

CHECK AGAINST DELIVERY

Climate Change and the Sustainable Development Agenda

United Nations, New York, 23 March 2017

Keynote Presentation to Stocktaking Panel – Hoesung Lee, Chair of the IPCC

[opening (holding) slide]

Your Excellency, António Guterres, Secretary-General of the United Nations

Your Excellency, Peter Thomson, President of the General Assembly

Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change

Excellencies, distinguished delegates

Can we meet the sustainable development goals? What does Science tell us about our chances? Is there a trade-off between economic and sustainable development?

We know that addressing climate change supports the SDGs. Let me run through the main scientific findings of the IPCC, some recent developments and what we are working on.

You will hear this more than once today: policy relevance is the hallmark of the IPCC's work.

The IPCC's last report, the Fifth Assessment Report or AR5, completed in 2014, was a major contribution to the Paris Agreement. What Science tells us there is clear.

[slide of SYR SPM.1 a, b, c, d]

AR5 documented that **temperatures are increasing on the land and in the ocean, the sea level is rising and amounts of snow and ice are diminishing, as greenhouse gas emissions and concentrations have climbed.**

This week the Secretary-General of the World Meteorological Organization presented its latest climate statement here. Since AR5, warming has continued and global mean temperature has reached more than 1°C above pre-industrial levels in 2015 and 2016, the second successive record. The updated observed warming lies at the centre of the climate model projections assessed in AR5.

You can see the clear upward trends in the slide. Ocean warming dominates the increase in energy stored in the climate system, accounting for more than 90% of the energy accumulated between 1971 and 2010, with only about 1% stored in the atmosphere.

This is some of the key evidence showing that **warming of the climate system is unequivocal** – a very clear statement in scientific terms – **and since the 1950s many of the observed changes are unprecedented over decades to millennia.**

[slide of 3 conclusions]

Among AR5's main conclusions are:

- **Human influence on the climate system is clear;**
- **The more we disrupt our climate, the more we risk severe, pervasive and irreversible impacts;**
- **We have the means to limit climate change and build a more prosperous, sustainable future.**

[slide of WGI SPM.10]

AR5 demonstrated the link between cumulative past, present and future CO₂ emissions and a given temperature rise. You can see the relationship here. Bigger emissions now mean higher temperature in the future.

That implies a carbon budget for any temperature goal that governments may set.

[slide of carbon budget pie chart]

By 2011 we had used up two thirds of the emissions compatible with a warming goal of 2°C. Since 2011 we have consumed some of more the remaining slice of the pie. **At current annual emission rates of about 40 billion gigatonnes of carbon dioxide equivalent, we will use up the rest of our carbon budget in about 20 years.**

And let us be clear. Climate change threatens development. Climate change impacts are projected to slow economic growth, make poverty reduction harder, erode food security and create new poverty traps.

[special reports SR15]

AR5 also points to gaps in our knowledge. That is why governments at COP 21 invited us to prepare a special report on global warming of 1.5°C, which the IPCC will do in the context of eradicating poverty – SDG 1.

Since AR5 much scientific research has appeared that will be assessed in our next big report, the Sixth Assessment Report or AR6, scheduled for 2021 and 2022, and our special reports.

In June the UN will convene a conference on oceans, the subject of SDG 14.

[special reports SROCC]

Oceans are continuing to warm, acidify and lose oxygen. AR5 showed that warm-water coral reefs are already under pressure and 90% of them would suffer significant risk from global warming of 1.5°C. The biomass and diversity of marine fish and shellfish will be displaced and reduced at low latitudes by mid-century. We will assess these reduced habitats in AR6 and our report on oceans.

Sea-level rise is a direct consequence of ocean warming, melting glaciers and accelerated flow from ice sheets, and is causing risks for coastal human and natural systems that are home to billions of people and large scale infrastructural investment.

AR5 showed that global warming of 2°C is projected to result in sea-level rise of about 40 cm over the century. Since AR5, new studies have enhanced concerns about the vulnerability of several sectors of the Antarctic ice sheet, suggesting that sea level risks in non-mitigation scenarios might be twice as large as assessed in AR5 by 2100. The oceans report, due in 2019, will assess new knowledge related to sea-level risks and options for increasing coastal resilience in both human and natural systems.

[special reports SR2]

We will also assess many topics related to life on land, SDG 15.

Among these we want to improve our understanding of the links between the deployment of bioenergy and land use and food security.

We will approve the outlines of the oceans and land special reports next week.

Policy relevance is the hallmark of the IPCC's work. That is also the case with the three special reports we are now preparing.

[slide on AR6]

We will update our methodologies so that countries can report their emissions in line with the Paris Agreement on the basis of the best science.

And next year we will hold a workshop on climate change and cities to encourage research in this important area.

The full AR6 assessment will be completed with a Synthesis Report in 2022, in good time for the first global stocktake under the Paris Agreement the following year.

We need to assess the new observations and research into why emissions have flatlined over the past few years while the global economy has continued to grow. We need to know whether this is the start of a trend and what are the prospects of bending the curve. AR5 showed that a 2°C goal would require substantial reductions over the next decades, falling to near zero by the end of the century.

[holding slide]

Science already tells us there need not be trade-offs between addressing climate change and pursuing sustainable development. The two can be mutually supporting.

One example: If food waste was a country, it would be the world's third biggest emitter of greenhouse gases, according to one recent study. Reducing food waste globally can help fight poverty and hunger while stabilizing the climate.

In our next reports we want to improve our scientific understanding of the economics of addressing climate change. Think of the benefits on health from clean air or the impact on energy security, balance of payments and jobs from energy efficiency. You will hear more about these co-benefits from leaders in the course of the day.

You often see the expression "business as usual" for not taking action on climate. Business as usual! Business will be very far from usual in a world of no mitigation, which could see temperatures rise by an average 4° or more over the century. **You**

cannot pursue economic development by relying on high-carbon technology.

Actions to limit climate change have a positive impact on the domestic economy and help improve human well-being. And adaptation reduces vulnerability, supporting inclusive and equitable development.

Let me close with an appeal, particularly timely as we are marking World Meteorology Day today. Researchers are developing new methods to better observe and understand the climate. This is crucial to help improve weather forecasts and climate projections. We are developing our capacity to attribute extreme events to climate change and other factors, with huge implications for our economies, the insurance industry, and community resilience. We are investigating the linkages between climate change and every facet of human activity, from health to agriculture and the natural systems that underpin the well-being of our society. This science underpins the IPCC's policy-relevant assessments and is essential for sustainable development planning. Quality education is an SDG too. **Scientific research supports development.** Please continue to support this vital research.

Thank you for your attention.