

WMO
Sixteenth World Meteorological Congress

Agenda Item 5.3: “Intergovernmental Panel on Climate Change”

Progress Report delivered to Plenary
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1. **Fourth Assessment Report (AR4) “Climate Change 2007”.** The IPCC released in 2007 the Fourth Assessment Report (AR4) after thorough review by governments and experts. This includes the three Working Group Reports and the Synthesis Report adopted in Valencia in November 2007. All the reports are complemented by a “Summary for Policy Makers” approved line by line by government consensus. Compared to the Third Assessment Report released in 2001, the findings of the AR4 are stronger, the gaps in existing knowledge are narrower and uncertainties are lesser. Moreover the responses provided to issues that are of concern to policymakers regarding climate change are more focused, and when possible the global approach is complemented by a regional one. The report concludes that climate change is unequivocal, and that most of the observed increase in global average temperature since the mid-20th century it is very likely due to the observed increase in anthropogenic GHG concentrations. The AR4 highlights the already occurring impacts of climate change and those that are expected, and the potential for adaptation and mitigation actions that will reduce society’s vulnerability. Finally the AR4 presents a cost analysis and a range of strategies, policies and technologies available or expected to be commercialized in the coming decades, which can limit the extent of future changes. Substantial progress in the AR4 is made to address the links between climate change and sustainable development, and developing country issues. An important effort for dissemination of the AR4 and its findings in all UN languages was undertaken by the IPCC Secretariat, as well as a concerted outreach programme involving the three IPCC Working Groups. Furthermore, a number of organizations produced outreach material based on the IPCC’s latest reports, such as “Climate in Peril” published by UNEP in 2009.
2. **Nobel Peace Prize.** In December 2007, IPCC was awarded jointly with Mr. Al. Gore the Nobel Peace Prize “for their efforts to build up and disseminate greater knowledge about man-made climate change and to lay the foundations for the measures that are needed to counteract such change”. The Panel decided to set up a special trust fund with the award money received, aimed at supporting the progress of knowledge about climate change and its dissemination in a manner that better engages developing country scientists.
3. **Technical Paper on Climate Change and Water.** As a complement to AR4, this report was released by the Panel in April 2008. Observational records and climate projections provide abundant evidence that freshwater resources are vulnerable and have the potential to be strongly impacted by climate change with wide-ranging consequences on human societies and ecosystems. The report deals with observed changes in the large-scale hydrological cycle, projected changes in precipitation patterns, river run-off, water availability, occurrence of extreme precipitation and drought events, continental glacier extent and snow cover, and water quality. The report assesses adaptation options with respect to water supply, the scope and potential impact of mitigation measures on water resources, and the potential impact of water management options in other policy areas. It also highlights a number of observations and

research needs related to climate change and water. The report is translated in all UN languages and available on the IPCC website.

4. **Fifth Assessment Report (AR5).** At the 28th Session of the IPCC in 2008, the Panel decided to carry out a Fifth Assessment Report to be finalized in 2014. The previous focus and structure of IPCC Working Groups was retained - with the three Working Groups dealing respectively with the “Physical science basis”, “Impacts, adaptation and vulnerability”, “Mitigation of climate change”, and a Task Force on National Greenhouse Gas Inventories. It was also decided in 2008 that the size and composition of the IPCC Bureau would be maintained (note that elections of the new Bureau later took place in 2009). The Panel agreed to organize the new assessment work around a revised set of scenarios of socio-economic, climate and environmental conditions. Instead of resulting from population projections and development hypotheses as it had been the case, it was decided that the scenarios would be based on a range of possible evolution patterns for the atmospheric concentration of greenhouse gases (“representative concentration pathways”), which would serve simultaneously as benchmarks for the development of new climate model simulations and targets for the development of emissions and socio-economic scenarios. This method, based on the most recent scientific advances, allows for the three Working Groups to adopt a more efficient and parallel approach, provides an optimal framework to develop impact, adaptation, vulnerability and mitigation analyses, and ultimately improves the relevance of the assessments in response to the suggestions and needs of Members and of the UNFCCC.

In 2009, the 31st Session of the IPCC, the Panel approved the AR5 outline and schedule. It was decided at that Session that the AR5 would provide updated knowledge of climate change including information on:

- Socio-economic aspects of climate change and its implications for sustainable development
- More detailed regional information
- More precise considerations of risk, economics and ethics
- Stabilisation of greenhouse gas concentrations

Some new features of AR5 will be:

- A new set of scenarios for analysis across Working Group contributions;
- Dedicated chapters on sea level change, carbon cycle and climate phenomena such as monsoon and El Niño;
- Much greater regional details on climate change impacts, adaptation and mitigation interactions; inter- and intra-regional impacts; and a multi-sector synthesis. WG II report will be divided in two parts, one on global and sectoral aspects and one on regional aspects.
- Risk management and the framing of a response (both adaptation and mitigation), including scientific information relevant to Article 2 of the UNFCCC referring to the “...stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”.

At the same Session, the Panel agreed on the outlines of the three Working Group contributions to the AR5 as they had been agreed at the respective sessions of the three Working Groups. The Panel also decided on a revised timetable for the AR5 as follows: WG I approval Session to take place in September 2013, WG II approval Session in mid-March 2014, WG III approval Session in early April 2014, the SYR approval Session in mid-September 2014.

The call for nomination of authors sent to governments and organisations was initiated in early January 2010 and ended on 12 March 2010. The decision on the list of authors took place at the 41st Bureau Session on 19-20 May 2010 in WMO premises. Coordinating Lead Authors and Lead Authors were selected by the relevant Working Group Bureaus, based primarily on their publications and work. The author teams were selected with the aim to represent a range of views and expertise, gender balance, and balanced geographical representation from developing and developed countries and countries with economies in transition. 834 authors from about 70 countries have been selected – about 63% are new to the IPCC, 36% originate

from developing countries and countries with economy in transition, and more than 1/5 are female scientists.

The writing process started in the second half of 2010 for Working Group I and early 2011 for Working Groups II and III. In addition IPCC Expert Meetings and Workshops related to a number of cross-cutting themes are being held.

A Scoping Meeting for the Synthesis Report (SYR) for the IPCC AR5 was held at the end of August 2010 in Liège, Belgium. Experts participating in this Scoping Meeting developed the AR5 Synthesis Report Scoping Document, which was agreed by the Panel at the 32nd Session of the IPCC in Busan, Republic of Korea, in October 2010.

5. **Special Report on Extreme Events and Disasters.** At the 28th Session of the IPCC in 2008, Norway made a proposal prepared in collaboration with the UN International Strategy for Disaster Reduction (ISDR), for a Special Report on Managing Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX). This will be the first global scientific effort examining the linkages between disaster risk reduction and adaptation to climate change and will be undertaken by more than 90 experts. The release of the Report is planned for the end of 2011. The call for this assessment came in response to the AR4 projections that more frequent and severe extreme weather events such as droughts, floods, storms and heat waves are more likely to occur in a future warmer world. Experts have been assessing scientific understanding of the links between climate change and alterations in the frequency, intensity, and duration of extreme events, underlying vulnerabilities to these changes, the impacts that have or can arise from the interaction of vulnerabilities with climate change, and the strategies, policies and measures that can increase resilience to climate extremes. The report aims to become a resource for decision-makers to prepare more effectively for managing the risks of these events, thereby also contributing to the goals of the UNFCCC Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change.
6. **The Task Force on National Greenhouse Gas Inventories (TFI).** The TFI continues to assess and develop greenhouse gas inventory methods and practices which are scientifically sound and relevant to all countries. In 2007, the Panel approved the future work programme of the National Greenhouse Gas Inventories Programme (NGGIP). The NGGIP maintains the Emission Factor Database (EFDB), an electronic library of emission factors and other parameters that supplement the approved guidelines with data that might better represent specific national circumstances. Since 2007, expert meetings have been held to support the work of NGGIP, and several reports have been published covering specific topics of interest to inventory compilers, such as direct human-induced emissions resulting from degradation of forests. In accordance with the 2007 work programme, NGGIP is also developing software to implement the 2006 Guidelines.

In 2010, UNFCCC SBSTA-33 invited IPCC to prepare additional guidance on wetlands focusing on the rewetting and restoration of peatlands to address gaps in the 2006 IPCC Guidelines. In response, preparations have started for the “2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands” to be adopted by IPCC-36 in 2013. At its recently-concluded 33rd Session in Abu Dhabi, the Panel formally approved the preparation of the Supplement.

7. **The IPCC Scholarship Programme.** Initiated with the funds received at the occasion of the Nobel Peace Prize, this programme was launched at UNFCCC COP15 by Ms. Gro Harlem Brundtland, former Norwegian Prime Minister and first external donator, on behalf of the UN Secretary General. The Scholarship Programme is aimed at supporting the progress of knowledge about climate change and its dissemination in a manner that better engages developing country scientists. The IPCC is in negotiations with several institutions that may contribute financially to the Programme. A first round of scholarships are planned to be awarded in the spring/summer of 2011.

8. **InterAcademy Council Review of the IPCC.** On 10 March 2010, the United Nations Secretary General and the Chair of the IPCC requested the InterAcademy Council (IAC) to conduct an independent review of the IPCC's processes and procedures to further strengthen the quality of the Panel's reports on climate change. The decision to engage the IAC, following consultation with member governments, was supported by the Executive Director of UNEP and the Secretary General of WMO. The review examined every aspect of how IPCC reports are prepared, including the use of non-peer reviewed literature and the reflection of diverse viewpoints. The review also examined institutional aspects, including management functions and IPCC procedures for communicating the findings of its reports to the public. The report of the InterAcademy Council review committee was delivered at the end of August 2010 and presented at the 32nd Session of the IPCC in October 2010 in Busan, Republic of Korea. At that Session, the Panel decided to establish four task groups to take forward the IAC's recommendations on Procedures; Governance and Management; Conflict of Interest Policy; and Communications Strategy respectively. Following discussions in Geneva in February 2011 and comments by the Members of the IPCC, the task groups' proposals were submitted on 12 April 2011 for formal consideration by the Panel at the 33rd Session of the IPCC in Abu Dhabi on 10-13 May 2011.

9. **33rd Session of the IPCC, Abu Dhabi, 10-13 May 2011:**

- a. **Decisions taken with respect to the review of IPCC processes and procedures:** At its 33rd Session in Abu Dhabi, the Panel took a number of decisions that mark an important next step in the Panel's review process informed by the recommendations and suggestions of the InterAcademy Council (IAC). In particular, on the basis of the proposals of the Task Groups established at the previous Session of IPCC, members of the Panel adopted the following:
- (i) a detailed and extensive guidance document on the Communications Strategy to be elaborated by the IPCC Secretariat in time for approval at the 34th Session in November 2011. The Strategy emphasizes transparency, rapid and thoughtful responses and relevance to stakeholders;
 - (ii) a number of revisions to enhance the procedures contained in Appendix A of the Principles Governing the IPCC Work, on issues such as selection of Authors, use of literature, openness to diversity of views, response to reviewers' comments, confidentiality of draft reports, handling of possible errors, and treatment of uncertainties;
 - (iii) decisions aiming at strengthening the overall management structure of IPCC. These include the establishment of an Executive Committee to facilitate the timely and effective implementation of the IPCC Programme of Work, the definition of terms of office for senior officials of IPCC, and terms of reference of the IPCC Bureau; finally,
 - (iv) a rigorous conflict of interest policy that applies to all individuals directly associated in the preparation of IPCC reports, aimed at maximizing transparency and assuring the credibility of IPCC products and assessments.

In order to complete pending issues related to the implementation of the above-mentioned decisions, the Panel decided to extend the mandate of the open-ended Task Group established at its 32nd Session.

- b. **Special Report on Renewable Energy.** In 2008, the Panel decided to proceed with the preparation of an IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN). The Report was approved by the IPCC at its 33rd Session in Abu Dhabi, two weeks ago. The SRREN provides a better understanding of renewable energy resources by region, and impacts of climate change on these resources; the mitigation potential of renewable energy sources; the linkages between renewable energy growth, co-benefits and co-costs, in achieving sustainable development by region; the impacts on global, regional and national energy security; the technology and market status, future developments and projected rates of deployment; the options and constraints for integration into the energy supply system and other markets, including energy storage options; the economic and environmental costs, benefits, risks and impacts of deployment; capacity building, technology transfer and financing in different regions; policy options, outcomes and conditions for effectiveness; and how accelerated deployment could be achieved in a

sustainable manner. The report will feed into the broader work of the IPCC as it prepares its Fifth Assessment Report (AR5).

The SRREN reviews the current penetration of six renewable energy technologies and their potential deployment over the coming decades: (i) Bioenergy; (b) Direct solar energy; (d) Hydropower; (e) Ocean energy; and (f) Wind energy.

Over 160 existing scientific scenarios on the possible penetration of renewables by 2050, alongside environmental and social implications, have been reviewed with four analyzed in-depth. The researchers have also studied the challenges linked to how renewable energy can be integrated into existing and future energy systems including electricity grids and likely cost benefits from these developments. While the scenarios arrive at a range of estimates, the overall conclusions are that renewables will take an increasing slice of the energy market. The most optimistic of the four in-depth scenarios projects renewable energy accounting for as much as 77 percent of the world's energy demand by 2050, amounting to about 314 of 407 Exajoules per year. The lowest of the four scenarios sees renewable energy accounting for a share of 15 percent in 2050, based on a total primary energy supply of 749 Exajoules.

While the Report concludes that the proportion of renewable energy will likely increase even without enabling policies, past experience has shown that the largest increases come with concerted policy efforts. Though in some cases renewable energy technologies are already economically competitive, the production costs are currently often higher than market energy prices. The report also shows that renewables need further technological progress which leads to decreasing costs. However, if environmental impacts such as emissions of pollutants and greenhouse gases were monetized and included in energy prices, more renewable energy technologies may become economically attractive. For most of them, costs have declined over the last decades and the authors expect significant technical advancements and further cost reductions in the future, resulting in a greater potential for climate change mitigation. Public policies that recognize and reflect the wider economic, social and environmental benefits of renewable energies, including their potential to cut air pollution and improve public health, will be key for meeting the highest renewables deployment scenarios.

- c. **Cooperation with WMO.** Under item 9 of its agenda, entitled “Matters Related to UNFCCC and Other International Bodies”, the IPCC 33rd Session discussed, among other issues, the cooperation with WMO. Members expressed their appreciation of the support that WMO has provided to the IPCC since the establishment of the Panel, and emphasized the reciprocal benefits that WMO and IPCC derive from their close cooperation. Members spoke also to the draft resolution of the WMO Congress n. 5.3/2 entitled “Intergovernmental Panel on Climate Change”. In particular, in relation to the paragraph requesting the Secretary-General “to strengthen the scientific capacity of the IPCC Secretariat by supporting an additional professional position, using the WMO financial contribution to the WMO/UNEP IPCC Trust Fund”, the Panel was not in favor of such form of contribution, that would restrict flexibility in the use of resources at a time of increased demands for services provided by the IPCC Secretariat which would result in larger demands for Trust Fund contributions. The Panel also felt that strengthening the Secretariat’s scientific capacity was not a priority – furthermore, the recommendations of the IAC did not call for it. It was also reiterated that expertise specific to each Working Group is created and resides in each respective TSU. IPCC Members invited the Chair to present this position to the Congress, with the aim of discouraging the shift of the WMO in-cash contribution to the IPCC Trust Fund. The Panel also felt that the preparation of a Special Report to assess the available scientific literature on sector-oriented climate services as a contribution to the Global Framework of Climate Services (GFCS) was outside the remit of IPCC, and in any case difficult to develop with the current heavy programme of work.