Executive Committee of the Warsaw International Mechanism

Seventh meeting of the Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts

Bonn, Germany,
13–16 March 2018

Reference document for item 6:

Collaboration between the Executive Committee of the Warsaw International Mechanism on Loss and Damage and the Technology Executive Committee

About this document

This reference document is prepared jointly by secretariat teams supporting the Executive Committee of the Warsaw International Mechanism on Loss and Damage (Excom) and the Technology Executive Committee (TEC).

It contains:

Section I: A brief history of interaction between the two committees

Section II: Mandate of the joint activity

Section III: Description of the process undertaken by the TEC to produce briefs of similar nature in the past

Section IV: Key consideration for determining the potential scope of a policy brief and the process for preparation of a policy brief

Section V: Next steps

Annex I: A description of TEC briefs produced to date

Annex II: A preliminary overview of possible technologies for coastal zones that can serve as an input for the consideration of the preparation of the joint policy brief

United Nations
Framework Convention on
Climate Change

I)   **Brief history of interaction between the TEC and the Excom**

1. As part of the initial two-year workplan of the Excom, the Excom sent, in October 2015, an initial communication to the TEC to enhance coherence of the efforts under the two Committees.

2. The TEC taskforce on emerging and cross-cutting issues prepared the TEC recommendations for entry points for collaboration with the Excom, which were subsequently endorsed by the TEC at its 14ᵗʰ meeting in March 2017 and submitted to the attention of the Excom. At the same meeting the TEC revised its rolling workplan to incorporate any follow up activities as the results of submitting its recommendations

3. Activity 3 of Strategic workstream (c) of the current five-year rolling workplan of the Excom reflects these recommendations.

II)   **Mandate of the joint activity**

4. Activity 3 of the strategic workstream (c) of the five-year rolling work plan provides an entry point for specific actions for collaboration between the Excom and the TEC, especially in following respect:
   a. **Development of a joint policy brief**, for example, on the area of technologies for coastal zones *(activity 3(a))*;
   b. Collaboration on **identifying technical experts** who can contribute to expert groups and events/meetings organized by both bodies *(activity 3(b))*; and
   c. **Exchange of inputs and advice between the two bodies** to enhance their work, *inter alia*, on how enhanced measures of preparedness and resilience-building could help reduce and avert loss and damage *(activity 3(c))*.

5. The indicative time frame to initiate the consideration for the activities mentioned above is Excom 7 (13-16 March), as contained in the current workplan of the Excom.

6. As per activity 18.2 of the TEC rolling workplan for 2016-2018, the TEC is to consider any follow-up actions for the collaboration with the Excom.

7. Both committees will hold their respective meetings from 13 to 16 March on the UN Campus, Bonn, Germany. A joint discussion by the two committees is planned to be held on 16 March to initiate the work. The joint discussion could focus on:
   a. A possible framing of the joint policy brief, including the objectives, suitability of the focus area, possible process for its development; and arrangements for associated intersessional work;
   b. Possible modalities to coordinate the work on all areas of collaboration;

III)   **Development of a joint policy brief: TEC experience in preparing briefs of similar nature**

8. To date, the TEC has produced eleven policy briefs which provide policy options on key climate technology issues. The briefs aim to be concise, easy-to-understand and visually appealing. Annex I provides details of these "TEC Briefs".

9. TEC briefs have been developed through the following steps:
    a. Preparation of a technical/background paper to provide an overview of the topic;
    b. Organization of a thematic dialogue as part of regular meeting of the TEC or an event during SB sessions in order to deepen the understanding on the topic;
    c. Development of a draft brief, taking into account the outcomes of steps (a) and (b) above;
    d. Consideration of the draft brief at a regular meeting of the TEC;
    e. Finalization of the substantive contents;
    f. Editing and adding of designing features;
    g. Online publication.

10. The work to prepare the briefs is guided by a taskforce assigned to deal with the issue. The taskforce draws the knowledge from its members and representatives of other constituted bodies, NGOs and international organizations sitting in the task force. When specific expertise is needed, the TEC can engage experts to assist them in the preparation of the documents.

IV)   Key considerations for the potential scope and the process for preparation of a policy brief

11. Initial, key considerations to initiate the work extends to process and possible modalities flow considerations as well as thematic aspects.

12. Regarding thematic aspects:

    a. **Complementarity of the final product:** A wealth of related literature already exists in the domains of disaster risk management, adaptation, environmental protection, among others. Value addition of the final product to existing tools/information related to technologies for coastal zones is essential.

    b. **Coherence of overall efforts on averting, minimizing and addressing loss and damage**: To ensure coherence of overall efforts, it is important for this activity to take into account the range of concerns envisioned to be dealt under the WIM and the TEC:

        i. *Technologies that address* not only extreme weather events but also **slow onset events** (SOEs) should be considered.[1] SOEs are identified as follows: desertification, glacial retreat and related impacts, land and forest degradation, loss of biodiversity, ocean acidification, increasing temperatures, salinization and sea level rise.[2]

        ii. *Integrate technologies that contribute* to addressing not only economic losses but also **non-economic losses**,[3] such as health, human mobility, loss of territory,

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[1] Strategic workstreams (a) of the current workplan of the Excom; Paris Agreement, Article 8.4 (c).
[2] As identified in Decision 1/CP.16, paragraph 25.
[3] Strategic workstreams (b) of the current workplan of the Excom; Paris Agreement, Article 8.4 (g).

cultural heritage, indigenous knowledge, and ecosystem services, or events that may involve irreversible and permanent loss and damage.[4]

    iii. *Technologies from a perspective of* **comprehensive risk management**, which include:[5]
- Emergency preparedness (including early warning systems);
- Measures to enhance recovery and rehabilitation and build back/forward better; and
- Transformational approaches.[6]

    iv. *Technologies that responds* to priorities identified by countries through their technology needs assessments (TNAs) within this area, which include:
- Wetland restoration;
- Seawalls;
- Community-based early warning systems for natural disaster prevention; and
- Beach reclamation.

c. **Target audience**: Determining main beneficiaries of this policy brief from the outset of the process not only is crucial for narrowing the scope of the contents but also helps to decide on the tone of the document and the format of the final product – e.g. should the policy brief include supplements for specific technologies and/or regions? Should the policy brief include case studies?

d. **Types of technologies concerned:** At the outset, common understanding is needed on which types of technologies to be covered in the policy brief: i.e. hardware technologies, software and "orgware" (institutional arrangements), associated policy and regulatory frameworks. Annex II contains a preliminary overview of these possible technologies for coastal zones.

13. With regard to the process and possible modalities of the preparation of a policy brief:

a. **Process:** Clarifications are needed on responsibilities of the two committees and secretariat, timeframe/milestones for deliverables.

b. **Modality:** Common understanding is needed both for modality of work by the two committees, in-meetings and intersessionally, as well as potential role(s) of relevant organizations, entities and experts in the development of a joint policy brief. Related consideration for the latter include: resource implications, how to catalyze expertise of, and resources available in, the relevant organizations and entities, in undertaking this activity.

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[4] Paris Agreement, Article 8.4 (d).

[5] Strategic workstreams (c) of the current workplan of the Excom; Paris Agreement, Article 8.4 (a), (b), (e) and (f).

[6] In addition to (i)–(iii) above, another key thematic workstream under the WIM relates to human mobility, and includes migration, displacement and planned relocation (as reflected in Strategic workstream (d) of the current workplan of the Excom).

V)   Next steps

14. In relation to Activity (a) 'Development of a joint policy brief' as referred to in paragraph 6 above, the Excom and TEC members may wish to consider aspects referred to in paragraph 13 and 14 above, and establish a joint intersessional working group, assisted by the secretariat, to advance the work on a policy brief, as appropriate;

15. In relation to Activities (b) and (c) 'modalities for other areas of collaboration' as referred to in paragraph 6 above, the Excom and TEC members may wish to consider establishing focal points within each committee, who, as needs arise, can coordinate and work collaboratively intersessionally to take action.

Annex I – Description of past TEC briefs

The TEC has been developed and published eleven TEC Briefs so far. The following list shows the thematic areas of past TEC Briefs.

- TEC Brief (October 2013): Using roadmapping to facilitate the planning and implementation of technologies for mitigation and adaptation

- TEC Brief (October 2013): Possible integration of the TNA process with NAMA and NAP processes

- TEC Brief (October 2013): Results and success factors of TNAs

- TEC Brief #4 (November 2014): Technologies for Adaptation in the Agriculture Sector

- TEC Brief #5 (November 2014): Technologies for Adaptation in the Water Sector

- TEC Brief #6 (November 2015): Enhancing Access to Climate Technology Financing

- TEC Brief #7 (November 2015): Strengthening National Systems of Innovation to Enhance Action on Climate Change

- TEC Brief #8 (November 2015): Facilitating Technology Deployment in Distributed Renewable Electricity Generation

- TEC Brief #9 (June 2017): South–South cooperation and triangular cooperation on technologies for adaptation in the water and agriculture sectors

- TEC Brief #10 (September 2017): Technological Innovation for the Paris Agreement: Implementing nationally determined contributions, national adaptation plans and mid-century strategies

- TEC Brief #11 (October 2017): Industrial Energy and Material Efficiency in Emission-Intensive Sectors

Annex II – Preliminary overview of technologies for coastal zones

1. A broad definition of technology includes hardware (equipment and capital goods), software (capacity-building, knowledge-sharing, skills development) and 'orgware' (institutional arrangements).[7] This overview focuses on hardware, while software, institutional arrangements, as well as regulatory and policy frameworks are considered as part of the enabling environment for the hardware technologies to be developed and implemented. In line with the comprehensive risk management approach, the following hardware technologies for coastal zones have been categorized along the following lines of assessment and reduction.

2. Numerous technologies to both **assess** and **observe** climate impacts on coastal zones have been developed, and are essential prerequisites to designing and implementing technologies to reduce, transfer and retain risks associated with the adverse effects of climate change. Such technologies include:
    o Mapping and surveying including shoreline mapping, beach profiling
    o Video analysis
    o Airborne laser scanning (LIDAR)
    o Satellite remote sensing
    o Wave rider buoys
    o Tide gauges
    o Satellite altimetry and global positioning systems
    o Historical and geological methods including maps and aerial photographs
    o Coastal vulnerability index and sustainable capacity index
    o Object space displacement
    o Radial lens distortion
    o Shoreline delineation
    o Geographic Information Systems (GIS)

3. Technologies to **reduce** climate risks would include technologies that are generally categorized in the literature as technologies to *protect* from extreme and slow onset events (i.e. reduce the risk of the event by decreasing its probability of occurrence), *retreat* inland (i.e. reduce the risk of the event by limiting its potential effects on affected areas) and *accommodate* risks (i.e. increase societies' ability to cope with the effects of the event).
    a. The technology options that can be used in the **protection** of coastal zones to reduce the adverse impacts of extreme and slow onset events on coastal zones include:
       o Dykes
       o Seawalls
       o Tidal barriers
       o Detached and offshore breakwaters
       o Flood gates
       o Groynes
       o Levees
       o Revetments
       o Rock armor
       o Gabions
       o Cliff stabilization
       o Entrance training wall
       o Dune or wetland restoration or creation for stabilization,
       o Beach nourishment, replenishment and drainage

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[7] https://www.ctc-n.org/sites/www.ctc-n.org/files/resources/tec-_compilation_of_good_practises_in_climate_adaptation_and_south-south_cooperation.pdf

Such technologies can include local, indigenous and traditional practices (e.g. walls of wood, stone or coconut leaf, afforestation)

b. Technology options can also be used to enable communities to **retreat**, so that human settlements and economic activities relocate away from coastal zones that have been or are likely to be severely impacted by the effects of climate change. Such technologies include relocating buildings and infrastructure at risk, in the framework of supportive policy and regulatory environments (e.g. establishing set-back zones, phasing out development in exposed areas, creating upland buffers and rolling easements).

c. Technology options that can be used to **accommodate** or assist communities in managing the impacts of climate change at the location of the affected coastal zones, include:
    o Early warning and evacuation systems for extreme weather events
    o Agricultural solutions, such as using salt-resistant crops and floating agricultural systems
    o Improved drainage
    o Desalination systems
    o Coral planting