment and Forestry</td>
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<tr>
<td>Iran (Islamic Republic of)</td>
<td>Mr. Seyed Ali Akramifar, Head</td>
<td>Iranian Presidential Center for Innovation and Technology Cooperation (CITC)</td>
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<tr>
<td>Iraq</td>
<td>Ms. Susan Sami Al-Banaa, Director</td>
<td>Climate Change Centre, Ministry of Environment</td>
</tr>
<tr>
<td>Ireland</td>
<td>Mr. Matthew Kennedy, EU Technology Negotiation, TEC Member and Member of the Advisory Board of the CTCN</td>
<td>Sustainable Energy Authority of Ireland</td>
</tr>
<tr>
<td>Israel</td>
<td>Ms. Ayelet Rosen, Head of Division of Multilateral Environmental Agreements</td>
<td>Ministry of Environmental Protection</td>
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<tr>
<td>Italy</td>
<td>Mr. Sergio La Motta</td>
<td>Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)</td>
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<tr>
<td>Jamaica</td>
<td>Mr. Albert Patrick Daley</td>
<td>Ministry of Water, Land, Environment and Climate Change</td>
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<tr>
<td>Japan</td>
<td>Mr. Takahiro Tajiri, Director, Global Environmental Affairs Office (METI), Mr. Michihiro Oi, Director, Office of International Strategy on Climate Change (MOE)</td>
<td>Ministry of Economy, Trade and Industry(METI), Ministry of the Environment(MOE)</td>
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<td>Mr. Hanadi Marie</td>
<td>Ministry of Environment</td>
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<td>Kazakhstan</td>
<td>Mr. Kanat Baigarin, Ms. Aida Muratova</td>
<td>Nazarbayev University Research and Information Systems (NURIS)</td>
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<td>Kenya</td>
<td>Mr. Charles Z. M. Moturi</td>
<td>Kenya Industrial Research and Development Institute (KIRD)</td>
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<td>Ms. Taare Uriam Aukitino, Deputy Secretary</td>
<td>Office of the President (Te Beretiitent)</td>
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<td>Lao People's Democratic Republic</td>
<td>Mr. Syamphone Sengchandala, Director of Management and Coordination Division</td>
<td>Ministry of Natural Resources and Environment (MONRE), Department of Disaster Management and Climate Change</td>
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<td>Latvia</td>
<td>Ms. Erika Lagzdina, ead of Climate Change and Adaptation Policy Division, Climate and Environmental Policy Integration Department</td>
<td>Ministry of Environmental Protection and Regional Development of Republic of Latvia</td>
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<td>Lebanon</td>
<td>Ms. Rola Sheikh, Head of Service of Environmental Technology</td>
<td>Ministry of Environment, Department of Air Quality, Service of Environmental Technology</td>
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<td>Mr. Lefa Thamae, Director</td>
<td>Ministry of Communications, Science and Technology, Department of Science and Technology</td>
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<td>Ms. Ophelia I. Weeks, Dean</td>
<td>T.J.R. Faulkner College of Science and Technology, University of Liberia</td>
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<td>Mr. Ricardas Valanciauskas, Head of Innovation Support and Technology Transfer Division</td>
<td>Agency for Science, Innovation and Technology (MITA)</td>
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<td>Madagascar</td>
<td>Mr. Todioso Manankasina, Mr. Germain Randriasandratana, Mr. Michel Omer Laivao</td>
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<td>Malawi</td>
<td>Mr Lyson John Kampira, Chief Research Services Officer</td>
<td>National Commission for Science and Technology</td>
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<td>Malaysia</td>
<td>Mr. Gary William Theseira</td>
<td>Environment and Climate Change Division, Ministry of Natural Resources and Environment</td>
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<td>Mr. Amjad Abdulla, Director General</td>
<td>Climate Change Department, Ministry of Environment and Energy</td>
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<td>Mali</td>
<td>Mr. Birama Diarra, Directeur des Applications Météorologiques et climatologiques</td>
<td>L’Agence Nationale de la Météorologie (MALI-METEO)</td>
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<td>Mr. Rina Keju, Director</td>
<td>Office of Environmental Policy and Planning coordination, Ministry of Foreign Affairs</td>
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<td>Ms. Sin Lan Ng Yun Wing, Director, Department of Environment</td>
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<td>Mr. Francisco Barnes Regueiro, General Director, National Institute for Ecology and Climate Change</td>
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<td>Mr.Gerelt-Od Tsogtbaatar, Head of CDM National Bureau</td>
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<td>Mr. Jonathan Mutau</td>
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<td>Mr. Kamayé Mažou, Secrétaire Exécutif du CNEDD</td>
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<td>Ms. Amelia Diaz Pabló, President and CEO</td>
<td>National Service of Meteorology and Hydrology (SENAMHI)</td>
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<td>Ms. Mary Ann Lucille L. Sering, Vice Chairperson and Executive Director</td>
<td>Climate Change Commission</td>
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<td>Ms. Agnieszka Kozłowska-Korbicz</td>
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<td>Mr. Abenilde Tomé Pires dos Santos</td>
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<td>Mr. Issakha Youm</td>
<td>Centre d’Études et de Recherches sur les Energies Renouvelables (CERER)</td>
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<td>Serbia</td>
<td>Mr. Vladica Bozic, Head of Section for Project Preparation</td>
<td>Ministry of Agriculture and Environmental Protection</td>
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<td>Sierra Leone</td>
<td>Mr. Ibrahim Lamin Mohamed Sesay, Executive Secretary</td>
<td>National Science and Technology Council</td>
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<td>Mr. Sin Liang Cheah</td>
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<td>Mr. Douglas Yee Director Climate Change</td>
<td>Ministry of Environment, Climate Change, Disaster Management and Meteorology</td>
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<td>South Africa</td>
<td>Mr. Henry Roman</td>
<td>Department of Science and Technology</td>
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<td>Mr. David Batali Oliver Samson, Director of Pollution Control Department</td>
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<td>Ms. Sara Aagesen</td>
<td>Spanish Climate Change Office, Ministerio de Agricultura, Alimentación y Medio Ambiente</td>
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<td>Sri Lanka</td>
<td>Mr. R.D.S. Jayathunga, Director</td>
<td>Ministry of Environment and Renewable Energy</td>
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<td>Suriname</td>
<td>Mr. Sieuwnath Naïpal</td>
<td>Climate Change Expert Group under the cabinet of the President</td>
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<td>Swaziland</td>
<td>Mr. Bafana Simelane</td>
<td>Ministry Tourism and Environmental Affairs, Meteorology Department</td>
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<td>Sweden</td>
<td>Mr. Michael Rantil</td>
<td>Swedish Energy Agency</td>
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<td>Mr. Thaer Al Deif</td>
<td>Ministry of State for Environment Affairs</td>
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<td>Tajikistan</td>
<td>Mr. Nasimjon Rajabov, Head, Climate change and Ozone center; Mr. Anvar Homidov, Senior Climate Change Specialist</td>
<td>State Administration for Hydrometeorology</td>
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<td>Thailand</td>
<td>Mr. Surachai Sathitkunarat, Director of Energy and Environment</td>
<td>National Science Technology and Innovation Policy Office (STI), Ministry of Science and Technology</td>
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<td>Togo</td>
<td>Ms. Mery Yaou</td>
<td>Direction de l’Environnement, Ministère de l’Environnement et des Ressources Forestières</td>
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<td>Tonga</td>
<td>Mr. Paula Pouvalu Ma’u, Chief Executive Officer</td>
<td>Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)</td>
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<td>Tunisia</td>
<td>Mr. Bouzghaya Fethi</td>
<td>Direction Générale du Développement Durable, Ministère de l’Equipement, de l’Aménagement du Territoire et du Développement Durable</td>
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<td>Turkey</td>
<td>Mr. Bilgin Hilmioglu</td>
<td>The Scientific and Technological Research Council of Turkey (TÜBİTAK) – Marmara Research Center (Environment and Clean Production Institute)</td>
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<td>Mr. Maxwell Otim Onapa, Deputy Executive Secretary</td>
<td>Uganda National Council of Science and Technology (UNSCOT)</td>
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<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>Mr. Ben Lyon, Head of UK Delegation</td>
<td>Department of Energy and Climate Change (DECC)</td>
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<td>United Republic of Tanzania</td>
<td>Dr. Hassan Mashinda, Director General</td>
<td>Tanzania Commission for Science and Technology (COSTECH)</td>
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<td>United States of America</td>
<td>Mr. David Reidmiller, Foreign Affairs Officer</td>
<td>U.S. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs, Office of Global Change</td>
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<tr>
<td>Ukraine</td>
<td>Ms. Viktoria Shtets, Senior Expert, Climate Strategy Division</td>
<td>Climate Policy Department, Ministry of Ecology and Natural Resources</td>
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<td>Uruguay</td>
<td>Mr. Jorge Rucks, Director (focal point); Mr. Ignacio Lorenzo (alternate focal point)</td>
<td>Ministry of Environment</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>Mr. Victor Chub, Minister; Mr. Marat Tursunov, Director; and Mr. Majid Khodjaev, Director</td>
<td>Uzhydromet (coordinating body); Technology Transfer Agency; Research-Introduction Centre “Eco-Energy”; and the Central Asian Regional Centre on Renewable Energy Sources</td>
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<td>Vanuatu</td>
<td>Mr. Jotham Napat</td>
<td>Ministry of Climate Change</td>
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<td>Viet Nam</td>
<td>Mr. Le Ngoc Tuan, Director, Division of Science, Technology and International Cooperation</td>
<td>Department of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment of Viet Nam</td>
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<td>Yemen</td>
<td>Mr. Mohamed Said El-Mashjary, Chairman</td>
<td>Environment Protection Agency (EPA)</td>
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<td>Zambia</td>
<td>Mr. Ben Makayi, Senior Science and Technology Officer</td>
<td>Ministry of Education, Science, Vocational Training and Early Education</td>
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<td>Zimbabwe</td>
<td>Mr. Elisha N. Moyo, Principal Climate Change Researcher</td>
<td>Climate Change Management Department, Ministry of Environment, Water &amp; Climate</td>
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</table>

**CHART**

Gender distribution among NDEs

- NDEs: 83%
- 17%
CTCN Consortium Partners
The Climate Technology Centre’s Consortium Partners, together with UNEP and UNIDO, form the key framework for the Centre’s operations. These partners offer a breadth and depth of expertise in climate adaptation and mitigation along all steps of the technology cycle. These partners also offer significant geographic perspectives, valuable language capabilities, and extensive networks.

Consortium partners engage on all fronts of CTCN’s services:
- technical assistance design and delivery
- deliver of webinars
- facilitating of technical exchanges
- delivery of web based and in person trainings
- preparation of climate technology case studies
- good practice guidance materials
- development of the climate technology library
- co-hosting of regional CTCN Forums for networking and knowledge sharing
The Climate Technology Centre launched its Secondment Programme in 2014 in order to foster knowledge transfer among the CTCN and its partner institutions and thereby enhance international cooperation on technologies for climate change adaptation and mitigation. The Secondment Programme enables young professionals from among Climate Technology Network members (including NDE institutions) and CTCN Consortium partners to participate in the work of the CTCN secretariat in Copenhagen.

Secondees participate in the strategic and operational work of the Centre, while enhancing their understanding of climate technology implementation and knowledge transfer for a period of 4 - 6 months. At the same time, the CTCN aims to learn from the Secondees’ experience, including identifying local technology needs, cultural, socio-economic and political influences on technological development, and how to effectively support development in specific regions.

This year’s selected Secondees, Adriana Carvallo and Abdou Diop, joined CTCN from Network member The Carbon Trust and Consortium partner ENDA Energie, respectively.

“This wonderful programme gave me an opportunity not only to contribute in receiving more requests from African countries, but also to learn a lot from the CTCN team. The work we are all doing is very important in order to bring positive change for the most vulnerable communities. I think, this perfect initiative reflects CTCN’s approach to partnering for sustainable change. Many thanks to all CTCN staff for your warm collaboration ‘Jeureudieuf’.”

Abdou Diop, Eng.
ENDA Energie
The 5th Advisory Board approved a Strategy for Private Sector Engagement to build capacity and maintain an effective partnership with the private sector at the national, regional, sectoral and international level. This Strategy contributes to the CTCN’s mandate and has already led to partnerships with ongoing industry efforts to promote ambitions for climate technologies such as the Low Carbon Technology Partnerships Initiative (LCTPI). To implement this strategy, the CTCN and DNV GL are finalizing the design of the CTCN Engagement Forum, to build and leverage partnerships for the formulation and implementation of requests and projects for the deployment of climate technologies. Through the Initiative, the CTCN will bring together private sector (in particular SMEs), government, investors, and other stakeholders to create enabling environments for INDC and other commitments to be operationalized via regional thematic groups on climate technologies. This Engagement Forum will be launched at COP 21.

As the implementation of the Technical Assistance Requests has progressed, necessary Monitoring and Evaluation (M&E) practices have been introduced. This allows for better information sharing and provides operational controls. In order to demonstrate overall impact of the CTCN, work has also started to link the Technical Assistance outcomes with the Sustainable Development Goals (SDGs).

**Strategic Partnership DNV GL & CTCN**

At the end of 2014, the CTCN created a strategic partnership with DNV GL, an independent service provider working to safeguard life, property and the environment. DNV GL has worked successfully with a number of national governments, universities, regulators, NGOs and private companies on safety and sustainability, combining leading technical and operational expertise, risk methodology and in-depth industry knowledge. DNV GL operates in more than 100 countries with its 16,000 professionals.

As a strategic partner, DNV GL supports the operations of the CTCN in the following key areas:

- Knowledge management (KM) – supporting the development and operation of the CTCN’s knowledge management system (KMS)
- Private sector engagement (PSE) – structuring and delivering a robust private sector engagement platform for the CTCN
- Monitoring, evaluation and management systems (M&E) – supporting the development and implementation of an effective management system and QA & QC procedures

The CTCN launched the first version of its knowledge management system during COP20 in Lima. Since then, DNV GL has collaborated with CTCN to further enhance this system and will be launching a new version with multiple features including a matchmaking facility, a climate technology library, a virtual office for the secretariat, a Technical Assistance Dashboard and a visual redesign. The KMS has seen a significant increase in knowledge resources since its inception at COP20.
Gender and Technology

In the Climate Technology Centre and Network’s mission, laid out by the UNFCCC Conference of Parties, the importance of “taking into account gender considerations to support action on mitigation and adaptation and enhance low emissions and climate-resilient development” is made clear. Indeed, across all its services, the CTCN is striving to incorporate gender mainstreaming to ensure that the process and outcomes of its work reflect an inclusive and equitable approach to technology transfer. As part of this effort, the CTCN appointed a Gender Mainstreaming Focal Point from among its manager-level staff in 2015.

Technical Assistance

The Response Plan is developed in response to a country request for technical assistance by Consortium and/or Network members with support of the NDE and the CTCN Climate Technology Manager. This plan must describe how gender considerations will be included and monitored within proposed activities, as well as how outcomes will impact sustainable development goals.

Knowledge Sharing

As part of its webinar series, the CTCN partnered with UNIDO, UN Women, and ENERGIA on a webinar hosted by EmpowerWomen.org entitled “RE-Thinking The Role Of Climate Technology For Women’s Empowerment”. The CTCN is also actively seeking knowledge partnerships with organizations experienced in gender and climate in order to collaborate on generating greater access to existing gender mainstreaming tools, guidance materials, reports and case studies via the CTCN Knowledge Portal: www.ctc-n.org. Search functionality, key word tagging, and matchmaking systems will assist users to identify gender-specific components of informational resources.

Capacity Building

As part of regional inception trainings for CTCN National Designated Entities, sessions on “Mainstreaming gender into climate planning” have been presented. The selection process for the CTCN Secondment Programme strives for a gender and geographical balance of Secondees. The CTCN also participated in the “Workshop on gender-responsive climate policy with a focus on mitigation action and technology development and transfer” during the forty-second sessions of the subsidiary bodies of the UNFCCC.
“I particularly liked interacting with NDEs from different countries and sharing their experiences.”

Participant, CTCN Forum in Anglophone Africa
The CTCN provides technical assistance in response to requests submitted by developing countries via their Nationally-selected focal points, or National Designated Entities (NDEs). Upon receipt of such requests, the CTC quickly mobilizes its global Network of climate technology experts to design and deliver a customized solution tailored to local needs. The CTCN does not provide funding directly to countries, but instead supports the provision of technical assistance provided by experts on specific climate technology sectors.

HOW IT WORKS

1. Academic, government, NGO and/or private sector representatives work with their National Designated Entity* to identify the type of technical assistance needed in order to implement their technology-related climate plans.

2. The NDE conveys the request to CTCN.

3. A team of climate technology experts from the Climate Technology Centre and Network collaborate with the NDE to provide a solution that is tailored to the needs of the individual country.

4. Response Plans are generally delivered within 12 months.

Technical Assistance is provided:
- To developing country academic, public, NGO, or private entities upon their request
- Free of charge (value up to 250,000 USD)
- State of the art and locally relevant expertise
- For a broad range of adaptation and mitigation technologies

Technical Assistance is available through all stages of the technology cycle:
- From identification of needs
- Policy assessments
- Selection and piloting technology solutions
- To assistance that supports technology customization and widespread deployment

“The CTCN is the best opportunity developing countries have had since the Kyoto mechanism. We need to sail on its wings to have technology transfer become a reality in Africa.”

Willis Makokha,
Industrial Research and Development Institute, Kenya

* For more information on National Designated Entities, please see page 10 or visit www.ctc-n.org/about-ctcn/national-designated-entities
CTCN Progress Report 2014 – August 2015

CTCN continuously works to make the application process as simple and easy as possible for NDEs.

Actual form found at: www.ctc-n.org/technical-assistance/submit-request
### Technical Assistance Requests by Country

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<td>Mongolia</td>
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<td>Mozambique</td>
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<tr>
<td>Namibia</td>
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<tr>
<td>Niger</td>
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<td>Pakistan</td>
<td>1</td>
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<td>Senegal</td>
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<td>Syrian Arab Republic</td>
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<tr>
<td>Uganda</td>
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<tr>
<td>Uruguay</td>
<td>1</td>
</tr>
<tr>
<td>Vietnam</td>
<td>1</td>
</tr>
</tbody>
</table>

40 Active Requests* from 45 Countries (through 30 August 2015):

*2 requests are considered ineligible; 2 are inactive and thus are not listed here.
12 Active Requests from 12 Countries
(1 Sept. - 22 Nov. 2015):
1 Algeria
2 Benin
3 Ecuador
2 Kenya
1 Mali
3 Vietnam
Technical Assistance in Numbers

Period: January 2014 - August 2015

**FIGURE**

Adaptation vs. mitigation requests

<table>
<thead>
<tr>
<th>Adaptation</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptation / Mitigation</td>
<td>7</td>
</tr>
<tr>
<td>Mitigation</td>
<td>23</td>
</tr>
</tbody>
</table>

**CHART**

Adaptation requests by sector

- Early warning and environmental assessment: 1
- Agriculture and forestry: 6
- Water: 2
- Cross-sectoral: 4
- Coastal zones: 1

**CHART**

Mitigation requests by sector

- Energy: 14
- Transport: 1
- Industry: 2
- Forestry: 1
- Waste management: 2

**DATA**

Distribution of requests by proponent

<table>
<thead>
<tr>
<th>Proponent</th>
<th>Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government / Ministry</td>
<td>22</td>
</tr>
<tr>
<td>Local government</td>
<td>2</td>
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<tr>
<td>Specialized agency</td>
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<tr>
<td>Private company</td>
<td>3</td>
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<tr>
<td>Research / academia</td>
<td>3</td>
</tr>
<tr>
<td>Civil society / NGO</td>
<td>1</td>
</tr>
<tr>
<td>Various type (multi-country)</td>
<td>2</td>
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</tbody>
</table>

**TOTAL REQUESTS**

44
Geographical distribution of requests

**DATA**

Distribution of requests based on Technical Needs Assessments (TNAs)

- **22** from countries that undertook a TNA
- **19** from countries that have not yet undertaken a TNA
- **3** multi-country requests (with completed TNAs for some individual countries)

**DATA**

Distribution of requests by geographical scope

<table>
<thead>
<tr>
<th>Scope</th>
<th>Requests</th>
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</thead>
<tbody>
<tr>
<td>Community level</td>
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<tr>
<td>Sub-national level</td>
<td>8</td>
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<tr>
<td>National level</td>
<td>28</td>
</tr>
<tr>
<td>Multi-country level (in same region)</td>
<td>3</td>
</tr>
</tbody>
</table>

**DATA**

Distribution by request eligibility

- **38** Requests deemed eligible (including three inactive)
- **4** Requests deemed eligible and not prioritised
- **2** Requests not deemed eligible
Afghanistan

Technical support for the government in the identification of technology needs

Context
As a mountainous country, with dry lands and frequent droughts, Afghanistan experiences increasing extreme weather that affect the availability of water, threatening the supply of drinking water, as well as crop production, very much dependent on irrigation. Afghanistan has also a good potential for generating renewable energies, such as hydropower, solar and wind energy to contribute to reduce climate change and pave the way for a low-carbon development. The government is thus challenged to find the appropriate technologies to disseminate in the country to mitigate and adapt to the changing climate.

CTCN Response
• Identify climate technology priorities for agriculture, energy and water sectors
• Develop priority climate technology project concepts
• Increase national capacity to identify climate technology priorities and access investment and funding for climate technology in Afghanistan

Expected Results
• Compendium of climate technology options
• Technology project concepts
• Planning roadmap for mainstreaming climate technology priorities
• Strengthened political will and support for Mitigation and adaptation technologies

Request Proponent
The National Environmental Protection Agency

National Designated Entity
Mr. Ghukam Hassan Amiry, National Environment Protection Agency (NEPA)

Response Expert Team
UNEP, GiZ

Country Partners
Afghanistan National Disaster Management Authority; Ministry of Agriculture; Ministry of Economy; Ministry of Energy and Water; Ministry of Finance; Ministry of Foreign Affairs; Ministry of Rural Rehabilitation and Development
Antigua and Barbuda
Technical Assistance for the Establishment of a Sustainable Financial Mechanism for Climate Change in gaining energy independence

Requested CTCN Response
• In-Country Assessment
• Analysis of Renewable Energy Priority Technologies for Deployment
• Develop of the Workforce Training Scope of Work

Expected Results
• Assessment of Antigua and Barbuda’s energy context, renewable energy deployment goals, and current barriers
• Analysis of renewable energy priority technologies
• Training program to inform proposals to potential donor organizations

Request proponent
Ms. Diann Black-Layne, Environment Division – Ministry of Agriculture, Housing, Lands and the Environment

National Designated Entity
Ms. Diann Black-Layne, Environment Division – Ministry of Agriculture, Housing, Lands and the Environment

Country Partners
Ministry of Public Utilities; Ministry of Tourism

Albania
Regional Energy Efficiency Action Plan

CTCN Response
• Develop the first local-level plan for energy efficiency and achievement
• Provide training to enhance understanding of national energy plans among regional stakeholders and local government employees

Expected Results
• First inter-regional energy efficiency plan with clear steps for Mitigation actions at the community level
• Potential for future plan replication in other regions

Request proponent
Ministry of Science and Technology

National Designated Entity
Ms. Enkelejda Malaj, Albanian Ministry of Environment, Forestry and Water Administration

Country Partners
Ministry of Energy and Industry; RCE middle Albania; Meister Consultants Group
Bosnia and Herzegovina
Rehabilitation and Modernization of the district heating (DH) system in the City of Banja Luka

Expected Results
- Continuation of Banja Luka’s DH system
- Reduction in the use and procurement cost of crude oil
- The replacement of 10% of the city’s DH distributional network
- The mainstreaming of insulation techniques and the subsequent reduction (estimated at up to 40%) of the building stock’s energy usage
- The development of a new energy tariff system at municipal level

Request proponent
Mayor’s Office of Banja Luka

National Designated Entity
Mr. Goran Trbic, University of Banja Luka

Country Partners
A.D Banja Luka; Mayor’s Office of Banja Luka; UNEP’s Regional Office for Europe (UNEP-ROE); University of Banja Luka

Bhutan
Reducing GHG Emissions from Transport by Improving Public Transport Systems

Expected Results
- Enhanced public transport management knowledge and skills
- Reduction in GHG emissions due to improved public transport and increased ridership
- Co-benefits in terms of reduction in local air pollutants, noise pollution and road collisions

National Designated Entity
Mr. Lham Dorji, National Environment Commission Secretariat

Request Proponent
Road Safety and Transport Authority

Response Expert Team
Technical University of Denmark (DTU), Asian Institute on Technology (AIT)

Country Partners
Department of Roads; Road Safety and Transport Authority; Ministry of Information and Communications
Chile
Support the replacement of F-refrigerants used in refrigeration systems in food processing, production and exports (fruits and vegetables)

CTCN Response
• Provide guidance on national policy, regulatory and legal frameworks
• Introduce natural refrigerant systems to Chilean market
• Improve awareness of stakeholders

Expected Results
• Conversion of cold storage facilities from HCFC-22 use to a natural refrigerant systems in the fruit and vegetable processing sector
• Direct GHG emission reductions

National Designated Entity
Mr. James A. Robinson, Ministry of Environment

Request proponent
Ministry of Environment

Response Expert Team Lead
Tropical Agricultural Research and Higher Education Centre (CATIE); Support World Agroforestry Centre (ICRAF)

Country Partners
Center for Aquatic Studies; Chilean navy; CONAF; Conicyt; Directorate General of Water (DGA); Ecology and Biodiversity Institute (IEB); INACH (Antarctic Institute of Chile); INFOR; GIZ; Ministry of Development; Ministry of the Environment; SUBPESCA; University of Concepcion

Chile
Design Biodiversity Monitoring Network in the Context of Climate Change

CTCN Response
• Design a conceptually and practically robust monitoring strategy
• Establish a national monitoring network
• Implement the necessary infrastructure and personnel needs

Expected Results
• Design of a monitoring network for biodiversity and ecosystem integrity
• Standards and protocols for monitoring biological and environmental variables, climate scenarios, the networks information exchange and data management
• Proposal for formal institutional arrangements as well as logistical and operational requirements
• The strengthening of Chile’s ecosystem resilience of ecosystems and decision making ability

National Designated Entity
Mr. James A. Robinson, Ministry of Development

Request proponent
Ministry of Development

Response Expert Team Lead
Tropical Agricultural Research and Higher Education Centre (CATIE); Support World Agroforestry Centre (ICRAF)

Country Partners
Center for Aquatic Studies; Chilean navy; CONAF; Conicyt; Directorate General of Water (DGA); Ecology and Biodiversity Institute (IEB); INACH (Antarctic Institute of Chile); INFOR; GIZ; Ministry of Development; Ministry of the Environment; SUBPESCA; University of Concepcion
Colombia

Development of a Mechanical-Biological Treatment (MBT) pilot project of the Waste NAMA in Cali

Context
The Colombian government has reformed its solid waste management regulations to enable the use of alternative treatment technologies. Current tariff structures do not recognize alternative treatment methods (recycling, compost, RDF, etc.) as part of a waste public service. In addition, the absence of a coordinated, national solid waste management policy, and a city-level action plan for integrated waste management policies, hampers the implementation of the project. Colombia is proposing the implementation of the Solid Waste Nationally Appropriate Mitigation Action (NAMA) pilot project, to shift the view of conventional waste management and promote alternative treatment methods, between public and private stakeholders and policymakers of the country.

CTCN Response
• Conduct technical feasibility study, including existing studies to identify appropriate technology
• Elaborate on deployment structures for the selected, treatment technology
• Create business model for MSW plant
• Develop a plan to access financing
• Conduct capacity building activities on operation of selected plant
• Conduct technical studies to determine the most feasible waste treatment technology for two additional pilot cities to facilitate replication and up-scaling

Expected Results
• Demonstration of the technical and financial feasibility of an alternative MSW treatment plant
• Implementation of MSW plant
• Job creation
• More efficient waste sector and role model function for to the region
• Reduced GHG (mainly CH4) emissions from landfills

Request proponent
Directorate of Climate Change of the Ministry of Environment and Sustainable Development

National Designated Entity
Mr. Rodrigo Suárez, Directorate of Climate Change of the Ministry of Environment and Sustainable Development

Response Expert Team
Bariloche Foundation; Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), International Solid Waste Association (ISWA)

Country Partners
Administrative Department of Environmental Management (DAGMA); Autonomous University of the West Cali; Carvajal Foundation; CEMPRE; Ministry of Environment and Sustainable Development, Climate Change Division; Ministry of Housing, Cities and Territory; Regional Autonomous Corporation of the Cauca River Valley; Universidad de Valle and Universidad (ICESI); Social Wealth Secretariat of Santiago de Cali
Colombia
Monitoring and evaluation of national promotion policies for energy efficiency and renewable energy within industrial and transport sectors

CTCN Response
- Evaluate effectiveness of existing incentives
- Identify specific technologies to promote through industrial and transport sector incentives
- Propose additional incentives/actions
- Propose M&E indicators to be used in future energy efficiency policies

Expected Results
- A tool to monitor and assess the results of incentives and to evaluate the possibility to extend incentives
- Enhanced local capacity to design new incentive mechanisms for energy efficiency and monitor results

National Designated Entity
Rodrigo Suarez Castaño, Ministry of Environment and Sustainable Development

Response Expert Team Lead
Bariloche Foundation Support
NREL, ECN, and UNIDO

Country Partners
Administrative Department for Science, Technology and Innovation (COLCIENCIAS); Ministry of Commerce, Industry and Tourism; Mining and Energy Planning Unit; Ministry of Environment and Sustainable Development; Ministry of Transport; National Authority for Environmental Licenses (ANLA); National University; United Nations Industrial Development Organization (UNIDO)

Colombia
National Adaptation Monitoring System

CTCN Response
- Identify the institutional framework
- Identify good practice for monitoring of adaptation in Colombia
- Design the monitoring system and its implementation protocol

Expected Results
- Robust system to monitor and evaluate effectiveness and the progress
- Information to improve current programmes, plan further actions, and attract private and public funding

National Designated Entity
Mr. Rodrigo Suárez, Directorate of Climate Change of the Ministry of Environment and Sustainable Development

Response Expert Team
Tropical Agricultural Research and Higher Education Center (CATIE); UNEP DTU Partnership; Institute of Ecology and Biodiversity, University of Chile

Country Partners
Institute for Hydrological, Meteorological and Environmental Studies (IDEAM); Ministry of Environment and Sustainable Development – Climate Change Division
Côte d’Ivoire
Establishment of an Environmental Information System (EIS)

CTCN Response
• Assist in the establishment of an effective strategy for collection of environmental data
• Support national stakeholders in the selection of appropriate software and technical equipment to measure data
• Participate in various stages of EIS validation tools (reports, Partnership Framework Convention, EIS Charter, etc.)

Expected Results
• Identification of primary emission sources
• Air quality monitoring
• Adaptation of the policy of fleet renewal
• Promotion of renewable energy
• Reduction of greenhouse gas emissions
• Improvements in the health of the population

National Designated Entity
Mr. Philippe KOUADIO Kumasi, Department of Environmental Quality and Risk Prevention

Request Proponent
Sustainable Environment and Energy Development Consulting Center

Response Expert Team
World Agroforestry Centre (ICRAF), Environment and Development Action in the Third World (ENDA)

Country Partners
Ministry of Environment

Côte d’Ivoire
Developing an air pollution reduction strategy in Abidjan district

CTCN Response
• Create a map of air quality monitoring equipment and areas at particular risk
• Information on potential emission sources
• Draft a framework and guidelines for the development of appropriate air quality regulations
• Recommend a strategy for air quality monitoring
• Develop an air quality management plan with technology recommendations

Expected Results
• Identification of primary emission sources
• Air quality monitoring
• Adaptation of the policy of fleet renewal
• Promotion of renewable energy
• Reduction of greenhouse gas emissions
• Improvements in the health of the population

Request Proponent
Department of Environmental Quality and Risk Prevention

National Designated Entity
Mr. Philippe KOUADIO Kumasi, Department of Environmental Quality and Risk Prevention

Response Expert Team
Environment and Development Action in the Third World (ENDA)

Country Partners
The Department of Environmental Quality and Risk Prevention (DQEPR); Ministry of Environment, Safety and Sustainable Urban Development

Côte d’Ivoire
Establishment of an Environmental Information System (EIS)

National Designated Entity
Mr. Philippe KOUADIO Kumasi, Department of Environmental Quality and Risk Prevention

Request Proponent
Sustainable Environment and Energy Development Consulting Center

Response Expert Team
World Agroforestry Centre (ICRAF), Environment and Development Action in the Third World (ENDA)

Country Partners
Ministry of Environment
Dominican Republic

Early Warning Communication Protocol

CTCN Response
- Strengthen and modernize protocols to communicate extreme weather events
- Identify most relevant information technologies to convey to the public (including mobile phone app)
- Broker private financing for development and scale up of the early warning communication protocol

Results
- Analysis of existing Early Warning Systems (EWS) affecting the area and ways to improve them
- Strategy and action plan for using new information and communication technologies (especially smartphones and apps) for dissemination of early warnings to the public
- Action plan to attract investment for scaling up the communication protocol with potential public and private sector investors

Request Proponent
The Ministry of Environment and Natural Resources, Instituto Dominicano de Desarrollo Integral (IDDI)

Country Partners
Emergency Operations Center (COE); Ministry of Environment and Natural Resources

National Designated Entity
Mr. Pedro García Brito, Director of Climate Change, Ministry of Environment and Natural Resources

Expected Results
- Replacement of conventional lighting with LEDs
- More than 730 GWh savings in annual electricity consumption, reducing the national electricity consumption by more than 5%
- Reductions in blackout occurrences across the country
- More than 100 million USD per year savings in electricity bills

Dominican Republic

Developing a NAMA to Leapfrog to Advanced Energy-Efficient Lighting Technologies

CTCN Response
- Establishment of mandatory minimum energy performance standards
- Creation of a monitoring, verification and enforcement mechanism
- Development of a large scale LED deployment scheme

Expected Results
- Replacement of conventional lighting with LEDs
- More than 730 GWh savings in annual electricity consumption, reducing the national electricity consumption by more than 5%
- Reductions in blackout occurrences across the country
- More than 100 million USD per year savings in electricity bills

National Designated Entity
Mr. Pedro García Brito, Ministry of Environment

Request Proponent
National Energy Commission

Country Partners
Electricity Distribution Companies (EdeNorte, EdeSur and EdeEste); Ministry of Energy and Mines; Ministry of Environment; National Energy Commission
**Guinea**

Mobilization of the financial resources for deploying adaptation technologies

**CTCN Response**
- Identify opportunities and facilitate introductions with public and private sector financiers
- Train national climate technology project developers to mobilise public and private sector financing
- Support access to finance of specific adaptation technologies
- Assist in the design of business plans for a private sector investor and international donor audience

**Results**
- Increased knowledge and capacities to attract investors and donors to fund projects
- Increased number of initiatives funded to deploy and scale up climate technologies for adaptation

**Request Proponent**
National Environment Directorate

**National Designated Entity**
Mr. Mamady Kobélé Keita, National Environment Directorate

**Response Expert Team**
ENDA, DHI, CTI PFAN and Carbon Trust

**Country Partners**
Ministry of Agriculture; Ministry of Energy & Hydraulics; Ministry of Environment; National Environment Council; Research Centers (CERE, CERESCOR, CRED, IRAG)

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**Indonesia**

Development of Anaerobic Digester Technology for Palm Oil EFB Waste

**CTCN Response**
- Map existing anaerobic digester technologies for EFB waste treatment and propose most relevant examples
- Facilitate knowledge exchange through expert collaboration and capacity building
- Provide support on the planning of an EFB anaerobic digester demonstration plant

**Expected Results**
- Shift to more efficient EFB waste treatment
- Production of renewable energy and reduction in greenhouse gas emissions

**National Designated Entity**
Dr. Widiatmini Sih Winanti, National Council on Climate Change

**Request Proponent**
University of Lampung

**Response Expert Team**
The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

**Country Partners**
Center of Research and Development of Forestry Product, Ministry of Environment and Forestry; Indonesia’s Oil Palm Research Institute; Ministry of Energy and Mineral Resources; Ministry of Environment and Forestry; National Council on Climate Change (NCCC); State-Owned Nusantara Plantation and Palm Oil Company; University of Lampung
**Iran**

Micro Combined Heat and Power Technology

**CTCN Response**
- Identify suppliers with proven CHP and MCHP technologies
- Facilitate communications with technology providers
- Develop a strategy for undertaking CHP capacity building on a national scale

**Expected Results**
- Increased local capacity in high resolution hydrodynamic modelling and use of the model.
- Resultant policy and planning recommendations to reduce flood hazards, risk and vulnerability
- A roadmap to sustain and expand the project using additional funding streams

**Request Proponent**
Tamkar Gas Equipment Company

**National Designated Entity**
Mr. Hassan Jangavar, Center for Innovation and Technology Cooperation (CITC)

**Response Expert Team**
Energy Research Centre of the Netherlands (ECN)

**Country Partners**
Department of Environment; Ministry of Energy; Ministry of Housing and Urban Development; Ministry of Petroleum; Private Sector; Universities and Research Institutes

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**Indonesia**

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

**CTCN Response**
- The development of a high resolution hydrodynamic model for a pilot project area in Jakarta that is capable of producing flood levels under differing climate and/or engineering scenarios
- A series of recommendations aimed at local authorities to reduce flooding risks
- Designing a strategy to attract financing for broader hydrodynamic modelling and to take action on the recommendations

**Expected Results**
- A hydrodynamic flood model in the context of climate change

**Request Proponent**
Jakarta Research Council

**National Designated Entity**
Ms. Nur Masripatin, Director General, Directorate General of Climate Change, Ministry of Environment and Forestry Change

**Response Expert Team**
The UNEP-DHI Partnership

**Country Partners**
Association of Marine Survey Contractor Indonesia; BAPPENAS; Indonesian Planning Expert Association (IAP); Jakarta Research Council; Provincial Governments of Banten, Jakarta and West Java; Ministry of Environment and Forestry; Ministry of Marine Affairs and Fisheries; Ministry of Public Works

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CTCN Progress Report 2014 – August 2015
**Madagascar**

Creating a technology development and education centre to address climate change

**Requested CTCN Response**
- Design informative, awareness-raising and educational tools on climate change
- Design education curriculums and programs
- Mobilize financial resources to construct the centre
- Research and deploy climate technologies

**Expected Results**
- A business plan for the design and operations of the Climate Technology Centre
- Design of initial educational programme on climate change technologies

**CTCN Response**
- Organisation of pilot raining sessions and workshops

**Request Proponent**
Maharitra Non-Governmental Organization

**National Designated Entity**
Mr. Todisoa Manankasina, National Council on Climate Change

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**Iran**

Technology of Photovoltaic (PV) Solar Cell Design and Manufacturing

**CTCN Response**
- Consulting in field of silicon purification
- Technology of wafering
- Provide technical support for designing cells, developing cell test procedures, and testing modules output

**Expected Results**
- Report on status survey
- Recommendations to establish a successful PV industry in Iran
- Business plan for PV industry in Iran and a PV manufacturing plant in Iran

**Request Proponent**
Iran Ministry of Energy

**National Designated Entity**
Mr. Hassan Jangavar, Center for Innovation and Technology Cooperation (CITC)

**Response Expert Team**
The Energy and Resources Institute (TERI), Energy Research Centre of the Netherlands (ECN)

**Country Partners**
Ministry of Energy; Iran Renewable Energy Organization
Mali

Identification of climate adaptation technologies with rural communities

CTCN Response
• Develop a tailored and ready-to-use Reference Guide of technologies that communities can use to best adapt their agricultural practices with regards to climate change effects, and adapted to each agro ecological zones of the country
• Design and test a dissemination strategy for the Reference Guide so it can be used and known by a large number of communities and stakeholders in Mali
• Formulate key recommendations and steps to the Malian government for ensuring the uptake of best technologies and practices identified in the guide

Expected Results
• Identification of 20 appropriate technologies for adapting to a changing climate
• Production of a Reference Guide
• Design and begin implementation of a dissemination strategy
• Recommendations and suggestions for financing large scale deployment

Request Proponent
Mali Meteorological Office

National Designated Entity
Mr. Birama Diarra, Mali Meteorological Office

Response Expert Team
Environment and Development Action in the Third World (ENDA), the World Agroforestry Centre (ICRAF), UNEP DTU Partnership

Country Partners
Action Group for Modernization of Agriculture in Mali (GAMA enterprise); Mali Folk Center; Ministry of Agriculture; Ministry of Environment

Mali

Design and financing for crop drying and storage technologies to strengthen food security in the face of climate change

CTCN Response
• Conduct review of local project aiming at installing technologies using solar potential, to store and dry mangos, potatoes and gombos
• Finalize the business plan and related documents
• Develop a cash flow model
• Produce an independent feasibility audit to support investment decisions
• Provide coaching and support of project members
• Design a scaling up and communication strategy

Expected Results
• Deployment of simple semi-industrial drying and storage facilities enabling off-season availability of mangoes, potatoes and okra
• Access to higher margin markets at national and international level for dried fruits and vegetables is increased
• More than 500,000 USD injected every year in local economy, creating a multiply effect in the economy
• Increased food security for household throughout the year

Request Proponent
Mali Meteorological Office

National Designated Entity
Mr. Birama Diarra, Mali Meteorological Office

Response Expert Team
Environment and Development Action in the Third World (ENDA), the Climate Technology Initiative Private Financing Advisory Network (CTI PFAN)

Country Partners
Action Group for Modernization of Agriculture in Mali (GAMA enterprise); Mali Folk Center; Ministry of Agriculture; Ministry of Environment
Mauritius

Building Capacity for Promoting a Greenhouse Gas Mitigation Strategy

CTCN Response
- Assess relevant technologies, processes and practices to reduce GHG emissions
- Provide capacity building on monitoring and evaluation of GHG emissions and mitigating measures

Expected Results
- Identification of emission abatement technologies
- Reduction of greenhouse gas emissions through reduced fuel consumption
- Decoupling GHG emissions from energy demand
- Sustained economic development at reduced environmental cost
- Improved health of citizens

Request Proponent
Ministry of Environment and Sustainable Development

National Designated Entity
Mrs Sin Lan NG YUN WING, Ministry of Environment and Sustainable Development

Response Expert Team
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Country Partners
Mauritius Sugar Producers Association; Ministry of Energy and Public Utilities; Ministry of Environment & Sustainable Development; Ministry of Fisheries; Ministry of Local Government and Outer Islands, Local Authorities (Municipal Council of Port Louis)

Mongolia

Revision of existing Renewable Energy Law of Mongolia and developing framework of activities for enactment of draft Law of Mongolia on Energy Conservation

CTCN Response
- Assistance with Renewable Energy Law
- Assistance with Energy Conservation Law

Results
- Comprehensive renewable energy strategy, coupled with structural and technical reforms, allowing to use also private capital
Mozambique

Feasibility Study on the Use of Waste that are Refuse Derived Fuel (RDF) for Cement Factories

CTCN Response
- Develop technical specifications needed to turn waste into RDF
- Provide recommendations to cement factories on how to adapt their infrastructure to receive RDF
- Propose a monitoring and evaluation system
- Analyse potential funding opportunities

Results
- Cement kilns are able to use energy generated by the waste material
- Decrease in consumption of non-renewable resources
- Consequent lowering of greenhouse gas emissions
- Longer useful life of waste disposal sites
- Boost of the recycling/waste management sector

Request Proponent
Ministry of Science and Technology

National Designated Entity
Ms. Antonio Jorge Raul Uaissone, Ministry of Science and Technology, High Education and Technical professional

Country Partners
Association of Municipalities (ANAMM); Carbon Africa; Center for the Promotion of Investment (CPI); Centro de Gestao de Conhecimento; Global Cement; Fund of the Environment (FUNAB); Ministry of Earth, Environment and Rural Development (MITADER); Mozambican Association of Recycling (AMOR); Reduce, Reuse, Recycle (3R)
Namibia
Facilitating financing to address increasing water scarcity

Context
In the face of climate change, Namibia is facing increasing water scarcity, with severe impacts on human health, food security and the national economy. The Namibian government is developing a comprehensive water security master plan, which will include prioritization of essential adaptation technologies to enable the country’s transition to sustainable water security. Alongside increasing domestic public investment, the government is inviting private sector investors and international cooperation to partner with them in financing the deployment and scale-up of prioritized climate technology solutions to address their water scarcity crisis.

CTCN Response
- Facilitate prioritisation of most promising water scarcity technology solutions
- Strengthen project design for the prioritized water scarcity technologies
- Identify opportunities for financial investment and/or technical assistance
- Jointly organize and host public and private sector investor roundtable

Expected Results
- Increased investor interest and opportunities created
- Strengthened project concepts
- More advanced vision of priorities and the path to addressing water scarcity challenges

Request Proponent
Department of Environmental Affairs

National Designated Entity
Mr. Jonathan Mutau, Department of Environmental Affairs

Implementation Team
CTCN Network Member to be determined, Council for Scientific and Industrial Research (CSIR), UNEP DTU Partnership (UDP)

Country Partners
City of Windhoek; Ministry of Agriculture, Water and Forestry; Ministry of Environment and Tourism; NAMWATER


Pakistan

Technology Guidance and Support for Conducting the Technology Needs Assessment (TNA)

CTCN Response
• Guidance on setting up the national team in charge of coordinating the Technology Needs Assessments (TNA) and of producing the related reports
• Support for the development of Pakistan’s TNA workplan and budget
• Technical guidance for the different activities including on Technology Needs Assessment Report, the Barriers Analysis and Enabling Framework report, and the Technology Action Plan report.
• Training on the process and methodologies for developing these report and organizing the national process

Results
• Improved national institutional processes, policies and regulations for climate technology deployment
• Technology prioritised and associated analysis provide a powerful decision-support tool for technology transfer managers and development planners
• Developed more in-depth technology roadmaps or ‘technology specific’ action plans
• Technology actions yield social benefits, reduce greenhouse gas emissions and increase resilience of most vulnerable groups and sectors in Pakistan

National Designated Entity
Mr. Muhammad Irfan Tariq, Director General (Environment), Ministry of Climate Change

Request proponent
Directorate of Climate Change of the Ministry of Environment and Sustainable Development

Response Expert Team
DTU

Senegal

Development of energy efficiency projects in industries and services

CTCN Response
• Development of the study and monitoring/evaluation tools (focus on co- and tri-generation)
• Capacity building for the project management
• Technical advices on policies for the technology adoption
• Project development
• Adaptation to the local context

Results
• A baseline assessment to identify and describe the current state of the technology in the country
• Review of best-available technologies
• Overview of common barriers to effective technology transfer
• Identification of potential pilot projects
• Overview of key capacity building efforts

Request Proponent
Centre for study and research on Renewable Energy (CERER)

National Designated Entity
Ms. Mama Coumba Ndiaye, National Energy Efficiency Agency

Country Partners
Direction of the Environment and Classified Establishment (DEEC); National Energy Efficiency Agency (AEEME); Ministry of Energy and Renewable Energy (MEDER); Senelec
Senegal
Green technology deployment in industrial zones

CTCN Response
- Identification and mapping of companies with high symbiotic potentials
- Outlining of potentials to use local outputs (wastes/byproducts)
- Proposal of technologies needed
- Report of necessary investment and potential savings
- Capacity building for tenant industries
- Material flow balances in key companies/factories

Results
- Decreased exposure to fluctuating energy prices
- Decreased need for import of materials
- Increased grid independence
- Centralized management and administration in the industrial park
- Reduced greenhouse gas emissions
- Recommendation for central monitoring and evaluation
- Centralized water management and wastewater treatment system
- Centralized solid waste management system
- Separate chemical and hazardous waste management to avoid emission of toxic pollutants
- Regulatory frameworks for comprehensive utilization of wastes from the production
- New business models by treating by-products and selling them

Request Proponent
Enterprises Development Agency (Bureau de Mise à Niveau)

National Designated Entity
Mr. Issakha Youm, Centre for Study and Research on Renewable Energy (CERER)

Uganda
Formulating Geothermal Energy Policy, Legal and Regulatory Framework

CTCN Response
- Conduct background analysis
- Develop recommendations for new geothermal policy and improvements
- Conduct stakeholder analysis
- Draft geothermal policy
- Draft proposed Geothermal Energy Law
- Draft proposed Supporting Laws and Regulations

Expected Results
- Report evaluating existing policies, laws, and regulations
- Report recommending the content of the new geothermal policy

Request Proponent
Ministry of Energy and Mineral Development

National Designated Entity
Dr. Maxwell Otim Onapa, Uganda National Council of Science and Technology (UNSCT)

Response Expert Team
National Renewable Energy Laboratory (NREL), United Nations Environment Programme (UNEP)

Country Partners
Directorate of Water Resources; Electricity Disputes Tribunal; Electricity Regulatory Authority; Ministry of Energy and Mineral Development; Ministry of Justice and constitutional Affairs; National Environment Management Authority; National Forest Authority; Rural Electrification Agency; Uganda Electricity Distribution Company, Electricity Generation Company, Uganda Electricity Transmission Company, Uganda National Bureau of Standards, Uganda Investment Authority, Uganda Revenue Authority, Uganda Wildlife Authority
Vietnam
Bio-Waste Minimization and Valorization for Low Carbon Production in Rice Sector

CTCN Response
• Support the selection of appropriate technology options for paddy drying, briquette production and combustion
• Identify a business development strategy for industrial use

Expected Results
• Support for informed decision making and investment in selected enterprises
• Scaling-up of resource efficient and cleaner production improvements
• Strong climate change Mitigation potential

Request Proponent
Vietnam Cleaner Production Centre (VNCPC)

National Designated Entity
Mr. Le Ngoc Tuan, Ministry of Natural Resources and Environment of Vietnam

Expert Response Team Lead
Energy Research Centre of the Netherlands (ECN); Support
The Energy and Resources Institute (TERI)

Country Partners
Asia Development Bank; Global Environment Facility; Ministry of Agriculture and Rural Development; Ministry of Natural Resources and Environment of Vietnam; Rice millers; Vietnam National Cleaner Production Centre; UNIDO

Uruguay
Replacement of fluorinated refrigerants in the dairy sector

Requested CTCN Response
• Assistance for feasibility studies
• Project design and implementation on approximately 20 dairy farms

Expected Results
• By replacing the HCFC and HFC based refrigerants by others with low GWP and ODP, positive effects on mitigating climate change
• Elimination of about 125 kg of HCFC and 15 kg of HFC, which could prevent potential emissions of 285,000 kg of CO₂ equivalent

Request proponent
Ministry of the Environment, National Environment Directorate

National Designated Entity
Mr. Jorge Rucks, National Environment Directorate

Country Partners
Dairy farmers associations; Ministry of Agriculture; Ministry of the Environment
Regional Technical Assistance Requests

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

Context
Refrigeration and air conditioning appliances (RAC) are rapidly spreading across Africa. As the electricity in most African countries is still generated through burning of fossil fuels, increased demand for energy results in increased greenhouse gas (GHG) emissions. With the use of highly energy efficient refrigeration and air conditioning devices and the substitution of high global warming potential (GWP) refrigerants with low GWP refrigerants and foam blowing substances, both GHG emissions and energy use can be substantially reduced. Alternative technologies are internationally available but not common in Africa. The Green Cooling Africa Initiative aims at establishing a prototype best practice approach for Ghana, Kenya, Mauritius, and Namibia.

CTCN Response
- Establish robust GHG Inventory for selected, priority cooling sub-sectors
- Analyse technological gap between existing technologies and internationally available green cooling technologies
- Propose recommendations
- Develop regional and country specific technology roadmap recommendations
- Capacity building and NAMA institutional setup
- Seek funding and/or co-funding for implementation

Expected Results
- Potential GHG Mitigation of 30% over current estimates through 2030
- Reduced electricity consumption
- Decreased use of fluorinated and chemical substances which produce persistent atmospheric wastes
- Sustainable development benefits (income and employment generation, foreign exchange savings, increased energy security, etc.)

Request Proponents
Kenya Industrial Research and Development Institute, Environmental Protection Agency of Ghana, Ministry of Environment and Sustainable Development of Mauritius, Department of Environmental Affairs of Namibia

National Designated Entities
Mr. Joseph Amankwa Baffoe, Environmental Protection Agency, Ghana; Dr. M. C. Z. Moturi, Kenya Industrial Research and Development Institute; Mr. P. Jhugroo, Ministry of Environment and Sustainable Development of Mauritius; Mr. Petrus Muteyauli, Ministry of Environment and Tourism of Namibia

Response Expert Team
United Nations Industrial Development Organization (UNIDO); Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); Council for Scientific and Industrial Research (CSIR); United Nations Environment Programme (UNEP)

Country Partners
For full list of country partners, please see details of Green Cooling Africa Initiative response plan on www.ctc-n.org
Regional Technical Assistance Requests

Guinea-Bissau, Mali, Niger

Capacity Building in Ecosystem-based Methods and Green Infrastructure for Sustainable Agriculture Intensification and Disaster Risk Management

Context
In West Africa, where land production accounts for 70% of the basis of natural resources, provides 70% of jobs in rural areas, and 70% of consumed energy, there is a formidable tension between a strong growth in demand for water, land and agricultural products on the one hand, and a decrease in these resources' availability on the other.

CTCN Response
• Analyse state of the art sustainable agriculture methods and their results in all sub-humid to semi-arid areas of the three countries
• Identify appropriate interventions necessary to revert degradation of the various landscapes
• Train national extension services, NGOs etc. in stakeholder driven evidence-based decision-making
• Develop comprehensive concept paper for implementation in the 6 landscapes and present to a set of potential financiers
• Build capacity of national government officials in comprehensive programme development

Expected Results
• Climate change Mitigation by sequestering carbon both in more biomass and in thicker soils
• Increased adaptation through more appropriate and efficient agricultural practices, rainwater harvesting, using synergies among species to increase heat tolerance, requiring less water
• Improved climate risk management through rain water control, increased infiltration, and crop diversification
• Increase in the resilience of ecosystems and populations, by making them structurally more able to absorb the shocks of extreme environmental events

Request Proponents
Organisation Africaine de la Propriété Intellectuelle (OAPI) Guinea-Bissau; Agence Nationale de la Météorologie (MALI-METEO); Conseil National de l’Environnement pour un Développement Durable, Niger

National Designated Entities
Mr. Carlos Sanca, Organisation Africaine de la Propriété Intellectuelle (OAPI) Guinea-Bissau; Mr. Birama Diarra, Agence Nationale de la Météorologie (MALI-METEO); Mr. Kamayé Maazou, Conseil National de l’Environnement pour un Développement Durable, Niger

Response Expert Team
World Agroforestry Centre (ICRAF)

Country Partners
For full list of country partners, please see details of Guinea Bissau, Mali, and Niger response plan on www.ctc-n.org
“ISWA’s work on climate change, in furthering global coordination on waste and climate, is in line with the CTCN mission and hence it is an exciting opportunity to be able to join forces and contribute relevant technical expertise under the CTCN mandate.”

Jiao Tang, Technical Manager, International Solid Waste Association (ISWA)
Climate Technology Network

The CTCN is built on the foundation that civil society and the private sector actively partner with governments to facilitate enhanced action on technology development and transfer. Through its Network, the Climate Technology Centre brings together a diverse global community of climate technology decision makers, suppliers and financiers to identify barriers to technology transfer, exchange technology experience, and provide technical assistance and capacity building to developing countries.

Broad opportunities for engagement
Over the past year, Network members have participated in CTCN Regional Forums; hosted CTCN webinars; disseminated their research, technology information and case studies via CTCN’s Knowledge Platform; and were selected by CTCN to begin providing technical assistance at the request of countries.

Who is the Network?
Experts from around the world, engaged in climate technology policy, capacity building, knowledge sharing and/or implementation, including:
• Academic and research centres
• Associations/Organizations
• Private sector technology providers
• National Designated Entities (NDEs), the CTCN national focal points selected by each country

Membership in the Climate Technology Network offers
Collaboration and Matchmaking: Networking with national decision makers, thought leaders, and technology providers via CTCN Regional Forums and other venues expands partnership opportunities (including matchmaking for financing and investment) and creates opportunity to discuss emerging areas of practice. A key goal of CTCN networking is to generate south-south collaboration.

Commercial opportunities
Network members gain access to competitive bidding for delivery of CTCN technical assistance and capacity building services to developing countries, financed by CTCN. Technical assistance spans both adaptation and mitigation across numerous sectors.

Information exchange
Through the CTCN Knowledge Portal (www.ctc-n.org), technical assistance and capacity building, Network members build a space to address barriers to technology transfer and to broaden their impact by conducting training on their areas of expertise, and sharing relevant experience, events, reports and tools.

How to join the Network
Simply complete the Network application (available online at ctc-n.org) and submit to ctcn@unep.org. The Climate Technology Centre reviews applications based on applicants’ experience in climate technology policy, capacity building, knowledge sharing and/or implementation. Network membership is free.
The Network in Numbers
Period: January 2014 - August 2015

FIGURE
Network members by type of institution

18 Private sector organization
16 Research and academic institution
15 Non-governmental organization
7 Partnership/initiative
6 Public sector organization
5 Not for profit organization
5 Intergovernmental organization
1 Regional organization

TOTAL NETWORK MEMBERS
73

FIGURE
Adaptation vs. Mitigation Expertise

Mitigation 69
Adaptation 41
Cross-cutting 11

DATA
Network members based in Annex I vs. Non-Annex I countries

Annex I 35
Non-Annex I 29
International 9
### Chart: Sectoral expertise within adaptation

<table>
<thead>
<tr>
<th>Area</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early warning/Disaster reduction</td>
<td>5</td>
</tr>
<tr>
<td>Agriculture/Fisheries</td>
<td>5</td>
</tr>
<tr>
<td>Forestry</td>
<td>17</td>
</tr>
<tr>
<td>Water resources</td>
<td>9</td>
</tr>
<tr>
<td>Coastal zones/Oceans</td>
<td>17</td>
</tr>
<tr>
<td>Terrestrial ecosystems</td>
<td>15</td>
</tr>
<tr>
<td>Human health</td>
<td>21</td>
</tr>
<tr>
<td>Infrastructure/Human settlement</td>
<td>22</td>
</tr>
<tr>
<td>Tourism</td>
<td>11</td>
</tr>
<tr>
<td>Businesses</td>
<td>24</td>
</tr>
<tr>
<td>Education</td>
<td>11</td>
</tr>
<tr>
<td>Terrestrial ecosystems</td>
<td>27</td>
</tr>
</tbody>
</table>

### Chart: Sectoral expertise within mitigation

<table>
<thead>
<tr>
<th>Area</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>30</td>
</tr>
<tr>
<td>Transport</td>
<td>57</td>
</tr>
<tr>
<td>Industry</td>
<td>23</td>
</tr>
<tr>
<td>Agriculture</td>
<td>24</td>
</tr>
<tr>
<td>Forestry</td>
<td>30</td>
</tr>
<tr>
<td>Waste</td>
<td>21</td>
</tr>
<tr>
<td>Tourism</td>
<td>9</td>
</tr>
<tr>
<td>Infrastructure/Human settlement</td>
<td>24</td>
</tr>
<tr>
<td>Businesses</td>
<td>26</td>
</tr>
<tr>
<td>Education</td>
<td>5</td>
</tr>
<tr>
<td>Terrestrial ecosystems</td>
<td>25</td>
</tr>
</tbody>
</table>

### Chart: Network distributed by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>9</td>
</tr>
<tr>
<td>Africa</td>
<td>24</td>
</tr>
<tr>
<td>Americas</td>
<td>26</td>
</tr>
<tr>
<td>Asia</td>
<td>24</td>
</tr>
<tr>
<td>Europe</td>
<td>9</td>
</tr>
<tr>
<td>Oceania</td>
<td>6</td>
</tr>
</tbody>
</table>

### Data: Type of service provided by Network members

<table>
<thead>
<tr>
<th>Service</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology development and transfer</td>
<td>49</td>
</tr>
<tr>
<td>Collaboration in innovation</td>
<td>24</td>
</tr>
<tr>
<td>Investments</td>
<td>14</td>
</tr>
<tr>
<td>Capacity building</td>
<td>62</td>
</tr>
<tr>
<td>Knowledge sharing</td>
<td>62</td>
</tr>
<tr>
<td>Policy and planning</td>
<td>58</td>
</tr>
</tbody>
</table>
“The method of having so many exercises is very efficient. It enables us to learn all practical steps we will need to fulfil our role.”

Participant, CTCN Forum in Eastern Europe / Middle East
The CTCN works to enhance human and institutional capacity on climate technologies for adaptation and mitigation through in-person regional trainings and networking events, webinars, and support to NDEs and other key stakeholders from Least Developed Countries in meeting priority technology needs, in addition to the capacity building activities conducted in response to technical assistance requests.

The CTCN Knowledge Portal:
The CTCN Knowledge Portal was launched in December 2014 with the aim to facilitate knowledge sharing by:
• Serving as a gateway to the CTCN’s technical assistance and capacity building services;
• Providing transparent information on current CTCN activities and results;
• Creating a technology “library of libraries”, highlighting the most relevant technology information, case studies and publications from knowledge partners around the world.

Knowledge Portal Users and Traffic: Since December 2014, users from 200 different countries (including 155 developing country and island states) have visited the CTCN Knowledge Portal. In recent months, the CTCN Knowledge Portal has averaged 1000 visits per day, or 30,000 visits per month.

Supporting CTCN operations: The intranet, or internal side, of the Knowledge Portal supports CTCN operations including technical assistance and Network management, as well as monitoring and evaluation functionality.

Technical assistance management: The CTCN intranet supports the management and tracking of the technical assistance process, enabling CTCN staff to process requests, monitor progress, and initiate/receive relevant action alerts. An online monitoring system captures this technical assistance information (including country, sector, Response Expert Team, etc.), enabling enhanced monitoring and evaluation functionality, including generation of automatic and up to date visualizations (i.e. graphs and charts).

Matchmaking Assistant: An online matchmaking assistant has also been designed for the KMS. This tool analyses NDE requests and ranks organisations, from both the Consortium and Network, according to their relevant sectoral and geographic experience. The information generated aids the Climate Technology Managers in identifying the best Response Expert Team candidates.

“CTCN has endeavoured to better understand how the technologies and policies at the core of their mission can be communicated so that information seekers get the optimal benefit. CTCN is using new and innovative tools to improve knowledge-sharing and inform the global discussion about the best options to tackle climate change.”

Martin Hiller,
Director General, REEEP

Visitors to ctc-n.org can:
- Search information on technologies and related policies from a broad range of adaptation and mitigation sectors, with country, region or global focus
- Read about countries’ technical assistance requests, and how CTCN is responding to their needs
- Learn how to contact their country’s National Designated Entity in order to convey a technical assistance request
- Engage with experts from around the world through Technology Webinars
In 2015, the CTCN launched a series of webinars to provide easy access to technology experts and practical information on technology deployment, policy and regulatory frameworks. Designed and conducted by CTCN Consortium Partners and Network members according to their areas of expertise, each webinar focuses on a particular adaptation or mitigation sector and their relevant climate technologies. Webinars present technology opportunities and barriers, alongside concrete implementation examples and policy/regulatory improvements that can be replicated in other regions. Webinar participants also have the opportunity to engage experts online after each presentation.

Webinars are available for viewing on the CTCN Knowledge Platform.

Organiser:
Regional Gateway for Technology Transfer and Climate Change Action in Latin America and the Caribbean
Date and time:
Friday 27 February 2015 - 10:30am PET
Link:
www.ctc-n.org/calendar/webinars/sustainable-agriculture-adapted-climate-andes

19 WEBINARS

1,430

Webinars found at:
www.ctc-n.org/capacity-building/ctcn-webinars
CTCN Knowledge Portal Statistics

Knowledge Portal visits by gender
- Women: 47.65%
- Men: 52.35%

Average monthly visits to CTCN Knowledge Portal
- December 2014 – February 2015: 1,281
- March-May 2015: 8,915
- June-August 2015: 34,206

Overview
- Pageviews (per month)
- Users
As part of its mandate to facilitate knowledge-sharing, the CTCN actively engages with the Climate Knowledge Brokers (CKB), an emerging alliance of 150 leading global, regional and national knowledge brokers specialising in climate change and development information. By design, CKB cuts across different sub-sectors within the climate sphere: adaptation, mitigation, climate finance, energy, agriculture and broader climate-compatible development issues in order to encourage productive links between these different fields of activity.

Climate Knowledge Brokers Workshop
Through its Climate Knowledge Broker Workshops, the CKB offers peer-learning and networking opportunities. The Knowledge Broker Clinics, a regular feature of CKB Workshops, have provided CTCN an opportunity to both receive invaluable input regarding the development of its Knowledge Portal as a “clinic patient” and to impart perspectives from its own experience to other colleagues/patients.

The CTCN hosted the 2015 Climate Knowledge Brokers Workshop in Copenhagen, bringing together 60 participants from around the world. A live-stream panel discussion also increased awareness of the CKB and its activities. The Workshop was jointly organised the Renewable Energy and Energy Efficiency Partnership (REEEP) and the Climate and Development Knowledge Network (CDKN) - active CTCN Network members. Workshop discussions aimed to facilitate collaboration on information sharing, the development of shared tools, and support of open knowledge standards.

Developing common tools: The Climate Tagger
As part of its engagement with the CKB, the CTCN contributed to the development of the Climate Tagger, a suite of tools to help knowledge-driven organizations in the climate and development arenas streamline and catalogue their data and information resources, and connect them to the wider climate knowledge community. Climate Tagger works by applying automated tagging to database, website or online library content in English, French, German, Portuguese or Spanish. The result is a streamlined knowledge system, with key concepts connected to definitions and taxonomies created and vetted by experts and linked to related content within and beyond the system at hand. Climate Tagger is a free tool available to the public, and one that the CTCN utilized in establishing its own Knowledge Portal, www.ctc-n.org. For more information about utilizing Climate Tagger, please visit www.climatetagger.net

CTCN encourages organizations engaged in sharing climate change and development knowledge to join the Climate Knowledge Brokers. For more information, please visit: > www.climateknowledgebrokers.net
CTCN Regional Forums bring together National Designated Entities (NDEs) along with relevant regional and global institutions to strengthen emerging regional networks of NDEs. Forum participants engage in:

- Training (accessing CTCN services, gender mainstreaming, stakeholder outreach)
- Sharing best practices
- Identifying areas for further CTCN support
- Exchange with Network members and other CTCN partners

2014

Newly nominated NDEs were trained on CTCN services, NDE roles and responsibilities, and the technical request-response process. Forums also offered the opportunity for NDEs to share their experiences in setting up national processes for prioritizing technology needs and best practices in utilizing CTCN technical assistance. Linkages between the CTCN and the Technology Needs Assessment processes undertaken by countries were also addressed.

2015

Regional Forums have been designed to support NDEs in identifying and accessing funding for follow-up activities post-CTCN technical assistance or for other climate technology development and transfer. Representatives from sub-regional, regional and multilateral development banks, the Green Climate Fund and other financial mechanisms relevant for climate technologies participated in the forums. The 2015 Forums also provided an opportunity to meet with Network members from the region and abroad.
Engaging with Network Members

NDEs also had the opportunity to interact with Network members and other key stakeholders in order to explore collaboration activities that could complement support provided by the CTCN in their countries.

Dedicated sessions on private sector engagement were organized and led by DNV GL with the dual objective of sharing countries’ experiences in engaging the private sector, and raising awareness of the Climate Technology Network among private sector representatives.

“This workshop opened my eyes about the importance of stakeholder engagement.”

Participant from CTCN Eastern Europe & Middle East Forum

Table and map of NDE events

### 2014 NDE Forums

<table>
<thead>
<tr>
<th>Region</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>Cha Am, Thailand</td>
</tr>
<tr>
<td>Anglophone Africa</td>
<td>Nairobi, Kenya</td>
</tr>
<tr>
<td>Latin America &amp; the Caribbean</td>
<td>Lima, Peru</td>
</tr>
<tr>
<td>Francophone Africa</td>
<td>Abidjan, Cote d’Ivoire</td>
</tr>
<tr>
<td>Eastern Europe &amp; Middle East</td>
<td>Vienna, Austria</td>
</tr>
<tr>
<td>Small Island Developing States (SIDS) of the Pacific</td>
<td>Apia, Samoa</td>
</tr>
<tr>
<td>SIDS of the Caribbean, Atlantic, Indian Ocean &amp; South China Sea</td>
<td>Bridgetown, Barbados</td>
</tr>
</tbody>
</table>

### 2015 NDE Forums (through August 2015)

<table>
<thead>
<tr>
<th>Region</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>Bangkok, Thailand</td>
</tr>
<tr>
<td>Anglophone Africa</td>
<td>Arusha, Tanzania</td>
</tr>
<tr>
<td>Francophone Africa</td>
<td>Saly, Senegal</td>
</tr>
</tbody>
</table>
The Incubator Programme is designed to help Least Developed Countries (LDCs) best benefit from CTCN technical assistance by providing tailored support in identifying technology priorities and developing technical assistance requests within the context of existing national strategies in order to catalyse actions on climate technologies.

The Programme assists LDCs in reinforcing national technology transfer efforts by:
• Identifying priority technology requests that can be conveyed to the CTCN; and
• Strengthening institutional capacities.

The Incubator Programme includes eight modules
Module 1: Definition of work plan
Module 2: Review of in-country projects and efforts
Module 3: Analysis of national policies
Module 4: Mapping of stakeholders
Module 5: Outreach to decision-makers
Module 6: Organisation of national consultations
Module 7: Identification of and access to funding and complementary programs
Module 8: Monitoring and evaluation

The Incubator Programme follows the CTCN country-driven approach in that participation is voluntary and interested NDEs select the capacity building modules which are of most relevance to their country. The Programme is implemented by CTCN regional Consortium Partners AIT, CSIR, ENDA, and TERI, who provide guidance to NDE teams through both in-country and remote support.

Expected Results for participating countries:
• Better understanding of national policy contexts and priority sectors
• Mapping of existing efforts and stakeholders related to climate technologies at the national level
• A technical assistance request to the CTCN, developed in consultation with relevant actors, in line with national priorities
• Strengthened capacities to identify and access funding mechanisms for financing follow-up actions to CTCN technical assistance
• Acquired skills to measure the country’s progress and demonstrate concrete achievements on climate technology transfer

“I learned a lot about the mechanisms of adaptation and mitigation under the UNFCCC.”

Participant from Francophone Africa

13 LDCs have formally applied to the Incubator Programme.

Implementation has started in 11 countries.

1. Bangladesh
2. Benin
3. Central African Republic
4. Equatorial Guinea
5. Gambia
6. Guinea
7. Malawi
8. Mali
9. Nepal
10. Rwanda
11. Senegal
12. Tanzania
13. Uganda
“It was the best training I participated in, during my 30 years of my professional life.”

CTCN Forum Participant from Asia
CTCN Financial Overview

Period: 2013-2015
All figures are in US Dollars

**TABLE 1**
CTCN Voluntary Contributions by Donor – as on 30 September 2015

<table>
<thead>
<tr>
<th>Donor</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>8,499,850</td>
</tr>
<tr>
<td>European Union</td>
<td>6,784,261</td>
</tr>
<tr>
<td>Denmark</td>
<td>5,361,461</td>
</tr>
<tr>
<td>Canada</td>
<td>2,451,461</td>
</tr>
<tr>
<td>United States of America</td>
<td>2,092,000</td>
</tr>
<tr>
<td>Japan</td>
<td>1,856,708</td>
</tr>
<tr>
<td>Germany</td>
<td>586,207</td>
</tr>
<tr>
<td>Switzerland</td>
<td>216,640</td>
</tr>
<tr>
<td>Ireland</td>
<td>117,647</td>
</tr>
<tr>
<td>Global Environment Facility</td>
<td>1,800,000</td>
</tr>
</tbody>
</table>

**Total** 30,166,235

Notes:
1. Figures include USD 27.4 million received through the United Nations Environment Programme (UNEP), USD 2.2 million through the United Nations Industrial Development Organization (UNIDO) and USD 0.54 through the CTCN Consortium Partner, National Renewable Energy Laboratory (NREL).
2. Figures do not include cash and in-kind contributions from the CTCN Consortium.

**TABLE 2**
CTCN Expenditure by Year
2013-2015 projected expenditure: USD 18.9 million

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2%</td>
</tr>
<tr>
<td>2014</td>
<td>36%</td>
</tr>
<tr>
<td>2015</td>
<td>62%</td>
</tr>
</tbody>
</table>

Note:
1. Expenditure include obligations, direct cost, indirect cost as well as projections up to December 2015

**TABLE 3**
CTCN Expenditure by Service Area

- 16% CTCN Operations
- 17% Knowledge Management, peer learning and capacity building
- 52% Technical assistance in response to country requests
- 15% Outreach, networking and private sector engagement

Notes:
1. Figures are net of Programme Support Cost (indirect cost)
2. The indicative distribution of 2015 expenditure by service areas includes obligations, direct cost and projections up to December 2015
CTCN promotes environmentally sound practices globally and in its own activities. This report is printed on paper from sustainable forest including recycled fibre. The paper is chlorine-free. Our distribution policy aims to reduce CTCN’s carbon footprint.
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 UNFCCC Technology Mechanism.