

## Summary report on the tenth meeting of the research dialogue Bonn, Germany, 3 May 2018

### Overview by the Chair of the SBSTA

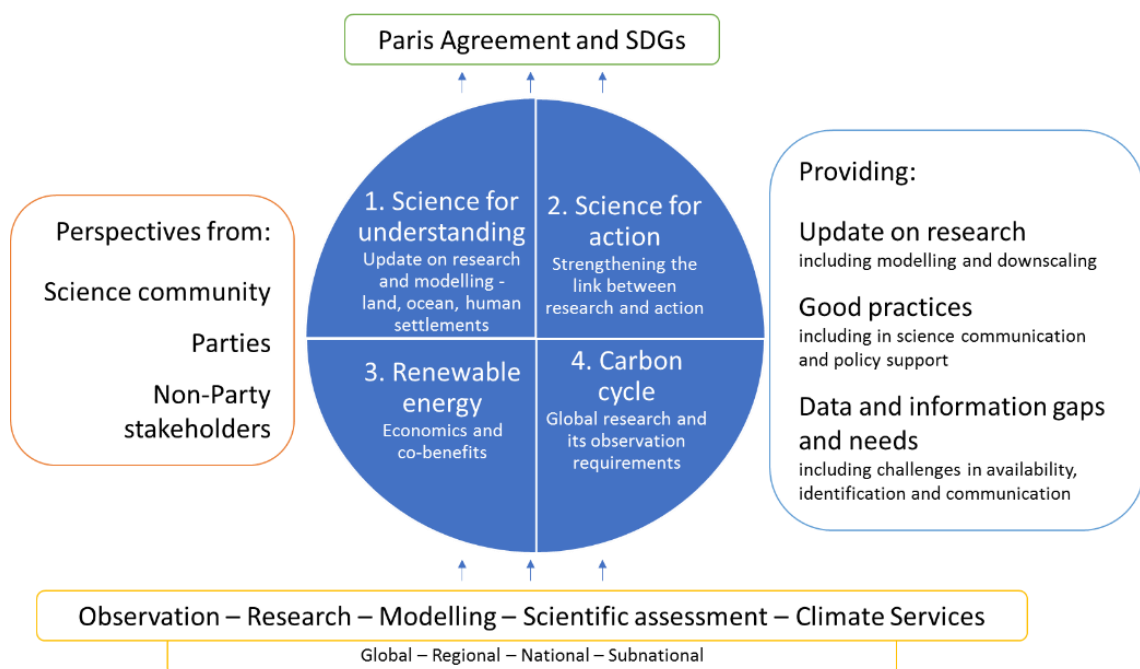
05 November 2018

#### Overview

The tenth meeting of the research dialogue was held in Bonn on 3 May 2018 in conjunction with the first part of the forty-eighth session of the Subsidiary Body for Scientific and Technological Advice (SBSTA 48).

#### Aim

The goal of the dialogue was to hold a discussion at the science–policy interface with the aim of supporting adaptation and mitigation action under the Paris Agreement based on the best available science. It focused on “science for understanding” and “science for action” as well as science on renewable energy and the carbon cycle. The dialogue made clear that fundamental science and research is still needed, but communication at the science/policy interface and exploration of the opportunities of how best to do this is also an important part of the required action that should be supported by Parties.



This year marked an anniversary for the UNFCCC process, a decade of research dialogues, with valued participation and support from Intergovernmental Panel on Climate Change, World Climate Research Programme and the large and diverse international scientific community.

## Summary of key messages:

More detailed messages for the presentations and posters are provided in the main report.

### 1. Science for understanding

#### Update on research and modelling - land, ocean, human settlements

- Fundamental research is still needed to improve understanding of climate change
- Modelling is vital to understand and communicate climate change impacts from seconds to centuries and at increasing resolution
- Science must be supported through strong interdisciplinary research and multi-stakeholder partnerships, both informal and formal including indigenous and local communities, government and non-government stakeholders and sharing and building narratives of best practices
- Ongoing rapid changes in the Arctic have shifted the Arctic into a new normal, affecting the ecology, human societies and the position of the region in the global context
- Continued research on the ocean's role in the energy, carbon and water cycles and the impact of climate change on the ocean and ocean biodiversity is critical to understand opportunities and options for mitigation and adaptation and co-benefits
- A systems approach is vital when responding to the impacts of climate change. Ecosystem-based approaches can tackle mitigation and adaptation and provide co-benefits for sustainable development. In cities vertical integration is needed to link national policies and local actions and strengthen joint undertaking toward the objectives of the Paris Agreement and the generation of co-benefits.

### 2. Science for action

#### Strengthening the link between research and action

- There is an urgency to increase communication and collaboration at the science/policy interface to respond to climate change
- Regional institutions are important to promote and exchange information at regional, national and local level and catalyze Party engagement and support
- Transdisciplinary research helps support engagement between the scientific and policy communities
- Dialogue should be facilitated, including at regional level, to help different stakeholders reconcile views on (transformative) ways forward based on the best available science.

### 3. Renewable energy

#### Economics and co-benefits

- The co-benefits of renewable energy are well recognized, but should be better quantified in order to speed up adoption
- Progress has been made in recent years on quantification for some co-benefits such as air pollution, health, energy security and employment. Studies on health already show the co-benefits and cost-effectiveness of mitigation
- The reducing cost of renewables must be factored into future models and scenarios.

### 4. Carbon cycle

#### Global research and its observation requirements

- The scientific community aims to close knowledge gaps on the carbon cycle - supported by the research, modelling and observation communities. This includes work by the global carbon project on the CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O budgets (global and regional)
- Open data and clearer reporting by Parties, including on inventories, would support this work
- Matching in-situ and remote monitoring of GHG concentrations (bottom-up approaches) with inverse modelling techniques (top-down approaches) supports reporting at national, urban and regional levels.