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Statement prepared for delivery to the High-Level Event, Paris Agreement signing, New York, 22 April 2016 Hoesung Lee, Chair of the IPCC

Mr Ban Ki-moon, UN Secretary-General Mr Mogens Lykketoft, President of the UN General Assembly Your Excellency Ms. Ségolène Royal, President of COP21 Ms Christiana Figueres, Executive Secretary UNFCCC Excellencies, Ladies and Gentlemen

Thank you for the opportunity to address you on this momentous day. I would like to take a few minutes to tell you what the IPCC is doing to support the Paris Agreement and its implementation, and also review with you the science underlying that agreement.

The Paris Agreement aims to reduce greenhouse gas emissions in order to limit the rise in global average temperature to well below 2°C above pre-industrial levels, with an effort to limit the increase to 1.5°C.

It aims to do this, not through mandated reductions, but through measures set by each country and reviewed regularly – Nationally Determined Contributions (NDCs). Each Party shall regularly provide information on anthropogenic emissions by sources and removals by sinks of greenhouse gases, using methodologies accepted by the IPCC and agreed by the COP. Last week the Panel decided to update these methodologies by May 2019.

Through this joint effort, countries will aim for emissions globally to peak as soon as possible, recognizing that this will take longer for developing countries.

Countries will take initial stock of their collective efforts in 2018, and starting in 2023 hold a global stocktake of efforts to reach the goals every five years. This global stocktake will use the latest reports of the IPCC as inputs, and so the Panel also agreed last week to consider by 2018 how best to align the work of the IPCC during its Seventh Assessment Report with the needs of the global stocktake.

I'm also very pleased to inform you that last week at its session in Nairobi, Kenya, the IPCC responded positively to the invitation of COP21 to produce a Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related greenhouse gas emission pathways.

This report will be delivered in 2018, in time for that first dialogue on the efforts to limit the rise in temperatures. We have already started the preparatory work on this report and will scope out the detailed outlines in the next few months.

The special report will inform policymakers of the risks associated with a rise in 1.5 °C, so that they can compare them with the risks entailed by other temperature scenarios. It will also assess pathways that would enable the temperature rise to be limited to 1.5 °C.

At that same session last week, the IPCC mapped out a work-plan to deliver its next comprehensive assessment, the Sixth Assessment Report, or AR6. That will be delivered in 2020/2021, finishing with the Synthesis Report in 2022, in time for the first global stocktake in 2023.

We will be paying special attention in AR6 to the impact of climate change on cities, already home to more than half the planet's population. And we will be producing two other special reports, on climate change and various land use topics, and climate change and oceans and ice.

You might ask why we need another IPCC assessment report. After all, the last report in 2013/2014 stated that global warming is unequivocal and that human influence on the climate system is clear. It was assessments such as these from the IPCC that allowed the COP to reach its science-based agreement in Paris.

But there is always more to learn about our changing climate. The scientific community is developing new research, and sometimes findings of different papers conflict with each other. Policymakers need the IPCC to assess all these publications to give a clear picture of the state of scientific knowledge. Areas of uncertainty remain – for instance the role of clouds, the vulnerability of the Antarctic ice sheet, the vulnerability of marine ecosystems, and the magnitude of the expected rise in sea level – and research is advancing here.

We have a relatively firm understanding of climate change at the global level, but there are still many gaps in our knowledge at the regional and local level – precisely where national and local governments need more information to take the right decisions to protect their communities. Let me take this opportunity to ask government representatives here, especially those from developing countries, to encourage their scientists to research and publish on local climate phenomena and impacts, and to work with the IPCC on our future reports.

I also ask you to be generous with your financial support. The IPCC relies on voluntary contributions and we need funding to bring these reports to completion.

But perhaps the most important reason the IPCC needs to produce another round of assessments is that we are moving into the implementation of the Paris Agreement, and the IPCC now needs to focus attention on the solutions to climate change.



GHG emissions over the next decades

[SYR SPM.10]

This slide from the IPCC's last Synthesis Report brings together many of the IPCC's key findings. It shows that different categories of risk increase with temperature, with some risks emerging at moderate to high level at 1.5 or 2.0 °C. And it shows the almost linear relationship between cumulative greenhouse gas emissions and the rise in temperatures, allowing us to calculate a carbon budget for a given level of global warming.

Whether the target is 1.5 or 2°C, net emissions will eventually need to fall to zero, and emissions will have to fall sharply in the coming decades.

It is hard to overstate how quickly this peaking of emissions must take place.

To keep the rise to 1.5 °C the world may need to rely on negative emission technologies, and we must assess the implications of that.

Most scenarios consistent with a rise in temperature of 2°C by the end of century assume emissions will peak in the 2020s. We are, so to speak, burning through our reserves of time.

You will moreover recall that the decision in Paris adopting the agreement notes that estimated aggregate greenhouse gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions notified so far do not fall within these least-cost 2^o scenarios, so that much greater emission reduction efforts will be required.

Excellencies, Ladies and Gentlemen

Science shows us that we have set ourselves a tremendous challenge.

It also tells us this is a challenge we can address.

The IPCC is working to provide policymakers with the information they need on these evolving emissions pathways, the impacts they imply, and the policy options for tackling them, so that you can take the decisions you need to build a resilient, sustainable and prosperous world.

Thank you