

Inputs of the Technology Executive Committee to the Talanoa Dialogue

1. Where are we?

The TEC has been working to support countries in identifying climate technology policies that support them to achieve the goals of the Convention, the Paris Agreement and sustainable development

1. Since its inception, the focus of the work of the TEC is supporting Parties and non-Party stakeholders to accelerate the development and transfer of climate technologies to implement their mitigation and adaptation actions. With the adoption of the Paris Agreement, the TEC further expanded its work to response to the calls by Parties to support implementation of the Paris Agreement in the areas of technology development and transfer, including technology research, development and demonstration as well as development and enhancement of endogenous capacities and technologies.

2. The TEC conducted analysis and provided policy recommendations on technology policy issues in a number of key areas including adaptation technologies; climate technology financing; emerging and cross-cutting issues; innovation and research, development and demonstration; mitigation technologies; and technology needs assessments.

3. In period 2011-2017, the TEC provided key messages and policy recommendations to COPs and produced 11 policy briefs on key climate technology issues including, but not limited to, technologies for adaptation in the agricultural and water sectors, enhancing access to climate technology financing, strengthening national systems of innovation, South-South and triangular cooperation on adaptation technologies, distributed renewable energy, industrial energy and material efficiency in carbon-intensive sectors.

4. The TEC also developed other products, such as guidance and compilation of good practices; for example, the guidance for preparing a Technology Action Plan, aimed to enhance the implementation of priority mitigation and adaptation technologies as identified under the technology needs assessment (TNA), the good practices for South- South and triangular Cooperation and the good practices of TNAs.

5. The TEC also engaged in processes established by the UNFCCC to support countries' efforts into the development and transfer of climate technologies, like the technical examination process on mitigation and adaptation. The TEC also connected to other UNFCCC institutions like the Marrakesh Partnership for Global Climate Action and the Financial Mechanism, in order to strengthen linkages and foster synergies regarding technology development and transfer.

6. The involvement and support of the global climate technology community in the work of the TEC has been crucial for achieving meaningful outcomes. TEC worked closely with its sister body, the Climate Technology Centre and Network. The TEC also established collaborations with the United Nations Office for South-South Cooperation, Green Climate Fund, the Global Environment Facility, the Paris Committee on Capacity Building, the Executive Committee of the Warsaw International Mechanism on Loss and Damage, and other UNFCCC constituted bodies. Furthermore, it has worked throughout the years with United Nations organizations, intergovernmental organizations and non-governmental organizations.

The TEC recognizes that cooperation between governments as well as between governments and non-Party Stakeholders at different levels presents a large potential for improvement and scaling up of climate technologies and creating new market opportunities

7. From its work on **South-South cooperation**, the TEC observed that current cooperation initiatives need to be enhanced and enable participation of a higher number of countries to enhance their relevance, reach and impact – facilitating large-scale deployment of low-emission and climate-resilient technologies – and therefore their contribution to achieving the Paris Agreement and sustainable development goals. South–south cooperation

can complement these efforts, helping countries to build capacity and transfer knowledge on innovating in similar contexts

8. Further the TEC saw many examples of successful South–South cooperation and triangular cooperation on technologies for adaptation and mitigation in many sectors, including those prioritized under NDCs, NAPs and TNAs (e.g. energy, agriculture and water). Such collaborations are within reach for all countries.

9. From its work on **innovation**, the TEC highlighted there is a pressing need to accelerate and strengthen technological innovation so that it can deliver environmentally and socially sound, cost-effective and better-performing climate technologies on a larger and more widespread scale. There are national, regional and international efforts under way to support developing countries in strengthening their national systems of innovation (NSI) regarding climate technology.

10. The TEC further emphasized that collaborative research, development and demonstration (RD&D) may play a productive role in helping developing countries accelerate their action on climate change. Platforms for international R&D collaboration involving developing countries already exist. However, the current scale of international R&D collaboration for climate technologies is limited, about 30 developing countries and less than 1% of the global R&D expenditures for agriculture. International collaboration on RD&D may offer benefits such as cost savings, accelerated learning, harmonization of standards and approaches and elimination of duplication.

Opportunities for further action on technology development and transfer

11. Through its work, the TEC saw there are opportunities for further action on technology development and transfer for countries to speed up and scale up their national efforts to exploit their full potential to reduce emissions and adapt to the impacts of climate change.

12. On **TNA** for example, the TEC noted that the priorities sectors identified by the TNAs do not differ much from those reported by Parties in their NDCs. Therefore, strengthening linkages between the TNA process and the NDC and NAP processes would enhance their effectiveness and responsiveness towards implementation in developing countries. TAPs developed as part of the TNA process should be viewed as a platform for NDC and NAP implementation.

13. South–South and triangular cooperation can be an agile vehicle for advancing the NAP processes and the implementation of NDCs, where relevant, in particular through effective knowledge transfer, practical learning and endogenous capacities development for adaptation technologies. Fifteen developing countries have highlighted South–South and triangular cooperation in their NDCs as a promising means for supporting the implementation of climate actions, complementing national efforts and international support.

14. On **Adaptation**, technologies, for example, in the agriculture and water sectors enhance resilience to climate change and can offer mitigation co-benefits. In applying technologies for adaptation, the significant synergies, trade-offs and co-benefits with mitigation should be considered and pursued.

15. On **Mitigation**, the identification and implementation of adequate mitigation measures in the energy sector often fails because of a number of unaddressed needs and challenges. Among the most important are little awareness of energy efficiency and renewal energy potential, limited access to finance, the need for capacity-building of different target groups, lack of effective policy and regulatory frameworks. Addressing these barriers would accelerate the widespread use of the technologies.

16. On **technological innovation**, incubators and accelerators may play an important role in addressing the challenges faced by small firms and entrepreneurs.

17. On **climate technology financing**, the promotion of enabling environments that is conducive to climate technology financing and investment, that are long-lasting, loud and legal needs to be continuously encouraged.

18. The TEC appreciates that its composition has progressed over time in terms of gender balance and women leadership.

2. Where do we want to go?

The future work of the TEC will need to consider technological solutions that can help countries to achieve the purpose of the Paris Agreement as guided by the Technology Framework

19. Environmental sound and socially acceptable climate technologies for mitigation and adaptation will play an important role in the implementation of NDCs and NAPs for all countries to realize the transformational changes envisioned in the Paris Agreement.

20. In this regard, the future work of the TEC will need to consider technological solutions that can help countries to implement the Paris Agreement. These may include available technologies, indigenous knowledge and technologies, endogenous, innovative and new technologies for adaptation and mitigation. The co-benefits, opportunities, risks and social, economic and environmental impacts of such technologies will need to be taken into consideration.

21. The TEC should contribute to rising resource efficiency and strengthening cooperation amongst various actors, such as governments, private sector, financial institutions, scientific community in the field of climate technology development and deployment.

3. How do we get there?

The TEC views that government and non-Party Stakeholders must step up efforts to accelerate deployment of emerging technologies and innovative solutions to support transformational changes envisioned by the Paris Agreement. The TEC will facilitate its engagement in these activities with stakeholders.

22. Measures should be adopted for **scaling up the deployment of viable technologies** that encompass and address regulatory, financial, technical and societal aspects.

(a) Enhanced financial, technical and capacity-building support are needed to facilitate the implementation of TAPs and updating of TNAs, which will bring economic, environmental and social benefits to countries. Further funding to conduct TNAs and implement TNA results, beyond the current scope of the global TNA project funding, is encouraged.

(b) Cooperation between countries could help them implement the results of TNAs, beyond the current technical support provided, and beyond the current scale of implementation. Such cooperation may include information sharing on regional implementation of environmentally sound adaptation and mitigation technologies, related success stories, lessons learned, opportunities and challenges.

(c) Engaging the financial and business community at both the international and the national level, at an early stage is crucial to enhance access to financing for the development and transfer of technologies. The government also plays a key role in fostering private sector involvement by designing and implementing policies, regulations and standards that create enabling environments and favourable market conditions for climate technologies.

(d) Facilitating the involvement of the research community and the civil society in the development and testing of low-emission and climate resilient technologies is fundamental to accelerate the transition to a low carbon economy.

23. **New and innovative technologies** are needed to accelerate transition towards low greenhouse gas emissions and climate-resilient development.

(a) NSI play a central role in supporting a Party in undertaking efficient and effective technological change in response to climate change. Strengthening NSI provides an effective and efficient way to enhance national capacity to address climate change.

(b) Governments can accelerate efforts to meet climate challenges by increasing public expenditure for climate technology RD&D. To stimulate private RD&D spending, governments can provide a clear policy signal of a long-term commitment to reduce greenhouse gases and build resilience to climate change. They can furthermore strengthen enabling environments that accelerate private investment.

(c) Governments can also ensure that investments in national technological innovation are aligned with national priorities and effective in the context of broader economic and social development.

(d) Collaborative research, development and demonstration should be promoted as a way to share knowledge and experiences between developed and developing countries, including through North–South and South–South collaboration, in order to meet the technology needs of developing countries.

(e) Attention should be paid on the creation of an inclusive innovation process that involves all key stakeholders, facilitating the incorporation of diverse and relevant expertise, knowledge and views and generating awareness of the benefits and impacts. Indigenous and local knowledge and technologies should be incorporated in their national innovation systems.

(f) There are estimated to be around 2,000 technology incubators and 150 accelerators worldwide. However, fewer than 70 are estimated to be climate technology incubators and accelerators, and just 25 of the 70 are in developing countries. There is a need to develop a greater understanding of why there is such a limited number of climate technology incubators and accelerators in developing countries, given the potential benefits. There is also a need to gather more information on the impact of the existing climate technology incubators and accelerators in developing countries.

24. It is important to ensuring sustainable, predictable and sufficient funding for the two bodies of the **Technology Mechanism**, TEC and the CTCN, to continue implementing their functions in support to countries to accelerate the development and transfer of climate technologies and the implementation of climate policies.

25. Strengthening the link associated with both **Technology Mechanism and Financial Mechanism** of the convention is also important, particularly increasing the existing collaboration between the TEC, the CTCN and the GCF with respect to exploring ways of catalysing finance for climate technology incubators and accelerators in developing countries.
