

“Raising Climate Ambition” Pre-Briefing for COP 18

Berlin

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Summary of key points

Introduction

Christian Berger, Federal Foreign Office

Science has a key role to play in analysing the consequences of climate change and providing the basis for policy-makers to make decisions. Without a prior understanding from scientific research about the likely impacts and subsequent early-warning, the damage from hurricane Sandy would probably have been greater.

We need to foster mutual exchanges between the scientific and political spheres to ensure an effective response to climate change and political dialogue based on facts and findings. Scenarios about the likely impacts of specific policy decisions give politicians the chance to assess the possible consequences and react to the physical changes of our environment caused by climate change.



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Setting the scene

Joseph Alcamo, PhD, United Nations Environment Programme (UNEP)

UNEP has worked together with the European Climate Foundation and the Ministry of Environment, South Africa on the UNEP report “Bridging the Emissions Gap”.

To meet the 2°C target, global emissions need to peak before 2020 at a level of around 44 Gigatons / year. By 2050 emissions need to decrease substantially down to about a third of the emissions in 1990. If we stick to business as usual global emissions will reach 55 Gigatons / year in 2020, meaning a gap of between 6 and 12 Gigatons / year from the level necessary to achieve the target. To bridge this gap, the level of ambition needs to be raised beyond that already envisaged in current political negotiations.



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„There is a big gap today. It can be bridged but we are losing time. So let's get down to it.”

*Joseph Alcamo, PhD,
United Nations Environment Programme (UNEP)*

According to the scientific research about top-down approaches, applying rules (strict or lenient) and pledging by countries (conditional or unconditional) could contribute to achieving the 2°C target. But this would require action in the climate negotiations in order to minimize the use of surplus emission credits and to pursue more ambitious (hitherto “conditional”) pledges. Bottom-up sectoral studies have shown large technical potential in several sectors: power, industry, transport, aviation and shipping, buildings, waste, forestry and agriculture. All together approximately 17 ± 3 Gt/yr CO₂ emissions could be reduced by intervening in energy systems (e.g. through improvements in energy efficiency & accelerating the introduction of renewable energy) as well as by more sustainable management of waste, agriculture and forests. The relevant measures are already both technically feasible and economically viable.

Panel I: State of the Climate

Prof. Jochem Marotzke, Max-Planck-Institute for Meteorology

Today we are witnessing an unprecedented acceleration of climate change. After the last ice age the global temperature rose by 5° C over 5.000 years, an increase of 1°C every 1.000 years. But in the 20th century alone global temperature increased by another degree, i.e. ten times faster than before. There has always been climate change in earth history but never before at such a pace.

The Max Planck Institute Climate Model simulates different futures, one showing that it is still possible to limit warming to 2° C compared to preindustrial times (1850). The latest model made it possible to diagnose exactly the carbon* emissions compatible to the 2° C target. It shows that the peak of carbon emissions must be reached very quickly and should be followed by a drastic reduction or even an active removal of carbon dioxide from the atmosphere.

The mutual correlation of carbon dioxide or carbon and temperature is undisputed in science. The rest is simple mathematics. 500 Gigatons of carbon emissions equates to a 1 ° C temperature raise. As 1 ° C has already been "used up", we only have this quantity of carbon globally left to emit if we are to stay within the 2° C limit. At the current rate we produce globally 10 Gigatons of carbon per year. Assuming the rate of emissions does not increase, we have only another 50 years of business as usual before we would have to reduce suddenly to zero. If the world decides to maintain the 2°C target it puts very rigorous boundaries on what emissions are allowed, because we cannot negotiate with nature.



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"You can't negotiate with nature."

*Prof. Jochem Marotzke,
Max-Planck-Institute for
Meteorology and
Chairman of the board of
the federation DKK*

Prof Peter Lemke, Alfred Wegener Institute for Polar and Marine Research

There are several reasons why sea level is rising. The melting ice sheet in Greenland and Antarctica leads to water flowing into the ocean (addition of melt water) and the warming of the ocean causes a thermal expansion. Other phenomena like the changing of ocean currents, the building of dams etc. only have very small effects and can be discounted.

The situation in Greenland has been well explored. Since the last IPCC report the loss of mass has more than doubled through melting and glacier discharge. Antarctica is by contrast more inaccessible but all data so far show a negative mass balance there as well.

Currently mountain glacial ice loss leads to 0.9 mm sea level rise per year. Including the retreating ice sheet for Greenland of 0.6 mm/year and for the Antarctic of 0.3 mm/year that means a total amount of sea level rise of 1.8 mm / year. This may not sound much but the melting rate is in all cases accelerating. Within the last century we have already witnessed a sea level raise of 20 cm and science expects a sea level rise by the end of the 21st century of 50 to 100 cm.

)* Prof Marotzke and Prof Klepper used the carbon-metric whereas Prof Alcamo used the carbon-dioxide-metric. Since carbon dioxide is roughly 3.7 times heavier than carbon on its own, you get different numbers. Both measures are used in the scientific literature.

Since sea levels had not risen for 3000 years – i.e. the whole period of human civilisation - humanity had tended to settle on the coastlines, trusting their experience that sea level would remain stable. The sea level raise will therefore pose an increasing challenge on coastal zones, where most of the world's population live.

Should there be a sea level raise of 1 meter or more, it will be difficult, at the very least costly, to protect the land with dykes. Some coastlines like the river delta of Bangladesh cannot be protected by dykes, meaning that people will have to retreat inland. Sea level raise can be expected to lead to one of the most significant impacts of climate change for the world community.

Dr Paul Becker, German National Meteorological Service (Deutscher Wetterdienst, DWD)

Germany's meteorological data, available since 1881, shows clearly that the average temperature has risen in this time by 1.2°C. There has also been a parallel tendency of increasing in extreme weather events such as e.g. floods, heat waves, hailstorms.

Climate policy is based on two pillars: mitigation and adaptation. An indispensable tool of adaption is DWD's climate service. It provides specific-sector-tailored, user-oriented past, present and future climate data and products as well as consulting support for customers and policy-makers. The climate service is divided into several sectors, such as data-collection, i.e. observing, monitoring and archiving of climate data. This is part of the core business of the German National Meteorological Service.

Today the time periods covered by weather forecast are becoming longer and we move towards seasonal forecasts with a time prediction up to one year. With regard to the spatial resolution, the climate models are becoming more specific through downscaling of global models. This is an extremely complex process, which constantly needs to be improved.. The intention is to get a clear picture of a particular regional climate, its changes and of possible future impacts. This was done for the city of Frankfurt to help urban planning to adapt to climate change in time.

The German National Meteorological Service also provides support with capacity building in developing countries for managing adaptation. There are global benefits from optimizing the meteorological system worldwide.

Science and Politics - "From Diagnosis to Therapy"

Prof Gernot Klepper, Ph.D., Kiel Institute for the World Economy

The context for the diagnosis is clear: climate change affects the natural earth system and human activity is responsible for this change. But how individual countries should react depends also on how we assess the balance of responsibility.

The largest CO₂ emitters are the U.S and China who together account for about 53% of global emissions. But these figures are based on production of CO₂ in a given country and do not consider the carbon embedded in traded goods (so called virtual CO₂). If we look at the role of international trade, we see that 27% of China's emissions are embedded in products that it exports. For Japan the impact is reversed - imports would account for 37 % of Japanese emissions. These figures show that, for a better understanding of how emissions are generated, we should look less at the production of CO₂ and more at where it is consumed. If we accounted for emissions on the basis of consumption, most industrial countries would in fact have higher emissions as they import many carbon-intensive products.

Another consideration when making comparisons is per capita emissions. Despite its overall contribution to global emissions, per-capita emissions in China are still relatively low, whereas in the US, in the EU, Russia, Australia or Saudi-Arabia they remain very high. Per capita emission calculations reflect in part the level of wealth or income. From a moral point of view they show therefore that the major responsibility for reducing emissions lies with the rich countries. The economic point of view would regard the atmosphere as a common good meaning that each person should have in principle an equal right to use it.

A third approach is the efficiency with which emissions are turned into goods and services. Producers in China need on average 850 g CO₂ to produce one dollar worth of output, whereas Europe needs just 230 g. China is therefore 2 ½ times less efficient, meaning the potential for increased efficiency in China is much greater. It would make economic sense to focus effort on reducing emissions in countries like China, where the potential is highest and the marginal cost lower, rather than in countries with high emission efficiency. The focus should be on how the international community, donors in particular, can support this transition.



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„We need to change the way we grow. Green growth is a very different growth from what we have seen so far.”

*Prof Gernot Klepper,
Ph.D., Kiel Institute for the
World Economy*

This therefore is the challenge:

1. If overall emissions are to come down there must be a significant contribution from major emitters, namely China, the US, Europe. Without this there is no way to succeed.
2. In terms of fair use of the atmosphere as a receptor or waste dump for CO₂, it is clear that the US, Russia and the EU need to find ways to come to lower levels given their high per capita emissions. This need not be only through a physical reduction in the countries concerned but could also be via economic solutions such as an emissions trading scheme where countries remaining below their allocated emission rights would get compensated for letting other countries use the emissions rights themselves.
3. If the world could agree on an emission right of roughly 1 ton per person, per year, then emission reduction would take place where they are cheapest. In fact this would - on the basis of a purely economic mechanism - help countries with low emission efficiency to transform their economy. In effect China, India and particularly Africa could sell emission rights whereas the US and the EU would have to buy them.

Such a market solution would rely on the private sector incorporating carbon prices from the emission trading scheme into its business decision. The EU's Emission Trading Scheme is

already in operation and, despite some problems which can be resolved, it could serve as a model.

Reducing emissions is not only a technical matter as the latest OECD assessment once more demonstrated. If we only concentrate on technical efficiency we can easily end up with almost twice as many emissions as today. In the end we need change the way we consume and live. This is where the role of civil society comes in. The “green economy” will operate very differently from what we know as economy today.

Panel II: Tasks for Political Leaders

Dr Karsten Sach, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

For a balanced Doha outcome, the German government has five objectives:

1. Reaching a decision on the shape of a second commitment period under the Kyoto Protocol and its implementation in a way that the provisions will come into force from 1 January 2013 and full ratification will follow quickly
2. As a second commitment period will currently (at best) cover just 15% of global emissions, there should be a Ministerial decision on a roadmap with milestones and timelines for achieving the post-2020 agreement, including defining the boundaries of the negotiations under the Durban Platform and the role of its chairs
3. Consensus on the way forward with raising mitigation ambition before 2020, including through improving the transparency of existing pledges, encouraging countries with a range to aim for the higher end of their pledges, looking at new sectors and working with countries that have not yet pledged to encourage them to make contributions
4. Consolidation of the negotiation process that both respects the principles enshrined in the Convention and reflects the current global situation and how it is likely to develop in the future
5. A political signal on the future direction of climate finance that gives more clarity on contributions after 2012, on the expected pathway to fulfilling the commitment of 100 billion USD of climate finance per annum by 2020 and on the role of the Green Climate Fund. Germany is committed to continue its contributions to climate finance.

Regine Günther, WWF Germany

Strong political buy-in will be key for the Doha negotiations. From the viewpoint of WWF, action in four areas is needed: 1. The EU should take a pioneering role in mitigation by increasing its emission reduction target. 2. For stable climate financing, new financial pledges should be put forward by industrialized countries. 3. An ambitious and credible work-plan for the upcoming negotiations until 2015 needs to be at the same time achievable and realistic. 4. Cooperation between countries in the North and the South, as we have seen with the Durban alliance, should be continued and strengthened. The basis for this is trust-building as some members of the Durban alliance feel that the EU is not delivering on its promises.

WWF as an international NGO is supporting bilateral and multilateral projects in different countries to enhance capabilities and promote understanding that activities can deliver results. These projects are important to build partnerships, but cannot replace the international negotiations.



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"Political will is the key in Doha."

*Regine Günther, WWF
Germany*

Dr Hinrich Thölken, Federal Foreign Office

Foreign policy can help transform figures and diagrams into a language that can be fed directly into political debate and decision making. We need better political interpretation and analyses of risks. The key questions are where and how climate change will affect and endanger economies, societies and territorial integrity and thus threaten international peace and stability. This is why we need detailed risk-mapping of the potential consequences of climate change. Another important role is to prepare for resource scarcity before conflicts arise and help regional organizations to tackle the challenge. For example, there are more than 260 international water basins, but most of them are not covered by explicit agreements on how water is to be shared between the countries concerned. With water becoming an ever more precious and scarce resource, it should be one of our priorities to establish trans-boundary water management as a practical and urgent form of preventive diplomacy. To avoid uncertainty for businesses and financial markets, we furthermore need clear framework rules for climate-friendly investments. We should strive for a stronger role for the United Nations (UN): Five weeks ago, in an event on climate change and security in the margins of the UN General Assembly in New York the German Foreign Minister Guido Westerwelle endorsed the proposal to the UN Secretary General to appoint a UN Special Envoy on Climate and Security.

Dr Susanne Dröge, German Institute for International and Security Affairs (SWP)

A clear work-plan for mitigation efforts could help to avoid sinking ambition. Durban broke with the division of the world into two groups of countries. It would be helpful therefore to discuss the broad lines of the new climate regime, i.e. the future burden-sharing within the international community, "underneath the radar of public attention". A new regime will only be accepted if it is perceived as fair and cost-effective. The future regime should not only be discussed within UNFCCC negotiations, which should focus on mitigation. The UN system committed at the Rio+20 summit to contribute to the sustainable development agenda. Some points regarding adaptation, development and equity issues could be discussed in a reformed UN environment governance system.

Closing Words

Khalifa Ahmed al-Sulaiti, Qatar

Raising climate ambition is important, not only for the upcoming Doha conference, but also for the future climate regime. The 3rd Petersberg Climate Dialogue co-hosted by Germany and Qatar in July 2012 sent an encouraging signal on the strong political will to solve issues to be finalized in Doha. Green economy and low-emission development strategies are essential tools to make progress towards sustainable development and parties should be encouraged to share experiences. Hosting the next UNFCCC Conference at the end of November demonstrates Qatar's commitment to international climate policy.



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"The discussions today have been very insightful and timely just before the Doha Conference."

*Khalifa Ahmed al-Sulaiti,
Qatar*

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