

2025 SIDS NDE Joint Programme

Introduction of CTCN CRD&D Strategic
Framework (2025-2030) and cRD&D
activities

PRESENTER

CTCN Secretariat



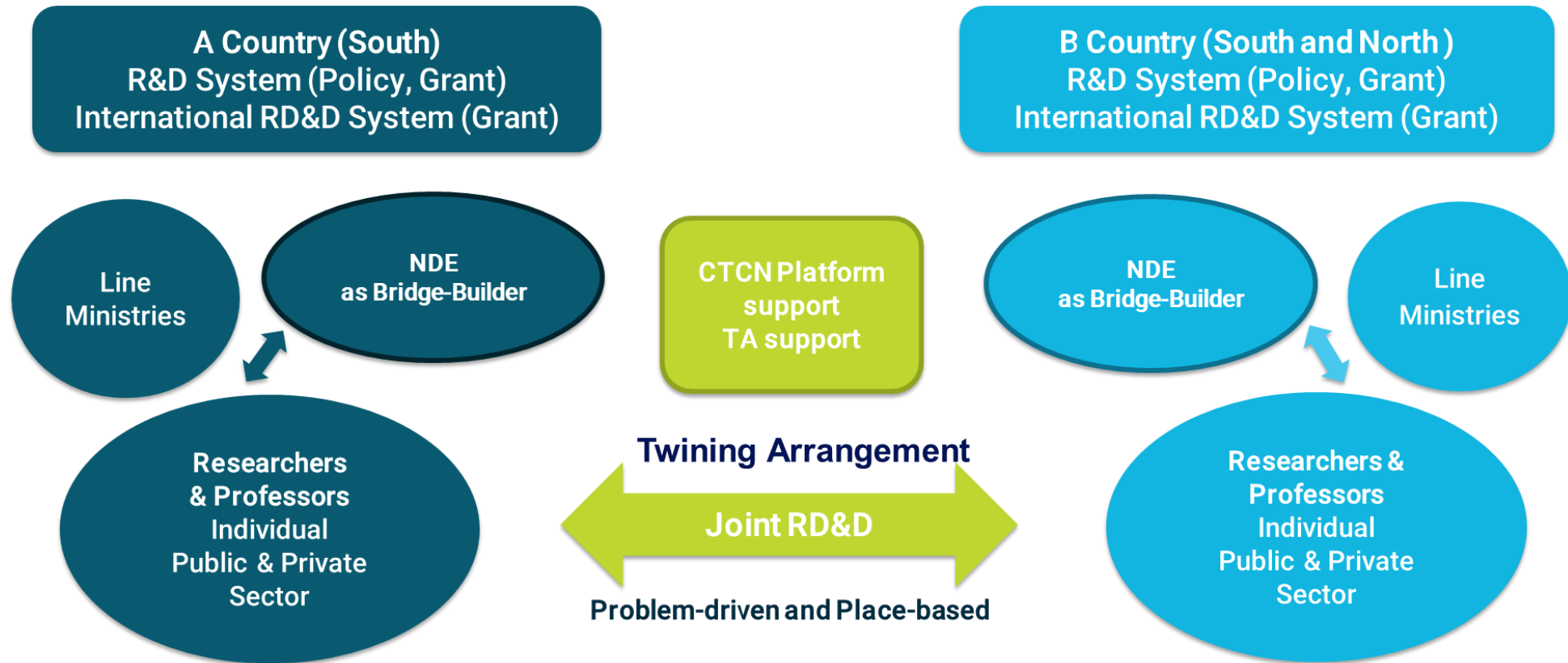
cRD&D Events and Engagements in 2025

Background

- ✓ **CTCN's Mandate on cRD&D:** As the implementation arm of the UNFCCC Technology Mechanism, CTCN promotes climate technology transfer through TA projects, knowledge sharing, and network collaboration.
- ✓ **Paragraph 5, Article 10 of Paris Agreement:** Such effort shall be, as appropriate, supported, including by the Technology Mechanism and, through financial means, by the Financial Mechanism of the Convention, for **collaborative approaches to research and development.**
- ✓ **Innovation under Technology Framework:** 7. Fostering innovation could be done through **new collaborative approaches to climate technology research, development and demonstration (RD&D);**
- ✓ The CTCN Partnership and Liaison Office (PALO) in Songdo serves as a Centre of Excellence for cRD&D.
- ✓ PALO was launched on **21 July 2022**
- ✓ Concept Note on Collaborative RD&D for CTCN PALO in **November 2022**
- ✓ Collaborative RD&D Strategic Framework for CTCN (2025-2030): Proposed and discussed at the 25th CTCN AB meeting in **April 2025**



Concept



2025 January Global NDE Participation Survey

Duration: January 2025

Purpose: Collection of needs for preparation of proposed activities in advance and raising awareness

Scope		
Module 1: Global Thematic Capacity Building Program (climate technology and finance)	Module 2: Network Engagement Programs	Module 3: Collaborative RD&D Programs
<ol style="list-style-type: none"> CTCN-GCF Stakeholder Meeting (i.e. NDEs discuss TAs under pipeline/implementation/near completion with the country NDA) Region-driven climate technology and finance linking meeting (i.e. NDEs discuss TAs with region-specific climate financing entities) FinTech Online Course (i.e. NDEs can either learn about FinTech or nominate colleagues who may need knowledge on FinTech) 	<ol style="list-style-type: none"> Voluntary Technology Talk (i.e. NDEs either attend or nominate a colleague to attend exhibition on climate/env technologies) Co-creating Collective Solutions (i.e. NDEs learn and provide feedback on technology solution showcased by Network members) 	<ol style="list-style-type: none"> Collaborative RD&D workshop (i.e. an introduction to the CRD&D concept and strategy developed by CTCN): October Webinar Collaborative RD&D Bridge-building Workshop on Energy Storage Systems (i.e. NDEs identify national climate experts on ESS). Learning Visit (i.e. NDEs support offering knowledge exchange opportunities to identified national climate experts on Green hydrogen, fuel cell and ESS)



Learning Visit and CRD2B2 Workshop (AP)

Country	Region	6	7	8	Green hydrogen TA
Cambodia	Asia	o	o	o	o
Georgia	Asia				
Indonesia	Asia	o			
Iran	Asia	o	o	o	
Israel	Asia			o	
Jordan	Asia	o			
Kazakhstan	Asia	o	o	o	
Kyrgyz Republic	Asia	o	o	o	
Malaysia	Asia	o	o	o	
Mongolia	Asia	o	o	o	o
Republic of Armenia	Asia	o		o	
Republic of Uzbekistan	Asia			o	
Sri Lanka	Asia	o	o	o	o
State of Palestine	Asia			o	
Syria	Asia	o	o	o	
Tajikistan	Asia	o	o	o	
Thailand	Asia	o		o	o
Vietnam	Asia	o		o	o
Papua New Guinea	SIDS-P	o	o	o	
Timor - Leste	SIDS-P		o	o	
Samoa	SIDS-P	o	o	o	
Palau	SIDS-P			o	
Maldives	SIDS-P	o	o	o	

- ✓ **6 - Collaborative RD&D workshop** (i.e. an introduction to the CRD&D concept and strategy developed by CTCN)
- ✓ **7 - Collaborative RD&D Bridge-building Workshop** on Energy Storage Systems (i.e. NDEs identify national climate experts on ESS).
- ✓ **8 - Learning Visits** (i.e. NDEs support offering knowledge exchange opportunities to identified national climate experts on ESS)
- ✓ **Green hydrogen TA demand** (Bhutan, Fiji, Laos, Maldives, Nepal)



Learning Visit and CRD2B2 Workshop (Africa)

Country	Region	6	7	8	Green hydrogen TA
Algérie	Africa	o	o	o	
Burundi	Africa	o			
Chad	Africa		o		
Congo	Africa	o	o	o	
Côte d'Ivoire	Africa	o	o	o	
Eswatini	Africa	o			
Ethiopia	Africa	o		o	
Gabon	Africa	o		o	
Gambia	Africa	o	o	o	o
Kenya	Africa	o			
Malawi	Africa	o	o	o	
Senegal	Africa	o		o	o
Somalia	Africa			o	
South Africa	Africa			o	
Sudan	Africa		o	o	
Suriname	Africa	o		o	
Tunisie	Africa	o	o	o	
Uganda	Africa	o	o	o	
Zimbabwe	Africa	o	o	o	o

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- ✓ **8 - Learning Visits** (i.e. NDEs support offering knowledge exchange opportunities to identified national climate experts on ESS)
- ✓ **Green hydrogen TA demand** (Benin, Cameroon, DR Congo, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Mauritius, Sao Tome e Principe, Sierra Leon, Togo, Zambia)



Learning Visit and CRD2B2 Workshop (LAC)

Country	Region	6	7	8	Green hydrogen TA
Belize	LA	o		o	o
Grenada	LA	o	o	o	
Panamá	LA	o	o	o	o
Paraguay	LA			o	
República Bolivariana de Venezuela	LA	o			
Saint Kitts and Nevis	SIDS-C		o	o	

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- ✓ **8 - Learning Visits** (i.e. NDEs support offering knowledge exchange opportunities to identified national climate experts on ESS)
- ✓ **Green hydrogen TA demand** (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Mexico, Uruguay)



Learning Visit on Green Hydrogen Production and Fuel Cell

- ✓ **22-24 July 2025** – led by CTCN PALO
- ✓ **5 Participants:** Researchers and government officers (**Belize, Gambia, Maldives, Panama, Zimbabwe**)
- ✓ **Lectures and Facility Visiting:** the Korea Institute of Science and Technology (KIST), Korea Research Institute of Chemical Technology (KRICT), East West Power Co. Ltd (EWP)
- ✓ **Technologies:** Green hydrogen production and fuel cell, hydrogen storage, hydrogen charging, hydrogen town (RE, fuel cell)
- ✓ **Outputs:** Coordination for the preparation of CTCN TA request proposal on green hydrogen in Zimbabwe, R&D collaboration development with The Technological University of Panama (UTP)



cRD&D Bridge-Building (CRD2B2) Workshop

- ✓ **27 – 29 August, Busan, Korea** - led by the CTCN PALO
- ✓ in conjunction with World Climate Technology EXPO 2025 (participated in 2023 and 2024)
- ✓ **6 Participants:** Three NDEs (**Gambia, Tajikistan, Zimbabwe**) and three NDE representatives (**Malaysia, Panama, Timor-Leste**)
- ✓ **Objective:** To foster Global South-South, North-South, and Triangular partnerships on collaborative RD&D
- ✓ **Outputs**
 - Presentation on barriers, enablers and collaboration for the deployment of energy storage system (ESS)
 - Voluntary technology talks with companies and organizations
 - Bilateral meetings with CTCN Network Members
 - Collaboration development with Hyundai Motors CMK Foundation



UNFCCC TM Collaborative RD&D Session on Accelerating the Deployment of Energy Storage

- ✓ **14:00 – 16:10, 29 August 2025 during CRD2B2 Workshop (support from CMKF, NIGT and KIER)**
- ✓ **Opening remarks** Stephen Minas, CTCN AB Chair and Dietram Oppelt, TEC Chair (video)
- ✓ **Presentations by UNFCCC Secretariat** on TEC policy brief on Accelerating the Deployment of Energy Storage to Advance Clean Energy Transitions
- ✓ **Researchers** from Korea Institute of Energy Research (KIER) and National Institute of Green Technology (NIGT)
- ✓ **Collaborative RD&D CTCN TA in Papua New Guinea** (Salt gradient energy and blue battery)
PV-ESS Micro-grid Solutions in Honduras and Microgrid Technology Powered by RE and BESS
- ✓ **Panel discussion:** presenters and NDE of Gambia and NDE representative of Panama
- ✓ **Key message:** To accelerate the R&D and deployment of the energy storage, the integration of policy and regulatory, technical, institutional, and financial enablers including the commitment of government, incentives, stakeholder engagement and business model and international RD&D and deployment collaboration are needed



Piloting cRD&D TA Projects

Pre-feasibility for small-scale demonstration

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 – Dec. 2025
Budget: USD 246,500	Current status: Under implementation
Objective: to conduct a pre-feasibility study on ocean energy, specifically focusing on Salinity Gradient Energy Technology and e-OTEC, including Blue Battery Technology. Outcome: to elevate PNG's technical knowledge and capabilities in these areas, offering vital data to streamline policy and strategic development, thereby facilitating the adoption and expansion of ocean energy projects.	

Uzbekistan: Pre-feasibility study for groundwater desalination and resource recovery in Uzbekistan (IP: Korea Institute of Industrial Technology (KITECH), **contract within 2025**)

Objective: to enable Uzbekistan to **enhance its climate adaptation efforts**, specifically by preparing for pilot-scale processes that can **treat saline groundwater and recover valuable minerals.**



Feasibility for small-scale demonstration

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: KITECH	Duration: Mar. 2025 – Feb. 2026
Budget: USD 250,000	Under implementation
Objective: To introduce Solar Electric-Based Cold Warehouse equipped with Low-temperature Latent Heat Material for Fruit Storage in Bangladesh Climate Conditions. It 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 .	

Côte d'Ivoire: Development of Sustainable Biochar Production and Application for Climate Mitigation and Adaptation in Côte d'Ivoire (IP: KIER, **contract within 2025**)

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**.



cRD&D Strategic Framework for CTCN (2025-2030)

Proposed and discussed at the 25th CTCN AB meeting in April 2025

Background

- **CTCN's Mandate on cRD&D:** As the implementation arm of the UNFCCC Technology Mechanism, CTCN promotes climate technology transfer through TA projects, knowledge sharing, and network collaboration.
- The PALO in Songdo serves as a Centre of Excellence for cRD&D.

Objective and Concept

- **Objective of cRD&D** is to systematically support developing countries in responding to climate change, promote sustainable technology transfer, and contribute in the long term to their NSI and endogenous capacity building.
- **Concept of cRD&D:** “A range of activities related to research, development, and demonstration of climate technologies based on a mutually beneficial collaboration between technology providers and demanders, contributing to the national system of innovation and endogenous capacity building for developing countries.”
- **cRD&D involves** multiple countries or regions jointly conducting or funding RD&D activities spanning the technology life cycle from Research (TRL1) to Demonstration (TRL7)



Proposed activities

1. Joint development of cRD&D projects between recipients and providers

The earliest proposed action in 2026: Establish an opportunity for

pre-discussions (e.g. forum or seminar) and operate the Steering Group)

- Facilitating Information Sharing & Communication
- **Capacity Building & Knowledge-Sharing Events**
- Expanding Stakeholder Participation
- **Online & In-Person Collaboration Platforms**

2. Tailored support strategies aligning with each cRD&D phase

- National Innovativeness, Climate Technology Cooperation Readiness

3. Funding for cRD&D projects

- **Designated funding for cRD&D projects**
- Establishing 'Project Pipelines'

4. Project management

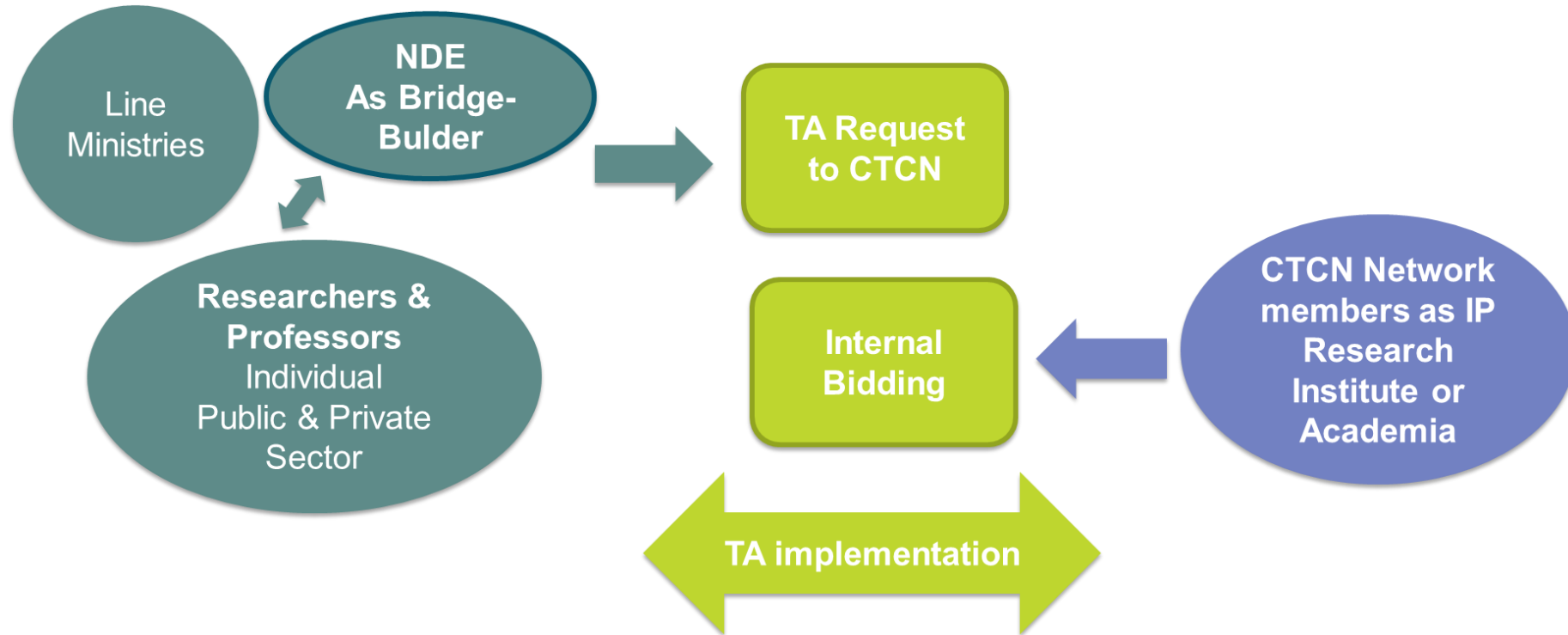
- Establishing a Project Management System for cRD&D
- Identify success factors and lessons from completed cRD&D projects
- Monitoring and Evaluation of cRD&D projects

5. Knowledge sharing and capacity building

- **Facilitate cRD&D Related Knowledge Sharing and Capacity Building**



Support modality



Future outlook

Plan in Q4 2025

- ✓ **TM Webinar on the introduction of cRD&D for NDEs and CTCN Network Members on 28 October**
 - **Lead by HQ CB and NE Team, 10:00-11:30 (CET) and 16:00-17:30 (CET)**
- ✓ **The Steering Group (SG) Virtual Meeting on 13 November 2025**
 - **CTCN Secretariat, Korean GRIs: cRD&D needs identification and sharing of policy research results and survey**
- ✓ **SIDS NDE Forum: cRD&D needs identification and data collection on RD&D collaboration among academia and research institutes in SIDS, especially in the Pacific**



Tentative Plan in 2026

- ✓ **Global NDE participation survey 2026**
- ✓ **Learning visit on Green hydrogen production and fuel cell (3rd)**
- ✓ **Collaborative RD&D Bridge-building (CRD2B2) Workshop on Energy storage (3rd) with learning visit on Energy storage (Policy, Technology (Public and Private) and Projects)**
- ✓ **Construction of Global cRD&D Alliance (Pool of Research Groups)**
- ✓ **Implementation of CTCN TAs**
 - Completion of Papua New Guinea and Bangladesh TA
 - Implementation of Côte d'Ivoire and Uzbekistan TAs (and Thailand for e-Methanol production)
- Establish an opportunity for pre-discussions (e.g. forum, etc.,) and operate Steering Group based on the strategic framework

