Framework Convention on Climate Change

TEC/2023/27/21

Technology Executive Committee

20 October 2023

Twenty-seventh meeting

Bonn, Germany, 19–21 September and 22 September 2023 (joint session with the Advisory Board of the Climate Technology Centre and Network)

Report on the 27th meeting of the Technology Executive Committee

I. Opening of the meeting

1. The Chair of the Technology Executive Committee (TEC) for 2023, Stig Svenningsen, opened TEC 27[1] at 9 a.m. center European summer time on Tuesday, 19 September 2023.

2. The table below lists the TEC members who attended TEC 27. Observers present at the meeting are listed in annex I.

TEC members attending TEC 27	
Omar Alcock[a]	Monique Motty
Kinga Csontos[a]	Dietram Oppelt
Lennox Gladden	Ping Zhong[a]
Olena Hrypych	Md Harun Or Rashid
Mareer Husny	Erwin Rose
Hassan Jangavar[a]	Stig Svenningsen (Chair)
Sergio La Motta	Kenichi Wada
Hamza Merabet[a]	Ambrosio Yobanolo del Real (Vice-Chair)
Stephen Minas	

[a] Participated virtually.

II. Organizational matters

(a) Adoption of the agenda

3. The TEC adopted the agenda for TEC 27 as contained in document TEC/2023/27/1 and agreed to address additional matters raised by members, including engagement of the incoming Presidency of COP 28, linkages between the Financial Mechanism and the Technology Mechanism, and the air-fresh project, under agenda item 9, "Other matters", as proposed by the Chair.

(b) Organization of work

4. The Chair presented, and the TEC took note of, the tentative work schedule for the meeting, including the joint session with the CTCN Advisory Board, as contained in document TEC/2023/27/03.Rev.

[1] All documents and the recordings of the meeting are available at https://unfccc.int/ttclear/tec/meetings.html.

III. Update on relevant meetings, events and initiatives

(a) Outcome of the Bonn Climate Change Conference of June 2023 and TEC activities since its last meeting

5. The TEC took note of the information presented by the secretariat on the outcomes of the fifty-eight sessions of the subsidiary bodies, held from 5 to 15 June 2023 in Bonn, on matters relating to technology development and transfer and relevant to the work of the TEC, as well as the update on the TEC events held at the sessions.

6. The TEC also took note of the report from its Vice-Chair on TEC engagement at SB 58 and from TEC members on their participation in other relevant meetings and events since TEC 26.

7. The TEC members who attended the Africa regional NDE forum, held on the margins of Africa Climate Week 2023, provided insights into their engagement with NDEs.

8. TEC members acknowledged that such engagement provided the opportunity to increase the outreach of TEC activities and outputs across other UNFCCC processes.

(b) Outlook for Dubai Climate Change Conference of November-December 2023 and TEC planned activities

9. The TEC took note of the overview of the preparations for the United Nations Climate Change Conference to be held in the United Arab Emirates from 30 November to 12 December 2023, including events relevant to the work of the TEC. A representative of the incoming Presidency of COP 28 detailed the vision and focus areas for the Conference.

IV. Implementation of the rolling workplan for 2023–2027

10. The TEC Chair and Vice-Chair presented a proposed prototype reporting tool[2] for tracking and reporting information for addressing relevant mandates and invitations provided to the TEC by the COP and the CMA in the implementation of its rolling workplan.

11. The TEC welcomed the prototype and provided guidance on further work on the matter. The TEC agreed that the joint annual report of the TEC and CTCN will include a footnote containing a link to the prototype tracking table.

(a) National systems of innovation and collaborative research, development and demonstration and general-purpose technologies

i. Compilation of good practices and lessons learned on the set-up and implementation of national systems of innovation

12. The TEC took note of the ongoing activities, which included publication of the Summary for Policymakers, which was translated into Arabic, French and Spanish, and the six case studies exemplifying the set-up and implementation of national systems of innovation (NSI) in a number of countries. In addition, the TEC organized events held on the margins of SB 58 and Africa Climate Week and one additional event planned for Asia-Pacific Climate Week in November 2023. The TEC extended its appreciation to Hamza Merabet for reviewing the Arabic and French translations of the Summary for Policymakers, and to UNIDO for supporting the translation of the documents into different languages.

13. Drawing on this work, the TEC agreed on key messages and recommendations for Parties on NSI, which will be included in its annual report for 2023 (see annex II).

ii. Research, development and demonstration (RD&D)

14. A representative of Future Cleantech Architects presented the preliminary results of the global survey that took place from June to August 2023, including plans for the detailed

[2] The web document was provided as a reference document for TEC 27 and is available at https://unfccc.int/ttclear/tec/meetings.html.

analysis and follow-up activities. The aim of the survey was to assess the needs for research, development and demonstration (RD&D) for high-impact emission reduction technologies to help countries to implement their NDCs and ensure long-term environmentally sustainable energy supply.

15. The survey focused on RD&D needs between now and 2030–2035. Respondents were asked to rank a number of climate mitigation technologies pertaining to their RD&D needs, where options included types of technology that were both established and less developed. In addition, on the basis of the work of the TEC on sustainable energy supply, participants were asked to rank the following areas in terms of where RD&D needs to be accelerated most urgently: energy system integration, energy storage, energy transport and transmission, and resilient energy systems.

16. The TEC considered the preliminary results of the survey and extended its appreciation to Future Cleantech Architects for undertaking the work. It provided guidance to the activity group for further work on this matter, including finalising the survey result based on the recommendations and the guidance received by the TEC and the focus of future work on energy storage, taking into consideration specific circumstances of countries (e.g., small island developing States and the least developed countries) and to consider potential partners for this work.

iii. Emerging and transformational adaptation technologies

17. The TEC welcomed its engagement in the Early Warnings for All initiative to pursue work on emerging and transformational technologies for improving disaster risk knowledge and information across the value chain of early warning and early action. The TEC expressed appreciation to UNDRR as one of the lead agencies spearheading the implementation of the initiative and recognized the fruitful partnership with the Group on Earth Observation (GEO) in engaging in the initiative.

18. The TEC considered a scoping note, prepared by the relevant activity group in collaboration with GEO, on the concept and design for a joint knowledge product on innovation for risk knowledge to be prepared in 2024 and suggested next steps for its development.

19. The TEC took note of information provided by:

(a) Representatives of GEO and UNDRR on relevant developments under the Early Warnings for All initiative that may inform and/or be informed by the above-mentioned knowledge product, including a handbook on risk knowledge that is under development;

(b) A representative of the Adaptation Fund secretariat on planned work in 2023–2024 on early warning systems and potential areas for collaboration with the TEC, including at COP 28;

(c) The TEC Chair and Vice-Chair on their meeting with the Co-Chairs of the Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts on the margins of TEC 27, and their mutual interest in aligning the work of the two bodies on this topic.

20. The TEC provided guidance to the activity group for further work, including on the type of knowledge product, its key elements and relevant sources of information. The TEC requested the activity group to continue engaging with relevant actors for informing this work, and agreed to extend invitations to the Adaptation Fund, the Global Environment Facility (GEF), the Green Climate Fund (GCF) and the CTCN to participate in future meetings of the activity group at their discretion.

21. The TEC requested the activity group to prepare, taking into account inputs from partner organizations, a proposed outline of the knowledge product for consideration at TEC 28.

iv. Digital technologies

22. The TEC recalled that during the intersessional period it added a deliverable for 2023 as part of activity A.4.1 of its rolling workplan, namely the Technology Mechanism Initiative on

Artificial Intelligence for Climate Action (#AI4ClimateAction), which was launched at SB 58 on 10 June 2023.[3]

23. At TEC 27, the co-lead of the activity group on artificial intelligence presented a concept note for a high-level event at COP 28 on artificial intelligence (AI) for climate action, and a concept note on #AI4ClimateAction. Moreover, a representative of Enterprise Neurosystem presented a concept note on the Innovation Grand Challenge.

24. The TEC considered the concept note on AI for the high-level event at COP 28 and requested the activity group to proceed with organizing the event on the basis of the concept note taking into account comments received from TEC members.

25. The TEC considered the concept note on #AI4ClimateAction and revised it during TEC 27 (see annex III) and revised it for further discussion with the CTCN Advisory Board at their joint session (see para. 78 below).

26. The TEC agreed to disseminate a list of COP 28 mandated events, side events and pavilion events related to AI and climate action to COP 28 participants and requested the activity group to develop a draft concept note for a technical paper on #AI4ClimateAction, including risks and challenges in the use of AI, for consideration at TEC 28.

27. The TEC expressed its appreciation to Enterprise Neurosystem for its engagement at the AI event at Africa Climate Week and its work on the concept note on the Innovation Grand Challenge. It agreed to launch the Innovation Grand Challenge at COP 28 in cooperation with Enterprise Neurosystem.

(b) Technology needs assessments and technology planning tools to support NDC implementation

i. Gap assessment of guidance on Technology Needs Assessment

28. The TEC considered the draft gap assessment of guidance on TNAs presented by a TEC member and provided guidance to the activity group for further work on this matter, including to:

(a) Request the United National Environmental Programme Copenhagen Climate Centre to consult the TEC when updating the TNA guidebook;

(b) Prepare a draft guidebook on the energy sector, including aspects of just transition, for consideration at TEC 28.

(c) Transformative and innovative solutions

i. Water-energy-food systems

29. The TEC took note of the presentation by a representative of the Food and Agriculture Organization (of the United Nations (FAO) on the draft outline for a knowledge product and its substantive chapters, which was informed by the outcomes of the thematic dialogue held on the margins of SB 58.

30. The FAO representative highlighted the objectives of the product, such as defining the role of innovation and technologies in water–energy–food systems; and providing examples of successful agrifood systems' transformation to address climate change and analyses of knowledge gaps. The document will be prepared in 2024 and launched at COP 29.

31. The TEC expressed its appreciation to FAO for its support on this work, considered the draft outline and provided guidance to the activity group for further work on the matter.

32. The TEC indicated that the knowledge product should include opportunities for circularity, Indigenous technologies and the mitigation potential of technologies as well as balancing mitigation and adaptation action. In addition, the knowledge product should be aligned with COP the decisions and recommendations of the COP relating to the Koronivia joint work on agriculture.

[3] See https://www.ctc-n.org/news/artificial-intelligence-climate-action-gaining-momentum.

33. The TEC requested the activity group to present at the TEC 28 the updated annotated draft outline and to identify case studies on the basis of the guidance provided.

ii. Transformative industry

34. The TEC considered the draft paper on mapping existing initiatives to identify areas where the TEC could add value, which was presented by the co-lead of the activity group.

35. The TEC requested the activity group to prepare, on the basis of the mapping paper:

(a) A knowledge product taking into consideration suggestions provided by TEC members;

(b) A concept note on where the TEC could add value;

(c) A concept note for the dialogue/Technology Day (activity C.3.1.ii) for consideration at TEC 28.

iii. Innovative ocean climate solutions

36. The TEC took note of the information provided following the participation of activity co-leads in the ocean and climate change dialogue in 2023 and agreed to take advantage of opportunities under the UNFCCC process to strengthen ocean-based climate action.

37. The TEC also agreed on key messages and recommendations for Parties, drawing from a joint policy brief on innovative technologies and integrated adaptation solutions for the ocean and coastal zones,[4] for inclusion in its annual report for 2023 (see annex IV).

(d) Collaboration and engagement with other UNFCCC processes and constituted bodies and other UN agencies

i. Collaboration and engagement with the Standing Committee on Finance (SCF) and the operating entities of the Financial Mechanism

38. The TEC took note of inputs provided to the SCF on the draft guidance[5] (see annex V) for the operating entities of the Financial Mechanism, based on the latest annual reports of the GCF and the GEF to the COP, which were submitted to the SCF prior to TEC 27 in order to meet the SCF submission deadline of 13 September 2023.

39. The TEC expressed its appreciation to the representatives of the GCF, the GEF and the Adaptation Fund for the information on their latest work in support of technology development and transfer.

ii. Collaboration and engagement with the Adaptation Committee

40. At the invitation of the TEC Chair and Vice-Chair, a representative of the Adaptation Committee (AC) presented insights and lessons learned from its work on adaptation technologies as well as potential considerations for the work of the TEC on this topic. In addition, a representative of the AC highlighted possible areas for collaboration with the TEC, such as the development of knowledge products and joint activities.

41. The TEC considered the information provided and discussed possible areas of synergy and relevance to the work of the TEC as well as future collaboration.

42. The TEC requested relevant activity groups to consider engaging the AC and noted the invitation from the AC to attend its next meeting.

iii. TEC brief on gender-responsive technology and infrastructure for sustainable urban mobility

43. The TEC took note of the oral update by the co-lead of the relevant activity group on the preparation of a TEC brief on gender-responsive technology and infrastructure for sustainable urban mobility.[6]

[4] Available at https://unfccc.int/ttclear/coastalzones/.
[5] Available at https://unfccc.int/scf/scf-meetings-and-documents, (under 32nd SCF meeting).
[6] See TEC document TEC/2023/26/13.

44. The TEC agreed to finalize the brief by the time of TEC 28, incorporating comments from activity group members, external experts and stakeholders.

iv. Collaboration and engagement with UNEP Copenhagen Climate Centre

45. The TEC took note of the presentation by a representative of UNEP Copenhagen Climate Centre on the development of its *Climate Technology Progress Report for 2023*, which focuses on the urban system transition in Asia. The TEC was invited to review the report and to jointly launch and present the report at different events, such as Asia Climate Week 2023 and relevant NDE forums.

46. The TEC considered the information provided and requested the activity group to engage with TEC members from the region for providing comments on the report. It agreed to develop key messages and possible recommendations based on the report to be discussed at TEC 28.

v. Collaboration and engagement with the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform

47. The TEC welcomed the presentation by the representative of the Facilitative Working Group (FWG) of the Local Communities and Indigenous Peoples Platform (LCIPP) on a tentative agenda for a multi-stakeholder dialogue on Indigenous technologies and technologies of local communities, to be held at COP 28.

48. The TEC took note of the additional information on relevant activities of the FWG in the lead-up to COP 28, and the invitation to provide inputs to the review of the FWG via the UNFCCC submission portal by November 2023, including to inform the development of its new workplan.

49. The TEC welcomed the proposals by the FWG for contributions from the TEC to the multi-stakeholder dialogue, and requested the activity group to continue its engagement with the FWG regarding the organization of the dialogue.

V. Gender mainstreaming

50. The TEC took note of the update provided by the TEC gender focal point, with the support of the secretariat, on the progress of gender mainstreaming in the work of the TEC and shared considerations on future work of the TEC in this regard.

51. The TEC noted that, since adopting a structured approach to integrating gender considerations into its work, it has made significant progress in this regard. With regard to TEC events in 2023, 57 per cent of speakers were female, which represents a 15 per cent increase on the previous reporting period.

52. The TEC also noted that it continuously applies gender considerations when designing its knowledge products, and that gender-responsiveness was one of the criteria for the selection of success stories for the updated TEC–CTCN joint publication on technology and NDCs. It further noted that the women and gender constituency is represented in 15 of the 16 activity groups that support the implementation of the TEC rolling workplan.

VI. Communications and stakeholder engagement

(a) Engagement of the TEC with national designated entities

53. Building on the discussions at TEC 26, the secretariat presented an overview of efforts regarding strategic engagement with NDEs, which include promoting NDE participation in events, workshop and consultations, developing and disseminating knowledge products relevant for NDEs, translating publications for broader reach to NDEs including for the use of NDE's, and engagement with NDEs at the Africa regional NDE forum and other planned activities.

54. The TEC appreciated the opportunity to engage with NDEs at the Africa NDE Forum as it provided an opportunity to showcase the work of the TEC and to hear directly from the NDEs

on their concerns and challenges. The TEC considered the information provided by the secretariat and provided guidance for further work on strategic engagement with NDEs by the secretariat and provided strategic engagement with NDE.

55. The TEC agreed to publish online, as a strategy document, the background note on strengthening the engagement of the TEC with NDEs[7]. The TEC also agreed to consider at TEC 28 the approach, including questions, to the 2024 NDE survey.

(b) TEC communications and outreach strategy

56. The TEC considered insights from using various means of communication and outreach in 2022–2023, undertaken in line with the TEC strategy on communications and outreach that was adopted in 2020, and exchanged views on suitable approaches to enhancing the visibility and reach of TEC work.

57. The TEC noted that the strategy remains relevant and agreed to adopt a dynamic approach to implementing communication and outreach efforts, including through regular reviews and adjustments.

58. The TEC exchanged views on different types of knowledge product that are most fit-for-purpose as TEC outputs under the 2023–2027 rolling workplan.

59. The TEC agreed that discussions on this matter may be initiated at the level of individual activity groups, and requested the secretariat to prepare guiding templates and information, including on focusing the knowledge products on intended users, facilitate communication efforts and mainstreaming cross-cutting issues such as gender and Indigenous Peoples' knowledge, that could assist the work of the activity groups in determining appropriate types and elements for the knowledge products, while maintaining coherence and consistency across the various outputs of the TEC.

(c) Implementation of the TEC strategy for collaborative partnerships and engagement (2023–2027)

60. The TEC took note of the overview provided by the secretariat of types of collaborative partnership and engagement and relevant efforts undertaken and planned for the implementation of the strategy. A representative of UNIDO shared insights and updates on its engagement with the TEC.

61. The TEC considered the information presented and agreed to continue its work on the effective implementation of the strategy by building new partnerships, including with civil society and the private sector, and strengthening existing ones.

VII. Joint annual report of the Technology Executive Committee and Climate Technology Centre and Network for 2023

(a) Joint chapter of the joint annual report

62. At their joint session, the TEC and the CTCN Advisory Board considered the draft chapter, prepared by their Chairs and Vice-Chairs, of the joint annual report of the TEC and the CTCN for 2023.

63. The TEC and the CTCN Advisory Board requested their Chairs and Vice-Chairs to finalize the joint chapter in accordance with relevant procedures taking into account comments made by members during the session.

(b) Annual report of the TEC for 2023

64. TEC 27 considered the draft annual report of the TEC for 2023, including lessons learned and challenges encountered in the first year of implementation of the joint work programme of the Technology Mechanism for 2023–2027.

[7] TEC/2023/26/4.

65. The TEC requested its Chair and Vice-Chair to finalize the report after the meeting in accordance with the relevant procedures taking into account the comments made by members during the meeting.

66. The TEC noted that the current format of the annual report, including the limit on the word count of text for translation, has hindered the TEC from adequately presenting the full scope of its activities and findings from its work, and requested the secretariat to present options for addressing this matter at TEC 28.

VIII. Joint session of the Technology Executive Committee and the Climate Technology Centre and Network

67. At their joint session, the TEC and the CTCN Advisory Board took stock of progress and discussed their joint activities and common areas of work under the joint work programme of the Technology Mechanism.

68. Welcoming remarks were delivered by Simon Stiell, UNFCCC Executive Secretary, via video recording, and by Abdelaziz Haribi, a representative of the incoming Presidency of COP 28.

(a) Matters related to the TEC and CTCN

i. Overview of the outcomes of the Bonn Climate Change Conference of June 2023 relevant to the Technology Mechanism

69. The TEC and the CTCN Advisory Board took note of the presentation by representatives of the secretariats on the main outcomes of SB 58, particularly those relevant to the work under the Technology Mechanism, and the third technical dialogue of the first global stocktake.

ii. Update on the work of the TEC and CTCN, and reflections on synergies between the two bodies

70. The TEC and the CTCN Advisory Board took note of the information provided by their Chairs on the progress of work of each body since TEC 26 and the 21st meeting of the CTCN Advisory Board. The Chairs of both bodies shared issues arising from the work of both bodies and their implications for each other's work.

71. The TEC and the CTCN Advisory Board considered the information provided on the work of the TEC and the CTCN and discussed possible synergies with a view to determining further follow-up action, as appropriate. The TEC acknowledged the South-South and North-South cooperation between NDEs. Representative of the women and gender constituency provided information on its contribution to TEC and CTCN collaboration, namely the support received for the winner of the Gender Just Climate Solutions Award to participate in the NDE regional forum at Africa Climate Week.

(b) Implementation of the Joint Work Programme of the Technology Mechanism for 2023–2027

i. Technology Mechanism response to relevant mandates and invitations by the COP and CMA in the implementation of the joint work programme

72. The Chairs and Vice-Chairs of the TEC and the CTCN Advisory Board, with support from the secretariats, presented a prototype table on how each body was responding to mandates and invites from the COP and the CMA.

73. The TEC and the CTCN Advisory Board considered the prototype and provided guidance on further work on the matter. The TEC and the CTCN Advisory Board acknowledged the document and its practical use.

74. The TEC and the CTCN Advisory Board requested the secretariats to report on lessons learned, including on resource implementation in developing and implementing such a reporting tool, at the second joint session of the TEC and the CTCN in 2024.

ii. Implementation of the joint activities of the TEC and CTCN

75. The TEC and the CTCN Advisory Board took note of the progress of the CTCN secretariat in developing the gender and climate technology expert roster by the CTCN secretariat and the planned launch of the roster at COP 28.

76. The TEC and the CTCN Advisory Board considered and agreed on the key messages and recommendations for Parties in the updated joint publication on technology and NDCs, which will be included in the joint annual report for 2023 (see annex VI).

77. The TEC and the CTCN Advisory Board took note of the presentation on the scoping paper by the joint task force on technology road maps. The TEC and the CTCN Advisory Board agreed that the joint task force will merge with the TEC activity group on TNAs to continue this work considering the close links between the two areas of work.

78. The TEC and the CTCN Advisory Board took note of the draft concept notes on green technology databases and distributed ledgers presented by the CTCN secretariat and requested the joint task force on digitalization to revise the concept notes for the next joint session of the TEC and the CTCN Advisory Board taking into account the comments provided.

79. The TEC and the CTCN Advisory Board discussed the concept note on the Technology Mechanism Initiative on Artificial Intelligence for Climate Action[8] (#AI4ClimateAction) and agreed on a revised version of the concept note to guide the further work under the Initiative (see annex III).

80. The TEC and the CTCN Advisory Board agreed to jointly develop a draft workplan for the Initiative (for 2024–2027) and draft terms of reference for an advisory group to guide the Initiative.

81. The TEC and the CTCN Advisory Board also agreed to establish a joint task force on AI to support the work on joint activities under the Initiative. The joint task force will comprise members of the TEC activity group on digital technologies and interested members of the CTCN Advisory Board.

(c) Joint communications and engagement with stakeholders

82. The TEC and the CTCN Advisory Board took note of an overview on the provided by the secretariat of joint and collaborative efforts of the two bodies on communications and engagement with stakeholders since the previous joint session, including at SB 58 and Africa Climate Week 2023. They discussed planned events and engagement under the Technology Mechanism at COP 28 and exchanged views on feasible means of highlighting progress under key elements of the joint work programme as a whole.

(d) Monitoring and evaluation

83. The TEC and the CTCN Advisory Board took note of the presentation by the secretariat made on the status of the monitoring and evaluation work of the TEC and the CTCN.

84. The TEC and the CTCN Advisory Board requested their Chairs and Vice-Chairs to conduct an analysis of the monitoring and evaluation systems of the bodies and an overall analysis of the joint monitoring and evaluation indicators for the joint work of the two bodies within the aim of satisfying the existing reporting requirements. The TEC and the CTCN Advisory Board agreed to establish an open-ended joint activity group to discuss the matter and present the analysis at the next joint session meeting.

(e) Date and venue of the next meeting

85. The TEC and the CTCN Advisory Board took note that TEC 28 and the 24th meeting of the CTCN Advisory Board are tentatively scheduled to take place in Copenhagen in April 2024.

[8] TEC/2023/27/8.

IX. Other matters

86. TEC members and observers were invited to raise any other matters.

87. In considering the outcomes of the fifty-eighth session of the Subsidiary Body for Implementation, including a draft decision and adoption at COP 28,[9] the TEC agreed to establish an ad hoc activity group to organize a workshop on linkages between the Technology Mechanism and the Financial Mechanism, to be held at the sixtieth session of Subsidiary Body for Implementation.

88. The TEC took note of information regarding an air-fresh project raised by a TEC member, focusing on urban forests and greenhouse gas emission reduction, and the willingness of the project leaders to work with the TEC on a pro bono basis. The TEC agreed to continue consideration of this matter at TEC 28.

X. Closure of the meeting

89. The TEC Chair summarized the key outcomes of the meeting and closed it at 7.30 p.m. (CEST) on Friday, 22 September 2023.

[9] See document FCCC/SBI/2023/10/Add.1

Annex I

Observers registered to participate in the 27th meeting of the Technology Executive Committee

Party observers

Sonia Regina Mudrovitsch de Bittencourt (Brazil)
Kaoru Yamaguchi (Japan)
Omedi Moses Jura (Kenya)
Abdelaziz Harib Al Tunaiji (United Arab Emirates)
Asya Al Shehhi (United Arab Emirates)

Observers from United Nations organizations and specialized agencies

Karina Barrera (Adaptation Committee)
Naoki Uozawa (Adaptation Fund)
Rajiv Garg (CTCN Director a.i.)
Fred Machulu Onduri (CTCN Advisory Board Vice-Chair)
Inkar Kadyrzhanova (FAO)
Hansol Park (GCF)
Patricia Marcos Huidobro (GEF) – virtual participation
Rui Kotani (GEO secretariat)
Animesh Kumar (UNDRR)
Carlos Uribe (UNDRR)
Sara Trærup (UNEP Copenhagen Climate Centre)
Diana Maria Ramoz Perez (UNIDO)
Haruka Yoshida (UNIDO) – virtual participation

Non-governmental organization and observers

Romano de Vivo (constituency of business and industry non-governmental organizations)
Abdelrahman Ali Fahmy (constituency of business and industry non-governmental organizations)
Kishanlal Nandlal Changlani (constituency of local governments and municipal authorities)
Fernando Jose Barrio (constituency of research and independent non-governmental organizations)
Renuka Bharat Thakore (constituency of research and independent non-governmental organizations)
Yiqing Zhou (constituency of children and youth non-governmental organizations)
Abdulrauf Hamid Bello (constituency of children and youth non-governmental organizations)
Asja Begić (constituency of children and youth non-governmental organizations)
Li Yitong (women and gender constituency
Alastaire Marke (Blockchain and Climate Institute)
Isla Kriss (Blockchain and Climate Institute)

Resource persons and independent consultants

Bjorn-Soren Gigler (resource person, German Agency for International Cooperation)
Bill Wright (resource person, Enterprise Neurosystem) – virtual participation
Peter Rüdiger Schniering (resource person, Future Cleantech Architects)
Simon David Shaw (resource person, Future Cleantech Architects)
Graeme Reed (resource person, FWG of the LCIPP) – virtual participation
Wytze van der Gaast (independent consultant) – virtual participation

Annex II

Key messages and recommendations for Parties on national systems of innovation

1. The TEC compiled good practices and lessons learned on the set-up and implementation of NSIs for developing country policymakers aiming to strengthen NSIs in the context of climate action. The compilation and its summary for policymakers,[1] aimed at deepening understanding of selected parts of the systems, identifies measures and approaches that have improved their effectiveness.

2. The TEC highlights the following good practices presented in the summary for policymakers:

   (a) Taking a systemic approach to establishing and/or strengthening the NSI, which is aligned with host country development objectives;

   (b) Tailoring approaches to bridging gaps in the innovation process given that innovation needs vary by phase and sector;

   (c) Understanding the local context so as to engage relevant actors, mobilizing the required resources, identifying and addressing gaps in the innovation process, and tapping into the complementary structures and processes of the overall innovation system to advance climate initiatives;

   (d) Promoting participation of and interaction among local actors to facilitate innovation and alignment of NSI with country development objectives. Local actors have the best understanding of local context and institutions, as well as often having the largest stake in the outcome, and are therefore best placed to help to fill gaps in and advance the functions of the NSI;

   (e) Engaging with international institutions to help to build local institutions and networks as they can play an important role, by introducing global best practices, assisting with the development, adaptation and diffusion of new technologies, helping to mobilize financial and technical resources and building the capacity of local actors and institutions in strengthening NSIs;

   (f) Ensuring that innovation and organizations developing NSIs evolve and are able to adapt to new circumstances through continuous monitoring and review;

   (g) Identifying a portfolio of solutions to strengthen functions across the innovation cycle and to build the capacity of a variety of actors to address the scale and complexity of climate change adaptation and mitigation challenges;

   (h) Dealing with structural problems, since in some cases the underlying problems of poverty, lack of influence and voice, and environmental or social challenges are not acknowledged when designing and only become clear during the intervention of the NSI.

3. The TEC recommends that the COP and the CMA encourage Parties, in preparing, designing and implementing climate action plans in alignment with the NSI, to:[2]

   (a) Develop the climate action plan in alignment with the national long-term policy framework and socioeconomic priorities;

   (b) Map the NSI before designing and implementing strategies;

   (c) Look for win–win measures;

   (d) Engage both public and private sectors;

[1] TEC and UNFCCC. 2023. *Good practices and lessons learned on the setup and implementation of National Systems of Innovation. Summary for Policymakers*. UNFCCC. Available at https://unfccc.int/ttclear/tec/NSI.html.

[2] Elaborations are contained in the summary for policymakers, as footnote 1 above.

(e) In situations where diverse stakeholders need to come together to make an intervention/innovation effective, the role of coordinating agencies or ‘system operators/integrators’ becomes important;

(f) Explore innovative, customized and flexible funding frameworks;

(a) Put together a suitable mix of actors and policies;

(b) Allow flexibility in how policy goals are met;

(c) Pay attention to market creation for climate technologies;

(d) Focus beyond hardware innovation;

(e) Strengthen local capabilities, while ensuring coordination;

(f) Create complementary knowledge and servicing infrastructure;

(g) Maximize productive engagement with international actors and opportunities;

(h) Ensure there is adequate and systematic monitoring, evaluation and revision;

(i) Evolve and improve through learning by doing and learning through analysis;

(j) Adapt to evolving contexts and needs.

Annex III

Concept note on the Technology Mechanism Initiative on Artificial Intelligence for Climate Action

I. Objective

1. The UNFCCC Technology Mechanism is setting in motion its Initiative on Artificial Intelligence for Climate Action #**AI4ClimateAction** to explore the role of artificial intelligence (AI) as a powerful technological tool for advancing and scaling up transformative climate solutions for mitigation and adaptation action in developing countries with a focus on least developed countries and small island developing States

II. Structure

2. As the policy arm of the Technology Mechanism, the TEC has a unique position to convene stakeholders and provide space for global policy discussions on AI for climate action. As implementation arm of the Technology Mechanism, the CTCN is best suited to pioneer AI solutions for climate action through its provision of technical assistance to developing countries.

3. The **#AI4ClimateAction** Initiative aims to deliver concrete and transformative results under the Technology Mechanism Joint Work Programme (2023–2027), including the TEC rolling workplan (2023–2027) and the CTCN Programme of Work (2023–2027). In particular, the TEC and the CTCN are joining forces on the Initiative to:

   (a) Provide a space for policy discussions, including UNFCCC national focal points and NDEs, awareness raising, and exchange of knowledge and experience among relevant stakeholders on developing and deploying climate solutions powered by AI;

   (b) Support capacity-building efforts in developing countries to leverage emerging digital technologies and devise locally led solutions harnessing AI;

   (c) Develop CTCN regional networks of entities supporting AI for climate actions.

4. The work of the Initiative will be guided by the Technology Mechanism Joint Work Programme, including the TEC and CTCN Common Areas of Work: National Systems of Innovation, Water-Energy-Food Systems, Energy systems, Buildings and resilient infrastructure, Business and industry, and Technology Needs Assessment.

5. More specifically, activities under the Initiative will be developed with a view to support the implementation of:

   (a) the **TEC rolling workplan (2023-2027)** with its four workstreams:

   (i) National Systems of Innovation and Collaborative Research, Development and Demonstration and General Purpose Technologies;

   (ii) Technology needs assessments and technology planning tools to support NDC implementation;

   (iii) Transformative and innovative solutions (water-energy-food system, buildings and infrastructure, transformative industry, nature and ecosystem);

   (iv) Collaboration and engagement with other UNFCCC processes and constituted bodies and other UN agencies;

   (b) and the **CTCN Programme of Work (2023–2027)** with its five system transformational areas that complement the CTCN's demand driven delivery model:

   (i) Water-energy-food nexus;

   (ii) Buildings and resilient infrastructure;

(iii) Electro-mobility;

(iv) Energy systems;

(v) Business and industry.

2. Activities under the Initiative could be organized along the following workstreams:

(a) AI for Mitigation;

(b) AI for Adaptation/Disaster Risk Reduction;

(c) AI for the development of climate technologies.

III. Partnerships

6. The TEC calls for partners and collaborators from public and private entities, across different fields of expertise and regions to join the initiative and support its activities.

IV. Activities

7. Activities to be undertaken prior to TEC 28:

(a) TEC to develop a concept note for the Initiative;

(b) TEC to organize a COP 28 high-level event on AI for climate action;

(c) TEC to organize events at the Regional Climate Weeks on AI for climate action to inform the COP 28 high-level event and the further work of the Initiative;

(d) TEC to develop a concept for a launch of the Innovation Grand Challenge on AI for climate action with Enterprise Neurosystem;

(e) TEC to develop a draft concept note for a technical paper on AI for climate action, including risks and challenges on the use of AI, for consideration at TEC 28;

(f) TEC to disseminate a list of COP 28 mandated events, side events and pavilion events related to AI and climate action;

(g) The TEC invites the CTCN to consider planning of a series of regional webinars to support dialogue and capacity-building among NDEs, CTCN network members and other stakeholders, and invites partners to implement the webinars;

(h) The TEC invites the Advisory Board of the CTCN to consider, at the TEC 27-CTCN AB 22 joint session, the joint development of draft terms of reference for an advisory group to support the Initiative for consideration at the TEC 28-CTCN AB 23 joint session;

(i) The TEC invites the Advisory Board of the CTCN to consider, at the TEC 27-CTCN AB 22 joint session, the joint development of a draft work plan for the Initiative (2024-2027) for consideration at the TEC 28-CTCN AB 23 joint session;

(j) The TEC invites the Advisory Board of the CTCN to establish a joint taskforce on AI to guide the work on joint activities under the Initiative.

V. Next steps

8. Finalize this concept note and agree on activities for 2023–2024 at TEC 27 and the TEC/CTCN AB joint session from 19–22 September 2023.

Annex IV

Key messages and recommendations for Parties on innovative technologies and integrated adaptation solutions for the ocean and coastal zones

1. Drawing on the joint policy brief on innovative approaches to strengthening coastal and ocean adaptation, and its participation in the ocean and climate change dialogue, the TEC highlights the following:

(a) Innovative climate adaptation approaches that integrate both technology and nature-based solutions offer the potential to be more robust, comprehensive and cost-effective than either type of solution alone;

(b) Despite the pressing adaptation needs of coastal and island communities, knowledge, capacity, and financing gaps and challenges prevent the widespread implementation and mainstreaming of integrated ocean-climate solutions. To overcome these challenges, there is a need to:

(i) Co-produce localized solutions that combine scientific, local and Indigenous knowledge, engage diverse stakeholders, and distribute benefits equitably across and within communities;

(ii) Collaborate on transdisciplinary research and encourage mutual learning through long-term monitoring and evaluation programmes;

(iii) Address barriers to accessing financing, including perceptions of and risks associated with innovative and nature-based approaches;

(iv) Foster enabling policy and regulatory frameworks in national climate strategies, local planning and regulations, and international standards;

(v) Build cross-sectoral partnerships to exchange knowledge and ideas, develop innovative technologies, and bolster the business case for integrated adaptation solutions.

(c) The UNFCCC process presents opportunities to strengthen ocean-based climate action, including through relevant work programmes and constituted bodies and the ocean and climate change dialogue. In addition, the United Nations Decade of Ocean Science for Sustainable Development 2021–2030, the United Nations Decade on Ecosystem Restoration 2021–2030 and the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 present opportunities to promote coherence of action within the United Nations.

2. To accelerate the implementation and scale-up of innovative technologies and integrated climate solutions for ocean ecosystems and coastal zones, the TEC recommends that:

(a) Parties and stakeholders address the needs identified in paragraph 1 above;

(b) Policymakers embed such solutions in climate-related policies and sectors (e.g. agriculture, fisheries, tourism, water security and disaster risk management); translate national policies into localized action; strengthen the governance and technical capacity of relevant institutions; and set policies that prioritize the most vulnerable communities, groups and ecosystems;

(c) Public and private finance institutions strengthen enabling conditions by facilitating investment in such solutions; engage early on in risk reduction; commercialize promising integrated adaptation approaches; and improve accessibility to sustainable finance;

(d) Non-governmental and community-based organizations actively pursue meaningful participation of and leadership by local communities and vulnerable groups, including youth, women and Indigenous Peoples, at all stages of adaptation interventions; develop and cultivate partnerships with one another as well as with other stakeholders; and provide resources for informing evidence-based targets for integrated adaptation solutions and their monitoring;

(e) Academia and research institutes help to build a robust evidence base on the effectiveness, viability and multiple benefits of integrated adaptation approaches; and enhance collaboration between researchers, academia and local stakeholders in this regard;

(f) Practitioners engage in cross-sectoral exchange of knowledge through communities of practice and innovative partnerships, and meaningfully engage diverse local stakeholders in integrated adaptation solutions.

Annex V

Technology Executive Committee inputs to the Standing Committee of Finance on draft guidance related to the operating entities of the Financial Mechanism

4 September 2023

Guidelines in providing the inputs:

- "Sub-elements": Describe the specific area of the proposed input (e.g., Policies relating to access, gender, environment & social safeguards, etc.);
- "Proposed inputs": Propose the inputs in draft decision text format;
- "To be considered by": Choose whether the proposed inputs need to be considered: (1) Commonly by the COP and the CMA or; (2) specifically by the CMA;
- "Rationale for the inputs": Annotate the reason for proposing the inputs, so that the rationale can be clearly understood;
- "Source of information / reference": Provide reference to the annual reports of the operating entities or decision(s) of the GEF Council / GCF Board.

Annotated inputs for the draft guidance to the Green Climate Fund (GCF)

Elements	**Sub-elements**	**Proposed inputs**	**To be considered:** **(1) Commonly by the COP and the CMA or;** **(2) Specifically by the CMA.**	**Rationale for the inputs**	**Source of information / reference**
Programme priorities	Linkages between the Technology Mechanism and the Financial Mechanism	Encourages the Green Climate Fund to consult with the Technology Executive Committee and the Climate Technology Centre and Network regarding potential synergies between the joint Technology Mechanism work programme and the Strategic Plan for the GCF 2024–2027 of the Green Climate Fund.	COP and CMA	There is a strong potential for synergy regarding topics contained in the new Strategic Plan and the Technology Mechanism Joint Work Programme, including the CTCN programme of work and the TEC rolling workplan. For example, the TEC decided early warning systems as the topic for innovative adaptation technologies, and the GCF in turn decided that it will support 50 to 60 countries with new or improved early warning systems. Language is based on a similar paragraph the SCF included last year for the GEF[1] based on the TEC inputs.	- GCF 2023 report to COP paras 4, 17-22 - Green Climate Fund Strategic Plan 2024-2027 - Decision B.36/13 - Decision B.14/02 - Joint Work Programme of the UNFCCC Technology Mechanism - Rolling workplan of the Technology Executive Committee - CTCN Programme of Work - Decision 18/CP.27 - Decision 19/CMA.4 - Decision 9/CP.26, paragraph 3. - Decision 14/CP.25, paragraph 16 - Decision 12/CP.25, paragraph 20. - Decision 14/CP.22 - Decision 13/CP.21

[1] Report of the Standing Committee on Finance. Addendum. Draft guidance to the operating entities of the Financial Mechanism, para. 7 draft guidance to the GEF.

Elements	Sub-elements	Proposed inputs	To be considered: (1) Commonly by the COP and the CMA or; (2) Specifically by the CMA.	Rationale for the inputs	Source of information / reference
Policies	Linkages between the Technology Mechanism and the Financial Mechanism	Welcomes the proposals of the GCF for enhancing collaboration between GCF and CTCN, including collaboration on technology incubators and accelerators, assessing the CTCN readiness portfolio, assessment of TNAs, including identification of TNA elements for potential bankable projects and of complementarity and coherence for TNA support provision, fostering collaboration between NDEs under the Technology Mechanism and NDAs and exploring multi-country readiness approaches, including sectoral-focused approaches, and encourages the GCF in collaboration with the CTCN to implement these proposals and report back in 2024."	COP and CMA	Based on reports by both the CTCN and the GCF, there seems to be a significant risk to the linkage between CTCN and GCF that allowed developing countries to finance CTCN technical assistance with the readiness programme. Only one new request on the last reporting period according to the GCF report. This undermines synergy and complementarity under the UNFCCC and COP guidance regarding collaboration between these entities. At the joint session of the TEC and CTCN in March 2023, the CTCN Director reported that the main issue was administrative cost for UN entities; this, of course, includes UNEP as the host of the CTCN.	- GCF 2023 report to COP paras 14, 73 and 74 - GCF Secretariat proposals made in at the 21st meeting of the CTCN Advisory Board in March 2023 (see slides 13 & 14): https://www.ctc-n.org/sites/www.ctc-n.org/files/2023-04/16.3%20UNFCCC%20Financial%20Mechanism-GCF.pdf - Decision B.36/09 - Revised Strategy of the Readiness and Preparatory Support Programme - 16/CP.27, para 10 - Inputs from GCF to the new programme of work of CTCN. - GCF 2022 report to COP paras 41 to 43. - GCF 2022 report to COP, Annex III table 1. - JAR (Joint Annual Report) 2021 para 131 - Decision B.14/02 and B.18/03 - Decision 2/CP.17 para 139 - Decision 14/CP.18 - Decision 13/CP.21 - Decision 14/CP.22 - Decision 12/CP.25, paragraph 20 - Decision 14/CP.25, paragraph 16
Policies	Linkages between the Technology Mechanism and the Financial Mechanism	Welcomes the collaboration of the GCF with the TEC and CTCN and encourages: a) Knowledge sharing on gender policies and outcomes; b) Strengthened strategic coordination between NDEs and NDAs; c) Strengthen integration of technology action plans (TAPs), developed through TNA processes, into the readiness programming.	COP and CMA	The different elements contained in the proposed para have in common that all are related to the relationship between the GCF and the Technology Mechanism and are based mostly on the following sources: • A consolidation of elements contained in the "Joint input by TEC and CTCN advisory board to the update of the GCF strategy" that are directly related to the work between GCF and Technology Mechanism.	- GCF report to COP paras 14, 71-74, 123, 124, 137, 192, 193 - Inputs of the TEC and CTCN to GCF Strategic Plan (2024-2027) - Decision 16/CP.27, paras 10,11 and 18 - Decision 18/CP.27, 19/CMA.4 - Decision 24/CP.27 - JAR 2022 - GCF Governing Instrument, para 70 - Decision 4/CP.17 - Decision 16/CP.20 - Decision B.14/02 - Decision B.18/03 - Decision 13/CP.21 - Decision 14/CP.22 - Decision 12/CP.25, paragraph 20 - Decision 14/CP.25, paragraph 16

Elements	Sub-elements	Proposed inputs	To be considered: (1) Commonly by the COP and the CMA or; (2) Specifically by the CMA.	Rationale for the inputs	Source of information / reference
				• The streamlining element is part of the key messages and the recommendations contained in the 2022 JAR. COP and CMA decided to invite relevant stakeholders to consider these recommendations and encouraged the TEC to maximise the uptake of its recommendations. As the operating entities are explicitly referenced in some recommendations, the TEC brings those specific elements to be considered as part of the draft guidance. Also, the gender element is highlighted due to different gender mandates coming from the last COP. Letter d mirrors the COP 27 and CMA 4 decision on technology development and transfer, so the mandated efforts to TEC and CTCN regarding the linkage are also supported from the GCF side.	
Policies	Linkages between the Technology Mechanism and the Financial Mechanism	Invites the GCF to consider the following recommendations of the TEC: a) Encouraging project implementers to pursue approaches that involve engagement of stakeholders in key steps of project design and implementation and help to strengthen national and local	COP and CMA	The different elements contained in the proposed para have in common that they are recommendations from the TEC directed to financial entities, including some specifically addressed to the operating entities.	- Inputs of the TEC and CTCN to UPS - Decision 16/CP.27 para 18 - Decision 18/CP.27, 19/CMA.4 - Decision 24/CP.27 - JAR 2022 - Decision 4/CP.17 - Decision 16/CP.20 - Decision 13/CP.21 - Decision 14/CP.22

Elements	Sub-elements	Proposed inputs	To be considered: (1) Commonly by the COP and the CMA or; (2) Specifically by the CMA.	Rationale for the inputs	Source of information / reference
		ownership of technology interventions; b) Assessing the role of transformative technologies in priority sectors and to engage strategically with TEC and CTCN on these, and measurement of their adoption to support the long-term goals of the Paris Agreement; c) Updating project design and reporting protocols in line with gender-transformative development, continue sharing best practices and building awareness among delivery partners of the positive contributions of gender mainstreaming and stakeholder engagement to accelerating technology development and transfer projects; d) Sharing experience on gender budgeting; **e)** Raising awareness of the financial and technical support available for gender integration in climate technology policies, plans, strategies and action, as appropriate, including good practices for facilitating access to climate finance for grass-roots women's organisations and indigenous peoples and local communities for technology projects.		This includes the TEC recommendations contained in documents published since the last input to the SCF directly addressed to the operating entities or financial institutions and not contained in previous inputs to SCF or other rows in this document.	- Decision 12/CP.25, paragraph 20 - Decision 14/CP.25, paragraph 16

Annotated inputs for the draft guidance to the Global Environment Facility (GEF)

Elements	Sub-elements	Proposed inputs	To be considered: (1) Commonly by the COP and the CMA or; (1) Specifically by the CMA.	Rationale for the inputs	Source of information / reference
Programme priorities	Linkages between the Technology Mechanism and the Financial Mechanism	Encourages the Global Environment Facility to consult with the Technology Executive Committee and the Climate Technology Centre and Network regarding potential synergies between the new joint Technology Mechanism work programme and the implementation of the programming direction under the eighth replenishment of the Global Environment Facility, and invites the Global Environment Facility to consider both bodies in the consultations for the Programming directions under the ninth replenishment of the Global Environment Facility.	COP and CMA	As Parties noted in the GEF CMA decision for the last COP27, Innovation and technology development are an important part of the new programming and there is a strong potential for synergy regarding topics contained in the new Strategic Plan and the Technology Mechanism Joint Work Programme, including the CTCN programme of work and the TEC rolling workplan. It is also added the request to consider TEC and CTCN when developing the next programming direction for increased complementary and synergy from the inception phase. Language is based on a similar paragraph the SCF included last year for the GEF based on the TEC inputs.	- Programming directions under the eighth replenishment of the Global Environment Facility - GEF 2023 report to COP paras 9,and 17. - Decision 17/CMA.4, para 2. - Joint Work Programme of the UNFCCC Technology Mechanism - Rolling workplan of the Technology Executive Committee - CTCN Programme of Work - Decision 13/CP.21 - Decision 14/CP.22 - Decision 12/CP.25, paragraph 20 - Decision 14/CP.25, paragraph 16 - Decision 9/CP.26, paragraph 3
Policies	Linkages between the Technology Mechanism and the Financial Mechanism	Recalling decisions 2/CP.17 para 139 and 14/CP.18, invites GEF to engage with TEC and CTCN to find and act on new opportunities for supporting and collaborating with the Climate Technology Centre and Network.	COP and CMA	Based on reports by both the CTCN and the GEF it seems that GEF is not financing new projects being implemented by CTCN and that CTCN is supporting the implementation of GEF Phase IV of the Global TNA project with in-kind resources of up to $910,000. According to decision 2/CP.17 para 139, it is expected for the GEF to be a source of the resources for the costs associated with the CTC and the mobilisation of the services of the Network. GEF reported that it continues to *explore* opportunities for further collaboration, but given the existing mandates there is encouragement for GEF to *find and act* on those opportunities, in collaboration with CTCN.	- GEF 2023 report to COP paras 9, 263 - 267. - 16/CP.27, para 10 - Decision 2/CP.17 para 139 - Decision 14/CP.18 - Decision 13/CP.21 - Decision 14/CP.22 - Decision 12/CP.25, paragraph 20 - Decision 14/CP.25, paragraph 16

Elements	Sub-elements	Proposed inputs	To be considered: (1) Commonly by the COP and the CMA or; (1) Specifically by the CMA.	Rationale for the inputs	Source of information / reference
Policies	Climate Technology Activities: Policies related to youth inclusion and capacity building	Encourages the GEF to empower women, youth and indigenous peoples to participate in the GEF Assembly, GEF national dialogues and in the programming of GEF resources for technology development and transfer, including for technology needs assessments.	COP and CMA	Youth engagement serves as a catalyst for building and nurturing local organizations that are both robust and effective. These organizations play a pivotal role in climate adaptation efforts by mobilizing community resources, driving innovation, and fostering a deep sense of ownership and stewardship over climate-related initiatives. The Key Outputs and Lessons Learned from Promotion and Development of Local Wind Technologies in Mexico document successful collaboration with educational institutions and youth inclusion. For GEF Draft 2023 Annual Report Annex 4, pages 154-157, Projects Completed in the Reporting Period - Promotion and Development of Local Wind Technologies in Mexico Key Output (38) states “The main project outcome is creation of business and personnel capabilities”, Key Output (39) “The project's success is also attributed to their management and coordination skills, leveraging the capacities of the three research institutions involved in the project, which plays a fundamental role in developing capabilities directly and through higher education institutions.”, and Key Output (41) “The project demonstrated the potential to develop skilled labour, with a significant proportion of women”. Reported Lessons Learned (50) “It was proven that the incorporation of students into the project to carry out support activities is possible.“ It is worthwhile to recognize that the impact and sustainability of projects of this nature extend beyond their immediate outcomes. Strengthening support for youth, especially those hailing from less developed and developing countries, holds immense significance.	GEF 2023 Annual Report para 33 GEF 2023 Annual Report: Response to Decision 13/CP.27: Long-term climate finance, Paragraph 11 GEF 2023 Annual Report Annex 4, pages 154-157, Key Output items 38, 39, 41; Lessons Learned item 50. JAR 2022, para 54 a and c
Programme priorities	Policies related to youth inclusion and capacity building	Invites the GEF to encourage its project implementers to pursue approaches that ensure the engagement of youth and indigenous peoples in key steps of project design and implementation as well as to share good practices of how such engagements have accelerated technology development and transfer.	COP and CMA	In Decision 13/CP.27: Long-term climate finance, Paragraph 11 “Reiterates that the secretariat, in collaboration with the operating entities of the Financial Mechanism, United Nations agencies and bilateral, regional and other multilateral channels, will continue to explore ways and means to assist developing country Parties in assessing their needs and priorities in a country-driven manner, including their technological and capacity-building needs, and in translating climate finance needs into action.” The GEF response, “The GEF	GEF 2023 Annual Report para 33 GEF 2023 Annual Report. Response to Decision 13/CP.27: Long-term climate finance, Paragraph 11 GEF 2023 Annual Report Annex 4, pages 154-157, Key Output

Elements	Sub-elements	Proposed inputs	To be considered: (1) Commonly by the COP and the CMA or; (1) Specifically by the CMA.	Rationale for the inputs	Source of information / reference
				continues to provide support to developing country Parties in assessing their needs and priorities in a country-driven manner, including technology and capacity-building needs, and in translating climate finance needs into action. Among other efforts, the GEF continues to provide resources for transparency-related capacity-building through the Capacity Building Initiative for Transparency (CBIT), for technology needs assessments (TNAs), and for other initiatives such as expanded constituency workshops (ECWs), in an effort to enhance the abilities of developing countries to assess their needs and priorities and to translate climate finance needs into action.”	items 38, 39, 41; Lessons Learned item 50. JAR 2022, para 54 a and c

Annex VI

Joint key messages and recommendations of the Technology Executive Committee and the Climate Technology Centre and Network on technology and nationally determined contributions

1. On the basis of an updated analysis carried out in 2022–2023 by the TEC and the CTCN of technology issues related to NDCs,[1] including an overview of technology issues identified in revised NDCs, integration of technology issues into NDCs, technology needs and challenges, success stories and lessons learned, and linkages between policy and implementation and linkages with NAPs, the TEC and the CTCN highlight the following:

   (a) A growing number of developing countries are building on insights from TNAs and CTCN TA to inform the development and implementation of their NDCs and NAPs, with some countries also using their NDC and NAP processes to inform TNAs;

   (b) The analysis of linkages between policy and implementation in the context of technology and NDCs found that strong linkages are needed for the effective uptake of climate technologies. In addition, fostering linkages between the technology-related aspects of the NDC and NAP processes can benefit both processes greatly, avoiding duplication of work and accelerating implementation. Effective NSIs are essential to enhancing the capacity of developing countries for the uptake of climate technologies and to incentivize innovation that can unlock potential transformative technological changes needed to meet the goals of the Paris Agreement;

   (c) There are a variety of examples from different regions and country contexts where the uptake of technologies directly supports the implementation of NDCs. Examples include government-, private sector and community-driven technology solutions and showcase different approaches to overcoming technical, financial, institutional and social barriers to technology uptake, including through innovative policies and business models as well as gender-responsive and effective stakeholder engagement approaches;

   (d) Lessons learned regarding the uptake of technologies include the importance of recognizing the crucial role that stakeholders play in technology planning and implementation to ensure that technology solutions are technically, economically, institutionally and socially viable. CTCN TA and bilateral assistance provided to developing country Parties can serve as an important catalyst for accessing larger amounts of climate finance to facilitate the uptake of climate technologies in support of NDC implementation.

2. The TEC and the CTCN recommend that the COP and the CMA encourage Parties to stimulate the uptake of technologies in support of NDC implementation by:

   (a) Fostering gender-responsive, inclusive, participatory and equitable approaches that consider the needs, priorities, knowledge and capacities of all technology stakeholders; generate awareness of technology benefits; and foster stakeholder engagement and buy-in regarding processes and technologies. In particular, technology uptake needs to lead to a just transition, protect workers, communities, Indigenous Peoples and women, ensure a more socially equitable distribution of benefits and risks, and foster leapfrogging to near zero emission or low-emission climate technologies, which are in line with meeting the targets of the Paris Agreement;

   (b) Creating local champions and disseminating success stories to showcase the local economic and social benefits of environmentally sound technologies and their contribution to NDC implementation with a view to leveraging broader financial, institutional and social support for replicating and scaling up the technologies;

[1] See https://unfccc.int/ttclear/tec/techandndc.html.

(c) Supporting market creation and expansion for prioritized technologies by putting in place enabling legal and regulatory environments and enhancing absorptive capacities of technology stakeholders;

(d) Supporting academia and civil society, including women, youth and Indigenous Peoples organizations, that work with local and national governments on addressing barriers to technology uptake towards the achievement of NDC targets, including by strengthening NSIs;

(e) Systematically documenting and disseminating information on the policies, schemes and programmes that foster technology uptake, as well as on challenges and lessons learned in meeting NDC targets to inform future policymaking, technology prioritization and the preparation of revised NDCs and NAPs;

(f) Using the outcomes of TNA processes on the identification, prioritization and diffusion of climate technologies, not only to inform revised NDCs but also to facilitate NDC implementation as well as establish or strengthen linkages between NDC, NAP and TNA processes in support of the uptake of climate technologies, as appropriate;

(g) Including more detailed information on technology in NDCs, such as policies, targets, technology needs and support, to foster a clearer understanding among domestic technology stakeholders, facilitate international cooperation and enable more targeted provision of support by the TEC and the CTCN, according to their respective functions, and other support providers, as appropriate;

(h) Making more use of the Technology Mechanism to carry out the above recommendations, including by using technical documents and recommendations on climate technology policies prepared by the TEC, and, in addition for developing country Parties, by actively engaging with the CTCN to benefit from its provision of technology solutions, capacity-building and advice on policy, legal and regulatory frameworks, and support for the development of technology road maps, tailored to the needs of individual country contexts.