Draft paper on
Enabling environments and challenges to technology development and transfer identified in Technology Needs Assessments (TNAs), Nationally Determined Contributions (NDCs), and Technical Assistance (TA) of the Climate Technology Centre and Network (CTCN)

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UNEP DTU PARTNERSHIP   **UN environment programme**   **DTU**

Background

The Technology Executive Committee (TEC) agreed as per activity 1 of the thematic area Enabling environment and capacity building of its workplan for 2019-2022, to examine enabling environments, including challenges and opportunities to incentivize the private and public sector in the development and transfer of technologies, building on TEC previous work on adaptation and mitigation technologies.

❖ The TEC 21 considered the findings contained in the draft paper and provided guidance to the taskforce on Enabling environment to continue working on the paper, with a view to incorporating relevant information from NDCs submitted in 2020 and finalizing it at TEC 23.

Expected action: The Technology Executive Committee is invited to

a)   consider the findings contained in the draft paper, and

b)   and provide guidance to the Enabling environment and capacity building task force for its further improvement, with a view to finalizing the paper at TEC 23.

Objectives

The objectives of the paper are to:

1. Examine enabling environment and challenges based on TNAs, NDCs and CTCN Technical Assistance and relevant TEC briefs;

2. Based on the mapping, identify policies and strategies to improve enabling environments and address the challenges; and

3. Assist the TEC in delivering relevant key messages and recommendations to the Parties at COP 26.

141 NDCs, including updated NDCs, submitted by developing country Parties to the UNFCCC, available at the UNFCCC NDC registry (2015-2021)

58 TNAs, including 668 technologies with identified challenges and enablers, available at the TNA project website www.tech-action.org (2011 - 2021)

84 CTCN TAs, information available at the CTCN website and supplemented with information from CTCN Secretariat staff (2014 - 2021)

Data base overview					
	NDCs	**TNAs**	**CTCN TAs**	**Total, TEC 22**	*Total, TEC 21*
Enablers	1084	3245	567	**4896**	*4167*
Challenges	414	3451	555	**4421**	*3830*

Level of analysis
- Mitigation, adaptation
- SIDS, LDCs, Non-Annex-I
- Regional
- Sectoral

Enabling environments

Enabling environment
The set of resources and conditions within which the technology and the target beneficiaries operate. All important economic, social, political, organizational and other factors that influence the development and transfer of technologies.
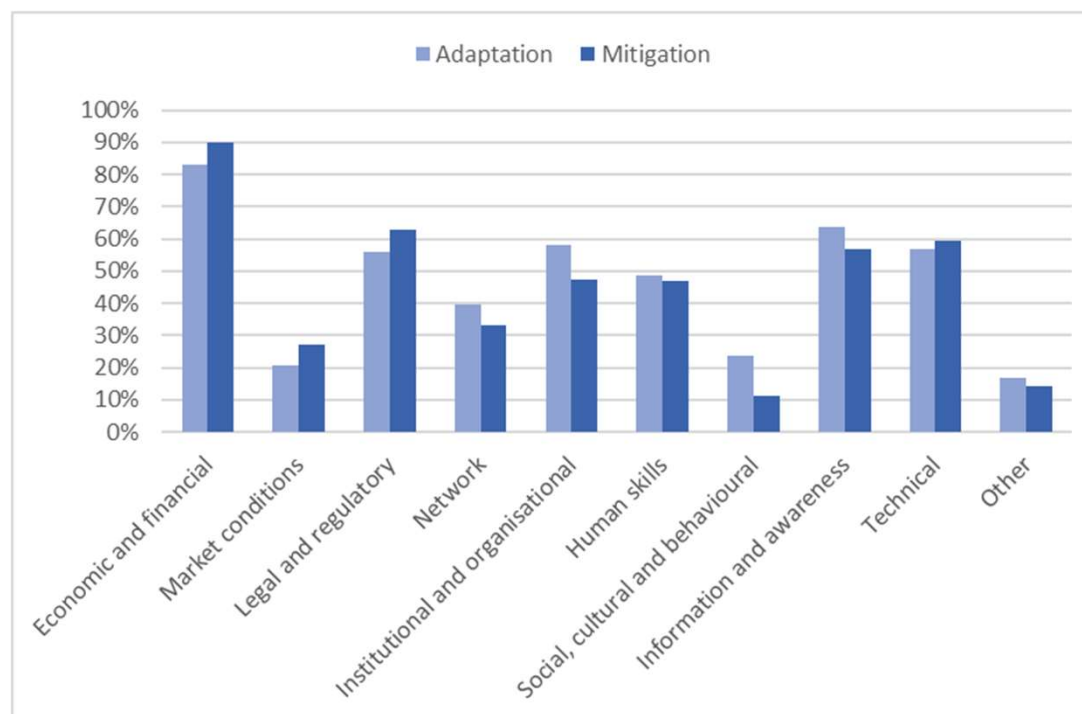
Economic and financial category is reported for
- 90% of the mitigation technologies;
- 84% of the adaptation technologies

Adaptation
1. Economic & Financial
2. Information & Awareness
3. Institutional & Organisational

Mitigation
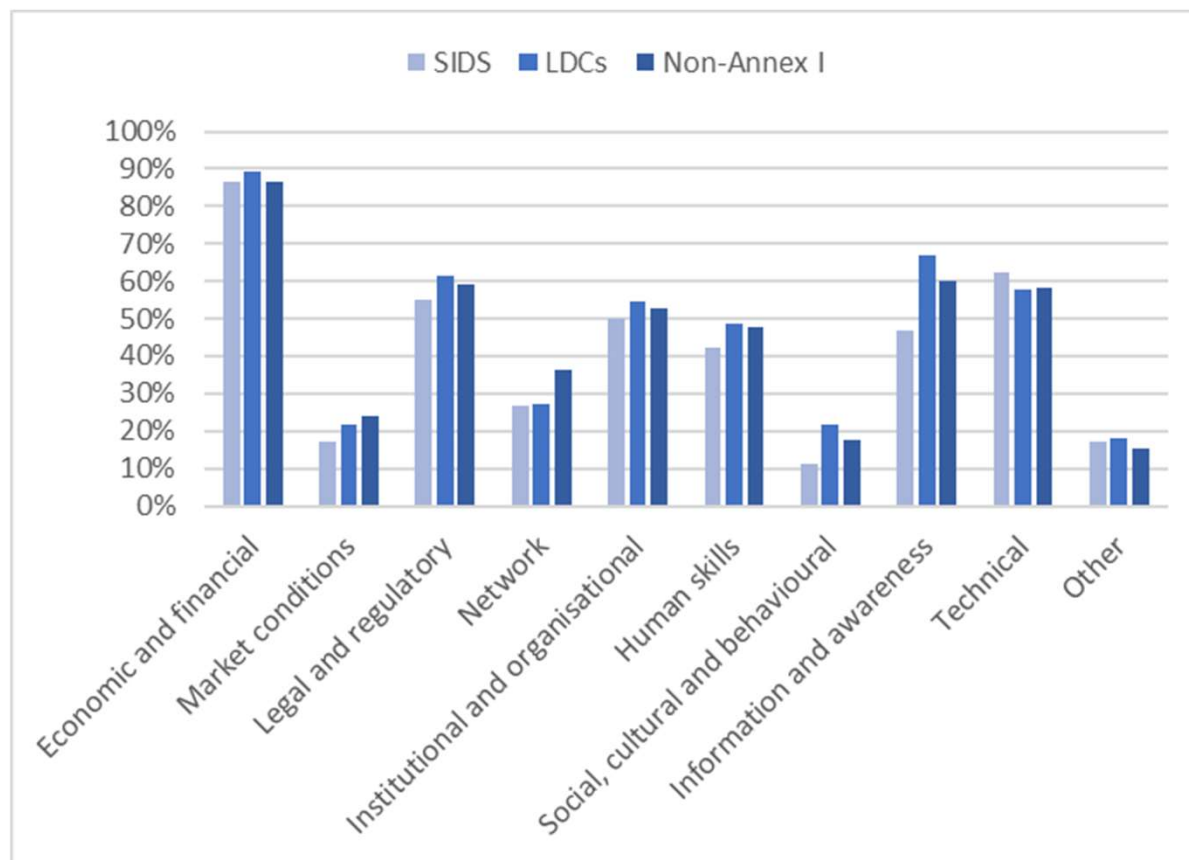1. Economic & Financial
2. Legal & Regulatory
3. Technical

SIDS

1. Economic and Financial;
2. Technical;
3. Legal and Regulatory
4. Institutional & Organisational

LDCs

1. Economic and Financial;
2. Information and Awareness;
3. Legal and Regulatory
4. Technical

Non-Annex I

1. Economic and Financial;
2. Information and Awareness;
3. Legal and Regulatory;
4. Technical.

**Regional challenges:
Challenges in the southern African region**

In the southern Africa region countries have reported multiple challenges with regard to energy-efficient technologies, such as energy-efficient lightning technologies, air conditioning, transformers, motors and refrigerators.

- **economic and financial challenges:** limited support for project preparation, limited exposure to local financial institutions supporting the development of renewable energy and energy-efficient investment projects.

- **legal and regulatory challenges:** inadequate or a lack of enabling domestic policies and regulations aimed at increasing market stimulation regarding, for example, the uptake of renewable energy and energy-efficient technologies

- **limited capacity and awareness**: regarding the technical and economic potential of deploying renewable energy and energy-efficient technologies. Similarly, the positive social and environmental impacts of such technologies are not widely acknowledged across countries. This lack of information and awareness directly influences decision-making processes when it comes to investment and therefore often leads to 'business as usual' purchasing scenarios.

- **shortages of skilled technical personnel** (technical capacity for the installation, operation and management of the concerned technologies) and the lack of knowledge at the vocational and university levels,

Governments
- have a key role to design and implement policies to incentivize the adoption of technologies;
- create appropriate legal and regulatory frameworks for international technology development and transfers;
- establish of specific technology standards;
- ensure greater coordination and communication among government departments and agencies.

Private sector
- There is a continuous need to improve involvement by the private sector and to harness private investments in technology cooperation
- The role of the private sector in developing and transferring technology could be extended if provided with the right incentives. This leads us back to the role of national governments but also to the existing efforts of the Financial Mechanism

Communities
- challenges related to social, cultural and institutional aspects of technology development and transfer are significantly reported
- participatory approaches increases likelihood for a process which is needs-driven and appropriate to the local context
- Communities should be invited into the process through active participation by, for example, reaching out to community-based organizations, awareness-raising campaigns and empowerment through capacity-building.

The findings of this paper suggest that

a. **overcoming the economic and financial challenges is central to achieving technology development and transfer;**

b. for none of the prioritized technologies, the economic and financial challenges are listed as the only challenges, suggesting that **successfully implementing technologies must be achieved by more than just overcoming the economic and financial challenge;**

c. **efforts to realize technology development and transfer should not target the economic and financial aspects narrowly as a single cause**. Instead, multifaceted actions are recommended, ensuring that all challenges hindering successful development and transfers are targeted;

d. **governments have a major role to play in creating enabling environments** to address the challenges to technology development and transfer by establishing and enforcing the appropriate regulatory and institutional frameworks;

e. to stimulate the transition to improved enabling environment conditions for technology development and transfer further, a **combination of market stimulation and human capacity development** is identified as key by developing country Parties;

f. support to **programmes designed to strengthen the institutional and scientific capacities**, with regards to technology development and transfer, of developing country Parties, **in particular for LDCs**, is reported as critical to the creation of the long-term enabling environments required for technology development and transfer within these countries.

g. there is **a need for education and training, assisting countries in making early-stage decisions on financing, matching country plans technology priorities with funding sources**, and in general establishing an essential bridge between the policy and finance communities.

From the findings presented in this paper, following key messages are suggested for consideration by the TEC:

a. There is an increasing opportunity for extended cooperation between committed public and private institutions, that have practical experience in evaluating, using, implementing and financing new technological innovations.

b. Governments have a major role to play in creating enabling environments to address the challenges to technology development and transfer by establishing and enforcing the appropriate regulatory and institutional frameworks.

c. Advancing and deploying innovative and sustainable approaches to establish appropriate enabling environments for technology development and transfer are crucial to facilitate technology transition along with sustainable development trajectories.

d. Sharing good examples from countries that have integrated actions on climate technologies, including the creation of their enabling environments, into government planning and policies, could stimulate adoption of a similar approach amongst other countries.

e. The Financial Mechanism has a key position leveraging resources from the public and the private sector to stimulate markets for technology development and transfer.

f. To enable the development and transfer of adaptation technologies, it is key to establish information and raise awareness about the potential of these to reduce climate vulnerabilities, and to strengthen institutional and organizational aspects.

g. To enable the development and transfer of mitigation technologies, it is key to establish appropriate legal and regulatory frameworks, and to enhance technical capacities.

Concept note for Thematic dialogue

Suggested event title: Strengthening the means to implementation through the creation of enabling frameworks for technology development and transfer for implementation of the Paris Agreement

➢ focus on discussing experiences and identifying future activities to accelerate enablers for technology development and transfer.

Opening and rationale, TEC

Session I: Support

Presentations by the operating entities of the Financial Mechanism, donors, the Technology Bank for LDCs, other development finance institutions.

Session II: Experience sharing

Presentations by Country representatives; Private sector representatives; Civil society, NGOs.

Session III: Break out groups, incl. reporting back

Participants gathered in small groups will share experiences, discuss and consider how to accelerate enablers for climate technology development and transfer.

Closing, TEC

Expected action: The Technology Executive Committee is invited to

a) consider the findings contained in the draft paper, and

b) and provide guidance to the Enabling environment and capacity building task force for its further improvement, with a view to finalizing the paper at TEC 23.

Thank you!

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