CHECK AGAINST DELIVERY

Opening statement to Italy outreach event, Bologna, 26 February 2018

IPCC Chair Hoesung Lee

It's a pleasure to be in Bologna, which is such an important centre for science.

This is where the renowned astronomer Cassini conducted some of his most important work.
In the San Petronio Basilica you can see his great meridian line.

Careful observations there demonstrated Kepler's theory of the elliptical movements of the planets around the sun – at a time when many denied the heliocentric theory and argued that the Sun and planets orbited the Earth.

Cassini is particularly inspiring to the Intergovernmental Panel on Climate Change because of the practical applications of his scientific work in areas from hydraulics to mapmaking.

Science can be policy-relevant, and policy-relevance is the hallmark of the IPCC.

This year marks three decades of the IPCC's contribution to science-based policy.

I would like to thank Minister Galletti, and through him the Italian government, for their generous invitation to host this event, and bring together actors from science, policy and culture.

And to Rector Ubertini a special word of thanks for allowing us to hold our meeting in this extraordinarily beautiful and historic hall, which stands out in a city full of history and culture.

Ladies and Gentlemen

This year is not just one where we look back on three decades of acting as the voice of climate science to policymakers.

2018 promises to be one of the most significant years in the IPCC's history.

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We have just completed the selection of authors for our Sixth Assessment Report.

This will allow work to start this year on the three working group contributions to AR6, which will be completed in 2022 with a Synthesis Report that will be the major scientific input into contribute to the first Global Stocktake under the Paris Agreement.

The Global Stocktake process opens this year with the Talanoa Dialogue, which will be concluded at COP24 in December.

The IPCC Special Report on *Global Warming of 1.5ºC* will be the major scientific input into this dialogue.
The report will be finalized at the beginning of October, two months before COP24.

The review of the second order draft of the 1.5º report closed yesterday, and I hope many of you took the opportunity to contribute your expertise to it.

The report on 1.5º is one of the most keenly anticipated IPCC assessments that I can recall.

Besides exploring the impacts of warming of 1.5º and the pathways that would enable us to meet that aspirational goal set by the Paris Agreement, it will also lay out the differences between warming of 1.5 and 2º.

This is an example of the IPCC process working at its best. Policymakers seek information and the IPCC responds and delivers within the policy-relevant timeframe.

The process also contributes to the advancement of science.

The fact that the IPCC is producing the report galvanizes the research community, generating new literature for the IPCC to assess.

Meanwhile work is proceeding apace on the three other products we are preparing in this assessment cycle.

Next year, we will release the *Special Report on the Ocean and Cryosphere in a Changing Climate,* the *Special Report on Climate Change and Land*, and a

methodology report, the 2019 Refinement to 2006 IPCC Guidelines on National Greenhouse Gas Inventories, which will underpin the Paris Agreement by allowing countries to measure their greenhouse gas emissions and removals on the basis of the latest science.

So we are releasing eight reports over the next few years – one or more almost every year between now and 2022.

As you can see, reports we are preparing are highly integrated with, and support, the Sustainable Development Agenda.

We achieve this ambitious work programme thanks to the time and expertise contributed by hundreds of scientists – our bureau members, our authors and our expert reviewers.

And we rely on the generous voluntary financial support of member governments – including Italy – to deliver our reports.

We urge all governments to support this work programme – their work programme! – with financial support, if possible with commitments over several years, so that the AR6 can proceed effectively.

Ladies and Gentlemen!
We are here to celebrate science, so allow me to close with a few considerations on the science that will inform AR6.

In our previous assessments we have demonstrated the evidence for a changing climate and shown the role of human activity in that.

AR6 will continue to examine the basic science as it advances, including the highly policy-relevant regional scale.

But we will put an increasing focus now on solutions.

To do this we will need to enhance our understanding of the economics of climate change – the costs of action and of inaction, and the climate and economy interaction.

And, as I mentioned earlier, we must put solutions in the context of sustainable development.

What will differentiate the Sixth Assessment Report from previous assessments is that it will present a scientifically robust clear link between climate action and economic development.

Human influence on the climate system is clear.
We now need to show how climate policy will become the main driver of economic policy in the 21st century.

Let me give three examples.

There is growing evidence that the spill-over effects from research & development in renewables are bigger than those in high-carbon technologies.

This would suggest a net benefit to the economy from investing in renewables. We need to investigate this.

Secondly, I would argue that we need to review our understanding of the emissions gap.

The concept of a gap is often taken to imply “taking action is costly”.

However, the cost differential between low-carbon and conventional technologies is being narrowed rapidly, breaking models and projections.

Thus the emissions gap points to the large potential for renewables technology.

Thirdly, we need to review our understanding of so-called “business as usual”.
If we simply extrapolate emissions and energy demand, our economy would be destroyed by climate change, so business as usual is a contradiction in terms.

The business-as-usual emissions have direct implication to the cost of climate action.

The mitigation cost as calculated in the integrated assessment modelling reflects the difference between a mitigation pathway and baseline emissions, with business-as-usual growth of 3% over the century.

The more you assume high baseline emissions, the more costly it will be.

But if emissions stabilize it will be less expensive to mitigate: energy consumption is key.

Or if SDGs were achieved, emissions would be well below the business-as-usual emissions levels. And the cost of climate action would also be lower.

The significance of business-as-usual lies in the need to improve the understanding of climate damages and consider feedback from climate risks to socioeconomic systems. Such feedback is missing in the current integrated assessment modelling efforts which have been key inputs to the IPCC assessments.

This feedback will improve understanding of the cost of climate action as well as its benefit. And the feedback will improve understanding of the climate-economy interactions—key to the climate policy development in this century.

Lastly, let me note the inter-disciplinary nature of the new assessment.

The contribution from the social sciences will be important.
Implementing the Paris Agreement is not just about technology.

It involves understanding social values, consumption and behaviour.

In addition to the natural sciences we will look at the human side of the transition – economics, social sciences, psychology, politics, international relations.

As well as calculating risk, we need to understand how different stakeholders judge and respond to risk.

This means we must improve our understanding of decision-making by countries, cities and businesses, and individual consumers and citizens.

I wish you a stimulating day of discussions.

Thank you for your attention.