

# Collaborative Research, Development and Demonstration Activities

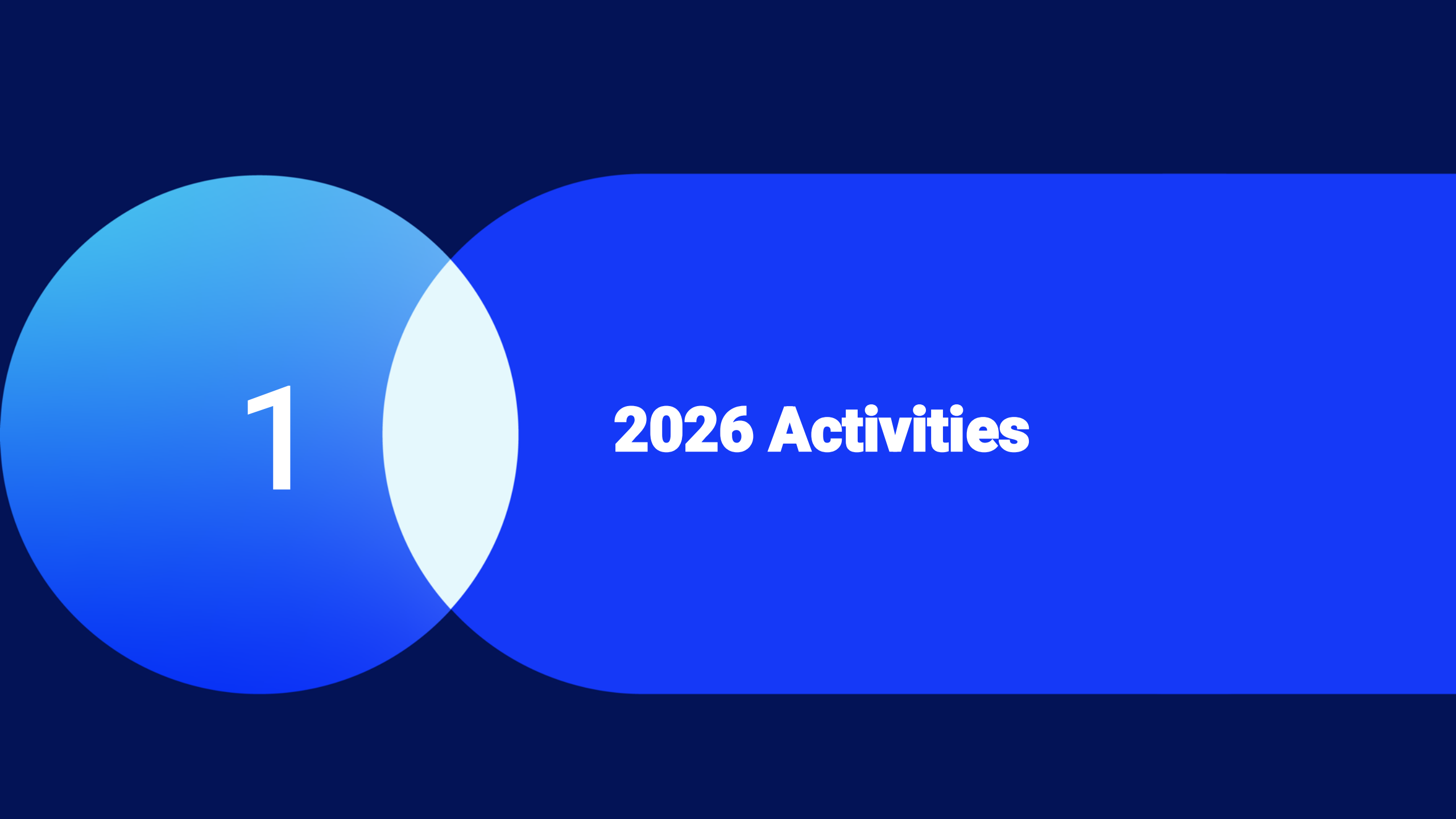
28<sup>th</sup> Advisory Board Meeting

CTCN Secretariat

Agenda Item 26

23 September 2026





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**2026 Activities**

## **Collaborative RD&D:**

*Necessity to champion Network members for their direct connection with countries;*

- 1) Call to host cRD&D activities among national agencies with capacity
- 2) Support Expert-Expert and/or Institution-Institution level arrangement (e.g., MOU, exchange of letter for co-development of a research topic matched)
- 3) Support active Network members (e.g. Letter of support/partnership for co-resource mobilization)



# Global Learning Visit on Green Hydrogen Production and Fuel Cell

**14-16 July 2026, Seoul and Daejeon, Republic of Korea**

**Ten participants:** Indonesia (AP), Egypt, Kenya, Namibia and South Africa (Africa), Brazil, Chile, and Paraguay (LAC)

**Partners:** KIST (Science and Technology), KRICT (Chemical Research) and KIER (Energy Research)

**Outputs:** submission of six concept notes for CTCN TA request proposals (Indonesia, Egypt, Namibia, South Africa, Brazil, and Chile)

- Expected actions: submission of TA request proposals by NDEs



**Event information**



# Global Energy Storage Workshop and Learning Visit

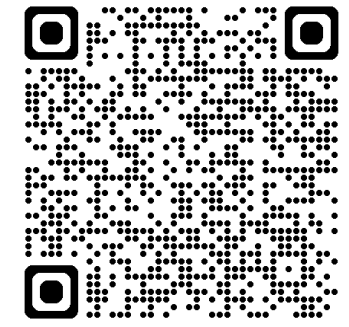
**1-4 September 2026, Jeju, Republic of Korea**

**Participants:** 23 NDEs and energy experts from 12 countries, Kyrgyzstan (Asia), Chad, Cote d'Ivoire, Gambia, Lesotho, Liberia, Somalia, Tanzania (Africa), Fiji, Haiti, Papua New Guinea, St Kitts and Nevis (SIDS)

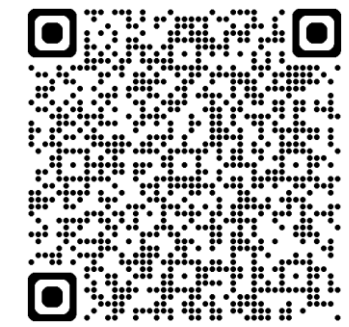
**Co-hosts:** KIER Jeju Global Research Centre and UNITAR CIFAL (Jeju International Training Centre)

## Outputs:

- Recording presentation by Climate Future Architects for TEC on Draft Policy Brief on ES
- Preparation of key components of CTCN TA request proposals
  - Expected actions: submission of TA request proposals by NDEs



Event information



News on homepage

# Facilitating ideation of demand-driven and scalable cRD&D project

CTC Network member with high capacity and UN-agency specialized on training

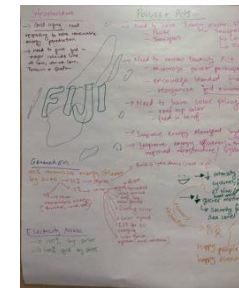
## Day 1 NSI and Country Status

Example of NSI and country status on energy policies, projects shared among NDEs and experts



## Day 3 Public financing

GCF presentation on USP2 and financing architecture. Ideation of climate-narrative-led energy (ESS) project facilitated.



## Follow up

Expect to receive locally-led ESS/energy TA project proposals with cRD&D activities (knowledge exchange) included.



## Day 2 Technology

Deep dive into blue battery and microgrid building blocks (MBB) accompanied with two field visits: BESS and Carbon Free Island centre



## Day 4 Private and philanthropic financing

Innovation funds and facilities and related grading system covered. University-led technology incubation programme introduced.

Field visit to local heritage to remind locally-led policy, technology, and financing.

Maturation of project ideas with angle of **measurability, scalability, and additionality** facilitated. 23 certificate of completion issued.



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## **Piloting cRD&D TA Projects**

# Collaborative RD&D: Technical Assistance Projects

## 1. CTCN TA support for pre-feasibility for small-scale demonstration:

### 1-1. Papua New Guinea: Pre-feasibility study on ocean energy focusing on salinity gradient energy technology and electrochemical ocean thermal energy conversion

Implementing partner: Korea Institute of Energy Research (KIER)

Duration: Sep. 2024 – May **2026**

Budget: USD 246,500

**Objective:** to conduct a pre-feasibility study on ocean energy, specifically focusing on **Salinity Gradient Energy Technology and e-OTEC, including Blue Battery (water-based ESS) Technology.**

### Emerging outcomes

- Under the planning stage with the National Institute of Green Technology (NIGT) for the scale-up project grant through ROK MSIT's climate technology demonstration program (CTDP) in 2027 as a potential candidate
- Under consideration for the feasibility study on scale-up (Oct. 2026 – Feb. 2027)



# Collaborative RD&D: Technical Assistance Projects

## 1. CTCN TA support for pre-feasibility for small-scale demonstration:

### 1-2. Uzbekistan: Pre-feasibility study for groundwater desalination and resource recovery in Uzbekistan

Implementing partner: Korea Institute of Industrial Technology (KITECH)

Duration: Sep. 2024 – Nov. 2026

Budget: USD 249,914

**Objective:** Contribute to addressing water scarcity and strengthen Uzbekistan's capacity for efficient resource utilization through the design of a pilot system and feasibility assessment based on groundwater desalination and resource recovery technologies.

#### Progress to date:

- Deliverable 1: Report of applicable desalination and resource recovery technology in Uzbekistan (30 April 2026)
- Second Project Steering Committee (PSC) Meeting in Uzbekistan: 17 June 2026

#### Emerging outcomes

- **The Eurasian Development Bank** showed its interest in scale-up and it is in the communication loop for sharing reports and the update
- Under consideration for the feasibility study on scale-up (Oct. 2026 – Feb. 2027)



Second PSC Meeting

## 2. CTCN TA support for feasibility towards RD&D:

### 2-1. Bangladesh: Feasibility research of **Solar Electric-Based Cold Warehouse equipped with Low-temperature Latent Heat Material for Fruit Storage** in Bangladesh Climate Conditions

|                                                                 |                                        |                     |
|-----------------------------------------------------------------|----------------------------------------|---------------------|
| Implementing partner: Korea Institute of Energy Research (KIER) | Duration: Mar. 2025 – <b>Nov. 2026</b> | Budget: USD 249,584 |
|-----------------------------------------------------------------|----------------------------------------|---------------------|

**Objective:** To introduce Solar Electric-Based Cold Warehouse equipped with Low-temperature Latent Heat Material for Fruit Storage in Bangladesh Climate Conditions.

**Expected outcomes:** Bangladesh has an important need for accessible, affordable, and sustainable refrigerated storage solutions. The introduction of refrigerated storage devices using solar energy is a strategic intervention to address technological, logistical, and environmental challenges facing the agricultural sector, with the potential to significantly reduce post-harvest losses and contribute to the country's broader development goals.

**Emerging outcome:** Under consideration for the feasibility study on scale-up (Oct. 2026 – Feb. 2027)

#### Progress to date

- **Testing and monitoring of the facilities:** From 9 September 2026
- **Gender relevant seminar:** 9 September 2026

## 2. CTCN TA support for feasibility towards RD&D:

### 2-2.Côte d'Ivoire: Development of Sustainable Biochar Production and Application for Climate Mitigation and Adaptation in Côte d'Ivoire

Implementing partner: Korea Institute of Energy Research (KIER) & ENVELOPS

Duration: Dec. 2025 – **Nov. 2027**

Budget: USD 250,000

**Objective:** to support Côte d'Ivoire in establishing a sustainable biochar production system using agricultural residues and to enhance the country's capacity to mitigate and adapt to climate change by reducing deforestation, improving waste management and providing a sustainable energy source.

**Expected outcome:** Strengthened national capacity to develop, operate, and expand sustainable biochar production, thereby promoting the adoption of climate-resilient waste management and agricultural practices. This includes the in-depth training of 2 experts from Côte d'Ivoire in South Korea, as well as the development and deployment of a test-scale biochar reactor in Côte d'Ivoire.

#### Progress

- Internal kick-off meeting held on 14 April 2026
- October 2026: in-depth training of 2 experts from Côte d'Ivoire in South Korea

# Explore the opportunities of scale-up of CTCN Collaborative RD&D TAs through GCF funding modalities, MDBs and other funding organizations, focusing on Collaborative RD&D

## Objective

CTCN PALO will explore the opportunities to scale up three CTCN Collaborative RD&D (CRD&D) TAs in Papua New Guinea (PNG), Bangladesh and Uzbekistan through GCF Funding modalities, MDBs and other Korean funding organizations (overseas demonstration projects by MSIT, KEA, KIAT, KIND, and KOICA).

## Emerging outcomes

- PNG TA
  - ROK MSIT's climate technology demonstration program (CTDP) in 2027 as a potential candidate
  - Under consideration for the feasibility study on scale-up (Oct. 2026 – Feb. 2027)
- Bangladesh TA
  - The implementing partner (KITECH) are communicating with regional private sector and Korean funding organizations for the scale-up of cold value chain business in Bangladesh within 2027.
  - Under consideration for the feasibility study on scale-up (Oct. 2026 – Feb. 2027)
- Uzbekistan TA
  - The interest from Eurasian Development Bank and the communication for sharing reports and the update
  - Under consideration for the feasibility study on scale-up (Oct. 2026 – Feb. 2027)

# 3

## Planning of 2027 Activities

Support CTCN TA request proposals submitted by NDEs based on 2026 Learning visit on green hydrogen production and fuel cell and 2026 Workshop and Learning visit on Energy Storage based on a new MoU that would govern PALO's operations after February 2027.

## Expectations

- (Green hydrogen and fuel cell) cRD&D TA request proposals by NDEs based on six submitted concept notes for CTCN TA request proposals (Indonesia, Egypt, Namibia, South Africa, Brazil, and Chile) from 2026 Learning Visit on Green Hydrogen Production and Fuel Cell and previous Learning Visits in 2024 and 2025.
- (Energy storage) cRD&D TA request proposals submitted by NDEs based on the proposed topics during 2026 Energy storage workshop and learning visit

# Explore the opportunities of scale-up of CTCN Collaborative RD&D TAs through GCF funding modalities, MDBs and other funding organizations, focusing on Collaborative RD&D

## Objective

CTCN PALO will explore the opportunities to scale up three CTCN Collaborative RD&D (CRD&D) TAs in Papua New Guinea (PNG), Bangladesh and Uzbekistan through GCF Funding modalities, MDBs and other Korean funding organizations (overseas demonstration projects by MSIT, KEA, KIAT, KIND, and KOICA).

## Emerging outcomes

- PNG TA
  - ROK MSIT's climate technology demonstration program (CTDP) in 2027 as a potential candidate
  - Scale-up based on the feasibility study on scale-up
- Bangladesh TA
  - Scale-up based on the feasibility study on scale-up
- Uzbekistan TA
  - Scale-up through Eurasian Development Bank
  - Scale-up based on the feasibility study on scale-up

## Supported by:

