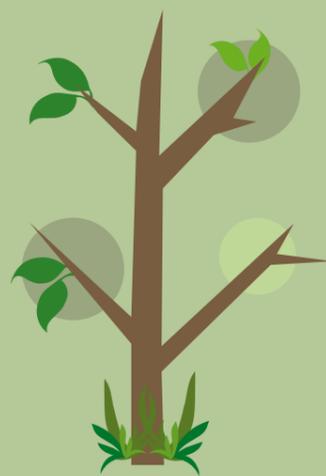


CPA UK's 3rd International Parliamentary
Conference on Climate Change
**Climate Change Toolkit
for Parliamentarians**



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The Commonwealth Parliamentary Association UK Branch (CPA UK) is one of the largest branches of the Commonwealth Parliamentary Association, the professional association of all Commonwealth parliamentarians. CPA UK's membership is made up of Members from both Houses of the United Kingdom Parliament. Through dialogue, CPA UK undertakes international parliamentary outreach on behalf of the Houses of Parliament and the wider CPA. With a specific focus on parliamentary diplomacy and parliamentary strengthening activities, CPA UK seeks to foster co-operation and understanding between parliaments, promote good parliamentary practice and advance parliamentary democracy.



“Never before have we faced an environmental issue of such a global nature as climate change.”

Rt Hon. Sir Alan Haselhurst MP
Chairman, CPA UK Executive Committee

Foreword

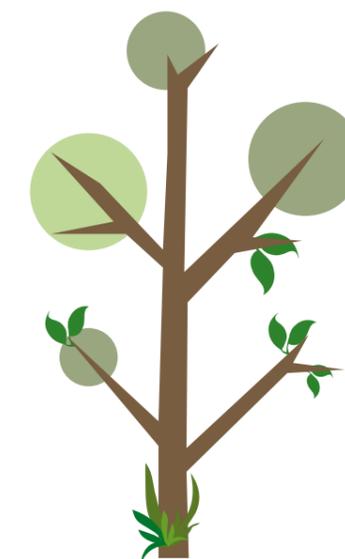
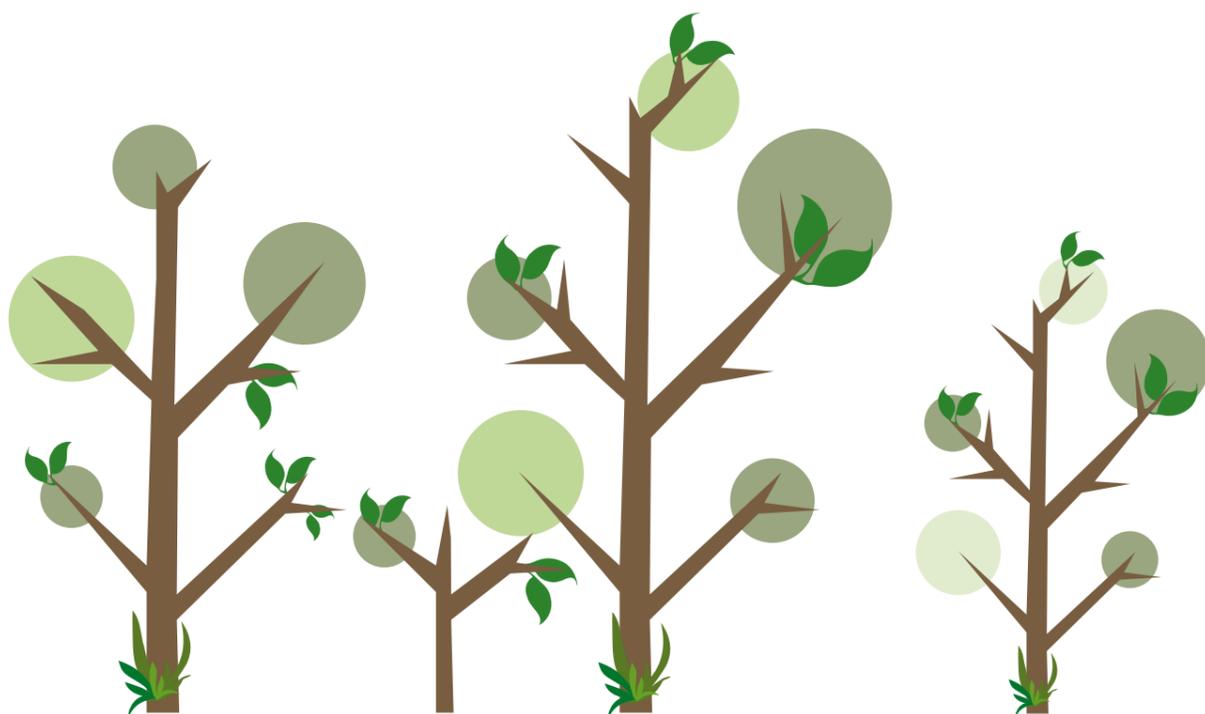
Never before have we faced an environmental issue of such a global nature as climate change. Not only does it exemplify how actions in one part of the world impact on those in far-flung continents, it shows how the same environmental processes affect us all – rich and poor, rural and urban, working in agriculture and industry across developed and developing countries – albeit in different ways. For this reason we must approach climate change together, and I am delighted that CPA UK was able to play a part in this, bringing together parliamentarians from 43 parliaments and legislatures from Commonwealth and non-Commonwealth countries to share experiences, develop ideas and build partnerships during the 3rd International Parliamentary Conference on Climate Change (IPCCC) in July 2010.

The IPCCC was the third in a series of climate change conferences and is part of a wider programme of parliamentary strengthening and parliamentary diplomacy work organised by CPA UK. As parliamentarians we have a key role to play in tackling climate change through our work in our constituencies and in our parliaments. The CPA's approach of bringing parliamentarians together gives us invaluable opportunities to work with and learn from our colleagues from the Commonwealth and beyond in fulfilling this role, and as the newly-elected Chairman of the CPA UK Executive Committee I encourage my fellow parliamentarians to take full advantage of these opportunities.

This Toolkit for Parliamentarians is based on the discussions held during the 3rd IPCCC, introducing the issues to those parliamentarians who were unable to attend the conference and serving as a reminder of the discussions to those who did. I hope that it will prove an invaluable resource for parliamentarians as they approach this complex issue, and will serve to share the ideas and best practices discussed at the conference with the delegates and other parliamentarians from around the world.



Rt Hon. Sir Alan Haselhurst MP
Chairman, CPA UK Executive Committee



1. Background Information on Climate Change



1.1 Climate Science

What is Climate Change?

The Earth's weather – the temperature, precipitation and wind in a certain place – constantly change, hour by hour and day by day. The average weather and the nature of its variations are known as the climate; it is changes in these average conditions and the way they vary, between day and night and over the seasons, that we refer to when we use the phrase *climate change*. Although we often discuss a temperature increase, changes in precipitation and in particular in the occurrence of extreme events such as floods, droughts and storms, may have the greater effect on human society.

The Greenhouse Effect

The Greenhouse Effect plays a vital role in heating the Earth to a temperature in which it is comfortable to live. Energy from the sun, in the form of ultraviolet and visible light, passes through the Earth's atmosphere, heating the surface. The energy is then re-emitted back to space as infrared radiation, which acts to cool the Earth. **If these two processes were to act alone, the Earth would be more than 30° Celsius colder than it is today¹.**

However naturally occurring gases form a “blanket” in the Earth's atmosphere which traps some of the infrared radiation, by absorbing it and emitting it in all directions within the atmosphere and back to the Earth's surface. This warms the Earth's surface and lower atmosphere to around 15°C.

The most important *greenhouse gas* (GHG) is water vapour (which clouds are made of), followed by carbon dioxide (or CO₂). Others include methane (CH₄), nitrous oxides (NO_x) and ozone (O₃), which are present only in tiny amounts in the atmosphere³.

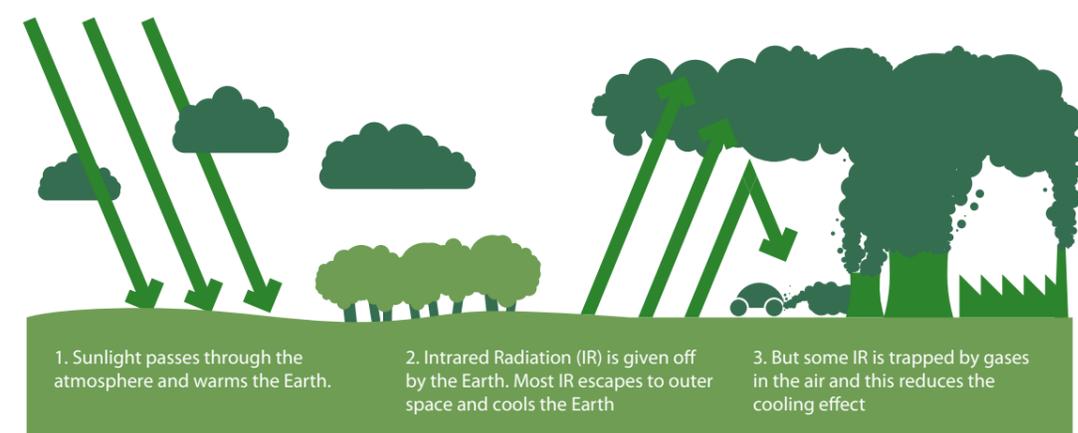


Figure 1.1: Adapted from: *The Greenhouse Effect*. Source: Met Office, 2009²

Anthropogenic Climate Change

Human activities have caused the concentrations of GHGs in the Earth's atmosphere to rise considerably over the past 250 years. Man-made carbon dioxide is released into the atmosphere by activities such as burning fossil fuels and deforestation. Methane is produced, for example, in landfill sites and in the guts of sheep and cows and nitrous oxide is released to the atmosphere as a result of the use of nitrogen fertilisers in agriculture.

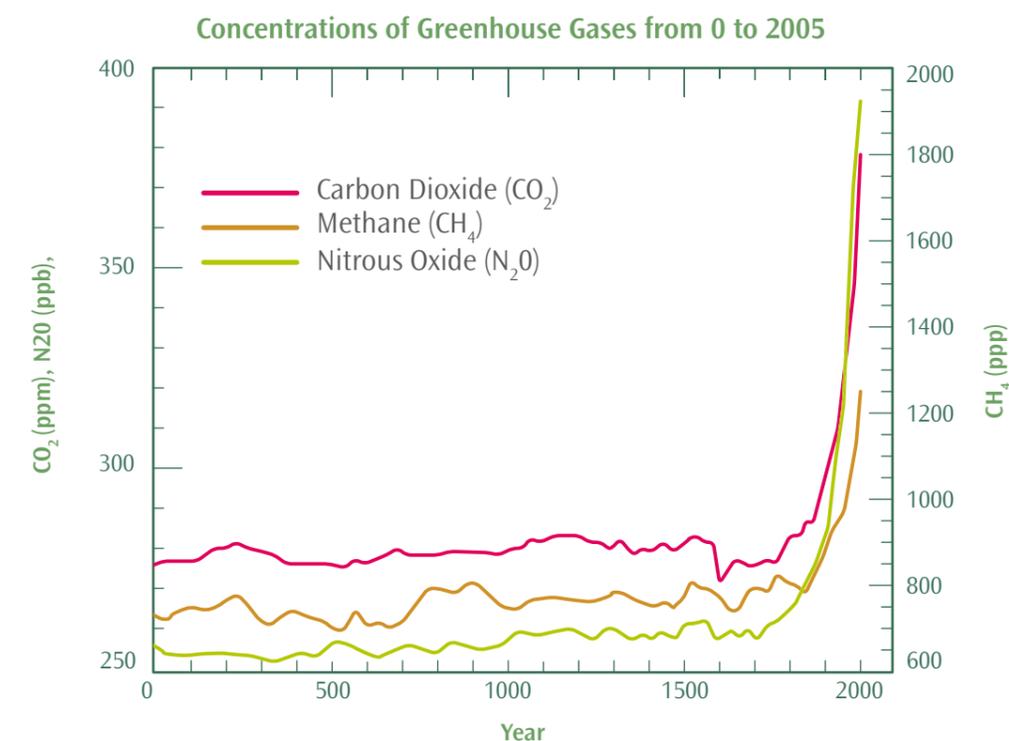


Figure 1.2: Concentrations of Greenhouse Gases. Atmospheric concentrations of important long-lived greenhouse gases over the last 2,000 years. Increases since about 1750 are attributed to human activities in the industrial era. Concentration units are parts per million (ppm) or parts per billion (ppb), indicating the number of molecules of the greenhouse gas per million or billion air molecules, respectively, in an atmospheric sample. Source: IPCC, 2007⁴.

The increase in concentration of these greenhouse gases caused by human activities means that the greenhouse effect occurs more intensely, leading to higher average global temperatures. This is known as *anthropogenic (or man-made) climate change*.

Of the anthropogenic greenhouse gases, carbon dioxide is of greatest influence in the climate system, as nitrous oxide and methane have only been released in relatively small quantities, and methane does not last long in the atmosphere⁵. The current concentration of CO₂ in the atmosphere is approximately 380 parts per million compared to 280 ppm in pre-industrial times.

¹ Ma, Qiencheng. 1998. *Greenhouse Gases: Refining the Role of Carbon Dioxide*. NASA Goddard Institute for Space Studies. Available at: http://www.giss.nasa.gov/research/briefs/ma_01

² Met Office. 2009. *Climate Change – the facts*. Available at: http://www.metoffice.gov.uk/climatechange/guide/downloads/quick_guide.pdf

³ Intergovernmental Panel on Climate Change. 2007. *The Physical Science Basis*. Cambridge University Press. Available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter1.pdf>

⁴ Intergovernmental Panel on Climate Change. 2007. *The Physical Science Basis*. Cambridge University Press.

Available at: <http://www.ipcc-wg1.unibe.ch/publications/wg1-ar4/ar4-wg1-chapter2.pdf>

⁵ Met Office. 2009. *Climate Change – the facts*.

Available at: http://www.metoffice.gov.uk/climatechange/guide/downloads/quick_guide.pdf

Although it is difficult for scientists to *prove* the link between the increase in GHG concentrations in the atmosphere caused by humans and climatic warming, there is such a great wealth of evidence that they consider it “very likely” that most of the observed rise in global average temperatures since the mid 20th century is due to the observed increase in anthropogenic greenhouse gas concentrations⁶. The diagram below compares the temperature trend scientists would expect with (pink) and without (red) anthropogenic influence on the climate with the observed temperature record.

Global and Continental Temperature Change

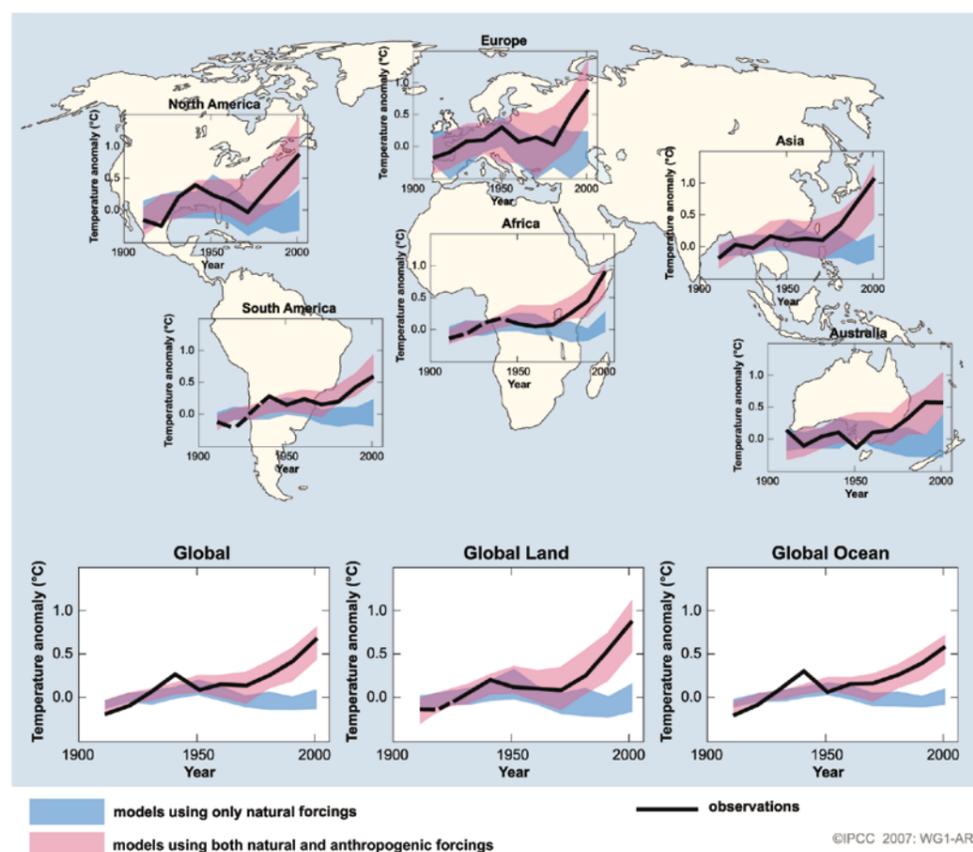


Figure 1.3 Global and Continental Temperature Change. Comparison of observed continental and global-scale changes in surface temperature with results simulated by climate models using natural and anthropogenic forcings. Decadal averages of observations are shown for the period 1906 to 2005 (black line) plotted against the centre of the decade and relative to the corresponding average for 1901–1950. Lines are dashed where spatial coverage is less than 50%. Blue shaded bands show the 5–95% range for 19 simulations from five climate models using only the natural forcings due to solar activity and volcanoes. Red shaded bands show the 5–95% range for 58 simulations from 14 climate models using both natural and anthropogenic forcings. Source: IPCC, 2007⁷

Complexity, Feedbacks and Tipping Points

The climate system is incredibly complex and rises in temperature are not always linear due to feedbacks within the system. *Positive feedbacks* occur when the response of the system to the climatic change amplifies that change – for example snow reflects incoming radiation away from the Earth’s surface, so if warming in polar regions causes the snow to melt, more solar radiation will reach the surface, further heating the region. *Negative feedbacks* reduce the disturbances to the climate system by human activities – for example if a warmer climate causes more clouds to form, these may reflect incoming solar radiation leading to cooling in the region. The overall temperature trend depends on the balance between these positive and negative feedbacks.

When scientists discuss a *tipping point* in the climate system, they suggest that if a certain concentration of GHGs or a certain temperature rise occurs, a large positive feedback will occur, causing the climate to suddenly change rapidly and uncontrollably⁸. There is some disagreement about the point at which this might occur, but a commonly cited figure is 450 ppm CO₂.

Climate Forecasting

Climate scientists use computer models to project the possible future climate. As the climate system is so complex and our computing power limited, computer models can only ever approximate how the system will respond to different levels of greenhouse gases, meaning there are always inherent uncertainties in climate forecasts. In addition models are run on an *emissions scenario*, which is an assumption about how the concentration of GHGs will change in the atmosphere, and which itself depends on a range of factors including social and economic growth.

However, despite these uncertainties, many different models tested on many different emissions scenarios have shown that the Earth’s temperature will rise over the next century, with a consistent geographical pattern. The results from the Met Office’s projections show a clear warming trend over the next century⁹. The diagram overleaf shows the expected temperature over the next century, following three different emissions scenarios.

⁶ Intergovernmental Panel on Climate Change. 2007. *The Physical Science Basis*. Cambridge University Press. Available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>

⁷ *ibid*

⁸ See article in the Independent on tipping points

for more info: <http://www.independent.co.uk/environment/climate-change/scientists-identify-tipping-points-of-climate-change-778027.html>

⁹ See: <http://www.metoffice.gov.uk/climatechange/science/projections>

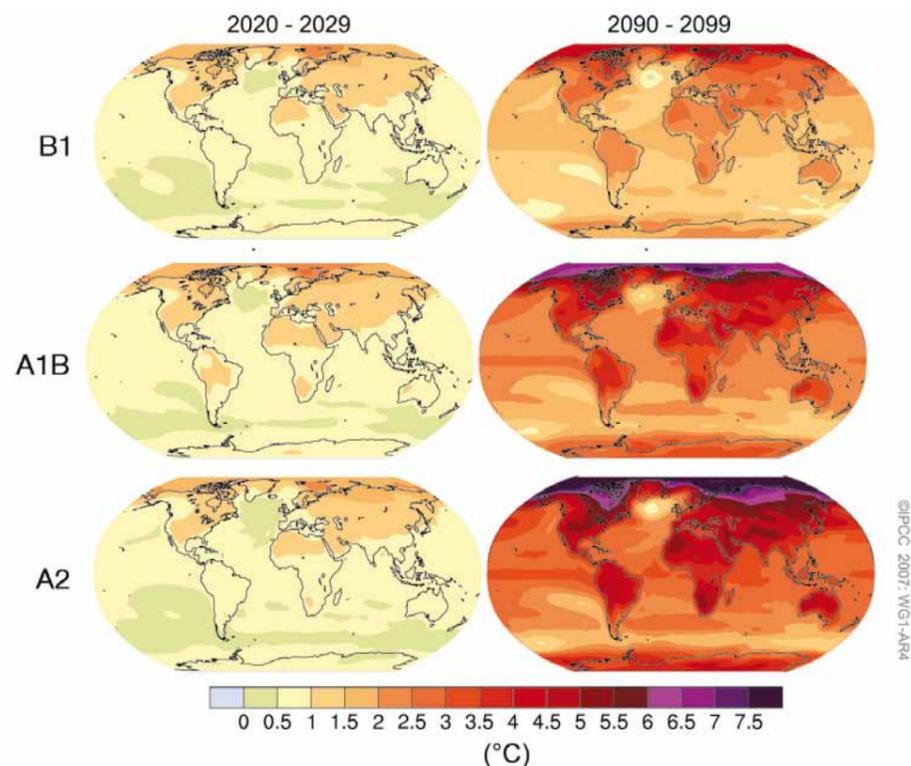


Figure 1.4 Projected surface temperature changes for the early and late 21st century relative to the period 1980-1999. The top (B1) scenario describes a world in which global solutions to environmental problems are adopted, the middle (A1B) scenario describes a world a rapid global economic growth with a balance between different sources of energy, and the bottom (A2) scenario describes a world with regional economic growth in much the same way that there is today. Source: IPCC, 2007¹⁰.

1.2 Impacts and Vulnerabilities

The exact physical impact of climate change is difficult to determine as it depends on the extent to which we reduce our GHG emissions and how the atmosphere responds to this, however the Intergovernmental Panel on Climate Change (IPCC) has predicted an average global temperature rise of between 1.4°C – 5.8°C by 2100. The Copenhagen Accord, which resulted from the UNFCCC climate change summit in Copenhagen in 2009, reaffirms that we should act to keep the increase in global temperature due to anthropogenic impacts to below 2°C, but even if each of the countries which have pledged to reduce or limit their emissions meets its target, the increase in temperature is likely to be greater than 2°C¹¹. Experts are therefore calling us to prepare for a global rise in temperature of 4°C – which is likely by the end of the century if emissions continue at the current rate¹².

Although discussions tend to focus on temperature changes, it may be changes in precipitation, leading to droughts and floods, that have the greatest effect on people's livelihoods.

What changes are we likely to see if we carry on as usual?

The UK Department of Energy and Climate Change (DECC), in partnership with the Met Office, used the latest peer-reviewed science to develop a map highlighting some of the impacts we may see if the global temperature rises by 4°C. The temperature increase will not be spread evenly across the world: temperatures over the oceans rise slower than those over the continents so the average land temperature will be 5.5°C above pre-industrial levels, and the high latitudes, in particular the Arctic, will be especially affected¹³. The map highlights how a 4°C global temperature rise will impact on forest fires, crops, water availability, sea level rises, marine ecosystems, droughts, permafrost, tropical cyclones, extreme temperatures and health around the world.



Figure 1.5 The Impact of a Global Temperature Rise of 4 Degrees. Source: Met Office Hadley Centre, 2009¹⁴.

This Four Degrees Map clearly shows that the range of impacts of climate change will be severe. However scientists have slightly less understanding of what the impacts of climate change will be at regional and local levels: we know the range of impacts we will see around the world, but we are less certain about exactly what will occur where. This poses a challenge for policy makers, who will have to deal with the changes as and when they occur.

¹⁰ Intergovernmental Panel on Climate Change. 2007. *The Physical Science Basis*. Cambridge University Press.

Available at:

¹¹ See: <http://blogs.ft.com/energy-source/2010/04/06/what-copenhagen-might-achieve-three-months-on>

¹² Met Office. 2009. *Four degrees and beyond*.

Available at: <http://www.metoffice.gov.uk/climatechange/news/latest/four-degrees.html>

¹³ Met Office. 2009. *Mapping Climate Impacts*.

Available at: <http://www.metoffice.gov.uk/corporate/pressoffice/2009/pr20091022.html>

¹⁴ This is worth visiting and is available at: <http://www.actoncopenhagen.decc.gov.uk/en/ambition/evidence/4-degrees-map>

Who will be affected?

The Copenhagen Accord clearly highlights that certain countries – “developing countries... especially least developed countries, small island developing states and Africa” – are more vulnerable to the effects of climate change than others. Principle reasons for this include:

- the physical impacts, for example a temperature increase or a rise in sea level, affect different parts of the world differently
- the population in certain countries is particularly dependent on climate-sensitive sectors such as agriculture, fishery or forestry
- the ability to cope varies, for example due to a higher population density or having few resources or available technologies to deal with the threat.

Climate Change may impede the achievement of the Millennium Development Goals either directly through increased exposure to adverse impacts, or indirectly through erosion of the capacity to adapt¹⁶.

Climate change will impact particularly on the most vulnerable social groups, as well as the most vulnerable countries. A World Bank publication¹⁷ on the Social Dimensions of Climate Change highlights that certain groups of people are particularly vulnerable due to a combination of factors including the source of their livelihoods, their levels of income and asset holding, their social class, gender, age, ethnicity and caste, their access to public support and their ability to migrate, either temporarily or permanently. The report highlights indigenous peoples, women, the urban poor and residents of rural drylands as especially vulnerable. It should be noted that these groups may be particularly affected by policies to mitigate climate change, as well as by climate change itself.

As well as affecting different social groups in both developing and developed countries, climate change also impacts on different industries around the world in different ways. A KPMG review of the business risks and economic impacts at sector level¹⁸ looked at the exposure of companies to four types of risk: regulatory, reputational, physical and litigation risks, showing that almost every sector is affected by at least one of the types of risk at a medium or high level. They compared the level of risk with the preparedness of each sector, classifying the sectors into three categories, where for sectors in the “Danger Zone” risk is markedly greater than preparedness, for sectors in the “Middle of the Road” risk is roughly matched by preparedness, and sectors in the “Safe Haven” seem to be reasonably well prepared for climate change or do not face significant risks. Only telecommunications, chemicals and food and beverages were in the Safe Haven, as seen in the diagram on the following page.

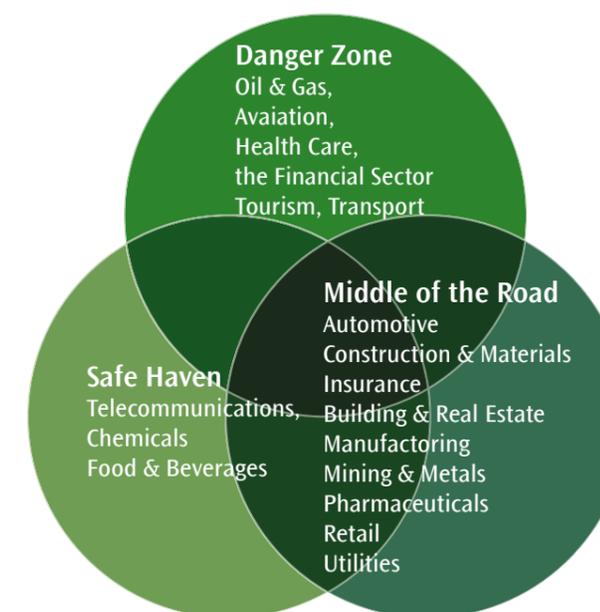


Figure 1.6 Risk and Preparedness of Industry by Sector. Adapted from: KPMG, 2008¹⁹

1.3 Tackling Climate Change

What should we do?

Actions to address climate change take two forms:

- **Mitigation** – reducing accumulations of anthropogenic greenhouse gases in the atmosphere at either *source* (reducing emissions into the atmosphere) or *sink* (increasing the absorption of greenhouse gases from the atmosphere, i.e. carbon sequestration)
- **Adaptation** – minimising the impact of climate change on society by ensuring we are prepared to deal with it

Although mitigation is often associated with developed countries and adaptation with developing countries, **in reality everyone needs to do some of both** according to the principle of “common but differentiated responsibility²⁰”.

Climate change is entwined across all policy areas: all sectors emit greenhouse gases either directly or through the process of producing goods and services, and all sectors will be affected, either by climate change itself or by policies or actions that address climate change. Policy responses must reflect this.

¹⁵ UNFCCC. 2009. Copenhagen Accord, Article 3.

Available at: <http://unfccc.int/resource/docs/2009/cop15/eng/l07.pdf>

¹⁶ Intergovernmental Panel on Climate Change. 2007. *Contribution of Working Group II, Summary for Policy Makers*.

Available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf>

¹⁷ Mearns, N and Norton, A. 2010. *Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World*. The World Bank.

Available at: <http://unfccc.int/resource/docs/2009/cop15/eng/l07.pdf>

¹⁸ KPMG International. 2008. *Climate Changes Your Business*.

Available at: <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/Climate-changes-your-business.pdf>

¹⁹ *ibid*

²⁰ This is a key principle of international environmental law, set out in the Rio Declaration and the United Nations Framework Convention on Climate Change. It suggests that we all share the burden for the environmental protection of common pool resources, but that socio-economic inequality, different historical contributions to the issue and different capacities to deal with it mean that we each have different responsibilities towards it.

For more details see: http://www.eoearth.org/article/Common_but_differiated_responsibility

1.3.1 Mitigation

The UK Government's Stern Review²¹ assessed the impact of climate change on the global economy, concluding that "the benefits of strong and early action far outweigh the economic costs of not acting". It argues that we must spend 2% of global GDP per annum²² in order to prevent GHG concentrations reaching dangerous levels, which would risk costing at least 5% and perhaps more than 20% of GDP.

For industrialised countries whose current GHG emissions are already high (e.g. the UK has an annual per capita carbon dioxide emission of 9.7 tonnes, and Australia of 20.6 tonnes, compared to 4.6 tonnes per capita in China and 1.2 tonnes in India²³), mitigation may involve *reducing* their GHG emissions considerably, whereas emergent countries may *limit the increase* in their GHG emissions expected as their economies grow. If we are to limit global emissions to meet the target of limiting warming to 2°C, it is necessary that we *contract and converge* our emissions to 2 tonnes per capita across the world. Strategies to do this may involve reducing demand for emissions-intensive goods and services, increasing efficiency gains, encouraging the use of low carbon technologies and reducing non fossil fuel emissions from e.g. deforestation. Figure 1.7 overleaf gives technologies and practices which may form part of a strategy to mitigate climate change in different sectors.



Sector	Policies ^a , measures & instruments shown to be environmentally effective	Key constraints or opportunities
Energy Supply	<ul style="list-style-type: none"> Reduction in fossil fuels subsidies Taxes on carbon changes on fossil fuels 	<ul style="list-style-type: none"> Resistance by vested interests may make them difficult to implement
	<ul style="list-style-type: none"> Feed-in tariffs for renewable energy technologies Renewable energy obligations Produce subsidies 	<ul style="list-style-type: none"> May be appropriate to create markets for low emission technology
Transport	<ul style="list-style-type: none"> Manatory fuel economy, biofuel blending CO₂ standards for road transport 	<ul style="list-style-type: none"> Partial coverage of vehicle fleets may limit effectiveness
	<ul style="list-style-type: none"> Taxes on vehicle purchases, registrations, use and motor fuels, road and parking pricing 	<ul style="list-style-type: none"> Effectiveness may drop with higher incomes
	<ul style="list-style-type: none"> Influence mobility needs through land registration use and motor fuels, road and parking pricing Investment in attractive public transport facilities and non-motorised forms of transport 	<ul style="list-style-type: none"> Particularly appropriate for countries that are building up their transportation systems
Buildings	<ul style="list-style-type: none"> Appliance standards and labelling Building codes and certification Demand-side management programmes Public sector leadership programmes, including procurement Incentives for energy service companies (ESCOs) 	<ul style="list-style-type: none"> Periodic revision of standards needed Attractive for new buildings. Enforcement can be difficult Need for regulations so that utilities may profit Government purchasing can expand demand for energy efficient products Success factor: Access to third party financing
Industry	<ul style="list-style-type: none"> Provision of benchmark information Performance standards Subsidies, tax credits 	<ul style="list-style-type: none"> May be appropriate to stimulate technology uptake. Stability of National policy important in view of international competitiveness
	<ul style="list-style-type: none"> Tradable permits Voluntary agreements 	<ul style="list-style-type: none"> Predictable allocation mechanisms and stable price signals important for investments Success factors include: clear targets, a baseline scenario, third party involvement in design and review and formal provisions of monitoring, close operation between government & industry
Agriculture	<ul style="list-style-type: none"> Financial incentives and regulations for improved land management, maintaining soil carbon content, efficient use of fertilizers and irrigation 	<ul style="list-style-type: none"> May encourage synergy with sustainable development and with reducing vulnerability to climate change, thereby overcoming barriers to implementation
Forestry / forests	<ul style="list-style-type: none"> Financial incentives (national and International) to increase forest area, to reduce deforestation, and to maintain and manage forests Land use regulation and enforcement 	<ul style="list-style-type: none"> Constraints include lack of investment capital and tenure issues. Can help poverty alleviation
Waste Management	<ul style="list-style-type: none"> Financial incentives for improved waste and wastewater management 	<ul style="list-style-type: none"> May stimulate technology diffusion
	<ul style="list-style-type: none"> Renewable energy incentives or obligations 	<ul style="list-style-type: none"> Local availability of low cost fuel
	<ul style="list-style-type: none"> Waste management regulations 	<ul style="list-style-type: none"> Most effectively applied at National level with enforcement strategies

a) Public RD & D Investment in low emissions technologies have proven to be effective in all sectors

Figure 1.7 Selected sectoral policies, measures and instruments to address climate change. Source: IPCC, 2007²⁴.

21 Stern, N. 2006. Stern Review: *The Economics of Climate Change*.

Available at: http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview_index.htm

22 Stern reviewed the figures in 2008, increasing the costs of preventing dangerous levels of GHGs from 1% of GDP in the original report to 2% of GDP, as climate change is happening faster than had previously been thought.

See: <http://www.guardian.co.uk/environment/2008/jun/26/climatechange.scienceofclimatechange>

23 See: <http://www.guardian.co.uk/environment/datablog/2009/sep/02/carbon-emissions-per-person-capita>

24 Intergovernment Panel on Climate Change. 2007. *Contribution of Working Group III, Summary for Policy Makers*. Available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-spm.pdf>

1.3.2 Adaptation

Some degree of climate change is inevitable: even if we stabilise our greenhouse gas emissions at current levels there is a 75% chance temperatures will rise 2 °C above present-day levels, and a 20% chance they will rise by 3 °C. Climate change impacts are brought about by:-

- **Stresses:** long term, gradual damaging trends, and
- **Shocks:** short term, sudden damaging events.

Although communities have always adapted to variations in their climate, the speed and nature of the changes expected, including more extreme events such as floods, droughts and windstorms, means we must plan for them— in both developed countries and developing countries. By adapting to climatic changes, communities will become more resilient to these stresses and shocks.



Figure 1.8 Adaptation to Climate Change

Adaptation to climate change involves identifying and planning for climatic changes and risks across all sectors, and building more resilient communities able to withstand unexpected changes. It may be either autonomous or planned, and may comprise actions by individuals, such as an individual farmer swapping from growing maize to millet, or large scale projects such as the Adaptation to Climate Change in the Caribbean Project²⁵. Initiatives to increase the resilience of communities are often very similar to other development projects, and are considered beneficial, regardless of climate change. These are known as *no regrets policies*.

As those hit hardest by climate change are often some of the world's poorest people, who are the least responsible for climate change and have the fewest resources and capacity to adapt, it is necessary to support these communities to do this.

1.4 Priority Issues

Climate change is such a complex issue because of the way it is inherently linked to such a wide range of other policy issues. As climate change is both affected by, and affects, different policy areas, we must mainstream climate change policies with other policies.

25 Met Office. *Taking Action*. Available at: <http://www.metoffice.gov.uk/climatechange/policymakers/action>
26 See: <http://www.caricom.org/jsp/projects/macc%20project/acc.js>

1.4.1 Energy

If we are to achieve sustainable development it is important we consider the intrinsic link between energy and climate change. The energy sector contributes the largest share to anthropogenic greenhouse gas emissions around the world, however energy is required for economic stability and development. In addition, the socio-economic and technological characteristics of a country's development determine both the country's GHG emissions and its ability to cope with climate change.

CO2 from energy accounts for 60% of global emissions and about 80% of anthropogenic greenhouse gas emissions from developed countries²⁷.

Figure 1.9a below shows how global carbon emissions are spread between different industries, clearly highlighting the contribution of the heat and electricity and transport sectors to global GHG emissions. It is also important to note that global CO₂ emissions from electricity plants and from road transport have significantly increased over the past 40 years while emissions from other sectors have remained more or less constant (see Figure 1.9b).

Total Global Emissions of Carbon Dioxide by Sector.
Total emissions for 2007 = 29.0Gt

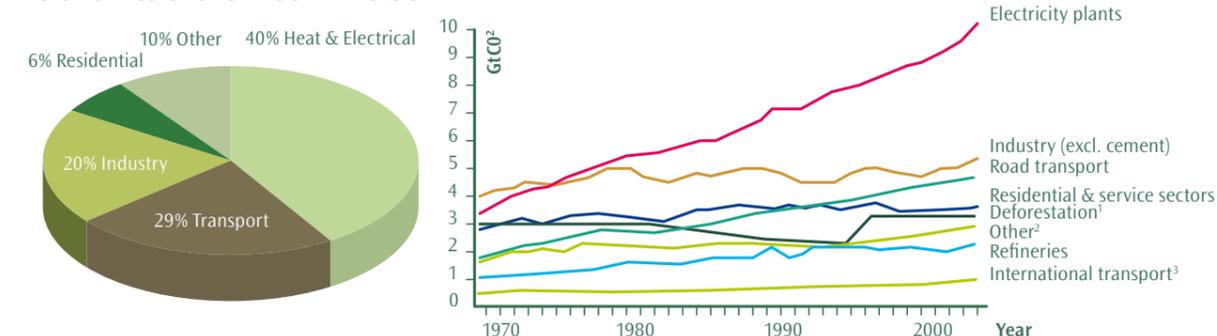


Figure 1.9a Total Global Emissions of Carbon Dioxide by Sector; Figure 1.9b Sources of Global CO₂ Emissions Source: International Energy Agency, 2009²⁸ Source: Working Group 3, IPCC, 2007²⁹

These global figures hide massive discrepancies in CO₂ emissions from energy between different parts of the world. Although industrialised countries have by far the largest historical emissions, other regions are rapidly catching up, with for example Asian emissions soon expected to rival those of the Annex II OECD countries³⁰. Additionally countries vary significantly in the energy *efficiency* of their economies, with the oil and gas exporting Middle East, the Economies in Transition and China all producing quite high levels of GHG emissions per unit of GDP³¹. **It is therefore imperative that all countries take action to ensure they use energy in a sustainable manner.**

27 International Energy Agency. 2009. *CO₂ Emissions from Fuel Combustion Highlights*. Available at: <http://www.iea.org/co2highlights/co2highlights.pdf>
28 *ibid*
29 Intergovernmental Panel on Climate Change. 2007. *Contribution of Working Group III*. Available at: http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg3_report_mitigation_of_climate_change.htm
30 International Energy Agency. 2009. *CO₂ Emissions from Fuel Combustion Highlights*. Available at: <http://www.iea.org/co2highlights/co2highlights.pdf>
31 *ibid*

Parliamentarians must balance the need to reduce GHG emissions with other considerations, including the need for energy security and low and stable energy prices. In some cases these may be complementary objectives whereas in others these may need to be reconciled.

In order to *decarbonise* our energy sources – heat and electricity, and transport – we must:-

- Reduce our total energy usage per unit of economic output, and
- Reduce our greenhouse gas emissions per unit of energy produced.

This will result in a lower *energy intensity* as well as a lower *carbon intensity* – using less energy in total, and producing fewer greenhouse gases from the energy we do use.

Energy Intensity = The Energy Used per Dollar of GDP Created
Carbon Intensity = The CO₂ Emissions per Dollar of GDP Created

How can we reduce our energy intensity?

Increasing energy efficiency across a range of sectors has economic benefits, regardless of climate change.

New technologies are considerably more energy efficient than older ones and therefore have lower energy input costs, attractive to consumers and bringing significant environmental benefits. Expectations about prices and policies have a profound effect on investment decisions and parliamentarians have a key role to play in ensuring an economic and regulatory environment that encourages investments in new technologies, as well as encouraging their take up by consumers.

According to the Society of Motor Manufacturers and Traders if the UK replaced all the vehicles on the road with the most efficient vehicle of an equivalent size currently available, CO₂ emissions could be reduced by 30%³². Simple measures such as insulating walls, floors, roofs and windows, reducing air leakage and installing more efficient hot water systems in houses could lead to huge efficiency gains in the housing sector³³, with the UK aiming for an 80% reduction in carbon emissions from all dwellings by 2050³⁴.

As well as encouraging the development and uptake of more efficient technologies, parliamentarians can lead in promoting other forms of climate-friendly behaviours amongst their constituents. Examples of achievable behavioural changes may include using public transport, car-pools or driving fewer miles in total, or turning a computer off rather than leaving it on stand-by. Parliamentarians, in particular, have a crucial role in communicating the benefits of climate-friendly practices to their constituents.

How can we reduce our carbon intensity?

We must reduce the amount of GHGs released as we produce energy, as well as reducing our total energy consumption. We can reduce the amount of greenhouse gases released during energy production by changing our energy mix from the current mix of 80% fossil fuels, to a mix containing more low carbon fuels. This includes promoting a higher proportion of renewable, nuclear and bio-energy sources for electricity production, and the use of alternative transport fuels including biofuels, electricity (from non-fossil fuel sources) and, perhaps, hydrogen. In the short-term a switch from highly polluting coal, which produces 26 million metric tonnes of carbon per quadrillion BTUs (energy units), to natural gas, which produces 15 million metric tonnes of carbon for the same amount of energy produced³⁵, would reduce our carbon footprint substantially. The use of Carbon Capture and Storage (CCS), which has the potential to reduce carbon emissions from power stations by 90%, will also play a crucial role³⁶.

32 See: <http://www.whatgreencar.com/petdiesel.php>

33 See: <http://www.energysavingtrust.org.uk/business/Business/Housing-professionals/Existing-housing>

34 Climate Change Act. 2008. See: http://www.decc.gov.uk/en/content/cms/legislation/cc_act_08/cc_act_08.aspx

Despite the potential environmental and energy security gains of diversifying our energy mix, it is unlikely to change within the next few decades if there are no changes in energy policies³⁷. Parliamentarians must guide regulatory, fiscal and economic policies to promote diverse and secure low-carbon energy mixes in their countries.

In 2007 coal represented ¼ of Total Primary Energy Supply, yet 42% of global CO₂ emissions, due to its heavy carbon content per unit energy released. It generates about twice the amount of CO₂ as gas despite having a comparable share in world energy supply³⁸.

1.4.2 Conflict

Climate change is unlikely to be a direct cause of conflict, however it will add to the pressures facing countries already at risk of violent conflict, and can therefore act as a *threat multiplier*. This is because climate change has the potential to affect key elements which determine risk of violent conflict, such as political instability, economic weakness, food and water insecurity and large-scale migration.

A number of countries have recognised this linkage between climate change and conflict, considering climate change as a key issue to be considered as part of peacebuilding and defence strategies. For example the UK Ministry of Defence cites Climate Change and Weak States as a “hot topic”, discussing the possibility of other examples of climate induced instability and conflict similar to Sudan within the next 30 years³⁹.

Sudan has been held up as an example of where environmental degradation, including that induced by climate change, has been one of a number of root causes of social strife and conflict. A Post-Conflict Environmental Assessment by UNEP concluded that eroding environmental services, in particular land degradation and desertification, had contributed to violent conflict, for example in the case of conflicts over rangelands in the drier parts of the country. The report highlights that environmental factors are ALWAYS intertwined with a range of other social, economic and political issues, such as population growth and political, tribal and ethnic differences, and that the policy solutions are often complex; e.g. would encouraging a return to agriculture to reduce the local population's dependence on food aid result in an increase in environmental degradation - and if so would this exacerbate conflicts?

Parliamentarians attending CPA UK's 3rd International Parliamentary Conference on Climate Change in July 2010 discussed the linkages between conflict and climate change in their own countries.

35 U.S. Department of Energy, EIA. 2002. *Emissions of Greenhouse Gases in the United States 2001*. DOE/EIA-0573, Appendix B

36 See: http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/ccs/ccs.aspx

37 Working Group 3, IPCC, 2007.

38 International Energy Agency. 2009. *CO₂ Emissions from Fuel Combustion Highlights*.

Available at: <http://www.iea.org/co2highlights/co2highlights.pdf>

39 Ministry of Defence. 2010. *Global Strategic Trends Out to 2040*.

Available at: http://www.mod.uk/NR/rdonlyres/38651ACB-D9A9-4494-98AA-1C86433BB673/0/gst4_update9_Feb10.pdf

40 UNEP. 2007. *Sudan Post-Conflict Environmental Assessment*.

Available at: http://postconflict.unep.ch/publications/sudan/00_fwd.pdf

Country/Region	Ways in which climate change may contribute to conflict and/or civil unrest
Bangladesh	If sea-level rise causes large-scale migration from low-lying areas to areas such as Dhaka and the Chittagong Division, this may lead to increased pressure over land and natural resources, contributing to tensions between the current population and the migrants. This risk has been recognised by the Bangladeshi Government.
Kenya	The nomadic Maasai tribe have begun to bring their animals into the city, as droughts and land degradation associated with climate change mean the rural areas are becoming less able to sustain them. This may contribute to increased tensions between urban dwellers and the rural Maasai.
Nile Region	Nine nations lay a claim to the water of the River Nile, and there are existing tensions about who should have a right to this water ⁴¹ . If climate change reduces the availability of water from the Nile at the same time that growing populations increase demand for it, it could contribute to increased tensions between the different countries in the region.
South Pacific	Climate change may lead to reduced agricultural productivity and an increased frequency of extreme climatic events such as cyclones, further impacting on food and water availability, infrastructure and other factors. This may become one of a number of causes of civil unrest as different groups compete for the limited resources available.
Sudan	Water shortages caused by drought are considered one of a number of factors which has led to tensions and conflict within the Darfur region of Sudan.

The implication is that climate change adaptation and peacebuilding activities must be carried out together, to ensure already-fragile and vulnerable regions are not pushed over the “tipping point” by climate change. Addressing both climate change and conflict means that we must address power systems in fragile and conflict-affected societies as we adapt to the impacts of climate change, requiring dialogue, social engagement, inclusivity and transparency. Climate change may even help to unite divided communities by providing them with a common goal to work together towards⁴².

The delegates attending the conference considered their role in addressing conflict and climate change. They emphasised:

1. The importance of "joined-up policy making" - climate change and conflict must be considered across all policy areas and it is crucial that different policies are coherent and consistent with each other.



2. The importance of building the resilience and adaptive capacity of communities, so they are able to cope with changes in their environments, and environmental stresses and shocks are less likely to contribute to tensions and conflicts.

41 See: <http://www.afonline.org/?p=5261>

42 Smith, D and Vivekananda, J. 2009. *Climate Change, Conflict and Fragility. Understanding the linkages, shaping effective responses.* Available at: http://www.international-alert.org/press/Climate_change_conflict_and_fragility_Nov09.pdf

3. The need for global education on climate change so that everyone understands the likely impacts, making them much more possible to address from a political perspective and encouraging dialogue as a way of reaching peaceful solutions.
4. The need to share information and best practices on addressing conflict and climate change.
5. The need for finance to address these issues.

.....
According to a study by International Alert, there are 46 countries (home to 2.7 billion people) where the interaction of climate change with other key factors will create a high risk of violent conflict, and 56 countries (home to 1.2 billion people) where the interaction of climate change and other factors causes a high risk of political instability, which may lead to violent conflict in the longer term⁴³.

.....
"Climate change on its own is unlikely to start a conflict, but when you add it to all the other stresses you see around the world; food shortages, water shortages, poor health, loss of livelihood, weak governance; there's a potential for it to be a tipping point to cause conflict."

Rear Admiral Neil Morisetti, UK Climate and Energy Security Envoy⁴⁴

1.4.3 Gender

Gender does not refer to either women or men, but rather the complex social system of power imbalances between males and females that rigidly constrain women and men, girls and boys, limiting their rights and choices for healthy, productive and happy lives. In essence, men and women are affected by climate change in different ways, and respond to the threat differently. The focus on women in both policy circles and academic literature can be explained by the fact that unequal distributions of power between men and women, at all levels, are almost always to the detriment of women. However, efforts to overcome gender inequalities must involve both men and women working together to transform what it means to be women and men in any specific society.

Although the conference focused on gender, it may be useful for parliamentarians to consider how other factors such as ethnicity and caste may also affect how individuals and groups experience climate change.

Within the context of developing countries, women and girls tend to be affected by the impact of climate change more so than men for a number of reasons. Women generally have lower incomes, and less access to technology and information than men. They have fewer land rights, and less access to education and health care. Their limited mobility, whether due to economic or socio-cultural factors, means they may be unable to escape from natural disasters, and the social roles ascribed to them mean they may need to take on additional responsibilities to deal with the effects of climate change, for example spending longer collecting water when a local well dries up, or caring for sick relatives if the spread of water-borne diseases increases. This not only affects their quality of life, but also impacts on their ability to partake in other activities such as education and paid work. **Climate change can, in many instances, accentuate existing gender inequalities.**

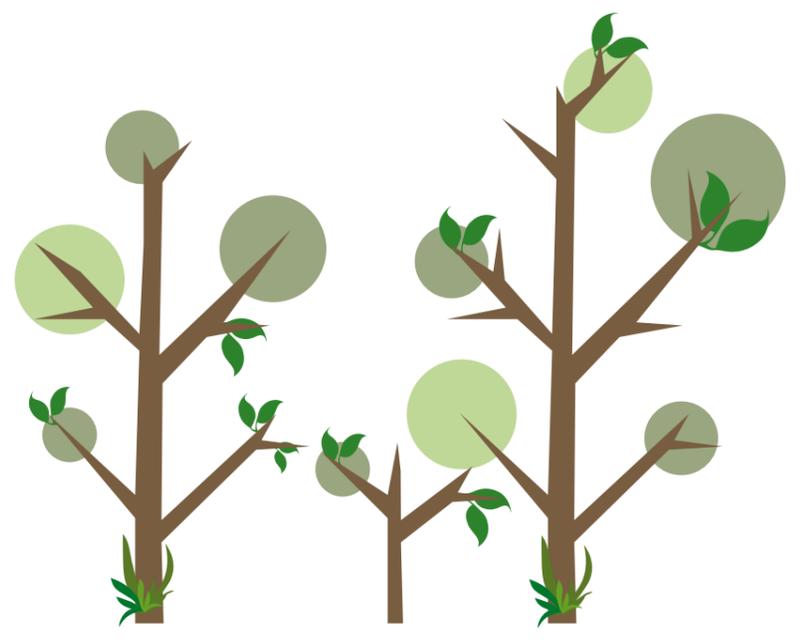
43 Smith, D and Vivekananda, J. 2007. *A Climate of Conflict. The links between climate change, peace and war.*

Available at: http://www.international-alert.org/pdf/A_Climate_Of_Conflict.pdf

44 <http://www.youtube.com/watch?v=bz6GuwHe0e0>

.....
"Women make up a large number of the poor in communities that are highly dependent on local natural resources for their livelihood and are disproportionately vulnerable to and affected by climate change. Women's limited access to resources and decision-making processes increases their vulnerability to climate change."
52nd session of the Commission on the Status of Women, UN⁴⁵.
.....

The linkages are made clear by considering how gender may be affected when other issues interact with climate change.



45 52nd session of the Commission on the Status of Women. 2008. *Interactive Expert Panel. Emerging issues, trends and new approaches to issues affecting the situation of women or equality between women and men.* Available at: <http://www.un.org/womenwatch/daw/csw/csw52/issuespapers/Gender%20and%20climate%20change%20paper%20final.pdf>

Issue	Ways in which this issue and climate change may affect gender inequalities ⁴⁶	Examples from the delegates experiences
Health	Climate change may lead to increases in water-borne diseases, malnutrition, heat-related mortality and respiratory diseases caused by increasing air pollution. This will affect women and girls disproportionately because they often have less access to nutrition and medication, and are often responsible for caring for the sick.	In Malawi the prevalence of cholera is expected to increase if climate change leads to an increase in flooding. Women may be particularly affected as they will be required to stay at home to look after ill relatives.
Agriculture and Food Production	Men and women's roles in agriculture tend to vary, with women typically taking on greater responsibility for ensuring their families have adequate access to nutrition. If climate change reduces crop yields, they may need to find alternative ways to feed their families, often while they have little access to credit and agricultural extension services. Recent evidence does, however, suggest they are developing coping strategies.	In South Africa climate change may lead to reduced agricultural production. Women, who most often take responsibility for feeding their families, will have to devise alternative ways of doing this.
Water	It has been estimated that by 2025 almost two thirds of the world's population is likely to experience some type of water stress, with 1 billion facing severe shortages. Women and girls tend to take responsibility for the collection of water and will therefore be especially affected by increased water scarcity. They may have to walk longer distances to collect water, putting them at risk of attacks and/or sexual harassment and meaning they spend less time at school, engaging in income-generating activities or participating in public life, exacerbating existing inequalities. It should be noted that in times of climate stress, often young girls are removed from school to help with household duties ahead of boys.	In Pakistan increased droughts and desertification mean women and girls must walk further to collect water, displacing their other activities and putting them at risk of attack on long walks. In addition many families have migrated from the regions suffering from drought, showing how inter-related all these issues are.
Natural Disasters	Women and children are particularly affected by natural disasters and are therefore likely to be especially affected if climate change causes an increase in frequency and intensity of extreme climatic events. For example following the flood and cyclone in Bangladesh in 1991 the death rate was almost five times as high for women as for men, as warning information often did not reach women at home, the women were often waiting for male relatives to return home to take them to safer places and the women were less likely than men to be able to swim. In the aftermath of disasters girls may drop out of school to assist with an increased household workload or experience domestic/sexual violence, particularly if they have been displaced to overcrowded emergency shelter. Although women make up the largest proportion of victims during a disaster, men make up the larger number of those who die in the aftermath, through the clean up, the search for survivors etc.	In Angola increased flooding related to climate change may displace populations, leaving many families homeless. Women may be particularly affected by the lack of privacy and risk of violence or sexual harassment which they may be subject to in emergency shelters. Flooding may cause the pollution of water supplies, affecting women who are responsible for collecting clean water for their families.
Migration	It has been predicted that one billion people may be displaced by climate change impacts by 2050. If men migrate in search of work leaving their families behind, their remittances may allow households to meet their food security needs. However in other cases they may contribute little, leaving the women to take on responsibilities as de facto heads of household in addition to their existing responsibilities. This may increase women's control over resources, or pose serious challenges if women's rights to land are questioned.	In various countries in Africa children may be left fatherless when men migrate in search of alternatives sources of income, if climate change erodes their traditional livelihood bases. Large groups of displaced people may contribute to deforestation, meaning women from both the permanent and migrant populations may have to travel further to collect firewood.
Conflict	Climate change results in a growing scarcity of natural resources such as water and arable land in certain parts of the world, and has the potential to lead to increased tensions, pushing already-fragile regions over a "tipping point". Men and women play different roles in conflict and are impacted on differently. Men engaged in conflict are put at risk of death or injury. Women and girls may be subject to increased sexual violence, have reduced access to resources to cope with household responsibilities and may have to spend increased time caring for the sick and injured. Gender equity has been shown to be key to effective disarmament, demobilisation and reintegration.	Large numbers of people in Angola have migrated from conflict-affected areas to safer parts of the country. This has put pressures on the natural resources in those regions, leading to deforestation, overcrowding and food shortages, each exacerbated by climate change. This particularly affects women who are responsible for sources both food and firewood for their families.

⁴⁶ Adapted from Brody, A, Demetriades, J and Esplen, E. 2008. *Gender and Climate Change: mapping the linkages*. Available at: <http://www.eldis.org/go/topics/resource-guides/climate-change&id=37711&type=Document>

The table shows that climate change impacts on gender equality in numerous complex ways, however policies to address climate change often focus on technical solutions, rather than addressing the underlying social issues. It is important we look at climate change policies from a gender perspective in order to address this.

Women should not be seen solely as victims of climate change, but must play a key role in decision-making in terms of both adaptation and mitigation measures. Their roles and responsibilities in their families, their communities and in natural resource management mean women are in a powerful position to lead efforts to adapt to climate change, and efforts which do not take into account the perceptions of women are unlikely to be successful.

.....
A study published by Action Aid⁴⁷ showed that poor women from Bangladesh, India and Nepal are able to articulate their needs in adapting to climate change, arguing that their voices and expertise must be given a greater hearing in developing adaptation interventions. The women want:

- **Safe places to live and store their harvest and livestock during the monsoon season**
 - **Training and information about adaptation strategies and livelihood alternatives and access to services such as agricultural extension**
 - **Access to resources to implement strategies.**
-

The empowerment of women is very important in building resilient communities able to withstand the effects of climate change, as is discussed in this UN video about fishing communities in the Philippines.

In addition women are under-represented during climate change policy negotiations at all levels. This



is problematic as we miss the opportunity to use their ideas, and it risks developing policies that they and their families may not benefit from. For example it is important for women to be involved in the development of financing mechanisms and technologies to ensure they address their needs, are useful, useable and effective, and ultimately sustainable.

⁴⁷ ActionAid. 2007. *We know what we need. South Asian women speak out on climate change adaptation.*
 Available at: http://www.actionaid.org/assets/pdf/ActionAid%20%20IDS%20Report%20_We%20know%20what%20we%20need.pdf

Tackling gender and other social inequalities in light of climate change is a complex task which can be approached in a number of ways. Delegates at CPA UK's 3rd International Parliamentary Conference on Climate Change highlighted the following policy priorities:

1. The education and empowerment of women in general, to increase their resilience to the impacts of climate change. Strategies may include the provision of micro-credit to business women.
2. The involvement of women, in particular poor women, and gender experts, in policy-making, for example encouraging them to contribute to National Adaptation Programmes of Action (NAPAs) and Nationally Appropriate Mitigation Actions (NAMAs) - national policies to deal with climate change under the UNFCCC.
3. The need to link climate policy to the Millennium Development Goals (MDGs), as it is through the interaction of climate and other policy areas that women and children may be particularly affected.
4. The need to pay attention to small farmers.
5. The need for more information sharing between countries, for example through conferences, to discuss models of legislation.

1.4.4 Health

Climate change impacts on health directly, for example as patterns of disease change in line with climatic bands and as heat-waves impact on the elderly, and indirectly, for example if decreasing crop productivity reduces the level of nutrition amongst the population, affecting their susceptibility to disease, and if longer growing seasons result in increased pollen production, worsening allergies and respiratory diseases. Although some of these impacts will have positive effects on health, overall the impact will be overwhelmingly negative, with the greatest burden felt by those more vulnerable. This means climate change has the potential to reinforce existing inequalities in terms of health in particular, and sustainable development more generally.

A recent study commissioned by the medical journal *The Lancet*⁴⁸ looked at the global health effects of climate change, by considering by considering six key areas:

- changing patterns of disease
- food
- water and sanitation
- shelter and human settlements
- extreme climatic events
- population growth and migration.

Their conclusions were that climate change will affect the health of most populations over coming decades, putting the lives and well-being of billions of people at increased risk – and that we need to respond urgently. The video talks to some of the authors.



⁴⁸ Costello et al. 2009. *Managing the health effects of climate change.*
 Available at: [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)60935-1/fulltext#article_upsell](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60935-1/fulltext#article_upsell)

"Climate change already contributes to the global burden of disease and premature deaths... The effects are unequally distributed and are particularly severe in countries with already high disease burdens, such as sub-Saharan Africa and Asia"

IPCC, 2007⁴⁹

International parliamentarians attending CPA UK's IPCC considered how climate change may affect public health in their countries.

Examples of climate change impacts on health discussed by delegates	
Changing patterns of disease	In Botswana the malaria belt may increase, in relation to changing climatic bands
Health impacts from heat	In Saudi Arabia there may be a need for improved facilities to deal with sunstroke
Effects of extreme weather on human health	In Bangladesh increased flooding due to climate change may lead to an increase in water diseases, particularly if animals killed by floods pollute the water supply
Effects on food	Across the developing world increased water stresses due to climate change could lead to an increased use of industrial waste water for various purposes, including irrigation. This may lead to the poisoning of crops, and therefore food shortages, impacting on human health.

Some health authorities have begun to consider what this may mean for health care. For example the UK Health Protection Agency's study on the "Health Effects of Climate Change in the UK", first published in 2001/2002 and updated in 2008⁵⁰ was among the first of its kind, with the Department of Health first launching its "National Heatwave Plan" in 2004.

However much remains to be done to ensure health services are prepared to deal with the effects of climate change, which left unchecked could have devastating consequences for sustainable development around the world.

Parliamentarians attending the conference highlighted the integrated nature of the subject and the need for policies to consider issues such as education, trade and species and habitat lost, as well as the health effects of climate change. In particular policies to address climate change could have positive effects on health. For example policies which promote walking and cycling as alternatives to travelling by car both reduce greenhouse gas emissions and have benefits for human health.

1.4.5 Migration

Climate change is likely to impact dramatically on population movements over coming decades, with millions of people being displaced by climate-induced conflicts, large-scale development projects and widespread environmental degradation, including shoreline erosion, coastal flooding and agricultural

49 IPCC. 2007. *Contribution of Working Group II. Chapter 8*, pp.418.

Available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter8.pdf>

50 Kovats, S. 2008. *Health Effects of Climate Change in the UK*. Health Protection Agency.

Available at: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_082836.pdf

51 Christian Aid. 2007. *Human tide: the real migration crisis*.

Available at: <http://www.christianaid.org.uk/Images/human-tide.pdf>

52 Brown, O. 2008. *Migration and Climate Change*. IMO.

Available at: http://www.migrationdrc.org/publications/resource_guides/Migration_and_Climate_Change/MRS-31.pdf

disruption^{51,52}. The most commonly cited figure is of **200 million environmental refugees by 2050**⁵³, however there remains a large degree of uncertainty about the effects of climate change on migration and estimates of this figure vary considerably. It is important to note that climate change is one of a combination of drivers in both source and destination countries and it may be difficult to determine direct causal linkages.

"Human migration, forced or otherwise, will undoubtedly be one of the most significant consequences of environmental degradation and climate change in decades to come." Achim Steiner⁵⁴,

Executive Director, UNEP

The vast majority of migrants will settle in urban centres in their home countries, with a small proportion moving to neighbouring countries, part of the phenomenon of South-South migration. Only a very small proportion will move to developed countries far from their country of origin⁵⁵.

Major gaps in international law and governance, including a lack of distinct definitions or mandates for helping affected people, mean the future of international climate change migration remains unclear.

What's in a name?

"Terms and concepts such as environmental or climate change migration, environmentally-induced or forced migration, ecological or environmental refugees, and climate change refugees are used throughout the emerging literature with no general agreement or precise definition. The main reason for the lack of definitions for migration caused in part by environmental change and degradation is linked to two issues: the challenge of isolating environmental factors from other migration drivers, and the possible institutional and governance implications of defining this range of environmentally induced migration."⁵⁶

A recent collaborative report⁵⁷ investigated the relationship between climate change, migration and displacement, discussing regions likely to be particular affected. These included:

Asia glacial melt and major irrigated agriculture systems

Mexico and Central America migration in response to drought and disasters

The Sahel pressures on agricultural livelihoods and creeping onwards migration

The Ganges Delta temporary migration as a survival strategy

The Mekong Delta living with floods and resettlement

The Nile Delta between desertification and sea level rise

Tuvalu and the Maldives sea level rise and SIDS

53 Myers, N., "Environmental Refugees: An emergent security issue", 13th Economic Forum, Prague, May 2005

54 Steiner, A. 2008. Foreword. *Climate Change and Displacement*. Available at: <http://www.fmreview.org/FMRpdfs/FMR31/FMR31.pdf>

55 See: <http://www.fmreview.org/FMRpdfs/FMR31/05-07.pdf>

56 Warner, K., Erhart, C., de Sherbinin, A., Adamo, S.B., Onn, T.C. 2009. *In search of Shelter: Mapping the effects of climate change on human migration and displacement*. A policy paper prepared for the 2009 Climate Negotiations. Bonn, Germany: United Nations University, CARE, and CIESIN-Columbia University and in close collaboration with the European Commission "Environmental Change and Forced Migration Scenarios Project", the UNHCR, and the World Bank, p.10. Available from: <http://www.ehs.unu.edu/image/view/4863>

57 *ibid*

58 Tacoli, C. 2009. Crisis or Adaptation? Migration and climate change in a context of high mobility.

Available at: <http://www.unfpa.org/webdav/site/global/users/schensul/public/CCPD/papers/Tacoli%20Paper.pdf>

59 Warner, K., Erhart, C., de Sherbinin, A., Adamo, S.B., Onn, T.C. 2009. *In search of Shelter: Mapping the effects of climate change on human migration and displacement*. A policy paper prepared for the 2009 Climate Negotiations. Bonn, Germany: United Nations University, CARE, and CIESIN-Columbia University and in close collaboration with the European Commission "Environmental Change and Forced Migration Scenarios Project", the UNHCR, and the World Bank, p.10. Available from: <http://www.ehs.unu.edu/image/view/4863>

A number of authors have questioned whether migration, domestic or international, temporary or permanent, constitutes a successful approach to adaptation, or a marked failed to adapt^{58,59}. It has the potential to redistribute populations, ensuring they can be supported by their environments, but also risks hindering development by increasing pressure on urban infrastructure and services, undermining economic growth, increasing the risk of conflict and leading to worse health, education and social indicators of the migrants⁶⁰.

Parliamentarians attending CPA UK's 3rd International Parliamentary Conference on Climate Change discussed how climate change migration was likely to affect their own countries, examples of which are included in this table.

Country/Region	Likely migration stream	Consequences
Bangladesh	Sea level rises caused as a result of climate change may cause large numbers of people to move inland to areas such as Dhaka and the Chittagong Region.	This will put additional pressures on natural resources and may lead to increased food insecurity in recipient regions.
East Africa	Droughts and desertification may reduce the ability of rural populations to sustain themselves, meaning many may migrate to urban areas in search of alternative sources of income.	Infrastructure, including housing, roads, electricity and water supply in recipient urban centres is not sufficient to deal with a large influx of people.
South Africa	Extreme weather events such as floods in coastal areas and droughts in agricultural areas may force people away from their homes towards urban centres such as Johannesburg. This type of migration is mainly temporary, with populations possibly returning when conditions return to normal.	This puts additional pressure on infrastructure, housing and social services, and may lead to increased unemployment and crime within the recipient urban centres.
Pakistan	Glacial melt, increased potential for glacial lake bursts and displacement of villages downstream, and desertification in Pakistan may lead to an increase in both internal and international migration.	There lack sufficient international legal systems and systems to track and monitor cross-boundary migration, making international migration an exceedingly complex area to deal with.
Kiribati	Climate change is causing panic in Kiribati, with many talking about the need to re-locate the whole population before a sea-level rise destroys the island.	This migration would cause a whole range of problems relating to economic, legal and political practicalities, as well as a potential loss of cultural identity for the islanders.

In order to ensure that migration as a result of climate change serves to help protect the livelihoods of the population, rather than to exacerbate existing social, environmental and economic problems, appropriate policy responses are required, both at local levels and international levels.

The parliamentarians attending the conference highlighted the following as important to considering when addressing the issues of climate change and migration:

1. These are complex issues and there is a need for synergy across all levels of government
2. Climate change adaptation plans must take account of migration and offer various different adaptation options, as one solution is unlikely to be able to address all the issues
3. It is important for parliamentarians to share experiences of addressing climate change-induced migration
4. Urbanisation may be better managed by reducing poorer groups' exposure to risk – both in rural areas as well as urban destinations
5. Proactive policy approaches are needed to address environmentally induced migration, including involving communities through participatory planning and information sharing.

60 Brown, O. 2008. *Migration and Climate Change*. IMO. Available at: http://www.migrationdrc.org/publications/resource_guides/Migration_and_Climate_Change/MRS-31.pdf

1.4.6 Trade

International trade and climate change policies have the potential to complement each other in meeting their shared objectives of sustainable development– but also the potential to undermine each other if policies designed to address one or other topic conflict. It is therefore important to consider the synergies and conflicts between the two as we develop both climate change and trade policies.

Figure 1.10 below highlights the linkages between climate change, trade and associated laws and policies.

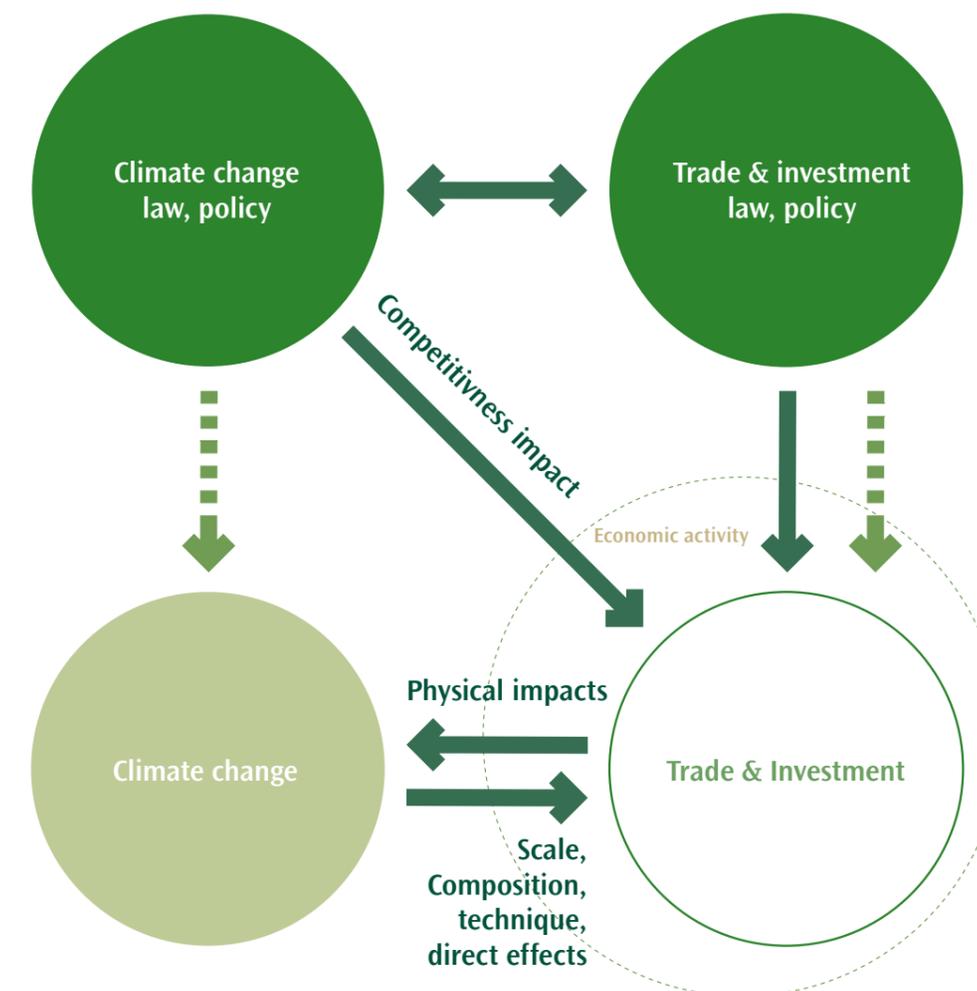


Figure 1.10: Trade, Investment and Climate Change Linkages. Source: Cosby, 2007

"The issue of Climate Change intersects with international trade in a multitude of different ways... In fact the Preamble the WTO Agreement explicitly mentions sustainable development as one of its fundamental objectives."

Director General of the WTO, Pascal Lamy⁶²

61 Cosby, A. 2007. Trade and Climate Change Linkages. IISD. Available at: http://www.iisd.org/pdf/2007/trade_climate_linkages.pdf
62 See: http://www.wto.org/english/news_e/sppl_e/sppl91_e.htm

The impact of trade and trade policies on the climate system is determined by a combination of scale, composition and technique effects, where

- *scale* refers to the scale of the economy: more economic activity requires more energy in total and therefore produces more greenhouse gasses
- *composition* refers to the mix of goods and services produced: some industries are more energy intensive than others, and the industries that are competitive may themselves be affected by climate change, for example changing rainfall may affect the distribution of agriculture
- *technique* refers to technologies and processes of production: new technologies, which may be spread through international trade, are more efficient, with positive environmental impacts.

Specific trade policies – whether altering tariffs or subsidies, or altering investment laws and policies – will bring about different combinations of these effects. For example a policy to reduce tariffs on all goods and services would have a mixed result, with a negative scale effect, a positive technique effect and indeterminate composition effects. Lowering tariffs on just environmentally friendly goods is likely to bring about a strong enough technique effect that the overall effect is positive for the environment⁶³. It is important to consider how different trade policies may interact in their impact on the environment.

Case Study: Carbon Leakage in the energy markets in Jersey.

Jersey imports both gas and electricity, but the trade policies concerning gas and electricity differ considerably, which has a significant impact on the effectiveness of policies promoting climate-friendly goods and services. Carbon dioxide generated during the production of electricity abroad is in effect disregarded, whereas the carbon dioxide produced when gas is burnt on-site is considered an integral part of the carbon footprint of the products or services using this energy source. This provides an incentive to use electricity instead of gas, even in cases where electricity is not necessarily the most appropriate or environmentally optimal fuel. Total GHG emissions are not reduced, but instead simply *leaked* to France, where most of Jersey's electricity is bought from.

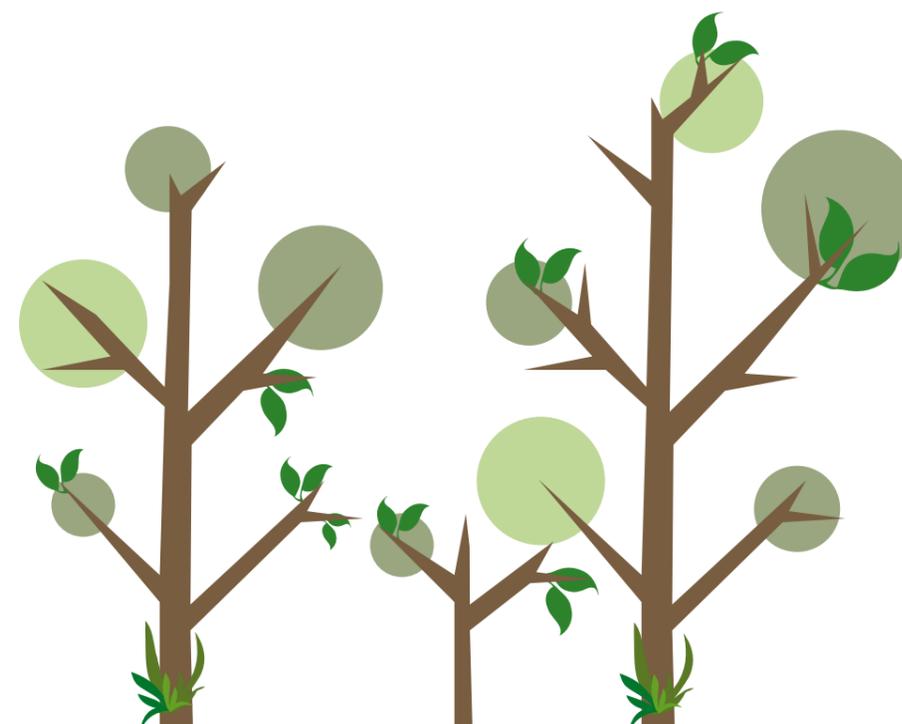
Source: Discussions at CPA's 3rd International Parliamentary Conference on Climate Change

Climate change may affect trade through physical impacts, altering the availability of both services and goods in industries such as agriculture and tourism, and by affecting trade-related infrastructure, such as ports affected by a rise in sea level. It may also impact on the competitiveness of firms less directly, as a result of policies designed to address climate change. For example firms may choose to relocate to countries where environmental regulations are less stringent (the process of *leakage*), or certain policies may give unfair competitive advantages to domestic industry⁶⁴.

International parliamentarians at CPA UK's climate change conference discussed the role of market-based instruments, including regulation and standards, taxes as an economic incentives, tradable permits, and subsidies, in promoting climate-friendly practices.

As well as the need to strengthen governance and build capacity to deal with this complex policy area, they highlighted the following as policy priorities which could be addressed using market-based mechanisms and trade policies:

1. Expanding the use of clean energy
2. Encouraging sustainable transport and sustainable urban development
3. Managing land use and forests for carbon sequestration
4. Promoting climate-resilient development.



⁶³ Cosbey, A. 2007. Trade and Climate Change Linkages. IISD. Available at: http://www.iisd.org/pdf/2007/trade_climate_linkages.pdf

⁶⁴ Cosbey, A. 2007. Trade and Climate Change Linkages. IISD. Available at: http://www.iisd.org/pdf/2007/trade_climate_linkages.pdf

2. Role of Parliamentarians in a Democracy



The Role of a Member of Parliament in a Westminster-style parliamentary democracy can be split into three core areas of activity, each of which offers opportunities to scrutinise government climate change action:

- through Representation (Constituency and Backbench action)
- through Scrutiny Systems
- through Legislative Processes.

Parliamentarians must balance the need to address climate change with the many other competing priorities, bearing in mind that climate change may impact on many other areas of their work. This balance can only be determined by individual parliamentarians, who know best the situation in their own constituencies and legislatures.

2.1 Representation

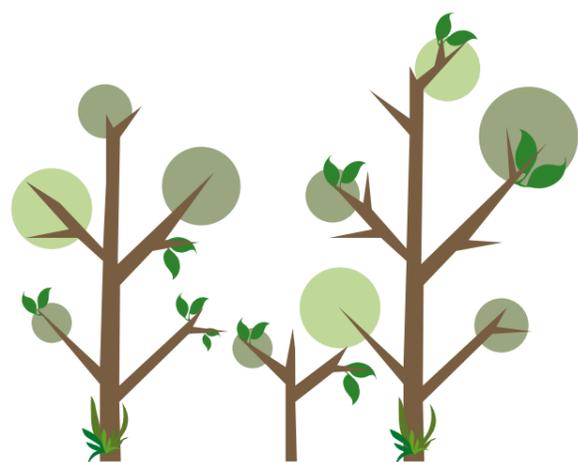
2.1.1 Constituency Work

Members represent the needs and interests of their constituents, including those who do not have a direct vote, such as children and certain groups of migrants.

Case Work – meeting individual constituents, taking up their problems and grievances. Some cases will be linked to climate change, for example regarding ways to secure the livelihoods of constituents as their environment changes.

Raising Awareness – amongst constituents about the importance of action on climate change and any policy developments, making use of local media and through local meetings and events.

Encouraging Dialogue – between officials from local, national and international institutions, and local communities and civil society, including academics, NGOs, media, service providers, cultural groups, elderly and youth groups and faith groups. This will ensure approaches to climate change meet the needs of constituents.



CASE STUDY: Encouraging Dialogue in Keta Municipality, Ghana

"I first realised that climate change is real and that immediate action was needed to ensure the future economic survival and development of my Municipality during a workshop on climate change organised by the Ministry of Environment, Science and Technology in Accra, Ghana in June 2008. The Municipality comprises coastal communities in the Southern Volta Region of Ghana and several hectares of previously cultivated farmlands and settlements are gradually becoming submerged, leading to a loss of farming jobs and increased migration of people to other areas.

I organised an awareness creation workshop for the Planning Unit and Members of the Municipal Assembly in September 2009 where I made a PowerPoint presentation on the subject of climate change, evidence for it in the Municipality and the need to act now in terms of adaptation and mitigation. The workshop also documented the evidence of climate change in the Municipality through a participatory brainstorming session. After the workshop, I was hosted on the local Jubilee FM Station to explain the climate change concept, its effects in the Municipality and the need to take action now.

By the end of December 2009, the Municipal Assembly had reviewed its by-laws and plans to integrate climate change adaptation and mitigation measures into the medium term development plan. The plan includes mitigation measures such as tree planting projects and the prevention of bush fires, and a proposal to seek donor funds to document the effects of climate change on farming systems, settlements, flora and fauna as well as health in the Municipality."

Hon Clement Kofi Humado, MP for Anlo Constituency in the Keta Municipality, Ghana

Supporting Local Activities – by visiting and showing support for local events and initiatives, for example speaking at a school event.

CASE STUDY: Perspectives from PB-45 LASBELA-11 Constituency, Balochistan Province, Pakistan

"My constituency consists of arid zones and industrial areas. Agriculture is also practiced in my constituency but it is badly affected by droughts. To boost agriculture, which I think can be the main driver of maintaining sustainable environmental conditions, I have emphasised tapping rain water which flows in abundance when it is raining. Three big dams to store rain water are being built in my constituency. If barren land is brought under cultivation it will help bring positive environmental changes. In industrial areas we are discussing how to discourage environmental unfriendly units and encourage environmental units. For example we recently withheld permission for a coal based power project in an area close to a high population."

Hon Muhammed Aslam Bhootani MPS-Balochistan Provincial Assembly, Pakistan

Leading by Example – by adopting climate-friendly practices in your public and personal life and encouraging others to do the same.

CASE STUDY: The Role of an MP as a 'Community Leader' in New South Wales, Australia

"What can I do as a community leader to positively influence a more sustainable community? The issues that create the most interest in my community do not include climate change. I have never received a petition to do more on climate change. Rather, I do receive many petitions and letters regarding roads, need for air-conditions in schools, better cancer services, over-development, more police etc. This means when it comes to addressing issues on climate change we must wear our 'community leader' hat rather than 'community representative'. This is a challenge, as our constituents want us to represent their concerns and interests first and foremost.

We need to ensure the issues surrounding climate change are well understood and appreciated by our constituents. To do this, I plan to encourage our Parliament and Government to adopt an independent committee such as the UK's Committee on Climate Change, currently chaired by Lord Turner. I see this committee to be factually based and will be appreciated by my constituents. I will also encourage NGOs to set up a committee on climate change to make public comment on government and private sector decisions in the context of climate change, and to encourage sensible debate.

I am optimistic that we will all move to a more sustainable planet with good-will and decisions based on fact."

Mr Matt Brown MP, New South Wales, Australia

2.1.2 Backbench Work

Bill / Standing Committees – All bills pass through a committee stage in which a Standing Committee composed of about 20 Members (usually reflecting the composition of the parliament in terms of political parties) is established to scrutinise proposed bills clause by clause and make amendments. Backbenchers can join Standing Committees.

CASE STUDY: The Parliamentary Standing Committee on Economics Natural Resources and Public Administration, National Assembly, Namibia

"The Parliamentary Standing Committee on Economics Natural Resources and Public Administration of the National Assembly of Namibia became earnestly involved in climate change issues at international level when a resolution was taken at ACP-EU joint Parliamentary Assembly held in Papua New Guinea from 17th to 28th November 2008. The resolution urged parliamentarians as law makers to play a vital role in urging their governments to implement the provisions of the Kyoto Protocol. Each region within the ACP-EU groupings was urged to prepare through their governments to influence the outcome of COP15 to benefit the vulnerable people of the world.

The Committee has an important role to play as Namibia is in the process of developing a national policy to climate change. Its main focus is to advise and make recommendations to the Government on climate change including how to meet its obligations to the UNFCCC. The Committee is also represented on the Namibian Climate Change Committee (NCCC)."

Dr Moses Amweelo MP, Namibia

Cross-Party / All Party Parliamentary Groups (APPGs) – These are voluntary associations or groups established by Members and composed of Members from all political parties who share a common interest. APPGs can hold meetings with representatives of civil society, NGOs, policy think-tanks, business, and academia and can organise official visits (at home and abroad) to share learning, build alliances and discuss

contemporary challenges and policy responses. APPGs also occasionally produce reports that can gain media attention. They may act as a forum for collaboration with parliamentarians from different parliaments.

CASE STUDY: The UK Parliament's All Party Group on Climate Change

"The UK Parliament's All Party Group on Climate Change was established in 2005 with a broad remit to consider the science and politics of climate change. Following the pattern of other all party groups, its membership is drawn from all parliamentarians who share an interest in the subject. It also has an associate membership drawn from civil society, business, academia and others, income from which is used to defray the costs of running the group. The group has a professional secretariat, currently provided by the CarbonNeutral Company.

The group has run a successful programme of events and meetings in Westminster; run two inquiries: one on the question of whether a cross party consensus on climate change is necessary or desirable; the second (in conjunction with the Bangladesh Parliament's All Party Climate Change Group) on the question of climate change equity. We have also organised a partnership with German MPs concerned about climate change as well as working closely with the CPA.

The climate change group has enabled a wider interaction between parliamentarians, ministers and the public, and has introduced the latest research to MPs. Perhaps five years is not long enough to measure the success of the group, but it has forced climate change up the political agenda. Such groups - and the development of links between them - should be encouraged across Commonwealth parliaments."

Mr Colin Challen, former MP for Morley and Rothwell, UK

Early Day Motions – Motions/statements of position set down by back-bench Members formally for discussion 'at an early day'. However in practice in the UK, these motions are rarely actually debated in the Chamber. Instead, EDMs enable Members to express an opinion on any subject and can serve as a focus for campaigning within parliament. EDMs can also gain media attention.

Writing to Ministers – In addition to formal parliamentary scrutiny systems, many Members write letters to relevant Ministers with questions and correspondence from their constituents. These letters may seek information not easily accessible in the public domain and/or press for action.

Lobbying / Debating – Back-bench Members can further debate key issues by lobbying Ministers and participating in Debates both in and outside the Chamber.

2.2 Scrutiny Systems

Departmental / Select Committees – these can call for and conduct enquiries about the performance of government. The reports that result from enquiries command an official response from government. The reports are occasionally debated in the Chamber, and often receive media attention.

Members can press for inquiries into aspects of government policy on climate change. As mentioned above, enquiry reports command a response from the government and as such are a powerful tool for scrutinizing the effectiveness and justice of government activity. The diverse causes and implications of climate change mean it is a key priority for a range of different committees, especially those dealing with the health, welfare, environment; energy; natural resources and their management; business, trade and industry; transport; housing and planning; foreign affairs; international development and public spending.

CASE STUDY: The UK Parliament's Environmental Audit Select Committee

"The Environmental Audit Select Committee (EASC) was established in 1997 to improve Government's environmental accountability to Parliament.

The Committee's formal remit is to consider the extent to which government programmes contribute to environmental protection and sustainable development and to audit departments' progress against sustainable development targets. Unlike most Select Committees which focus on a single department the EASC is able to cut across all government departments. In addition to monitoring departments' progress on sustainable development targets, the EASC has examined:

- biodiversity and air quality,
- climate change negotiations, adaptation to climate change, and carbon capture and storage,
- the role of Department for International Development (DfID) and the Foreign and Commonwealth Office (FCO) on trade and development,
- carbon emissions from transport,
- green taxes, and
- biofuels, deforestation and environmental labelling.

The Committee has influenced policy development on environmental protection, sustainable development and environmental fiscal measures, and has secured clear results in other discreet areas. It first coined the term 'Greening Government' and played a significant role in the evolution of targets and the monitoring regime for government departments, and the Committee's regular survey of departments forms the basis for the annual Sustainable Development in Government reports. The EASC's concerns that biofuels could produce more emissions than they saved, if produced on land converted from forests, contributed to modified targets under the Renewable Transport Fuel Obligation.

With the recent abolition of agencies such as the Sustainable Development Commission the role of the Committee will be increasingly important in the months and years ahead. We welcome engagement with other parliamentarians."

Ms Joan Walley MP, UK

Parliamentary Questions – Members can send in written questions and/or ask questions on the floor of the Chamber to press for information, action or clarifications regarding government policy relating to climate change. Questions could relate to welfare, emissions, energy efficiency, natural resource management; transport; sustainability or financial support for climate change adaptation, for example.

Debates – In both government initiated and Private Member Debates, Members can hold relevant Ministers to account, call for clarifications of policy or seek commitments from the government to advance more affective or just action on climate change.

Set-piece debates on budgets and estimates can prove to be valuable opportunities for debate on government action on climate change.

Private Member-initiated debates can take place on procedural motions, such as adjournment debates in the UK, or on substantive motions, sometimes called Private Members' Motions. Both provide excellent opportunities to raise awareness and press for action from the government on crucial climate change priorities.

CASE STUDY: The UK's Committee on Climate Change

"The Committee on Climate Change is central to the UK's novel approach to climate change targets established under the Climate Change Act 2008. The Committee's first task was to recommend the UK's long-term 2050 target for greenhouse gas emission reductions. The 80% reduction recommendation was included in the Climate Change Bill and approved by Parliament. A key on-going responsibility is to recommend sets of five-year national carbon budgets which stretch at least 15 years in the future. These budgets can provide certainty about climate policy beyond the political cycle. Parliament approved the first set of three carbon budgets in 2009. The Committee also reports annually to Parliament on the Government's progress in developing and implementing climate change policies. The relatively small Committee, consisting of eight independent members supported by an effective Secretariat, has rapidly established itself as an authoritative player. The Government has invited it to provide ad hoc advice on several topics including aviation targets, low carbon R&D and renewables targets."

Professor Jim Skea, Committee on Climate Change

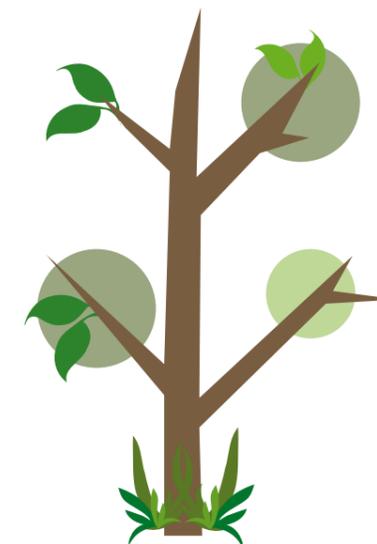
2.3 Legislative Processes

Debates on Legislative Programme – Often a Parliamentary session opens with a debate on the legislative programme for the coming session. These debates are an opportunity to raise climate change priorities and call for a government response to their status and coverage in the legislative programme.

Debates on Government Bills – The legislative process provides multiple opportunities to debate government proposals (Second Reading, in Committee, Report, Third Reading). These debates provide a useful opportunity to scrutinise in detail specific aspects of proposed legislation vis-à-vis local, national and international climate change priorities.

Probing amendments to legislation can be used to draw out justifications, concessions and commitments from Ministers.

Individual Member Initiated Bills / Private Members Bills – In some parliaments Private Members are able to introduce bills. While these seldom make much progress they do occasionally make it to the statute book. Even where they do not, their impact can be significant, and they remain a useful means of raising awareness of an issue and of putting pressure on the government to act responsibly.



3. Parliamentarians can't act alone!



Climate change is a truly global problem because we share the Earth's atmosphere, and greenhouse gas emissions or deforestation in one part of the world affect the climate everywhere. It is a complex and cross-cutting issue which affects all countries, social groups and industries – albeit in different ways – and requires us to work together at multiple levels to address it. Parliamentarians play a crucial role in working together with different actors, from the global to the local, and supporting them in their approach to climate change.

3.1 The UNFCCC

The United Nations Framework Convention on Climate Change⁶⁵ is an international treaty adopted in 1992 whose ultimate objective is the “stabilization and reconstruction of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”. It provides a forum for governments to:

- gather and share information on greenhouse gas emissions, national policies and best practices
- launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries
- cooperate in preparing for adaptation to the impacts of climate change.

There are currently 194 Parties to the UNFCCC, giving it near-universal membership. The Secretariat is based in Bonn, and each year the Conference of the Parties (COP) meets in a different location to review the implementation of the Convention.

The UNFCCC is often considered a collection of separate international agreements.



Figure 3.1: Major decisions under the UNFCCC

⁶⁵ Information about the UNFCCC and the agreements discussions in this section is available on the UNFCCC website: <http://unfccc.int/2860.php>

3.1.1 The Kyoto Protocol

The Kyoto Protocol was agreed during the third COP in Kyoto, Japan in 1997 and commits industrialised (Annex I⁶⁶) countries to reduce their collective greenhouse gas emissions (including carbon dioxide, methane, nitrous oxide, sulphur hexafluoride and the related hydrofluorocarbons and perfluorocarbons) by 5.2% from the 1990 level over the period 2008-2012. Significantly, it does not oblige either developing countries or non-signatories (which include the US) to any emissions cuts.

Individual countries are expected to meet their emissions reduction targets largely within their national borders, however the Kyoto Protocol includes three market-based mechanisms to allow them to invest in international projects in order to meet their obligations at less expense.

Emissions Trading – countries that exceed their emissions targets can sell their spare emissions units (emissions they were permitted but did not “use”) on the carbon market

Clean Development Mechanism – (Annex I) countries can pay for projects which will lead to emissions reductions in developing (non-Annex I) countries, which have no obligations of their own, and count these towards their own targets. A project might for example include replacing a coal fired power station with solar panels, or buying more efficient environmentally friendly stoves.

Joint Implementation – this mechanism varies from the CDM in that Annex I countries invest in emissions reduction projects, such as replacing a coal fired power station with a more efficient combined heat and power plant, in countries that **do** have their own emissions targets, in particular Russia and the Ukraine.

In addition the Kyoto Protocol supports developing countries to adapt to climate change through its *Adaptation Fund* which is financed by a share of the proceeds from CDM projects and funds adaptation projects.

Importantly the first commitment period of the Kyoto Protocol is due to expire in 2012, meaning a new international agreement is necessary by then if these mechanisms are to continue.

3.1.2 From Bali to Copenhagen

Negotiations on a successor to the Kyoto Protocol were the focus of discussions at COP13 held in Bali, Indonesia in 2007, when the participating nations adopted the *Bali Road Map*, a two year plan which aimed to pave the way for a legally-binding international treaty to be signed at COP15 held in Copenhagen in 2009. The Bali Road Map launched a subsidiary body under the Convention, the *Ad-hoc Working Group on Long-term Co-operative Action* to work towards a global agreement on climate change (i.e. a second track, parallel to the Kyoto Protocol, but including the Parties to the Convention who have not signed the Kyoto Protocol, such as the US), and highlighted the need for action in four key areas: mitigation, adaptation, technology development and transfer and financial transfers (known as the *four pillars*).

The Copenhagen climate change summit, COP15, held in December 2009, failed to produce the global legally-binding treaty that had been hoped for, instead ending with the non-binding *Copenhagen Accord*⁶⁷. The meeting highlighted the difficulty in reaching agreement through the (bureaucratic and consensus-demanding) UN process, with blame being thrown in all directions. However, despite this, the Copenhagen Accord signalled, for the first time, a truly global consensus that climate change was caused by mankind and that there is an urgent need to address it, with countries such as the US and China on board, and considerable progress was made in certain areas such as working towards a global agreement on forests.

⁶⁶ List of Annex I Parties available at: http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php
⁶⁷ Available at: <http://unfccc.int/resource/docs/2009/cop15/eng/107.pdf>

3.1.3 From Copenhagen to Cancun

It is hoped that COP16 to be held in Cancun in December 2010 will result in considerable progress, preparing the way towards the global agreement which was not produced in Copenhagen. Important issues to be discussed include:

Emissions Reductions and Limitations: The Copenhagen Accord includes voluntary targets for developed countries to reduce, and for developing countries to limit, their greenhouse gas emissions. However many consider this insufficient, citing the need for more ambitious and legally binding targets. Questions remain about who should be responsible for what, and who they are accountable to, in particular how to enforce compliance and the subject of Measurement, Reporting and Verification (MRV).

Forests and REDD+: One of the criticisms of the Kyoto Protocol is that it does not take account of deforestation, when deforestation accounts for nearly 20% of global GHG emissions⁶⁹. The Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism aims to address this by creating a financial value for the carbon stored in trees and providing incentives to keep them standing, while at the same time contributing to the livelihoods of the local population. It has been predicted that financial flows from REDD+ could reach up to \$30 billion a year⁷⁰. Considerable progress has been made in negotiations thus far and the outlook is positive, but topics to be discussed include what specifically REDD+ hopes to achieve, how to finance it and how to ensure countries receiving finance may be held to account, as well as how to promote reforestation and how to protect native forests, as well as rainforests.

Adaptation: Even if all of the voluntary emissions reductions targets are met, warming will still exceed the 2°C target laid out in the Copenhagen Accord⁷¹, meaning it is crucial that countries adapt to the effects of climate change. The UNFCCC supports countries to adapt through the provision of funding, technology transfers and technical assistance – a number of details must be resolved about how to make this more effective, including considering the specific roles for the major global funds working in this area: the Kyoto Protocol Adaptation Fund, the Special Climate Change Fund, the Least Developed Countries Fund, the World Bank and the Global Environment Facility. As it is often difficult to quantify exactly which impacts are attributable to climate change, and adaptation projects are often very similar to non-climate specific development projects, it is important that adaptation is seen as something which should occur alongside and as part of wider development. A challenge remains in ensuring this where adaptation funding and development funding are accounted for separately.

Technology Transfers: These have been identified as an important way of supporting developing countries in mitigating and adapting to climate change, through the technology mechanism envisaged by the Copenhagen Accord. Debate is expected over the issue of Intellectual Property Rights – whether patents and copyrights should be shared to support the global response to climate change, or whether this is unfair on those who have developed these technologies and acts to stifle further innovation – and how a technology mechanism and a financial mechanisms could fit together⁷².

Financial Transfers: Industrialised countries have committed to donating an additional US\$10 billion per year from 2010 – 2012, increasing to US\$100 billion per year from 2020, to developing countries under the Copenhagen Accord, to support them to mitigate and adapt to climate change. The short term financing (2010 – 2012), known as *fast start* finance, will be used to address the most pressing issues and to allow us to develop effective approaches to dealing with climate change, while the procedures necessary to manage the US\$100 billion p.a. required over the long term are developed. Questions remain about where the funding will come from and how to ensure it is *additional* to other forms of overseas development aid⁷³ – i.e. that it is not transferred in place of other programmes such as those for health and education.

3.2 International Partnerships

Despite the need for global agreement on climate change, global negotiating processes are lengthy and progress often slow. International associations including the Commonwealth and regional groupings provide the opportunity for groups of countries to cooperate on climate change out with these processes, leading to quicker and more efficient action, and allowing them to present a united voice in global negotiations – both strengthening their position and speeding the process.

3.2.1 The Commonwealth

Comprised of 54 countries from 6 continents, the Commonwealth⁷⁴ is home to 2 billion people, a third of the world's population and more than a quarter of the Parties to the UNFCCC. Many parts of Commonwealth, particularly the Small Island States and low-lying areas of countries such as Bangladesh, are directly threatened by climate change, however the Commonwealth, with its shared goals in democracy and development, leads the world in its approach to climate change in a number of respects.

The diversity of its members and its inclusive nature mean the Commonwealth has a strong track record in building communal trust in the way it engages in international negotiations. The Commonwealth Heads of Government Meeting (CHOGM) of 1989 agreed the Langkawi Declaration on the Environment, which was highly influential in the formulation of the Rio Earth Summit Declaration of 1992⁷⁵, and CHOGM continues to influence international environmental policy through declarations and strong statements of political will.

The 2007 Lake Victoria Commonwealth Climate Change Action Plan highlighted the importance of tackling climate change and ways in which the Commonwealth and its members should take a leading role. This was reaffirmed by the 2009 Port of the Spain Climate Change Consensus – The Commonwealth Climate Change Declaration⁷⁶, which describes climate change as “The Challenge of Our Time”.

These declarations have devised practical measures to address climate change, such as the Copenhagen Launch Fund, which started in 2010 and will build to a level of resources of \$10 billion annually by 2012, as well as showing the world that it is indeed possible to find common ground on climate change, even amongst the most diverse countries, through a commitment to the concept of “common but differentiated responsibility”. Their unequivocal support of the UNFCCC, with the Commonwealth Climate Change Declaration stating “an internationally legally binding agreement is essential” ensures the Commonwealth acts to complement global efforts.

68 E.g The US: <http://www.guardian.co.uk/commentisfree/2009/dec/21/copenhagen-failure-us-senate-vested-interests>; China: <http://www.guardian.co.uk/environment/2009/dec/22/copenhagen-climate-change-mark-lynas>; Denmark: http://www.chinadaily.com.cn/china/2009copenhagenclimate/2010-01/01/content_9254892.htm; Developed countries: <http://allafrica.com/stories/201004130083.html>; Under-developed countries, especially in Africa: <http://www.theaustralian.com.au/news/opinion/new-approach-on-global-warming-needed-now/story-e6frg71x-1225812242549>

69 UN REDD. About REDD+. Available at: <http://www.un-redd.org/AboutREDD/tabid/582/language/en-US/Default.aspx>

70 *ibid*

71 MacKenzie, K. 2010. What Copenhagen might achieve, three months on. Available at: <http://blogs.ft.com/energy-source/2010/04/06/what-copenhagen-might-achieve-three-months-on>

72 For more details see: <http://www.wri.org/stories/2010/05/copenhagen-cancun-technology-transfer>

73 For more details see: <http://www.odi.org.uk/resources/download/4724.pdf>

74 See: <http://www.thecommonwealth.org/>

75 Sharma, K. 2009. Climate Change Priorities for Copenhagen.

Available at: http://www.thecommonwealth.org/speech/181889/34293/35178/210851/climate_change_priorities_for_copenhagen.htm

76 Both available online: <http://www.thecommonwealth.org>

The Commonwealth also provides other forums for dialogue on climate change and related issues, such as the Commonwealth Forestry Association⁷⁷, the Young Commonwealth Climate Summit⁷⁸ held in 2009, and Commonwealth Climate Change Communication Conference⁷⁹ to be held on-line in November 2010.

In particular the Commonwealth Parliamentary Task Force on Climate Change is a parliamentary network created in 2009, which enables jurisdictions and regions to better share and disseminate information about tackling climate change. Their digital library⁸⁰ can be accessed with the username “cpahq.org\member” and the password “Climate12”.

The truly global nature of climate change poses an opportunity to the Commonwealth to become more proactive by focusing an issue that affects all Commonwealth countries, albeit in different ways. It is up to Commonwealth members to ensure that this opportunity is taken.

3.2.2 Other International Groupings

There are two main ways groups of countries cooperate in their response to climate change:

- As negotiating blocks
- Through regional level mitigation and adaptation programmes.

Negotiating Blocks

With 194 Parties to the UNFCCC, it is often difficult, particularly for smaller nations, to ensure their voice is heard. Countries which have similar economic, social and physical conditions, and therefore similar needs and interests, are able to influence international negotiations by speaking with a united voice. Examples of blocs include the European Union, the G77 + China and the Alliance of Small Island States (AOSIS), who have each had considerable influence over the UNFCCC process since its formation in 1992, issuing collective statements such as AOSIS's 2009 Declaration on Climate Change⁸¹, and speaking collectively during negotiations.

One to Watch: BASIC. Copenhagen saw the emergence of a new negotiating power: BASIC (Brazil, South Africa, India and China), who were pivotal in drafting the Copenhagen Accord. The BASIC group, keen to be considered part of the G77+China group⁸², began meeting officially in 2010. With its member states global reach rapidly expanding, BASIC is set to remain a major influence over future negotiations.

Mitigation and Adaptation programmes

Regional approaches to mitigate and adapt climate change, rapidly growing in scope as well as number, are often more institutionally possible and cost-effective than global ones. Groups of countries may come together specifically to deal with climate change, such as the Asia-Pacific Partnership on Clean Development and Climate, or may address climate change as part of a wider political framework, such as the European Union.

ASEAN, the Association of South East Asian Nations⁸³, formed in 1967, social progress and cultural development, as well as encouraging collaboration in the region. It recognises and addresses climate change both as an important issue under its Socio-Cultural Community, and as a cross-cutting issue which impacts on almost all sectors, and especially environment, disaster management, energy and transportation and agriculture and forestry⁸⁴. For example the ASEAN energy security plan devises strategic goals in energy efficiency and conservation, renewable energy and coal and clean coal technology. As well as mainstreaming climate change across all their operations, ASEAN has made a number of declarations including the Singapore Declaration on Climate Change, Energy and the Environment and the Singapore Resolution on Sustainability and Climate Change.

The Asia-Pacific Partnership on Clean Development and Climate⁸⁵ (APP), announced in 2005, brings together seven major Asia Pacific countries - Australia, Canada, China, India, Japan, Korea and the United States - to address increased energy needs, and the associated issues of air pollution, energy security and climate change, through public-private partnerships. It encourages the development, diffusion and transfer of clean technologies and practices in energy supply and energy intensive sectors throughout the region by bringing industry stakeholders and government officials together. Projects include increasing the use of cleaner steel technologies and improving carbon capture technologies for coal-powered power plants⁸⁶.

The European Union's Climate and Energy Package agreed by the European Parliament and Council in December 2008 sets a 20-20-20 target: a 20% cut in GHG emissions compared to 1990 levels by 2020, a 20% increase in the share of renewables in the energy mix and a 20% reduction in energy consumption - with the European Commission suggesting emissions reductions targets may be raised to 30% if other international conditions are met⁸⁷.

A key plank of the EU's policy is to strengthen its pioneering Emissions Trading Scheme (ETS), launched in 2005, which distributes permits to emit CO₂. Industrial plants are able to trade these allowances, giving them an incentive to reduce their carbon emissions as this would allow them to sell their permits. The regional nature of the scheme means it covers around 10,000 heavy industry plants, and a vibrant market has developed. There remain a number of issues to resolve however, including that it does not include sectors such as road and sea transport, buildings, services, agriculture and smaller industrial installations, which make up 60% of the EU's emissions, and that it fails to deal adequately with 'carbon leakage', when industrial plants are re-located to regions with more lenient environmental standards.

The Caribbean Community Climate Change Centre⁸⁸ plays a key role in sharing information about climate change within the Caribbean. It is the official repository and clearing house for regional climate change data, providing climate change-related policy advice and guidelines to the Caribbean Community (CARICOM) Member States through the CARICOM Secretariat. Its website gives details of a number of regional adaptation projects, which may be more cost effective than projects run at the individual country level.

77 See: <http://www.cfa-international.org>

78 See: <http://www.commonwealth-climate-change-2010.net>

79 Available at: <http://sharepoint.cpahq.org/cc/default.aspx>

80 Available at: <http://sharepoint.cpahq.org/cc/default.aspx>

81 Available at: <http://www.sidsnet.org/aosis/documents/AOSIS%20Summit%20Declaration%20Sept%2021%20FINAL.pdf>

82 See: <http://economictimes.indiatimes.com/articleshow/5864734.cms>

83 See: http://www.aseansec.org/about_ASEAN.html

84 Letchumanan, R. 2010. Is there an ASEAN policy on climate change? <http://www2.lse.ac.uk/IDEAS/publications/reports/pdf/SR004/ASEC.pdf>

85 See: <http://www.asiapacificpartnership.org/english/Default.aspx>

86 See: http://www.asiapacificpartnership.org/pdf/translated_versions/Fact_Sheet_English.pdf

87 See: <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/618&format=HTML&aged=0&language=EN&guiLanguage=en>

88 See: <http://caribbeanclimate.bz>

3.3 Partners on the Ground

The past decade has seen an explosion of initiatives by non-nation state actors, including businesses, cities, regions and other organisations, seeking to reduce GHG emissions and support efforts to adapt to the effects of climate change. These actors consider themselves to be more effective, efficient and faster in tackling climate change than nation states, as they are not subject to the same lengthy decision-making processes. They offer a means in which to reduce greenhouse gas emissions, whether in order to meet the goals of a global treaty or independently of an international architecture, although most recognise the need for a rigorous international policy framework in addition to their efforts⁸⁹.

"Different parts of the sector will approach climate change from different perspectives, and will mobilise different groups at national and community level. Together, we can enable all individuals to act."

Stephen Hale, Third sector chair of the joint ministerial and third sector Task Force on climate change, the environment and sustainable development⁹⁰

Parliamentarians attending CPA UK's Parliamentary Climate Change Conference explored the role of non-nation state partners, including analysing specific case studies of their work, and discussing how best parliamentarians can support their partners in tackling climate change. Each group has slightly different motivations for tackling climate change, which parliamentarians should bear in mind while working with each of these partners.

3.3.1 Business

Climate change will affect business both through its physical effects and through the policies designed to address it⁹¹. If individual businesses are to survive, they will have to adapt to this new environment.

Business however has a crucial role in fighting climate change, and should see it as an opportunity rather than a threat - both in terms of their potential to contribute to global mitigation and adaptation efforts, and in terms of the opportunities to benefit from the move to a low carbon economy.

In particular business must:

- produce greener alternatives to goods and services, and communicate information about these to consumers, allowing them to make informed choices
- invest in the development and deployment of new low carbon technologies
- play a key role in influencing our ambitions, by providing a source of low-carbon energy and by improving the country's energy efficiency, particularly by focusing on sectors such as transport and buildings.

However, the rules for business engagement are set through government policies on tax, regulation, planning, innovation and public spending and parliamentarians have a crucial role in ensuring these provide a conducive environment for businesses to contribute to an environmentally sustainable future.

⁸⁹ Lovell, H. 2007. More effective, efficient and faster? The role of non-state actors at UN climate negotiations.

Available at: <http://www.tyndall.ac.uk/sites/default/files/bn24.pdf>

⁹⁰ Hale, S. 2010. Foreword. Shaping our Future. The joint ministerial and third Sector Task force on climate change, the environment and sustainable development.

Available at: <http://www.defra.gov.uk/corporate/about/with/third-sector/documents/taskforce-march2010.pdf>

⁹¹ Llewellyn, J. 2007. The Business of Climate Change. Challenges and Opportunities.

Available at: http://www.lehman.com/press/pdf_2007/TheBusinessOfClimateChange.pdf

"Firms that recognize the challenge early, and respond imaginatively and constructively, will create opportunities for themselves and thereby prosper. Others, slower to realize what is going on or electing to ignore it, will likely do markedly less well."

Dr. John Llewellyn, Senior Economic Policy Advisor, Lehman Brothers⁹²

CASE STUDY: International parliamentarians at CPA UK's conference discussed SKANSKA's⁹³ approach to addressing climate change, playing particular attention to the role they can play in supporting such programmes.

SKANSKA is a world renowned construction company, which works in civil engineering and construction for the private sector, government and increasingly the residential market. Aiming to make profits for its shareholders, it became involved in environmentally sustainable construction projects in response to the fact that the built environment accounts for approximately 40% of all energy consumption⁹⁴. SKANSKA's approach focuses specifically on minimising carbon usage and reducing energy consumption within the construction, design and building process, both in new buildings and by "retro-fitting" old buildings to improve their energy efficiency.

Strengths: The key strengths of SKANSKA's approach are that being environmentally friendly meets their objectives of being profitable. Improvements in technology have enabled the company to create visible reductions in carbon and energy usage whilst being cost effective. By combining green development with architecturally sound construction, they have ensured that climate friendly lifestyles are attractive to the consumer.

Weaknesses and Challenges: One of the challenges in building support for greener business is the initial short term costs and need for appropriate technologies. The retro-fitting of old buildings is less profitable than building new environmentally-sound buildings, meaning more support/incentives may be required in this area.

Priorities: International parliamentarians at CPA UK's conference suggested the following key priorities for parliamentarians and their parliaments in supporting businesses such as SKANSKA:

1. Support public and private sector partnerships and encourage information sharing for emissions reductions.
2. Create the necessary policies and carry out appropriate legislation for making cities climate friendly. Policy security is crucial in encouraging investment.
3. Strive to ensure appropriate incentives are offered to business to encourage climate friendly investments and that barriers to technology transfer and trade are reduced.
4. Look for synergies between mitigation and adaptation and how meeting these objectives can improve jobs and investments.
5. Support international investments in development countries to reduce emissions.

⁹² ibid

⁹³ For more information see: <http://www.skanska.co.uk>

⁹⁴ SKANSKA. 2010. Energy and Climate.

Available at: <http://www.skanska.co.uk/en/About-Skanska/Sustainability/Environment/Energy--climate>

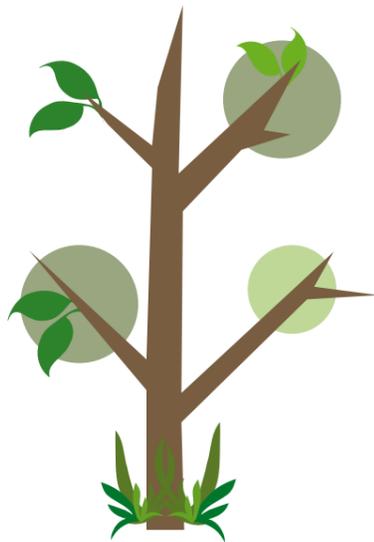
3.3.2 NGOs

NGOs have played an instrumental role in moving debates on climate change forward, both by influencing public policy through advocacy, and by engaging individuals and organisations and moving them from awareness to action. The role of NGOs, and the relative importance of their different tasks, varies significantly between different parts of the world, but includes:

- **building awareness** of and support for climate change measures, particularly as NGOs are often more trusted than Governments.
- **policy advocacy** relating to both adaptation and mitigation, at both national and international levels, including providing a long-term view
- climate change **adaptation** projects and building more resilient communities, for example projects related to disaster risk reduction that incorporate climate change, which will cause more extreme weather events (e.g. droughts and floods). These might include developing climate risk assessment tools, research on best practice, running trainings and developing guidelines
- climate change **mitigation** projects, for example aiming to reduce deforestation and allowing local communities to benefit from initiatives such as REDD+
- **leading by example**, through their own work and supporting their partners in demonstration projects
- **mainstreaming** climate change across all their operations

"Here lies one of the great strengths of the third sector; their local reach, their inclusiveness and the enthusiasm and energy which they can cultivate to innovatively tackle the challenges we all face."

Joint Ministerial Statement from 4 UK Ministers, 2010⁹⁵



95 Huw Irranca-Davies MP, Parliamentary Under Secretary of State, Defra Joan Ruddock MP, Minister of State, DECC Angela Smith MP, Minister for the Third Sector, the Cabinet Office, Barbara Follett MP, Parliamentary Under Secretary of State, CLG. 2010. Joint Ministerial Statement. Shaping our Future. The joint ministerial and third Sector Task force on climate change, the environment and sustainable development. Available at: <http://www.defra.gov.uk/corporate/about/with/third-sector/documents/taskforce-march2010.pdf>

CASE STUDY: International parliamentarians at CPA UK's conference discussed the climate change adaptation approaches taken by **Excellent Development!**⁹⁶, an NGO working to improve access and availability of water for farmers in Africa.

Many countries in Africa suffer from shortages in water supply as a direct result of deforestation, reduced rainfall and lack of conservation measures. With changes in climate and the increased risk of drought these problems are likely to worsen and threaten access to livelihoods. Excellent Development! have adopted a three-way, 'triangular' approach to improve water supplies particularly in the drought season. It includes planting trees to retain water, building terraces, to maintain water and constructing sand dams to store water and in turn provide enough water for tree growth over time. This approach is effective in ensuring a year-round water supply which improves livelihoods and boosts development. Moreover, these approaches have contributed to climate change mitigation by creating micro-climates and sustaining forests as well as reducing threats to food and water security.

Strengths: The main strength of the programme discussed by delegates was its integrated and community-led approach, which is appropriate to local needs and cost-effective. Additionally, the project can easily be expanded or scaled up to cover larger areas.

Weaknesses and Challenges: The main weaknesses were identified as limitations in funding, particularly as a result of urban biases, and the lack of monitoring and evaluation.

Priorities: Several key priorities and suggestions for working with NGOs, such as Excellent Development!, were discussed by international parliamentarians at the CPA UK's conference. These included:

1. To actively seek out the practical work of NGOs at the grass roots level and to understand how effective projects operate and succeed
2. To develop clearer partnerships between NGO actors and policy makers to improve combined efforts to deliver development and climate change mitigation
3. Be aware that NGOs are often more successful in delivering local small scale projects that address micro-climates than governments or bilateral bodies
4. Grant programmes which work with smaller partner NGOs should be better funded, more frequent and larger scale
5. Parliamentarians should work to deliver stronger regulatory frameworks that support and hold NGOs to better account without preventing their ability to innovate.

3.3.3 Communities

The phrase "Think Global, Act Local" applies equally to climate change as to any other issue. A range of community projects focusing on both mitigation and adaptation have emerged around the world⁹⁷ and their achievements to date suggest that communities could make considerable contributions towards national and global efforts to deal with climate change.

Four communities in the UK - The Green Valleys based in Brecon Beacons in Wales, Household Energy Service based in Ludlow, Shropshire, the Isle of Eigg in Scotland and Low Carbon West Oxford - managed to reduce carbon emissions by 10-32%, almost reaching the remaining 2020 CO₂ reduction targets in one year alone⁹⁸.

96 For more information see: <http://www.excellentdevelopment.com>

97 E.g. in Oxfordshire: http://climatex.org/articles/climatex/about_us/; in the UK: <http://www.energysavingtrust.org.uk/cafe/Green-Communities/Get-inspired/Case-Studies>; and across Africa: <http://www.africa-adapt.net/AA/ProjectMostRecent.aspx>

98 King, D. 2010. *Time to think small on climate change*. Available at: <http://news.bbc.co.uk/1/hi/sci/tech/8505854.stm>

Community activities may include:

- Community Based Adaptation (CBA) – with the aim of making communities more resilient to climatic impacts, this can simply be viewed as an additional layer of community based development activities, practices, research and policies. A body of knowledge made available online is beginning to build up surrounding approaches to CBA⁹⁹.
- Community Level Mitigation – reducing a community's carbon footprint, for example Sustainable Blacon¹⁰⁰ in the UK, or the Greenbelt Movement¹⁰¹, which originated in Kenya.
- Community Voice – activities to bring communities, who feel the effects of climate change, closer to policy-making processes. This may be done through forums such as the World People's Conference on Climate Change and the Rights of Mother Earth¹⁰² which was held in Bolivia in April 2010.

For communities to take an active part in addressing climate change, it is important they are aware of the issue, how it will affect them and what they can do to contribute to efforts to reduce greenhouse gas emissions. This means that awareness raising and empowerment are often the first steps in encouraging community involvement.

CASE STUDY: The delegates at CPA's conference discussed a case study of working with **Bangladeshi Diaspora communities in the UK.**

There are around 300,000 Bangladeshis living in the UK, whose concerns about climate change largely relate to climate change impacts being felt by their ancestral communities. Their response has mostly been humanitarian, offering support to communities in Bangladesh as they are affected by increased flooding and more frequent extreme events. However their strong links with communities in Bangladesh means they are able to draw on direct experiences, putting them in a strong position to become involved in the political response to climate change. Climate change had featured as an important issue in the recent UK General Election in the East End of London, where Bangladeshi communities are concentrated, for example, and following collaboration between diaspora and ancestral communities, the terms of bilateral aid to the Bangladesh were altered, making the process of providing aid to address climate change issues, amongst others, simpler.

Strengths: The strong links with the ancestral communities could strengthen the positions of diaspora community leaders and parliamentarians with respect to climate change policies. Migration offers an opportunity to strengthen links and awareness about climate change in the Global North and South.

Weaknesses and Challenges: Addressing climate change is a long-term process and it is important to maintain momentum and engagement by communities over the long-term.

Priorities: In terms of working with communities, the conference discussed:-

- The importance of the role of parliamentarians in communicating climate change to local communities.
- The need to use specific, locally-relevant examples of climate change impacts (such as the recent flooding in the Okavango Delta in Botswana) to explain climate change to local people.
- The challenges of translating communities' understanding of climate change into action (both adopting low carbon lifestyles and engaging at a political level), noting that countries can suffer from climate change and offer climate change solutions simultaneously.
- The opportunities of using international links and partnerships, including diaspora communities and contacts made through events such as CPA's conferences, to raise international awareness and leverage empowerment.

99 For example, Community Based Adaptation Exchange: <http://community.eldis.org/cbax/>; Linking Climate Adaptation Network: <http://community.eldis.org/599266eb>

100 See: <http://www.sustainableblacon.org.uk>

101 See: <http://www.greenbeltmovement.org/w.php?id=61>

102 See: <http://pwccc.wordpress.com/>

3.3.4 Faith Groups

Climate change is considered a moral issue relating to the need to care for the vulnerable and to mankind's role in protecting the environment, important values to a number of faiths. With their presence across the world, their collective resources¹⁰³ and their ability to mobilise large numbers of people, faith groups have the potential to be powerful agents of change in addressing climate change.

Research carried out in Africa by the BBC World Service Trust¹⁰⁴ suggests that considerable numbers of people, particularly women and rural populations, understand climate change in relation to their spiritual beliefs, re-emphasising the potential role of faith leaders in mobilising a response to climate change.

"The world's faiths joined together in this cause - if viewed in terms of sheer numbers of people - could become the planet's largest civil society movement for change. With their unparalleled presence throughout the world, the world's religions could be the decisive force that helps tip the scales in favor of a world of climate safety and justice for future generations..."

UNDP Assistant Secretary-General Olav Kjørven¹⁰⁶

CASE STUDY: Parliamentarians at the CPA UK conference discussed the **Abuja Interfaith Forum on Climate Change**¹⁰⁷, a British Council initiative which gathered religious leaders from around Africa together in Abuja, Nigeria in February 2010 to discuss the impact of climate change and measures they could take to address it.

The faith leaders who attended the forum were inspired to take action on climate change and the forum has resulted in a number of energy efficient projects in and around religious buildings, for example a tree planting project, as well as attempts to reduce energy consumption. A key output of the forum is a Declaration on Climate Change¹⁰⁸.

Strengths: Parliamentarians identified a number of strengths of the Interfaith Forum. In particular, the forum provided a theological basis for action on climate change which has helped boost support for environmentally friendly initiatives amongst religious leaders. It was noted that this support was particularly useful as faith leaders are amongst the most trusted figures in society and are likely to apply more long-term thinking than political leaders. Through collaboration between different religions the forum has created an opportunity for improving civil society relationships, increasing religious tolerance and working with religious leaders to initiate change.

Weaknesses: The relationship between religions and politics varies considerably between countries, meaning the approach to working with faith leaders will vary between countries. In addition, the different religions each approach the environment slightly differently. The delegates identified that some faith leaders were suspicious of the climate change agenda and that it was important to ensure that climate change did not become a subject of religious conflict.

Priorities: As a result of these discussions parliamentarians at the CPA UK conference identified the need to:

1. Create stronger partnerships with religious leaders and listen to their priorities
2. Include faith groups in partnerships with government for policy and action

103 The 11 faiths in the Alliance of Religions and Conservation own seven percent of the habitable surface of the planet, and if they invested together, would be the world's third largest identifiable block of holders of stocks and shares. See: http://www.arcworld.org/about_ARC.htm

104 BBC World Service Trust. 2010. Africa Talks Climate. Available at: <http://africatalksclimate.com/sites/default/files/01-Executive%20Summary.pdf>

105 Archbishop of Canterbury. 2009. Faith leaders – tackling climate change is a "moral imperative" Available at: <http://www.archbishopofcanterbury.org/2589>

106 Quoted on ARC website: <http://www.arcworld.org/projects.asp?projectID=47>

107 For more details see: http://www.businessdayonline.com/index.php?option=com_content&view=article&id=8579:exploring-interfaith-approach-to-climate-change-awareness&catid=94:features&Itemid=353

108 See: Interfaith Forum on Climate Change Declaration on Climate Change

"Faith communities have a crucial role to play in pressing for changes in behaviour at every level of society and in every economic sector"

Archbishop of Canterbury¹⁰⁵

3.3.5 Local Government

The importance of cities and local governments in addressing climate change has been highlighted by groups from around the world, including ICLEI – Local Governments for Sustainability in their South Asian Call¹⁰⁹ and the UK Department of Communities and Local Government in their Local Government White Paper¹¹⁰. Local government action could make significant contributions to national efforts, for example research suggests local authorities in England and Wales could reduce their emissions by 40% by 2020 if they were to take on a selection of renewable energy and energy efficiency measures, including introducing combined heat and power and addressing domestic energy efficiency and local transport. Introducing these measures could also create around 70,000 jobs in England and Wales in renewable energies and related industries¹¹¹.

Some national governments have begun to consider the form local governments action may take, for example the Australian Government's Department of Climate Change published a report on "Climate Change Adaptation Actions for Local Governments"¹¹² which considers practical measures that Australian local governments are able to implement across six key functions:

- infrastructure and property services
- provision of recreation facilities
- health services
- planning and development approvals
- natural resource management
- water and sewerage services.

It is likely that local governments will require supportive action from national governments, which may take the form of improved national infrastructure such as electricity grids, improved finance measures, streamlined funding, an agreement to reduce carbon emissions nationally, and altering national policies around homes, transport and energy.

A review of current practices by the OECD¹¹³ suggests the need for national governments to help create a sound institutional foundation and knowledge base to support decision making and action at local levels. This includes developing harmonized GHG inventory methods for local government use, boundary organisations to generate regional science-policy or economic-policy information, and developing strong urban climate policy networks. Making such tools available will help local governments to design, implement and refine policies to find cost-effective climate policy solutions and drive economic development in green sectors. It will also help national governments to deliver on ambitious climate policy goals in the coming decades.

109 Available at: http://www.iclei.org/fileadmin/user_upload/documents/South_Asia/LGCR_05_Nov_2009_Event/South_Asian_Call.pdf

110 Available at: <http://www.communities.gov.uk/publications/localgovernment/strongprosperous>

111 Friends of the Earth. 2009. Delivering a low carbon vision. Available at: http://www.foe.co.uk/resource/briefings/delivering_a_local_low_carbon_vision.pdf

112 SMEC Australia. 2010. Climate Change Adaptation Actions for Local Government. Department of Climate Change and Energy Efficiency. Available at: http://www.climatechange.gov.au/en/what-you-can-do/community/~media/publications/local-govt/localadaptation_localgovernment.ashx

113 Corfee-Morlot, J, Kamal-Chaoui, L, Donovan, M.G, Cochran, I, Robert, A and Teasdale, P.J. 2009. Cities, Climate Change and Multilevel Governance. OECD Environmental Working Papers No 14, 2009, OECD Publishing. Available at: <http://www.oecd.org/dataoecd/10/1/44242293.pdf>

"There is a need to empower cities and local governments so that they have the abilities, the capacities and the resources required to take necessary action at the local level to implement local climate mitigation and adaptation strategies, including awareness raising towards a carbon reduced lifestyle."

ICLEI South Asian Call

CASE STUDY: International parliamentarians at CPA UK's conference discussed the approach taken by **Welwyn Hatfield Borough Council, UK**¹¹⁴ in addressing climate change adaptation measures at the local government level.

Welwyn Garden City is a typical local authority with a population of around 100,000, which faces risks from both the direct and indirect impacts of climate change, such as rising temperatures and increased migration. It is committed to addressing the causes and effects of climate change at a local level. It has signed the Nottingham Declaration on Climate Change¹¹⁵, a declaration on climate change signed by over 300 local authorities. Every front line service team has a representative on a climate change group, which reports directly to a Director on the Management Board, and the staff partake in awareness raising days and initiatives such as a car loan scheme. The Council have recently adopted a Sustainable Corporate Strategy which identifies a number of community-led sustainability initiatives, one of which focuses on maintaining and enhancing a cleaner and greener environment, including recycling, responding to the challenges of climate change, improving the street scene and improving waste management. Current initiatives include developing a sustainable procurement strategy, a Climate Change Strategy and Action Plan, a Green Travel plan, a Waste and Recycling Strategy, and walking and cycling strategies.

Strengths: Welwyn Hatfield Borough Council has strong links with local communities and is therefore in a strong position to influence their behaviour. It is responsible for areas such as waste disposal and planning, which may have a large climate change focus, for example determining whether planning permission is given to a wind farm proposal.

Weaknesses: A number of difficulties associated with the Council's strategy to address climate change were discussed. These included the coordination challenges associated with working within a large political and administrative system and communicating the importance of a green agenda to a large audience. Additionally, prioritising climate change mitigation projects over other pressing issues within local government is also a major challenge.

Parliamentarians at the CPA UK's conference noted that national parliamentarians could work better with local government in addressing climate change through improved coordination mechanisms and implementing an appropriate legislative framework for local authorities to draw from. Parliamentarians also discussed the need to remove political barriers within local government, which hinder progress on climate change.

Priorities: From these discussions delegates identified six further priorities for working with local government:

1. To put climate change on the agenda of the Commonwealth Local Government Forum.
2. Request local government to improve their waste management systems.
3. Support a global agenda which encourages housing development which would meet a zero carbon tolerance by 2016.
4. Work with local government to make it mandatory for each household to measure their carbon footprint and adopt a carbon footprint cap.
5. Adopt a tailored approach which responds to the needs of rural and urban communities.
6. Set resources aside for capacity building on climate change.

114 See: <http://www.welhat.gov.uk>

115 Available at: <http://www.energysavingtrust.org.uk/nottingham>

4. Sources of Further Information



These websites are reliable sources of information on all aspects of climate change.

Adaptation Learning Mechanism: <https://www.adaptationlearning.net>

The Adaptation Learning Mechanism is a Global Environment Facility-funded project that features tools and practical guidance on climate change adaptation.

AfricaAdapt: <http://www.africa-adapt.net>

The AfricaAdapt network aims to facilitate the flow of climate change adaptation knowledge for sustainable livelihoods between researchers, policy makers, civil society organisations and communities who are vulnerable to climate variability and change across the continent.

Chatham House: http://www.chathamhouse.org.uk/research/eedp/current_projects/climate_change

Chatham House is a world-leading source of independent analysis, informed debate and influential ideas on how to build a prosperous and secure world for all.

Climate Outreach and Information Network: <http://coinet.org.uk>

Climate Outreach and Information Network (COIN) is a charity formed in 2004 to directly engage the public about climate change.

Department of Energy and Climate Change, UK: <http://www.decc.gov.uk>

The Department of Energy and Climate Change (DECC) was created in October 2008, to bring together energy policy and climate change mitigation policy.

Eldis: <http://www.eldis.org>

Eldis is one of a family of knowledge services from the Institute of Development Studies, Sussex. The aim of Eldis is to support the documentation, exchange and use of evidence-based development knowledge. It plays a role in the processes of evidence-based policy formation and provides this information and services free of charge at point of use.

International Centre for Trade and Sustainable Development: <http://ictsd.org>

The International Centre for Trade and Sustainable Development (ICTSD) aims to influence the international trade system such that it advances the goal of sustainable development. As an independent, non-profit, and non-governmental organization, ICTSD engages a broad range of actors in ongoing dialogue on trade and sustainable development policy.

International Institute of Environment and Development: www.iied.org

IIED is an international research organisation based in London with a large climate change programme.

The International Institute for Sustainable Development: <http://www.iisd.org>

The International Institute for Sustainable Development (IISD) is a Canadian-based, policy research institute that has a long history of conducting cutting-edge research into sustainable development.

The International Panel on Climate Change: <http://www.ipcc.ch/index.htm>

The Intergovernmental Panel on Climate Change is the leading body for the assessment of climate change, established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to provide the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences.

Met Office: <http://www.metoffice.gov.uk>

The UK's National Weather Service. Their website provides clear and authoritative information on climate change science.

Overseas Development Institute: www.odi.org.uk

ODI is a London-based think-tank focusing on international development and produces policy briefings on climate change related issues.

Pew Center on Global Climate Change: <http://www.pewclimate.org>

The Pew Center has published a series of brief, understandable and reliable climate change briefings called "Climate Change 101".

SciDevNet: <http://www.scidev.net>

SciDev.Net – the Science and Development Network – is a not-for-profit organisation dedicated to providing reliable and authoritative information about science and technology for the developing world.

The Tyndall Centre: <http://www.tyndall.ac.uk>

The Tyndall Centre brings together scientists, economists, engineers and social scientists who are working to develop sustainable responses to climate change. Their website contains links to up-to-date research relating to all aspects of climate change.

WeADAPT: <http://weadapt.org.uk>

WeADAPT provides guidance by pooling expertise from a wide range of organisations that contribute to adaptation science and practice. You can browse the site and contribute your own experiences. It uses innovative approaches such as an Adaptation Google Earth layer.

World Resources Institute: <https://www.wri.org>

World Resources Institute is an environmental think-tank based in Washington DC whose mission is to move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations.

CARBON AC

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