Experience of Technology Transfer – Overcoming barriers in developing countries

TRADE AND ENVIRONMENTAL SUSTAINABILITY STRUCTURED DISCUSSIONS (TESSD)

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UN environment programme

CTCN
UN Climate Technology Centre & Network

1

CTCN’s mandate on technology transfer

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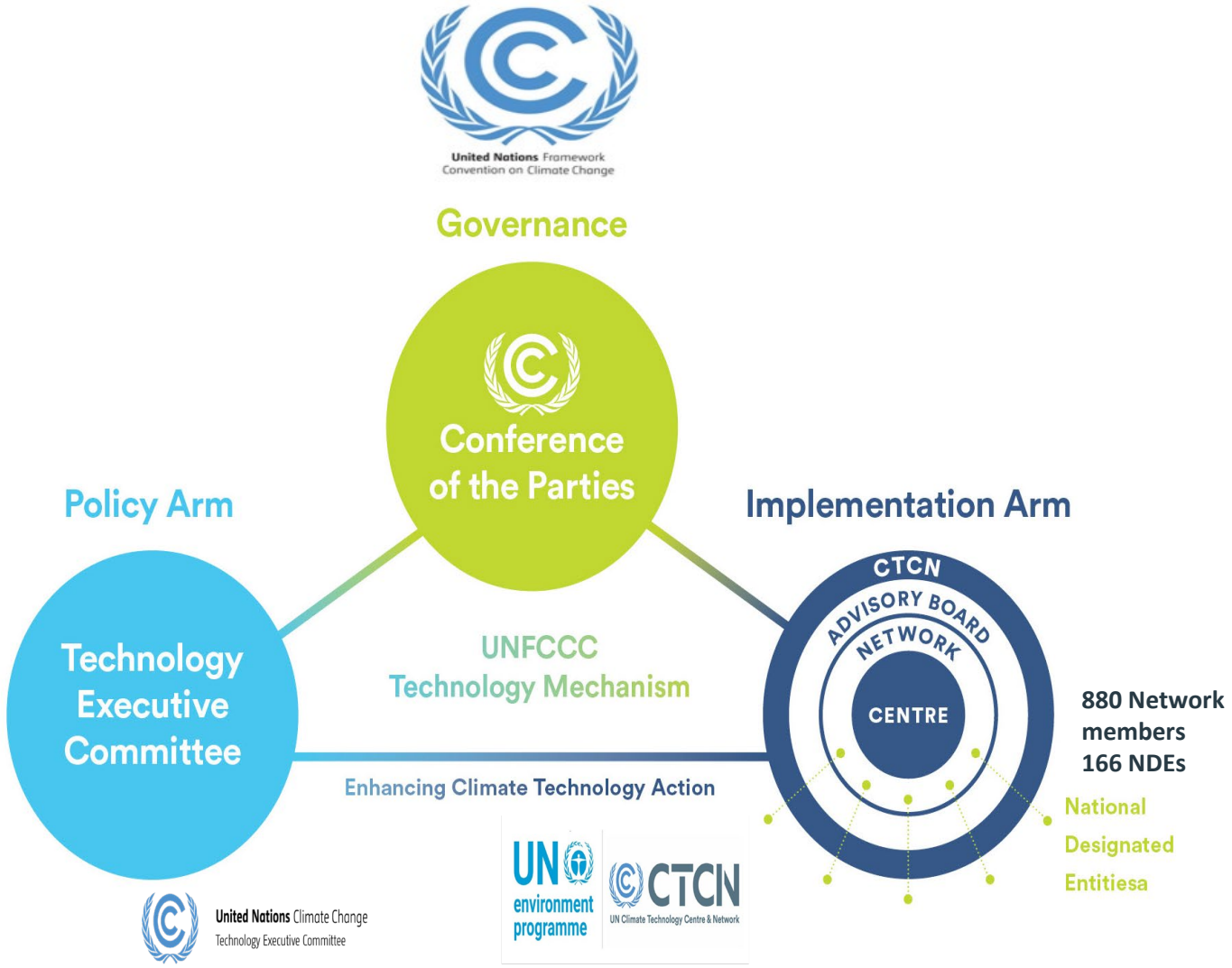
- Implementation arm of the Technology Mechanism
- Mandate to **stimulate technology cooperation and enhance the development and transfer of technologies to developing country Parties at their request**
- Technology transfer encompasses the **broad set of processes that cover the flows of knowledge, 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**.

Source: IPCC Special Report on Methodological and Technological Issues in Technology Transfer, 2000



Barriers to the development & uptake of climate technologies

Technological	• Limited ability to evaluate, adopt, adapt, and absorb technology options • Lack of knowledge for technology operation and management • Lack of qualified personnel and training facilities • Lack of standards and codes and certification
Financial	• Lack of access to finance • Lack of commercial viability • Lack of financial institutions that support climate technologies • Lack of financial instruments (incentives, risk mitigation mechanisms)
Institutional	• Uncertain government policies • Lack of infrastructure • Lack of information and awareness • Lack of consumer acceptance

Source: TEC Paper on enabling environments and challenges to technology development and transfer

Service areas of the CTCN

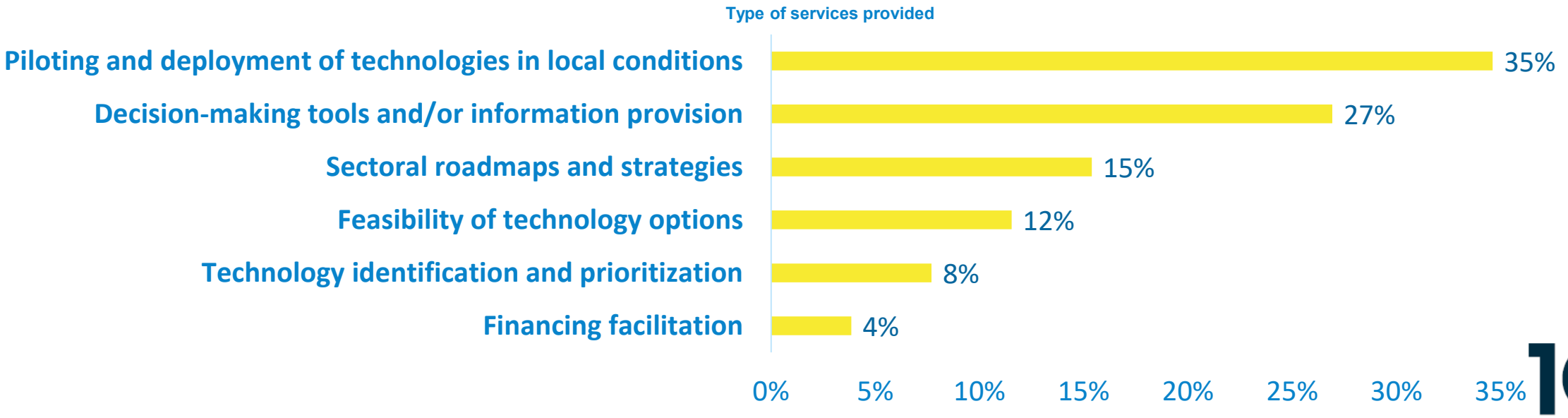
- Key service areas to support technology transfer,
  - **Technical assistance (TA)** in response to requests received by developing countries
  - **Capacity building** to enhance capacity of countries to identify, design, adapt technology solutions tailed to their needs
  - **Networking and partnerships** to connect diverse stakeholder groups for knowledge sharing

Agriculture
Carbon Fixation & Abatement
Energy Efficiency
Forestry
Industry
Renewable Energy
Transport
Waste Management

Agriculture & Forestry
Coastal Zones
Early Warning & Environmental Assessment
Human Health
Infrastructure & Urban Planning
Marine & Fisheries
Water

Developing countries' requests on water sector

- CTCN receives technical assistance requests from developing countries on their climate technology needs, based on identified needs in TNAs, NDCs, NAP, LT-LEDS
- Among all, 374 TA projects were supported by the CTCN Network members (Implementing Partners), around 36 projects focused on water.
- CTCN provides TA support up to 250,000 USD at all stages of technology cycle
- Types of assistance provided related to water are:



2

Experiences of technology transfer

Deployment of Slamdam technology for flood prevention as a small pilot in Burundi

Applicant : Geographic Institute of Burundi (IGEBU), Ministry of Water, Environment, Land management and Urban Planning

Network member (Implementing Partner): Zephyr Consulting consortium based in Netherlands

Request: Identify easily deployable water-filled flood barrier that can be used to prevent damage from flooding and to store water to ensure water availability in times of drought

Activities: Assess flood and drought risks, and design a pilot implementation plan for Rubira hills, deploy Slamdam (mobile flood barrier) for demonstration, transfer of knowledge from certified professionals to local practitioners

Result: Received scaled up funding by Adaptation Fund, Replicated in Pakistan

Development of Medium- to Long-Range Hydrologic Forecasting System for Ganges-Brahmaputra-Meghna River Basins in Bangladesh

Applicant : Department of Environment in Bangladesh

Network member (Implementing Partner): Weatherpia and POSTECH

Request: Establish an early warning system which could further expand to other regions/countries and support embodiment of adaptation planning

Activities: Develop 25-km resolution ECMWF S2S hydro-meteorological forecast data (open source) using VIC-River Routing model, and conduct workshops for technology transfer and strengthening disaster management stakeholder capacities as a pilot

Result: GCF concept note was submitted to access a larger scale funding

CTCN's experience in trade-related barriers

- CTCN's experiences - small-scale projects that focus on identifying technologies, conducting feasibility studies, creating business models, and piloting new ideas.
- As a result, large-scale technology deployments, demonstrations that lead to licensing, or joint ventures are quite rare in our portfolio. Addressing these factors early seems crucial as it becomes more prominent with scale.

- Some of the anticipated barriers :
  - **High Costs for Hardware Projects**: significant costs due to import duties and transportation fees.
  - **Complexities in Software Ownership**: complications around who owns the software and datasets.
    - the use of open-source services and the development of digital public goods.
    - when it comes to proprietary digital services, ownership and community rights regarding the data generated issues can be complex.
  - **Collaboration for Knowledge Creation**: We also aim to enhance collaborative research, development, and demonstration efforts with universities and researchers in developing countries, exploring joint ventures as a potential model.

CTCN plays a key role in creating an enabling environment for long-term and accelerated technology transfer of ESTs

10 YEARS 2014 – 2024

UN environment programme

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Thank you!

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