What are the technology needs of developing countries? An update on technology needs assessments.

Third synthesis report on technology needs identified by NAI Parties

TNA side event, 6 June 2014
SB 40, Bonn, Germany

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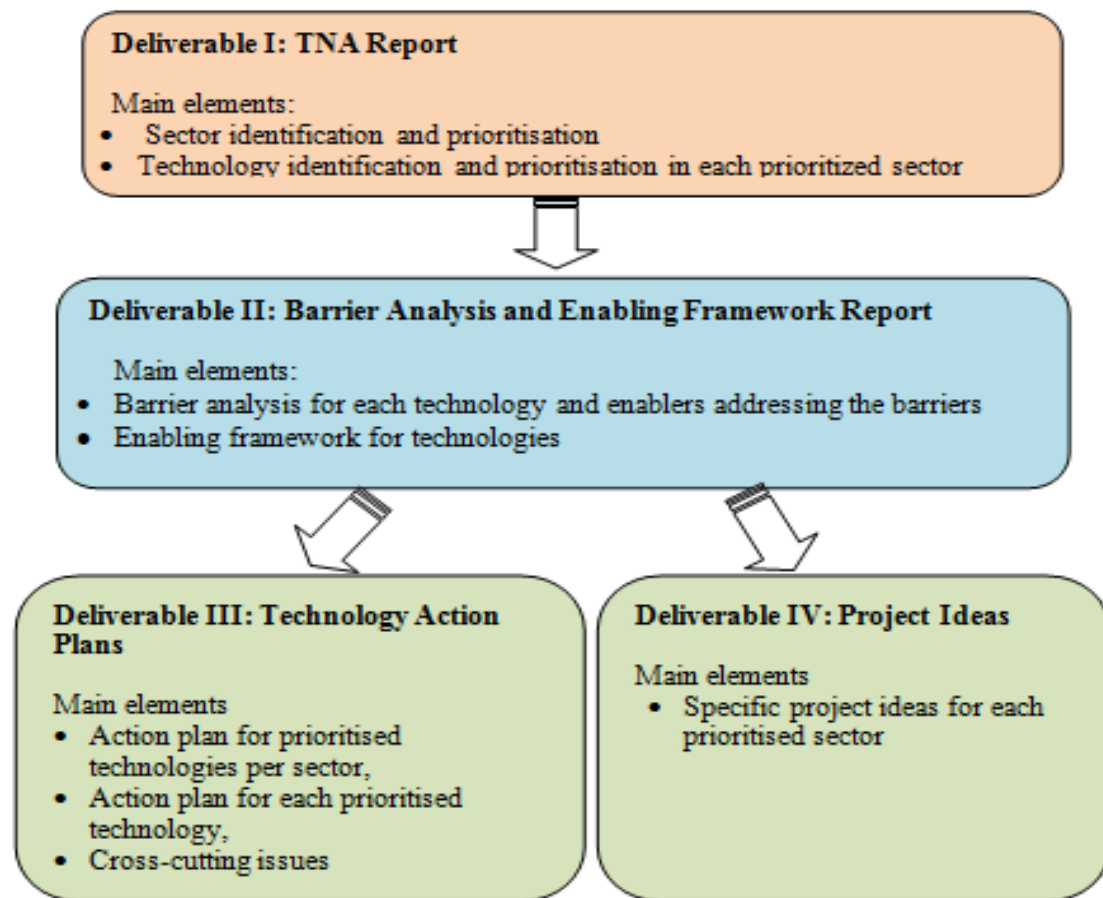
Introduction

- The SBSTA, at its 35 session, requested the secretariat to prepare an updated TNA synthesis report for SBSTA 37, including TNAs conducted by NAI Parties under the PSP on TT.

- By 31 July 2013, a total of 31 TNA reports were available and the information contained in these reports was synthesized into the "Third synthesis report on technology needs identified by Parties not included in Annex I to the Convention" to be presented to SBSTA 39.
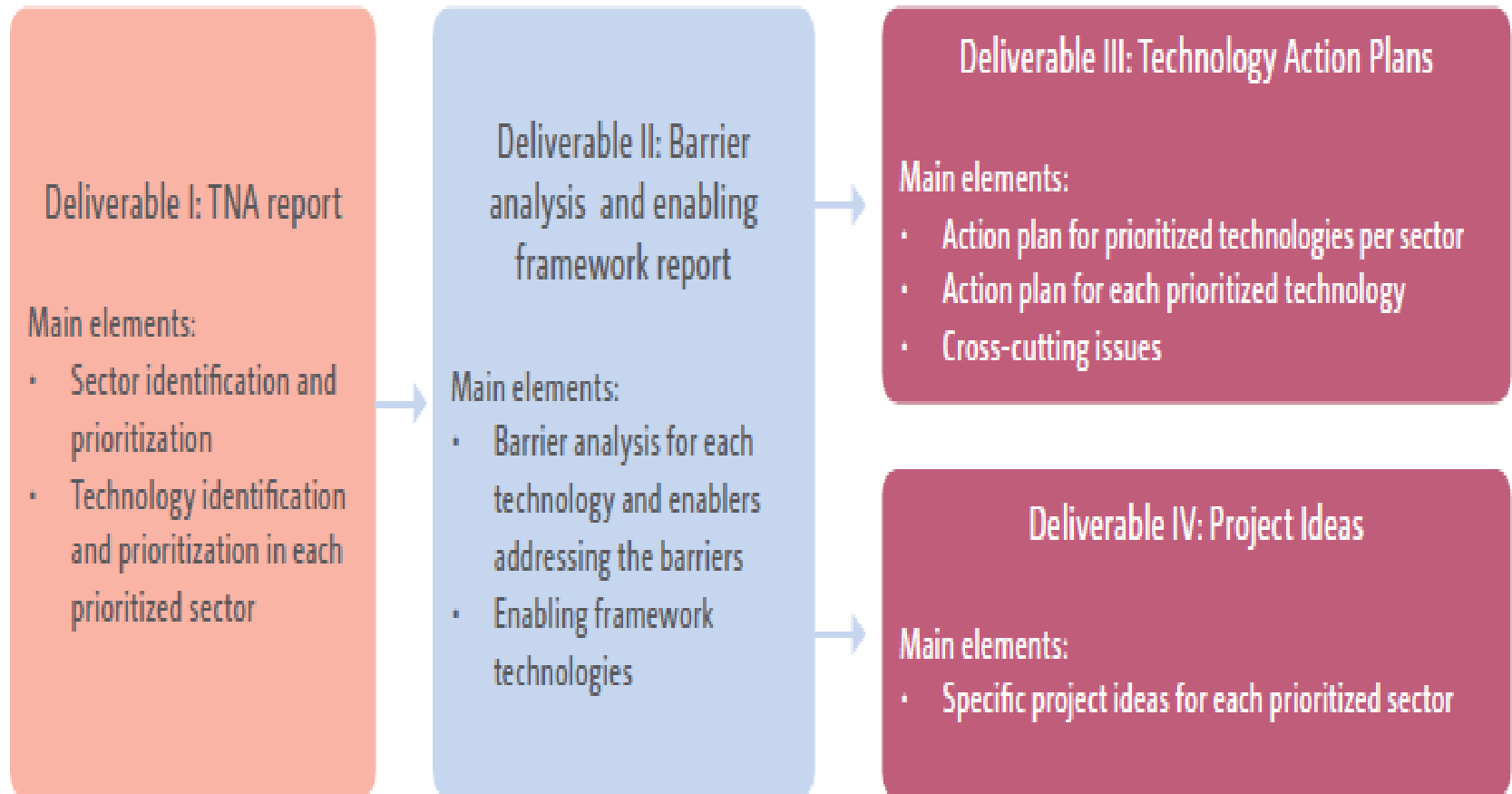
The regional distribution of the 31 Parties who conducted TNAs:

- Africa: 11 Parties;
- Asia: 9 Parties;
- Eastern Europe: 3 Parties;
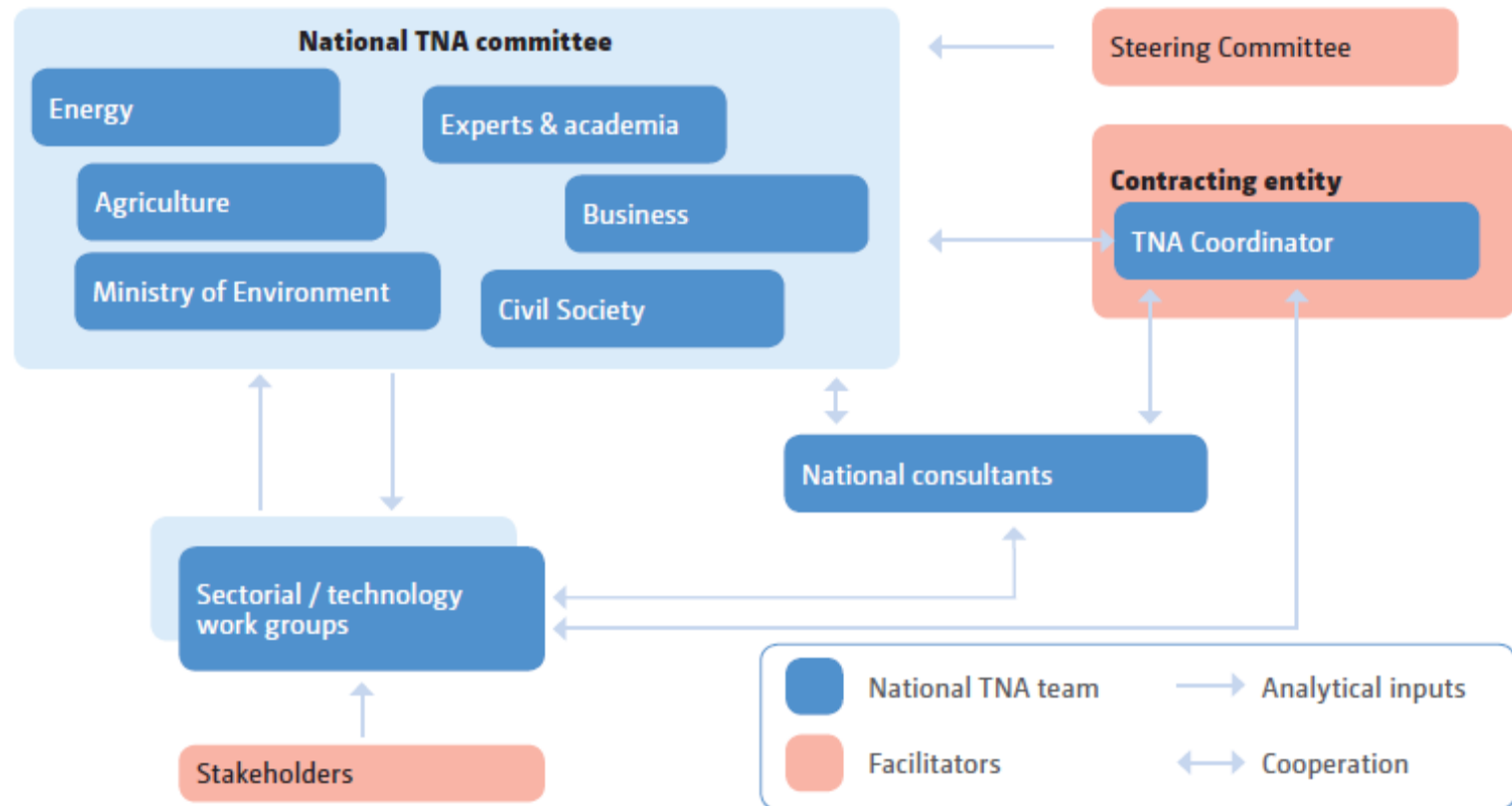- Latin America and
  the Caribbean: 8 Parties.

A methodological structure :

Deliverable I: TNA Report

Main elements:
- Sector identification and prioritisation
- Technology identification and prioritisation in each prioritized sector

Deliverable II: Barrier Analysis and Enabling Framework Report

Main elements:
- Barrier analysis for each technology and enablers addressing the barriers
- Enabling framework for technologies

Deliverable III: Technology Action Plans

Main elements
- Action plan for prioritised technologies per sector,
- Action plan for each prioritised technology,
- Cross-cutting issues

Deliverable IV: Project Ideas

Main elements
- Specific project ideas for each prioritised sector

Main country TNA deliverables and their relations

Deliverable I: TNA report

Main elements:
- Sector identification and prioritization
- Technology identification and prioritization in each prioritized sector

Deliverable II: Barrier analysis and enabling framework report

Main elements:
- Barrier analysis for each technology and enablers addressing the barriers
- Enabling framework technologies

Deliverable III: Technology Action Plans

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- Action plan for prioritized technologies per sector
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Deliverable IV: Project Ideas

Main elements:
- Specific project ideas for each prioritized sector

Institutional arrangements of the TNA process

Stakeholders:

- National government representatives, academia, private sector, consultants

- Local governments, electric utility companies, news media and potential donors

- NGOs commonly involved in the TNAs of the Eastern European, Asian and African Parties

- Less than 15% of Parties reported stakeholders from finance community, in-country donors
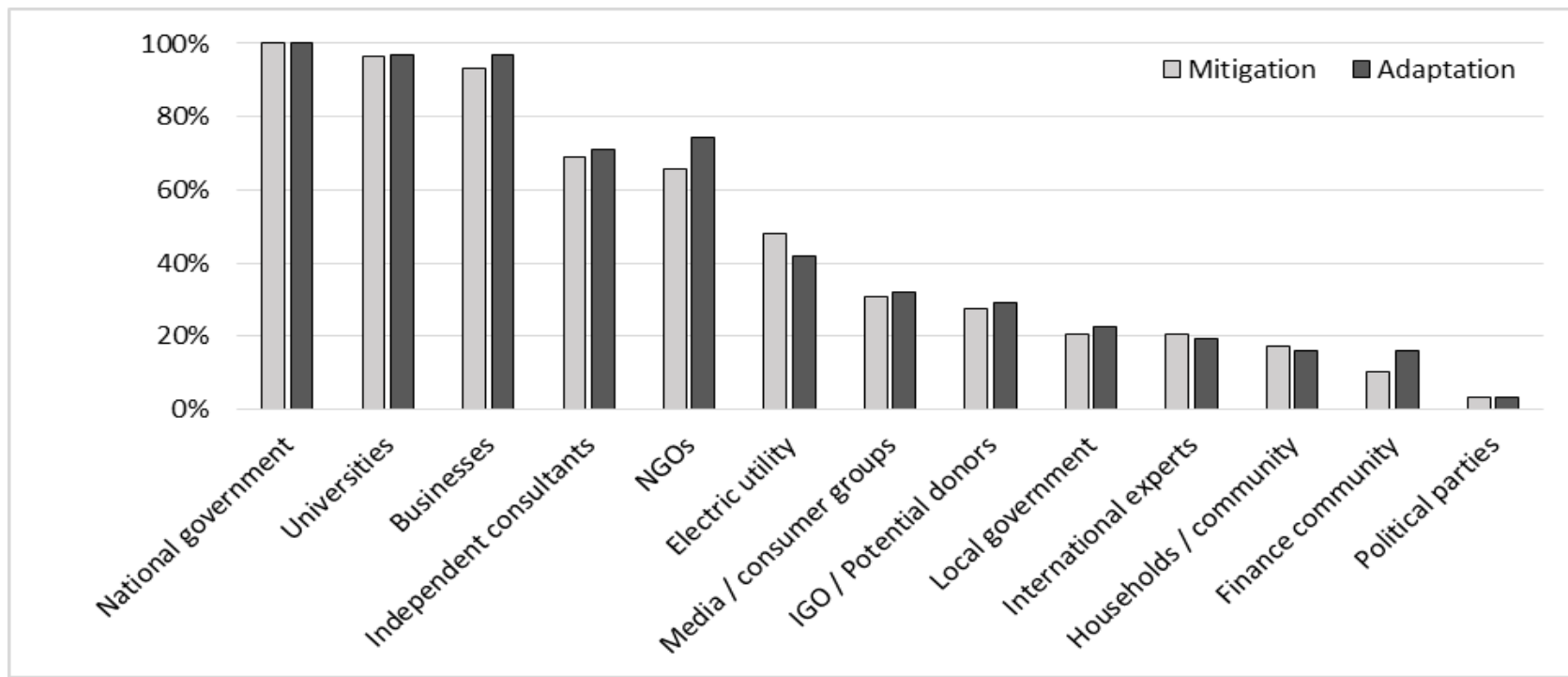
Prioritization of technology needs

National development objectives

- Parties conducted their TNAs in light of their National Development Objectives

Criteria

- Mitigation - in which sectors the largest GHG emission reduction, combined with highest possible environment, economy and social benefits could be reached; Adaptation – consideration of sector vulnerability potential & national development priorities.

Methods

- Included multi-criteria decision analysis, cost benefit and risk-benefit analyses, questionnaire surveys, interviews, stakeholder workshops

Prioritized sectors in TNA reports

- Mitigation – energy, agriculture, forestry and other land use, waste, industrial processes and product use

- Adaptation – agriculture, water, infrastructure, climate observation, human health

Prioritization of sectors - mitigation:

- The energy sector was the most prioritized mitigation sector, followed by agriculture, forestry and other land use sector, and waste sector

- Within the energy sector, the most prioritized sub-sectors were energy industries and transport

(% of all Parties)

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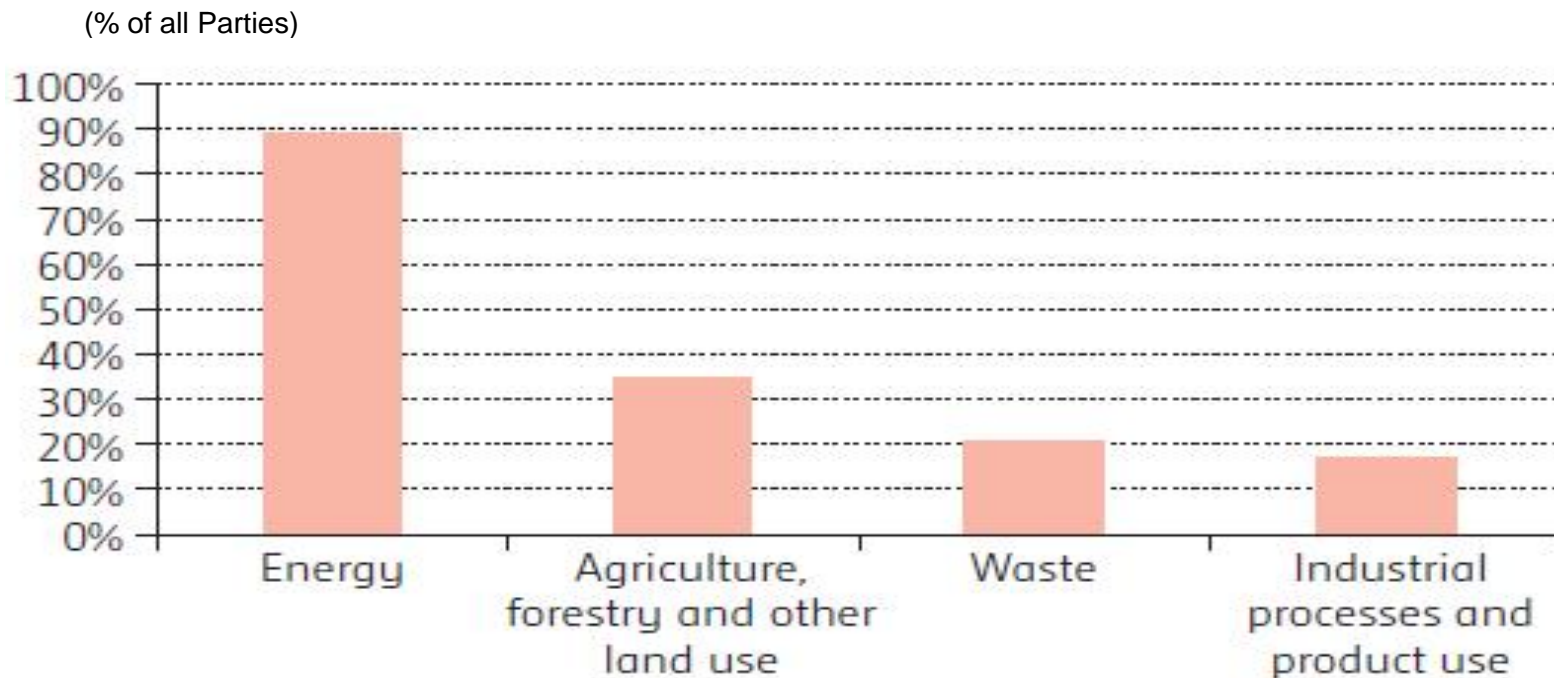
Prioritization of sectors - adaptation:

- The most commonly prioritized adaptation sectors were agriculture, water resources, infrastructure and settlements (including coastal zones)

- Prioritized sectors for adaptation consistent with sectors identified in vulnerability analyses
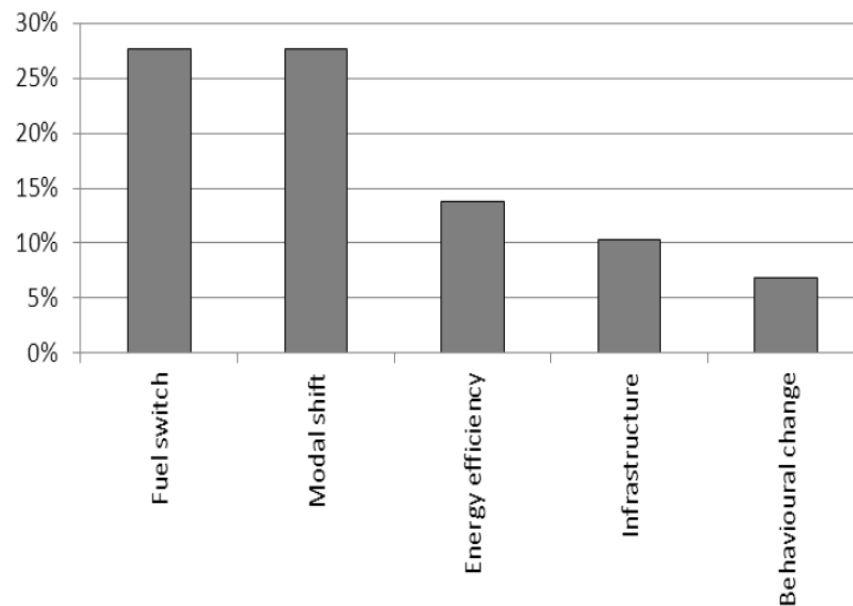
(% of all Parties)
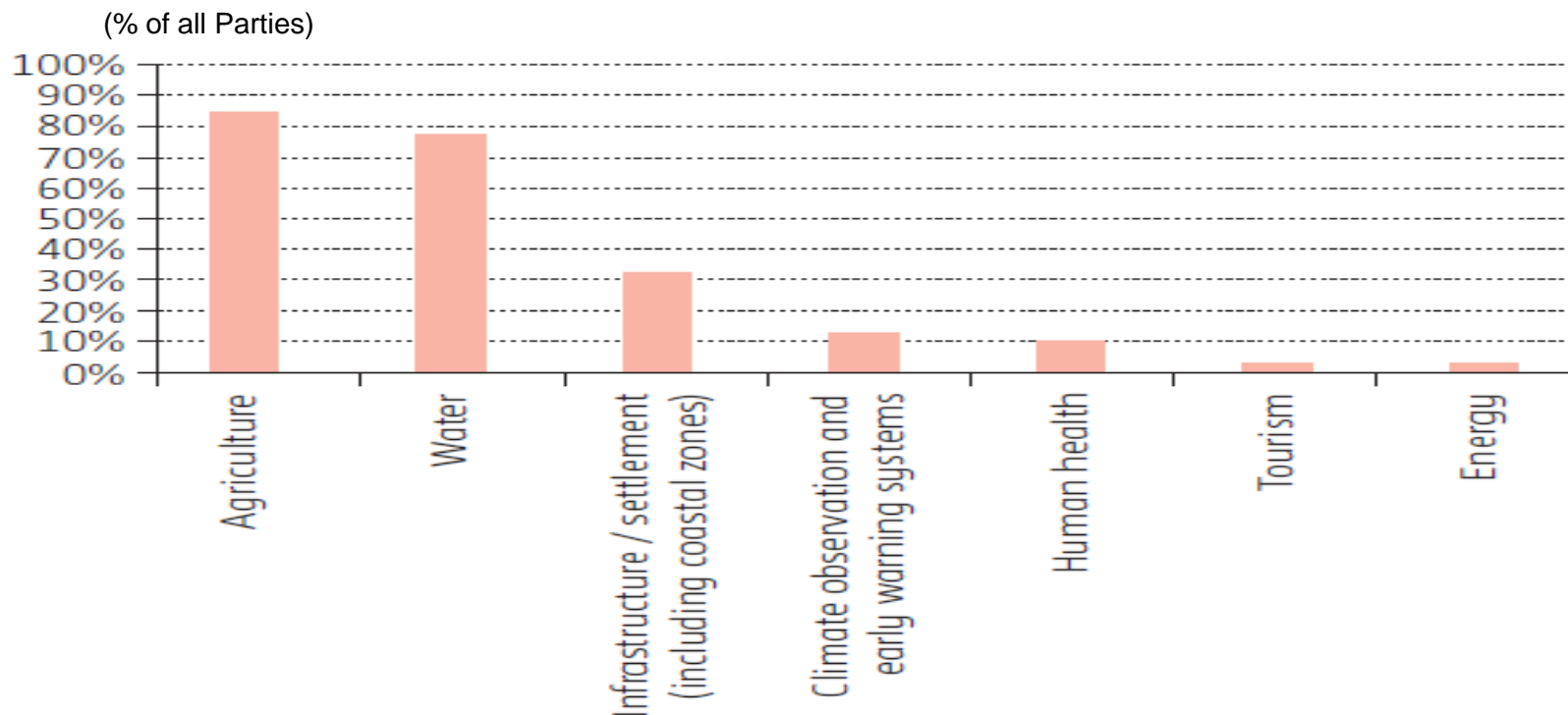
Prioritization of technologies - mitigation:

- **Energy industries subsector** - solar PV, wind turbines, SHPP, and CHP (70% RET)

- **Transport subsector** - modal shift, fossil fuel switch technologies and infrastructure improvement technologies

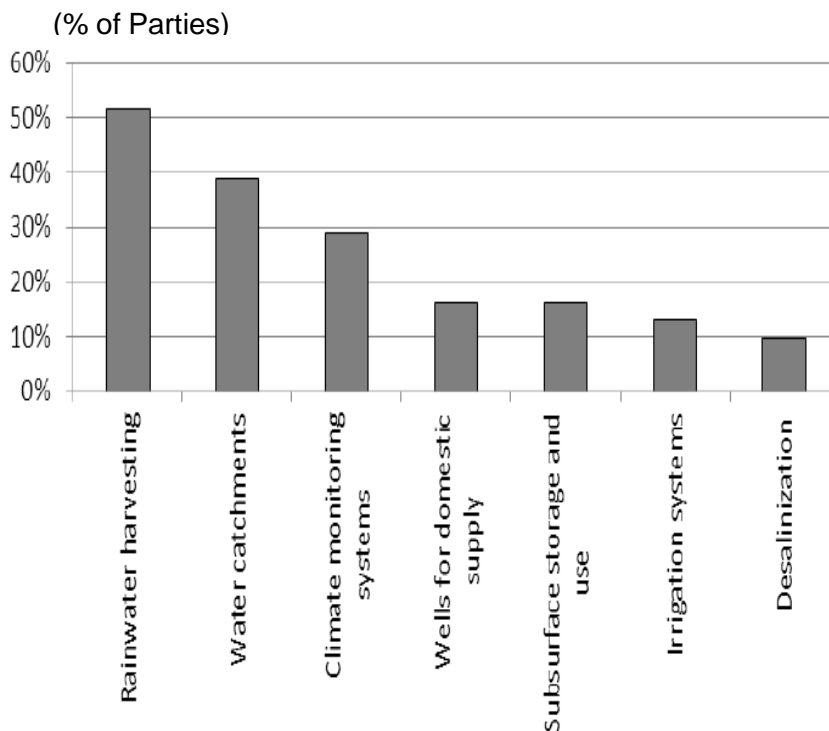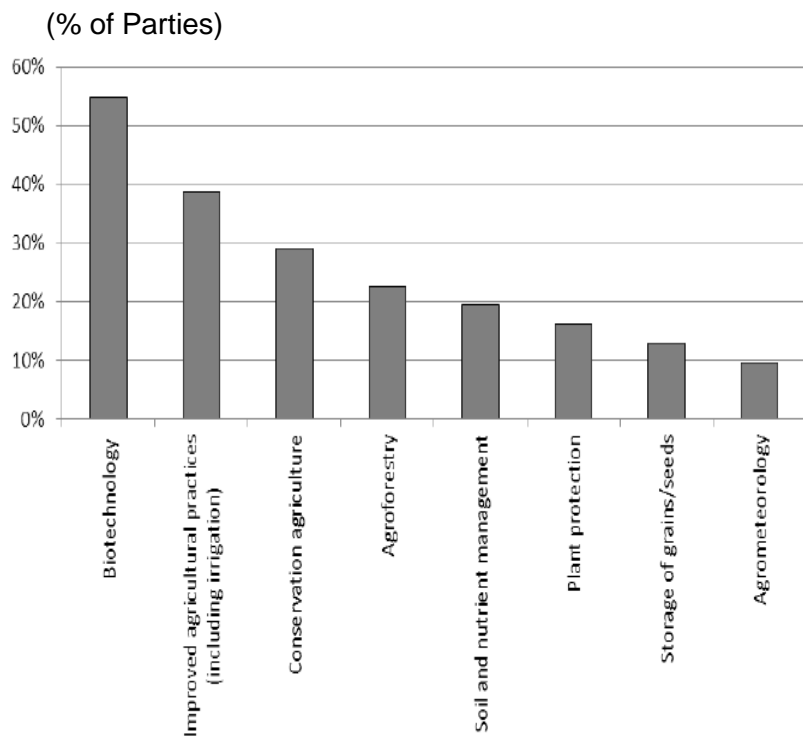- **Industrial subsector** - high efficient electric motors and brick production
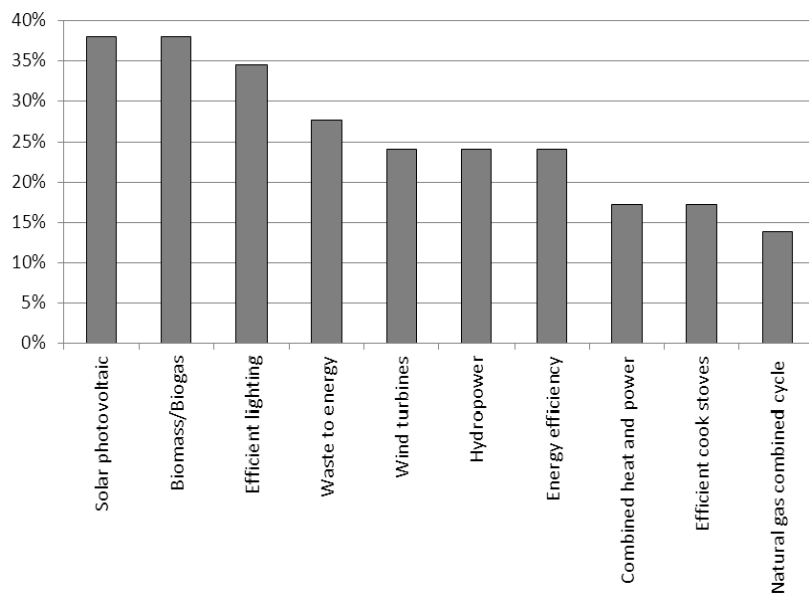
(% of Parties)   (% of Parties)

Prioritization of technologies - adaptation:

- **Agriculture** (including forestry)

- **Water resources**

- **Infrastructure and settlement** (including coastal zones)
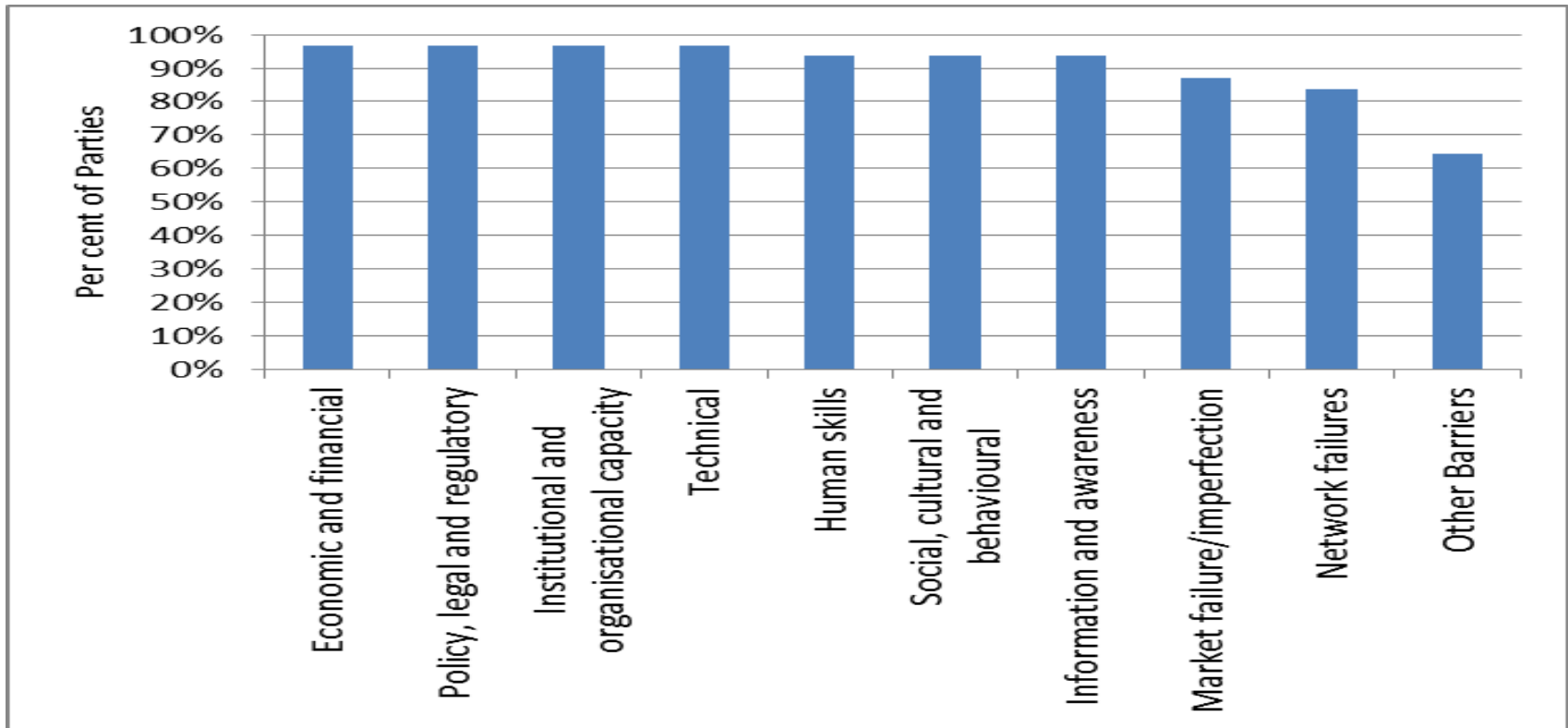
(% of Parties)

(% of Parties)

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Barrier analysis - mitigation

- The barriers to the dissemination of prioritized technologies were addressed by all TNA reports, separately for mitigation and adaptation technologies

- The most frequently identified mitigation barriers were economic and financial barriers, followed by technical, policy, legal and regulatory barriers, and information and awareness barriers

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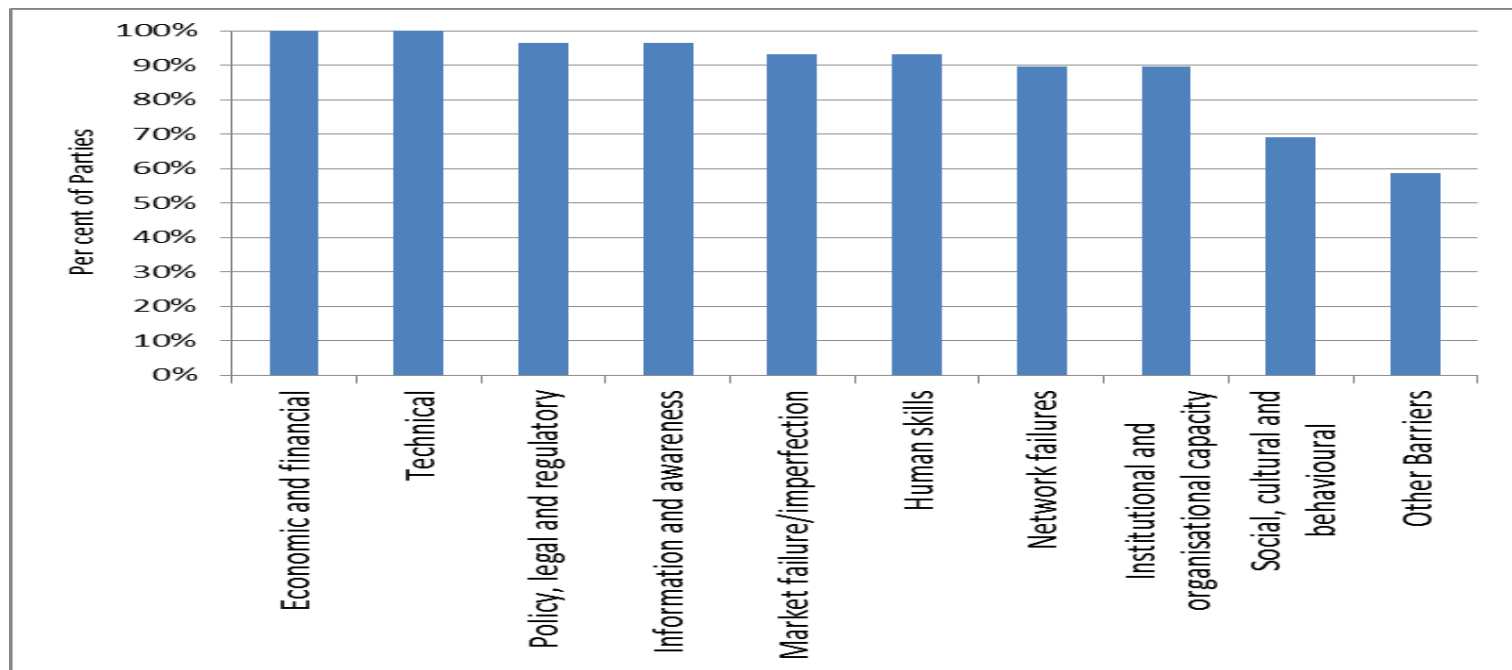
Barrier analysis - adaptation

- The most frequently identified adaptation barriers were economic and financial barriers, followed by policy, legal and regulatory barriers, and lack of institutional and organizational capacity barriers

Technology action plans

- Over 90 per cent of Parties prepared TAPs for the technologies that they prioritized for mitigation and adaptation

- TAPs recommend an enabling framework for the development and transfer of prioritized technologies at the desired scale

- Parties grouped TAP actions in categories such as:

  - Policy and regulatory actions

  - Economic and financial actions

  - Infrastructure requirements

  - Information campaigns and awareness building

  - International cooperation activities

Technology action plans (examples)

Argentina - transport in the agriculture sector: TAP includes measures to address identified barriers and technology needs, the identification of the possible government actors, the time frame and the estimated budget for the group of measures.

Georgia - TAP for efficient wood stoves includes measures to address identified technology barriers and identifies the priority of the implementation of the measures and other elements such as, inter alia, the implementing agency, time frame and estimated costs for each measure.

Kenya - TAP for solar dryer technology presents four measures to address identified financial and non-financial barriers, including measures for setting up local assembling industries.

Technology action plans (estimated budget)

Mitigation

- More than 60% of Parties specified costs for their mitigation TAPs, totalling USD 5.2 billion

    - 2.8 billion was estimated for physical investments (infrastructure),

    - 1.4 billion for providing financial and economic support and incentives, and

    - 214 million for capacity building measures.

Adaptation

- More than 60% of Parties specified costs for their adaptation TAPs, for a total amount of USD 2.4 billion.

    - 934 million estimated to physical investments,

    - 866 million estimated to financial and economic support and incentives, and

    - 369 million estimated to capacity building measures.

Project ideas reports

- More than 87% of Parties developed concrete ideas, or proposals for projects or programmes based on their priority technology needs

- Energy industries was the **mitigation** sub-sector with the most identified project ideas. Other sectors or sub-sectors commonly identified included waste management, agriculture and transport

- For **adaptation**, most of the project ideas were for technologies in the agriculture and water sectors and to a lesser extent the infrastructure and settlement (including coastal zones) sector.

- The total <u>estimated budget</u> required for the 257 project ideas identified by Parties amounted to more than USD 24.7 billion

- USD 12.5 billion was estimated to be required for project ideas related to mitigation, and 12.2 billion for adaptation
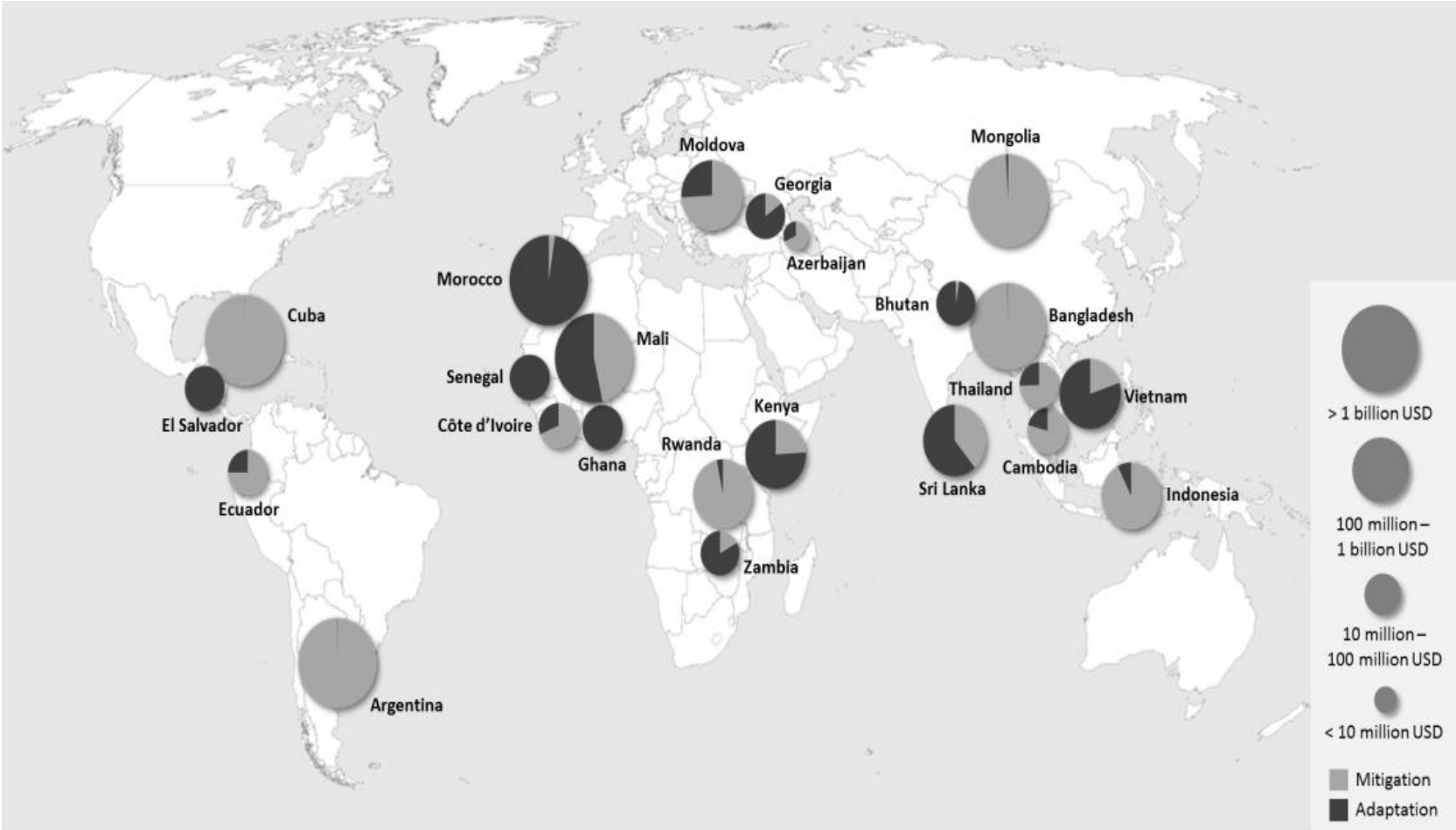
Linkages between TNAs and other processes under the Convention

- Over half of the TNA reports included consideration of possible inter-linkages between TNAs and other planning processes under the UNFCCC

- Approximately half of the Parties which considered possible inter-linkages noted that their TNAs are based on work on NAMAs and NAPAs

- Some one fourth of Parties identified various TNA elements as inputs for work on national communications, NAMAs or NAPs

TNA, NAMA, NAP processes' commonalities:

- Country driven processes
- Focus on sustainable development context on national level
- Processes are complementary
- TNA identified technology portfolio and TAP could provide inputs for NAMA and NAP processes
- There is common focus on actions either at national, sectorial or technology levels

Thank you!

More information: ttclear.unfccc.int