CHECK AGAINST DELIVERY

Science for Climate Action

The 30th Anniversary Celebration, Paris 13 March 2018
Hoesung Lee
IPCC Chair

Ladies and Gentlemen, Fellow IPCC Bureau members and Dear Colleagues

I would like to take the opportunity of this 30th anniversary celebration of the IPCC, which has been generously hosted by the French government, to share with you some thoughts on the broad scientific issues that we are considering as we embark on the Sixth Assessment Report, and how they relate to the world of policy.

This is a personal perspective, and not intended to prejudge the outcome of AR6, which will be elaborated by the authors we have just selected.

The role of the IPCC is to be policy-relevant.

So the aim of an IPCC assessment is to provide the scientific basis for climate action – without being policy-prescriptive.

30 years of IPCC assessments have concluded that anthropogenic climate change is real, its threats will increase and we have the means to stop it cost-effectively.

Cost-effective climate stabilization requires us to take immediate action to reduce global emissions. Technologies to reduce emissions on the scale needed are available and are likely to become more cost-effective throughout this century.

IPCC assessments have also found that, in most countries, governments are addressing climate change in the context of other national priorities, such as energy security and poverty alleviation, and that many actors are involved in this effort including city governments and business sectors.

So what these findings say about future climate action is very clear.

The success of future climate action depends upon its relevance to and engagement with broad national priorities and societal concerns.

Science should be able to provide insight into the nature of the link between climate action and other national priorities – characterizing the interaction and feedback between these two elements.

Understanding the nature of this link requires improved scientific information on, among other things, (1) the damage due to climate change and (2) interactions with the sustainable development goals, or SDGs.

Despite 30 years of scientific research, our understanding of the damage caused by climate

change is subject to large uncertainties globally and regionally.

Narrowing the uncertainty range presents challenges regarding both natural and human systems.

We need to improve our scientific understanding of bio-geophysical processes at various spatial and temporal scales, including biological productivity, changes in water availability, and the adaptive capacity of natural and human systems.

We also need to improve our scientific understanding of thresholds for tipping points that lead to irreversible changes in climate and socioeconomic systems.

In addition, we need to improve our scientific understanding of gradual changes and low-probability, high-consequence impacts across a range of global warming.

Then there is the challenge of going beyond the assessment in once-through mode running from emissions, to climate, to impacts. The current once-through method leads to a lack of consistency among economic development, emissions, climate change and damage projections.[1]

Integrated assessment modeling, or IAM, should be able to close the loop through a feedback of estimates of climate damage on the socioeconomic system. However, that feedback is largely missing from the current IAM analysis.

Incorporating climate feedback into socioeconomic system projections will provide information on the relative weight of climate change threats and threats to other national priorities.

Climate policies that also address threats to other national priorities are more likely to be implemented and to be cost-effective.

This leads me to the second area where additional scientific input is needed, namely improved understanding of interactions with the SDGs.

SDG targets for water, energy, land use, sustainable consumption and production, education, infrastructure and industrialization have a direct influence on the level and rate of baseline emissions for the future.

And the SDG targets, individually and collectively, will affect the productivity of physical, human, and natural capital, and thus the state of the future economy.

Scientific understanding of the interactions with the SDGs will provide insights into how climate change solutions will help address other threats and priorities.

Improving our understanding of climate damage and interaction with the SDGs requires collaboration between the natural and social sciences and especially contributions from the social sciences in the current 6th assessment.

That is because implementing the Paris Agreement is not just about technology.

It involves understanding social values, consumption and behaviour.

Besides insights from the natural sciences we need to look at the human side of the great transition toward a low-carbon future – economics, social sciences, psychology, politics,

international relations.

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

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

30 years ago when the IPCC's First Assessment Report was launched, Professor Bert Bolin, the first Chair of the IPCC, made it clear that the report should include proposals for action.

While a fine balance would have to be struck between the available scientific evidence for climate change and the uncertainties in that knowledge base, he emphasized that there should be no delay in preparing to act to safeguard the future of the planet.

His insight and advice have survived the test of time, and the spirit of science for climate action will prevail.

I wish you a stimulating day of discussions.