The Copenhagen Accord

Has the Copenhagen Accord, agreed at the COP15 conference, made a difference to the debate on climate change, and what does it mean for construction?

Introduction

In October 2009, Keith Clarke (Chairman, Construction Industry Council), in his presentation to the Institution's Council, made a convincing argument for tackling climate change through control of the carbon emissions. As a result many people in the Institution will have been following progress of the climate change negotiations in Copenhagen in December 2009.

Graham Owens, in his role as President of the Institution, took a strong lead on establishing the importance of structural engineers in their role in enabling construction to reduce its carbon emissions. Both the ICE and the RIBA have argued for a 'rational legally binding global framework' to emissions agreements.

This note provides the general reader with information on the background to the Copenhagen meeting and summarises the outcome.

The agreement at Copenhagen (The Copenhagen Accord) was not the legally binding commitment to reduced emissions that many had expected and there were political reasons for this. Carbon reduction is still a live issue and, despite the outcome of Copenhagen, engineers should expect that many of their clients will call upon engineers to use skill and knowledge to produce low-carbon construction solutions.

Background to the Copenhagen meeting

In Rio (1992), at a meeting commonly called the Earth Summit, The United Nations Framework Convention on Climate Change (UNFCCC) was established. The UNFCCC currently has 192 Parties (Countries) as members. Parties to the UNFCC were categorised thus:
– Annex I countries (industrialised countries and economies in transition);
– Annex II countries (a sub-group of Annex I – developed countries which pay for costs of developing countries);
– Developing countries (not required to reduce emission levels unless developed countries supply enough funding and technology).

UNFCCC has met annually at its Conference of the Parties (COP). At the third conference (COP3) in Kyoto in December 1997, the Kyoto Protocol was adopted, which sets out mechanisms for:
– Emissions trading – known as 'the carbon market'.
– Clean development mechanism (CDM) – which establishes the principle of allowing a country with an emission-reduction or emission-limitation commitment to implement an emission-reduction project in developing countries. Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO_2, which can be counted towards meeting Kyoto targets.
– Joint implementation – allowing a country with an emission reduction or limitation commitment under the Kyoto Protocol to earn emission reduction units (ERUs) from an emission-reduction or emission removal project in another country with a reduction/limitation commitment.

The mechanisms were intended to help stimulate green investment and help Parties meet their emission targets in a cost-effective way. As a result of the Kyoto agreed mechanisms the European Union emissions trading scheme was established in January 2005.

Many countries ratified the protocol (186 countries – accounting for around 64% of global emissions) with the notable exception of the US (accounting for around 36% of global emissions).

Contrary to popular belief, the Kyoto Protocol will not expire in 2012. However, in 2012, Annex I countries must have fulfilled their obligations of reduction of greenhouse gases emissions established for the first commitment period (2008-2012). The Kyoto Protocol is a first step; the UNFCCC requires modification until the objective is met. The non-binding 'Washington Declaration', (a group of developed countries meeting in February 2007) agreed in principle on the outline of a successor to the Kyoto Protocol. This would be a global cap-and-trade system (continually reducing carbon quotas driving a carbon trading system that would bring an efficient development of a low-carbon economy) that would apply to both industrialised nations and developing countries, and it was hoped that this would be in place by 2009.

The 15th conference (COP 15) has recently concluded in Copenhagen. The following notes provide some advice on the outcome and what it might mean for Institution members.

What was agreed at COP 15?

Before the Copenhagen Conference concluded an agreement was put together and named the Copenhagen Accord. The following statements are in the Copenhagen Accord:

Temperature*: 'The increase in global temperature should be below 2°'*. Many nations including the Alliance of Small Island States (AOSIS) wanted a lower maximum of 1.5°C.

To date it has been estimated that the 500 000Mt of carbon released since the start of industrialisation (*circa* 1750) have caused just under 1°C of global warming. Other things have affected global temperature but their effects more-or-less cancel out over this period.

Carbon release limits are based on the premise that if the total should be limited to 1 trillion tonnes and if we release another 500bn tonnes, we commit the Earth to a most likely warming of about 2°C.

There was some expectation, at least from Bali (COP 13), that Copenhagen would deliver a rational legally binding global framework. Rational, in the sense of looking at how much 'atmosphere' there is left and finding a 'fair' means of sharing this out around the world.

The amount of carbon released can be expressed in a parts per million volume (ppmv). For a 550ppmv target then there is 40% 'left' available.

The 2° rise having been pledged, carbon release agreements of the future will use the rationing of the remaining 500bn tonnes (550 ppmv) in forming rules in cap and trade agreements.

Peak date for carbon emissions*: 'We should co-operate in achieving the peaking of global and national emissions as soon as possible, recognising that the time frame for peaking will be longer in developing countries …'*

Some nations wanted to set a date for emissions to fall, but this should please developing countries.

Emissions cuts: *'Parties commit to implement individually or*

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jointly the quantified economy-wide emissions targets for 2020 as listed in appendix 1 before 1 February 2010.'

This phrase commits developed nations to start work almost immediately on reaching their mid-term targets. For the US, this is a weak 14-17% reduction on 2005 levels (equivalent to 3-5% on 1990 levels); for the EU, a still-to-be-determined goal of 20-30% on 1990 levels; for Japan, 25% and Russia 15-25% on 1990 levels. The accord makes no mention of 2050 targets, which had been included in earlier drafts.

Forests: 'We recognise the crucial role of reducing emission from deforestation and forest degradation and the need to enhance removals of greenhouse gas emission by forests and agree on the need to provide positive incentives to such actions through the immediate establishment of a mechanism including REDD-plus, to enable the mobilisation of financial resources from developed countries'.

It has been estimated that more than 15% of emissions are attributed to the clearing of forests but there are no safeguards attached to this commitment. REDD, or reduced emissions from deforestation and forest degradation is a controversial mechanism to control loss of forests. The basic concept is simple: governments, companies or forest owners in the South should be rewarded for keeping their forests instead of cutting them down. The idea of making payments to discourage deforestation and forest degradation was discussed in the negotiations leading to the Kyoto Protocol, but was rejected. REDD developed from a proposal in 2005 by a group of countries calling themselves the Coalition of Rainforest Nations. Two years later, the proposal was taken up at the Conference of the Parties to the UNFCCC in Bali (COP-13). Agreement on REDD was planned for at COP-15.

Money: 'The collective commitment by developed countries is to provide new and additional resources amounting to $30bn for 2010-12… Developed countries set a goal of mobilising jointly $100bn/year by 2020 to address needs of developing countries.'

Without this cash there would have been no agreement at Copenhagen. It provides for rich nations to support developing countries' efforts. Longer term, a far larger sum of money will be committed to a Copenhagen Green Climate Fund but the agreement leaves open the questions of where the money will come from, and how it will be used.

What was not agreed?

An attempt to replace Kyoto: Early drafts had included the preamble *'Affirming our firm resolve to adopt one or more legal instruments …'* but it created a negotiation obstacle. The Kyoto Protocol includes an important distinction between developed and developing countries. This 'twin-track' approach was expected to be adopted in any agreement coming out of the Copenhagen conference. Kyoto established the 'polluter pays' principle and developing countries were not prepared to adopt a single agreement. Europe, Japan, Australia and Canada are desperate to move to a one-track approach, but developing nations refused to kill off the protocol.

Deadline for a treaty: '… as soon as possible and no later than COP16 …' appeared and disappeared on the last day of the Conference. It set December 2010 as the date for the conclusion of a legally binding treaty. The final text dropped this date but it is likely that we will hear Governments and NGOs say that COP16 (Mexico) should become the milestone COP15 (Copenhagen) was meant to be.

Outcome – how the Copenhagen Accord affects the various Parties

The United States

The Copenhagen Accord means that the US does not have the problem of having to address a climate change bill. Their system of patronage through financial support of politicians makes it unlikely that they could implement a Climate Change Act, meaning that the US is unlikely to sign up to any legally enforceable international agreement.

However it is interesting to note that Sen. John Kerry announced at Copenhagen that he expected a US Climate Change Bill to clear both the House and the Senate next year. 33 out of 50 states have emission targets, which shows a considerable level of commitment to emissions reductions in the US.

China and the developing world

China, with other developing countries were put under pressure to reduce their greenhouse gas emissions. They did not lose face – indeed they displayed strength in the face of pressure from developed countries to ditch the twin-track process established in Kyoto.

China has adopted a position of reducing carbon intensity by 40%, i.e. reducing the rate of increase.

The third world

The big losers are the poorest nations of the world which are bound to suffer most from the suggested 2º temperature rise and there is much agreement on the imminent effects of climate change.

At the launch of the Intergovernmental Panel on Climate Change (IPCC) working group report on climate change (Sept 2007) Professor Parry, co-Chair, said: *'We are all used to talking about these impacts coming in the lifetimes of our children and grandchildren. Now we know that it's us.'* He said the international response to the problem had failed to grasp that serious consequences such as reduced crop yields and coastal flooding were now inevitable. *'Mitigation has got all the attention but we cannot mitigate out of this problem. We now have a choice between a future with a damaged world or a severely damaged world.'*

At the same event the trade and development minister, Gareth Thomas said: *'Failing to tackle it [climate change] will lead to floods, droughts and natural disasters which can destroy poor people's lives as well as their livelihoods.'*

Dr Rajendra Pachauri, Chairman, IPCC, not surprisingly, spoke diplomatically but strongly in his speech for the opening ceremony for COP 15. He said: *'Available research suggests a significant future increase in heavy rainfall events in many regions, including some in which the mean rainfall is projected to decrease. The resulting flood risk poses challenges to society, physical infrastructure and water quality. It is likely that 20% of the world population, which as a fraction could exceed two billion people, will live in areas where river flood potential could increase by the 2080s. In Africa, by 2020, between 75 and 250 million people are projected to be exposed to water stress due to climate change, and in some countries on that continent yields from rain-fed agriculture could be reduced by up to 50%.'*

There is neither agreement in place to limit rises to that nor any legal agreement on mechanisms to achieve the agreed 2º limit. Low-lying countries will be lost – and soon.

The United Kingdom

The UK came out of the Conference with some political credit. They were praised for achieving the $100bn/year commitment to developing countries.

Greenhouse Gas Emissions are still limited by the Kyoto mechanism and the EU already has a strong commitment to reduction of carbon emissions. The UK has the strongest climate change legislation in the EU. However, other countries have committed more funds than the UK has in supporting the stimulation of green technology. Thus the UK is likely to find itself importing new technology to comply with its own stringent legislation (the Climate Change Act; The Carbon Reduction Commitment and implementation of the Code for Sustainable Homes).

The lack of agreement on reducing carbon quotas has meant the price of carbon has fallen on the international markets, leading to a lack of incentive for industry to invest in low-carbon technology. Development of low carbon industry is a reality for the UK economy – UK law drives it. As they have to move to low carbon technology (to meet legal emissions limits) but do not have the financial benefit of carbon trading to pay for the cost (due to low value of carbon credits) it is probable that the impact on

construction will be felt more through the high price of energy and high embodied energy products rather than in direct innovation. Unless other developed nations move towards targets of similar stringency, the UK may find itself being put in an uncompetitive situation, which may lead to internal political pressure to reduce current UK commitments. Whatever happens it will be driven by the price of energy and the relative cost of fossil fuel energy and renewable energy.

COP 15 success or failure?

It seems that the best to be said of COP 15 is that it is two steps forward and one step back. It has certainly failed the poorest nations of the world. The Non-Governmental Organisations (NGOs) of the world were excluded from the UN official conference and so they lacked influence on the outcome. The issues surrounding climate change are complex and the Conference has not succeeded in making them any clearer to the non-specialists. The concept of the trillionth tonne of carbon may be a way of communicating some of the complexity in an understandable manner.

Since 2006 the head of the UNFCCC Secretariat has been Yvo de Boer. In 2008 he said: *'Copenhagen, for me, is a very clear deadline that I think we need to meet, and I am afraid that if we don't then the process will begin to slip, and like in the trade negotiations, one deadline after the other will not be met, and we sort of become the little orchestra on the Titanic'.*
In 2009 he said that everything will be sorted out '*in Mexico one year from now*'.

The Future – beyond COP 15

The effect of climate change is unequal – the UK is in the fortunate position of being less directly affected than most. The poorest countries of the world will be worst hit and surely this means that those who have been most responsible for the emissions causing climate change have a responsibility to act. Anyone who is sceptical of the science behind man-made carbon emissions leading to climate change should make reference to the Royal Society website and in particular their publication *Climate Change Controversies – A Simple Guide* (http://royalsociety.org/Climate-change-controversies/).

Presumably the reason that a 'rational framework' was not agreed at Copenhagen was because both the developed and the developing countries saw it as too expensive – too restrictive on their economies. But, as climate change continues, there will be agreement on how to limit emissions. As a legally binding limit (which would drive carbon price) does not seem to be possible, it seems unlikely that the future will be a 'cap and trade' mechanism. Perhaps we will see taxes on carbon emissions – a 'Carbon Tax' has been discussed for many years and if a market-driven system cannot be established, then a tax seems inevitable.

Although the world's politicians failed to reach agreement, many companies and other organisations recognise the imperative to act and are adopting carbon reduction strategies. There was no global agreement at Copenhagen but the development of low-carbon solutions as a requirement of a client's brief will be the most obvious impact on engineers. We will see low carbon solutions (energy generation and construction) continuing to be of importance. They will provide considerable professional opportunities for engineers to use their skills and knowledge to meet this challenge positively.

This briefing is prepared by the Institution of Structural Engineers Sustainable Construction Panel; Contact: Berenice Chan (email: Berenice.chan@istructe.org).

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