



# CTCN

CLIMATE TECHNOLOGY CENTRE & NETWORK  
UNFCCC Technology Mechanism

## Addressing Climate Technology from Global to Regional Perspective: the CTCN

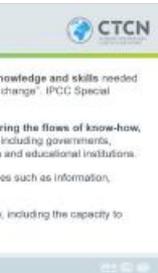
Green Technology Investments and Access to Sustainable  
Financing in the Arab Region

4-6 March 2019, Beirut, Lebanon



# What do we mean by climate technology?

Technology includes “**any equipment, techniques, practical knowledge and skills** needed for reducing greenhouse gas emissions and adapting to climate change”. IPCC Special Report on Technology Transfer



Technology transfer includes **the broad set of processes covering the flows of know-how, experience and equipment amongst different stakeholders**, including governments, private sector entities, financial institutions, NGOs, and research and educational institutions.

includes ‘hard’ technologies such as equipment, and ‘soft’ ones such as information, research and training

- Comprises to understand, utilize and replicate the technology, including the capacity to choose it and adapt it to local conditions

# Barriers to large-scale technology deployment

However, there is a large number of barriers hampering the deployment and transfer of climate technologies in developing countries.

Technological	Financial	Institutional
<ul style="list-style-type: none"><li>• Limited capacity to assess, adopt, adapt and absorb technological options</li><li>• Lack of knowledge of technology operation and management</li><li>• Lack of skilled personnel/training facilities</li><li>• Lack of standard and codes and certification</li></ul>	<ul style="list-style-type: none"><li>• Lack of access to financing</li><li>• Potential lack of commercial viability</li><li>• Lack of financial institutions to support climate technologies</li><li>• Lack of instruments (incentive, risk mitigation mechanisms)</li></ul>	<ul style="list-style-type: none"><li>• Uncertain governmental policies</li><li>• Lack of infrastructure</li><li>• Lack of information and awareness</li><li>• Lack of consumer acceptance</li></ul>

# Enablers to technological barriers

Barriers	Enablers
<ul style="list-style-type: none"><li>• Limited capacity to assess, adopt, adapt and absorb technological options</li><li>• Lack of knowledge of technology operation and management</li><li>• Lack of skilled personnel/training facilities</li><li>• Lack of standard and codes and certification</li></ul>	<ul style="list-style-type: none"><li>• Publicly funded R&amp;D and training programmes</li><li>• Support for testing and demonstration</li><li>• Technical standards, certification, and codes</li><li>• Promotion of industry associations, networks, and alliances</li><li>• Sharing of best practices from early adopters and technology front runners</li><li>• Property rights regimes policies</li></ul>

## Examples of enablers in countries:

Bosnia: technical feasibility of modernizing and rehabilitating the district heating system of a major city

Iran: support to national manufacturing of photovoltaic solar cells – through technology selection, testing, etc.



# Enablers to financial barriers

Barriers	Enablers
<ul style="list-style-type: none"><li>• Lack of access to financing</li><li>• Potential lack of commercial viability</li><li>• Lack of financial institutions to support climate technologies</li><li>• Lack of instruments (incentives, risk mitigation mechanisms...)</li></ul>	<ul style="list-style-type: none"><li>• Trade policies and laws</li><li>• Tax, subsidies, and tariff regime policies</li><li>• Regulation of financial sector institutions</li><li>• Public investment policies</li><li>• Commercial law and practices</li><li>• Information sharing on opportunities to access financing</li><li>• Support to develop financial proposals</li></ul>

## Examples of enablers in countries:

Mali: support SMEs to build sound solar technology project (for storing and drying crops) to convince investors (business plan, cash flow model, etc.)

Antigua and Barbuda: establishment of national financing mechanism for climate change and energy



# Enablers to institutional barriers

Barriers	Enablers
<ul style="list-style-type: none"><li>• Uncertain governmental policies</li><li>• Lack of infrastructure</li><li>• Lack of information and awareness</li><li>• Lack of consumer acceptance</li></ul>	<ul style="list-style-type: none"><li>• Capability building programmes of governmental agencies and institutions</li><li>• Initiatives to efficiency in government procedures and processes</li><li>• Information dissemination, outreach and awareness-raising campaigns</li><li>• Promotion of public–private partnerships</li></ul>

## Examples of enablers in countries:

Albania: Development of first local-level plan for energy efficiency + training of local institutions

Uganda: Develop geothermal policy and regulations that create favourable environment for investment in geothermal power generation and creation of public private partnership



# The CTCN: Addressing technology barriers globally



- The Climate Technology Centre and Network (CTCN) is mandated by the COP and Paris agreement to support countries in removing these technology barriers
- The CTCN supports with setting-up country-specific conditions conducive to promoting and facilitating the transfer and diffusion of technologies, including:
  - ✓ National macroeconomic conditions
  - ✓ Human, organisational, and institutional capacity
  - ✓ Research and technological capacity

# CTCN Mission

---

Mobilizing global expertise to encourage innovation and deliver tailored solutions to institutions in developing countries, to leverage financing and technologies to achieve countries' climate goals



# Our Core Sectors of Action



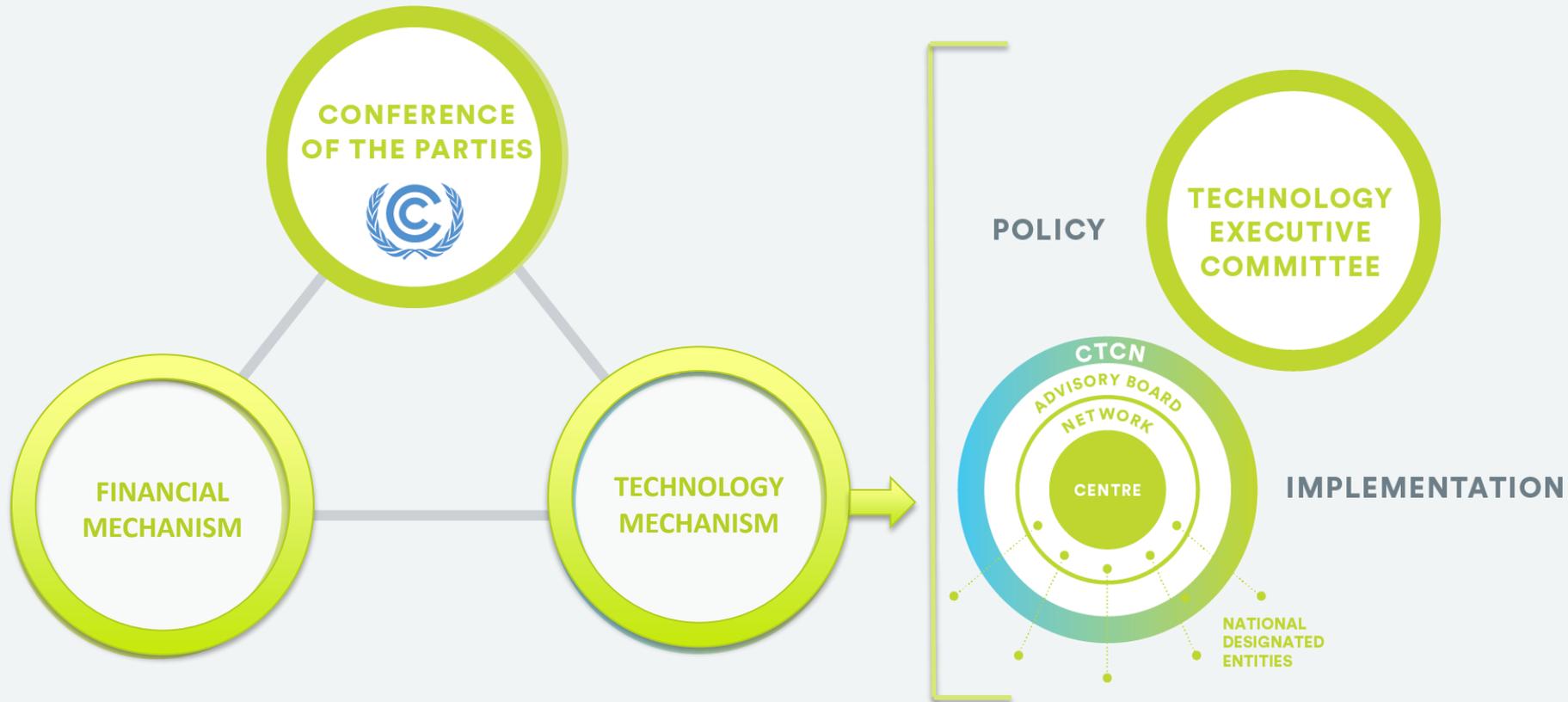
## ↓ MITIGATION

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

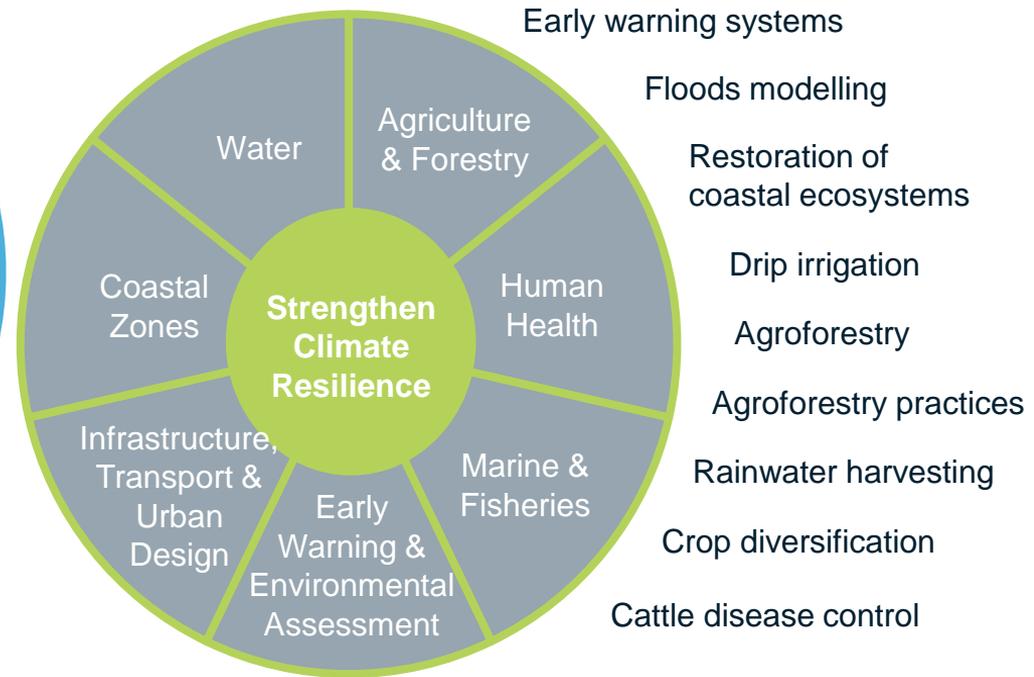
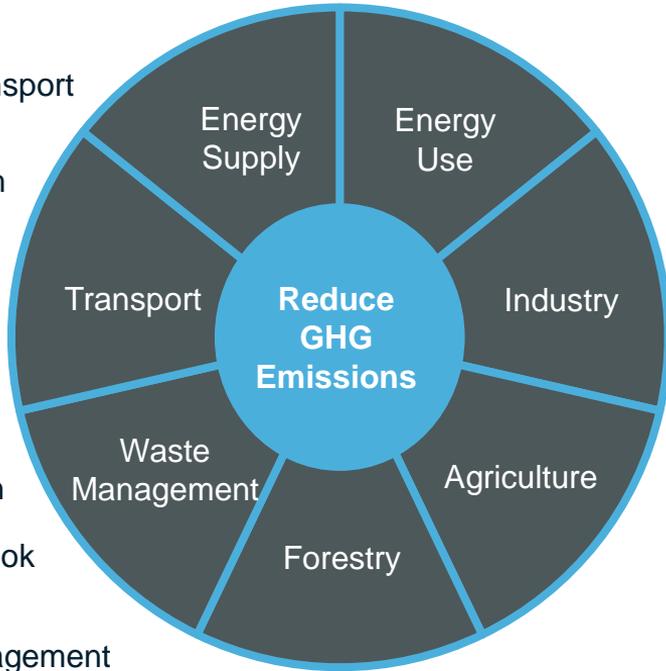
## ↻ ADAPTATION

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

# The CTCN, Anchored in the Climate Convention



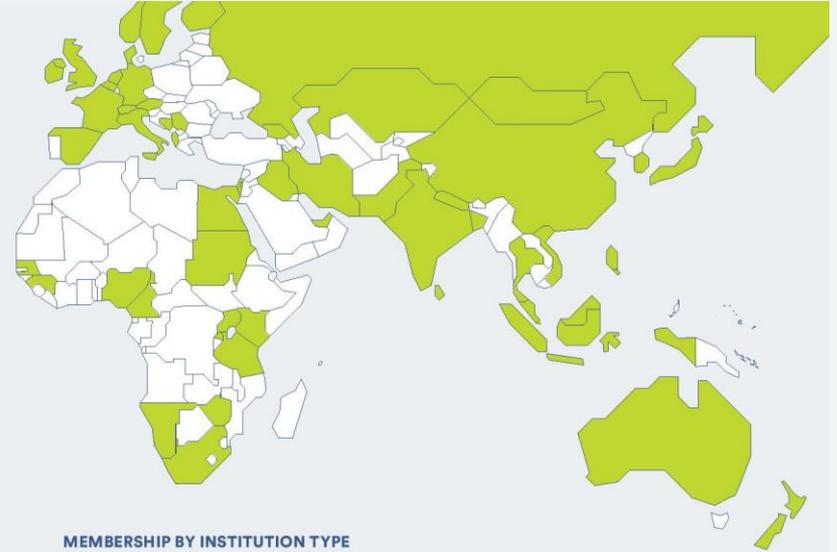
# What do we mean by climate technology?



# Our Network

CTCN focal points  
in **160** countries

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



## MEMBERSHIP BY INSTITUTION TYPE



**43,5 %**  
Private Sector  
Organization



**23 %**  
Research/Academic  
Institution



**20,8 %**  
Non-Profit/NGO



**7,6 %**  
Public Sector Organization



**2,6 %**  
Intergovernmental/  
Regional Organization



**1,9 %**  
Partnership/Initiative



**0,9 %**  
Financial Institution

# CTCN Technical Assistance

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

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



- ✓ **Fast Technical Assistance:** international expert advice (remotely or through short mission in country)
- ✓ **Technical Assistance:** 6 months to a year, from Consortium and network members, assistance worth max USD 250,000
- ✓ **Technical Assistance through GCF Readiness:** Support to the country to access GCF readiness funds (Max \$1M/country/year.)

# Technical Assistance: How it Works



- The CTCN identify the right expert organizations in its network, depending on the needs and technology barrier identified
- Support span the technology cycle (research, identification, piloting, feasibility or financing of technology)
- Any organization from developing countries can express need (ministry, city, private company, research organization, etc.)
- Request must be in line with national priorities and signed by official focal point of the CTCN – the National Designated Entity
- Design of assistance together with the applicant organization, can be done in a few months
- Possibility of multi-country request for common needs or transboundary issues.

## Opportunities to define and extend priority adaptation and mitigation technologies

Priority Adaptation Actions	Priority Mitigation Actions
<ul style="list-style-type: none"><li>• <b>Agro-meteorological forecasting systems for farmers and local decision-makers</b></li><li>• <b>Small scale water delivery technologies for irrigation and domestic use</b></li><li>• <b>Urban adaptation planning tools</b></li><li>• <b>Hydro-dynamic modelling merging user need projections</b></li><li>• <b>Data systems development in support of integrated coastal zone management for adaptation measures</b></li><li>• <b>Monitoring systems and indicators for adaptation planning (local and national)</b></li><li>• <b>GIS-based tools for water management</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Minimum performance standards and market creation/enhancement for appliances</b></li><li>• <b>Industrial energy efficiency</b></li><li>• <b>Electric grid stability and renewable energy penetration</b></li><li>• <b>Policies, master-plans and market assessments for renewable energy and energy efficiency</b></li><li>• <b>Building codes and planning for sustainable cities</b></li><li>• <b>Waste-to-energy solutions in both agriculture and communities</b></li><li>• <b>Low-carbon mobility</b></li><li>• <b>Gender mainstreaming in energy access</b></li><li>• <b>Circular economy: waste and industrial symbiosis</b></li></ul>

# COP 24 produced 5 principal decisions for CTCN:

1. Independent review
2. Strengthening the Technology Mechanism
3. Linkages with the Financial Mechanism
4. Terms of reference for the Periodic Assessment of the Technology Mechanism
5. Technology Framework of the Paris Agreement

# 1. Independent review

*The independent review of the CTCN was undertaken in 2017 and contains recommendations for CTCN, its hosts and partners. UN Environment as host of CTCN responded to COP in June, COP decision reached in December 2018.*

- Invites countries and the CTCN to to **enhance the provision of support for strengthening the capacity of NDEs**
- Notes with appreciation the actions to respond to the recommendations of the independent review, and **invites the GEF and GCF to consider relevant recommendations** in implementing their work with the CTCN
- Requests the CTCN to continue to **implement and report** on steps to address recommendations

## 2. Strengthening the Technology Mechanism

*This is the principal decision that provides guidance to the TM at COP every year.*

- Encourages the two bodies of the Technology Mechanism (**TEC and CTCN**) to enhance their **collaboration**
- Encourages continued work with the **TEC and GCF on collaborative RD&D**, and with the **GCF** under the **Readiness Programme** and the **Project Preparation Facility**
- Welcomes information on the **impacts of CTCN activities**
- Encourages additional CTCN work on the basis of **Technology Needs Assessments**

### 3. Linkages with the Financial Mechanism

*This item has been convened each of the past two years to strengthen cooperation between the Financial (GCF/GEF) and Technology (TEC/CTCN) Mechanisms of the UNFCCC*

- **Countries** are invited to seek CTCN support to develop and submit technology-related projects to the Financial Mechanism
- Encourages the CTCN to engage with the GCF/GEF to identify ways to **enhance information-sharing** among country focal points

## 4. Terms of reference for the Periodic Assessment of the Technology Mechanism

*The COP will undertake a periodic assessment of the effectiveness of and support provided to the Technology Mechanism in 2021. The terms of this assessment were decided at COP24, and are interesting because they explain how the success of the CTCN will be measured.*

- The “scope” of the decision discusses how the effectiveness of the Technology Mechanism will be measured, e.g. how well did the TEC/CTCN facilitate the transformational impact envisioned by the Paris Agreement?
- It also defines the range of factors that will determine the adequacy of support
- The “modalities” explain the process, sources of information, frequency, and output of the assessment

## 5. Technology Framework of the Paris Agreement

*The Paris Agreement (2015) called for the creation of a technology framework to guide the activities of the Technology Mechanism. The framework was decided along five principles and key themes; these themes are guiding the new CTCN Programme of Work for 2019-2022.*

- The 5 themes of the technology framework are: **Innovation; Implementation; Enabling environment and Capacity building; Collaboration and Stakeholder Engagement; and Support**
- Each of these themes identify activities and actions that should be undertaken by the Technology Mechanism
- The CTCN and TEC will meet at the end of March 2019 to discuss the framework in the context of their respective multi-year workplans

# OUR DONORS

## Our donors



Norwegian Ministry  
of Foreign Affairs

UDENRIGSMINISTERIET  
**DANIDA**



International Development  
Cooperation Agency  
Foreign Affairs  
Bilateral Cooperation  
Bilateral Development Cooperation  
Ministry of Foreign Affairs  
Bilateral Cooperation  
Bilateral Development Cooperation

Canada

Supported by:  
Federal Ministry  
for Economic Affairs  
and Energy  
on the basis of a decision  
by the German Bundestag





# CTCN

CLIMATE TECHNOLOGY CENTRE & NETWORK  
UNFCCC Technology Mechanism

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



UNFCCC\_CTCN



UNFCCC.CTCN



Norwegian Ministry  
of Foreign Affairs



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Supported by:



Swiss Confederation

Federal Department of Economic Affairs,  
Education and Research EAER  
State Secretariat for Economic Affairs SECO