CHECK AGAINST DELIVERY

1 December 2014

Presentation by Rajendra K. Pachauri, Chair of the IPCC, to the opening session of COP20

This presentation embodies the main findings of the Synthesis Report (SYR), which itself is based on the underlying three Working Group contributions forming part of the Fifth Assessment Report (AR 5) of the IPCC and two special reports completed in 2011.

The direct authorship of the three Working Group reports was in the hands of 830 scientists from all over the world. Various stages of drafting the Working Group reports benefited from experts and governments reviewing these and providing a total of 143,436 comments, each one of which was carefully considered by the authors. The SYR was authored by 51 of these scientists and its Summary for Policymakers approved line by line by governments constituting the Panel in a plenary session concluded last month in Copenhagen.

On the basis of the SYR we know that :

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

It is also important to note that :

- **Each of the past three decades has been successively warmer than the preceding decades since 1850 ;**
- **It is extremely likely that human influence has been the dominant cause of warming since the mid-20th century ;**
- **More than 90% of the energy accumulating in the climate system between 1971 and 2010 has accumulated in the ocean ; and**
- **Land temperatures remain at historic highs while ocean temperatures continue to climb.**

Over the period 1900 to 2010, global mean sea level rose by 0.19 metres.

Global greenhouse gas emissions growth between 2000 and 2010 has been larger than in the previous three decades.

Energy production remains the prime driver of growth in emissions, with the energy sector accounting for 35% of total emissions globally.
Some of the extreme weather and climate events observed since about 1950 have been linked to human influence.

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Climate change impacts are already underway:

- From the tropics to the poles ;
- On all continents and in the ocean ;
- And they are affecting rich and poor countries.

Continued emissions of greenhouse gases will cause further warming and changes in the climate system :

With oceans continuing to warm during this century ;
Arctic sea ice cover continuing to sink as temperatures rise ;
Global mean sea level will continue to rise during the 21st century ; and
Global glacier volume will further decrease.

The potential impacts of climate change include food and water shortages, increased poverty, increased displacement of people and coastal flooding.

The stabilization of atmospheric concentration of greenhouse gases involves moving away from business-as-usual, regardless of the mitigation goal. Limiting the temperature increase to 2º C by the end of this century involves measures for reducing greenhouse gas emissions by 40% to 70% by 2050 over 2010 levels and zero or negative emissions by 2100.

A combination of adaptation measures and substantial, sustained reduction of greenhouse gas emissions can limit climate change risks. Implementing reductions in greenhouse gas emissions poses substantial economic, social, technological and institutional challenges. Ambitious mitigation is affordable. It translates into delayed and not foregone growth (economic growth reduced by 0.06% of business-as-usual growth of 1.6-3.0% annually). Estimated costs do not account for benefits from reduced climate change.

But delaying mitigation will substantially increase the challenges associated with limiting temperature increase to 2º C.

Mitigation measures involve:

- **More efficient use of energy ;**
- **Greater use of low-carbon and no-carbon energy ;**
  - Many of these technologies exist today
  - Nearly a quadrupling of zero- and low-carbon energy supply from renewable energy by 2050
- **Improved carbon sinks**
  - Reduced deforestation and improved forest management and planting of new forests
  - Bio-energy with carbon capture and storage
- **Lifestyle and behavioural changes**

Article 2 of the UNFCCC aims to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Science cannot define what would represent a dangerous level. But **effective decision-making to limit climate change recognizes the importance of ethical dimensions, equity, value judgments, economic assessments, and diverse perceptions and responses to risk and uncertainty.**

We know that without adequate and timely mitigation :

- It is very likely there would be more intense and frequent extreme precipitation events in many regions ;
- A nearly ice-free Arctic Ocean in September would be likely before mid-century (RCP8.5) ;

- It is very likely that global sea-level rise will continue in the 21st century (0.26-0.55m in RCP2.6 / 0.45-0.82m in RCP8.5).

Furthermore there are projections of reductions of renewable surface- and groundwater resources in some regions, and projections of increasing displacement of people, and risks of violent conflicts. The risk associated with crossing certain thresholds increases with rising temperatures.

And we know that the window for action to limit risks is closing rapidly. Of the total budget of 2,900 Gt of carbon dioxide compatible with limiting temperature increase to 2º C, we have already used up about 1,900 by 2011. Several countries have recently made commitments to reduce greenhouse emissions up to 2030 and 2050. It involves a very simple calculation to assess how much of the remaining 1,000 Gt of the overall budget will get used up despite these commitments. For the first time in the IPCC's assessments, we have been able to provide a budget for carbon dioxide emissions to limit warming in this century to 2º C. Let COP20 deal with the options to stay within this budget, if we are serious about keeping temperature increase to below 2 ºC by the end of this century. Let us absorb the scientific findings of AR5 and come up with equitable and ethical pathways by which the risk from climate change can be limited to levels that would ensure compliance with Article 2 of the Convention.

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