

## Climate Change Talks: Breakdown in Copenhagen; Next Stop, Mexico 2010 (COP 16) (ARI)

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**Theme:** This ARI examines the climate change summit held in Copenhagen from 7-18 December 2009: the preparations for it, how it unfolded, the results and the pending challenges.

**Summary:** This ARI starts off with a brief reflection on the political climax of the days before the Copenhagen summit, and the chaos and disappointment that leaked out from the Bella Center over the course of the two-week meeting. It also looks at some of the studies that came out after the 4th report of the IPCC,<sup>1</sup> with the goal of highlighting some of the most important consequences of climate change that the world can minimise if there is determined action at the international level. The paper then examines the goal of the Copenhagen summit and the conditions that would facilitate an agreement. The next section details the main achievements in international negotiations on fighting global warming. Then, the paper outlines the positions of the key players heading into the summit. Finally, the paper analyses the results of the meeting, adding some ideas on the priorities of the Spanish EU Presidency with regards to international negotiations on global warming, and concludes with a summary of its main points.

### Analysis:

#### *Pre-Copenhagen Climax and Chaos at the Bella Center*

A week before the Copenhagen summit, the meeting was being described as the most important since World War II (Stern, 2009). Two days before it was over, the Swedish Prime Minister Fredrik Reinfeldt said that climate change was the biggest challenge humanity has ever faced. These were the reasons for those dire remarks: what is at stake if the predictions about climate change are accurate (the scientific evidence is more and more conclusive) and the political climax involved in seeing more than 115 leaders from across the globe attend the summit, including those from countries that emit the most greenhouse gases, Barack Obama and Wen Jiabao.<sup>2</sup>

The Copenhagen meeting began with intentions for significant, although insufficient, cuts in emissions. There were also commitments for monetary transfers that triggered a moderate amount of hope, especially because of the effort announced by the EU, which should continue, despite the meagre results from Copenhagen. It was clear from the outset that in order to achieve an ambitious, fair and binding agreement it was necessary to bridge the gap between intentions and actions, especially over the mid- and long-term. To do this, there are two key elements: sufficient and sustained support for developing countries and joint, coordinated and responsible action from developed ones.

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<sup>1</sup> IPCC stands for Intergovernmental Panel on Climate Change. See <http://www.ipcc.ch/>.

<sup>2</sup> For a complete list of leaders who attended the Copenhagen summit, see [http://en.cop15.dk/files/pdf/HoSG\\_List\\_161209.pdf](http://en.cop15.dk/files/pdf/HoSG_List_161209.pdf).

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The ultimate goal is not just to reach an agreement but also for it to be lasting and effective. We know the path is not free of obstacles, since international environmental agreements are voluntarily undertaken. For them to be ratified at the national level, they have to offer countries net benefits. These agreements must avoid free riders<sup>3</sup> and ensure that players live up to what they have promised, little as it may be (Barrett, 1998). At the same time, with this kind of problem one often has to choose between accords with significant commitments involving few parties and deals with many, or even all, parties even if they only amount to trivial progress in managing the world's resources. And in all of this one must not forget, as we have seen thanks to the US statements, that it is only possible to achieve agreements that are 'politically feasible' in the national political realm (Breteville-Froyen, 2007). Summing up, these are the constant hurdles we face in dealing with global public resources.

The two-week mega summit is over. Gone are the side meetings, documents leaked to the press, demonstrations, ecological leaders gate-crashing formal dinners, arrests, organisational chaos and developing countries interrupting negotiations. The result of the summit was a bare-bones agreement that was not very precise and was insufficient to limit global warming. It also served up a hangover from a hectic pace that spent much of the political capital with which the summit got under way.

*The Importance of Acting: Consequences of Climate Change by Regions and an Update of the Predictions*

In the introduction to this paper we referred to what is at stake if we do not act. According to the IPCC's 4th assessment report (4AR),<sup>4</sup> the most significant effects of climate change by regions can be summarised as shown in Table 1.

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<sup>3</sup> Players who benefit from the efforts of others without contributing anything of their own.

<sup>4</sup> The 5th report will not be available until 2014.

**Table 1. Effects of climate change by region**

<b>Africa</b>	<ul style="list-style-type: none"> <li>• By 2020, between 75 and 250 million of people are projected to be exposed to increased water stress due to climate change.</li> <li>• By 2020, in some countries, yields from rain-fed agriculture could be reduced by up to 50%. Agricultural production, including access to food, in many African countries is projected to be severely compromised. This would further adversely affect food security and exacerbate malnutrition.</li> <li>• Towards the end of the 21<sup>st</sup> century, projected sea level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5 to 10% of Gross Domestic Product (GDP).</li> <li>• By 2080, an increase of 5 to 8% of arid and semi-arid land in Africa is projected under a range of climate scenarios (TS).</li> </ul>
<b>Asia</b>	<ul style="list-style-type: none"> <li>• By the 2050s, freshwater availability in Central, South, East and South-East Asia, particularly in large river basins, is projected to decrease.</li> <li>• Coastal areas, especially heavily populated megadelta regions in South, East and South-East Asia, will be at greatest risk due to increased flooding from the sea and, in some megadeltas, flooding from the rivers.</li> <li>• Climate change is projected to compound the pressures on natural resources and the environment associated with rapid urbanisation, industrialisation and economic development.</li> <li>• Endemic morbidity and mortality due to diarrhoeal disease primarily associated with floods and droughts are expected to rise in East, South and South-East Asia due to projected changes in the hydrological cycle.</li> </ul>
<b>Australia and New Zealand</b>	<ul style="list-style-type: none"> <li>• By 2020, significant loss of biodiversity is projected to occur in some ecologically rich sites, including the Great Barrier Reef and Queensland Wet Tropics.</li> <li>• By 2030, water security problems are projected to intensify in southern and eastern Australia and, in New Zealand, in Northland and some eastern regions.</li> <li>• By 2030, production from agriculture and forestry is projected to decline over much of southern and eastern Australia, and over parts of eastern New Zealand, due to increased drought and fire. However, in New Zealand, initial benefits are projected in some other regions.</li> <li>• By 2050, ongoing coastal development and population growth in some areas of Australia and New Zealand are projected to exacerbate risks from sea level rise and increases in the severity and frequency of storms and coastal flooding.</li> </ul>
<b>Europe</b>	<ul style="list-style-type: none"> <li>• Climate change is expected to magnify regional differences in Europe's natural resources and assets. Negative impacts will include increased risk of inland flash floods and more frequent coastal flooding and increased erosion (due to storminess and sea level rise).</li> <li>• Mountainous areas will face glacier retreat, reduced snow cover and winter tourism, and extensive species losses (in some areas up to 60% under high emissions scenarios by 2080).</li> <li>• In southern Europe, climate change is projected to worsen conditions (high temperatures and drought) in a region already vulnerable to climate variability, and to reduce water availability, hydropower potential, summer tourism and, in general, crop productivity.</li> <li>• Climate change is also projected to increase the health risks due to heat waves and the frequency of wildfires.</li> </ul>
<b>Latin America</b>	<ul style="list-style-type: none"> <li>• By mid-century, increases in temperature and associated decreases in soil water are projected to lead to gradual replacement of tropical forest by savanna in eastern Amazonia. Semi-arid vegetation will tend to be replaced by arid-land vegetation.</li> <li>• There is a risk of significant biodiversity loss through species extinction in many areas of tropical Latin America.</li> <li>• Productivity of some important crops is projected to decrease and livestock productivity to decline, with adverse consequences for food security. In temperate zones, soybean yields are projected to increase. Overall, the number of people at risk of hunger is projected to increase (TS; <i>medium confidence</i>).</li> <li>• Changes in precipitation patterns and the disappearance of glaciers are projected to significantly affect water availability for human consumption, agriculture and energy generation.</li> </ul>
<b>North America</b>	<ul style="list-style-type: none"> <li>• Warming in western mountains is projected to cause decreased snowpack, more winter flooding and reduced summer flows, exacerbating competition for over-allocated water resources.</li> <li>• In the early decades of the century, moderate climate change is projected to increase aggregate yields of rain-fed agriculture by 5 to 20%, but with important variability among regions. Major challenges are projected for crops that are near the warm end of their suitable range or which depend on highly utilised water resources.</li> <li>• Cities that currently experience heat waves are expected to be further challenged by an increased number, intensity and duration of heat waves during the course of the century, with potential for adverse health impacts.</li> <li>• Coastal communities and habitats will be increasingly stressed by climate change impacts interacting with development and pollution.</li> </ul>

<b>Polar Regions</b>	<ul style="list-style-type: none"><li>• The main projected biophysical effects are reductions in thickness and extent of glaciers, ice sheets and sea ice, and changes in natural ecosystems with detrimental effects on many organisms including migratory birds, mammals and higher predators.</li><li>• For human communities in the Arctic, impacts, particularly those resulting from changing snow and ice conditions, are projected to be mixed.</li><li>• Detrimental impacts would include those on infrastructure and traditional indigenous ways of life.</li><li>• In both polar regions, specific ecosystems and habitats are projected to be vulnerable, as climatic barriers to species invasions are lowered.</li></ul>
<b>Small Islands</b>	<ul style="list-style-type: none"><li>• Sea level rise is expected to exacerbate inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities.</li><li>• Deterioration in coastal conditions, for example through erosion of beaches and coral bleaching, is expected to affect local resources.</li><li>• By mid-century, climate change is expected to reduce water resources in many small islands, e.g. in the Caribbean and Pacific, to the point where they become insufficient to meet demand during low-rainfall periods.</li><li>• With higher temperatures, increased invasion by non-native species is expected to occur, particularly on mid- and high-latitude islands.</li></ul>

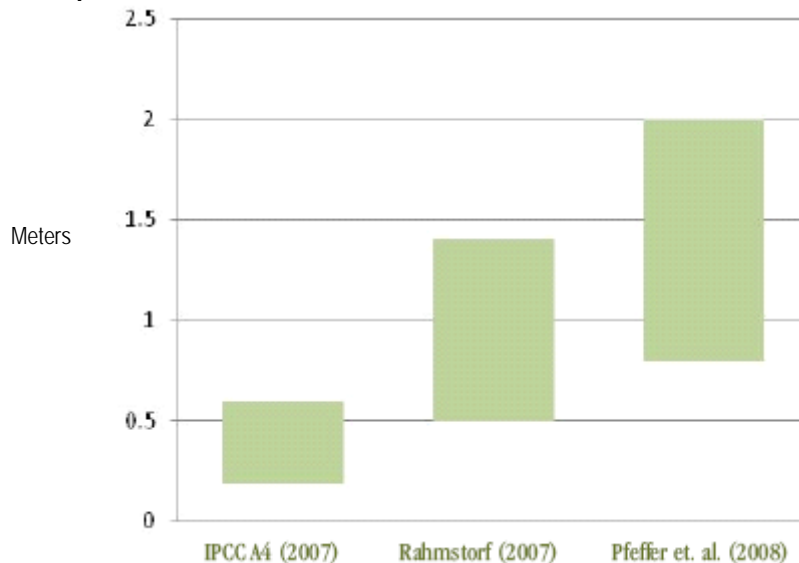
Source: IPCC (2007), p. 11-12.

The thrust of this table is that the more temperatures rise, the graver the consequences of climate change, especially in the most vulnerable regions of the world.

Peer-reviewed studies published after the PCC's 4AR say that the consequences of anthropogenic climate change will be worse than anticipated by the IPCC (Bowen & Ranger, 2009 and Pew Center on Climate Change, 2009). These studies confirm alterations of ecosystems and forecast a higher frequency of extreme weather events. There is also evidence of higher-than-expected increases in temperatures at the earth's poles. This means an acceleration of the melting of polar ice. There is also more evidence of changes in precipitation patterns, and in hydric cycles, which is without a doubt worrying for Spain. These studies predict a higher increase in temperatures of the earth's surface and of the oceans, and growing acidification of the sea. What is more, we are facing forecasts of higher-than-previously-estimated rises in sea levels. This will have particularly serious consequences for countries whose territory and communities are at sea level.

Graph 1 presents the estimates of three different studies on the expected rise in sea levels at the end of the century.

**Graph 1. Expected rise in sea levels in 2100 according to IPCC reports, Rahmstorf and Pfeffer**



Source: Pew Center on Global Climate Change (2009), p. 2.

To explain how important it is to stay below the 2°C mean temperature increase threshold (that would involve ‘dangerous’ interference with the climate system), it might be useful to imagine a human body that has a fever. If the person’s temperature is 37.5°C and we increase it by two degrees, the person will feel much worse but can recover (so long as this increase does not last long). If the temperature is 41°C and we increase it by two degrees, the consequences can be irreversible. This is what happens with the climate. The issue is not that two degrees are a lot. The problem is that nature as we know it can change, perhaps irreversibly, if we cross the red lines set by climate experts, with more and more clarity and accuracy, with regard to the increase in the planet’s average temperature.

#### *Copenhagen: Goals and Terms for an Agreement*

The scientific consensus on limiting the temperature increase to an average of 2°C compared with pre-industrial temperatures has shaped debate on climate change in the run-up to Copenhagen. And it will continue to do so in the future if scientific studies continue to produce data in line with the information published in the IPCC’s 4th assessment report and later studies. In order to limit the increase in temperature, one has to reduce emissions of greenhouse gases. This would involve emissions peaking by 2020 at the latest and then gradually falling to less than 20 giga tons of CO<sub>2-e</sub> in 2050.

As for concentrations of greenhouse gas emissions in the atmosphere, the goal is to be within a range of 450ppm<sup>5</sup> to 550ppm. The latest available data recommend staying at the lower end of that range.<sup>6</sup>

Simplifying things a bit, the overall goal that has been used is to reduce greenhouse gas emissions by between 25% and 40% for developed countries by 2020 compared with 1990, and achieve a lower pace of increase in developing countries (between 15% and

<sup>5</sup> Ppm stands for parts per million, which means the ‘number of parts of a chemical found in one million parts of a particular gas, liquid or solid’: <http://www.epa.gov/climatechange/glossary.html>.

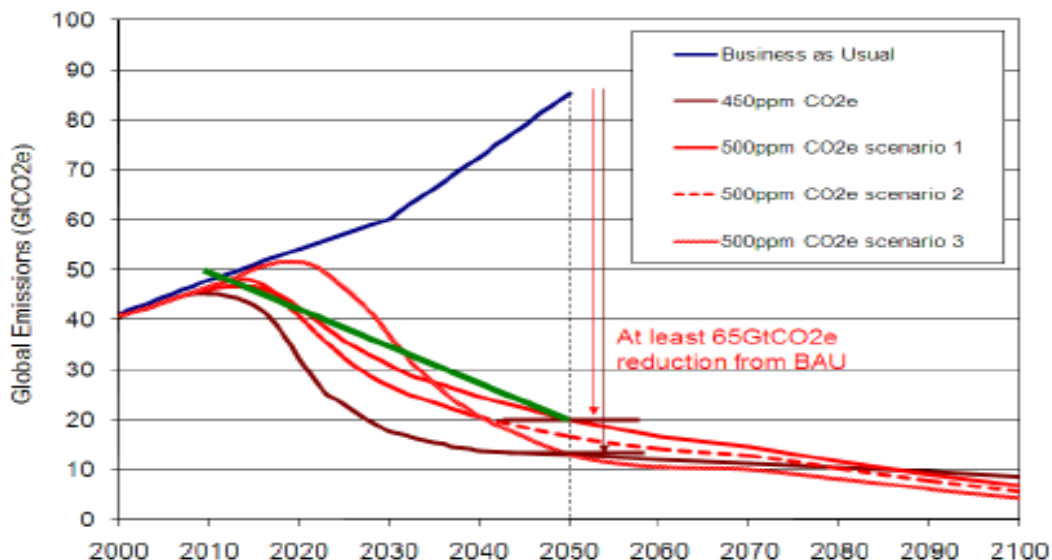
<sup>6</sup> At the Poznan summit (COP 14 in Poland in December 2008) there was a workshop on the need to limit concentrations to 450ppm (MMAMRM, 2008).

30%) as compared to the business-as-usual level so as not to surpass the maximum recommended concentrations of greenhouse gases.

Furthermore, we have to reduce emissions over a broader time-frame, and the goals for 2050 are for 50% at the global level. In order to do this by 2050, developed countries have to slash their emissions between 80% and 95%, as stated in the IPCC's 4AR in Europe's climate strategy and in the World Bank's last report on development (2009).

There are different scenarios for stabilising emissions, as shown in Graph 2. What it tells us in general is that we can choose among various options for cutting emissions, but the longer we take to act, the deeper the future cuts will need to be for us to have a chance at limiting the rise in temperatures (Bower & Ranger, 2009).

**Graph 2. Scenarios for stabilising emissions of greenhouse gases**



Source: Stern (2009b), p. 6.

In order to achieve the goals that have been set and resolve this global problem, we depend on international environmental agreements as well as on national policies. Compliance with the former is voluntary, so if there is no net benefit, countries will not have an incentive to cooperate and manage the problem of climate change in a joint fashion. International environmental accords will be easier to reach, more stable and more effective if they feature the conditions laid out in Table 2.

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**Table 2. Elements that facilitate an International Environmental Agreement**

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- Net benefits of the accord.
  - Fair burden-sharing arrangements.
  - Existence of scientific certainty with regard to the problem.
  - Existence of close and cheap substitutes.
  - Existence of a reduced number of countries to negotiate (bilateral or 'mini lateral' accords).
  - Similarity in the level of development, capabilities and resistance to the threat.
  - Negotiations that are repeated over time so as to establish trust.
  - Sanction measures that the parties accept and can prevent non-compliance.
  - Mechanisms to dissuade free riders.
  - Allowing for adaptation by countries with less ability to act.
  - Using flexible mechanisms which increase static and dynamic efficiency.
  - Consider payments and compensation to those who lose out from the agreement.
  - Limited yielding of autonomy/sovereignty by the countries that ratify the agreement.
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Sources: Barrett, (2007), Bretteville-Froyen (2007) and Sandler (2009).

As we know, the climate change problem lacks many of the conditions for facilitating an accord. That does not mean that a deal is impossible to achieve. One can invest in I+D+i to reduce uncertainty and increase the supply of low-carbon goods and services. One can also consider reaching accords among like-minded regions, so long as these deals respect the reduction limits set by scientists. We can use negotiating elements that are linked to environmental results (*issue linkage*).<sup>7</sup> We need to keep including the principle of shared but differentiated responsibilities in agreements, transferring funds and technology to ensure that all relevant greenhouse gas emitters can live up to their commitments. Last but not least, we need to be able to trust parties and accept that our actions must be verified, with respect for national sovereignty. These goals are many and varied, and will not be easy to achieve, unless all sides make concessions.

We also know that economic analysis is a significant input for making decisions on issues that involve collective action. The IPCC estimates that the cost of keeping the average rise in temperatures at 2°C will be on average 0.12% of GDP growth rates through 2030.<sup>8</sup> The cost is significant, but lower than the costs of inaction, estimated by the Stern report at 5% of global GDP per year. So the choice seems clear in economic terms, although the time lapse between the costs of acting and the benefits to be reaped from action, as well as political tempos, pressure from powerful sectors that can lose out from agreements and the short-sightedness of 'rational' parties blur that choice.

The next section provides an overall view of international efforts to maintain a stable climate since the 1980s.

### *The Road to Copenhagen and Some Key Issues*

From the time the first evidence emerged of human-induced changes to the climate, to the point when action was taken to halt that interference, decades went by. This has not been a swift or easy process, and it will not get any easier in the future, as it will require an unprecedented technological and social transformation. The goal is to gradually decouple economic growth from greenhouse gas emissions in such a way that we can envision an –currently utopian but it is to be hoped not chimerical– environmental Kuznets curve for greenhouse gases.

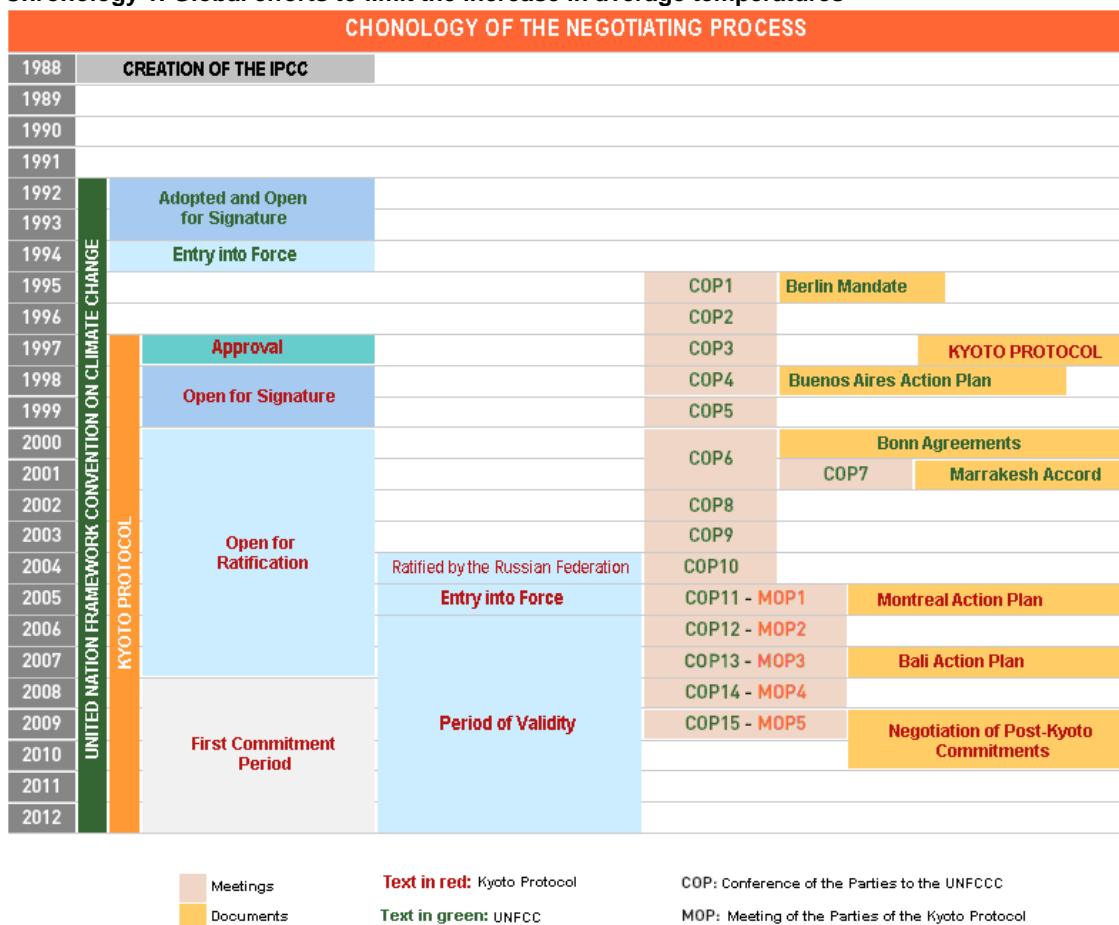
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<sup>7</sup> Although one has to consider the possible conflicts that might arise with the WTO, for instance.

<sup>8</sup> Note that according to the IPCC this would be equivalent (under the 445ppm-535ppm stabilisation scenario) to a range of GDP reduction below 3%.

So far there have been four milestones in the negotiating process. First came the creation of the IPCC as a scientific advisory body. Although it is not a formal part of the negotiating process, it is a fundamental element of it because it serves as the scientific guide in the fight against climate change. Secondly, the United Nations Framework Convention on Climate Change (UNFCCC), adopted in Rio de Janeiro in 1992. It is almost universal in scope (192 countries) and encourages the reduction of greenhouse gases. Thirdly, the Kyoto Protocol, approved on 11 December 1997 and to date ratified by 184 countries. It established specific reduction targets for 37 industrialised countries and the EU. Finally, the Kyoto Protocol that came into effect in 2005 after it was ratified by Russia. The following chart sums up these efforts in a schematic way:

**Chronology 1. Global efforts to limit the increase in average temperatures**



Source: Spanish Environment Ministry (undated).

Thanks to the last-minute Bali agreement (COP13-MOP3), there was a road map to reach a post-2012 accord (this was supposed to happen in Copenhagen). The COP14 in Poznan (Poland) addressed this. The Copenhagen summit, as seen in Chronology 1, brought together both the parties to the UN framework convention on climate change and the conference of parties to the Kyoto Protocol (COP15-MOP5). There were also meetings of subsidiary organs<sup>9</sup> and working groups of the Kyoto Protocol (AWG-KP) and the group for long-term cooperation (AWG-LCA, or *ad hoc* working group on long-term cooperation).

<sup>9</sup> The subsidiary body for implementation and the subsidiary body for scientific and technical consulting.



The most important issues that were supposed to be addressed in Copenhagen can be analysed by looking at the bodies assigned to them. The AWG-LCA was to focus on the mandate of the Bali Action Plan<sup>10</sup> and the AWG-KP was to continue with work centred on the efforts being made by industrialised countries in the framework of the Kyoto Protocol. The subsidiary organs, for their part, were to examine recent progress in the negotiating process. There were also plans to move ahead in the programme on reducing emissions from deforestation and forest degradation (REDD+) and analyse R+D in the field of observing climate alterations and their costs. The conference also had to study annual reviews of inventories of greenhouse gases, training of personnel dedicated to all these tasks, and the resources available for personnel.

Also on the agenda in Copenhagen was an analysis of bunkers,<sup>11</sup> although countries with strong interests in oil and the transport sector exerted pressure to keep this out of the negotiations. The subsidiary organs had been assigned the job of following up on negotiations on carbon capture and storage and on treating HFC.<sup>12</sup> Also on the agenda was an analysis of the emissions information provided by countries attending the meeting; and a review of financial mechanisms for addressing climate change. Finally, the summit had to approve a budget for UNFCCC and evaluate progress made in adapting to the effects of global warming.

So the two-week summit was rich in meetings both political –which were noisier and of limited use– and technical. Here we will now discuss the negotiating positions of the main players at the Copenhagen summit.

#### *Negotiating Positions Before the Summit*

Since until the end of January we will not know the emission reduction intentions of each country, it is a good idea to look at what the main players' initial positions were. Table 3 summarises the main countries' greenhouse-gas reduction plans.

Although the numbers might seem high, the intentions expressed by developed and developing countries are not ambitious enough to achieve overall goals that would ensure an average global temperature increase of no more than 2°C. So a greater negotiating effort will be needed looking ahead to the COP 16 in Mexico in order to be able to respond to the scientific mandate. The EU can play a decisive role, by pressuring developed and developing nations over the next year to raise their commitments, not just for 2020 but beyond that to 2050.

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<sup>10</sup> Structured around the areas of mitigation, adaptation, transfers (technological and financial) and shared vision.

<sup>11</sup> This refers to emissions from the air and maritime transport sectors.

<sup>12</sup> HFC refers to 'compounds consisting of hydrogen, fluorine and carbon', some of which are very damaging because of their global warming potential (<http://www.epa.gov/Ozone/defs.html>).

**Table 3. The main players' pre-COP15 emission reduction intentions through 2020<sup>13</sup>**

Country	Reduction intentions	Base year	Observations
China	40%-45% in emission intensity per unit of GDP	2005	Insists these intentions are voluntary and on maintaining sovereignty in verifying emissions.
US	17%-20%	2005	The US Senate holds the key to making these intentions a reality. The EPA's statement of 7 December calling greenhouse gas emissions dangerous for human health gives the Obama Administration a margin for passing legislation. <sup>14</sup>
Indonesia	26%-41%	n/a <sup>15</sup>	The upper part of the range for emissions reductions is contingent on the transfer of funds from developed countries. Investments in renewable energies, energy efficiency and deforestation are the pillars of these reductions.
India	20%-25% in the intensity of its emissions per unit of GDP	2005	Like China, it insists its reduction intentions are voluntary, and on the importance of national policies.
Japan	25%	1990	
Russia	22%-25%	1990	Russia has increased its offer. Before the summit, the reductions it was willing to commit to ranged from 10% to 15%.
Brazil	38%-42%	b/s <sup>16</sup>	Deforestation, industry and livestock are the areas that emission reduction policies will focus on. The national climate law was announced in late December 2009. Under it, Brazil was at the lower end of emission-reduction intentions declared before the Copenhagen summit.
South Africa	34%	b/s	Seeks greater efforts by developed countries and monetary transfers to achieve its goals.
EU	20%	1990	Its offer of a 30% cut in emissions of greenhouse gases is contingent on other countries making a similar effort.

A future EU announcement that it is raising its 2020 emissions-reduction goal to 30% could yield a double dividend. On the one hand, Europe could come closer to the pre-Copenhagen leadership status lost after the rough-and-tumble closed-door talks held by India, China, South Africa and Brazil and which were joined almost accidentally by the US. On the other hand, if we take an optimistic view, a potential domino effect of the announcement could kick in. The EU's commitments plus social awareness raised at the global level could exert enough pressure on other world leaders for them to seek more ambitious targets.

*The 'Copenhagen agreement': A Note on the Pros and Cons of what was Achieved in Denmark*

After the Copenhagen summit, Yvo de Boer, the Executive Secretary of the UN Framework Convention on Climate Change, said he was pleased to have brought the most important players together at the negotiating table. Here, we discuss what the final agreement does and does not achieve.

<sup>13</sup> Please note that countries' commitments are now available at <http://unfccc.int/home/items/5264.php> for developed countries and at <http://unfccc.int/home/items/5265.php> for the nationally appropriate mitigation commitments of developing countries. Overall there have been limited changes to the statements made prior to Copenhagen although these tend to lie in the lower bound of the stated possible emission reduction ranges.

<sup>14</sup> <http://www.epa.gov/climatechange/endangerment.html>.

<sup>15</sup> n/a = not available.

<sup>16</sup> b/s = baseline scenarios.

On the positive side, it includes 2°C as the maximum average temperature increase that is acceptable, in line with what scientists argue. What is more, most developed and developing countries endorsed the agreement. Commitments were made to specific figures in *new and additional* transfers to developing countries for emissions cuts (with special emphasis on reducing deforestation),<sup>17</sup> adaptation, development and transfer of technology and capacity building. These figures total US\$30 billion between 2010 and 2012. The developed countries committed themselves to increasing their contribution to a total of US\$100 billion in 2020. These numbers are significant although they fall short of those sought by developing countries and NGOs (see, for instance, Intermon Oxfam, 2009). The summit also established a so-called Green Climate Fund.

There was progress on verification: besides engaging in their own, domestic verification, developing countries will be subject to verification process as stipulated by the UNFCCC once they receive international aid. Steps in the right direction were also made in deforestation and in technology development and transfer. Finally, a follow-up mechanism was established under which in 2015 a progress assessment will be made in order to avoid dangerous interference with the climate. Additionally, countries will consider the possibility of lowering the average increase in temperatures to a maximum of 1.5°C, as the nations most vulnerable to global warming requested throughout the Copenhagen summit.

When the summit concluded, nearly all the parties involved were clearly disappointed. The main reason was that the results<sup>18</sup> fell far short even of the political agreement that had been hoped for. The meeting failed to produce a binding accord. One will have to wait until 31, January, 2010 to find out what the developed countries' emissions reductions intentions are, and the initiatives planned by the developing ones. Furthermore, these commitments are included not in the main body of the agreement but in an annex. Opposition to the agreement by Bolivia, Cuba, Nicaragua, Sudan and Venezuela implies the UN could only 'take note' of the Copenhagen accord. This means that only those countries which have 'associated themselves' with the agreement are subject to its requirements. In addition to the above, a decision is still pending on how to assign the US\$30 billion allotted in the fast-start fund, which will apply from 2010 to 2012.

A shortage of information on the accurate measuring of emissions has to be resolved because we cannot change something we do not know about. This should mean that there are penalties beyond the *naming and shaming* of countries which do not live up to their commitments. So transparency and the ability to compare emissions are essential. Action plans must incorporate the possibility of conflicts that might arise because of a lack of water and food in developing countries.

Clean development mechanisms (CDM)<sup>19</sup> must be transformed. This transformation must involve the reduction of red tape in certification of projects. We must also guarantee that the areas where projects are being developed actually benefit from them, and that they are additional to the projects that would have been implemented in the absence of these mechanisms. Europe could encourage integration of CDMs into the energy, deforestation

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<sup>17</sup> REDD+.

<sup>18</sup> [http://unfccc.int/files/meetings/cop\\_15/application/pdf/cop15\\_cph\\_auv.pdf](http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf)

<sup>19</sup> CDMs are one of the flexibility mechanisms included in the Kyoto Protocol. Under them, developed countries which have their emissions limited and find it costly to reduce them can undertake 'sustainable' investment projects in developing countries and tally the reductions that are certified with them towards meeting their own commitments.

and water management strategies of the countries where it has interests and historical links. What is more, the Copenhagen accord does not address two vitally important issues that were included in the Bali Action Plan: (1) risk management strategies; and (2) insurance and management of losses stemming from global warming.

It is necessary to keep pushing for innovation and the transfer of low-carbon technology. This will facilitate the stability of climate agreements over the long term. We must ensure that commitments to fighting deforestation are fulfilled and last over time. The way to do this is probably to pay communities that traditionally lived off forest resources so that they protect their forests, without harming their development. The world has to deal effectively with the issue of emissions in diffuse sectors,<sup>20</sup> as well as emissions from the aviation and marine transport sector.

The benefits of determined and sustained action are many: greater energy security and independence from outside sources, in particular for a country like Spain; fewer diseases stemming from air pollution; business opportunities in emerging countries that make the transition towards a low-carbon economy with renewable sources in their energy mix; creation of 'green-collar' jobs; exports of environmental consulting services; reduced prospects for insecurity and armed conflict as a result of shortages of water and food in countries that are the most vulnerable to climate change, etc.

#### *Spain's Priorities for Climate Change During its Presidency of the EU*

Spain can play a role in restoring the EU's position as a world leader in combating climate change. Rather than remain on the sidelines in future negotiating rounds so that other countries will join in, Europe should keep exerting pressure on the basis of facts. One way to do this is to embrace a commitment to raise emission cuts to 30% in 2020.

Looking ahead to the COP 16 meeting, it is important to come up with mechanisms to include civil society and thus avoid the chaos and frustration that marred the Copenhagen summit. Spain could draw on experiences within the EU to articulate a stable framework for citizen participation. The case of Friends of the Earth in the UK with regard to grassroots mobilisation and in the legislative process leading to the Climate Change Act could serve as the basis for establishing a 'good practices guide'.

Spain's EU Presidency should strive to achieve the fulfilment of as much as possible of the Copenhagen accord as regards mitigating the effects of climate change. It should also try to ensure adequate financing to allow developing countries to grow and move effectively towards a low-carbon economy.

The Swedish Presidency of the EU set up a most useful Internet portal that allowed people to follow most events and news conferences in almost real time. Spreading information and ideas is vital in order to create a critical mass of opinion and to encourage transparency. The Spanish Presidency could follow in the Swedes' footsteps as far as this is concerned.

The EU's 2020 strategy could reinforce the role played by the fight against global warming in all economic sectors by further fine-tuning the use of environmental policy tools (command and control, taxes, saleable permits, voluntary agreements and citizen awareness campaigns). The idea is to create incentives for the activities that are most

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<sup>20</sup> Diffuse sectors include transport, agriculture and households.

respectful of the environment. It is fundamental to eliminate subsidies, incentives and tax breaks for those activities that pollute the most. And this must be done without neglecting to establish plans to train and employ workers who change sectors and move to ones that are less polluting. This will not only boost competitiveness, but also give clear signals to markets and companies planning their long-term investments.

Some of the positive elements that came out of Copenhagen have been facilitated by the leadership, long-term work and drive shown by the EU. Adopting a pro-active stance on environmental protection is increasingly beneficial for politicians due to the social momentum the issue of climate change has created. After the disappointing meeting in Copenhagen we have to think about the future. Countries have to get ready for the next one in Mexico. There is no time to lose.

**Conclusions:** The 'greatest challenge of the 21<sup>st</sup> century' can be addressed if there is leadership and governments are determined to make the changes needed to fight climate change. To create this leadership it might be necessary to form a new *troika* that includes governments, the business sector and grassroots society all working to the same end. The world has a window of opportunity for changing environmental policies (Kingdon, 1995). Climate change has been identified as a problem that must be resolved and there is a growing demand from civil society. Some of the policies<sup>21</sup> that need to be implemented over the long term have been chosen. These must entail horizontal integration in all social and institutional areas, taking as a model, for instance, some of the elements in the UK's *Climate Change Act*.

The Copenhagen summit brought together many countries, but unfortunately much of civil society was excluded. The summit 'took note' of a minimal agreement that not all countries signed. The 2°C limit on temperature increases is included in the agreement, although for some of the most vulnerable countries this rise is too great. Over the short term, money was made available for the least-developed countries to mitigate and adapt to the consequences of global warming.

Just about everything remains to be done. In late January the countries in Annex 1 will announce their emission-reduction plans through 2020, and developing countries will unveil their commitments. The funds committed through 2012 have to be distributed, and long-term financing has to be found. Penalisation mechanisms must be devised that go beyond the practice of naming and shaming countries that do not fulfil promises. Countries have to strive for the COP 16 meeting to come up with a legally-binding agreement with comparable goals leading up to 2050. The objectives must make for a stable regulatory framework for governments and businesses. Such stability is crucial in encouraging responsible long-term investment. Additional and continuous efforts will be needed to change consumption patterns by civil society, using both market-based and command-and-control tools. And not to be forgotten are the institutional reforms necessary to make the negotiation and implementation process workable. Let us hope that 2010 ushers in an accord that is legally binding, fair, efficient and effective.

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<sup>21</sup> There are still options worth considering, such as George Soros' proposal to use Special Drawing Rights in the accounts that countries hold at the IMF to address climate change without increase deficits.

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