

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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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.

Expected action: The Technology Executive Committee is invited to

- a) consider the findings contained in the draft paper, and
- b) provide guidance to finalize the paper, including the timeline for doing so.

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.

133 NDCs submitted by developing country Parties to the UNFCCC, available at the UNFCCC NDC registry (2015-2020)

- a) 118 out of 133 NDCs list enablers
- b) 57 out of 133 NDCs list challenges

53 TNAs, including 601 technologies with identified challenges and enablers, available at the TNA project website (2011 - 2018)

- a) all 53 TNAs (601 technologies) list enablers and challenges

84 CTCN TAs, including 196 technologies, information available at the CTCN website and supplemented with information from CTCN Secretariat staff (2014 - 2020)

- a) enablers are listed for 134 out of 196 technologies, whereas challenges are listed for 110 of the technologies.
- b) some TAs list both enablers and challenges, some list either barriers or enablers

	NDCs	TNAs	CTCN TAs	Total
Enablers	871	2885	411	4167
Challenges	278	3068	484	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

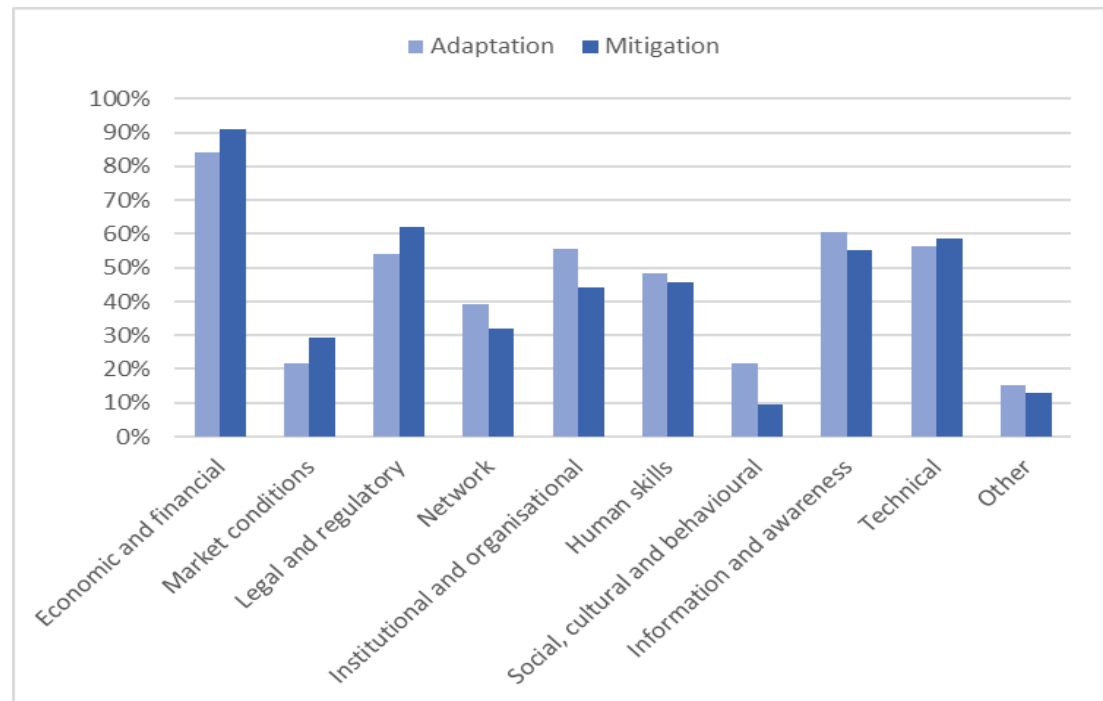
- 91% of the mitigation technologies;
- 84% of the adaptation technologies

Adaptation

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

Mitigation

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



Enablers across SIDS, LDCs, Non-Annex I

SIDS

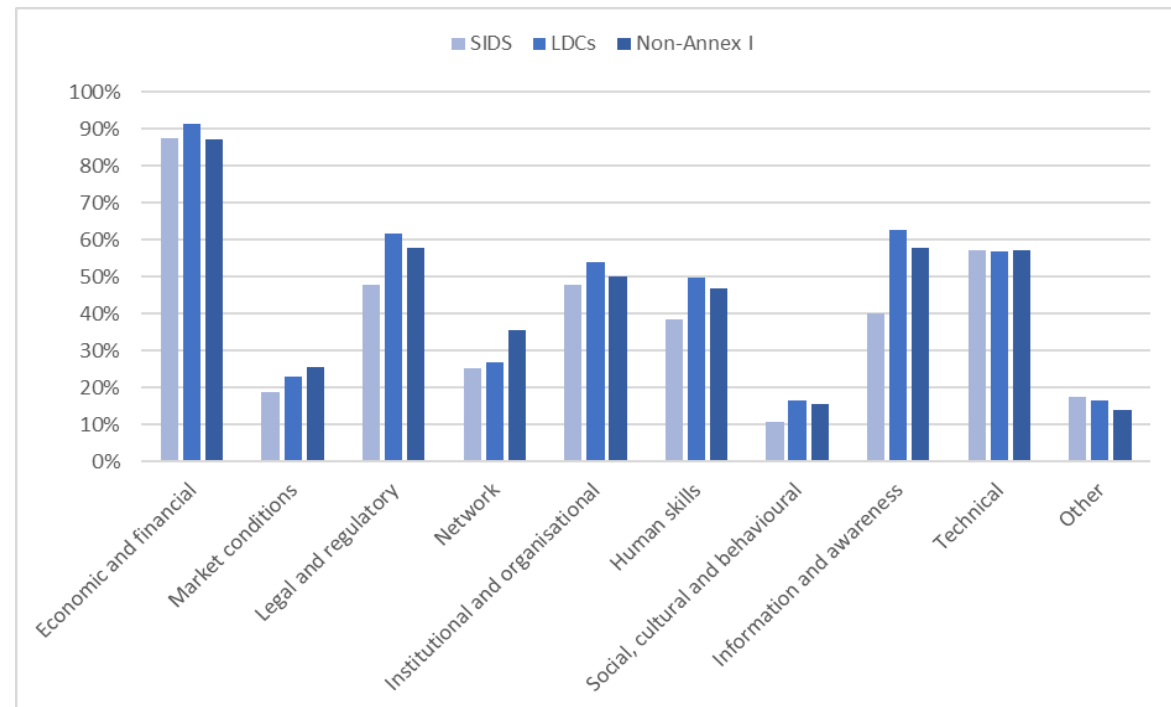
1. Economic and Financial;
2. Technical;
3. Institutional & Organisational

LDCs

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

Non-Annex I

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



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 lighting 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,

Policies and strategies

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. **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 to improve market conditions;
- d. 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;
- e. 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.
- f. 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:

1. 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.
2. 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.
3. 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.
4. The Financial Mechanism has a key position leveraging resources from the private sector to stimulate markets for technology development and transfer.

Expected action: The Technology Executive Committee is invited to

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Thank you!