

**10th meeting of the Advisory Board to the
Climate Technology Centre and Network (CTCN)**

Summary report of the First-of-a-Kind Workshop on Climate Technologies

Procedural background

1. In order to strengthen the UNFCCC Technology Mechanism and support the implementation of the Paris Agreement, COP decision 1/CP.21, paragraph 66 requests the Technology Executive Committee and the Climate Technology Centre and Network to undertake further work relating to, inter alia: (a) Technology research, development and demonstration; (b) The development and enhancement of endogenous capacities and technologies.
2. The CTCN hosted a scoping workshop to address its potential to support First-of-a-Kind technologies in Copenhagen on 22-23 May 2017. The report from that workshop is attached as Annex I to this document. Outcomes from this meeting will inform the participation of the CTCN Advisory Board Chair at GCF B.18 in October 2017.
3. The CTCN Advisory Board will be invited to take note of the document, noting that it will be published on the CTCN website once it has been properly formatted and supplemented with photographs and presentations from the event.

Annex I

1. Introduction

1.1 Background of the Scoping Workshop

In order to strengthen the UNFCCC Technology Mechanism and support the implementation of the Paris Agreement, COP decision 1/CP.21, paragraph 66 requests the Technology Executive Committee and the Climate Technology Centre and Network to undertake further work relating to, inter alia: (a) Technology research, development and demonstration; (b) The development and enhancement of endogenous capacities and technologies.

The CTCN has over 120 Network Member organisations working with research, development and demonstration activities in a position to support developing country clients of the CTCN in their efforts to mitigate and adapt to the effects of climate change. The objectives of this CTCN Scoping Workshop were tailored to the scale of CTCN interventions and formulated based on the mandate given by UNFCCC Parties to the CTCN:

- 1) Define the status and potential for matchmaking support of First-of-a-Kind climate technologies to developing countries through the CTCN; and
- 2) Identify means of de-risking public and private sector investment in First-of-a-Kind climate technologies, adapting to local and regional contexts, enabling policies, fiscal instruments and markets.

1.2 Summary of the Scoping Workshop

An audience of 83 external participants met from 22-23 May 2017, at UN City in Copenhagen, Denmark to explore opportunities for CTCN to support First-of-a-Kind climate technology demonstration. Workshop participants included 13 National Designated Entities (NDEs) from Non-Annex I countries and 3 from Annex I countries, 13 CTC Network members working with First-of-a-Kind climate technologies from Non-Annex I countries and 23 from Annex I countries, 16 CTCN Consortium Partners and 15 other relevant stakeholders including TEC representatives, CTCN Advisory Board Members, UNFCCC Secretariat officials and other finance and research experts.

The workshop established a common basis for the discussion of climate technology piloting and demonstration, considering representative examples, and mapping the expertise of Climate Technology Network institutions related to innovative, First-of-a-Kind climate technologies. This included identifying needs of adapting technologies to local contexts that could be facilitated through the CTCN. Discussions addressed new business models and market conditions for demonstration and subsequent deployment.

Panel discussions and expert presentations identified local, national and regional needs in developing economies for First-of-a-Kind technology piloting and demonstration, as well as the adapting of climate technologies to local and national conditions. Group exercises and roundtable discussions involving CTCN Advisory Board members, NDEs, CTC Network members, TEC members, Consortium Partners, and other relevant stakeholders explored gaps and opportunities towards de-risking financial investment including policies, fiscal instruments, enabling markets and incentives.

2. Relevant parallel and supporting processes

2.1 Key issues identified by the CTCN RD&D task force in August 2016

Based on an assessment of RD&D needs of developing countries (including a review of CTCN requests, sampling of TNAs/TAPs, feedback from NDEs), there is a clear desire for innovation-related technical assistance that the CTCN can fulfil. These needs vary widely among countries.

According to the findings of the CTCN Advisory Board's RD&D task force the CTCN should address RD&D through five "lenses": (1) technology; (2) information; (3) policy and regulation; (4) behaviour; and (5) business models. Within these lenses, the activities of the CTCN should continue to promote collaboration, guide NDE focal points in the development of Technical Assistance requests, match network member expertise with developing country requests on RD&D and assist with the deployment of climate technologies. The task force also encouraged CTCN to continue to engage with the UNFCCC Technology Executive Committee (TEC)'s Task Force on RD&D.

2.2 CARISMA project on mitigation and innovation

"Coordination and Assessment of Research and Innovation in Support of climate Mitigation Actions", is an EU-funded project (Horizon 2020) running from 2015 to 2018. It is a joint effort to encourage innovative mitigation-related research and policy development in Europe. It is coordinated by Radboud University in Nijmegen, Netherlands, and promotes synergies with other institutions, including the CTCN.¹

CARISMA's approach is to support the accelerated development, diffusion and scaling-up of options for climate change mitigation. CARISMA works with synergies and engagement with the policymaking and business communities to resolve implementation issues, networking and information-sharing as well as support to climate change mitigation policy development in the EU and its member states. CARISMA researches institutional, political, economic, and social factors impact on climate action as well as the economic costs and environmental benefits of mitigation options that target substantial GHG reductions.²

The CARISMA project is structured along eight themes, with five that form the core focus: Research & Innovation; Assessment of Technologies; Policy effectiveness and Interaction; Governance and contextual factors; and International Collaboration on Innovation and Policy.³ Experts affiliated with

¹ <http://carisma-project.eu/>

² CARISMA First Synthesis Report, August 2016.

³ *ibid.*

CARISMA participated in the CTCN workshop and will help ensure its outputs appropriately inform that project's own deliberations.

2.3 Findings of the TEC Special event on Innovation

The CTCN Scoping workshop drew on findings from the special event organised by the Technology Executive Committee (TEC) on May 12th 2017, entitled "How innovation can support implementation of nationally determined contributions and mid-century strategies", as well as on proceedings of the 46th meeting of the Subsidiary Bodies to the UNFCCC. The TEC event built on its previous work on innovation in the lead-up to the adoption of the Paris Agreement.

The TEC Special event aimed to:

- a) Describe technological innovation and outline the capacities required to nurture an effective innovation process;
- (b) Analyze and highlight the key role that innovation policy and international cooperation on innovation can play in accelerating the implementation of NDCs and mid-century strategies in developing countries;
- (c) Showcase experiences, good practices and lessons learned from previous efforts relevant to developing countries;
- (d) Identify the following, to accelerate the implementation of NDCs and mid-century strategies:
 - (i) Innovations with high potential in developing countries;
 - (ii) Innovation policies and international cooperation on innovation that can be established, strengthened and/or implemented;
 - (iii) Possible financing models for innovation that can support developing countries.⁴

According to the TEC Vice-Chair, Ms. Duduzile Nhlengethwa, for countries to achieve their NDCs and mid-century strategies there is a need to embrace technological innovation to deliver transformational change based on respective countries' contexts, and to recognize that innovation cuts across approaches to deliver on all Sustainable Development Goals. Therefore the TEC emphasizes strengthening of the full innovation system according to stakeholders' roles in the innovation process, taking into account that innovation goes beyond finance and its principal role in ensuring effective diffusion. Ms. Nhlengethwa further mentioned policies, innovative communication, business models and technology demonstration activities as important elements for supporting innovation as well as transferring knowledge and technologies to and between developing countries.

It was identified that countries' short- and long-term innovation needs might not be mutually reinforcing as NDCs usually focus on a time frame linked to 2025 or 2030. The default approach for most countries is to focus mainly on rapid, wide-scale and near-term deployment of mature technologies or technologies that are close to market maturity, without necessarily considering those actions in the context of delivering on longer-term objectives. Participants discussed the barriers to the deployment of innovative technologies including the need to identify actions for supporting replication in different local, national and regional contexts, financing and business models, and smart regulations and policies that will provide incentives for public and private actors to engage.

⁴ Technology Executive Committee Special Event on Innovation and Climate Change: <http://unfccc.int/ttclear/tec/documents.html>

Mid-century strategies, however, aim to catalyze transformational change and therefore require a more long-term focus. Many factors are required to support transformational technological innovation: national innovation systems, targeted capacity building for actors and institutions to participate in national, regional and international processes, effective knowledge transfer, strong stakeholder engagement highlighting local and indigenous knowledge, and predictable access to financing to develop national ownership were all raised by participants. It was stated that there is a need for implementable innovation and for showcasing success stories to guide the process forward, recognizing that no one solution works in every circumstance.⁵

3. Conclusions

3.1 Conclusions from the CTCN director

CTCN Director Jukka Uosukainen concluded that there is no single solution for promoting First-of-a-Kind technologies: private sector involvement and funding is needed together with political and policy support. The process needs management throughout the whole Technology Cycle. The approach needs to be disruptive and transformational, and demands innovative business models, market innovation and up-scaling of appropriate solutions to be examined and appropriately addressed. Further, the role these interventions can play in job creation and economic growth need to be effectively communicated to stakeholders.

Mr. Uosukainen encouraged countries to think what kind of future they want for themselves and to seek assistance to help to build that vision. He highlighted the importance of mapping: to support the right technologies at the right time to the right people and to put emphasis on strengthening local capacities. It is also important to remember that collaborative RD&D is a long-term process and relies on trust and transparency.

He further concluded that:

- The seven key outcomes from the TEC Innovation workshop form a good framing basis for CTCN activities;
- The CTCN should focus on a First to Market approach, when a technology is applied in a new country or transferred to a new sector.
- Technology innovation is only part of the successful technology transfer process: there must be a clear link to policies, management and finance;
- It is important to look for potential in markets, business cases/models and underlying risks;
- There is strong support for GCF financing for RD&D: the CTCN should seek to collaborate on streamlined modalities to support these activities, as both reliable financing and sound technical expertise are critical to success;
- Support for endogenous and adapted technologies needs to be strengthened and prioritized;
- the private sector usually does not fund FOAK technologies but is willing to step in when these approaches reach the bankable project level; CTC network can provide catalytic support here;
- The CTCN should continue to focus on interventions that balance demand for services and prudent use of resources, and be mindful of overlap in other established processes;
- The CTCN will continue to focus on areas where it can serve as facilitator and catalyst for larger-scale actions, and examine opportunities to deliver ‘best-fit’ mapping of transformational technology solutions with not just national but regional transformational potential as well;

⁵ *ibid.*

- This includes the development of technology roadmaps in support of NDC implementation, supported by strong partnerships, including national RD&D commitments as appropriate;
- The CTCN has the potential to leverage its convening power – as it did at the FOAK workshop – to bring together the research, finance, government, industry, and intergovernmental bodies required to ensure a balanced approach to successful RD&D initiatives;
- NDEs are an exceptional resource whose expertise should be leveraged to identify appropriate interventions aligned with NDC priorities, including upscaling supportive systems for institutional strengthening and capacity building;
- RD&D activities will play an important role in the elaboration of mid-century strategies and the realization of mid- to longer-term climate objectives;
- The CTCN needs the political support and guidance of the TEC, and to ensure their activities are aligned according to their respective strengths.