United Nations

Framework Convention on Climate Change

FCCC/SB/2019/4

Distr.: General
10 October 2019

Original: English

Subsidiary Body for Scientific and Technological Advice
Fifty-first session
Santiago, 2–9 December 2019

Item 5 of the provisional agenda
Development and transfer of technologies: joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network

Subsidiary Body for Implementation
Fifty-first session
Santiago, 2–9 December 2019

Item 13(a) of the provisional agenda
Development and transfer of technologies
Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network

Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network for 2019*

Summary

This report covers the activities and performance of the Technology Executive Committee and the Climate Technology Centre and Network in 2019, including the implementation of the technology framework to support implementation of the Paris Agreement. It contains information on the meetings of the bodies and their key messages for the Conference of the Parties at its twenty-fifth session and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its second session. It includes information provided by the United Nations Environment Programme on matters regarding its role as co-host of the Climate Technology Centre and Network. The recommendations of the Technology Executive Committee on ways forward and actions to be taken based on the outcomes of the technical expert meetings on mitigation are contained in the annex.

* This document was scheduled for publication after the standard publication date owing to circumstances beyond the submitter's control.

GE.19-17515(E)

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Contents

Abbreviations and acronyms

CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
COP	Conference of the Parties
CTC	Climate Technology Centre
CTCN	Climate Technology Centre and Network
DTU	Technical University of Denmark
GCF	Green Climate Fund
GEF	Global Environment Facility
NAP	national adaptation plan
NDA	national designated authority
NDC	nationally determined contribution
NDE	national designated entity
PSP	Poznan strategic programme on technology transfer
SB	sessions of the subsidiary bodies
SBI	Subsidiary Body for Implementation
TEC	Technology Executive Committee
TEM	technical expert meeting
TEP	technical examination process
TNA	technology needs assessment
TT:CLEAR	technology information clearing house
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization

I. Background

A. Mandate

1. COP 16 established the Technology Mechanism, comprising the TEC and the CTCN, to facilitate the implementation of enhanced action on technology development and transfer to support action on mitigation and adaptation in order to achieve the full implementation of the Convention.[1]

2. COP 17 requested the TEC and the CTCN to establish procedures for preparing a joint annual report, and also requested the secretariat to make the joint annual report available for consideration by the COP through the subsidiary bodies.[2]

3. COP 21 decided that the TEC and the CTCN shall report to the CMA, through the subsidiary bodies, on their activities to support implementation of the Paris Agreement.[3]

4. COP 23 requested the TEC and the CTCN to include in their joint annual report to the COP, having consulted with the high-level champions thereon, recommendations for Parties and other organizations on ways forward and necessary actions to be taken based on the outcomes of the TEMs.[4]

5. COP 24 encouraged the TEC and the CTCN to:

(a) Improve their reporting on challenges and lessons learned in their future joint annual reports, including on their efforts to address the challenges;

(b) Continue reporting on the monitoring and evaluation of the impact of their activities and to include information on tracking progress and on methodologies used.[5]

6. CMA 1 adopted the technology framework under Article 10, paragraph 4, of the Paris Agreement[6] and requested the TEC and the CTCN to include information in their joint annual report for 2019 on how they incorporated the guidance contained in the technology framework into their respective workplans and programmes of work as well as on challenges and lessons learned in implementing the technology framework.[7]

7. CMA 1 took note of the recommendation of the TEC and the CTCN to prepare and submit their joint annual report to both the COP and the CMA.[8]

B. Scope of the report

8. This joint annual report of the TEC and the CTCN to the COP for 2019 contains:

(a) A joint chapter of the TEC and the CTCN (see chap. II below);

(b) A chapter on the activities and performance of the TEC in 2019, including key messages for COP 25 and CMA 2. It covers the outcomes of the 18th and 19th meetings and intersessional work of the TEC with the active engagement of nominated experts from relevant international and observer organizations, and provides information on challenges and lessons learned in implementing its mandates and on the monitoring and evaluation of the impacts thereof (see chap. III below);

(c) A chapter on the activities and performance of the CTCN in 2019, including key messages for COP 25 and CMA 2. It covers the outcomes of the 13th and 14th meetings and intersessional work of the Advisory Board of the CTCN, and includes information on

[1] Decision 1/CP.16, para. 117.
[2] Decision 2/CP.17, paras. 142–143.
[3] Decision 1/CP.21, para. 68.
[4] Decision 13/CP.23, para. 4.
[5] Decision 13/CP.24, paras. 4 and 7.
[6] Decision 15/CMA.1, annex.
[7] Decision 15/CMA.1, paras. 1, 3(b) and 5.
[8] Decision 15/CMA.1, para. 4.

challenges and lessons learned in implementing CTCN mandates, and information provided by UNEP on matters regarding its role as the host of the CTC (see chap. IV below).[9]

C. Possible action by the subsidiary bodies

9. The subsidiary bodies may wish to consider the joint annual report of the TEC and the CTCN for 2019 and to recommend a draft decision on the matter for consideration and adoption at COP 25 and CMA 2.

II. Joint chapter of the Technology Executive Committee and the Climate Technology Centre and Network

10. In response to the mandate for the TEC and the CTCN to implement the technology framework,[10] the TEC and the CTCN Advisory Board convened back-to-back meetings and a joint session for the first time in March 2019 in Copenhagen to identify additional areas for collaboration and activities to be undertaken jointly in support of the implementation of the Paris Agreement. Both the TEC and the CTCN Advisory Board recognize the benefits of this collaboration and will consider future opportunities to meet in joint session.

11. The identified areas for collaboration for 2019–2022 are research, development and demonstration; uptake of existing technologies; long-term technological transformation; TNAs; monitoring and evaluation of impacts; and communication and outreach. The TEC and the CTCN Advisory Board worked together to identify activities in each of these areas as well as the possible roles and contributions of each body and will continue to develop them intersessionally.

12. In response to a mandate from COP 23 and guidance contained in the technology framework,[11] the TEC and the CTCN also worked together to develop a system for monitoring and evaluating the impacts of activities under the Technology Mechanism, including indicators and methodologies for tracking progress and support received. Collaboration in this area is expected to continue during implementation of the system to ensure that the two bodies remain responsive to any future relevant guidance from Parties.

13. The TEC and the CTCN continued to jointly promote and share information on the work of the Technology Mechanism, including through side events and exhibits at sessions.[12, 13]

14. The TEC and the CTCN also continued to strengthen their engagement with NDEs at regional NDE forums[14] and with regional and global stakeholders by jointly organizing:

(a) A regional TEM on mitigation on circular economy solutions and innovation in water and energy management for the agrifood chain, held during Latin America and Caribbean Climate Week in August 2019;[15]

(b) A regional TEM on mitigation on decentralized solutions for smart energy and water use in the agrifood chain, held during Asia-Pacific Climate Week in September 2019.[16]

15. The TEC and the CTCN also continued to collaborate with other constituted bodies under the Convention, and on strengthening linkages with the Financial Mechanism. The Chairs of the TEC and of the CTCN Advisory Board participated in:

[9] See decision 14/CP.18, para. 10.
[10] Decision 15/CMA.1, para. 2.
[11] Decisions 15/CP.23, para. 5, and 15/CMA.1, para. 23.
[12] See https://unfccc.int/ttclear/events/2019_event2.
[13] See https://unfccc.int/ttclear/events/2019_event3.
[14] See https://www.ctc-n.org/capacity-building/ctcn-events.
[15] See https://unfccc.int/ttclear/events/2019_event6.
[16] See https://unfccc.int/ttclear/events/2019_event7.

(a) The 3rd annual meeting of the GCF with the constituted bodies, at COP 24, to enhance cooperation and coherence of engagement between the GCF and the Technology Mechanism;

(b) The 3rd meeting of the Paris Committee on Capacity-building, at SB 50, to provide input on how to enhance coherence and coordination of capacity-building activities under the Convention;

(c) The UNFCCC gender workshops at COP 24 and SB 50, to learn how to mainstream gender considerations in the work of the Technology Mechanism;

(d) The informal dialogue of the Local Communities and Indigenous Peoples Platform with constituted bodies at SB 50.

16. In addition, the TEC and the CTCN met, on the margins of SB 50, with the Chairs of the subsidiary bodies, the high-level champions and the Co-Chairs of the Adaptation Committee to exchange views on the TEP and how the findings from it may be considered at COP 25.

17. Looking ahead, the TEC and the CTCN recognize the importance of enhancing their collaboration to ensure that Parties receive effective and coherent support under the Technology Mechanism. The activities to be undertaken jointly that complement their work will build on existing cooperation, take into account recommendations and lessons learned, and guide their work in implementing the technology framework, including supporting developing country Parties in implementing the climate technology elements of their NDCs.

III. Report on the activities and performance of the Technology Executive Committee in 2019

A. Meetings and membership

18. The TEC convened two meetings in 2019: its 18th meeting, from 25 to 27 March in Copenhagen, and its 19th meeting, from 16 to 19 September in Bonn.

19. At its 18th meeting, the TEC elected Dinara Gershinkova (Russian Federation) as its Chair and Stella Gama (Malawi) as its Vice-Chair for 2019. The TEC expressed its appreciation to the outgoing Chair, Claudia Octaviano Villasana (Mexico), for her leadership in enabling the TEC to effectively carry out its work in 2018.

20. A list of the members of the TEC, including the length of their respective terms of office, is available on the UNFCCC website.[17]

21. The meetings of the TEC were webcast live and attended by observers, including representatives of Parties and observer organizations, who actively engaged in addressing the issues under consideration. All meeting documents, presentations, webcasts, lists of participants and reports are available on TT:CLEAR.[18]

B. Rolling workplan of the Technology Executive Committee for 2019–2022

1. Development of the workplan

22. At its 19th meeting, following discussions initiated at its 18th meeting and taking into consideration input from observers at both meetings, the TEC agreed on its rolling workplan for 2019–2022.[19] The workplan is aimed at ensuring the relevance and

[17] http://unfccc.int/bodies/election_and_membership/items/6558.php.

[18] http://unfccc.int/ttclear/tec/meetings.html.

[19] See https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/TEC_key_doc/8ab7fd8c1cdb40d6a7b22b11d5d0fc51/8ef9bb97b1894aa2a3631d8348a00d87.pdf.

effectiveness of the work of the TEC in accordance with its mandate and functions, and spans a four-year period to align with the duration of the programme of work of the CTCN and key milestones in the intergovernmental process, such as the first periodic assessment of the Technology Mechanism, to take place in 2022, and the first global stocktake, to take place in 2023.

23. The workplan incorporates the guidance contained in the technology framework. It comprises three workstreams (mitigation, adaptation and cross-cutting issues) and five thematic areas of activities, following the key themes of the technology framework (innovation, implementation, enabling environment and capacity-building, collaboration and stakeholder engagement, and support). It also contains a system for monitoring and evaluating the impacts of the activities, and communication and outreach strategy of the TEC.

24. The TEC agreed to apply a general approach[20] to integrating gender considerations into the implementation of the activities of the rolling workplan and to establish the role of a gender focal point within the TEC. It also agreed to appoint a gender focal point at its 20th meeting.

25. The TEC further agreed to periodically review the implementation of its rolling workplan and adjust it, as appropriate, taking into account new mandates and future priorities set by the COP and the CMA.

26. To implement its rolling workplan, the TEC agreed to:

(a) Establish five task forces, on innovation, implementation, enabling environment and capacity-building, collaboration and stakeholder engagement, and support;

(b) Invite representatives of observer organizations (business and industry, environmental, research and independent, and youth non-governmental organizations, and intergovernmental organizations) to participate in the task forces;

(c) Launch a process to solicit interests of stakeholders and organizations to support or collaborate with the TEC on specific activity of the rolling workplan.

2. Implementation of the workplan

27. The TEC continued its intersessional work through thematic task forces to effectively implement its workplan. Information on the composition of the TEC task forces is available on TT:CLEAR.[21]

28. The TEC wishes to express its appreciation for the financial contributions provided by Parties as well as for the active participation and support of relevant organizations and other stakeholders, including representatives of observer organizations engaged in the work of the TEC task forces, which enabled the TEC to successfully implement its workplan in 2019.

29. In 2019, the TEC undertook substantive work in the five thematic areas of its rolling workplan.

(a) Innovation

30. The TEC agreed to incorporate a number of activities in its workplan in the thematic area of innovation. Some of the activities build on previous work undertaken by the TEC in this area, such as its work on national systems of innovation, and research, development and demonstration of climate technologies. The activities are scheduled to be initiated in 2020 in close collaboration with the CTCN and other relevant stakeholders.

(b) Implementation

[20] See TEC document TEC/2019/19/10. Available at https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/tn_meetings/5d9cfbca553d4fb69460f242e6b01d68/17c11d2d2be9435faf0d534c9b2d0713.pdf.

[21] http://unfccc.int/ttclear/tec/members.html#Task.

(i) Technology needs assessments

31. The TEC initiated the preparation of a paper on experience, lessons learned and good practices in conducting TNAs and implementing their results. The paper focuses on the countries that participated in phases I and II of the global TNA project. The TEC agreed to finalize the paper by the end of October 2019. The TEC also agreed to produce, on the basis of the paper, a policy brief in 2020, followed by key messages for COP 26.

(ii) Recommendations on ways forward and actions to be taken based on the outcomes of the technical expert meetings on mitigation

32. The TEC prepared recommendations on ways forward and actions to be taken based on the outcomes of the TEMs on mitigation (see the annex)[22] taking into account the outcomes of the two regional TEMs organized with the CTCN (see para. 16 above) and of the in-session TEM held at SB 50.

(c) Enabling environment and capacity-building

33. The TEC continued its work on the development and enhancement of endogenous capacities and technologies.[23] In particular, it shared findings from its report *Developing and Enhancing Endogenous Capacities and Technologies: Technology Stakeholders' Perspectives*[24] and collected feedback from other bodies.

34. On the basis of its findings, the TEC prepared key messages on endogenous capacities and technologies (see chap. III.F below). The TEC agreed to further promote a shared understanding of endogenous capacities and technologies, including through collaboration with the Paris Committee on Capacity-building to communicate its work on this matter.

(d) Collaboration and stakeholder engagement

(i) Collaboration with the Executive Committee of the Warsaw International Mechanism

35. The TEC and the Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts held an expert dialogue in conjunction with SB 50 to convene leading experts, practitioners and policymakers to discuss and share information on technologies for coastal zone risk assessment, risk retention, and recovery and rehabilitation, including case studies from different geophysical environmental settings.[25] The results of the dialogue will be fed into the development of a joint policy brief on technologies for averting, minimizing and addressing loss and damage, including recovery and rehabilitation in coastal zones.

36. The TEC agreed to continue preparing the joint policy brief with a view to finalizing it at its 20th meeting and to prepare recommendations on the matter for COP 26.

(ii) Technical examination process on mitigation

37. The TEC stepped up its engagement in the TEP on mitigation.[26] In addition to the regional TEMs on mitigation organized in collaboration with the CTCN referred to in paragraph 16 above, the TEC participated in the TEM on mitigation at SB 50 and contributed to the round-table discussion on replicating and upscaling innovation and best practices related to waste-to-energy and circular economy.

[22] In response to decision 13/CP.23, para. 4.
[23] In response to decision 1/CP.21, para. 66(b).
[24] Available at https://unfccc.int/ttclear/endogenous/index.html.
[25] See https://unfccc.int/topics/adaptation-and-resilience/workstreams/loss-and-damage-ld/workshops-meetings/expert-dialogue-on-technologies-for-averting-minimizing-and-addressing-loss-and-damage-in-coastal#eq-3.
[26] In response to decision 13/CP.23.

(iii) Technical expert meetings on adaptation

38. The TEC continued to engage with and contribute to the work of the Adaptation Committee in relation to the TEMs on adaptation by providing input on the further involvement of the TEC in the TEP on adaptation.

(e) Support

39. COP 22 invited the TEC, the CTCN and the operating entities of the Financial Mechanism to provide information on their actions in strengthening the linkages between the Technology Mechanism and the Financial Mechanism in their annual reports to the COP.[27] The TEC agreed to incorporate a number of activities in its workplan in the thematic area of support that could strengthen those linkages, notably by enhancing collaboration with the GCF, the GEF and the Standing Committee on Finance.

(i) Collaboration with the Green Climate Fund

40. The TEC welcomed the information provided by the GCF on its support for climate technologies, including its approach to supporting climate technology incubators and accelerators in consultation with the TEC and the CTCN and other stakeholders.

41. The Vice-Chair of the TEC participated in the 3rd annual meeting of the GCF with the constituted bodies under the Convention, which focused on how to enhance pre-2020 ambition and accelerate the implementation of NDCs and NAPs and was held in conjunction with COP 24.

42. The TEC agreed to provide input to the annual meeting of the GCF with constituted bodies to be held at COP 25.

(ii) Key messages and relevant recommendations contained in the evaluation of the Poznan strategic programme

43. The TEC submitted its report on the updated evaluation of the GEF PSP for consideration at SBI 50.[28] The updated evaluation draws on experience and lessons learned from the PSP and finance centres and pilot projects of the fourth replenishment of the GEF. SBI 50 considered the report, prepared by the TEC with the aim of enhancing the effectiveness of the Technology Mechanism, and invited the CTCN and the TEC to include in their joint annual report for 2019 information on how they will address the key messages and relevant recommendations contained in the report.

44. The TEC agreed to integrate any follow-up activities arising from the updated evaluation of the PSP within the scope of existing activities in its workplan. It also agreed to participate in a dialogue between the GEF, the regional centres supported by the GEF under the PSP and the CTCN to share the findings from the updated evaluation.

(iii) Collaboration with the Standing Committee on Finance

45. The TEC provided input to the draft guidance for the operating entities of the Financial Mechanism prepared by the Standing Committee on Finance, to be considered at COP 25 and CMA 2.

C. Monitoring and evaluating impacts

46. The TEC continued its work to develop a system for monitoring and evaluating the impacts of its activities.[29]

47. At its 19th meeting, the TEC adopted its monitoring and evaluation system, including indicators and methodologies for tracking progress and support received. The TEC agreed to implement the monitoring and evaluation system on a trial basis and revise it, as appropriate, at its 21st meeting.

[27] Decision 14/CP.22, para. 9.
[28] See document FCCC/SBI/2019/7.
[29] In response to decision 15/CP.23, para. 5.

D. Communication and outreach

48. The TEC continued its work to enhance its communication and outreach activities.[30] It held a side event at SB 50 to communicate its plan for incorporating the guidance contained in the technology framework into its workplans,[31] and sought feedback on its plan from representatives of NDEs, non-governmental organizations and other stakeholders. To enhance communication and engagement with NDEs, members of the TEC participated in regional NDE forums organized by the CTCN.

49. To support implementation of its rolling workplan, the TEC agreed to develop a communication and outreach strategy to ensure that its products are understood, to reach the intended audience and to raise public awareness of climate technologies. The TEC also agreed to continue undertaking communication and outreach activities in collaboration with the CTCN to ensure coherent messaging under the Technology Mechanism.

E. Challenges and lessons learned

50. In 2019, the TEC began implementing a new rolling workplan to support implementation of the Paris Agreement with regard to technology development and transfer and will continue to support enhanced action on technology under the Convention. In response to a request from the COP and the CMA,[32] the TEC reflected on lessons learned and challenges in implementing its workplan:

(a) Direct involvement of various stakeholders, including observer organizations and other constituted bodies, proved to be beneficial in delivering the work of the TEC. Positive feedback was received on how the work of the TEC has guided the relevant work of stakeholders;

(b) Engagement with different stakeholders at the regional level proved useful in enhancing the visibility of the TEC and seeking feedback on its work;

(c) Reaching out to a broader audience remains a key challenge. While continuing producing policy recommendations, the TEC sees the opportunity to diversify its products, including compilations of best practices, and to enhance the use of social media;

(d) Progress was made in taking into consideration gender perspectives in the work of the TEC. The TEC looks forward to improving the gender balance of its composition, noting that it is the prerogative of Parties to nominate representatives to the TEC;

(e) The TEC and the CTCN enhanced their collaboration by co-organizing various events. The TEC recognizes the benefits of direct interaction with the CTCN Advisory Board in joint meetings and expects this practice to continue in the future. The TEC also recognizes the need to further enhance mutual feedback between the two bodies;

(f) The TEC recognizes the need to engage with a wider range of stakeholders and to mobilize resources for it, for implementing its future activities and for enhancing its communication and outreach, including making its publications available in other official United Nations languages.

F. Key messages for the Conference of the Parties and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement

51. Building on the work carried out in 2019, the TEC wishes to deliver the following key messages to COP 25 and CMA 2 on the development and enhancement of endogenous capacities and technologies.[33]

[30] In response to decision 13/CP.24, para. 9.
[31] In response to decision 15/CMA.1, para. 3(a).
[32] In response to decisions 13/CP.24, para. 4 and 15/CMA.1, para. 5.
[33] Also available at http://unfccc.int/ttclear/policies.

52. The TEC recognizes different understanding among technology stakeholders of what constitutes endogenous capacities and endogenous technologies. On the basis of its work and the perspectives of various stakeholders, the TEC highlights that stakeholders most often included the following elements in their understanding of endogenous technologies:

(a) Technologies identified and developed within the country or by a team of in-country and external people;

(b) Existing technologies developed elsewhere but modified and adapted within the country to meet the country's needs and conditions.

53. The TEC also highlights that stakeholders most often included the following elements in their understanding of endogenous capacities as the capacity to:

(a) Assess climate-related technology needs from the individual to national level;

(b) Identify appropriate technologies to assist in meeting identified needs;

(c) Adapt technologies to local needs and conditions.

54. In order to develop and enhance a country's endogenous capacities, the TEC underscores the importance of understanding the country's existing capacity-building institutions and capabilities; the known social, economic and environmental impacts of climate technologies; and in-country and external sources of financing, skills, knowledge and technologies available to meet identified country needs.

55. The TEC further highlights that programmes and measures administered by operating entities of the Financial Mechanism contain elements that could help enhance endogenous capacities and technologies.

IV. Report on the activities and performance of the Climate Technology Centre and Network in 2019

A. Advisory Board meetings and membership

56. At its 13th meeting, held from 27 to 29 March 2019 in Copenhagen, the Advisory Board of the CTCN welcomed Board members Pedro Garcia Brito (Dominican Republic), Omedi Moses Jura (Kenya), Seo Gon Ko (Republic of Korea), Meropi Paneli (European Union), Erwin Rose (United States of America), Kenichi Wada (Japan) and Ping Zhong (China).[34] At the beginning of the meeting, the Board elected Orly Jacob (Canada) as the Vice-Chair, and at its conclusion elected Ms. Jacob as its new Chair and Mr. Zhong as its Vice-Chair. The Board thanked Maia Tskhvaradze (Georgia) for her service as Chair of the Advisory Board.

57. The Advisory Board considered and approved the CTCN programme of work for 2019–2022,[35] in which the COP-mandated services of the CTCN are aligned with requirements for the implementation of the technology framework under the Paris Agreement. In addition, the Board endorsed the 2018 financial statement of the CTCN and met in joint session with the TEC to discuss areas of collaboration to strengthen the provision of support to the Technology Mechanism for implementing the technology framework.

58. At its 14th meeting, held from 11 to 13 September 2019 in Paris, the Advisory Board welcomed its new Board Secretary and CTCN Director Rose Mwebaza. It participated in a gender mainstreaming workshop, discussed the joint activities to be undertaken by the TEC and the CTCN, and approved the CTCN budget and annual operating plan for 2020 as well as the CTCN report to COP 25. In addition, the Board provided guidance on the engagement of the CTCN with the Financial Mechanism and took note of progress in the

[34] See https://www.ctc-n.org/about-ctcn/advisory-board.

[35] Available at https://www.ctc-n.org/sites/www.ctc-n.org/files/ctcn_programme_of_work_2019-2022.pdf.

development of the monitoring and evaluation system for the activities of the CTCN and how its implementation will enable more robust reporting and tracking of impacts and support its approach to resource mobilization.

59. Parties and observers were invited to participate in both Advisory Board meetings, which were webcast live. All Board meeting documents and presentations are available on the CTCN website.[36]

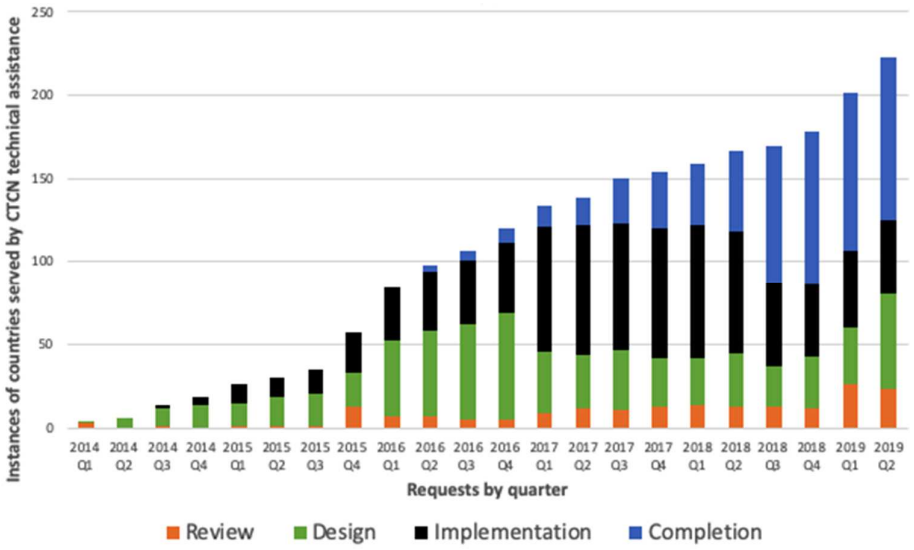
B. Activities of the Climate Technology Centre and Network

60. The activities and priorities of the CTCN for each year are established in its annual operating plan, which is approved by the CTCN Advisory Board at its second meeting every year. The annual operating plan for 2019[37] established output targets for the three functions of the CTCN as detailed below and identified actions to be taken by the CTCN to deliver on its mandate.

1. Function 1: responding to requests from developing countries

61. As at July 2019, the CTCN had engaged with 93 developing country Parties regarding a total of 273 requests for technical assistance, including 11 multi-country requests.[38] Figure 1 illustrates the progression over time of the 223 requests that have been deemed both eligible and prioritized according to the screening criteria endorsed by the CTCN Advisory Board.[39]

Figure 1
Status of responses to requests for technical assistance from the Climate Technology Centre and Network



62. As at 31 July 2019, the CTCN had completed 99 responses to NDE requests for technical assistance. In total, 45 are still under implementation; 57 are in the response plan design phase; and 24 are under review.

63. The CTCN received 51 technical assistance requests in the first seven months of 2019 and is currently on track to receive more requests in 2019 than in any previous year. This can be attributed in part to the success of the CTCN regional strategy, indicates strengthened connections to countries and is one of the reasons why the CTCN will now

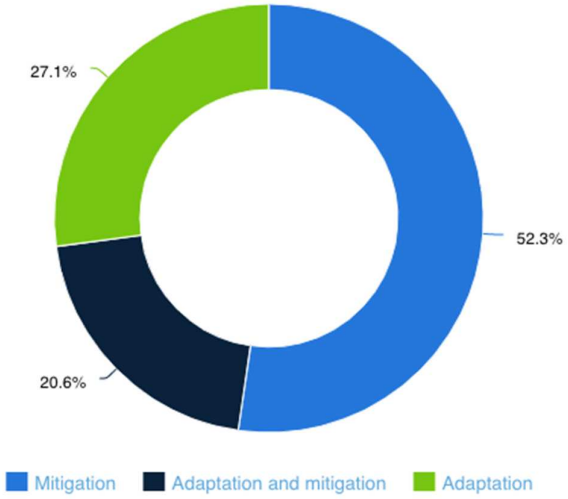
[36] https://www.ctc-n.org/advisory-board/meetings.
[37] Available at https://www.ctc-n.org/calendar/events/12th-ctcn-advisory-board-meeting.
[38] The CTCN used to count multi-country requests for technical assistance as a single request. In 2019, however, it started disaggregating its multi-country requests to correspond to the number of countries served.
[39] See https://www.ctc-n.org/file/114.

reflect the number of countries served in its technical assistance visualizations rather than counting multiple countries served as a single request.

64. Technical assistance requests continue to be more firmly anchored in country NDC and TNA processes. A new set of requests to develop and update TNAs through the GCF Readiness and Preparatory Support Programme have been received, with more expected in 2020. Moreover, countries are increasingly seeking CTCN support to use their readiness allocation for projects focusing on priority technologies.

65. Figure 2 provides a breakdown of requests for technical assistance received to date by objective (adaptation; mitigation; both adaptation and mitigation). It demonstrates that nearly three quarters of the requests received by the CTCN have a mitigation component. CTCN data[40] related to requests for technical assistance indicate that two thirds of mitigation requests are related to either renewable energy or energy efficiency, with the two largest adaptation categories being agriculture and forestry (28 per cent) and infrastructure and urban planning (19 per cent).

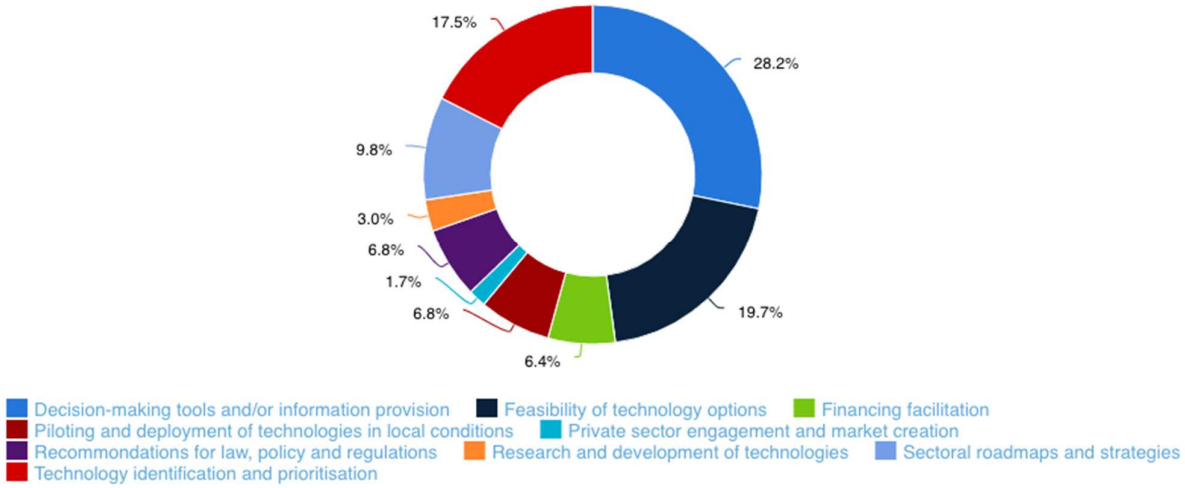
Figure 2
Requests for technical assistance from the Climate Technology Centre and Network, by objective



66. Figure 3 shows the types of request received by the CTCN. Requests for decision-making or information tools (28 per cent) are received most frequently, followed by requests for technology feasibility studies (20 per cent) and technology identification and prioritization (18 per cent).

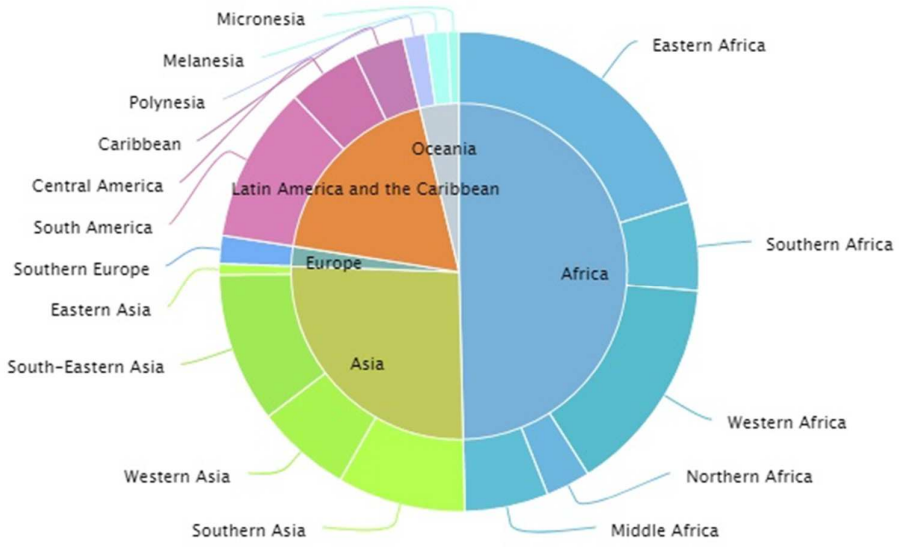
[40] See https://www.ctc-n.org/technical-assistance/request-visualizations.

Figure 3
Requests for technical assistance from the Climate Technology Centre and Network, by type of assistance



67. Figure 4 shows from where requests have been received: 50 per cent originate from Africa, 30 per cent from Asia-Pacific, and 19 per cent from Latin America and the Caribbean. Additional data visualizations are available on the CTCN website.[41]

Figure 4
Requests for technical assistance from the Climate Technology Centre and Network, by region and subregion



68. The experience of the CTCN thus far has enabled the identification of some trends in technical assistance, particularly at the regional level, providing opportunities for replication, upscaling and learning. In Asia, low-emission transportation, vulnerability modelling and climate-smart cities are emerging as priorities for programmatic approaches. In Africa, multi-country and GCF readiness requests for energy-efficient appliances and TNAs dominate, while in Latin America and the Caribbean multi-country requests for TNA assistance as well as circular economy are at the forefront.

69. The CTCN is updating its monitoring and evaluation system[42] to facilitate capturing the impacts of its operations, in particular technical assistance. Detailed methodologies will

[41] https://www.ctc-n.org/technical-assistance/request-visualizations.

be provided for guiding CTCN implementing partners and country focal points for climate technology in completing the technical assistance closure reports that form the backbone of the CTCN reporting system, thus enabling robust reporting on the activities of the CTCN from 2020 onward.

70. Over its first five years of operation, the CTCN has become a trusted partner of developing country stakeholders interested in obtaining information and expertise on climate technologies. By leveraging the experience of its hosts, UNEP and UNIDO, along with a global network of over 500 Network members and NDEs from over 160 countries, CTCN activities have contributed towards all 17 Sustainable Development Goals and to the NDCs of every country it serves.

71. The key impacts of the work of the CTCN are reported by implementing Network members and consortium partners through technical assistance closure reports,[43] which provide a summary of progress and lessons learned in implementing the technical assistance. Data on completed technical assistance interventions indicate that the services provided by the CTCN to date have contributed to the following anticipated outcomes:

(a) USD 922 million in additional investment from public and private sources leveraged;

(b) Emissions reduced by an expected 11.8 million tonnes of carbon dioxide equivalent per year;

(c) 90 million beneficiaries.

72. The figures above are cumulative and were provided by implementing partners upon the completion of each technical assistance intervention using their preferred methodology for each indicator. Following the implementation of the updated CTCN monitoring and evaluation system, methodologies will be standardized to allow for more consistent reporting.

73. The CTCN online technical assistance dashboard provides data visualizations of its technical assistance portfolio,[44] such as in figures 1–4, including the distribution by sector, region and involvement of consortium partners in the responses.

2. Function 2: strengthening networks, partnerships and capacity-building

74. The CTCN provides significant capacity-building as a component of its technical assistance services, with a particular focus on local stakeholders. The CTCN will continue to capture lessons learned from its in-country activities for sharing with other developing country Parties.

75. In 2019, the CTCN organized regional NDE forums,[45] in conjunction with the Asia-Pacific, Africa, and Latin America and Caribbean Climate Weeks, attended by more than 80 NDEs. The forums provide an opportunity to present the latest developments in CTCN services in the regions, to share national and regional experience and best practices from the implementation of CTCN technical assistance, and to identify how it can be leveraged to support priorities identified through NDCs, NAPs, TNAs and technology action plans. The CTCN continued its outreach to GCF and GEF country representatives, in some cases organizing complementary meetings among focal points for finance and technology to strengthen these working relationships. The CTCN aims to strengthen its regional and subregional outreach in the Pacific and Eastern Europe in 2020.

76. The CTCN Secondment Programme provides early- and mid-career professionals from Network organizations with the opportunity to contribute to the strategic and operational work of the CTCN while enhancing their understanding of climate technology implementation and knowledge transfer. The CTCN welcomed its tenth participant in 2019

[42] See https://www.ctc-n.org/about-ctcn/monitoring-evaluation.

[43] The aggregated data were derived from closure reports received from implementing partners of the CTCN and endorsed by the requesting NDEs.

[44] See https://www.ctc-n.org/technical-assistance/request-visualizations.

[45] See https://www.ctc-n.org/capacity-building/regional-forums.

and will continue its efforts to strengthen capacity retention within partner organizations and raise awareness of programme opportunities.

77. CTCN webinars, delivered in collaboration with Network members and other partners, present new and innovative approaches to implementing technology-related solutions to climate change issues. Recent webinars have been on various themes, such as blockchain technology innovation for the power sector, and how climate technologies are supporting NAP implementation in coastal zones. To date, over 4,500 participants have benefited from the 46 CTCN webinars delivered and the 50 additional partner webinars promoted by the CTCN.

3. Function 3: fostering collaboration and access to information

78. The CTCN web portal[46] contains over 17,000 information resources. Visitors to the site can access climate technology descriptions, publications, case studies, tools, national planning documents, and webinars. The CTCN is contacted regularly by university students and professors who have found useful case studies and information resources to support their research. The number of visitors to the CTCN website has increased by 63 per cent since 2018. In addition to the home page, the most visited web portal pages are those related to technical assistance requests, the Network and technology sectors.

79. The CTCN provides transparent information on its operations, and therefore displays funding and donor agreements online.[47] The web portal also provides access to documents such as COP decisions, independent CTCN reviews and associated recommendations, and the monitoring and evaluation frameworks that guide CTCN operations.[48]

80. The CTCN has collected, curated and shared best practices and case studies on the CTCN web portal in collaboration with its knowledge partners. For example, more than 100 descriptions of gender-just climate initiatives were recently shared by the UNFCCC women and gender constituency.[49] The CTCN has also cooperated with partners on updating the climate technology taxonomy that serves as the basis of its knowledge management system and enables the tagging of pages with relevant keywords in order to automatically integrate relevant information (such as publications, webinars and CTCN technical assistance).

81. The CTCN is continuously enhancing the user-friendliness of its website, such as through online maps displaying CTCN activities and partners; a better search engine; and the development of a monitoring and evaluation dashboard for tracking impact data. Recently efforts have been made to update the content management framework of the website to ensure its long-term sustainability and functionality.

C. Organizational structure of the Climate Technology Centre and Network

1. Climate Technology Centre

82. In 2019, the CTC thanked Jukka Uosukainen (Finland) for his service as CTCN Director in 2014–2019 and welcomed Ms. Mwebaza as his successor. Ms. Mwebaza joins the CTCN from the African Development Bank and in her capacity as CTCN Director will also serve as Secretary to the Advisory Board.

83. In addition to the Director, the professional staff of the CTC consists of five full-time and three part-time (two working 50 per cent and one 25 per cent) employees. The administrative staff consists of three full-time employees and one part-time (50 per cent) employee. Ten full-time consultants also work at the CTC. The CTC continues to be supported by a consortium of partner organizations whose expertise and geographic

[46] www.ctc-n.org.
[47] https://www.ctc-n.org/about-ctcn/donors.
[48] https://www.ctc-n.org/about-ctcn/monitoring-evaluation.
[49] See https://www.ctc-n.org/about-ctcn/organisations/women-and-gender-constituency.

diversity remain invaluable to the fulfilment of its mandate, particularly in relation to the design and delivery of technical assistance.

2. Climate Technology Network

84. The Network welcomed its 500th member in June 2019 and as at July 2019 had approximately 520 partners eligible to contribute to the knowledge platform, deliver training sessions and webinars, and bid on the delivery of technical assistance.

85. The CTC with its Advisory Board is actively examining strategies to increase its engagement with the Network and will report on additional strategies implemented and their results in its report to COP 26.

3. National designated entities

86. NDEs are critical to the success of the CTCN as the gateway to countries engaging with the CTC and benefiting from its services. NDEs serve as national focal points for technology development and transfer and are considered de facto members of the Network. Developing country NDEs coordinate and submit requests related to their countries' technology needs to the CTCN, whereas developed country NDEs coordinate the provision of technical knowledge and in-country (including pro bono) support to enhance the ability of the CTCN to respond to those requests.

87. As at July 2019, 161 countries had nominated NDEs.[50] The CTCN and its Advisory Board encourage all Parties to nominate a focal point for climate technology and to begin providing or receiving climate technology expertise via the CTCN and its implementing partners.

4. Update from the United Nations Environment Programme

88. UNEP is pleased with the extension of its hosting agreement and looks forward to continuing to support the CTCN as it implements its programme of work for 2019–2022. The four reviews of the CTCN since its inception have properly framed its achievements and provided actionable recommendations to improve its operations, which are actively being addressed.

89. UNEP will continue to work in particular with UNIDO to leverage its global reach and expertise in support of the CTCN and to ensure the implementation of the technology framework under the Paris Agreement.

90. One successful example of strengthened intra-agency engagement is between the CTC and adaptation experts within UNEP. This engagement has enabled UNEP to provide guidance to strengthen the links between the CTCN and the Adaptation Fund through the partnership for innovation for adaptation. Starting from 2020, the CTCN will act as an aggregator for the innovation micro-grants mechanism financed by the Adaptation Fund.

5. Incorporating guidance from the technology framework into the programme of work of the Climate Technology Centre and Network for 2019–2022

91. At its 13th meeting, the CTCN Advisory Board considered, revised and approved a four-year programme of work to guide CTCN activities.

92. The programme of work was modelled directly on the technology framework under the Paris Agreement. Each action associated with each theme was mapped out according to how the CTCN could best act within its mandate and on a country-driven basis to deliver the desired outcome. Activities and indicative indicators were identified for each action to enable target-setting by the CTC in its annual operating plans on the basis of the budget available for the coming year.

93. It is anticipated that the CTCN programme of work will be revised as appropriate in 2020 to ensure its alignment with the monitoring and evaluation system developed in the second half of 2019.

[50] See http://unfccc.int/ttclear/support/national-designated-entity.html.

6. Key messages and relevant recommendations contained in the evaluation of the Poznan strategic programme

94. The CTCN welcomes the report of the TEC on the PSP considered by Parties at SB 50 and supports the key messages and recommendations contained therein. The CTCN considers the work under the PSP to strengthen enabling environments and promote access to finance to be one of its most impactful services. The CTCN notes that project origination and development are resource intensive and require significant capacity-building and support, and that effective modalities take time to develop before benefiting from long-term engagement with government officials, in particular to build the required capacity.

95. The CTCN will continue to capture lessons learned and capacity-building materials from its operations, develop new knowledge products as appropriate, and share findings with its stakeholders and partners both directly and via its knowledge portal.

96. The recommendations from the report contain significant direct guidance to the CTCN and to the GEF relating to scaling up investment in climate technologies, providing enhanced technical assistance, and considering options for enhanced cooperation with the CTCN on activities undertaken by its regional centres. The CTCN supports all of these recommendations and looks forward to organizing a dialogue with the GEF and the regional centres to identify lessons learned and options for continuing the work of the centres in a collaborative manner.

7. Funding

97. COP 18 decided that the CTC and the mobilization of the services of the Network should be funded from various sources, ranging from the Financial Mechanism to philanthropic and private sector sources, as well as by financial and in-kind contributions from the co-hosts of the CTCN and from participants in the Network.[51] Parties in a position to do so were invited to support the CTCN by providing financial and other resources,[52] and the CTCN has also been supported by in-kind resources from its co-hosts UNEP and UNIDO.

98. The funding secured by the CTCN since its inception in 2013 until July 2019 is presented in the table below.

Financial support secured for the Climate Technology Centre and Network as at 31 July 2019

Donor	*Total contribution secured (USD)*
European Union	14 429 688
Japan	8 560 449
Norway	8 499 850
Denmark	7 225 293
United States of America	4 930 308
Canada	4 357 277
Switzerland	4 296 515
Germany	1 158 207
Republic of Korea	885 128
Italy	849 653
Sweden	479 574
Finland	216 640
Ireland	216 548
Spain	116 620
Subtotal	**56 221 750**
GEF	1 971 000

[51] Decision 14/CP.18, annex I, paras. 22–23.
[52] Decision 2/CP.17, para. 141.

Donor	*Total contribution secured (USD)*
GCF	1 415 534
UNIDO	1 247 665
Total	**60 855 949**

99. The CTCN ensures its Advisory Board remains apprised of its financial status and projections, as well as steps undertaken to engage the Financial Mechanism, regional development banks and other potential funding partners. Ensuring sufficient funds are available to be disbursed by the CTCN in order to deliver on its programme of work and to support the implementation of the technology framework under the Paris Agreement is an ongoing priority.

100. The CTCN carried over USD 10.3 million into 2019. As at 31 July 2019, the CTCN had received cash totalling USD 3,062,996 against an approved annual operating budget of USD 9.1 million and a projected expenditure by the CTCN of USD 7.7 million. The projected fund balance of the CTCN at the end of 2019 is USD 5.6 million. The carry-over will be supplemented by additional pledges already made for 2020, refunds from partners and the carry-over of previous year commitments to provide available resources of USD 11.3 million. The CTCN anticipates the full implementation of its allocated budget in 2020.

101. Part of the projected underspend in this fiscal year is attributable to the logistical challenge of coordinating budgets across organizations and implementing partners. This gap also reflects the additional time and resources expended in developing important partnerships with and securing resources from development finance institutions, including the GCF.

102. Of the USD 11.3 million in available resources for 2020, 78 per cent of CTCN contributions have been allocated by funders directly to technical assistance and other service areas. Accordingly, the secretariat's flexibility to support the full range of CTCN services and to support secretariat operational costs is limited to the remainder of the budget.

103. COP 21, 22 and 24 provided increasingly specific guidance as to how the Financial Mechanism and the Technology Mechanism should collaborate to deliver solutions that address the climate technology related needs of developing countries as articulated in their NDCs.[53]

104. The GCF and the CTCN are currently partnering under the GCF Readiness and Preparatory Support Programme through which the CTCN provides services and expertise in response to developing countries' requests using GCF country resources. So far, the CTCN has accessed USD 1.8 million for the implementation of six GCF readiness projects. The CTCN contributed to the development of 16 additional readiness proposals by countries for the GCF in 2019, with another five pending approvals. Pending the full approval of all submissions, the CTCN will access approximately USD 5.5 million for their implementation.

105. The CTCN continues to work with countries on the pilot projects developed under the medium-sized project approved under the fifth replenishment of the GEF in 2013. In April 2019 the CTCN submitted a proposal for funding from the global set-aside of the seventh replenishment of the GEF, which was unsuccessful. The CTCN believes that using country allocations to scale up successful mitigation-related technical assistance could be a promising way to partner with the GEF in support of countries' climate technology priorities. The CTCN welcomes the invitation from SBI 50 to facilitate collaboration between its country focal points and those of the GEF and looks forward to working with the GEF on this matter.

8. Other activities

(a) Gender mainstreaming

106. In accordance with the UNFCCC gender action plan,[54] the CTCN and the UNEP DTU Partnership held a workshop on gender mainstreaming in TNAs on Gender Day at

[53] Decisions 13/CP.21, 14/CP.22 and 14/CP.24.

[54] Decision 3/CP.23, annex.

COP 24, where guidance on gender-responsive TNAs was launched.[55] The CTCN reported at SB 50 on how it has responded to the gender action plan while contributing to the acceleration of technology development and transfer.

107. Gender mainstreaming in CTCN operations is supported and guided by the CTCN gender policy and action plan as well as by an increased number of gender-related indicators in the CTCN monitoring and evaluation system. Established procedures include an allocation of no less than 1 per cent of programme and operational funds to gender mainstreaming actions; and reference to gender and endogenous capacities being included in the technical assistance eligibility and prioritization criteria.

108. The CTCN supports gender mainstreaming in climate action by providing access to information via the gender hub on the CTCN website,[56] which contains more than 630 knowledge resources related to gender and climate. Gender is also being increasingly incorporated into other CTCN activities; for example, a study on gender considerations in coastal risk planning and management in West Africa and Cameroon was conducted as part of technical assistance in the region.[57]

109. The CTCN is collaborating with a growing network of stakeholders with climate and gender expertise for knowledge-sharing and capacity-building. The CTC supported the Gender-Just Climate Solutions Award and publication and hosted a capacity-building workshop in collaboration with the women and gender constituency at COP 24. Other examples of CTCN support for gender mainstreaming include the development of best practice examples of women's empowerment in decentralized and centralized energy systems in South Asia, and the development of a resource guide on upscaling gender-just climate initiatives.

(b) Communication and outreach

110. The CTCN implemented its international communications strategy with the aim of expanding awareness of available technology services and sharing information on adaptation and mitigation technologies. In view of the shift in CTCN operations to a regional approach, its 2019 communications strategy included regionally tailored communication. Stakeholders were engaged through newsletters, web and social media content, videos and numerous events. The CTCN and the TEC jointly hosted a Technology Mechanism booth and held side events and bilateral meetings at COP 24 and SB 50.

111. To mark its first five years of operation, the CTC produced a five-year progress report[58] and video.[59] The report disseminated information on the outputs and anticipated impacts of the CTCN, including how it has supported the implementation of NDCs, NAPs and all 17 Sustainable Development Goals. The report also describes the lessons learned from CTCN technology collaboration and how it has adjusted its services over time to respond to countries' technology needs.

D. Action taken in response to the independent review of the Climate Technology Centre and Network

112. COP 24 requested the CTCN to provide information on plans and actions undertaken in response to recommendations from the independent review of the effective implementation of the CTCN.[60] Action taken in response to the recommendations relevant to the CTCN is summarized below.

113. In response to the encouragement to clarify the role of developed country NDEs, the CTC:

[55] See https://tech-action.unepdtu.org/publications/guidance-for-a-gender-responsive-technology-needs-assessment/.

[56] See https://www.ctc-n.org/technology-sectors/gender.

[57] See https://www.ctc-n.org/technical-assistance/projects/west-african-coastal-classification-hazard-management-and-standardized.

[58] https://www.ctc-n.org/sites/www.ctc-n.org/files/resources/ctcn_report_2018.pdf.

[59] Available at https://www.ctc-n.org/file/23159.

[60] Decision 12/CP.24, para. 6.

(a) Developed a paper, endorsed by the CTCN Advisory Board, in which possible roles of developed countries NDEs are elaborated;[61]

(b) Has been working with donor partners, particularly Japan and the Republic of Korea, to implement modalities for channeling pro bono support to CTCN activities and aims to continue these efforts with a focus on technical assistance provided through developed country NDEs.

114. In response to the recommendation to invite the co-hosts of the CTCN to identify potential sources of additional financial resources to support its operations, the CTCN engaged a deputy director in February 2019 to lead resource mobilization efforts. The approach to resource mobilization will be updated as the CTCN refines its approach to donor engagement and establishes complementary partnerships with other initiatives suited to its key services.

115. Following the encouragement of the CTCN, GEF and GCF to continue exploring how to facilitate the provision of sustained funding for CTCN activities and enhance operational linkages between them, in line with their respective mandates, engagement between the CTCN and the GCF is steadily increasing with respect to providing technical assistance via the GCF Readiness and Preparatory Support Programme in response to country requests.

116. Following the encouragement of its Advisory Board and NDEs to increase the efficiency of the provision of technical assistance, the CTCN developed a streamlined fast technical assistance process, which has since been implemented in nine countries.

117. Following the encouragement to continue raising awareness of its services in developing countries, the CTCN transitioned to a regional approach to service delivery. This enables CTCN regional managers to interact more consistently with NDEs and other stakeholders in their regions.

118. Following the encouragement to reinforce the involvement of Network members in CTCN activities:

(a) Each Network member has been granted login access to enable them to share information resources on the CTCN website;

(b) Efforts have been made to increase engagement by improving the user-friendliness of the CTCN web portal, simplifying the search, filter and menu structures, and increasing the transparency of funding and monitoring and evaluation information;

(c) Further efforts will be focused on outreach, particularly to academia and research institutions, and raising awareness of the climate technology resources available via the CTCN web portal. The CTCN has engaged its Advisory Board in this process and will report on progress at COP 26.

119. In response to the recommendation on transparency of funding, enhanced reporting, and monitoring and evaluation:

(a) The transparency of CTCN funding arrangements has been enhanced by making information on donor agreements publicly available on the CTCN website;[62]

(b) The CTCN, in collaboration with the TEC, has engaged a monitoring and evaluation specialist to further develop its monitoring and evaluation framework to better capture the impacts of its activities in support of the objectives of the technology framework, and to satisfy the additional reporting requirements established in decision 13/CP.24;

(c) The CTCN has developed an internal monitoring and evaluation dashboard on its website for storing, aggregating and disseminating data on the impact of technical assistance. Next steps include operationalizing the monitoring and evaluation dashboard and making more impact data available online.

[61] Available at https://www.ctc-n.org/sites/www.ctc-n.org/files/ab20143_final_annex_i_national_designated_entities.pdf.

[62] https://www.ctc-n.org/about-ctcn/donors.

E. Challenges and lessons learned

120. COP 22 invited the CTCN to report information on challenges and lessons learned in implementing its mandate,[63] and COP 24 encouraged the strengthening of that reporting.[64] CMA 1 invited the CTCN to report on progress,[65] challenges and lessons learned in implementing the technology framework under the Paris Agreement.[66] Because the activities undertaken by the CTCN in 2019 are in line with its mandate and support the technology framework, these are reported jointly in the following paragraphs.

1. Technical assistance

121. A focus on increasing efficiency and transformational impact has led to an increased number of multi-country requests, including those supported by GCF Readiness and Preparatory Support Programme financing, being implemented by the CTCN. Multi-country requests have proven to be a resource-efficient way to address shared challenges across countries with similar national circumstances. Multi-country requests are currently under development in support of a biomass-to-energy project in Central Africa, a circular economy model in South America and an intervention in the Pacific islands of Kiribati, the Marshall Islands, Palau and Solomon Islands to address coastal zone risks.

122. Partnering with GCF country focal points provides an opportunity to implement the guidance contained in the many decisions on technology and linkages between the Financial and Technology Mechanisms to better engage NDEs and GCF NDAs in support of scaled-up action on climate technology.

123. By leveraging support from the GCF Readiness and Preparatory Support Programme, the CTCN will be able to develop TNAs and technology action plans to support implementation of country NDCs; promote in-country collaboration and linkages between the focal points of the Financial Mechanism and Technology Mechanism; and take action to support the implementation theme under the technology framework. Seven countries have now sought implementation assistance for the development of their TNAs through the CTCN.

124. The introduction of fast technical assistance has been well received by requesting countries requiring small-scale, targeted intervention to address a particular issue, including to support countries in accessing resources for larger projects. The CTCN has received 13 fast technical assistance requests thus far and is of the view that the swift time frame and minimal effort and resources needed make these interventions particularly valuable. The CTCN similarly acknowledges that fast technical assistance interventions are not well captured in monitoring and evaluation statistics owing to the size of the interventions, but that they remain a worthwhile investment in meeting the needs of developing countries.

2. Networks, partnerships and capacity-building

125. The main driver for interested organizations in joining the Network is the ability to bid on technical assistance implementation. The system in use by the CTCN assures that integrity of the bidding process is maintained, but is also lengthy and technically demanding, both of which can be burdensome for smaller or less-experienced firms. Furthermore, the time that needs to be invested could discourage more established institutions from submitting bids for CTCN TA implementation.

126. Additionally, as the Network now exceeds 500 institutions, new and innovative engagement opportunities that add value for Network members must be considered and enhanced as there is more competition for implementing technical assistance.

[63] Decision 15/CP.22, para. 6.

[64] Decision 13/CP.24, para. 4.

[65] The ‘progress’ element is covered in the reporting on the activities of the CTCN in this document. That section will be more explicitly defined in 2020 once the CTCN begins to implement its annual operating plan in line with the themes of the technology framework.

[66] Decision 15/CMA.1, para. 5.

127. Developing countries' NDEs continue to have limited capacity to engage with other focal points under the Convention, in particular with GCF NDAs and GEF focal points, and with the private sector. The regional approach and the capacity-building and stakeholder engagement efforts of the CTCN have mitigated this challenge, but increased efforts would be required to more effectively mainstream technology in national planning and to access financial resources.

128. The geographical, institutional and sectoral diversity of the Network, which is one of its strengths, is also a challenge, however, as many organizations have different issues in mind and are interested in different opportunities. The CTCN has responded by increasing its outreach to Network members and potentially interested stakeholders during regional climate weeks and is seeking regional partnerships that enable more efficient engagement with key stakeholders.

129. The most effective capacity-building provided by implementing partners of the CTCN is usually via the provision of technical assistance. However, not all capacity-building information is extracted and made easily available on the CTCN website or directly to interested partner organizations.

130. The programmatic approach to delivering technical assistance involves offering increased opportunities for capacity-building, as it allows for a standardized approach to be replicated in countries with similar national circumstances. Local experts are generally involved at this stage, which is also an opportunity to enable South–South cooperation and knowledge exchange on key programmatic topics.

3. Fostering collaboration and information-sharing

131. As the number of Network members continues to grow, the CTCN requires an efficient approach to Network engagement for the knowledge management system. Of the Network member website login accounts created for uploading knowledge resources to the CTCN knowledge management portal, few are currently actively used.

132. The first five years of CTCN operations focused on developing a robust internal and external website structure and populating the knowledge portal with a wealth of climate technology information. The next steps will focus on further outreach and dissemination of the climate mitigation and adaptation knowledge resources in the knowledge management system, for example by providing tailored access to relevant content based on users' thematic and regional areas of interest.

4. Gender mainstreaming

133. Systematic and effective gender mainstreaming of CTCN operations is dependent on sound knowledge and awareness of gender in the context of climate change and a shared recognition of its relevance and importance. As such, the CTCN will continue its efforts to build internal and external capacity to enhance gender mainstreaming efforts in its core service areas.

5. Resource mobilization

134. The CTCN is renewing its engagement with potential financing partners and stressing the need for more flexible funding where possible and appropriate. The CTCN will develop a renewed approach to resource mobilization that frames its work and the value it provides in the context of its mandate, the aims of the Paris Agreement and the goals of its partners as a matter of priority.

135. The CTCN remains grateful to the donors that sustain its operations, and has had some initial success in working with its donor partners to adjust the terms and conditions associated with the earmarking of resources, so that they are still targeted in an appropriate manner, but are now also balanced against the limitations of its operational model. The CTCN remains open to working with donors to ensure their priorities are reflected in its work while meeting the needs of the recipient countries for climate technologies, and will work with the Governments of Japan and the Republic of Korea to extract best practices

associated with their provision of pro bono support and make this information available on the CTCN website.

F. Key messages for the Conference of the Parties and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement

136. The CTCN has received USD 61 million and spent USD 56 million since its inception, and its activities have leveraged an anticipated USD 922 million in additional investment from various sources for climate technology projects in developing countries. Concluded technical assistance interventions have contributed to anticipated emission reductions of 11.8 million tonnes of carbon dioxide equivalent per year and benefited 90 million people.

137. More predictable and flexible finance would help to ensure the sustainability of the CTCN and enable it to leverage the resources required to deliver on its mandate and support the implementation of the technology framework under the Paris Agreement.

138. Its regional approach is, for example, facilitating the preparation of multi-country requests from Parties to strengthen the impact of CTCN technical assistance. This will lead to enhanced resource mobilization and translate into more ambitious implementation of NDCs and the Paris Agreement.

139. The CTCN has partnered successfully with the GEF and GCF. It collaborated with the GEF to deliver climate technology support in eight countries, and with NDAs and NDEs to prepare 27 GCF readiness proposals. There is still potential to enhance collaboration with both institutions to leverage additional finance and deliver climate technology solutions, particularly for the least developed countries and small island developing States. A stronger focus on collaboration between national focal points for the Technology Mechanism and Financial Mechanism, supported by their secretariats, has the potential to strengthen relationships, create greater synergies, and facilitate processing and implementation of technical assistance at the national level.

140. The CTCN will continue to enhance its regional approach to country support as a means of being more responsive. It will also pursue greater collaboration and engagement with its Network members and other partners, including United Nations agencies, and will pursue South–South, North–South, triangular and regional collaboration to enhance its reach and impact.

141. The technology framework provides an opportunity for the CTCN to take focused and coherent action. The first year of implementation of the CTCN programme of work for 2019–2022 demonstrated the benefits of shifting towards closer alignment with the transformational impact envisioned under the Paris Agreement. Supported by a strengthened monitoring and evaluation system, the impact of the work of the CTCN will be increased and the CTCN will be better able to contribute to the design, revision and implementation of the next generation of NDCs and associated increased levels of ambition.

Annex

Recommendations of the Technology Executive Committee on ways forward and actions to be taken based on the outcomes of the technical expert meetings on mitigation

[English only]

1. Building on the outcomes of the discussions that took place during the TEMs on mitigation in 2019 on the topic of off-grid and decentralized energy solutions for smart energy and water use in the agrifood chain, the TEC highlights to Parties that:

(a) There are many examples of successful applications of off-grid and decentralized renewable energy and energy-efficient technologies throughout the global agrifood sector, including solar-, wind- and hydro-powered water pumps, mini-hydro and biogas power turbines, solar water heaters, bioenergy crop drying heaters, insulated cool stores, light-emitting diode lighting in greenhouses, precision irrigation systems and biogas solar photovoltaic milk coolers;

(b) A wide and accelerated implementation of such smart energy and water use solutions could achieve significant greenhouse gas emission reductions and contribute to meeting the goal of the Paris Agreement to limit temperature increase to 1.5 C above pre-industrial levels and to provide additional economic, social and environmental benefits to rural communities, such as affordable and reliable access to energy and water, increased investment opportunities, additional sources of income and an improved quality of life.

2. The TEC underlines that:

(a) The agrifood sector is a complex sector that encompasses anthropogenic and natural systems and their multiple interactions, which are often site specific. This poses a challenge to replicating and scaling up successful technologies as they must be adapted to suit diverse local contexts;

(b) It is important to pursue innovative approaches and shift to new production patterns and business models that acknowledge the complexity of the agrifood sector, reduce its energy and water intensity and increase the value chain through the reuse and recycling of resources. In this context, circular economy models and the water-energy-food nexus approach play an essential role;

(c) The benefits of using circular economy models and the nexus approach in the agrifood sector go beyond reducing emissions from fossil fuel consumption, as demonstrated in some regions already applying these approaches. They also produce other benefits, including reduced socioenvironmental impacts, transformed roles of small and medium-sized enterprises, and sustainable agrifood production;

(d) Raising awareness, building capacity and providing technical field support are essential to ensuring the successful replication of smart energy and water technologies and their long-term operation and maintenance;

(e) The private sector is more actively supporting energy projects that foster sustainable development in the agrifood sector. However, additional incentives may be required for private investors to engage in energy business in rural areas where local communities have limited ability to pay for services and products.

3. As policymakers have a critical role to play in setting standards, policies and regulations incentivizing a more efficient use of energy and water in the agrifood sector, the TEC recommends that the COP encourage Parties to:

(a) Introduce policies, schemes and programmes that promote smart water and energy approaches in the agrifood sector;

(b) Promote synergies between public and private investors to better support research, development and deployment of smart energy and water technologies, particularly for small-scale farming systems in developing countries;

(c) Facilitate the transition to new business models and products by establishing enabling environments that provide direction and opportunities for circular economy in the countries and promote coordination of efforts between the national, regional and local level;

(d) Enhance the capacities of various actors by stimulating exchange of experience and lessons learned, supporting specific training and education programmes, and facilitating access to data and knowledge, including local and indigenous knowledge.