

# Environment committee inquiry on climate change

A submission from the Chartered Institute of  
Environmental Health

February 2009

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## Summary

- 1.1 The CIEH commends the Environment Committee on its decision to make climate change the subject of its next inquiry. In our view this is the most urgent and challenging issue faced by not only by the Northern Ireland Assembly, but indeed by governments across the world.
- 1.2 This written submission seeks to set out some broad proposals. We believe it should be viewed as the start of a process of dialogue on this subject between the organisation and the committee. We would ask for the opportunity to discuss the contents of this paper in more detail with the committee and other stakeholders through whatever process the committee deem most appropriate.
- 1.3 We will also be happy to provide further supporting documentation and evidence on any of the issues raised in this initial paper if required or requested.
- 1.4 As a member of both Northern Ireland Environment Link (NIEL) and the Climate Change Coalition Northern Ireland (CCCNI), the CIEH is aware of and would wholly endorse and support the proposals made in those submissions.
- 1.5 Given the previous point this paper does not seek to reiterate those proposals, but rather to provide further evidence, particularly regarding the health impacts which relates to our field of professional expertise.
- 1.6 Health impacts clearly carry with them not only a financial cost (primarily through additional burdens on an already overstretched NHS) but also a significant, even profound, social cost which is more difficult to quantify in terms of a financial indicator.
- 1.7 The future of the economy is entirely dependant on adopting a truly integrated sustainable development approach across all government policy areas. If we fail to urgently incorporate and address environmental factors into all areas of the public, private and community & voluntary sector then our economy, along with the natural systems on which we ultimately depend for life, will collapse. Government in NI must urgently readdress its regrettably poor track record in this. Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries<sup>1</sup>.

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<sup>1</sup> The Stern Review; [http://www.hm-treasury.gov.uk/stem\\_review\\_report.htm](http://www.hm-treasury.gov.uk/stem_review_report.htm)

## Background

- 2.1 At the core of climate change is the increase in average global temperatures. Eleven of the past 12 years (1995-2006) rank among the twelve warmest in the instrumental record of global surface temperature since 1850. (IPCC 4<sup>th</sup> Assessment report 2007)<sup>2</sup>.
- 2.2 The IPCC report contains conclusions that have profound implications for the future and highlight the absolute critical need for action now. These are summarised below:

### **21<sup>st</sup> Century Climate changes are**

- Most of the global warming of the past half-century is due to increases in greenhouse gases.
- That the CO<sub>2</sub> concentration in the atmosphere is unprecedented in the last 650,000 years
- The changes are cumulative (caused by past activities)
- The effects are irreversible
- There are large time lags – today's actions are tomorrow's problems and the world is already committed to more warming over the next few decades (even if we stopped all emissions now)
- They are global – they affect everyone

- 2.3 The CIEH accepts the evidence and analysis carried out by the IPCC which concludes that the main cause of this unprecedented rate of warming is the release of greenhouse gases through human activities. It is important to note that the vast majority of international governments and policy makers also accept these conclusions. Consequently, governments around the world are now actively seeking to develop both mitigation and adaptation policies and programmes to meet this urgent challenge.
- 2.4 This does not in any way in our view contradict or conflict with the evidence that suggests extreme climatic changes are a natural phenomena in the history of the planet. The same evidence also suggests that previous changes to global temperatures took place over substantially longer time periods than what we are now experiencing.

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<sup>2</sup> IPCC 4<sup>th</sup> Assessment report; <http://www.ipcc.ch/ipccreports/index.htm>

## Health implications

There is a growing body of information and evidence on the health impacts of climate change. The World Health Organization estimates that the warming and precipitation trends due to anthropogenic climate change of the past 30 years already claim over 150,000 lives annually. Many prevalent human diseases are linked to climate fluctuations, from cardiovascular mortality and respiratory illnesses due to heatwaves, to altered transmission of infectious diseases and malnutrition from crop failures<sup>3</sup>.

As well as having direct effects on health such as those relating to rising temperatures, increased flooding and more infectious disease, climate change also contributes towards widening the gap in health inequalities. Brief outlines of some of the potential health impacts/costs are summarised below. These have been abbreviated from a more substantive document published in November 2008. The data and evidence is drawn from a wide variety of sources and is fully referenced within the document which is available at

[http://www.cieh.org/library/Policy/Publications\\_and\\_information\\_services/Policy\\_publications/Climate\\_Change\\_Public\\_Health\\_Health\\_Inequalities.pdf](http://www.cieh.org/library/Policy/Publications_and_information_services/Policy_publications/Climate_Change_Public_Health_Health_Inequalities.pdf)

The reason why we believe that the health implications are so important in the Committee's deliberations is largely to do with its expressed desire to consider the costs of failing to meet proportionate climate change obligations and commitments for NI (we note and are greatly concerned that as yet no such commitments have been made – we fully support and endorse the proposals set out in the CCCNI submission attached at appendix 1).

It is impossible and perhaps even unethical to attempt to place a financial figure on these - particularly in the case of predicted or modelled mortality increases as a result of extreme weather events such as: heatwaves and/or floods; increases in infectious diseases; possible civil unrest; or simply hunger. But it is very clear that Northern Ireland will face global impacts.

In November 2008 CIEH organised and facilitated a conference which incorporated many of the issues summarised below. The panel of speakers included leading international thinkers and academics as well as input from major UK advocates, policy makers, and business leaders. Webcasts of those presentations are available for viewing at [http://www.cieh.org/event/climatechange\\_webcasts.html](http://www.cieh.org/event/climatechange_webcasts.html) and may be useful for the committee to consider as part of their deliberations.

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<sup>3</sup> Impact of regional climate change on human health; Patz, JA et al; 2005

### 3.1 Food poverty, food security and demographics

- 3.1.1 The potential impact of climate change on world agriculture is enormous for us in the UK. The UK is self sufficient in food. We import around 40 percent of our food needs.

Some argue that we are heading towards a significant crisis in world food supplies as world crops are already being hit by extreme weather. For example, recent drought in Australia caused wheat prices to rise resulting in increased bread, cereal and animal feed prices across the world. Additionally countries are increasingly converting agricultural land to the production of bio-fuels – putting further pressure on basic food items like rice, wheat and corn.

- 3.1.2 Food animals, particularly, cattle produce significant amounts of methane. Methane, like carbon dioxide, is also a greenhouse gas – and in actual fact a much more potent one. Methane has been estimated to have around *five times* the warming potential of CO<sub>2</sub>. Meat consumption in the developing world, particularly China and India, is increasing significantly as overall affluence increases and those populations aspire to lifestyles that the privileged world has enjoyed for decades. A world of global carnivores with meat consumption levels akin to that of the US and UK is not sustainable. Interestingly, this is but one example of where there is a strong complementarity between what might arguably be a sound environmental policy direction for the future, i.e. reducing consumption of red meat and increasing intake of fresh fruit and vegetables, and clear public health benefits in that this would entirely compliment current health policy.
- 3.1.3 Another very significant factor is population growth and demographics. The global population is currently increasing by around 7 million per month, and people are living longer lives. This has implications for consumption of both natural and man made resources and subsequently greenhouse gas emissions. Virtually everything we consume carries a carbon cost since energy, water and ultimately fossil fuels are inextricably linked to the production of all goods and services including food.
- 3.1.4 Equally significant may well be substantial increases in migration. Even in the best case scenario several scientific models already predict severe climate impacts in low lying deltas such as North East Africa, Bangladesh and Southern Asia. This has profound implications for global migration patterns and could significantly increase migration to these islands. Predictions indicate that by 2050 up to 1 million people could be displaced from each of these regions as a result of rising sea levels alone – the loss of these areas are also extremely significant in terms of world food production.

3.1.5 As a result of the above coupled with the inextricable link between food production and two key natural resources – oil and water – food prices are accelerating exponentially. Food prices have risen 45 percent since the end of 2006. There is, and is likely to be in the future, less land available in the world to grow crops, less oil and water for its production (while increased rainfall maybe phenomenon of climate change we see in these latitudes, drought will be equally significant in other major food production areas of the world) and more people to feed. Food security is a very real and poignant threat. The 2006 interdependence report, published by the New Economics Foundation, indicated that the UK was, at that stage, reliant on the rest of the world by 16 April each year. That reliance includes food.

3.1.6 Even without global food shortages it is virtually certain that increasing food prices, coupled with other increasing vital daily living costs such as energy and water, will see increasing numbers of vulnerable people facing life threatening poverty, whether that be food, fuel or both. This will add to the burden of food poverty already existent in NI as outlined in a report published by the Public Health Alliance for the island of Ireland (PHAI) in November 2007<sup>4</sup>

## 3.2 Heatwaves

3.2.1 Heatwaves are potentially lethal for vulnerable people, particularly those living in cities. Associated air pollution can further add to the dangers. For northern European countries, the heatwave threat is perhaps one of the most dramatic manifestations of climate change. For Europe, one of the most significant examples of the danger of climate change was the 2003 heatwave in France. In an advanced nation with excellent healthcare 35,000 people died. In the UK that summer it is estimated that there were 2,000 to 3,000 excess deaths [i.e. more than usual] in England.

3.2.2 There is a one in 40 chance that by 2012, southern England will have a severe heatwave which could again cause up to 10,000 heat related deaths. A wide variety of people are at risk, but particularly the most vulnerable in society including the elderly and those already ill. The risk of this type of occurrence within NI is, as yet, unquantified. However what is clear is that national UK targets for reductions in greenhouse gas emissions and international targets such as Kyoto have been calculated in an attempt to contain global temperature rise to no more than 2c above pre industrial levels by 2050. In other words by 2050 it is likely that summer temperature peaks will be significantly higher in the UK, and potentially including NI.

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<sup>4</sup> Food Poverty – Fact or Fiction; <http://www.phaii.org/index.cfm/section/publications/>

- 3.2.3 As with all health impacts, efforts to mitigate the effects of climate change must be considerably stepped up. However it is equally vital that appropriate and commensurate adaptive efforts are made in NI. At present NI, unlike England and Wales, does not have any plans in place to deal with a heatwave emergency. This needs to be addressed as a matter of urgency.

### **3.3 Cold-related illness**

- 3.3.1 Despite predicted temperature rises cold related illness needs to remain a public health priority. In the last five years, more than 130,000 people over 65 have died from cold related illness during the winter months in Britain. There has been considerable political debate, campaigning, and ultimately intervention by the NI Assembly within the last six months concerning the issue of fuel poverty.
- 3.3.2 To what extent cold related deaths will be affected through climatic changes in the future is unclear. Some predictions suggest that they may well decrease due to milder winters, whilst other modelling has suggested the contrary, particularly with more extreme rises in global temperatures because of the way in which weather systems are affected (the changes are not necessarily either linear or corresponding – i.e. increased global temperatures can actually cause colder weather). What is more certain is that there is a high likelihood of increasing fuel poverty in the future due to increasing fuel and energy costs as well as increasing food costs. It is clear that efforts to reduce the number of people living in fuel poverty need to be substantially increased.
- 3.3.3 Strategies or interventions developed to tackle fuel poverty must include facilitating a greater move towards more sustainable heating alternatives. For example, the previous grants scheme administered by DETI, which encouraged and facilitated the installation of renewable technologies for households and encouraged a move away from fossil fuel dependence not only helped households in cutting fuel bills but also reduced carbon emissions.

### **3.4 Increased rainfall and rising sea levels**

- 3.4.1 Floods are the most common natural disaster in Europe. They can cause death and serious injury as well as psychological distress through the devastating effects that such events can lead to, such as the loss of one's home or material possessions. Apart from the obvious direct health impacts of flooding there are also additional potential risks created as a result of secondary consequences that may arise, for example pollution incidents (chemical or biological and including the contamination of drinking water supplies); an increase in breeding grounds for disease carrying organisms due to high volumes of standing water; soil disturbances as a result of flood water which may increase exposure of agents such as anthrax and toxic contaminants such as heavy metals and disease and hazards associated with evacuation.

- 3.4.2 The potential for the frequency of flooding incidents is increasing not only because of increasing rainfall in the UK, but also due to rising sea levels. Sea level rise also affects the drainage capabilities of substantial river basins and estuaries. NI has not escaped from serious flooding incidents in recent times. In December 2005 properties around the Ormeau road in Belfast were flooded for the 3<sup>rd</sup> time in 5 years<sup>5</sup>. Serious flooding incidents occurred in June 2007 and August 2008 affecting large parts of NI.
- 3.4.3 Quite apart from the obvious social costs associated with these incidents in terms of the damage to and displacement of people from their homes, and the payouts in insurance claims which has been estimated to run into several million, the combined cost to the public purse from these incidents can conservatively be estimated at 6.2 million<sup>6</sup>.

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<sup>5</sup> <http://www.niassembly.gov.uk/io/research/2008/9708.pdf>

<sup>6</sup> <http://www.niassembly.gov.uk/io/research/2008/9708.pdf>

### **3.5 Waterborne disease and water pollution**

- 3.5.1 Waterborne disease outbreaks, like cholera, are currently regarded as low risk in developed countries. However after Hurricane Katrina in the USA in August 2005 a cluster of *Vibrio* organisms were attributed to flood water and other environmental exposure. Severe flooding has the potential to significantly affect drinking water supplies through contamination of the mains supply. Most at risk are people with poorly treated private water supplies, unfiltered surface water and groundwater. More surface water turbidity caused by heavy rain escalates indicator bacteria and pathogens - a challenge for water treatment works, particularly those abstracting direct from rivers. *Cryptosporidium parvum*, *Giardia lamblia* and microsporidia are found in higher numbers after heavy rainfall. They can cause diarrhoea, stomach cramps and vomiting. Acute gastroenteritis proved to be another consequence of Hurricane Katrina. A Norovirus outbreak was reported in Texas among evacuees in overcrowded temporary shelters.
- 3.5.2 Floods can also increase the risk of rodent-borne disease. Flood related outbreaks of leptospirosis have been reported in several developing countries. Given that there are significant concerns over the increasing prevalence of pests in the UK, this is a risk which needs to be considered more seriously. Breeding of other potential insect vectors following floods could become a matter of concern in the UK, particularly when coupled with warmer weather. Standing water as a result of flooding creates an ideal breeding ground for mosquitoes.

### **3.6 Waterborne diseases due to increases in temperatures**

- 3.6.1 Pipes and reservoirs are more vulnerable to micro-organisms during frequent droughts, particularly in coastal areas and at the end of water distribution systems. Algal blooms are likely to increase and associated health problems, from skin irritation to severe systemic disease.
- 3.6.2 Drinking water quality is more vulnerable in warmer climates. The risks from increased consumption of bottled water in warm weather are contamination, multiplication during storage and re-use of containers. Importing and transporting bottled water also increases our carbon footprint.
- 3.6.3 Water shortages and standpipes during drought periods could indirectly increase infections because of difficulties maintaining hygiene. Upland sources in peat-covered catchments would contain higher levels of dissolved organic carbon, risking trihalomide formation or disinfection with chlorine. This would be more likely after dry periods.



3.6.4 Water associated diseases like legionellosis could increase with the increased use of air conditioning and humidifiers that may be needed as part of adaptation interventions necessary to prepare for heatwaves etc.

3.6.5 As pathogens survive longer in warmer water, there are implications for wider leisure use of untreated fresh and marine waters contaminated by sewerage and animals.

### **3.7 Food poisoning**

3.7.1 There is a strong correlation between notified food poisoning, Salmonella infections and temperature in the UK. Climate change could cause about 10,000 extra cases of food poisoning a year in the UK<sup>7</sup>.

3.7.2 Higher temperatures also increase the risk of infection in animals, multiply bacteria in animal feed and add risk to the food chain.

### **3.8 Sunburn and skin cancer**

3.8.1 Rates of melanoma, the most dangerous form of skin cancer, have risen by over 40 percent in the past decade, making it the fastest rising cancer in the UK. Melanoma skin cancer rates could treble over the next 30 years. There are more than 76,000 new cases of skin cancer in the UK each year.

### **3.9 Other health effects**

3.9.1 As mentioned above, pests could become even more important disease vectors in the UK as a result of climate change. The spread of West Nile fever in the US and Lyme disease in Europe are warning signals of the impact of pests on public health. The World Health Organization report *Public Health Significance of urban Pests* has recently highlighted this issue. Paradoxically, the control of significant pests in the UK has been declining over the past decade. Given the evidence that indicates future temperature increases and the clear consequences of this in terms of the increased risk from pests this decline needs to be reconsidered.

3.9.2 As temperatures and rainfall increase, mosquitoes carrying the malaria parasite will extend their range. The Australian Centre for Epidemiology and Public Health estimates that up to 80 million people will be living in malarial regions by 2080. Indigenous malaria may be re-established in the UK by 2050.

3.9.3 The risk of disease from tick bites, such as tick borne encephalitis (TBE) and Lyme disease is harder to estimate, but the trend is upwards.

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<sup>7</sup> Cooking up a storm, Tara Garnett, Centre for Environmental Strategy, University of Surrey, 2008. Prof G. Bentham, Centre for Environmental Risk, University of East Anglia



- 3.9.4 Other insect vectors that could be re-introduced in a warmer climate include fleas responsible for plague, associated with an increase in rodent populations or movement of rats during flooding.
- 3.9.5 Stinging and biting insects (bees, wasps, horseflies, hornets) could increase along with the danger of severe allergic reactions.

## Discussion

- 4.1 This paper has sought to compliment and indeed support the recommendations made in the CCCNI submission as well as develop in more detail some of the critical public health implications of climate change. There is currently very little research that attempts to quantify the actual costs associated with some of these projections and predictions. In part that is because it is very difficult to do so, coupled with the fact that there are some extremely sensitive issues around doing so – how for example does one “cost” the loss of a human life through a heatwave for example?
- 4.2 It is however clear that there will be significant financial costs associated with dealing with highly probable consequences of unmitigated or unadapted climate change in terms of emergency responses; associated health care and treatment costs; and escalating insurance costs. It is also clear that “doing nothing” will have severe and seriously detrimental consequences for the NI economy.
- 4.3 Whilst the lack of research for NI is on the one hand a difficulty, it is difficult to see how this gap can be bridged either easily or, more importantly, in time. There is clear scientific evidence to suggest that emissions can only continue to rise for at best another eight years – six years would be, arguably, a wiser target – before they need to begin decreasing. That conclusion is based in turn upon the widespread consensus that it is imperative to contain global temperature rises to no more than 2 degrees above pre industrial levels. The key reason why this target is held as so critical is because even the most conservative modelling suggests that further temperature rises will trigger natural “positive feedback” mechanisms within our environment which will in turn then cause even greater release of greenhouse gases and therefore in turn even greater and more catastrophic climate change<sup>8</sup>.
- 4.4 Whilst we accept the lack of current NI specific evidence in terms of cost analysis, we would urge the assembly to take both a pragmatic and risk averse approach to this, particularly because of what is already known in terms of the science. “Business as usual” is not in our view an option.

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<sup>8</sup> Six degrees; Lynas M; 2006

- 4.5 As already outlined, CIEH wholly supports and endorses the proposals made by both CCCNI and NIEL to this inquiry (appendix 1). It is imperative in our view that a robust legal framework is put in place and that the Assembly commits to the appropriate and commensurate targets, including the proposed interim target of a 40% reduction by 2020. It is also vitally important that the correct framework is developed to support both the achievement and the robust monitoring of these targets.
- 4.6 In addition to government other sectors, including the business, local authority and community and voluntary sectors have vital roles to play in the collective efforts to tackle climate change. Notwithstanding the previous point it is vital that this is not overlooked.
- 4.6 Action by local authorities will be critical to the achievement of the Assembly's climate change objectives. Local authorities are uniquely placed to provide vision and leadership to local communities by raising awareness and to influence behaviour change. In addition, through their core business and services, LAs can have significant influence over emissions in their local areas both directly and indirectly. The forthcoming community planning responsibilities could and should add even greater capacity and support for this potential.
- 4.7 Serious consideration should be given to linking all parts of the public sector into the achievement of binding targets for NI through appropriate statutory means. This could be achieved for local authorities through a strengthening of the mandatory sustainable development powers and duties.
- 4.8 At present NI lacks any coherent and consistent framework for potentially monitoring current and future carbon emissions at local level. DEFRA have developed a national indicator, NI186, to allow reporting of per capita emissions by local authority area<sup>9</sup>. However, to the best of our knowledge at the time of this submission, this framework and data collection does not extend to cover NI. We would strongly advocate that this should be the case and that this needs to be addressed as a matter of urgency.
- 4.9 At present there the UK heatwave plan does not extend to cover NI, nor is there any equivalent. This issue needs to be addressed in an appropriate way.
- 4.10 Likewise there is a need to look comprehensively at the wider health aspects and risks associated with flooding incidents and ensure that appropriate and commensurate precautions are in place to prevent against potential public health threats.

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<sup>9</sup> <http://www.defra.gov.uk/environment/localgovindicators/ni186.htm>



- 4.11 Notwithstanding the previous points regarding the need for a clear government commitment to binding targets and an appropriate framework to develop prioritised future actions, it is clear that there is much that could be and needs to be done in the shorter term. Government must lead this agenda by example. Yet there are still large parts of the public sector which operate (i.e. in terms of the way they do their business) in a largely unsustainable way. Through better use of technology, much greater facilitation of remote and home working, much better staff engagement and ownership of the issue through appropriate capacity building and awareness raising programmes, the public sector could not only achieve significant carbon savings but also significant financial ones. All government departments should seek to put in place an effective environmental management system forthwith and should utilise the considerable expertise and assistance that already exists in NI in doing so.

Appendix 1

# CLIMATE CHANGE COALITION NORTHERN IRELAND

RESPONSE TO

## ENVIRONMENT COMMITTEE INQUIRY INTO CLIMATE CHANGE

20 FEBRUARY 2009



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## 1. Summary of Points

- 1.1 The Climate Change Coalition (NI) comprises a wide range of environment and development groups who all wish to see Northern Ireland play its full role in combating global climate change.
- 1.2 The Coalition believes that written submissions should be considered as initial thoughts which can be added to and developed throughout the inquiry.
- 1.3 The Northern Ireland Assembly should ensure that its voice is heard at the national and international level. It should categorically state its support for an international climate change agreement to limit global warming to no more than 2° Celsius above pre-industrial temperatures (most scientists accept that 'dangerous climate change' is much more likely above this temperature increase).
- 1.4 The Assembly has accepted that the provisions of the UK Climate Act will be extended to Northern Ireland. However, the UK Act does not set specific emission reduction targets for the devolved administrations.
- 1.5 The Executive and Assembly should urgently make commitments to introduce a Northern Ireland Climate Change Act setting a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050. This is the minimum requirement that will be necessary to play our part in the global attempt to avoid dangerous climate change.
- 1.6 To ensure we achieve an immediate and sustained decline in Northern Ireland's greenhouse gas the Executive should set an "intermediate" target for emissions in 2020, a series of legally binding 5 year "carbon budgets" and an annual carbon reduction target at an average of at least 3% per annum.
- 1.7 The Committee on Climate Change's role in Northern Ireland should be enhanced to facilitate the setting and monitoring of Northern Ireland specific budgets and action plans.
- 1.8 All plans, programmes and policies should be assessed to determine their contribution to or impact on achieving carbon budgets.
- 1.9 Each government department should investigate the opportunities and obstacles to carbon reductions within their competency areas.
- 1.10 The Public Sector procurement budget should be used as a tool to deliver significant emissions reductions.
- 1.11 The Executive and Assembly should invest in emissions reduction and low carbon infrastructure now; the Stern Review concludes this is the economically prudent path to follow.
- 1.12 The legal responsibility to deliver the targets set in a Northern Ireland Climate Change Act and through the carbon budgets should fall collectively on the Executive.

- 1.13 Specific responsibilities to deliver the targets set in the Climate Act and in the carbon budgets should be identified in public service agreements for each Northern Ireland department.
- 1.14 A public service agreement should be drafted for the Department of the Environment which would include a commitment to provide information and support to the other departments to help deliver the targets set in a Northern Ireland Climate Change Act and in the carbon budgets.
- 1.15 The Environment Committee should share responsibility for scrutinising progress towards achieving the targets in the Act and within budgets with all other departments.
- 1.16 The ability of the Committees and the Assembly as a whole to scrutinise progress will be greatly enhanced by ensuring the Committee on Climate Change reports to the Executive and the Assembly and that the Executive responds to their reports in the Assembly.
- 1.17 The Environment Committee should recommend that the Executive and Assembly should urgently make commitments to introduce a Northern Ireland Climate Change Act with a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050.

## 2. Climate Change Coalition Northern Ireland Overview

The Climate Change Coalition (NI) comprises a wide range of environment and development groups who all wish to see Northern Ireland play its full role in combating global climate change.

The goals of the Coalition are to raise awareness of climate change and to change behaviour and public policies to deliver local and global benefits. The coalition recognises that the behaviour of people in Northern Ireland is, through climate change, having disproportionate negative impacts on those living in many parts of the developing world. By working together we hope that we can help people here recognise that individual and political action in Northern Ireland can make a difference both here and internationally.

### **Vision**

A world in which human-induced climate change is contained at a level that will allow all of humanity to prosper, by means that enables social, environmental and economic justice for all.

### **Mission Statement**

The Coalition will publicise the need for individual action to combat climate change and will promote policy changes that will encourage and facilitate individual, governmental and corporate action to stop human-induced climate change having terrifying consequences.

### **Manifesto**

Without urgent action, climate change is very likely to devastate life on earth as we know it. Hundreds of millions of people, particularly the world's poorest and most vulnerable, will be put at severe risk of drought, floods, starvation and disease. Species and habitats are also at risk with scientists warning that by the middle of the century significant numbers of species could face extinction.

High emitting countries, with their responsibility for historic emissions, must reduce their greenhouse gas output as well as helping poorer countries adapt to existing climate change. But because all countries share the obligation to ensure that damaging global warming is permanently avoided, each must commit to policies to guarantee that global greenhouse gas emissions decline beyond 2015.

The Coalition believes that there are strong moral, economic, social and environmental imperatives for Northern Ireland to contribute its fair share of global emissions cuts in order to combat global climate change.



**The Northern Ireland Assembly's priority should be to:**

1. **Introduce a Northern Ireland Climate Change Act** with a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050. This is the minimum requirement that will be necessary to play our part in the global attempt to avoid dangerous climate change. An annual Northern Ireland Carbon Budget should be set to ensure we achieve an immediate and sustained decline in Northern Ireland's greenhouse gas emissions by an average of at least 3% per annum.

**The Assembly should also:**

2. **Support the International Negotiation Process** for global warming to peak at no more than 2° Celsius above pre-industrial levels – there is international consensus that this is the threshold beyond which we risk catastrophic climatic change. This will mean global greenhouse gas emissions must peak by 2015 and then decline thereafter.
3. **Assist the Poorest Countries and Biodiversity (in Northern Ireland and around the world) to Adapt to the Unavoidable Effects of Climate Change** by urging the UK, Ireland and the EU to support and strengthen the UN's international adaptation fund helping developing countries to protect themselves against climate change happening now. They should also transfer low/zero carbon technology to developing economies to allow for sustainable growth and support programmes helping biodiversity locally and across the world adapt to climate change.

The Climate Change Coalition (NI) will strive to generate public support for personal and political action pursuant to the above objectives. Within this shared framework members will promote their own approaches to aspects of the challenge ahead.

**CCC (NI) Members**

**ARENA Network**  
**Baglady Productions**  
**British Council (Northern Ireland)**  
**Centre for Global Education**  
**Chartered Institute of Environmental Health**  
**Christian Aid**  
**Concern**  
**Conservation Volunteers Northern Ireland**  
**Friends of the Earth**  
**Green Action**  
**NICVA**  
**Northern Ireland Environment Link**  
**Oxfam Ireland**  
**RSPB**  
**Sustainable NI**  
**Sustrans**

**Tearfund**  
**The National Trust**  
**TIDY NI**  
**Tools for Solidarity**  
**Trocaire**  
**Ulster Wildlife Trust**  
**WWF Northern Ireland**



### 3. Introduction

- 3.1 The Climate Change Coalition Northern Ireland welcomes the Environment Committee's decision to conduct an Inquiry into Climate Change. Climate change is an issue that must be addressed urgently at the local, regional, national and international levels.
- 3.2 The Committee is right to focus its Inquiry at identifying how Northern Ireland can play its part in tackling climate change. The scientific and economic rationales for addressing human impact on climate change is well established and widely accepted.
- 3.3 The people of Northern Ireland are asking for leadership from the Assembly. A survey conducted in 2008 by Sustainable Northern Ireland revealed that, "92% of respondents were willing to make changes to their lifestyles, especially if encouraged to do so by strong government leadership." The Committee should provide this leadership.
- 3.4 There is a great deal of expertise on climate change available in Northern Ireland and many groups are willing to play their part in facilitating moves towards a low carbon economy. The Committee should engage widely and openly.
- 3.5 The call for submissions allowed interested parties only a short response time. The Coalition understands the urgency for action and commend the Committee in its efforts to publish its findings quickly. Therefore, the Coalition believes that written submissions should be considered as initial thoughts which can be added to and developed throughout the inquiry.
- 3.6 The Coalition would welcome the opportunity to make an oral presentation to the Committee Inquiry.



## 4. Response to the Terms of Reference

### ***a. To identify initial commitments for Northern Ireland that will ensure it plays a fair and proportionate role as part of the UK in meeting climate change targets.***

- 4.1 Climate change must be addressed urgently at the local, regional, national and international levels.
- 4.2 The Assembly should ensure that its voice is heard at the national and international level. It should **categorically state its support for an international climate change agreement** to limit global warming to no more than 2° Celsius above pre-industrial temperatures (most scientists accept that 'dangerous climate change' is much more likely above this temperature increase).
- 4.3 To limit global temperature rise to no more than 2°C the IPCC suggests that atmospheric carbon dioxide levels should be limited to a maximum of 450 parts per million.
- 4.4 As carbon dioxide persists in the atmosphere for many years, the real determinant of the severity of climate change is not emissions in 2050, but total cumulative emissions by 2050. The Tyndall Centre has estimated that global carbon emissions need to peak by 2015 and then decrease by up to 6.5% each year if atmospheric CO<sub>2</sub> levels are to stabilise at 450ppm.
- 4.5 Industrialised countries have an historical responsibility for causing climate change and as a matter of fairness and justice should bear the leading responsibility for tackling the problem, both by reducing their emissions and by assisting developing countries to adapt to the changes that are already occurring.
- 4.6 New multinational climate agreements being developed by the United Nations (the post Kyoto climate agreement should be finalised in Copenhagen in December 2009) and the European Union (the Energy and Climate Package was endorsed by the European Parliament in December 2008) will require the United Kingdom and ultimately Northern Ireland to significantly reduce emissions. Attempts to delay action on climate change will only make achieving the new responsibilities more difficult and costly.
- 4.7 The Committee on Climate Change recommended, and the UK Government has accepted that a reduction of 80% by 2050 - based on 1990 emissions levels - would be an "appropriate" UK contribution to global aims to cut emissions by 50%.
- 4.8 The Assembly has accepted that the provisions of the UK Climate Act will be extended to Northern Ireland. However, the UK Act does not set specific emission reduction targets for the devolved administrations.
- 4.9 Northern Ireland's per capita emissions of 12.83 tonnes per annum compares badly with the UK average of 10.48 tonnes, the global average of 4 tonnes and the global fair share of 1.65 tonnes.



- 4.10 **The Executive and Assembly should urgently make commitments to introduce a Northern Ireland Climate Change Act** with a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050. This is the minimum requirement that will be necessary to play our part in the global attempt to avoid dangerous climate change.
- 4.11 To ensure we achieve an immediate and sustained decline in Northern Ireland’s greenhouse gas emissions **the Executive should set an “intermediate” target for emissions in 2020, a series of legally binding 5 year “carbon budgets” and an annual carbon reduction target at an average of at least 3% per annum.** Combining indicative annual milestones with the legal framework of the budget periods should offer flexibility but without compromising longer-term targets..
- 4.12 **The Committee on Climate Change’s role in Northern Ireland should be enhanced to facilitate the setting and monitoring of Northern Ireland specific budgets and action plans.** The Committee on Climate Change’s reports on progress and action plans should be delivered to the Assembly and responded to by the Executive.
- 4.13 The Committee on Climate Change should help ensure co-ordination of emissions reduction efforts across the UK. Carbon emissions in Northern Ireland and the Republic of Ireland are closely interlinked. **Therefore, provisions to enable joint achievement of emissions reduction goals should be made.**
- 4.14 All plans, programmes and policies should be assessed (**Climate Impact Assessments**) to determine their contribution to or impact on achieving carbon budgets.
- 4.15 Adaptation is intrinsically linked to mitigation, and it is essential that both be addressed as a matter of urgency. The Northern Ireland Assembly should introduce cross-departmental policies and measures which will allow people, infrastructure, biodiversity and natural systems to adapt to changing climatic conditions.

**b. To consider the necessary actions and a route map for each significant sector in Northern Ireland (energy, transport, agriculture and land use, business, domestic, public sector etc)**

- 4.16 The Committee on Climate Change’s statutory duty to Northern Ireland includes:  
*To provide advice on the sectors of the economy in which there are particular opportunities for contributions to be made towards meeting the budgets through reductions in emissions.*



- 4.17 The Committee on Climate Change's first report was released in December 2008. It includes an analysis of what opportunities exist for making emission reductions in Northern Ireland. It states **Northern Ireland could contribute emissions reductions of over 2MtCO<sub>2</sub>e (Million tonnes of carbon dioxide equivalent) in 2020:**
- *Emissions from buildings and industry could be reduced by up to 1 MTCO<sub>2</sub> in 2020 by using energy more efficiently;*
  - *More efficient vehicles and new transport fuels could deliver reductions of up to 1 MTCO<sub>2</sub> in 2020;*
  - *Emissions from agriculture, land use and forestry and waste management sectors could be reduced by up to 0.5 MtCO<sub>2</sub>e in 2020.*
- 4.18 The actions outlined above do not go far enough to keep Northern Ireland on target to achieve an 80% emissions reduction target. The Committee on Climate Change's role in Northern Ireland should be enhanced to facilitate the setting of Northern Ireland specific budgets and action plans.
- 4.19 Each government department should investigate the **opportunities for and obstacles to carbon reductions** within their areas of responsibility.
- 4.20 The Public Sector **procurement budget** should be used as a tool to deliver significant emissions reductions.
- 4.21 Improved **energy efficiency and rapid deployment of renewable energy** are mentioned by the Carbon Trust, Stern, WWF, RSPB, etc as key areas to target early in the decarbonisation plans.
- 4.22 Appendix 1 contains a list of suggested actions the Climate Change Coalition Northern Ireland presented to Stormont Committees during 2008. The Coalition understands the requirement for **cross-cutting actions** and for each department and sector in Northern Ireland to be involved in emissions reductions.
- c. To identify the costs associated with meeting these obligations and compare them with the costs that will be incurred if they are not achieved.***
- 4.23 The Stern Review calculated that the dangers of unabated climate change would be equivalent to at least 5% of GDP each year. However, when more recent scientific evidence is included in the models, the Review estimates that the dangers could be equivalent to 20% of GDP or more. In contrast, the costs of action to reduce greenhouse gas emissions to avoid the worst impacts of climate change can be limited to around 1% of global GDP each year. **The central message is that reducing emissions today will make us better off in the future:** one model predicts benefits of up to \$2.5 trillion each year if the world shifts to a low carbon path.



- 4.24 The significant emissions reductions proposed for the UK in the Committee on Climate Change's first report can be achieved without harming the economy and at a cost less than **1% of GDP in 2020**. In other words, an economy that might grow by 30% in the period to 2020, would instead grow by 29%. The Committee on Climate Change advises that this is a price worth paying, given the long-term costs of inaction on climate change.
- 4.25 The renewable sector in Germany supports 170,000 people and existing German government support measures promoting renewable energy could create 130,000 new jobs by 2020 according to the German environment ministry.
- 4.26 The Prime Minister stated that the overall added value of the low carbon energy sector by 2050 could be as high as **\$3 trillion per year worldwide and that it could employ more than 25 million people**.
- 4.27 The Carbon Trust estimates that more than **70,000 jobs** could be created in the UK by investing in and developing offshore wind technology.
- 4.28 Government should see investment in a low carbon future as a way to stimulate the local economy (as President Obama has in the USA). The move to renewable fuels may help develop industries that will provide economic opportunities and jobs. Given the huge potential that exists around our shores for wind power there are sound economic and environmental reasons for ensuring that a significant proportion of these jobs are developed in Northern Ireland.
- 4.29 Action Renewables estimate that almost 6,000 short term and 400 long term jobs could be sustained in Northern Ireland, exclusively by developing renewable energy within the region.
- 4.30 The Coalition believes that there are strong moral imperatives for Northern Ireland to contribute its fair share of global emissions cuts in order to combat global climate change. Hundreds of millions of people across the globe could lose their lives and livelihoods, up to a third of land-based species may become extinct, immense political instability will occur as people migrate to avoid droughts and floods and compete for scarce resources, and great economic damage will be caused by increasingly extreme weather.
- 4.31 **Climate change is one of the biggest threats to development:** it could undo decades of progress in fighting poverty and compromise the achievement of the Millennium Development Goals (MDGs) which aim to reduce poverty and promote sustainable development by 2015.
- 4.32 The SNIFFER report on the impacts of climate change on Northern Ireland identified a number of direct effects, mostly negative, on human health, the economy, natural habitats and water resources, for example, the extent of flood risk to existing settlements remains unquantified compared with the situation in Great Britain.



- 4.33 Northern Ireland’s Chief Medical Officer Michael McBride has said,  
*“Current predictions on climate change suggest greater long-term impacts on health than any current public health priority. To preserve health in a changing climate, we need to modify and strengthen the systems we have to adapt to the likely future impacts of global warming. We must tackle this issue on all fronts, reducing our contribution to the problem and responding to the effects of climate change is a shared international responsibility.”*

**d. To identify a formal cost effective mechanism for assessing the potential impact of new policies on climate change / CO<sub>2</sub> emissions. (Akin to Regulatory Impact Assessments/Rural Proofing)**

- 4.34 The Coalition believes that long term plans, supported by a strong legislative framework, are the best way to promote efficiency and innovation in policy and technology design and thus the best mechanism to minimise costs.
- 4.35 The Committee on Climate Change’s role in Northern Ireland should be enhanced to facilitate the setting of Northern Ireland specific budgets and action plans: sharing this resource with the rest of the UK should help minimise costs.
- 4.36 All plans, programmes and policies should be assessed using **Climate Impact Assessments** to determine their contribution to or impact on achieving carbon budgets. The process should be akin to equality screening and should be initiated at the start of policy design to maximise outcomes and minimise costs.

**e. To make recommendations for appropriate targets/actions that could be included in the new Northern Ireland Sustainable Development Implementation Plan.**

- 4.37 The key climate targets that the SD Strategy should deliver are those identified in a Northern Ireland Climate Act. As stated earlier:

The Act must set a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050. This is the minimum requirement that will be necessary to play our part in the global attempt to avoid dangerous climate change. To ensure we achieve an immediate and sustained decline in Northern Ireland’s greenhouse gas emissions the Executive should set an “intermediate” target for emissions in 2020, a series of legally binding 5 year “carbon budgets” and an annual carbon reduction target at an average of at least 3% per annum.



- 4.38 The SD Strategy should also help deliver the recommendations on how to achieve emissions reductions put forward by the Committee on Climate Change.
- 4.39 The SD Strategy could play an important role in helping to inform and empower individuals to take action to tackle climate change.

***f. To make recommendations on a public service agreement for the DOE Climate Change Unit's commitments in the second Programme for Government that will ensure Northern Ireland will meet its climate change obligations.***

- 4.40 The Executive and Assembly should urgently make commitments to introduce a Northern Ireland Climate Change Act with a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050. This is the minimum requirement that will be necessary to play our part in the global attempt to avoid dangerous climate change.
- 4.41 To ensure we achieve an immediate and sustained decline in Northern Ireland's greenhouse gas emissions the Executive should set an "intermediate" target for emissions in 2020, a series of legally binding 5 year "carbon budgets" and an annual carbon reduction target at an average of at least 3% per annum.
- 4.42 The legal responsibility to deliver the targets set in a Northern Ireland Climate Change Act and through the carbon budgets should fall collectively on the Executive.
- 4.43 Specific responsibilities to deliver the targets set in the Climate Act and in the carbon budgets should be identified in public service agreements for each Northern Ireland department.
- 4.44 A public service agreement should be drafted for the Department of the Environment which would include a commitment to provide information and support to the other departments to help deliver the targets set in a Northern Ireland Climate Change Act and in the carbon budgets.

***g. To consider what secondary legislation raising powers within the UK Climate Change Act would contribute to Northern Ireland's commitment to the UK Climate Change Bill.***

- 4.45 The Coalition believes Northern Ireland should introduce its own primary legislation.
- 4.46 The Executive and Assembly should urgently make commitments to introduce a Northern Ireland Climate Change Act with a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050.



4.47 To ensure we achieve an immediate and sustained decline in Northern Ireland's greenhouse gas emissions the Executive should set an "intermediate" target for emissions in 2020, a series of legally binding 5 year "carbon budgets" and an annual carbon reduction target at an average of at least 3% per annum.

***h. To express views on if and how the Assembly might conduct more effective scrutiny of climate change responsibilities across all relevant departments.***

4.48 The Environment Committee should share responsibility to scrutinise progress towards achieving the targets in the Act and within budgets with all other departments.

4.49 The ability of the Committees and the Assembly as a whole to scrutinise progress will be greatly enhanced by ensuring the Committee on Climate Change report to the Executive and the Assembly and that the Executive respond to their reports in the Assembly.

***i. To produce a report on the findings and recommendations of the inquiry by September 2009.***

4.50 The Environment Committee should recommend that the Executive and Assembly should urgently make commitments to introduce a Northern Ireland Climate Change Act with a legally binding regional target to reduce our carbon dioxide emissions by 80% from 1990 levels by 2050. This is the minimum requirement that will be necessary to play our part in the global attempt to avoid dangerous climate change.

4.51 To ensure we achieve an immediate and sustained decline in Northern Ireland's greenhouse gas emissions the Executive should set an "intermediate" target for emissions in 2020, a series of legally binding 5 year "carbon budgets" and an annual carbon reduction target at an average of at least 3% per annum.



## 5. Appendix

The Climate Change Coalition has made representations to eight of Stormont’s Statutory Committees. The following details a range of actions that will help reduce emissions

Theme	Committee(s)	Ask	Supporting Evidence
Awareness	Culture, Arts and Leisure	Use libraries, British Council, etc displays, events and activities to promote CC awareness	
Awareness	Education	Incorporate Education for Sustainable Development more fully across all areas of teaching	ESD remains an unexamined component of the current curriculum
Awareness	Health, Social Services and Public Safety	Encourage healthier lifestyles which incorporate key health message and environmentally responsible citizenship	Climate change will have direct implications in terms of ill health in the world but also in Northern Ireland (Michael McBride quote)
Energy Efficiency/ Renewable Energy	Culture, Arts and Leisure	Work on energy efficiency and renewable energy in Departmental buildings	
Energy Efficiency/ Renewable Energy	Education	Reduce carbon emissions by improving energy efficiency in existing and new buildings and offices	Northern Ireland schools, colleges and universities consume 744 million kWh of energy per annum at a cost of £36.5  (164 000



			tonnes of carbon dioxide  emission / 1/3 of energy spend for the entire Public Sector)
Energy Efficiency/ Renewable Energy	Enterprise, Trade and Investment	Demand reduction with energy efficiency in industrial buildings, energy efficiency, behavioural change and work on transport and agriculture	
Energy Efficiency/ Renewable Energy	Enterprise, Trade and Investment	Promote renewables (wind, wave, tidal), combined heat and power and distributed generation: e.g. introduce feed-in tariffs	Enormous potential exist in northern Ireland for renewable energy but at the present 6% of the electricity is generated from renewables + good potential for job creation (6.000 short term and 400 long term)
Energy Efficiency/ Renewable Energy	Finance and Personnel	Update Building Regulations to introduce zero carbon homes, mandatory micro generation	Between 8000 and 10000 sub optimal houses are built every year in northern Ireland (They are not “future proof”)
Energy Efficiency/ Renewable Energy	Finance and Personnel	Introduce banded rates depending on Eco homes rating	
Energy Efficiency/ Renewable Energy	Finance and Personnel	Reintroduce Environment and Renewables Energy funding schemes to incentivise low carbon lifestyle	The EU energy package set a target for the UK to achieve a 15% share of renewable energy in its final demand by 2020. The domestic heat sector alone accounts for 49.2% of energy consumed in NI, excluding transport



Energy Efficiency/ Renewable Energy	Finance and Personnel	Deliver zero carbon government estate by 2015 (SDS Target), develop action plan towards 2015 target	
Energy Efficiency/ Renewable Energy	Health, Social Services and Public Safety	Reduce NHS's own carbon emission	NHS carbon emission are by a long way the largest of any government organisation
Procurement	Finance and Personnel	Promote fair trade, ethical trade, carbon accounting and life cycle Analysis	DFP has responsibility for central procurement
Procurement	Enterprise, Trade and Investment	Investment strategy Energy: A detailed action plan in the form of a long term energy strategy needs to be prepared	
Transport	Education	Encourage environmentally friendly methods of transport to and from school (including walking and cycling)	Only 3% of pupils cycle to school while 40% would like to: if they had opportunity and safe means to do so.
Transport	Culture, Arts and Leisure	Provide public transport to facilitate access to events	
Transport	Regional Development	Need of urgent action to tackle increasing transport emissions	Transport accounted for 33% of the Northern Ireland CO2 emission, and it rose by 41% between 1990 and 2005.