COPING WITH CLIMATE CHANGE: THE 2009 COPENHAGEN ACCORD

What are the main global strategies for coping with climate change caused by enhanced greenhouse gas (GHG) emissions? The different views of key players, such as national governments, businesses, NGOs and individuals were aired at the 2009 climate change summit in Copenhagen. The aim of this summit was to provide the framework for a successor to the 1997 Kyoto Protocol which asked for all countries to commit to a firm target for GHG emission reduction. Although a binding global treaty was not finally arrived at in Copenhagen, broad agreement on major issues was reached by most of the world's most powerful states. This study can be used by students prior to their ***Edexcel Unit 1 GCE Geography*** *exam; or it can be used to help bridge the AS and A2 courses by introducing* ***Unit 3*** *concepts such as' superpowers' and 'technological fix'.*

Figure 1 *The climate change governance timeline (Source: Financial Times)*

THE BACKGROUND TO COPENHAGEN

Global concern about climate change has been mounting since the late 1980s (Figure 1). In 1988, the UN Environmental Programme and the World Meteorological Organisation set up the Inter-governmental Panel on Climate Change (IPCC) which began detailed research of the enhanced greenhouse effect and the role played by human activities in driving up atmospheric levels of carbon dioxide, methane and nitrous oxide.

Key political players first began to discuss their official response to IPCC findings at the 1992 Earth Summit in Rio. 190 countries signed a treaty agreeing

KEYWORDS

Adaptation means dealing with the consequences of climate change, for instance by strengthening flood defences.

Mitigation means slowing global warming by tackling the underlying problem of the build-up of greenhouse gases, for instance by switching to renewable energy sources.

Emerging economies are countries previously classified as 'less developed' that have made great developmental progress over the last two decades and now rival developed countries in terms of their economic influence over world affairs.

Carbon intensity is a measure of how much carbon dioxide is produced in relation to economic activity. A country that is industrialising rapidly can act to decrease carbon intensity but may still see its total emissions rise.

that the world community should 'achieve stabilisation of greenhouse gas concentrations in the atmosphere at a low enough level to prevent dangerous anthropogenic interference with the climate system.'

In 1997, world leaders met again in Kyoto in order to develop the treaty further into a more detailed biding agreement known as a protocol. The resulting Kyoto Protocol required all signatories to agree to a legally binding GHG emissions reduction target. For instance, the official EU target was 8%, a goal later increased to 20% by 2020.

The effectiveness of the Kyoto Protocol was weakened when:

- some countries, notably including the US, chose not to sign it, fearing the cost of emission reductions (either through paying for new green technology or reducing industrial output).
- developing countries such as India and China were exempt, as it was believed that their economic growth should not be interfered with.

However, the runaway growth of **emerging economies** since 1997 – with China's GDP growing at roughly 10% per annum throughout this period – has meant that their exemption has left the world with a seriously flawed global agreement on climate change. China overtook the US to become the world's largest carbon emitter (and arguably its second-greatest superpower) in 2007. Any binding global agreement that does not have China as a signatory risks losing the support of other key players.

Since the run-up to Copenhagen began at a 2007 meeting in Bali, world leaders have agreed that it is vitally important that global groupings such as the 'BRIC' nations (Brazil, Russia, India and China) and other large emerging economies (such as Indonesia, Mexico and South Africa) are signatories to any successor to the Kyoto Protocol, in addition to long-established heavy carbon polluters such as the US, Canada and EU nations.

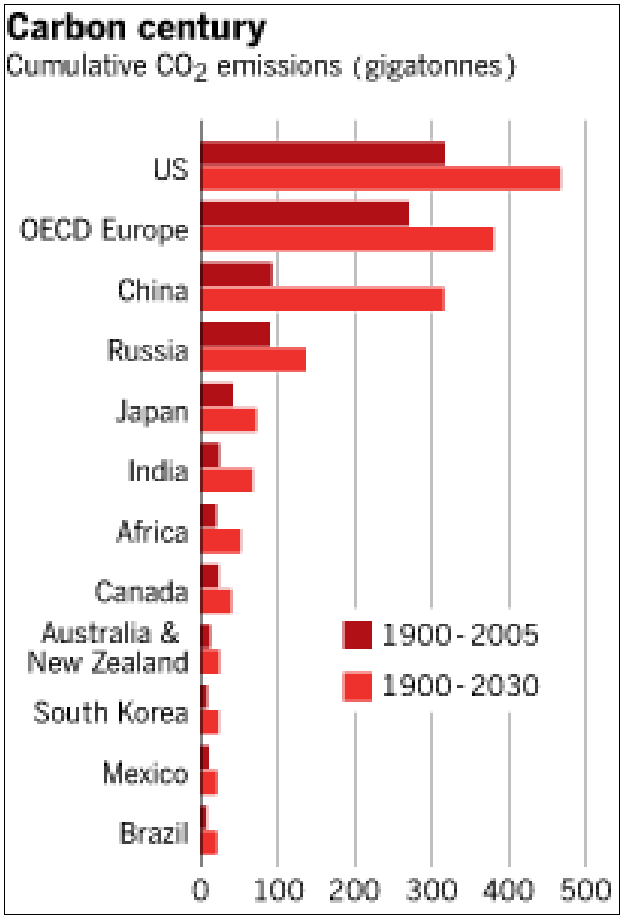

Figure 2 *'Carbon Century': cumulative emissions of the world's major players (Source: Financial Times)*

POSITION OF THE KEY PLAYERS IN THE RUN-UP TO THE COPENHAGEN CONFERENCE

One important historical issue always features in climate change negotiations. The developed nations of North America, Europe, Japan and Australasia are responsible for the majority of the anthropogenic GHGs now in Earth's atmosphere. This is due to their early industrial revolutions (beginning around 1750 in the UK) and much longer historical record of pollution.

Even though the BRIC nations may be emitting equivalent amounts of pollution today, developed nations are much bigger culprits in aggregate terms when we look back at the 'carbon century' that began in 1900 (Figure 2). Primary responsibility for the impacts of climate change – including a predicted future of increased storms, floods, droughts, heat waves and coastal land loss – lies with developed countries, according to this argument which China's leaders have repeatedly stressed.

Players	Positions and pledges
European Union	The EU arrived at Copenhagen with a pledge already in place to cut its emissions by 20% by 2020 (compared with 1990 levels) and a willingness to raise the target to 30% if other developed countries will agree to a bigger commitment too (in line with advice taken from the IPCC).
United States	The US is the world's second biggest emitter, producing 5,900 million tonnes of CO_2 (e) each year. A bill mandating proposed cuts of 17% by 2020, compared with 2005 levels, has yet to pass through the US Senate.
China	The leaders of the world's most populous nation have as their main priority a massive programme of poverty alleviation that requires greater energy use. However they believe in the science of climate change and do want to reduce the rate at which emission rise. In the run-up to Copenhagen, China tentatively introduced (non-binding) targets for 2020 that will reduce the **carbon intensity** of its growth. This means their actions will not lead to an absolute cut in emissions levels (as the EU has pledged to do) but will curb the growth rate significantly. As a result, China's GHG emissions in 2020 will still be 40% higher than today's 6,400 $mtCO_2$ (e) in real terms – but far lower than they might otherwise be.
India	A cautionary target has also been set by India to reduce the carbon intensity of its growth. A 24% reduction in emissions intensity is sought by 2024. This would amount to savings of nearly 2000 mtCO2(e). India's rulers agree that the world must limit its temperature rise to 2°C, in line with IPCC recommendations, but believe developed nations should do more than the emerging economies.
Russia	Russia has said it is prepared to offer $200 million to help poor countries fight climate change and is ready to cut its own emission by 25% from 1990 levels if US, China and others agree to do the same (this is relatively easy to do in Russia's case on account of economic problems post-1990).
Brazil	Brazil has committed to an 80% cut in tropical rainforest deforestation by 2020 (a major cause of CO_2 emissions) but has not yet declared whether it will accept binding targets for overall reduction of GHG emissions.
Businesses	Business leaders everywhere have said they urgently need to know how much investment in clean energy they will need to make if a binding agreement on severe CO_2 cuts is finally arrived at by the international community. Predictable and stable conditions are needed for firms to make plans to re-invest money that would otherwise be paid out to shareholders. Combat Climate Change – a group comprising 60 large companies including Unilever and BP - has said it is ready to act but requires a clear regulatory framework to work with.
Individuals	Many people care passionately about this issue and will never be content with what governments are doing enough unless there is a global agreement to halt any further rise in GHG emissions altogether (which is unrealistic given that national governments generally aim to increase their economic output and GDP, year on year). Up to 100,000 people travelled to Copenhagen to take part in marches and protests outside of the parliament building while the conference took place. Fearing a lack of action by governments, some individuals in the UK took action themselves by promising to cut their personal emissions by 10% during 2010. This campaign was launched in the run-up to Copenhagen and you can research this at: http://www.1010uk.org/
NGOs	Greenpeace, Friends of the Earth, the World Health Organisation (WHO) and many other organisations are passionately committed to tackling climate change. In the run-up to Copenhagen, WHO prepared lobbying reports showing the health threats that hundreds of millions of people will face if climate change is allowed to escalate.

Table 1 *Positions and pledges of key players made prior to Copenhagen*

India and China also worry that calls from the west for emerging economies to cut emissions are part of a strategy to limit the development of the BRICS, perhaps in response to growing fears of being overtaken by these powerful newcomers (all of whom emerged relatively unscathed from the 2008-09 global credit crunch, unlike the old world powers of the US and UK). The key national players approached Copenhagen with a diverse range of viewpoints, existing commitments and priorities. So too did big businesses and individual citizens of the world's 193 formally-recognised states (Table 1).

The UN set out four specific targets to be met for the Copenhagen conference to be dubbed successful:

- the outcome should require developed countries to cut emissions by 2020.
- the outcome must require developing countries to take actions to curb their emissions.

Strengths	Weaknesses
▪ All the signatories agreed to try to limit global warming to no more than 2°C above pre-industrial levels, which is vital according to the IPCC ▪ A great step forward has been taken given that (i) the US did not ratify Kyoto and (ii) the main emerging economies like China have now provided clear details of domestic plans to curb their future emissions growth ▪ This is the furthest the world community has come in two decades of climate policy since the 1992 United Nations Framework Convention on Climate Change (which laid the foundations for the Kyoto Protocol)	▪ The document remains in effect a voluntary agreement: so it does not have much legal standing ▪ It did not set a timetable by which the commitments it contained should be turned into a full legally binding treaty under international law – and time is of the essence ▪ Critics worry say only 20% of developed countries' reduction targets thus far submitted actually qualify as 'sufficient' to keep global temperature rise below 2°C. The current pledges leave the world heading for a global warming of over 3°C above pre-industrial levels by 2100 (*Source*: http://www.climateactiontracker.org/)

Table 2 *Strengths and weaknesses of the Copenhagen Accord*

- developed countries should agree to provide financial assistance to help the poor world achieve these goals.
- some clear outline should be given of how these processes will be governed.

Outcomes of the Copenhagen Climate Change Summit

The Copenhagen Climate Change Summit 2009 ended with the production of a document called the Copenhagen Accord. Under this new agreement:

- Some developed countries pledged to cut their greenhouse gas emissions 'substantially' by 2020. The key players unambiguously declared their commitment to deep cuts in global emissions that are 'required according to science ... with a view to reduce global emissions so as to hold the increase in global temperature below 2°C.'
- Some developing countries committed to 'reductions' in the growth of their emissions.
- Rich countries agreed to an aim of providing $100bn a year in financial transfers to poorer countries by 2020, and an immediate fund of $30bn for the next three years – to assist with **adaptation** and **mitigation** efforts.
- The accord formally recognises the importance of reducing CO_2 emissions from deforestation and tropical rainforest degradation and agrees to provide financial resources from the developed world to help meet this aim.

All the key UN goals were thus, in principle, met by the Accord. However, it did not emerge as a legally binding document signed by world leaders but rather as a general agreement.

- By January 2010, 138 countries had signed the agreement (the first step countries need to take).
- By February 2010, 67 of those countries had actually registered their pledged targets (the second step countries need to take).

Unlike the Kyoto protocol, however, targets are not legally binding and can still be broken. Following this failure of Copenhagen to produce a *legally binding* set of rules, some developed countries, including the UK, have suggested that the original Kyoto Protocol may also need to be kept in place after it is due to expire in 2012 - provided emerging and developing economies enter a parallel emissions treaty.

For any such stratgey to work, China, India and also the US (which did not ratify the Kyoto protocol) will therefore have to make a legally binding commitment to cut emissions. Worryingly, a May 2010 climate conference in Beijing ended with the US and China still hesitant to take on legally binding commitments. India's environment minister called the prospect of a breakthrough as still being "very, very remote". (*Financial Times*, 10 May 2010).

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Photograph 1 *Climate change protests in Copenhagen*

KEYWORDS

Pledge A national ('domestic') commitment that can easily be broken, although it is embarrassing to be seen by others to fail at meeting one's own goals.

Accord (or political agreement) An arrangement that is not binding under international law, but it is politically embarrassing for countries to break an accord once they have signed it.

Treaty A political agreement that becomes legally binding under international law.

Protocol An amended treaty. In the case of the Kyoto Protocol, specific details were later added that were omitted from the original draft treaty; these 'add-ons' were what led to refusal to sign it by some nations that had signed the original treaty.

UNIT 3 SYNOPTIC LINK (1)

Not a true global agreement but a 'superpower' agreement

The main reason the Copenhagen Accord was not adopted formally by the whole UN was that a handful of developing countries refused to agree to it. They included Venezuela, Bolivia, Nicaragua and Sudan. The UN process requires all universal agreement prior to formal adoption. The refusal of a small minority of countries prevented the deal from becoming an official worldwide policy.

New 'superpower' world political structures became apparent at Copenhagen, leaving many people feeling that true multilateral government decision-making had not taken place. Critics say that the US met with the EU and then with China, India, Brazil and South Africa to produce a document that was agreed to by 30 of the highest-emitting nations - but which left some nations feeling left-out of the decision-making process.

Even the EU seemed left at the sidelines in the final hours of the conference as China and the US shaped the final agreement. The EU strategy of offering to deepen its own emissions cuts - from 20 per cent below 1990 levels to 30 per cent - if other nations showed comparable commitment, failed in the event to provide any leverage over the US or China. 'We've been taught some lessons about the realities of the so-called multi-polar world' said Sweden's environment minister after the expectations of the EU were not met.

UNIT 3 SYNOPTIC LINK (2)

A 'technological fix' is still needed

> 'The stark lesson of Copenhagen is that the world is neither willing nor able to go cold turkey when it comes to ending its addiction to fossil fuels. The problem, particularly for China, India, and the developing world, is that there simply are not any affordable alternatives. We need to increase spending on green-energy R&D by a factor of 50.' Bjørn Lomborg (Copenhagen Consensus Centre)

The 'magic number' remains 2°C. A rise in world temperature above pre-industrial levels that exceeds this would go well beyond the margin of safety (meaning our ability to adapt to climate change would be outstripped). A global goal of reducing emissions by 50% by 2050 is still needed to achieve this and the Copenhagen Accord is unlikely to deliver this in its current unsigned state.

Perhaps the most worrying aspect of the Copenhagen Accord is that China's massive emissions will keep rising in real terms unless significant improvements in green technology, such as carbon capture and storage, come on-line sooner. The UK Tyndall Centre reckons this peak moment for China will come around 2030; China's top climate change policy has said the date could be as late as 2050.

Reforestation, low-carbon transport, improvements in energy efficiency and investments in renewable power – such as wind turbines in the Mongolian desert - are amongst the strategies that may help China meet this goal. And for renewable strategies such as these to work at the level required, both in China and elsewhere, increased innovation is desperately needed.

The commentator Martin Wolf has argued that: 'We need to develop and apply innovations in all relevant technologies. Tackling the risk of climate change is the most complex collective challenge humanity has ever confronted. Success requires costly and concerted action among many countries to deal with a distant threat, on behalf of people as yet unborn, under unavoidable uncertainty about the costs of not acting. We have reached the point, however, where a broad consensus exists on the nature of the threat and the sorts of policies we need to follow to deal with it.'

KEY POINTS

- This is the most advanced global agreement on climate change yet; it was signed by all the key players, including China and the US.
- The Copenhagen Accord formally recognised that climate change is one of the greatest challenges of the present day and that global actions should be taken to keep temperature increases below 2°C.
- Key pledges include financial aid for poorer countries to help fight climate change and a commitment by developed and emerging economies to reduce their CO_2 emissions.
- However, CO_2 emissions are still set to rise in China and India; both countries have agreed to reduce the carbon-intensity of their GDP (which is growing very quickly) but not to cut their total emissions.
- Several major countries felt ignored, including much of South America; many people felt the decision making was dominated by two superpowers – China and the US. The EU aim to get more countries to set even higher targets for emissions reductions was not met.
- Unlike the Kyoto Protocol, the Copenhagen Accord does not contain any legally binding commitments for reducing CO2 emissions and there is no clear indication yet of what legally-binding rules will be in place when Kyoto expires in 2012.
- Many experts believe we desperately need a better technological fix for climate change mitigation as well as improved climate change governance.

'The lowest level of ambition you can imagine. It's nothing short of climate change scepticism in action.
Lumumba Di-Aping, chief negotiator for the G77 group of 130 developing countries

'Historic disappointment… a document with no more meaning or authority than a bus ticket.'
Greenpeace

'A meaningful and unprecedented breakthrough.. producing an accord that was at least agreed upon by a large group of nations, including the world's biggest emitters.'
US President Obama

'Let's change the system, then we will begin to save the climate. Socialism is the way to save this world and capitalism is the road to hell.'
Hugo Chávez, president of Venezuela.

'Brokenhagen.'
Friends of the Earth

'A good deal and satisfactory solution.'
India's environment minister

'Significant and positive.'
China' s foreign minister

Figure 3 *What they said about the Copenhagen Accord*

APPENDIX

CONFERENCE OF THE PARTIES Fifteenth session Copenhagen, 7.18 December 2009
Agenda item 9 High-level segment
Draft decision -/CP.15
Proposal by the President
Copenhagen Accord

The Heads of State, Heads of Government, Ministers, and other heads of delegation present at the United Nations Climate Change Conference 2009 in Copenhagen, In pursuit of the ultimate objective of the Convention as stated in its Article 2, Being guided by the principles and provisions of the Convention, Noting the results of work done by the two Ad hoc Working Groups, Endorsing decision x/CP.15 on the Ad hoc Working Group on Long-term Cooperative Action and decision x/CMP.5 that requests the Ad hoc Working Group on Further Commitments of Annex I Parties under the Kyoto Protocol to continue its work, Have agreed on this Copenhagen Accord which is operational immediately.

1. We underline that climate change is one of the greatest challenges of our time. We emphasise our strong political will to urgently combat climate change in accordance with the principle of common but differentiated responsibilities and respective capabilities. To achieve the ultimate objective of the Convention to stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, we shall, recognizing the scientific view that the increase in global temperature should be below 2 degrees Celsius, on the basis of equity and in the context of sustainable development, enhance our long-term cooperative action to combat climate change. We recognize the critical impacts of climate change and the potential impacts of response measures on countries particularly vulnerable to its adverse effects and stress the need to establish a comprehensive adaptation programme including international support. GE.09-71523
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2. We agree that deep cuts in global emissions are required according to science, and as documented by the IPCC Fourth Assessment Report with a view to reduce global emissions so as to hold the increase in global temperature below 2 degrees Celsius, and take action to meet this objective consistent with science and on the basis of equity. We should cooperate in achieving the peaking of global and national emissions as soon as possible, recognizing that the time frame for peaking will be longer in developing countries and bearing in mind that social and economic development and poverty eradication are the first and overriding priorities of developing countries and that a low-emission development strategy is indispensable to sustainable development.

3. Adaptation to the adverse effects of climate change and the potential impacts of response measures is a challenge faced by all countries. Enhanced action and international cooperation on adaptation is urgently required to ensure the implementation of the Convention by enabling and supporting the implementation of adaptation actions aimed at reducing vulnerability and building resilience in developing countries, especially in those that are particularly vulnerable, especially least developed countries, small island developing States and Africa. We agree that developed

countries shall provide adequate, predictable and sustainable financial resources, technology and capacity-building to support the implementation of adaptation action in developing countries.

4. Annex I Parties commit to implement individually or jointly the quantified economy-wide emissions targets for 2020, to be submitted in the format given in Appendix I by Annex I Parties to the secretariat by 31 January 2010 for compilation in an INF document. Annex I Parties that are Party to the Kyoto Protocol will thereby further strengthen the emissions reductions initiated by the Kyoto Protocol. Delivery of reductions and financing by developed countries will be measured, reported and verified in accordance with existing and any further guidelines adopted by the Conference of the Parties, and will ensure that accounting of such targets and finance is rigorous, robust and transparent.

5. Non-Annex I Parties to the Convention will implement mitigation actions, including those to be submitted to the secretariat by non-Annex I Parties in the format given in Appendix II by 31 January 2010, for compilation in an INF document, consistent with Article 4.1 and Article 4.7 and in the context of sustainable development. Least developed countries and small island developing States may undertake actions voluntarily and on the basis of support. Mitigation actions subsequently taken and envisaged by Non-Annex I Parties, including national inventory reports, shall be communicated through national communications consistent with Article 12.1(b) every two years on the basis of guidelines to be adopted by the Conference of the Parties. Those mitigation actions in national communications or otherwise communicated to the Secretariat will be added to the list in appendix II. Mitigation actions taken by Non-Annex I Parties will be subject to their domestic measurement, reporting and verification the result of which will be reported through their national communications every two years. Non-Annex I Parties will communicate information on the implementation of their actions through National Communications, with provisions for international consultations and analysis under clearly defined guidelines that will ensure that national sovereignty is respected. Nationally appropriate mitigation actions seeking international support will be recorded in a registry along with relevant technology, finance and capacity building support. Those actions supported will be added to the list in appendix II. These supported nationally appropriate mitigation actions will be subject to international measurement, reporting and verification in accordance with guidelines adopted by the Conference of the Parties.

6. We recognize 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 mobilization of financial resources from developed countries.

7. We decide to pursue various approaches, including opportunities to use markets, to enhance the cost-effectiveness of, and to promote mitigation actions. Developing countries, especially those with low emitting economies should be provided incentives to continue to develop on a low emission pathway.

8. Scaled up, new and additional, predictable and adequate funding as well as improved access shall be provided to developing countries, in accordance with the relevant provisions of the Convention, to enable and support enhanced action on mitigation, including substantial finance to reduce emissions from deforestation and forest degradation (REDD-plus), adaptation, technology development and transfer and capacity-building, for enhanced implementation of the Convention. The collective commitment by developed countries is to provide new and additional resources, including forestry and investments through international institutions, approaching USD 30 billion for the period 2010 . 2012 with balanced allocation between adaptation and mitigation. Funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa. In the context of meaningful mitigation actions and transparency on implementation, developed countries commit to a goal of mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries. This funding will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance. New multilateral funding for adaptation will be delivered through effective and efficient fund arrangements, with a governance structure providing for equal representation of developed and developing countries. A significant portion of such funding should flow through the Copenhagen Green Climate Fund.

9. To this end, a High Level Panel will be established under the guidance of and accountable to the Conference of the Parties to study the contribution of the potential sources of revenue, including alternative sources of finance, towards meeting this goal.

10. We decide that the Copenhagen Green Climate Fund shall be established as an operating entity of the financial mechanism of the Convention to support projects, programme, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity-building, technology development and transfer.

11. In order to enhance action on development and transfer of technology we decide to establish a Technology Mechanism to accelerate technology development and transfer in support of action on adaptation and mitigation that will be guided by a country-driven approach and be based on national circumstances and priorities.

12. We call for an assessment of the implementation of this Accord to be completed by 2015, including in light of the Convention.s ultimate objective. This would include consideration of strengthening the long-term goal referencing various matters presented by the science, including in relation to temperature rises of 1.5 degrees Celsius.