

Eleventh meeting of the Technology Executive Committee

United Nations Campus, Bonn, Germany
7–11 September 2015

Report

1. Opening of the meeting

1. The Chair of the Technology Executive Committee (TEC), Mr. Kunihiko Shimada, opened the 11th meeting of the TEC (TEC 11) at 1.50 p.m. on Monday, 7 September 2015.
2. The table below lists the TEC members who attended TEC 11. Observers present at the meeting are listed in annex I.

TEC members attending TEC 11	
Mr. Kanat Baigarin	Ms. Duduzile Nhlengethwa-Masina
Mr. Gabriel Blanco (Vice-Chair)	Mr. Eduardo Noboa
Mr. Daniel Buira Clark	Mr. Antonio Pflüger
Mr. Birama Diarra	Mr. David Reidmiller
Ms. Gabriela Fischerova	Mr. Seyed Mohammad Sadeghzadeh
Ms. Sha Fu	Mr. Kunihiko Shimada (Chair)
Mr. Jürg Grütter	Ms. Viktoriia Shtets
Mr. Omedi Moses Jura	Mr. Stig Svenningsen
Ms. Elfriede A. More	Mr. Karma Tshering

2. Organizational matters

a) Adoption of the agenda

3. The TEC adopted the agenda for TEC 11 as contained in document TEC/2015/11/1.

b) Organization of work

4. The TEC Chair presented the proposed organization of work for TEC 11, which included the handling of agenda items in clusters, as presented in document TEC/2015/11/3, in order to address as priority the main deliverables to the Conference of the Parties (COP) at its twenty-first session. The approach included an update of the ongoing work by all TEC task forces at the outset of the meeting, as conducted during a TEC informal stocktaking held in June. The task forces also presented draft products prepared for TEC 11.
5. The TEC agreed with the proposed organization of the work and the anticipated outcomes of the meeting.

c) Membership matters

6. The TEC welcomed the new member Ms. Sha Fu, from China, replacing Mr. Xiaohua Zhang, from China.¹

3. Outcomes of relevant meetings and events

a) Bonn climate change conference June 2015

7. The TEC took note of the information presented by the secretariat on the outcomes of the climate change conference held in Bonn, Germany, from 1 to 11 June 2015, and of the TEC Chair's oral report on his participation in various events and meetings during the conference.

b) Ninth and tenth parts of the second session of the Ad Hoc Working Group on the Durban Platform for Enhanced Action

8. The TEC took note of the information presented by the secretariat on the outcomes of the ninth and tenth parts of the second session of the Ad Hoc Working Group on the Durban Platform for Enhanced Action, held in Bonn from 1 to 11 June and from 31 August to 4 September 2015, respectively.

c) Third International Conference on Financing for Development held in Addis Ababa in July 2015

9. The TEC took note of an update provided by Mr. Zitouni Ould-Dada, Head of the Technology Unit at the Division of Technology, Industry and Economics of the United Nations Environment Programme at the Paris office, France, regarding an agreement on the Technology Facilitation Mechanism (TFM) made at the Addis Ababa conference and the recent preparatory work of the United Nations (UN) inter-agency task team on science, technology and innovation to launch the TFM during the forthcoming seventieth session of the United Nations General Assembly. TEC members welcomed the update and discussed potential implications for the Technology Mechanism, including areas for possible future collaboration.

10. The TEC noted that the secretariat would join the UN inter-agency task team on this matter and provide regular updates on the work of the task team to the TEC at its subsequent meetings.

d) Others

11. TEC members reported on their participation in the following events:

- a) The TEC Vice-Chair informed the meeting about his participation in the Vienna Energy Forum, held in Vienna, Austria, from 18 to 20 June 2015, where he presented the work of the TEC during a side event hosted by the Climate Technology Centre and Network (CTCN);
- b) The TEC Chair and representatives from the secretariat participated in the workshop "Taking stock and looking ahead: using technologies to address climate change", held in Manila, Philippines, from 26 to 28 August 2015. The Chair reported on the discussions on climate technology financing and the enhanced awareness of the participating regional development banks regarding the work of the TEC in general, in particular on technology needs assessments (TNAs) and key messages to the COP;
- c) The TEC Vice-Chair reported on his participation in a webinar hosted by the Inter-American Development Bank on technologies for adaptation, where he introduced the work of the TEC on this matter.

12. The TEC took note of the information provided.

4. Matters relating to the Climate Technology Centre and Network

13. The Chair of the Advisory Board of the CTCN, Mr. Fred Onduri, informed the TEC about the main outcomes of the 5th meeting of the Advisory Board, which took place from 14 to 16 April 2015 and the preparations for the 6th meeting, which was to take place from 14 to 16 September 2015, both in

¹ More information on the TEC membership is available at
<http://unfccc.int/ttclear/templates/render cms_page?TEC_members>.

Copenhagen, Denmark. The Director of the CTCN, Mr. Jukka Uosukainen, provided an update on the operations and progress of work of the CTCN.

14. The TEC took note of the information provided.

5. Technology needs assessments

a) Guidance on enhanced implementation of the results of technology needs assessments

15. The TEC considered the draft interim report on guidance on enhanced implementation of the results of TNAs, prepared and presented by the task force on TNAs. The secretariat provided an overview of the results of the call for inputs, and its submissions, which served as an input into the interim report. The two consultants involved in preparing the draft interim report, Mr. Philip LaRocco and Mr. Wytze van der Gaast, participated electronically and provided further insights on the paper.
16. The TEC provided comments on the draft and requested the task force to address them in a break-out group. The TEC was of the view that the work on the draft guidance was very advanced and encouraged the task force on TNAs to finalize and make the guidance available prior to COP 21.
17. On consideration of the revised draft guidance prepared following the discussions of the break-out group, the TEC agreed on the process for finalizing its report on guidance on enhanced implementation of the results of TNAs for submission to the subsidiary bodies at their forty-third sessions.

b) Paper on good practice of the technology needs assessments

18. The secretariat provided an overview of the updated draft final paper on good practice of the TNAs, including the feedback received from TNA stakeholders. The TEC agreed on the final paper, and further discussed ways to channel the outcome of this work to a wider audience.

6. Climate technology financing

a) Evaluation of the Poznan strategic programme on technology transfer

19. The TEC considered the draft final report on its evaluation of the Poznan strategic programme on technology transfer prepared and presented by the task force on emerging and cross-cutting issues. The TEC provided comments on the draft and requested the task force to address them in a break-out group.
20. On consideration of the revised draft prepared following the discussions of the break-out group, the TEC agreed on its final report for submission to the Subsidiary Body for Implementation at its forty-third session.

b) Collaboration with the Green Climate Fund

21. Mr. Henrik Harboe, Co-Chair of the Board of the Green Climate Fund (GCF), and Ms. Carolina Fuentes, Secretary to the Board, participated electronically and provided an update on the state of play of the GCF, its priorities for 2015 and on how the Board plans to respond to the request from the COP regarding linkages between the Technology Mechanism and the Financial Mechanism.
22. The TEC Chair informed the TEC about the outcomes of a conference call held with the Co-Chairs of the GCF Board. He further announced that the Chairs and Vice-Chairs of the TEC and the CTCN Advisory Board are planning to meet with the Co-Chairs of the GCF Board during COP 21 to discuss next steps to define the linkages as requested by the COP.
23. The TEC took note of the information provided and agreed to follow up on this matter at its next meeting.

c) Inputs to the Standing Committee on Finance

24. Ms. Diann Black-Layne, member of the Standing Committee on Finance (SCF), participated electronically and elaborated on the process for the TEC to provide input to the SCF on draft guidance to the operating entities of the Financial Mechanism.
25. The TEC took note of the information provided by the task force on linkages between the Technology Mechanism and the Financial Mechanism (task force on finance) on elements for draft guidance to the operating entities of the Financial Mechanism.
26. After a TEC plenary discussion and work in a break-out group, the TEC finalized and agreed on its inputs to the SCF on draft guidance to the operating entities of the Financial Mechanism.

d) TEC Brief on climate technology financing

27. The TEC considered the draft TEC Brief on climate technology financing prepared and presented by the task force on finance. The TEC provided comments on the draft and requested the task force to address them in a break-out group.
28. On consideration of the revised draft prepared following the discussions of the break-out group, the TEC agreed on the final content of the TEC Brief on climate technology financing, noting that the brief would undergo final editorial review and layout work.
29. The TEC further agreed to consider the section of the TEC Brief on possible actions by the TEC (original section 5 of the brief), as part of the discussion on its rolling workplan for 2016–2017.

7. Enabling environments and barriers

a) TEC Brief on national systems of innovation

30. The TEC considered the draft TEC Brief on national systems of innovation prepared and presented by the task force on enabling environments and barriers. The TEC provided comments on the draft and requested the task force to address them in a break-out group.
31. On consideration of the revised draft prepared following the discussions of the break-out group, the TEC agreed on the final content of the TEC Brief on national systems of innovation, noting that the brief would undergo final editorial review and layout work.

b) Further work on enabling environments and barriers

32. The TEC considered possible elements of further work on enabling environments and barriers, based on a presentation by the secretariat.
33. The TEC requested the task force on enabling environments and barriers to identify possible activities for further work on enabling environments and barriers as part of the TEC rolling workplan for 2016–2017 and to present them for the consideration at the next TEC meeting.

8. Technologies for mitigation

a) TEC Brief on distributed renewable electricity generation

34. The TEC considered the draft TEC Brief on distributed renewable electricity generation prepared and presented by the task force on mitigation. The TEC provided comments on the draft and requested the task force to address in a break-out group the comments that fall within the scope of the brief agreed at the 10th meeting of the TEC.
35. On consideration of the revised draft prepared following the discussions of the break-out group, the TEC agreed on the final content of the TEC Brief on distributed renewable electricity generation, noting that the brief would undergo final editorial review and layout work.

b) Initiation of a paper on distributed renewable electricity generation

36. The TEC considered a draft outline and proposed scope of a technical paper on distributed renewable electricity generation prepared and presented by the task force on mitigation. The TEC discussed the matter, but did not agree on the exact scope of the paper.
37. The TEC noted that this matter will be further considered in the context of the discussion on the TEC rolling workplan for 2016–2017 at its next meeting.

9. Technologies for adaptation: preparation of the thematic dialogue on enablers and barriers to South–South cooperation on technologies for adaptation

38. The task force on adaptation provided an update on the status of preparation of the thematic dialogue on enablers and barriers to South–South cooperation on technologies for adaptation, to take place in the first TEC meeting in 2016.
39. The TEC took note of the information provided.

10. Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network for 2015

a) Key messages to the Conference of the Parties

40. The TEC considered the draft key messages on TNAs, climate technology financing, national systems of innovation and distributed renewable electricity generation as prepared and presented by the respective task forces. The TEC provided comments on the draft and requested the task forces to address them in their respective thematic break-out groups.
41. On consideration of the revised drafts prepared following the discussions of the break-out groups, the TEC agreed on its key messages to COP 21, to be included in its annual report for 2015. The agreed key messages are presented in annex II.

b) Report on activities and performance of the Technology Executive Committee

42. The TEC considered its draft annual report for 2015 and provided guidance on elements to be included.
43. The TEC requested the its Chair and Vice-Chair to finalize the report, with the support of the secretariat, following the conclusions of TEC 11.

c) Joint section of the Technology Executive Committee and the Climate Technology Centre and Network

44. The TEC considered possible elements for the joint section of the TEC and the CTCN in the joint annual report, prepared by the TEC Chair and Vice-Chair in consultation with the Chair and Vice-Chair of the Advisory Board of the CTCN prior to TEC 11.
45. The TEC agreed on its inputs for the draft joint key messages of the TEC and the CTCN to COP 21. The TEC Chair informed the TEC that he would share the draft for further consideration and agreement by the Advisory Board of the CTCN at its 6th meeting, to be convened in the following week. The TEC requested its Chair to inform the TEC of any changes suggested from the Advisory Board for its further consideration and approval.

11. Communication and outreach activities

46. The TEC considered an update on the implementation of the communication and outreach activities in 2015 as presented by the secretariat, and took note of the information provided.

12. Possible elements of the rolling workplan of the Technology Executive Committee for 2016–2017

47. The TEC Chair and Vice-Chair presented possible elements for the TEC rolling workplan for 2016–2017, and TEC members provided inputs on such possible elements.
48. The TEC requested its Chair and Vice-Chair to prepare, with the support of the secretariat, a draft TEC rolling workplan for 2016–2017, taking into account relevant outcomes of COP 21, for consideration by the TEC at its first meeting in 2016.

13. Date and venue of the next meeting

49. The TEC Chair presented a provisional schedule of meetings for 2016. The Chair also proposed the consideration of an informal stocktaking during the forty-fourth sessions of the subsidiary bodies in Bonn in 2016.
50. The TEC agreed to hold its 12th meeting from 4 to 6 April 2016, and tentatively its 13th meeting in the week of 27 to 30 September 2016.

14. Other matters

51. The TEC Chair invited the TEC members to reconsider their participation in various task forces according to their interests and inform the secretariat in this regard.
52. The TEC Chair thanked the observers for their active participation in the meeting, including in the work in break-out groups, as well as for their involvement in the TEC task forces in supporting the implementation of the rolling workplan.

15. Closure of the meeting

53. The TEC Chair officially closed the meeting at 3.15 p.m. on Friday, 11 September 2015.

Annex I

List of observers attending the 11th meeting of the Technology Executive Committee

Party observers

Ms. Enkelejda Malaj (Albania)
Ms. Lidiane Meo (Brazil)
Mr. Xinggen Weng (China)
Mr. Weihao Zhang (China)
Ms. Yamelakesira Tamene Bekele (Ethiopia)
Ms. Constanze Doll (Germany)
Mr. Hans-Joern Weddige (Germany)
Mr. Takahiro Murayama (Japan)
Mr. Kenichi Wada (Japan)
Ms. Stella Gama (Malawi)
Mr. Jamie Agredano Diaz (Mexico)
Mr. Pansik Hwang (Republic of Korea)
Ms. Hyosung Kim (Republic of Korea)
Mr. Changmo Sund (Republic of Korea)
Mr. Peter Mari Govindasamy (Singapore)
Mr. Jose Wong (Singapore)
Mr. Dumisani Mthembu (South Africa)

United Nations organizations and specialized agencies

Mr. Fred Onduri Machulu (Advisory Board of the Climate Technology Centre and Network)
Mr. Jukka Uosukainen (Climate Technology Centre and Network)
Ms. Maria Camila Florez Bossio (Global Environment Facility)
Ms. Masako Ogawa (Global Environment Facility)
Mr. Jonathan Duwyn (United Nations Environment Programme)
Mr. Zitouni Ould-Dada (United Nations Environment Programme)
Ms. Sara Traerup (United Nations Environment Programme)
Mr. Joseph Bradley (World Intellectual Property Organization)

Intergovernmental Organizations

Ms. Maria Ayuso (International Renewable Energy Agency)
Mr. Francisco Boshell (International Renewable Energy Agency)
Mr. Ruud Kempener (International Renewable Energy Agency)

Non-governmental organizations

Mr. John Scowcroft (Global Carbon Capture and Storage Institute)
Mr. Edwin Olaf Bareld Aalders (DNV GL)
Mr. Aaron Leopold (Practical Action)
Ms. Janice Skinner Meier (Sierra Club)
Ms. Hilary Chiew (Third World Network)
Ms. Marilyn Averill (University of Colorado Boulder)
Mr. Martin Murillo Fernandey (University of Notre Dame)
Ms. Miriam Reindl (Women in Europe for a Common Future)
Mr. Arthur Lee (World Business Council for Sustainable Development)

Virtual participation

Mr. Henrik Harboe (Co-Chair of the Board of the Green Climate Fund)
Ms. Carolina Fuentes (Secretary to the Board of the Green Climate Fund)
Mr. Wytze van der Gaast (Resource person)
Mr. Philip LaRocco (Resource person)
Ms. Diann Black-Layne (Standing Committee on Finance)

Annex II

Key messages of the Technology Executive Committee to the Conference of the Parties at its twenty-first session

Technology needs assessments

1. Technology needs assessments (TNAs), those already conducted and future ones, provide useful information for the implementation of future activities aimed at mitigating or adapting to climate change. The purpose of the TNA process is to assist developing countries to identify and analyse their priority technology needs, which can be the basis for a portfolio of programmes and projects, including environmentally sound technologies.
2. The Conference of the Parties (COP), at its twentieth session, recognized the need for the TNA process to be improved in order to facilitate the implementation of the project ideas emanating from it.
3. The Technology Executive Committee (TEC) prepared an interim report on guidance on the enhanced implementation of the results of TNAs. The following key messages were derived from the findings contained in the interim report:
 - a) Human capacities are at least as important as the process. Early identification and involvement of champions or enablers can give visibility to a project and promote political support;
 - b) Information derived from the TNA process is useful to other national development processes and should therefore be mainstreamed into them;
 - c) Awareness and outreach of successfully implemented results of TNAs are necessary in order to share good practices and encourage countries to learn from them;
 - d) Active participation of national designated entities (NDEs) as key players in the implementation of nationally prioritized technologies can facilitate the technical assistance of the Climate Technology Centre and Network (CTCN) to enhance the implementation of the results of TNAs;
 - e) Project proposals will be most successful if they have funding identified, which is facilitated by providing detailed information on costs, cost-benefit ratios, co-benefits, funding options, monitoring plans and risk analyses, which can make projects more attractive to funders;
 - f) Tracking challenges and lessons learned from implemented technology action plans (TAPs) and project ideas provides information that can expand the range of successfully implemented actions.
4. To enhance the implementation of the results of TNAs, in particular TAPs and project ideas, the TEC recommends that the COP:
 - a) Urge Parties to identify and engage experienced stakeholders in developing implementable TNAs, including specifying stakeholder roles as 'champions' and 'enablers';
 - b) Encourage developing country Parties to integrate TNAs with other relevant national and sectoral plans and programmes, such as national development plans and other related mitigation and adaptation processes;
 - c) Invite Parties and relevant organizations to increase awareness and enhance the outreach of successfully implemented results of TNAs to allow countries to effectively share and replicate successful implementation experiences;
 - d) Recognize that the active participation of NDEs as key players in the implementation of nationally prioritized technologies can facilitate the technical assistance of the CTCN to enhance the implementation of the results of TNAs, and that capacity-building for NDEs would help them to perform more effectively;
 - e) Recognize the need to expedite the implementation of TAPs and to incorporate funding options for implementing project ideas, and the potential need for additional financial and human resources when conducting TAPs, and improving those previously conducted, in order to trigger investors' interest in project implementation;

- f) Invite Parties and relevant organizations to track and share challenges and lessons learned from implemented TAPs and project ideas for the effective implementation of the results of TNAs.

Climate technology financing

5. Based on the TEC Brief on enhancing access to climate technology financing, which focused on the challenges of financing climate technologies faced by developing countries, best practices in and lessons learned from climate technology financing and the roles of different stakeholders in facilitating access to climate technology finance, the TEC highlights that:¹
- a) Attracting financing for climate technologies requires a combination of governmental policies that are:
 - i. Long-lasting: sustained for a duration that reflects the financing time frame of a project;
 - ii. Loud: establish policies and provide incentives that make a difference to the bottom line and improve the bankability of projects;
 - iii. Legal: provide a clear, legally established regulatory framework to build confidence that the regime is stable and can provide the basis for capital-intensive investments;
 - b) Capacity-building and support for national champions at each stage of the technology project cycle are important for effective climate technology financing and technology transfer;
 - c) Public finance for climate technologies should be used efficiently through financial and/or other instruments that share risks, both real and perceived, between public and private actors, to catalyse investments in climate technologies;
 - d) Wide, early and effective stakeholder engagement helps reduce risks and barriers to investment in relatively newer technologies;
 - e) It is important to ensure an integrated approach between technology and climate finance related plans and programmes at the national level, in particular the integration of TNAs with other relevant national and sectoral plans and programmes;
 - f) Given the different criteria for and evaluations of international climate finance and technology support, there is a need to enhance coherence between international institutions in order to reduce the complexity of the processes that developing countries have to follow to request financing.
6. To enhance access to climate technology financing, the TEC recommends that the COP:
- a) Encourage Parties to promote enabling environments, conducive to climate technology financing and investment, that are long-lasting, loud and legal;
 - b) Encourage Parties to use public finance for climate technologies through financial and/or other instruments that share risks between public and private actors;
 - c) Encourage Parties in a position to do so and invite relevant organizations to enhance support for capacity-building and for national champions at each stage of the technology project cycle for effective climate technology financing and technology transfer;
 - d) Invite relevant organizations to facilitate market development through providing information, data and business support for new entrants and business models;
 - e) Encourage developing country Parties to integrate TNAs with other relevant national and sectoral plans and programmes, such as national development plans and other related mitigation and adaptation processes.

National systems of innovation

7. The TEC highlights that:²
- a) A national system of innovation (NSI) plays a central role in supporting a Party in undertaking efficient and effective technological change in response to climate change;

¹ More information may be found in the TEC Brief on enhancing access to climate technology financing (October 2015).

² More information may be found in the TEC Brief on strengthening national systems of innovation to enhance action on climate change (October 2015).

- b) To accelerate global climate efforts, there is a need to support developing countries in strengthening their NSI. Effective NSIs are essential for enhancing developing countries' capacity to absorb, distribute, diffuse and deploy climate technologies, adapt these technologies to their needs and implement and maintain them. This will also support continued technological development and adaptation to regional needs;
 - c) There are national, regional and international efforts under way to support developing countries in strengthening their NSI with regard to climate technology innovation. Those efforts could identify areas of cooperation and collaboration for strengthening NSIs, with a view to enabling countries to achieve their climate technology goals.
8. To support the strengthening of developing countries' NSIs, the TEC recommends that the COP:
- a) Encourage relevant organizations to collect data and information and undertake analyses to develop an enhanced understanding of the state of play of developing countries' NSIs with regard to climate technology innovation;
 - b) Encourage all NSI stakeholders to enhance the sharing of experiences, good practices and lessons learned from initiatives supporting the strengthening of developing countries' NSIs with regard to climate technology innovation;
 - c) Encourage developing country Parties to consider how to strengthen their NSI when they undertake TNAs and formulate TAPs, with a view to enabling them to achieve their specified climate technology goals and submit requests to the CTCN;
 - d) Invite developed country Parties to highlight to the CTCN, through their NDE, how they could support developing countries in strengthening their NSI;
 - e) Encourage the CTCN to explore³ how it may act as a focal point for knowledge on experiences, good practices and lessons learned in supporting the strengthening of developing countries' NSIs with regard to climate technology innovation, including by utilizing existing platforms through which NDEs and other stakeholders may exchange information on the strengthening of NSIs.
9. To support the actions identified in paragraph 8 above, the TEC informs the COP that it stands ready to undertake further activities on NSIs as part of its rolling workplan for 2016–2017, including by collaborating with the CTCN, international organizations and relevant stakeholders.

Technology deployment in distributed renewable electricity generation

10. The TEC highlights to Parties that the deployment of technology in distributed renewable electricity generation can, inter alia:⁴
- a) Contribute significantly to reducing greenhouse gas emissions by generating low-carbon electricity;
 - b) Deliver electricity services in areas that cannot be supplied by centralized grids in addition to providing co-benefits to all communities, such as enhanced energy security, reduced local air pollution and reduced dependence on imported fossil fuels;
 - c) Provide additional sources of electricity in grid-connected systems, thus enhancing the energy security, resilience and efficiency of such grids.
11. In order for technology in distributed renewable electricity generation to reach widespread use, the TEC recommends that the COP encourage Parties to:
- a) Build and strengthen in-country capacity in the form of human and institutional capabilities, including through NSIs, in order to fully enable countries to develop, transfer, deploy and operate nationally distributed renewable systems. More assistance and technology improvement may be needed to enable systems to cope with intermittency in a cost-effective manner;
 - b) Develop or update and implement transparent, effective policy and regulatory frameworks that promote distributed renewable electricity generation, including quality control of photovoltaic

³ In accordance with decision 1/CP.16, paragraph 123(c)(ii).

⁴ More information may be found in the TEC Brief on facilitating technology deployment in distributed renewable electricity generation (October 2015).

systems and power management systems and measures to ensure security of investments, as appropriate;

- c) Stimulate robust private-sector involvement and investment through appropriate incentives and facilitate the implementation of effective and proven business models;
 - d) Enhance demand-side monitoring and conservation technologies to reduce excessive peaks in demand during operation;
 - e) Ensure the active participation of, and effective collaboration between, all stakeholders.
12. The TEC also recommends that the COP invite Parties, the operating entities of the Financial Mechanism and other financial institutions to provide financial support for the development and transfer of technology in distributed renewable electricity generation, taking into account the recommendations provided in paragraph 11 above.
13. The TEC informs Parties that it has initiated the preparation of a technical paper on distributed renewable electricity generation.
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