

## “Reaching an ambitious outcome in 2015 – key steps for Warsaw and beyond”

### Pre-Briefing for COP 19

Berlin

24 October 2013

### Summary of key points

#### Introduction

**Cornelia Pieper, Federal Foreign Office**



Minister of State Cornelia Pieper © Photo Saied Sharifi/DKK

#### Panel I: New Findings of the latest IPCC- Assessment Report ....

*In September 2013 the 195 member states of the IPCC (Intergovernmental Panel on Climate Change) accepted the report of Working Group (WG) I “The Physical Science Basis” and approved the Summary for Policymakers (SPM). Prof Peter Lemke, Review Editor of the Chapter „Observations: Cryosphere“, and Prof Jochem Marotzke, Coordinating Lead Author of the Chapter “Evaluation of Climate Models” presented some key aspects of the new findings of AR 5. Find more: <http://www.ipcc.ch/>*

**Prof Peter Lemke, Alfred Wegener Institute, Helmholtz Center for Polar and Marine Research, on Oceans, Ice and Sea Level Change**

**Global warming is unequivocal.** This can be shown for instance by the marked increase of the surface temperature and the retreat of the Arctic summer sea ice extent (Figure SPM 1a and 2b)<sup>1</sup>. The long-term trend is superimposed by strong natural fluctuations. There were in the past and occasionally will be in the future exceptionally warm or cold years. Over the past 60 years, the trend is clear. Each of the last three decades have been successively warmer at the Earth's surface than any preceding decade since 1850.

**The sea level rises because of the warming of the ocean water and the melt water runoff from the continents.** Between 1901 and 2010, the global sea level rose by about 19 cm. The two major causes are thermal expansion of the oceans and melting glaciers and ice sheets on the continents. The global sea level is projected to rise a further 20 – 80cm (depending on the amount of greenhouse emissions) by the end of the 21st century. The sea level will most likely continue to rise after 2100. Apart from the increasing surface temperature, the rising sea level will most likely impose the strongest effect on human society. The observed sea level rise has increased over the past decades, and the projections for the end of this century are higher than those from AR4.



Peter Lemke (AWI) © Photo Saied Sharifi/DKK

**Thawing permafrost may amplify climate change.** There is high confidence that permafrost temperatures have increased in most regions since the early 1980s. Observed warming was up to 3°C in parts of Northern Alaska (early 1980s to mid-2000s) and up to 2°C in parts of the Russian European North (1971–2010). By the end of the 21<sup>st</sup> century, different degrees of thawing processes are expected, depending on the scenario: with RCP2.6 (which anticipates climate action) the area of permafrost near the surface (upper 3.5 m) is projected to decrease by 37%, with the RCP8.5-Scenario (which is based on 'business as usual') it could be up to 81% (medium confidence). Release of carbon from thawing permafrost is very likely (90-100% likelihood) to provide a positive feedback, but there is limited confidence in quantitative projections of its strength.

**Prof. Jochem Marotzke, Max Planck Institute for Meteorology, on Anthropogenic Climate Change, a practical budget for emissions and the surface-warming hiatus**

**Human influence on the climate system is clear.** It has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes. See: (Figure SPM.6, Table SPM.1) {10.3–10.6, 10.9}. The quantification of the human influence is as follows: "It is *extremely likely* [likelihood of 95–100%] that more than half of the observed

<sup>1</sup> References in round brackets refer to the SPM, references in curly brackets to the 5th assessment report.

increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forcings together.” {10.3}



Jochem Marotzke (MPI-M) © Photo Saied Sharifi/DKK

**For the first time the Assessment Report links the internationally recognized 2 degree-target with a budget of total CO<sub>2</sub> emissions: 1.000 Gt of Carbon.** A budget for CO<sub>2</sub> emissions is diagnosed in the present report: To meet the two-degree-target with a likelihood of 66% or more, a limit of around 1000 gigatons of carbon cannot be exceeded. However, more than half of that budget has already been emitted. The report says: “Limiting the warming caused by anthropogenic CO<sub>2</sub> emissions alone with a probability of [...] >66% to less than 2°C since the period 1861–1880, will require cumulative CO<sub>2</sub> emissions from all anthropogenic sources to stay [below] about 1000 GtC since that period. [About] 530 GtC was already emitted by 2011. {12.5}” To fully understand this statement it is vital to consider the following: (1) Carbon Dioxide (CO<sub>2</sub>) is 3.7 times heavier than Carbon. So if one wants to refer to CO<sub>2</sub>, the equivalent budget numbers are different. (2) Because the budget concerns cumulative emissions, it does not matter *when* the emission takes place, only the quantity matters.

**The reduction in surface warming trend over the last 15 years (also known as “hiatus”) poses a fascinating scientific challenge but is largely irrelevant to the physics of anthropogenic climate change.** Trends over such short periods of time are of little relevance to long-term anthropogenic climate change. The presently observed phenomenon is dominated by natural (forced and internal) fluctuations. The role of climate sensitivity is very minor. Similar hiatus periods have been observed in the past. By no means is it justified to infer a cessation of climate change. The warming has continued in practically all components of the climate system *except for the surface temperature*. The ability of climate models to simulate surface-warming trends depends on the timescale. Over a long period of time, such as 1951–2012, the model simulations reproduce the observed trend. By contrast, the model simulations cannot reproduce short-term trends over as short as 15 years. Over such short periods, the simulations sometimes overestimate the temperature trend – as for the period 1998–2012 – and sometimes underestimate it, as happened for the period 1984–1998 (see WG1, AR5, Box 9.2, Figure 1). A particular challenge lies in the evaluation of an ensemble of model simulations vis-à-vis internal variability in the observed record.

### **Panel I: .... and its Implications for the Upcoming Negotiations**

**Silke Beck, Senior Research Scientist, Helmholtz Centre for Environmental Research – UFZ, Department of Environmental Politics on the Implications of the 5 th IPCC- Assessment Report for the Upcoming Negotiations**

The mandate of IPCC is to provide “policy-relevant but not policy prescriptive” information for the parties to the UN Framework Convention on Climate Change (UNFCCC). To what extent IPCC AR5 WGI will have impacts on climate policy, will show the future.

A look back on the preceding reports show that the assessments provided by the IPCC have made a difference: The scientific evidence on the causes of climate change and its global effects is well-established. Each of the comprehensive IPCC reports has played a key role in providing input into political negotiations under the UNFCCC. IPCC's Fifth Assessment Report (AR5) will be published over the next year. The Working Group I (WGI) contribution was released in Stockholm on 23-26 September 2013. In the realm of diplomacy, there is a renewed push, led by United Nations Secretary-General Ban Ki-moon, to use the findings to facilitate negotiations towards a new agreement new binding climate accord in 2015.

Given that the 2007 IPCC report signaled that controversies over the existence of global warming have finally been settled, many scientists may have hoped that the scientific evidence will prompt political action and public trust. Participating negotiators may remember how the AR4 re-energized the UNFCCC climate negotiations in 2007. The events around Copenhagen 2009, however, reveal that neither politicians nor the public automatically heed experts' warnings. One of the lessons from the Copenhagen Summit 2009 is that a high set of expectations of what science can achieve in politics only makes IPCC vulnerable and results in overheating the debate. The lessons learnt of Copenhagen 2009 are: Scientific evidence is a necessary but not sufficient prerequisite for policy making. Science is one significant factor amongst others. Politics matter and political conflicts will never be resolved through scientific evidence only. IPCC has delivered valuable scientific models and tools and explored a variety of response options: But, it will always be up to societies, balancing innumerable factors, to figure out how to respond.



Silke Beck (UFZ) © Photo Saied Sharifi/DKK

Discussions about the Panel's future are being taken up as part of the intergovernmental negotiations, as much has changed since the late 1980s when the IPCC was set up (see: [http://www.ipcc.ch/apps/eventmanager/documents/5/030920131000-INF\\_1\\_p37.pdf](http://www.ipcc.ch/apps/eventmanager/documents/5/030920131000-INF_1_p37.pdf)). This situation offers a welcome opportunity for re-thinking how the problem of climate change is framed and structured within the IPCC and FCCC.

### **Overview of the German/EU Negotiation Position for COP 19 in Warsaw**

**Nicole Wilke, Head of Division “International Climate Policy”, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.**

Germany and the EU expect a balanced package of decisions from the climate conference in Warsaw, covering the future climate agreement, pre-2020 mitigation action and the implementation of existing decisions, in particular on climate finance.

- a. 2020 Climate Agreement

Germany and the EU call for Warsaw to determine that all states should commit themselves as a first step to doing their “homework” and beginning the preparation of emission reduction commitments for Paris. As a next step all states should submit by autumn 2014 at the summit on pre- and post-2020 climate ambition, to which the UN Secretary General, Ban Ki-moon, has invited heads of state and government, their envisaged emission reduction commitments and information about the assumptions on which these are based. These submissions should then be analyzed by states as part of a further step before, as a last step, commitments are entered into the agreement at the end of 2015 in Paris. These steps should be agreed in the form of a roadmap for the years 2014 and 2015. Furthermore the form and content of the new agreement should be specified, and the speed of the negotiations intensified, so that by the end of 2014 drafts of the text for the new agreement are available.

#### b. Additional Mitigation by 2020

Between the emission reduction targets set by states and those required in order to restrict temperature increases below 2 degrees Celsius there is a gap of 8-13 gigatons (source: UNEP Gap Report 2012). The international community already decided in Durban to contribute to the closure of this gap. As many countries as possible should therefore submit new mitigation pledges and enhance existing mitigation pledges. States should come together at a round-table in the first half of 2014 to discuss taking more action to tackle climate change.

Progressive countries, regional groups and other key stakeholders should present their activities and initiatives in Warsaw, so that these are made more visible through their political statements. The year 2014 should be declared the “year of ambition”. In addition to the round-table there should be in summer 2014 a Ministerial meeting of the Parties to the Kyoto Protocol where industrialized countries should consider whether they can raise their climate targets before 2020. Highlight of the year will be the summit of heads of state and government, taking place in September 2014 at the invitation of the UN Secretary General, Ban Ki-moon. The summit’s theme should be ambitious climate action by states both before and after 2020. This should support the formal negotiations by generating political momentum at the highest level.



Nicole Wilke (BMU) © Photo Saied Sharifi/DKK

#### c. Implementation

Warsaw should build trust. The review of the implementation of decisions, especially those relating to climate finance, can establish trust with our negotiation partners. This forms the basis for progress with the two principal work-streams of the negotiations. Germany and the EU stand by their financial commitments for the short and medium term. With a contribution of 1.29 billion Euros Germany exceeded its commitment for the Fast-Start climate finance period of 2010-12. Furthermore an increase of Germany’s international climate finance to 1.8 billion Euros for 2013 has been announced and provisionally also achieved. Germany

intends also to prove itself as a reliable partner in future and contribute an appropriate proportion to the fulfillment of the 100 billion US Dollar target for 2020.

On the issue of loss and damage we want to agree measures in Warsaw that support countries to build up their capacity to cope better with the challenges of climate change, for example through planning to avoid damage, that promote exchange of experience between states and that ensure better networking of the institutions already active in this area.