

**Asian Development Bank:  
Work on climate technologies  
and follow-up actions to CTCN assistance**

CTCN Regional Networking Meeting for NDEs

Bangkok, Thailand

29-30 April 2015

# Outline of Presentation

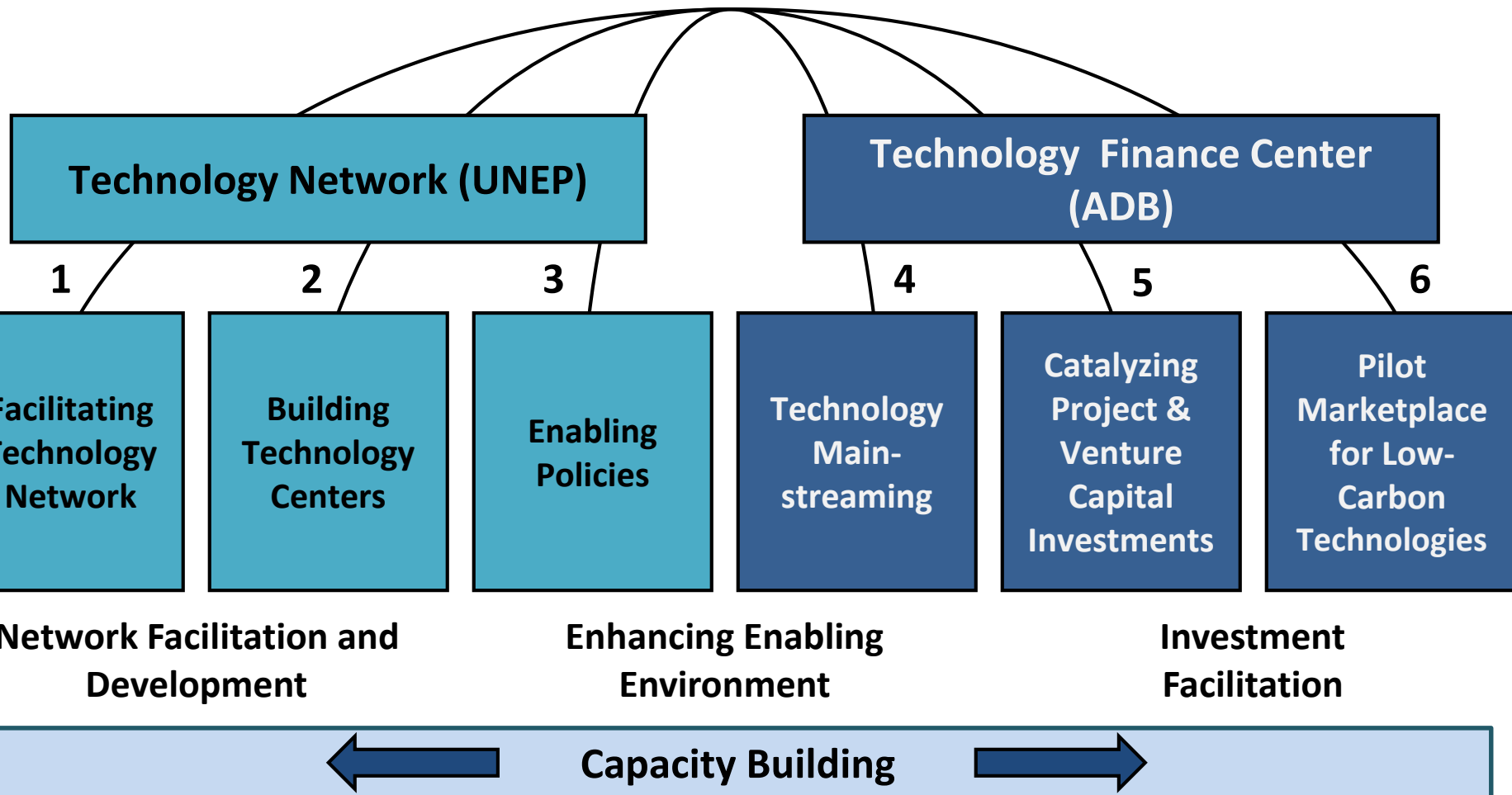
- Background CTFC and UNEP partnership
- CTFC Experience in promoting climate technology
  - Work with Developing Member Countries
  - Involvement with Private Sector in the region
  - Model for promoting climate technology
- Supporting CTCN work with NDEs

# ADB's Climate Technology Finance Center

- **CTFC** - established in 2012 to accelerate development and deployment of climate change mitigation and adaptation technologies in Asia and the Pacific
- Working in partnership with UNEP; Supported by: GEF, Japan, Republic of Korea, VITO NV.
- ADB-UNEP collaboration ⇒ **Pilot Asia-Pacific Climate Technology Network and Finance Center**

# CTNFC: ADB–UNEP Collaboration

*Center objective - To accelerate access to climate mitigation and adaptation technologies*



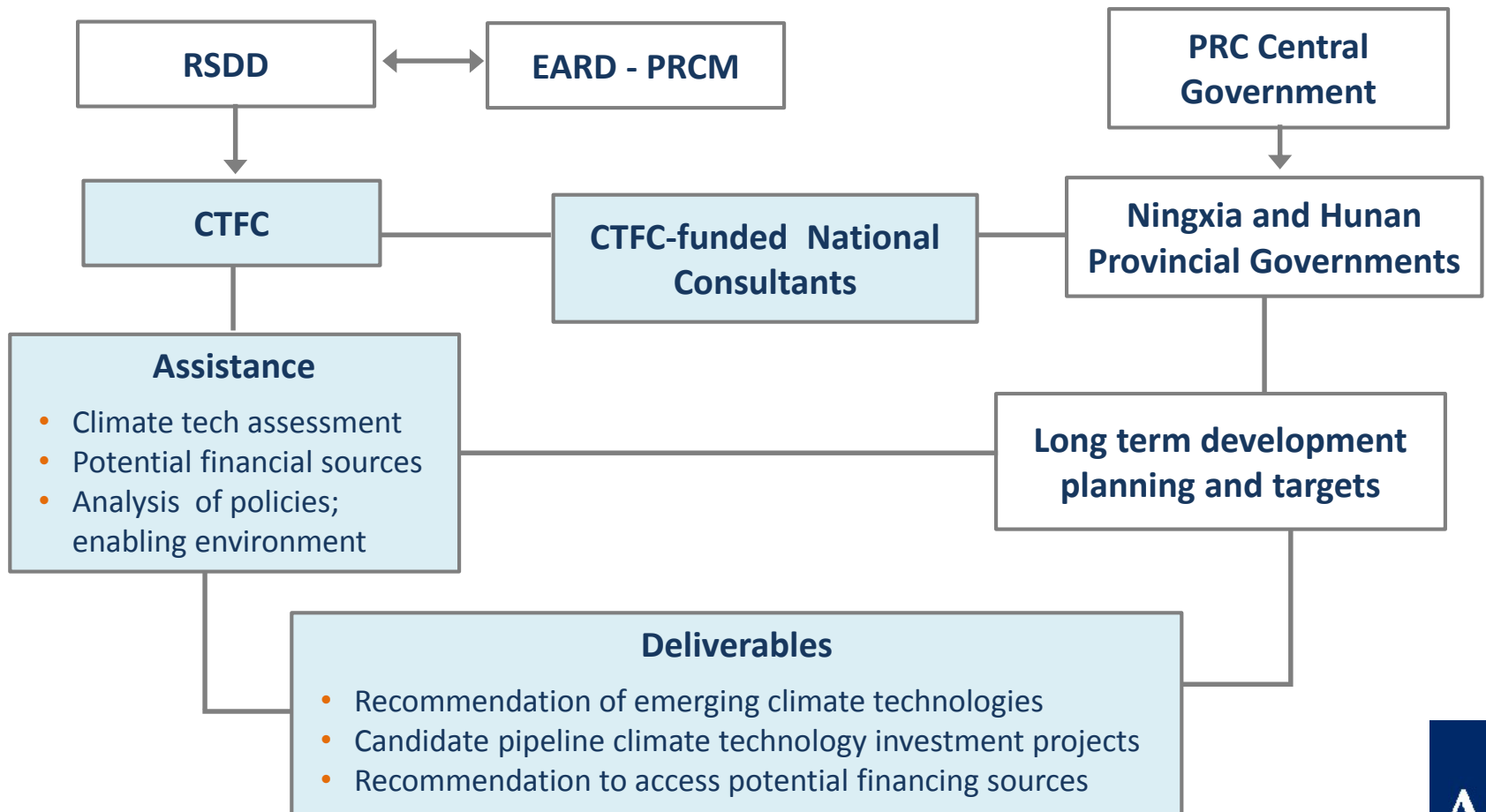
# Climate Technology Finance Center:

## 1. Working with ADB's Developing Member Countries (DMCs) to mainstream climate technologies into development plans.

- How: Provide climate technology assessments, climate change risk profiles as inputs to:
  - ➔ Country Partnership Strategies (*Completed: Bhutan, Papua New Guinea; Ongoing: Mongolia, Viet Nam, Pakistan, PRC*)
  - ➔ Country Operations Business Plans
  - ➔ DMC National and/or sub-national development and investment plans (*Hunan and Ningxia, PRC*)

# PRC: Focus on Hunan and Ningxia to mainstream climate technologies into provincial devt and investment plans

## Process for assistance



# PRC: Examples of technologies assessed for Hunan

## Mitigation

- Biomass power technology
- Fuel cells for mobile and stationary applications
- High efficiency and low wind speed wind turbine
- Bio-refinery technology
- Ground source heat pump heating / cooling
- Compressor leak reduction technology (gas transport)

## Adaptation

- Biotechnology for climate change adaptation of crops
- Water-efficient fixtures and appliances
- Leakage management in piped systems
- Water reclamation and reuse

# Climate Technology Finance Center:

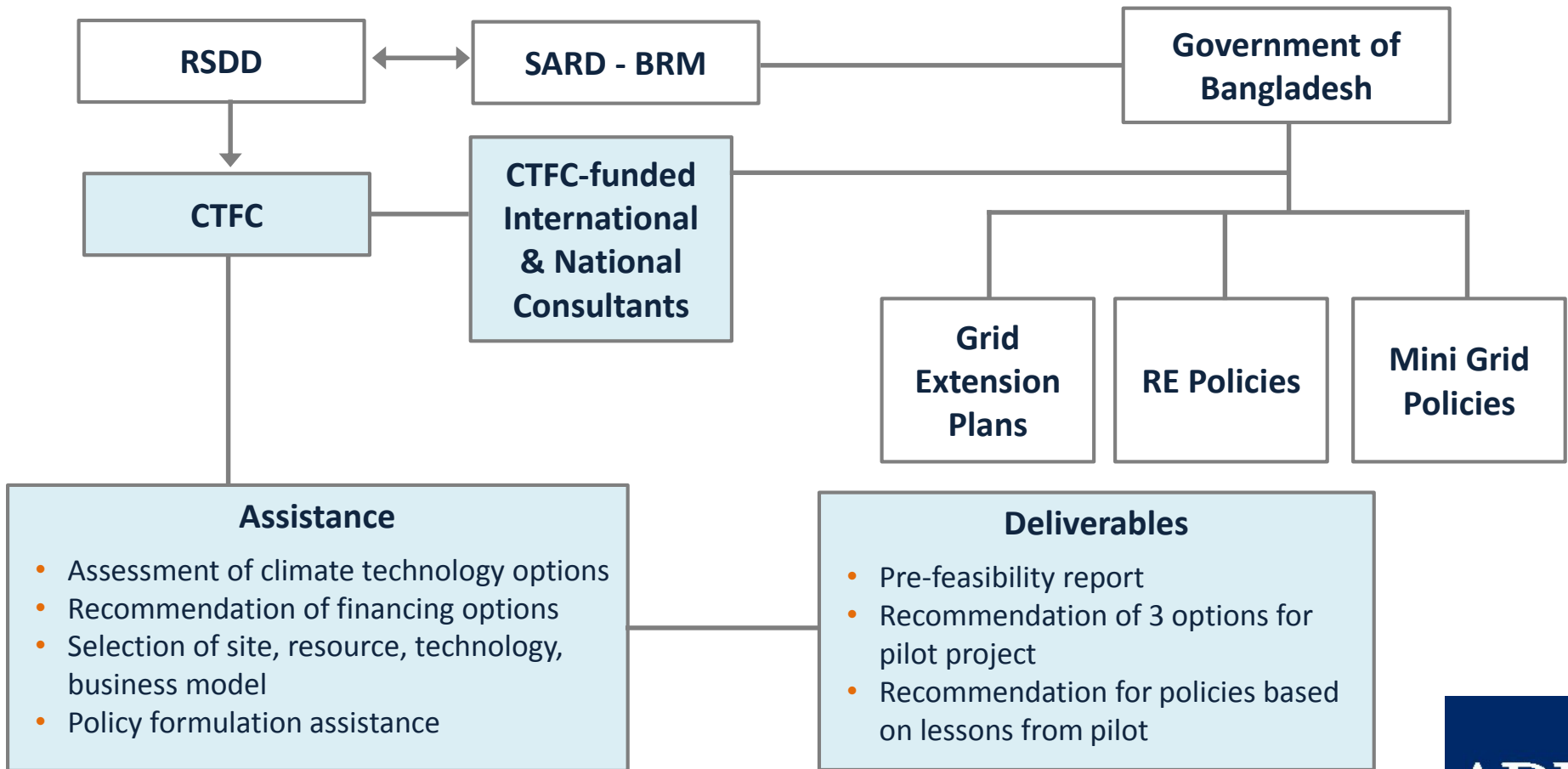
## 2. Promoting the use of climate technologies into ADB's public sector pipeline projects

- How: Provide technical support and advisory service at project design and preparation phase for loans, grants, technical assistance projects.
  - ➔ **Tonga:** Outer Island RE project
  - ➔ **Bangladesh:** Options for scaling up RE technologies for deployment in rural areas
  - ➔ **SERD projects (CAM, VIE, INO)** on urban water and river basin management – benefit from expertise in flood management technologies/techniques



# Bangladesh: Pre-feasibility study on options to scale-up rural solar and wind hybrid energy technologies

## Process for assistance



# Bangladesh: Results - Power Generation Options

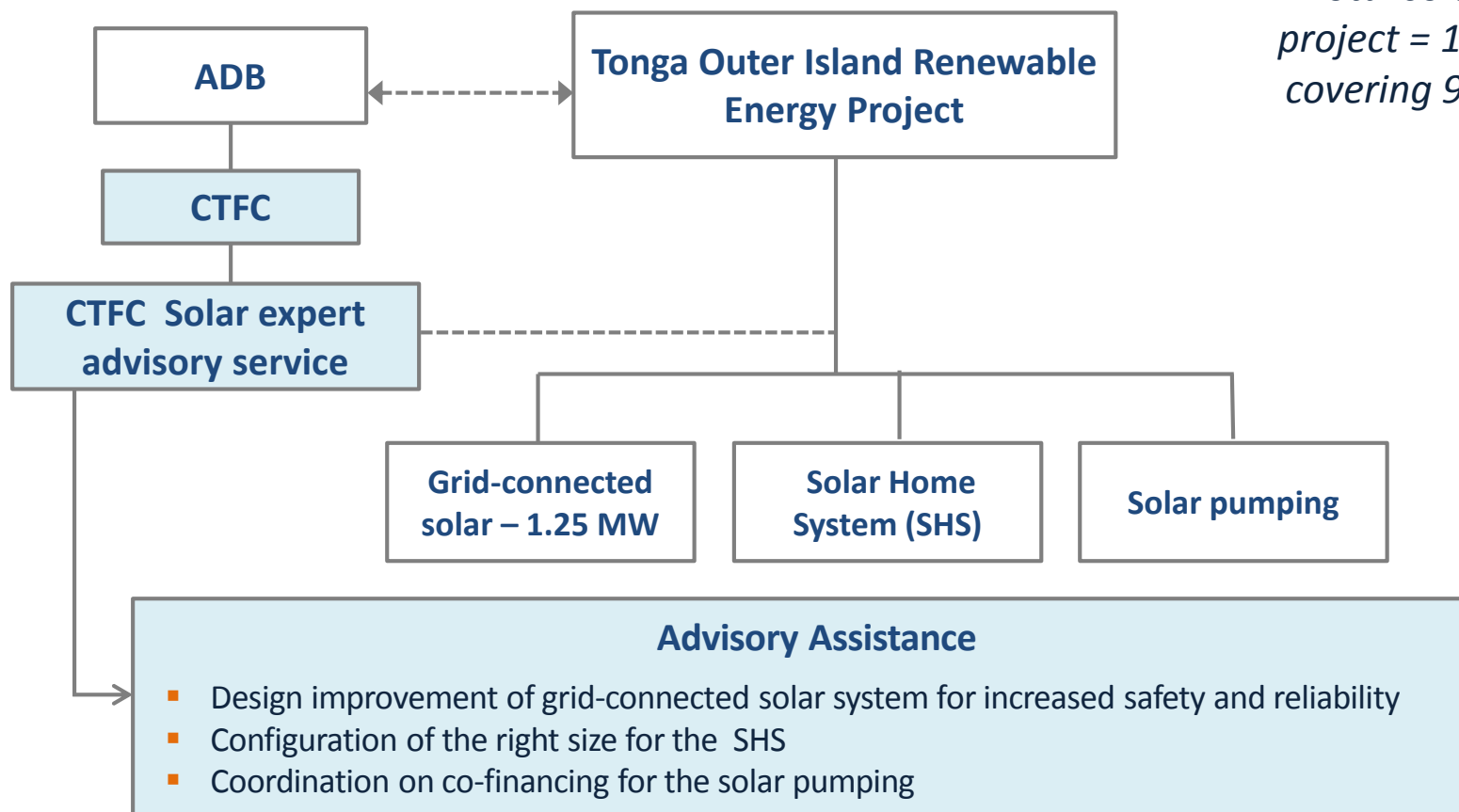
- **Upgrading of bagasse-based cogeneration in sugar mills**
  - Expand power generation using combined heat and power from sugarcane bagasse.
- **Poultry manure to biogas to power**
  - Waste from poultry farms as fuel through an anaerobic digester system → treat chicken manure and produce enough biogas to generate needed power and heat.
- **Solar nanogrids**
  - Link households in rural communities to a communal solar power system → connected to a small-scale agricultural or industrial application, like an irrigation system.
- **Solar minigrids**
  - Solar photovoltaic plants with a localized distribution network to a single village, or cluster of villages.

# Tonga: Outer Island Renewable Energy Project

Assistance in design/implementation of components for a 0.8 MW\* solar power capacity connecting existing diesel networks of 3\* outer islands

## Process for assistance

\* Total solar power project = 1.25 MW covering 9 islands



# Climate Technology Finance Center:

## **3. Working with Venture Capital (VC) and Private Equity (PE) Funds to encourage greater level of investments into climate technologies in the region.**

- Build stronger pool of climatech entrepreneurs = more attractive to investors
- Look for new sources of investment capital
- Improve connectivity: potential investors and entrepreneurs

## **4. Setting up of IPEX Cleantech Asia**

- 1<sup>st</sup> Low Carbon Technology Exchange and IP Platform in Asia and the Pacific.

# Climate Technology Investments via VC & PE Funds

## CTFC AS CLIMATE INVESTMENT CATALYST

### CLEANTECH INVESTMENT INDUSTRY SERVICES

#### VC & PE FUNDS SUPPORT

- Catalyze risk capital
- Assist first-time funds
- Engage non-institutional VCs

#### REGIONAL NETWORK

- Connect cleantech investors and start-ups

#### START-UP ACCELERATOR PLATFORM

- Support start-ups via accelerator and incubator programs, (bootcamps)

#### RESEARCH THINK TANK

- Analyze best investment practices and frontier investment sectors
- Support pilots of new investment innovations
- Identify investment barriers

# IPEX Cleantech Asia = match-making platform bringing together selected low carbon technology holders worldwide to technology acquirers in Asia

*The Marketplace will bridge the gap by providing services to facilitate transactions...*

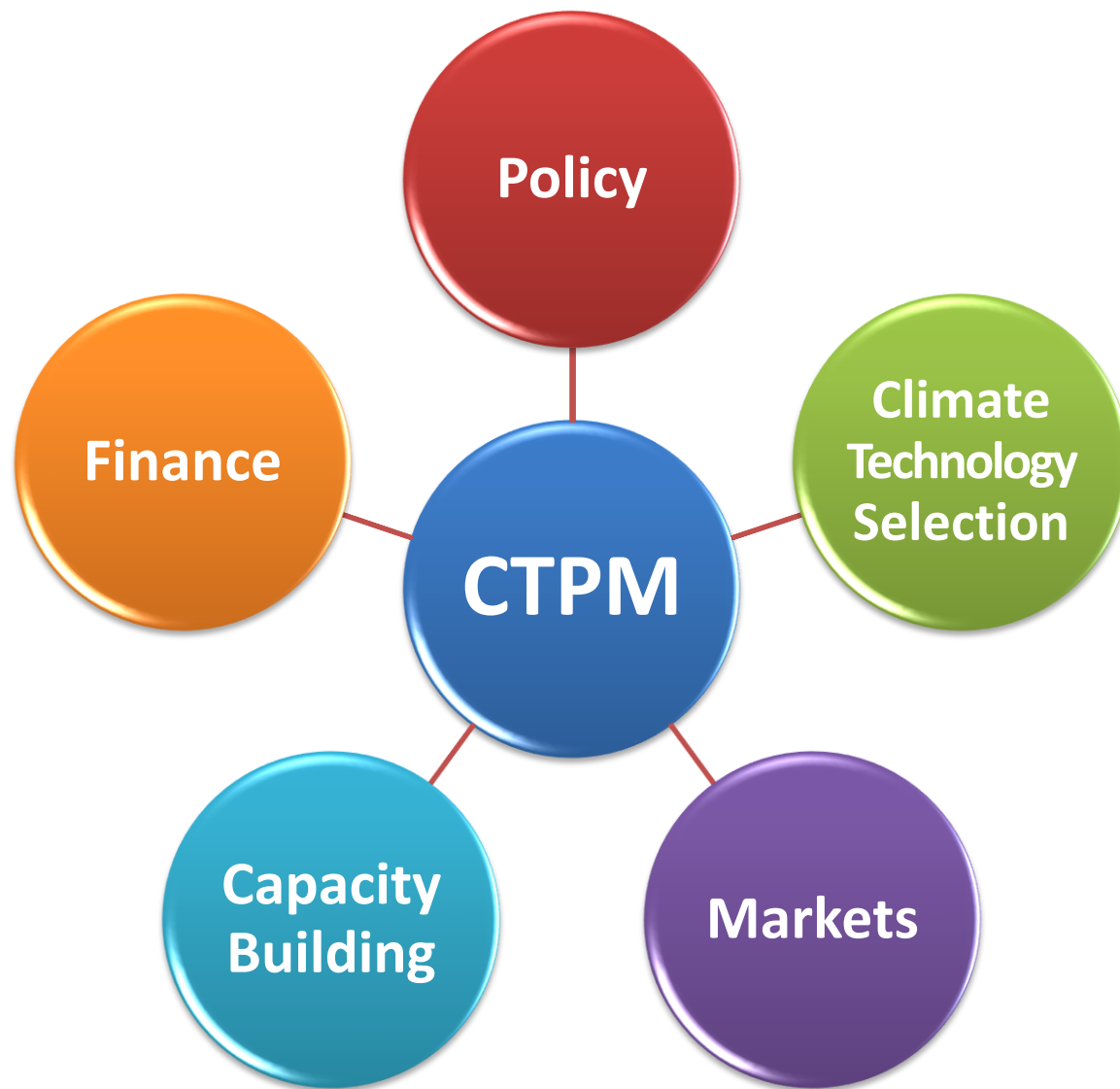
## To LCT Providers

- Monetize existing IP Assets
- Access to rapidly developing markets
- Technology development collaboration
- De-risk deployment
- Access to counterparties and markets

## To LCT Adopters

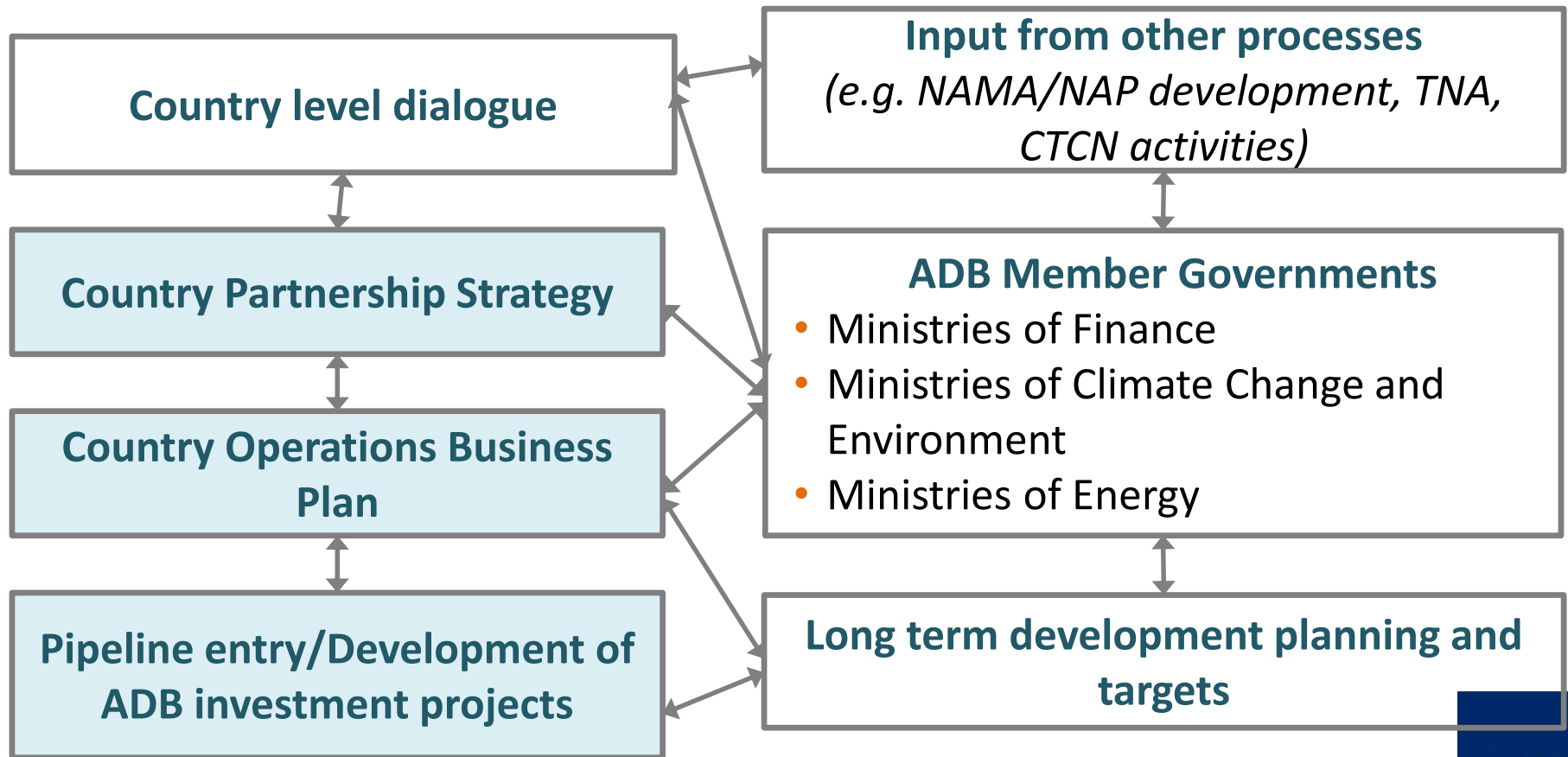
- Access to proven low carbon technologies
- Fast track valuation process
- Commercial, technological, and legal risk mitigation through enhanced due diligence
- Access to financing

# Integrating CTFC components: Climate Technology Promotion Mechanism



# Supporting CTCN Work with NDEs

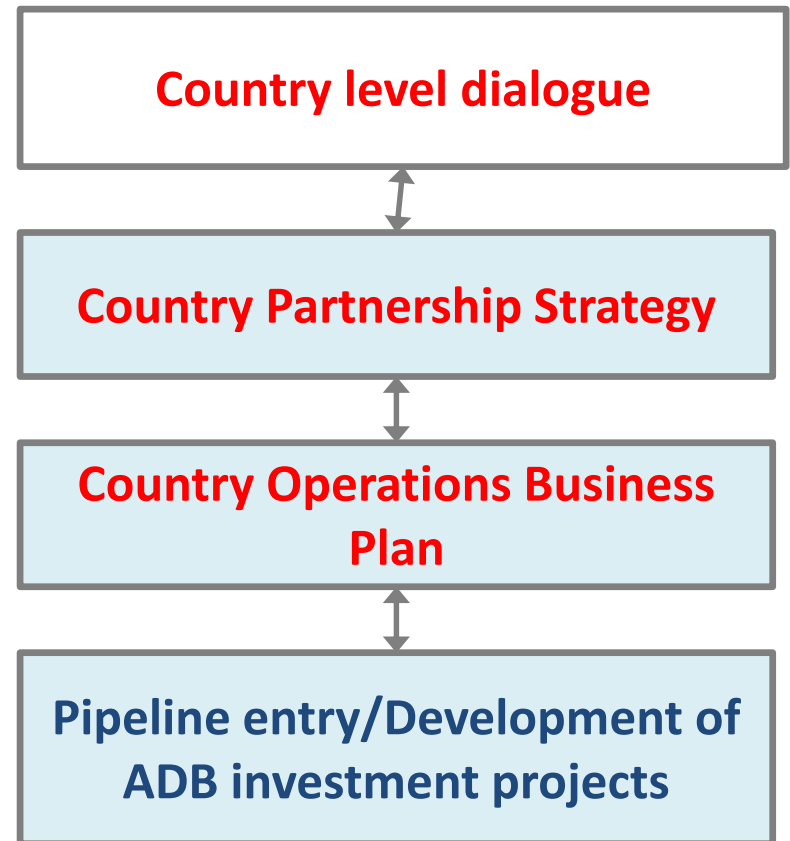
- ADB's public sector investment pipelines are developed through country-level dialogue and planning.





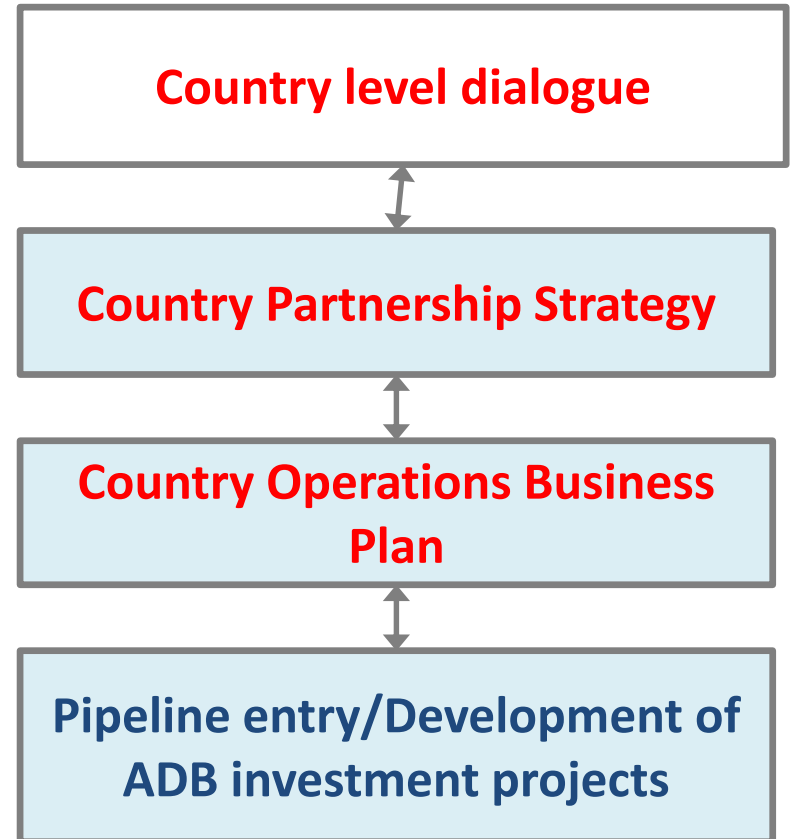
# Supporting CTCN Work with NDEs

- NDEs may consult with relevant government Ministries (MOF, Planning, etc.) to ensure that CTCN supported projects are incorporated into the project pipeline being supported by ADB.



# Supporting CTCN Work with NDEs

- NDEs can also consult with ADB Resident Missions in their countries for possible support.
- NDEs are encouraged to contact Private Sector Operations Department of ADB for private sector investment in climate technology.
- ADB CTFC team can also help facilitate this consultation and cooperation.



# Thank you.

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