

CHECK AGAINST DELIVERY

The SDGs and Climate Change

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I am pleased to be here to update you on the state of science regarding climate change.

I want to begin my remarks by sharing with you some key conclusions on response strategies to climate change we were able to identify at the end of our last assessment three years ago.

- In most countries governments are addressing climate change in the context of other national priorities, such as energy security and poverty alleviation. Improvements to climate policy programmes need to engage these broader national priorities.
- Second, in most countries it is not only national governments that are relevant to controlling emissions. Many diverse actors participate in climate policy. And this diversity will facilitate deep cuts in emissions, which require transformation in institutions, technologies, consumption patterns and human behaviour.
- Third, there are profound uncertainties around the socioeconomic factors, related to technology development and deployment, economic growth and governance. These would multiply uncertainties found in climate science and impacts identified by the IPCC.
- Fourth, risk management techniques have not spread into wide use in actual mitigation strategies. We need to improve the scientific understanding of how people perceive risk and respond to different kinds of risk.

Building on these conclusions and related scientific findings, the IPCC will assess the state of knowledge relevant to policymakers for the implementation of the Paris Agreement.

Let me first elaborate on the special report on *Global Warming of 1.5°C* that the IPCC will release next year.

The UNFCCC's Structured Expert Dialogue completed in 2015 concluded – based on IPCC AR5 science – that while the science on the 1.5 degree warming limit is less robust, Parties may wish to take a precautionary route by limiting global warming as far below 2°C as possible.

The Paris Agreement subsequently invited the IPCC to provide a special report on global warming of 1.5°C.

This was a particular concern of small island states that are threatened by inundation from sea-level rise. This also poses a threat to billions of people who live on or close to coasts, raising the possibility of large-scale displacement.

Understanding the risks of warming of this magnitude and the options for holding it at this level are critical, and the special report will address many of the sustainable development goals.

The scientific literature on warming of 1.5° has since been increasing and will make possible an assessment of differences in impacts between 1.5° and 2.0° and the mitigation pathways corresponding to this temperature difference.

Let me highlight a few examples.

Regarding the probability of extreme temperature events, the global occurrence probability of a 1-in-a-1000 day extreme temperature event is projected to be about double as the warming increases from 1.5° to 2.0°. The probability would be five times higher than today.

Mitigation pathways with a four in five chance of staying below 2° will be compatible with a one in two chance of 1.5° warming according to recent studies.

Early emissions reductions substantially reduce the probability of extreme seasonal temperatures in many regions in less than 20 years, implying that early mitigation action

benefits societies, with climate damages reduced in the nearer future as well as the longer term.

These are some examples of scientific findings to be assessed systematically by the IPCC's special report on *Global Warming of 1.5°C*. We will report its conclusions in September next year, just in time for the Facilitative Dialogue in 2018.

The context of this special report will be strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty.

We will examine linkages between achieving the SDGs and 1.5° warming in order to identify scientific underpinnings for climate-resilient development pathways.

In so doing we will identify technological, environmental, socio-economic and institutional opportunities and challenges related to 1.5° pathways.

This includes among others: issues related to negative emission technologies, adaptation potential and limits to adaptive capacity, and potential overshoot. Our aim is to distil robust understanding on avoided impacts and reduced risks, and mitigation pathways at 1.5° compared with 2°.

In addition to the special report on 1.5°, we are planning to provide you with two other special reports in two years' time.

Governments asked us to look in particular at climate change questions around oceans and around land.

First, the IPCC *Special Report on the Ocean and Cryosphere in a Changing Climate*. This has direct relations to SDG 14—life below water, SDG 2—food security, and SDG 11—human settlements.

Ocean warming dominates the increase in energy stored in the climate system, accounting for more than 90% of the energy accumulated in the last 40 years.

Oceans are continuing to warm, acidify and lose oxygen. This special report will assess the rapid changes in marine habitats, new knowledge related to sea-level risks and options for increasing coastal resilience in both human and natural systems.

Our third special report is on climate change and land use. This has direct implication for SDG 15 – life on land.

Climate change and land use are closely linked. This report will assess land-climate interactions, desertification, land degradation, and food security.

We will analyze interlinkages between these four factors from the perspective of synergies, trade-offs and integrated response options.

Of particular interest will be how the deployment of bioenergy relates to land use and food security – one of the few areas where there may seem to be a conflict between mitigating climate change and sustainable development.

Science can offer policymakers valuable insights and understanding here.

In 2021 we will deliver the outcomes of the main assessment, starting with the physical science base (Working Group I), then mitigation of climate change (Working Group III), and lastly impacts, adaptation and vulnerability (Working Group II). In 2022, the Synthesis Report will be completed, in good time for the Paris Agreement's first global stocktake the following year.

The overall thrust of the main assessment will consist of five elements.

- Scientific information relevant for the global stocktake (which will check progress towards achieving the aim of the Paris Agreement and its long-term goal).
- Second, presenting an integrated picture of emissions, climate, risks and development pathways.
- Third, enhancing the understanding of costs and benefits of mitigation and adaptation in the context of development pathways.
- Fourth, providing comprehensive understanding of adaptation and mitigation actions in the context of sustainable development.

- And last, providing scientific evidence for finance and means of support to strengthen the response and pursue climate resilient pathways.

The result will be a solution-oriented integrated analysis linking climate futures and socio-economic development pathways. We will close the loop between climate change, its impacts, adaptation and mitigation, and socioeconomic development.

The result will be science for climate policy in the broader context of sustainable development. The result will be science for understanding the close link between decision-making in the short term and the consequences lasting through the long term.

Actions today to overcome business as usual have positive impact on economic development and climate futures.

The IPCC is grateful for your support and the IPCC will support you with policy-relevant science.

Thank you for your attention.