



15 October 2018

Input of the Subsidiary Body for Science and Technology to the COP 24 stocktake on pre-2020 implementation and ambition

Many of the activities of the Subsidiary Body for Scientific and Technological Advice contribute to enhancing delivery on pre-2020 action and support. Several activities are undertaken jointly with the Subsidiary Body for Implementation.

Science

SBSTA is the science-policy interface of the UNFCCC and as such facilitates the injection of latest scientific findings into the process, in close cooperation with the [Intergovernmental Panel on Climate Change \(IPCC\)](#), [World Meteorological Organization](#) and other relevant international organizations, to ensure informed decision making, which takes due account of scientific findings, and to raise ambition.

Regarding [research](#) and [systematic observation](#) – the Convention calls on Parties to promote and cooperate in research, systematic observation and the development of data archives, including through exchange of information; to support programmes, networks and organizations; and improve the capacities of developing countries. This year marks a decade of meetings of the [research dialogue](#) with valued input from the IPCC, WMO, World Climate Research Programme and others. The goal of the tenth dialogue this year was to hold a discussion at the science-policy interface in support of action under the Paris Agreement by focusing on ‘science for understanding’, ‘science for action,’ and research on the global carbon cycle and renewable energy. The [Earth Information Day](#), organized in 2016 provided an opportunity to optimise engagement between the observation and policy communities to benefit the intergovernmental process and Paris Agreement implementation. It provided an up-to-date picture of the state of the climate and an outlook on observation and climate service developments and opportunities to support decision making at regional and national level. In its consideration of systematic observation, the SBSTA will decide at COP 24 whether to invite the secretariat to organise future Earth Information Days.

Adaptation

The [Nairobi work programme \(NWP\)](#) was established at COP11 (2005) through decision 2/CP.11 to facilitate and catalyze the development, dissemination, and use of knowledge that would inform and support adaptation policies and practices. The NWP strives to assist all Parties, in particular developing countries, including the least developed countries and small island developing states, to improve their understanding and assessment of impacts, vulnerability and adaptation, and to make informed decisions on practical adaptation actions and measures to respond to climate change on a sound, scientific, technical and socioeconomic basis, taking into account current and future climate change and variability. The NWP responds to knowledge needs identified by Parties and those arising



from the implementation of the Cancun adaptation framework as well as other relevant workstreams and bodies under the Convention. The NWP engages with a growing and diverse network of non-Party stakeholders to synthesize the latest knowledge on key adaptation issues and foster science-policy-practice collaboration. The NWP covers a wide range of working areas and themes, responding to both general and specific knowledge requests from the Parties and constituted bodies under the convention. Knowledge is collected through calls for submissions and focused exchanges with technical experts. Information is refined and disseminated through synthesis reports, events such as the annual Focal Point Forum, the online Adaptation knowledge portal, and other digital and in-person platforms. The NWP also collaborates with partners to close knowledge gaps at the national and subregional levels through activities such as the Lima Adaptation Knowledge Initiative.

The [technical examination process on adaptation](#) (TEP-A), organised jointly by SBSTA and SBI in line with decision 1/CP.21, supports and strengthens related action on the ground and seeks to identify concrete opportunities for strengthening resilience, reducing vulnerabilities, and increasing the understanding and implementation of adaptation actions. The meetings held so far covered integrating climate change adaptation with the Sustainable Development Goals and the Sendai Framework on Disaster Risk Reduction; and adaptation planning for vulnerable groups, communities and ecosystem, including through regular in-session thematic **technical expert meetings** held under the guidance of the SBSTA and SBI Chairs. The SBSTA and SBI are engaged in showcasing climate action by Parties and non-Party stakeholders in this context.

The TEP-A is conducted by the [Adaptation Committee](#), the Convention's principal advisory on adaptation. Besides its work on the TEP-A, the AC has undertaken work in several areas aimed at supporting Parties in planning and implementing adaptation, including work on the monitoring and evaluation of adaptation, including adaptation indicators; on enhancing access to GCF resources for adaptation; on livelihood and economic diversification and on fostering the engagement of the private sector in adaptation. For more details see the AC's [separate submission on pre-2020](#).

Mitigation

Part IV of decision 1/CP.21 resolved to strengthen the [technical examination process on mitigation](#) for the period 2016 to 2020 and that it should be organised jointly by SBSTA and SBI. The technical examination process (TEP) explores high-potential policies, practices and technologies that can increase the mitigation ambition of pre-2020 climate action. The SBSTA and the SBI are engaged in showcasing climate action by Parties and non-Party stakeholders in this context, which explores high-potential mitigation policies, practices and technologies with significant sustainable development co-benefits that could increase the mitigation ambition of pre-2020 climate action. The technical examination process includes regular in-session thematic technical expert meetings on mitigation (TEM-Ms) held under the guidance of the SBSTA and SBI Chairs, as well as regional TEM-Ms on complimentary topics. For [TEP-M](#), meetings covered diverse topics, listed below by year:



2016:

- The Social and Economic Value of Carbon: Concrete tools based on a reference value of carbon to inform investment decisions, re-evaluate risks and incentivize early action.
- Shifting to More Efficient Public Transport and Increasing Energy Efficiency of Vehicles
- Renewable Energy Supply
- Energy Efficiency in urban environments

2017:

- Cross-cutting issues in Urban Environment and Land Use
- *Regional TEM*: Cross-cutting issues in Urban Environment

2018:

- Implementation of circular economies and industrial waste reuse and prevention solutions
- *Regional TEM*: Energy Efficiency in Industry
- *Regional TEM*: Enabling waste-to-energy, industrial waste reuse and prevention solutions to achieve circular economy and boost climate action
- *Regional TEM*: Enabling waste-to-energy, and circular economy solutions to boost climate action

The meetings respond to the need for Parties and other stakeholders to identify best practice policies and actions, that can allow them to act fast and with a sense of urgency to maintain greater changes to attain to the objective of the Paris Agreement. Following the TEMs, technical papers are published, summarizing information on best practice mitigation policies, practices and technologies that are widely used around the world in the examined thematic areas. The papers reflect proposals from Parties and observers, discussions at the technical expert meetings, and the latest findings published by leading international organizations and partnerships that collaborate with the UNFCCC. In addition to these papers, the TEMs create awareness of options and opportunities for further action and how such action could be supported.

Enhancing the provision of support

The provision by the global community of financial, technological and capacity building support to developing countries to enable them to accelerate and enhance their national action to adapt to the adverse effects of climate change and reduce greenhouse gases their national action is an important part of strengthening the implementation of the Convention. The SBSTA undertakes work in several areas relevant to the provision of support, such as on transparency of support (methodologies for reporting financial information by Parties included in Annex I to the Convention) and development and transfer of technology. In several areas, guidance has been developed to assist stronger action on the ground in the context of related agenda items on the SBSTA agenda while making best use of the increasing role of specialized bodies and institutions that have been created in Cancun and Durban and operationalized in Doha to deal with relevant issues. While the constituted bodies may undertake much of the technical discussions, the SBSTA (in conjunction with the SBI for some issues) continues to contribute to maintaining political momentum and ensuring transparency of decision-making.



Regarding [finance](#) – the SBSTA serves as the link between the scientific, technical and technological assessments and the information provided by competent international bodies, and the policy oriented needs of the COP ([decision 6/CP.1](#)). COP 17 requested the SBSTA to develop [methodologies for reporting financial information](#) which were finalized in 2015.

Regarding [technology](#) - developing and transferring technologies to support national action on climate change has been an essential element from the beginning of the UNFCCC process. In 1992, when countries established the Convention, they included specific provisions on technology with the aim of achieving the ultimate objective of the Convention. The Convention notes that all Parties shall promote and cooperate in the development and transfer of technologies that reduce emissions of GHGs. It also urges developed country Parties to take all practicable steps to promote, facilitate and finance the transfer of, or access to, climate technologies to other Parties, particularly to developing countries. Furthermore, the Convention states that the extent to which developing country Parties will effectively implement their commitments will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology. In 2010, countries created the [Technology Mechanism](#) which aims to enhance the development and transfer of climate technologies to developing countries. The mechanism consists of two bodies: the [Technology Executive Committee](#), which is the policy arm, and the [Climate Technology Centre and Network](#), which is the implementation arm (see also separate input from the TEC and the CTCN). Understanding our climate technology needs is the starting point for effective action on climate change. By understanding these needs we can determine how to reduce greenhouse gas emissions and adapt to the adverse impacts of climate change. To determine their climate technology priorities, countries undertake [technology needs assessments](#) (TNAs). A TNA supports national sustainable development, builds national capacity and facilitates the implementation of prioritized climate technologies. Since 2001, more than [80 developing countries](#) have conducted TNAs to address climate change. More recently, many countries have identified climate technology needs in their [nationally determined contributions \(NDCs\)](#). SBSTA is taking this work forward with the development of a technology framework under the Paris Agreement in line with decision 1/CP.21.

Impact of the implementation of response measures

The Convention recognized the need to consider the impact of the implementation of [response measures](#) and established a forum on the impact of the implementation of response measures in 2010. In line with decision 8/CP.17, the forum is convened under a joint agenda item by SBSTA and SBI. Eight priority areas were identified for enhancing the knowledge related to response measures. After organising eight workshops along with eight priority areas over the two years period, the Subsidiary Bodies reviewed the work of the forum and established an improved forum on the impact of the implementation of response measures in 2015. Under its work programme, since 2015, SBSTA and SBI have delivered:

- A guidance document to assist developing country Parties to assess the impact of the implementation of response measures, including guidance on modelling tools (2016)
- A technical paper to assist developing country Parties in their economic diversification initiatives (2016)
- A technical paper on just transition of the work force and the creation of decent work and quality jobs (2016)
- Workshop on views and experiences including on case studies (2016)



- A report for the ad-hoc technical expert meeting to elaborate on the technical work on the areas of the work programme in the context of sustainable development. (2017)
- A workshop on use of economic modelling tools related to the work programme of the improved forum on the impact of the implementation of response measures (2018)

In addition, two workshops were organised in collaboration with other organisations to raise awareness with a view to enhancing capacity building programmes or activities for Parties in order to maximize the positive and minimize the negative impact of response measures. (2018)

Relevant information, the submissions by Parties, published technical papers and reports have been made available on the UNFCCC website.

Agriculture

SBSTA has been working for several years on issues related to agriculture, including holding a series of five workshops:

- 12 November 2013: In-session workshop on the current state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts while promoting rural development, sustainable development and productivity of agricultural systems and food security in all countries, particularly in developing countries, taking into account the diversity of the agricultural systems and the differences in scale as well as possible adaptation co-benefits;
- 2 June 2015: In-session workshop on the development of early warning systems and contingency plans in relation to extreme weather events and its effects such as desertification, drought, floods, landslides, storm surge, soil erosion, and saline water intrusion;
- 3 June 2015: In-session workshop on the assessment of risk and vulnerability of agricultural systems to different climate change scenarios at regional, national and local levels, including but not limited to pests and diseases;
- 20 May 2016: In-session workshop on the identification of adaptation measures, taking into account the diversity of the agricultural systems, indigenous knowledge systems and the differences in scale as well as possible co-benefits and sharing experiences in research and development and on the ground activities, including socioeconomic, environmental and gender aspects;
- 23 May 2016: In-session workshop on the identification and assessment of agricultural practices and technologies to enhance productivity in a sustainable manner, food security and resilience, considering the differences in agro-ecological zones and farming systems, such as different grassland and cropland practices and systems.

The adoption of the Koronivia joint work on agriculture by decision 4/CP.23 marks a major step forward, requesting the SBSTA and the SBI to jointly address issues related to agriculture, including through workshops and expert meetings, working with constituted bodies under the Convention and taking into consideration the vulnerabilities of agriculture to climate change and approaches to addressing food security. The Koronivia road map was agreed by SBSTA 48 and SBI 48 and provides for a series of workshops to be held up to November 2020 with a report to COP26 on progress and outcomes of the work, including on potential future topics.



REDD-plus

SBSTA 24 initiated work on developing methodological and policy guidance for the implementation of [REDD-plus](#) and completed consideration of these issues at SBSTA 42. Several milestones have been achieved during this period of negotiations and captured in relevant COP decisions, including setting the framework for REDD-plus implementation (in the Cancun Agreements, COP 16), the [Warsaw Framework for REDD-plus](#) (COP 19) providing the set of methodological and financing guidance and methodological guidance for alternative policy approaches, non-carbon benefits and safeguard reporting (COP 21). With the conclusion of negotiations, developing countries are demonstrating their commitment in implementation of REDD-plus, in accordance with the guidance in the Warsaw Framework. Since 2014, 35 developing countries have submitted their proposed forest reference emission levels/forest reference levels for technical assessments (with 3 countries submitting more than once), coordinated by the secretariat and undertaken by LULUCF experts nominated to the UNFCCC Roster of Experts. Thus far, 26 technical assessment reports have been published and 12 more are in the process for 2018. 4 of these developing countries have reported their REDD-plus results in a technical annex to their BURs, with the aim of seeking and obtaining results-based payments. In addition, developing countries are also developing other elements, such as a national strategy, national forest monitoring system, safeguard information system and addressing the drivers of deforestation, as part of their efforts in implementing REDD-plus. Relevant information, the submissions by Parties and published reports have been made available on the REDD+ web platform, including the Lima Information Hub.

Loss and damage

The [Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts](#), established in 2013, is the main vehicle under the UNFCCC process to address loss and damage associated with impacts of climate change, including extreme weather events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change. In line with decision 2/CP.19, its Executive Committee reports annually to the Conference of the Parties through the SBSTA and the SBI. Subsequently, COP 21 adopted the Paris Agreement, which states in its Article 8, paragraph 2, that the Warsaw International Mechanism shall be subject to the authority and guidance of the CMA.

The functions of the Warsaw International Mechanism are: i) enhancing knowledge and understanding of comprehensive risk management approaches; ii) strengthening dialogue, coordination, coherence and synergies among relevant stakeholders; and iii) enhancing action and support, including finance technology and capacity-building, to address loss and damage associated with the adverse effects of climate change. The implementation of these functions is guided by a [workplan](#) of its Executive Committee, which aims for enhanced cooperation and facilitation on: **slow onset events, non-economic losses, comprehensive risk management approaches, human mobility, and action and support**. Examples of activities undertaken to date range from awareness raising and synthesizing relevant information, e.g. an online database of organizations working on [slow onset events](#), a compendium on [comprehensive risk management approaches](#), and an information paper on [best practices, challenges and lessons learned from existing financial instruments](#) at all levels that address the risk of loss and damage associated with the adverse effects of climate change, to the establishment of the [Fiji Clearing House for Risk Transfer](#) which, by using artificial intelligence technology, provides tailor-made query responses that aim to foster the efforts of Parties to manage climate risks in a comprehensive manner. The [Task Force on Displacement](#) of the Executive



Committee produced, this year, seven technical reports which informed the development of recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change.

Local communities and indigenous peoples

The COP has recognized the need to strengthen knowledge, technologies, practices and efforts of [local communities and indigenous peoples](#) related to addressing and responding to climate change. In this context, a platform was established by decision 1/CP.21 and operationalised, on the basis of work undertaken by SBSTA, by decision 2/CP.23, for the exchange of experiences and sharing of best practices on mitigation and adaptation in a holistic and integrated manner and to enhance the engagement of local communities and indigenous peoples in the UNFCCC process. Negotiations on further operationalization of the platform will continue at SBSTA 49 and should conclude on the recommendation of a draft decision to the COP, including the establishment of a facilitative working group, which would not be a negotiating body under the Convention, and the development of a workplan for the full implementation of the functions, with balanced representation of local communities and indigenous peoples and Parties.

Implementation of the Kyoto Protocol

SBSTA developed the detailed guidelines of the application of Articles 5, 7 and 8 under the second commitment period of the Kyoto Protocol which were adopted at COP21. It continues to undertake methodological work on the implementation of the Kyoto Protocol including the examination of the annual report on the technical review of greenhouse gas inventories and other information reported by Parties included in Annex I, as defined in Article 1, paragraph 7, of the Kyoto Protocol.