

## Updated draft of the technology framework under Article 10, paragraph 4, of the Paris Agreement

Version of 8 May 2018

*This updated draft captures Parties' deliberations on key themes Innovation, Implementation, Enabling environment and capacity-building, and Support which took place at this session. Parties initiated discussion on interlinkages issues. They have yet to discuss, among others, key theme Collaboration and stakeholder engagement, Principles, and structure of the technology framework. This updated draft is a work in progress and does not represent a consensus.*

*The approach used to reflect Parties' deliberations in the updated draft is as follows:*

- *Yellow highlight is used to indicate additional text proposed by Parties;*
- *~~Strikethrough~~ is used to indicate proposals for deletion (input from Parties-only consultations);*
- *Brackets are used to indicate alternative words or Parties' diverging views on the issues;*
- *Italics in curly brackets are used to indicate proposals related to new sub-sections or restructuring of sub-sections/paragraphs;*
- *Option is used to indicate alternative texts.*

### I. Purpose

1. The purpose of the technology framework is to provide overarching guidance to the work of the Technology Mechanism in promoting and facilitating enhanced action on technology development and transfer in order to support the implementation of the Paris Agreement in pursuit of the long-term vision referred to in Article 10, paragraph 1, of the Paris Agreement.<sup>1</sup> The long-term vision on technology development and transfer shared by Parties is on the importance of fully realizing technology development and transfer in order to improve resilience to climate change and to reduce greenhouse gas emissions.

2. The technology framework can play a strategic role in improving the effectiveness and efficiency of the work of the Technology Mechanism, which consists of the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN), by addressing the transformational changes envisioned in the Paris Agreement and the long-term vision on technology development and transfer.<sup>2</sup>

### II. Principles

3. The principles of the technology framework, which are coherence, inclusiveness, result-oriented approach, transformational approach and transparency, should guide the Technology Mechanism in implementing the Paris Agreement.<sup>3</sup> Applying these principles would require actions and technology-related activities under this framework:

(a) Coherence: to align with the long-term vision of technology development transfer and other provisions under the Paris Agreement, the existing national plans and strategies under the UNFCCC and the actions undertaken by relevant institutions of the international climate regime and beyond;

(b) Inclusiveness: to be designed and implemented in a manner that facilitates the active participation of all relevant stakeholders and takes into account sustainable development, gender,

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<sup>1</sup> FCCC/SBSTA/2016/4, paragraph 28.

<sup>2</sup> FCCC/SBSTA/2016/4, paragraph 28.

<sup>3</sup> FCCC/SBSTA/2017/4, paragraph 31.

global action, nationally determined needs of countries, special circumstances of least developed countries, and enhancement of indigenous capacities and endogenous technologies in developing countries;

(c) Result-oriented approach: to be result oriented in terms of output, outcome and impact;

(d) Transformational approach: to deliver transformational changes towards a climate-resilient and low greenhouse gas emission society as envisioned in the Paris Agreement;

(e) Transparency: to be designed and implemented in a manner that enhances transparency on results and costs and on the process, such as planning, resource management and reporting of activities and support.

### III. Key themes

4. The key themes for the technology framework are focused areas of action to be undertaken within this framework. The initial key themes for the technology framework are:

- (a) Innovation;
- (b) Implementation;
- (c) Enabling environment and capacity-building;
- (d) Collaboration and stakeholder engagement;
- (e) Support.<sup>4</sup>

5. Within each key theme below, specific actions and the role of the Technology Mechanism are identified and elaborated.

#### A. Innovation

##### *[Context]*

6. As stipulated in Article 10, paragraph 5, of the Paris Agreement, accelerating, encouraging and enabling innovation is critical for an effective, long-term global response to climate change and promoting economic growth and sustainable development. To achieve the [goals][aims] of the Paris Agreement, there is a pressing need to accelerate and strengthen technological innovation so that it can deliver environmentally and socially sound, cost-effective and better performing climate technologies on a larger and more widespread scale. ~~There is no ‘one size fits all’ approach, and different innovation approaches are needed.~~<sup>5</sup>

7. [Actions][Activities] under this key theme therefore should accelerate and scale up innovation in ~~different~~ all-stages of the technology cycle, addressing both adaptation and mitigation in a balanced manner to help countries build resilience and reduce their emissions, and be undertaken in a manner that ~~enhances the effective participation of developing country Parties in collaborative research, development and demonstration; fosters sustainable development; and ensures gender responsiveness~~ inclusivity.

8. Fostering innovation could be done through new collaborative approaches for climate technology research, development and demonstration (RD&D); creation and promotion of relevant policy and finance to incentivize and nurture a supportive environment for innovation; and productive engagement of private sector and closer collaboration between public and private sectors.

##### *[Actions]*

#### 1. [Collaborative research, development and demonstration]

9. [Actions][Activities] in this area of work could include:

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<sup>4</sup> FCCC/SBSTA/2016/4, paragraph 29.

<sup>5</sup> Key messages on innovation from the TEC for the Conference of the Parties at its twenty-third session as contained in the joint annual report of the TEC and the CTCN for 2017 are available at <http://unfccc.int/resource/docs/2017/sb/eng/03.pdf>.

(a) Provision of [comprehensive] information on the current and future activities of international technology RD&D partnerships and initiatives to inform and help link countries with these initiatives;

(b) Promotion of ~~new~~ collaboration with ~~existing~~ international technology RD&D partnerships and initiatives to stimulate RD&D of ~~new and early stage~~ climate technologies;

(c) Provision of technical support to countries to initiate joint RD&D activities on climate technologies.

10. [The TEC leads actions referred to in paragraph 9(a) above, and the CTCN leads actions referred to in paragraph 9(b) and 9(c) above.]

*{Sub-section 1bis below including paragraphs 10bis and 10ter was proposed as a new sub-section}*

### **1bis. Increasing the effective participation of developing country Parties in collaborative research, development and demonstration**

10bis. Actions in this area of work could include:

(a) Enhancement of the linkage between the Financial Mechanism and the Technology Mechanism with regard to the support for implementation of collaborative RD&D in developing country Parties;

(b) Promotion of financial resources for innovation in developing country Parties;

(c) Development of innovative means and supports of engaging developing country Parties in innovation;

(d) Other possible ways to increase the effective participation of developing country Parties in collaborative RD&D.

10ter. {placeholder for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}

*{Sub-section 2 below including paragraphs 11 and 12 was proposed to be moved to before sub-section 1 on Collaborative RD&D}*

## **2. [Promotion of enabling policy and finance for innovation]**

11. [Actions][Activities] in this area of work could include:

(a) Supporting countries to improve policy environments, **strategies, legal and regulatory frameworks and institutional arrangements**, ~~for incentivizing innovation, including by promoting and strengthening~~ their national system of innovation;

(b) **Sharing** ~~Provision~~ information, good practices and lessons learned from countries' climate technology RD&D policies and activities;

(c) Accelerating the **scale-up uptake** and diffusion of promising technologies;

(d) Identifying and promoting innovative finance and investment [for all stages of the technology cycle];

(e) Supporting countries in the development of long-term plans for economic development with detailed technological transition pathways towards the widespread uptake of innovative, climate-friendly technologies;

(f) **Improving access to affordable and user-friendly communication technologies.**

12. [The TEC leads actions referred to in paragraph 11(b) above. {placeholder for 11(a), 11(c), 11(d) for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}]

## **3. [Engagement of private sector and public-private partnerships]**

13. [Actions][Activities] in this area of work could include:

(a) Promotion of private sector engagement in the development of new climate technologies, including the identification of ways to incentivize their participation;

(b) Effective use of the CTCN network, including the national designated entities (NDEs), to facilitate private sector and research institutions engagement and strengthen partnerships between public and private sectors;

(c) Development and dissemination of a vision of innovation-led technology transformation within private sector organizations and private investors in order to drive awareness of future market opportunities.

14. [The CTCN leads actions referred to in paragraph 13(b) above. {placeholder for 13(a) for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}]

## B. Implementation

### [Context]

15. Article 10, paragraph 2, of the Paris Agreement highlights the importance of technology for the implementation of mitigation and adaptation actions under the Agreement. The Technology Mechanism should facilitate and strengthen the transition to help countries achieve the aims of the Paris Agreement, especially recognizing the importance of rapidly accelerating the shift towards climate resilience and low greenhouse gas emission development. As such, the future work of the Technology Mechanism will need to consider relevant technological solutions that can help countries achieve the aims of the Paris Agreement.<sup>6</sup>

16. [Actions][Activities] under this key theme should facilitate the delivery of the on-the-ground implementation of cooperative technology development and transfer mitigation and adaptation actions, building on past and ongoing work of the Technology Mechanism and taking into consideration account specific needs and special circumstances of countries, particularly the least developed countries and the small island developing States, and the role of North-South, South-South, triangular and regional collaboration to facilitate the such implementation. [The provision of information regarding actions under this key theme may be useful to the global stocktake referred to in Article 14 of the Paris Agreement.]

17. To [Actions][Activities] under this key theme should facilitate the implementation of the mitigation and adaptation actions, countries could make effective use of identified using planning tools and processes such as nationally determined contributions (NDCs), long-term low greenhouse gas emission development strategies, technology needs assessments (TNAs), national adaptation plans, and technology roadmaps and other relevant policies, as appropriate. Further, countries need to be made aware of barriers that they may encounter during the implementation of their contributions and be supported to address these barriers. In addition, the successful implementation of mitigation and adaptation actions would require [mature][scalable and market-ready][tested, safe and socially accepted] technologies, and private sector engagement may help accelerate this process.

17bis. Implementation of a successful technology transformation will require concrete targets and timelines, as well as transformation metrics, monitoring, and reporting, to provide information on progress towards these targets. Therefore, actions under this key theme should include the establishment of national technology targets, technology transformation metrics, as well as links to the enhanced transparency framework and global stocktake.

17ter. In addition, the capacity-building needs of implementing such a transformation should be assessed, in order to inform simultaneous capacity-building activities to enable countries to effect the transformation.

### [Actions]

#### 1. [Technology needs assessments]

18. [Actions][Activities] in this area of work could include:

(a) Facilitation of the undertaking and updating of TNAs and enhancing the implementation of their results, particularly technology action plans and project ideas, and capacity-building related to TNAs;

(b) Provision of enhanced technical support and facilitation of financial support for the implementation of the results of TNAs;

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<sup>6</sup> FCCC/SBSTA/2017/INF.5.

(c) Promotion of linking or aligning TNAs with nationally determined contributions and national adaptation plans to [ensure][facilitate] coherence between the implementation of these national plans and strategies to achieve climate-resilient and low-emission development;

(d) Review of TNA guideline and update if necessary to align with the Paris Agreement.

19. [{{placeholder for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}}.]

*{Sub-section Ibis below including paragraph 19bis was proposed as a new sub-section}*

#### **Ibis. Assessment of technologies that are ready to transfer**

19bis. Actions in this area of work could include:

(a) Development of methodology to define technologies that are ready to transfer;

(b) Identification of technologies that are ready to transfer;

(c) Establishment of online platform serving as the clearing house for transferable technologies;

(d) Development of draft workplan to promote the transfer of technologies identified as ready to transfer.

#### **2. [Addressing barriers to implementation]**

20. [Actions][Activities] in this area of work could include:

(a) Identification of and recommendations to address financial, technical and capacity barriers;

(b) Consideration of social appropriateness and cultural barriers to implementation that may be specific to certain countries.

21. [{{placeholder for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}}.]

#### **3. [Private sector engagement]**

22. [Actions][Activities] in this area of work could include:

(a) Enhancement of partnerships between public and private sectors;

(b) Promotion of private sector engagement, particularly in developing countries.

23. [{{placeholder for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}}.]

### **C. Enabling environment and capacity-building**

*[Context]*

*{Paragraphs 24 to 27 below were proposed to be restructured}*

24. In the context of technology development and transfer, countries may face challenges in, for example, economic and financial aspects, market conditions, legal and regulatory frameworks, network structures, institutional and organizational capacity, and human resource capacities, as well as social, cultural and behavioural aspects. The special needs of developing country Parties in overcoming the challenges need to be considered and supported.

25. [Actions][Activities] under this key theme should foster the creation and enhancement of an enabling environment and strengthen the capacity of countries to effectively address such challenges.

26. Creating and enhancing an enabling environment should take into consideration various elements[, including what challenges need to be addressed, what should be undertaken and who should be enabled].

27. Capacity-building for technology development and transfer is a cross-cutting and comprehensive issue. While initiatives and activities on capacity-building for technology development and transfer are already being undertaken, further measures in this area [are needed] [can help] to develop, strengthen and enhance countries' capabilities to take effective climate action [under] [in the context of] the Paris Agreement.

#### *[Actions]*

### 1. [Enabling environment]

28. [Actions] [Activities] in this area of work could include:

(a) Enhancement of public awareness of the issues of technology development and transfer in climate change;

(b) Facilitation of information sharing and networking among relevant organizations and institutions to create synergies and enable the exchange of best practices, experiences and knowledge on technology development and transfer among relevant players;

(c) Promotion of an investment-friendly environment, including national strategies and action plans, a policy environment, legal and regulatory frameworks and institutional arrangements;

(d) Enabling access to climate technologies in the private sector through incentives to technology providers and through public finance resources;

(e) Strengthen the enabling policy and regulatory environment for technology development and transfer to climate-resilient and low-emission development.

29. [{{placeholder for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}}.]

### 2. [Capacity-building]

30. [Actions] [Activities] in this area of work could include:

(a) Formulation and analysis of comprehensive information on capacity-building activities in [all] [different] stages of the technology cycle;

(b) Enhanced collaboration with existing capacity-building organizations and institutions playing an intermediary role to form a linkage between recipients and suppliers of capacity-building support;

(c) Development and enhancement of endogenous capacity for climate-related technologies and harnessing indigenous knowledge;

(d) Coordination and collaboration with the Paris Committee on Capacity-building [to create synergies] [in a manner that enhances efficiency] and avoid the duplication of work;

(e) Enhancement of the capacity of NDEs, especially those in developing countries.

31. [The TEC leads actions referred to in paragraph 30(a) above, and the CTCN leads actions referred to in paragraph 30(b) above. The TEC and the CTCN jointly undertake actions referred to in paragraph 30(d) above. {placeholder for paragraph 30(c), 30(e) for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}.]

## D. Collaboration and stakeholder engagement

#### *Context*

32. Collaboration and engagement of stakeholders will enhance global interlinkages between players in the development and transfer of climate technology and help bridge the knowledge gap between developed and developing countries. In this context, stakeholders will provide important inputs into the work of the Technology Mechanism.

33. Therefore, the Technology Mechanism shall work in an open and inclusive, including gender-inclusive, manner in which stakeholders are invited to participate and actively engage. The collaboration and engagement of stakeholders should take place in all stages of the technology cycle.

34. Enhanced engagement of key stakeholders at the local, regional, national and global levels will be beneficial for the Technology Mechanism, and more systematic efforts are needed. Further, activities for technology development and transfer across relevant organizations, institutions and

initiatives should be harmonized and synergized to avoid duplication and to ensure consistency and coherence.

### **Actions**

#### **1. Engagement with key stakeholders**

35. Actions in this area of work could include:

(a) Enhanced engagement with local community and authorities, national planners and civil society organizations;

(b) Support for NDEs to establish links with relevant stakeholders, including governments, private sectors, civil societies, other NDEs and focal points of the UNFCCC;

(c) Enhanced involvement and participation of relevant stakeholders in the planning and implementation of the Technology Mechanism activities to leverage their specific expertise, knowledge and experience.

36. The CTCN leads the actions referred to in paragraph 35(b) above. The TEC and the CTCN jointly undertake the actions referred to in paragraph 35(c) above. {placeholder for paragraph 35(a) for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}.

#### **2. Collaboration with other organizations, institutions and initiatives**

37. Actions in this area of work could include:

(a) Enhanced collaboration and synergy with other international organizations, institutions and initiatives, including academia and the scientific community, to leverage relevant knowledge and information, particularly on future technological solutions and transformational technologies needed;

(b) Enhancement of collaboration with private sector and strengthening partnerships between public and private sectors.

38. The TEC and the CTCN jointly undertake actions referred to in paragraph 37(a) above. {placeholder for paragraph 37(b) for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}.

## **E. Support**

### **[Context]**

39. [As stipulated in Article 10, paragraph 6, of the Paris Agreement,] [Article 10, paragraph 6, of the Paris Agreement provides that] support, including financial support, shall be provided to developing country Parties for the implementation of Article 10 of the Paris Agreement, including for strengthening cooperative action on technology development and transfer at different stages of the technology cycle, with a view to achieving a balance between support for mitigation and adaptation.

40. *Option 1:* The understanding of support under this key theme is broader than just financial support, as it may include all aspects of support to implement Article 10 of the Paris Agreement. The support should be new and additional, adequate and predictable in a transparent manner and provided for all the key themes of this framework, taking into account national circumstances, gender perspective and endogenous and indigenous aspects.

*Option 2:* Support under this key theme may include all aspects of support to implement Article 10 of the Paris Agreement, taking into account the needs and priorities of Parties.

41. Provision and mobilization of various types of support corresponding to different needs of countries, taking into account specific needs and special circumstances of countries, particularly the least developed countries and the small island developing States, [are crucial to implementing Article 10 of the Paris Agreement] [can enhance cooperative action on technology development and transfer].

42. [Further, cooperative action on technology development and transfer can be [stimulated][enhanced] by systematic monitoring and evaluation of the support and provision of relevant information.] [In this context, the provision of information regarding actions under this key



theme may be useful to inform other processes under the Paris Agreement, such as the transparency framework referred to in Article 13 and the global stocktake referred to in Article 14.]

**[Actions]**

**1. [Provision of support]**

43. [Actions][Activities] in this area of work could include:

(a) [[Enhancement of the] [Development of clear] linkages between the Technology Mechanism and the Financial Mechanism for enhanced financial support for technology development and transfer, including synergistic collaboration in the development of planning tools for the elaboration of long-term technology strategies;]

(b) [Development and dissemination of innovative means of engaging the private sector in technology development and transfer to promote private sector investment;]

(c) Enhancing the mobilization of pro bono and in-kind support from various sources for the support activities of the Technology Mechanism in a systematized manner;

(d) *Option 1:* [Provision of enhanced] [Enhancing the mobilization of] financial and technical support for developing and implementing the results of TNAs, including technology action plans, in a country-driven manner and/or other planning exercises compatible with the achievement of the transformative vision and ambitious targets of the Paris Agreement;

*Option 2:* Provision of enhanced financial and technical support activities, particularly the implementation of the results of TNAs, under all key themes;

(e) [Provision of capacity-building support and organizational and institutional support;]

(f) Development of innovative means and support of engaging developing country Parties in innovation;

(g) Provision of enhanced financial and technical support for enabling environment and capacity-building to developing country Parties in a country-driven manner;

(h) Development of innovative means and support of engaging developing country Parties in collaboration;

(i) Provision of support to enable the Technology Mechanism to assess the impacts of its actions.

44. [{placeholder for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}.]

**2. [Monitoring and provision of the information on support]**

45. [[Actions][Activities] in this area of work could include:

(a) [Development of the systematic monitoring and evaluation methodology on support provided for technology development and transfer, taking into account possible links with the periodic assessment of the Technology Mechanism in supporting the implementation of the Paris Agreement, with a view to achieving the targets and transformational vision of the Paris Agreement;]

(b) Preparation of information on efforts related to support on technology development and transfer for developing country Parties for the global stocktake.]

46. [The TEC and the CTCN jointly undertake actions referred to in paragraph 45(b) above, ensuring they will procure the necessary resources to perform these tasks in a manner commensurate with the ambition of the Paris Agreement or notify the COP if such resources are not obtained in a timely manner. {placeholder for paragraph 45(a) for the role of the Technology Mechanism and other stakeholders, as appropriate and where relevant}.]