Why Scotland must act now to combat climate change.

SCIAF
Scotland's aid agency

What is SCIAF?

SCIAF is the largest Scottish international aid and development agency. From our headquarters in Glasgow, we support over 100 projects, via local partner organisations, in more than 20 countries across Africa, Asia and Latin America.

SCIAF is also the official aid and development agency of the Catholic Church in Scotland. We were founded in 1965 to address the huge gulf between rich and poor in the world. We believe that all people have the right to live in dignity, hold their own beliefs and share in the world's resources. We support people of all religious backgrounds and none and are supported by Scots of many different faiths and none. Our income in 2007 was over £5.5 million, comprising funds from the Scottish public and institutional grants from bodies including Comic Relief and the Scottish Government.

The key areas of our development work are HIV/AIDS, peace and conflict, disability, food security, and healthcare. We also respond to emergencies, channelling support through local organisations and Caritas Internationalis, the worldwide network of Catholic aid agencies and one of the world's biggest humanitarian organisations. We also campaign to change the root causes of poverty such as unfair trade, aid and debt.

Photo: SCIAF

SCIAF campaigners take their message to G8 leaders in Germany

Front cover: people in Bangladesh are already suffering the effects of increased flooding. Photo: Getty

An issue of justice

Climate change is an issue of justice. Poor and vulnerable people – those who have done least to cause the problem – are being hit hardest by its effects. It represents the greatest threat to progress in the fight against global poverty. Yet we have a real opportunity to make a difference. Decisions taken by the Scottish Government and MSPs as they formulate and agree the Scottish Climate Change Bill, together with decisions in the UK and other countries over the next few years, have the potential to prevent the worst effects. As one of the first countries to set binding, long-term carbon reduction targets, Scotland will set an example to the rest of the world.
It is vital that we get it right. SCIAF has produced this report to inform and inspire the government, key decision makers, and our supporters, to help us tackle climate change.

Scientific opinion is very clear. Climate change is happening, it is caused and exacerbated by human actions and is already making life more difficult for poor and vulnerable communities in developing countries.

The first half of this report looks at the evidence of climate change, its causes and its impact, whilst the second half shows that it's not too late to act and explains how the Scottish Government with the support of MSPs and the public can play a key part in the fight against climate change. It argues that the coming months and years will be crucial for both scientific and political reasons, and the climate change bills that go through the Scottish and UK parliaments present our politicians with a unique opportunity which must be seized.

Photo: istockphoto.com

Cooling Towers of coal fired power station

Climate change: the evidence

Evidence of climate change and of humankind's role in causing it has been steadily mounting over recent years. In 2007, the Intergovernmental Panel on Climate Change (IPCC) - a global scientific panel set up by the UN Environmental Programme and the World Meteorological Association - found that global warming is 'unequivocal' [i] and 'highly likely' to be caused by human actions. The IPCC also states that 'human influences are very likely (to have) contributed to sea level rise; likely contributed to changes in wind patterns, affecting extra-tropical storm(s)'.[ii]

Scientific evidence also tells us that the earth is warming faster than any time in the last 10,000 years[iii], eleven of the last twelve years are among the twelve warmest years since records began[iv] and the number of natural disasters has nearly trebled in the last 40 years[v].

Box 1: Catholic Social Teaching and climate change.

Catholic Social Teaching makes clear that we have a responsibility to safeguard the world that God created. Pope John Paul II[1] said that 'the dominion granted to man by the Creator is not an absolute power, nor can one speak of a freedom to "use and misuse" when it comes to the natural world, we are subject not only to biological laws but also to moral ones, which cannot be violated with impunity'.

More recently Pope Benedict has stated that the 'promotion of sustainable development and particular attention to climate change are matters of grave concern for the entire human family...'[2]. Pope Benedict has also said that 'For the human family...home is the earth, the environment that God the Creator has given us to inhabit with creativity and responsibility. We need to care for the environment: it has been entrusted to men and women to be protected and cultivated with responsible freedom, with the good of all as a constant guiding criterion.[3]'

[1] Sollicitudo Rei Socialis (n.34)

[2] Letter to His Holiness Bartholomaios I Archbishop of Constantinople

[3] Message For World Day of Peace, Jan 2008, section 7

The impact of climate change

Climate change is affecting the whole world and hitting the world's poor hardest and first.

- The UN has warned that 'climate change is hampering efforts to meet the Millennium Development Goals' (MDGs) – key commitments, such as halving the amount of people in extreme poverty, made by the international community to the world's poor [vi]
- An estimated 150,000 people die every year from diseases attributable to climate change [vii]
- In 2000 – 2004, 262 million people were affected by climate disasters annually. 98% of these were in the developing world [viii]

Photo: istockphoto.com

Lake bed drying up due to drought

In these, and in many other ways, climate change is having and will continue to have a disproportionate effect on poor individuals and communities, negatively affecting their ability to improve their lives.

Raquel Cruz, who works for CESTA, a SCIAF-funded organisation working on environmental issues in El Salvador, notes that: "Climate change is a serious problem in my country. When there is a drought, for example, it has a serious effect on the production of food, the population experiences a lack of food, but also farmers find themselves without employment. It doesn't only cause death and destruction, but also breaks up communities. The overall effect... is deeper poverty".

Women, particularly those in rural areas, are already bearing the brunt of the effects of climate change. Women are responsible for up to 75% of household food production in developing countries. Increased droughts and water scarcity stand to make this role even more time-consuming. This not only makes their day-to-day lives more difficult, it risks reducing the amount of time they have to spend on other activities—such as paid employment or education—and thus entrenching traditional gender roles further [ix].

Mr Narayanappa, of SCIAF partner organisation Prakruti in southern India, works with small-scale farmers in drought-prone areas. He has witnessed changing weather patterns—ranging from increased flooding to severe droughts—and the impact that this has had on vulnerable farmers. He says:

'The climatic situation is changing. There is either heavy rain, or (it is) drastically dry. This is affecting the rural poor, particularly the farming community. Water facilities have been drastically reduced and crops have failed (leaving many people) unable to feed their family throughout the year'.

Although, as the UN notes, 'there is no hard-and-fast line separating "dangerous" from "safe" climate change...climate science identifies 2°C as a potential tipping point for long-run catastrophic outcomes... (and) beyond a threshold of 2°C the risk of large-scale human development setbacks and irreversible ecological catastrophes will increase sharply' [x].

Keeping the temperature increase to 2 degrees will not stop the climate change that is already happening but it could keep the damage inflicted by future climate change to more manageable proportions. However, greenhouse gas emissions to date mean that the world's temperature has already increased by 0.5 degrees centigrade and a further increase of 0.5 degrees appears inevitable [xi].

If current trends continue, the global temperature will increase by 2 - 3°C within the next fifty years and there is a 50% chance that it will increase above 5 degrees by the end of the century [xii]. Such a temperature increase would be highly dangerous. Potential impacts include [xiii]:

- Melting and / or collapse of ice sheets and glaciers, leading to increased risk of flooding, decreased water supplies and affecting a sixth of the world's population
- Rising sea-levels. An increase by more than three degrees could affect hundreds of millions of people, especially in South East Asia and the Caribbean and Pacific
- Increases in extreme weather conditions
- Further decline in crop yields, especially problematic for African countries [xiv]

Responsibility for climate change

Those suffering the most from climate change have done the least to cause the problem. Developed countries have 15% of the world's population but account for roughly 80% of carbon dioxide (CO_2) in the atmosphere [xv], and the UK and Scotland have made disproportionately large contributions.

Emissions from developing countries are increasing, but they still emit considerably less than developed countries – especially when the relative size of their populations is taken into account. It has been calculated that if CO_2 emissions are to be kept at a sustainable level, emissions will need to be kept between 1.1 – 1.3 tonnes per person (based on current population levels) [xvi]. The 39 least developed countries emit a tiny fraction of this (0.2 tonnes per person per year) and 68 developing countries emit less than the sustainable level [xvii]. Even emissions from the larger developing countries are not the problem they are often made out to be.

- India is currently emitting less than its proportionate sustainable level of CO_2 and emits just 4.1% of the world's carbon dioxide despite having over 16% of the world's population [xviii].
- Brazil emits roughly seven times more CO_2 than does Scotland, but has a population 37 times the size [xix].
- China has 20.4 % of the world's population and produces 17.4 % of the per cent of the world's CO_2. China produces more than the 'sustainable level' of CO_2 emissions per person per year, but the average Chinese person is responsible for around a third of the CO_2 emissions of an average UK resident (3.62 tonnes vs 9.62) [xx].

So while some developing countries will have to reduce their carbon footprints, the onus is on the developed countries – those that did most to create the problem – to take the lead in bringing annual emissions down to a sustainable level [xxi]. They must also help the small number of developing countries that need to take action to do the same. Developed countries must also increase assistance to enable all developing countries to move to a clean energy path.

Box 2: Scotland's contribution to climate change

The UK has a particular responsibility for climate change: it was the first country which started contributing to the phenomenon. In 1830, the UK began emitting more CO_2 a year than the current sustainable level and continues to do so today [1]. Scotland contributes to climate change in a variety of ways. Scotland's North Sea oil and gas have made a substantial contribution to global warming and domestically our emissions are simply unsustainable.

In 2005, just one of Scotland's power stations, Longannet on the River Forth, emitted ten times more CO_2 than Malawi produces in a year, and more CO_2 than ten sub-saharan African countries—including Malawi, Rwanda, Burundi, Chad, Comoros, Uganda, the Democratic Republic of Congo, Gambia, Mali and the Central African Republic—combined [2].

In fact, we estimate that Scotland emits more CO_2 emissions than the combined total of most of the countries in which SCIAF works, including: El Salvador, Nicaragua, Haiti, the Democratic Republic of the Congo, Ethiopia, Kenya, Malawi, Rwanda, Tanzania, Uganda, Zambia, Burundi, Sudan and Cambodia [3].

[1] WDM (2007) climate calendar: the UK's unjust contribution to global climate change p4

[2] Scottish Environment Protection Agency (2005) SPRI Emission Data; Return Details for Scottish Power Longannet Power Station figures show that, in 2005, Longannet emitted 8, 508 million kilograms of carbon dioxide or 8.5 million tonnes. Figures from the Energy Information Administration (2004) World carbon dioxide emissions from the consumption and flaring of fossil fuels 1980 – 2004 show that emissions from these ten countries add up to 8.29 million tonnes

[3] Based on Figures from the Energy Information Administration (2004) World carbon dioxide emissions from the consumption and flaring of fossil fuels 1980 – 2004; Scotland's fair share of UK emissions is calculated using statistics on Scotland's population as a percentage of the UK's from the office of national statistics

How much time do we have?

The time for action is now. The coming months and years are crucial, for reasons that are both scientific and political.

Scientific evidence suggests that, if we are to maximise our chances of avoiding catastrophic climate change, greenhouse gas emissions need to peak and substantially fall within the next five to ten years [xxii].

From a political perspective, too, the next few years present crucial opportunities which must not be squandered. At the national level, work is ongoing on both Scottish and UK Climate Change Bills. At the international level, negotiations are underway to establish a framework for emissions reductions to replace the Kyoto Protocol from 2012 onwards.

These negotiations represent the world's best hope of keeping the temperature increase to 2 degrees, and 2008 and 2009 are crucial to their success or failure. The length of time it takes to ratify and implement international agreements means that, in reality, negotiations must be concluded by the end of 2009 which means that serious discussions must happen now.

For all these reasons, there is a narrow window of opportunity which must be seized by individuals and by our political leaders in Scotland, the UK and across the world (for details of how you can reduce your carbon footprint, go to Stop Climate Chaos' I Count campaign at: www.icount.org.uk/personal_actions/default.asp).

What can Scottish politicians do?

SCIAF - as part of the Stop Climate Chaos Scotland coalition - is calling for the Scottish Government and Parliament to take the following actions:

1. Commit to limiting the global temperature increase to 2ºC and establish this as a principle in the Scottish Climate Change Bill. As part of this, adopt an overarching target and overall carbon budget to reduce greenhouse gas emissions by at least 80% by 2050 [xxiii] and at least 3% per annum - with scope to revise this if necessary.
2. Ensure policies for mitigation and adaptation are compatible with sustainable development.
3. Ensure higher Scottish emissions cuts are additional to the UK target, and not offset by lower performance elsewhere in the UK.
4. Include international aviation and shipping emissions [xxiv] in the targets. Airline emissions are the UK's fastest growing source of carbon dioxide and shipping emissions account for up to 5% of global emissions.
5. Ensure transparency, accountability and legal safeguards, for example by effective reporting standards; independent audits; requiring Ministers to report annually to parliament, and to report if they approve action that would increase emissions.
6. Establish a Scottish carbon committee to update Ministers of the latest scientific developments and to provide advice on key issues (e.g. carbon trading).
7. Establish a 'Carbon Fund' to give financial incentives and / or sanctions to public bodies encourage emission reductions. A proportion of the fund would help pay for adaptation in developing countries to compensate damage caused by Scotland's emissions.

Box 3: Scottish public backs firm action on climate change

In January 2008 a Scottish Opinion poll for SCIAF found overwhelming public support for firm action to tackle climate change.

Key findings included:

- 90% agreed that 'the Scottish Parliament should agree to do Scotland's fair share, as advised by the world's leading climate scientists, in terms of tackling climate change.
- 85% agreed that 'politicians have to take the lead in terms of setting targets and keeping our greenhouse gas emissions within sustainable limits'.
- 89% agreed that 'if the Scottish Parliament commits to doing Scotland's fair share to tackle climate change, as advised by the world's leading climate scientists, then the UK Parliament should follow suit'.
- 94% agreed that 'companies should take responsibility for their carbon footprints'.

Survey of 1028 Scottish adults carried out by Scottish Opinion, using telephone interviews in all Scottish Parliamentary constituencies, 8th – 13th January 2008.

What can the UK Government do?

SCIAF is also calling on the UK Government to:

1. Follow Scotland's example and improve the UK Climate Change Bill by increasing targets in line with scientific evidence. Ensure targets of at least 3% per annum, 80% by 2050 and include aviation and shipping, as above.
2. At an international level, play a constructive and progressive role in climate change negotiations through the EU and strive to ensure negotiations are completed by the end of 2008.
3. In particular, ensure that the principle of limiting the increase to 2 degrees is backed up by targets, agreements and actions that are fair to developing countries and in line with the scientific consensus of at least 80% cuts.
4. Give all necessary support and funding to developing countries to help them adapt to climate change and to help them develop sustainably. Funding must be predictable, sufficient and in addition to existing aid commitments (such as the long-standing commitment to spend 0.7% of national income on development aid).

Putting these recommendations in place makes economic sense. The Stern Report estimates that the costs of tackling climate change now would be 1% of global Gross Domestic Product (GDP) by 2050, but continuing with business as usual would decrease global GDP by 20% over the next two decades. In other words, there is a business case as well as a moral case for prompt action.

A final word

Box 4: What is SCIAF doing about its own carbon footprint?

We are committed to taking significant steps to reduce our contribution to greenhouse gases.

As an international development organisation, our vital work requires air travel in order to visit those countries in which we operate. We are committed to assessing our carbon emissions, reviewing them on an ongoing basis and making changes where necessary and appropriate.

We will also assess and take steps to reduce our carbon footprint here in the UK and have policies in place on UK travel, recycling and energy efficiency in the workplace to reduce our carbon footprint.

An organisation-wide staff group will monitor, implement and review such policies on an ongoing basis.

The final word goes to Raquel Cruz, a SCIAF partner from El Salvador; "If there is no global reduction in emissions, this is going to have a profound impact in very vulnerable countries. I would ask Scotland to think about balance; there needs to be balance between what we consume and what we need, because we are affecting other countries each and every single time we consume. Governments have a responsibility to act". In turn, Scottish citizens have a key role in ensuring our political leaders really do take effective action. With your help, we can tackle the fight against poverty and climate change together.

For details of what you can do to help, go to www.sciaf.org.uk

Photo: Thomas Omondi

SCIAF-supported project in Kenya for farmers left landless by drought

References

[i] IPCC (2007) Climate Change 2007: The Physical Science Basis. Summary to policy makers p5;
[ii] Intergovernmental Panel on Climate Change (2007) Fourth Assessment Report Climate Change 2007: Synthesis Report Summary for Policymakers
[iii] IPCC as quoted on Stop Climate Chaos www.stopclimatechaos.org
[iv] IPCC (2007) ibid
[v] Red Cross World Disaster's Report, quoted in Christian Aid (2006) The Climate of Poverty: facts, fears and hopes
[vi] UNDP (2007) Human Development Report: Fighting Climate Change – Human Solidarity in a Divided World
[vii] World Health Organisation quoted in Christian Aid (2006) op cit
[viii] UNDP (2007) Human Development Report: Fighting Climate Change – Human Solidarity in a Divided World
[ix] Action Aid (2007) we know what we need: South Asian Women speak out on climate change adaption
[x] UNDP (2007) Human Development Report: Fighting Climate Change – Human Solidarity in a Divided World
[xi] Stern, N (2006) Stern Review: The Economics of Climate Change-Exec Summary
[xii] ibid
[xiii] ibid
[xiv] ibid
[xv] Christian Aid (2006) op cit p14
[xvi] World Development Movement (2007) Climate Calendar p4, also corroborated by Friends of the Earth Scotland, who gave a figure of 1.1 tonnes for Scottish citizens by 2050.
[xvii] World Development Movement (2007) op cit
[xviii] Energy Information Administration (2004) World per capita carbon dioxide emissions from the consumption and flaring of fossil fuels 1980 – 2004
[xix] Based on data from the CIA Factbook, which lists Brazil's population is 188 million; the National Office for Statistics which lists Scotland's as 5 million, and Energy Information Administration (2004) World carbon dioxide emissions from the consumption and flaring of fossil fuels 1980 – 2004
[xx] Energy Information Administration (2004) World per capita carbon dioxide emissions from the consumption and flaring of fossil fuels 1980 – 2004
[xxi] The Stern Review notes that global emissions will need to peak in the next 10-20 years and then fall by 1-5% a year and if emissions are cut in the outer brackets of this range, there is a considerable (77-99%) chance that the temperature will increase beyond the two degree threshold.
[xxii] Baer and Mastrandrea (2006) High Stakes, Institute of Public Policy Research (quoted in Tearfund Two degrees, One Chance) found that, to be within the 74-91% bracket of avoiding an ncreas of more than 2 degrees, global emissions must peak in 2010 and then contract by 5% each year thereafter, reducing concentrations to below 400ppm by the end of the century. Other reports—notably UNDP (2007) Human Development Report: fighting climate change: human solidarity in a divided world p15 and Stern, N (2006) Stern Review: The Economics of Climate Change - Executive Summary px-- take as their starting point a higher level of risk and conclude that global emissions would need to peak and substantially fall in the next ten years, reaching roughly a 30% cut in emissions by 2020.
[xxiii] Greenhouse gas emissions measured as CO2 equivalent and measured against 1990 levels
[xxiv] To be included in both baseline and targets, based on traffic through Scottish ports and airports.

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19 PARK CIRCUS, GLASGOW G3 6BE | Tel: 0141 354 5555 | Registered Charity No: SC012302

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SCIAF is the official aid and development agency of the Catholic Church in Scotland. We help some of the world's poorest people, regardless of religion and tackle the underlying causes of poverty.

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