

North Yorkshire County Council

Delivering on Climate Change

December 2009

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Foreword

The climate of the earth has changed and substantive evidence indicates recent warming which is believed not to be natural, but largely due to the burning of fossil fuels and human activity. The impacts of a warming climate include an increasing frequency and severity of unpredictable and predictable hazards including sea level rise, flooding, drought, erosion and land and water degradation.

The county of North Yorkshire is vulnerable to the impacts of climate change with, for example, low-lying areas prone to flooding and a coast that is receding. The impacts of climate change are predicted to result in the loss of critical infrastructure such as water, gas and electricity; communications including transport; buildings; and land productivity. These impacts are already happening with, for example, an increase in frequency of significant flood events in recent years.

Only by reducing our consumption of resources, can we reduce our contribution to climate change and ensure that our present needs are met without compromising the needs of future generations. This concept is referred to as sustainable development. Prudent use of resources also brings wider social, economic and environmental benefits including cost-savings and retaining local jobs and skills. The government has recognised climate change issues as a key priority for action.

Climate change is a growing international priority and the County Council needs to play its part in contributing to the key provisions of the Climate Change Act 2008 (see Context section). This response must be an integral part of how we do business rather than an 'add-on' that is owned by specialists. The principles and accountability for the issues permeate all areas of our business – from transport to energy usage, from schools to road construction. However, the Council needs to influence change not only in service provision but also in individual behaviour so that North Yorkshire can reduce its contribution to climate change.

As well as contributing to environmental sustainability, taking action on climate change can also be a powerful component in helping to make the County Council more efficient. The organisation is committed to prioritising its efforts on climate change issues according to impact and ensuring that any action taken also offers good value for money.

Nobody underestimates the nature of the challenge. However, the County Council is determined to do all that it can to respond effectively to climate change in a way that recognises the unique qualities of North Yorkshire's geography, economy and people.

Councillor Carl Les

Executive Member for corporate services, finance, performance management, and procurement

Statement of intent

The County Council will play its part in contributing to the national target of an 80 per cent reduction in UK CO2 emissions by 2050, with at least a 34 per cent reduction by 2018-22 (against the 1990 baseline). We will respond effectively to the risks from climate change according to the requirements of the Climate Change Act.

Objectives

The County Council recognises that responding to climate change is a long-term priority and that this is an evolving agenda. The following objectives will enable the County Council to deliver on its statement of intent:

- I. That the County Council plays a leading role in supporting a reduction in the contribution which North Yorkshire makes to climate change.
- II. That the County Council works with the people, communities and other organisations in North Yorkshire to develop an effective response to the current and predicted future changes in climate resulting from greenhouse gas emissions.
- III. That the County Council seeks to ensure maximum value for money and efficiency savings from actions taken in response to climate change.

Introduction

Most of the Council's corporate objectives will be affected by climate change, for example 'to maintain and enhance our heritage and environment'.

Progress to date

The County Council has already made progress in responding to the challenges of climate change. The Carbon Management Programme Strategy and Implementation Plan, adopted in 2006, details actions to reduce carbon emissions from County Council activities. In 2007, the County Council signed the 'Nottingham Declaration' and pledged to address the causes of climate change and to prepare the community of North Yorkshire for its impacts.

In terms of action on the ground:

- we have used innovative technology to reduce energy consumption in Council properties;
- a dedicated school carbon reduction officer works with schools to improve energy efficiency and educate future generations;
- changing asset management priorities have been developed in response to climate change;
- mineral sites have been reclaimed to help increase flood storage; and
- more flood resilient bridges have been constructed.

However, the Council recognises that, in all areas, there is progress to be made.

Partnership working

The County Council recognises that it must work through the appropriate partnerships to address climate change issues. Indeed, many of the actions can only be delivered in conjunction with other agencies. The North Yorkshire Strategic Partnership (NYSP) will be a key body in taking this agenda forward. The Local Area Agreement (LAA), which sets out the shared priorities for the County, includes targets for reducing greenhouse gas emissions.

Priorities

We recognise that we need to lead the climate change agenda on two fronts. Firstly, we want to ensure an effective response to climate change, in terms of our own services, operations, buildings and staff. These are actions that we can control. Secondly, we want to support the wider community of North Yorkshire, including residents, business and visitors, to respond to climate change. We recognise that we have an important community leadership role and need to work with a range of partners to lead by example.

The priorities in this strategy mirror those of the Climate Change Plan for Yorkshire and the Humber (www.yourclimate.org). There are seven key priority areas with a further three cross-cutting themes:

- strategy, monitoring and target setting;

- the built environment;
- transport;
- health and care services;
- business;
- land management; and
- citizen engagement.

The cross cutting themes are:

- energy;
- waste; and
- water.

Action plan

The County Council is committed to responding to climate change and this strategy includes a detailed action plan as an appendix. We will measure our progress against this action plan, which will include specific targets where appropriate that will be reviewed annually.

Explanation of climate change

The Department of Energy and Climate Change (DECC) defines climate as the average weather, including temperature, wind and rainfall patterns, experienced over a prolonged period of time. This section explains the DECC terms and phrases used when referring to climate change.

The greenhouse effect

The earth is able to sustain life because its atmosphere contains greenhouse gases. These gases retain some heat and allow the rest to be lost to space. This means the temperature of the surface of earth, and its atmosphere, is able to support life. The burning of fossil fuels has increased the amount of gases in the atmosphere. This has resulted in more heat being trapped, which would usually be lost to space and has led to an increase in the earth's surface temperature. The trapping of heat is likened to a greenhouse as the glass roof of a greenhouse similarly traps heat. This temperature rise is referred to as global warming and it is now more than 90 per cent certain that it is due to the increased consumption of resources and burning of fossil fuels since the industrial revolution (United Nations Intergovernmental Panel on Climate Change (IPCC), 2007). The world's atmosphere and surface temperature is now warmer than at any time in the past.

Climate change – the impact of global warming

It is important to recognise that climate change not only results in increasing temperatures, but also affects atmospheric and ocean circulations. This means that English summers are expected to become progressively drier and warmer, while winters become warmer and wetter, but with more intensive rainfall and unpredictable localised storms. Warming is melting glacial ice in mountain regions and the poles and sea levels will continue to rise. The United Nations IPCC reported that even if man-made greenhouse gas emissions were stabilised today, the lag period built into the global climate system means that the climate would continue to change for the next 30-40 years

Action on climate change

DECC (www.decc.gov.uk) emphasise that when referring to action on climate change it is important to make the distinction between two related and equally important areas:

Mitigation. This refers to actions that reduce man-made greenhouse gas emissions, which contribute to climate change. The reduction, re-use, or more efficient use, of all resources will help reduce greenhouse gas emissions. Examples of mitigation include improving home energy efficiency and measures to reduce overall car mileage.

Adaptation. This is a change in the way things are done in response to the positive and negative impacts of climate change. Adaptation includes planning now for a changing climate. Alternatively, adaptation can be understood as being simply risk management. Examples of adaptation include making

communities more resilient to the impacts of flooding and ensuring that people are able to cope with the health impacts of a changing climate.

Financial savings / opportunities

Responding to climate change has a range of financial implications many of which provide opportunities for savings. The Climate Change Act 2008 has introduced an accounting process for carbon emissions. This will act as an additional driver for carbon reduction activities as every tonne of carbon the council is responsible for emitting will have a financial cost. In the short term, actions to reduce greenhouse gas emissions can contribute directly to efficiency savings. For example, reducing energy consumption by using less heat and light, or travelling fewer miles, will save money as well as contributing to carbon reduction targets.

A number of actions in response to climate change are cost neutral. They require a change in the way we operate, but not additional funding. We can work with partners at zero cost to the council, particularly funding agencies, to bring additional benefit to the county.

If we prepare, and act sooner, we have the opportunity to reduce the longer-term financial impacts of climate change. Indeed, The Stern Review on the Economics of Climate Change, published in 2006, estimated that if action is not taken, the costs will be in the range of 5-20 per cent of global Gross Domestic Product (GDP) each year. In contrast, the costs of reducing greenhouse gas emissions to avoid the worst impacts of climate change would be around one per cent of global GDP by 2050. However, in March 2009 Stern commented that looking back the review underestimated the risks and potential damage from not acting.

We need to be proactive and maximise the potential economic opportunities. These include:

- providing a stimulus to improve the energy efficiency of building stocks;
- developing low carbon technologies;
- instigating local supply chains;
- expanding the tourism sector in a sustainable manner; and
- taking advantage of agricultural opportunities such as the potential for new crops

Context

Climate change is on the agenda at an international, national and regional level and this is reflected in this strategy.

International context

The Kyoto Protocol is an international agreement, linked to the United Nations Framework Convention, on Climate Change (<http://unfccc.int>). As of 2008, 183 countries have signed up to the treaty and made a commitment to reduce worldwide emissions of greenhouse gases.

European context

The European Union (<http://europa.eu>) has a target of reducing carbon dioxide emissions by 20 per cent on 1990 levels by 2020.

National context

The Government has shown its commitment to addressing climate change through a range of policies. Two key documents are detailed below.

One of four agreed priorities in the Securing the Future – UK Government Sustainable Development Strategy (2005) is climate change and energy (www.defra.gov.uk/sustainable/government). The UK government is committed to reducing the country's greenhouse gas emissions.

The Climate Change Act (www.opsi.gov.uk), which became law in 2008, makes the UK the first country in the world to have a legally binding long-term framework to cut carbon emissions. There is a national target for an 80 per cent reduction in UK CO₂ emissions by 2050, with at least a 34 per cent reduction by 2018-22 (against the 1990 baseline). Key provisions of the Act include:

- Carbon Reduction Commitment – this is a mandatory scheme to promote carbon reduction via energy efficiency activities. The scheme captures large private and public sector organisations including the Council. The scheme includes static energy consumption which is energy use in buildings (including schools) and street lighting, but not transport. In summary we will be required to purchase carbon allowances for 2010/11 onwards at fixed rate of £12 per tonne. The council's emissions will then be entered into a league table and depending on performance the council will receive all of the allowance payment back, plus or minus a percentage (10% in the first year rising by 10% year on year to 50% in year 5). The league table criteria will be based on early action and overall reductions for the first three years. From 2013 the total number of allowance available to all participating organisations will reduce year on year. Allowances will be auctioned with the cost dependent on availability. The league table of performance will be based on absolute reductions only.

- Adapting to the impact of climate change – public bodies will need to assess the impact of climate change on their functions and implement proposals for adapting to climate change.

The UK Low Carbon Transition Plan plots how the UK will meet the 34 percent cut in emissions on 1990 levels by 2020, set out in the budget.

The UK Climate Projections (UKCP09) has been created to help the UK to plan for a changing climate. The Projections contain information on observed and future climate change, based on the latest scientific understanding.

Regional context

The Yorkshire and Humber Climate Change Partnership published the Yorkshire and Humber Climate Change Plan and Regional Adaptation Study in March 2009 (www.yourclimate.org). These two complementary pieces of work mark a major milestone in the drive to improve understanding of the challenges, and to accelerate action on, tackling climate change in the region. The future climate projections and priorities for action included in these pieces of work have been used to shape this strategy.

North Yorkshire context

This climate change strategy documents the County Council's overall response to climate change. We intend this strategy to evolve, over time, to take account of emerging priorities. This strategy's priorities need to be embedded within other policies including:

- the Carbon Management Programme Strategy and Implementation Plan;
- the Second Local Transport Plan;
- the Rights of Way Improvement Plan; and
- Let's Talk Less Rubbish, a Municipal Waste Management Strategy for the City of York and North Yorkshire.

The County Council is also in the process of producing:

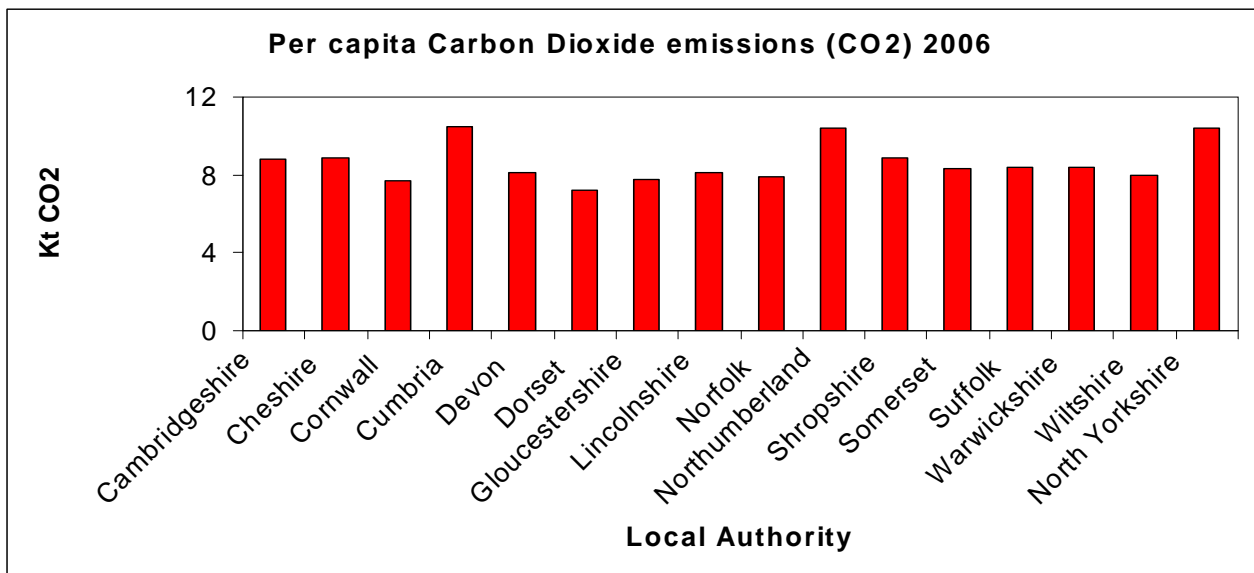
- a Minerals and Waste Local Development Framework;
- an Economic Development Strategy; and
- a Countryside Strategy.

The NYSP has also produced two important documents related to this strategy:

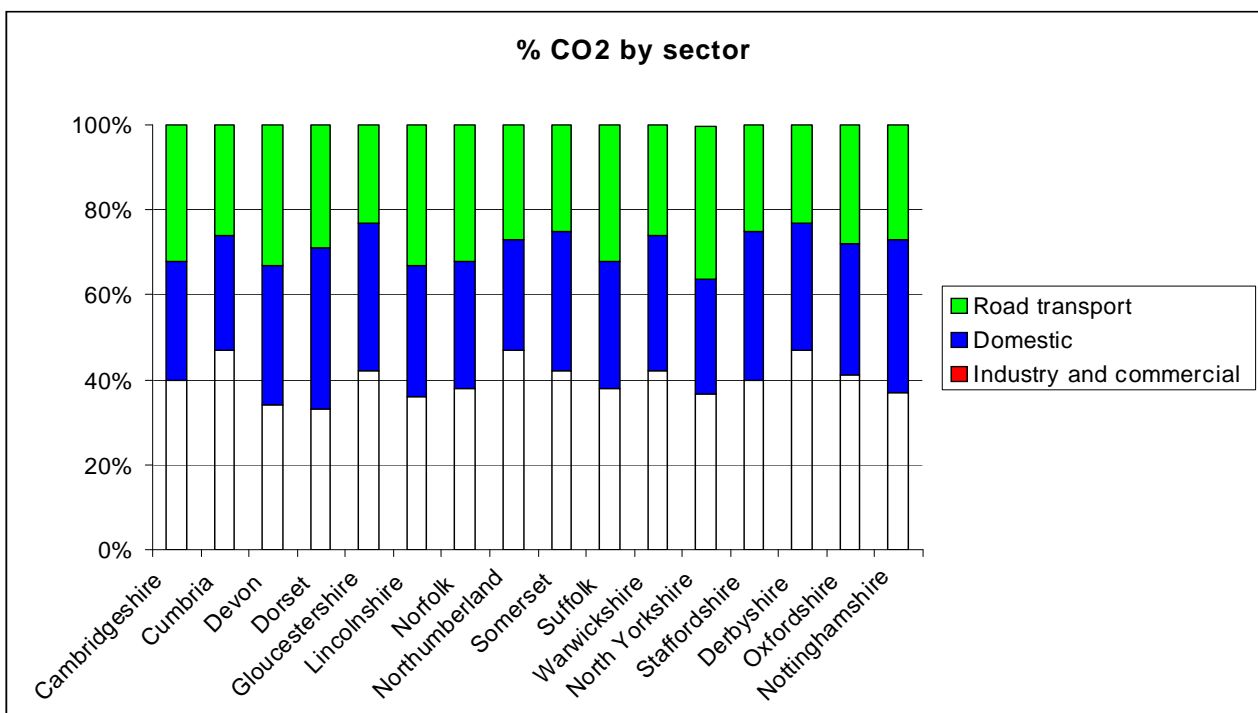
- The Sustainable Community Strategy for North Yorkshire, which sets the shared priorities for the county over the next ten years; and
- The North Yorkshire Local Area Agreement, which translates the priorities, contained with the Sustainable Community Strategy into three-year improvement targets.

Comparison with others

The graph below shows estimated Carbon Dioxide (CO₂) emissions, per capita, across a number of local authority areas used by the Audit Commission to make comparison with North Yorkshire. This data provides the most reliable and consistent breakdown of CO₂ emissions across the country, using nationally available data sets. Emissions have been assigned to the end user, showing where energy is consumed and not produced.



The data shows that North Yorkshire has higher per capita emissions than most of the comparator authorities. However, Cumbria and Northumberland, two counties in relatively close proximity to North Yorkshire, and both also predominantly rural areas, have similar per capita emissions. The graph below shows the proportion of these CO₂ emissions assigned to road transport, domestic and industrial / commercial sectors.



The data shows that in comparison with the other authorities North Yorkshire has:

- the equal largest proportion of CO₂ emissions from the transport sector;
- a relatively low proportion of CO₂ emissions from the domestic sector;
- and
- a lower than average proportion of CO₂ emissions from the industrial and commercial sector.

The large rural nature of North Yorkshire presents some unique challenges in terms of responding to climate change. The County Council, therefore, has a key role in influencing the population of North Yorkshire to reduce per capita CO₂ emissions.

How will the climate change in North Yorkshire?

The Yorkshire and Humber Regional Adaptation Study provides an assessment of future climate change in the Yorkshire and Humber region to 2050. Key changes identified include:

- annual average daily temperatures rising by almost 2°C;
- extreme hot temperatures will increase, with summer temperatures more regularly reaching 34°C;
- a reduction in annual rainfall of up to 6 per cent, although by less in upland areas;
- more seasonal rainfall pattern, with increases in winter and significant reductions in summer;
- an increase in the number of extreme rainfall events in northern and upland areas;
- dry spells (over 10 consecutive days without rain) are expected to increase in number;
- significant reductions in the number of days of frost and snow;
- marginal increases in winter average wind speeds (although summer and autumn speeds will reduce slightly) and a higher frequency of extreme and damaging wind events; and
- sea levels will rise by around 0.35 metres.

Principal impacts of climate change

These impacts have been taken from the North Yorkshire local area report of the Yorkshire and Humber Regional Adaptation Study.

Flooding

Increased rainfall in the winter and, in particular, in more extreme events throughout the year, means that both natural and sewer/drainage flooding in vulnerable areas is likely to increase, with the potential for flooding in new areas. This will have an impact on local properties, businesses, and infrastructure. Higher sea levels will also result in coastal flooding, increased likelihood of storm surges and flooding in areas around the Humberhead levels, such as Selby.

Drought

Increased summer temperatures combined with lower water availability will affect soil quality and productivity. This could lead to the loss of light sandy soils through wind and water erosion.

Coastal erosion

The North Yorkshire coast will experience both cliff and beach erosion due to sea-level rise and increased winter rainfall. This could lead to instability on some cliffs increasing the incidence of landslips. There is also an increased likelihood of existing coastal defences being overtopped by waves. Similarly, there will be an increased likelihood of land instability, including landslips further inland.

Groundwater

Reservoirs within the sub-region will receive less water, placing demand on the Yorkshire Grid for supply as demand from domestic users and agriculture increases due to the warmer climate. Low flows in watercourses could lead to greater pollution as effluent is less readily dispersed.

Business and economy

In terms of agriculture the expectation is that arable and forestry areas will experience longer growing seasons and higher yields, at least in the medium term. Increased temperatures may also bring opportunities to grow new and specialist crops. However, the increased potential for summer drought, erosion by wind and heavy rainfall leading to flooding, are all possible future concerns which may affect the land's productivity. The changes in climate are also likely to increase the challenges posed by pests and diseases (for example the Blue-tongue virus) making both arable crops and livestock vulnerable.

Higher summer temperatures are expected to increase demand for leisure and tourism, especially in outdoor amenity and coastal destinations. However, increased numbers of tourists may place significant strain on existing attractions and infrastructure.

Public and voluntary services

There will be an increased demand placed on emergency services to respond to incidents of flooding, of storm damage and disruption, or increases in, wildfires. Premises and other built assets will be affected by increased internal temperatures leading to overheating, increased water damage and increased storm damage and disruption.

Changing temperatures and rainfall/storm patterns will affect how we manage sports venues, heritage and amenity sites. Festivals and outdoor events may become more susceptible to disruption from weather.

Infrastructure and utilities

The principal transport routes through North Yorkshire will be most vulnerable to increased damage and disruption from flooding resulting in increased maintenance and repair costs. Indirect costs will include those resulting from travel disruption along strategic national routes, such as the East Coast Main Line and the A1. As temperatures increase more rural roads will experience surface melt, causing disruption. Road surfacing will be more difficult to undertake and railways may encounter difficulties of buckling rails. Energy and telecommunications infrastructure is also susceptible to increased flood risk.

Biodiversity

Biodiversity and habitat assets will be affected by climate change. North Yorkshire supports a large number of habitats and species recognised as being of high priority for conservation action under the UK Biodiversity Action

Plan. The exact impact of climate change on the county's biodiversity is difficult to predict but is likely to include:

- Shrinking of blanket bog peat, releasing more carbon into the atmosphere.
- Increased threat of wildfires to upland heathland.
- Changes in moorland habitat affecting upland breeding bird populations which are under threat from loss and decline.
- Changes to the species composition of hay meadows, calcareous grasslands, montane heath and other habitats.
- Vulnerability of wetland habitats to changes in rainfall and any resulting lowering of water tables.
- Erosion of coastal habitats.
- Pressure from changes in current agricultural practices.

Health and welfare

The expectation is that there will be reduced levels of cold-induced mortality and injury due to rising winter temperatures. However, there may be an adverse impact on physical health due to increasing temperatures exacerbated by an increasingly elderly population. Impacts on mental wellbeing are especially evident during flood events and often persist beyond the flood itself. Deprived and vulnerable communities are likely to be most severely affected. In the UK increases in deaths, disability and injury as a result of climate change are likely to occur from:

- extremes of heat and cold;
- floods and storms, including health hazards from chemical and sewage pollution;
- food poisoning;
- respiratory problems from the damaging effects of surface ozone during the summer and mould growth in housing;
- skin cancer and cataracts; and
- insect-borne disease from increases in flies and fleas (although malaria outbreaks are likely to be rare).

These effects are already starting to appear. In 2003, the major heat wave in Europe caused more than 23,000 premature deaths, including almost 11,500 in France alone.

Priorities

These priorities reflect those included in the Yorkshire and Humber Climate Change Plan and address both **mitigation** and **adaptation**. The County Council supports the concept of 'sustainable adaptation' and will strive to ensure that adaptation actions do not further exacerbate climate change or compromise the capacity of other natural and man-made systems to adapt to the effects of climate change.

Strategy, monitoring and target setting

The County Council will ensure that climate change issues are embedded across its strategies and plans. One way of achieving this is by preparing Strategic Environmental Assessments which cover most significant plans as required by an EU Directive.

The NYSP's Sustainable Community Strategy recognises climate change as a priority for partners across North Yorkshire. The Local Area Agreement includes targets for carbon dioxide reduction both within local authority operations and across the County as a whole.

The built environment

A clear priority is to reduce the vulnerability of the historic and current built environment to the changing climate. Wetting and drying affects the structural integrity and setting of the historic environment, whether this is a listed building or buried archaeology, protected by wetlands.

Local development decisions regarding changes or additions to the built environment are determined through the planning system. Planning has embraced sustainable development since the early 1990's and subsequent European legislation means that development plans must be assessed with regard to their impact on both greenhouse gas emissions and adaptations to climate change. There are national policies relating to restriction of development in floodplains. Regional targets aim to:

- increase renewable energy provision;
- enhance green infrastructure which fulfils roles in reducing flooding, drought and pollution;
- reduce impacts of development on water availability and quality; and
- improve urban design to reduce resource consumption over the whole life of buildings.
- Reduce energy use by improving existing building fabric

The Council does not own any housing stock, but we do own buildings for social care, education and service provision. Given that almost half of regional carbon emissions come from the housing stock, we need to work with partners and share best practice to reduce domestic carbon emissions and educate the public on the benefits.

Climate change cuts across geographical and organisational boundaries. We recognise that we need to adopt an integrated and holistic approach with strong partnership working. In the case of flooding, the Environment Agency is working with communities, agriculture, forestry and the County Council not only on flood defence works, but wider land-use measures which seek to protect large areas of the county from the effects of flooding.

Transport

The second Local Transport Plan for North Yorkshire, 2006-11 includes a number of shared priorities which impact upon climate change. These include improving the environment, reducing the need to travel and reducing congestion. The recent Government policy document, which sets the Government's strategy for transport up to and beyond 2014, 'Delivering a Sustainable Transport System' (www.dft.gov.uk) provides further impetus and includes 'tackling climate change' as a national goal. The third Local Transport Plan (LTP3), 2011- 2016, will have a specific focus on Environment and Climate Change. One of the challenges for this section of the strategy will be to identify a means of quantifying the reduction in emissions from different interventions.

The County Council is committed to reducing carbon emissions from transport within the county. One of our key priorities is to encourage the public of North Yorkshire to make smarter, more sustainable travel choices. In many instances sustainable travel choices have a dual benefit, leading to both a reduction in greenhouse gas emissions and health improvements. The rural nature of the County means that people often have to travel long distances to access services. Encouraging sustainable travel choices, through providing community transport and public transport is essential in addressing these accessibility issues. In more urban areas such as Harrogate and Scarborough, measures have been introduced to reduce reliance on the private car, including improvements to bus services and schemes to encourage cycling and walking. We also encourage sustainable travel options through education and promotional activities. The Council published the first Rights of Way Improvement Plan (2007 – 2011) to improve accessibility to services and the countryside for walkers, cyclists, horse riders and carriage drivers. We are working with partners to develop more sustainable options for freight movement across the County and have already delivered:

- measures to increase bus usage;
- park and ride schemes;
- more community transport;
- measures to increase cycle usage e.g. development of a coast to coast cycle route;
- partnership working to ensure those accessing the rights of way network arrive by public transport;
- reduced energy use from street lighting;
- increased use of recycled materials in road construction;
- an adapted drainage system to reduce likelihood of flooding;

- an improved winter maintenance regime;
- path agreements to avoid coastal erosion;
- construction of more flood resilient bridges; and
- improved rights of way asset management procedures

The County Council also recognises the need to reduce the number of individual business journeys wherever possible and will insist that all managers seek to reduce business mileage within their team. The Environment Agency has developed a 'Hierarchy of Travel Decision Making' which will be used to assist managers with this task.

Health and care services

The changing climate, for example the impact of rising summer temperatures and an increased incidence of flooding, is likely to have an adverse effect on people's health and welfare. This will be made worse because of the increasing number of older people across the County. This is likely to place additional demands on social care provision, and planning is required now to consider how to address this. It may also influence changes to education provision, to address hot dry summers, for example.

The County Council will work with partners to prepare for, and reduce, the health effects of climate change, e.g. emergency preparedness for flooding; heat wave planning; preventative action on skin cancer; and ensuring services are commissioned to meet new threats as they arise.

We also need to support vulnerable groups, who are more likely to be affected, for instance those in fuel poverty (defined as when a household needs to spend more than 10% of their income on fuel).

Business

We need to work with partners to support business in responding to the issues of climate change, for example, encouraging them to take up the ISO14001 Environmental Management System and the Eco Management & Audit Scheme (EMAS). Reducing energy use, water bills and transport fuel use can have significant financial savings.

Those businesses dependent on continuity of transport connections will be affected by increased flooding disrupting key road and rail links. There will also be potential opportunities and threats from changing goods and service provision.

It will also be important to make business aware of the likely positive opportunities resulting from the changing climate including an increase in tourism, the potential to grow new and specialist crops and opportunities for developing low carbon technologies. We will also work with partners to develop opportunities for low carbon jobs in areas such as sustainable transport and construction, and energy efficient goods and services.

Annually, the Council procures over £300 million of goods, services and works from twenty thousand different suppliers. The rural nature of the county means the Council's use of small local suppliers is much higher than other local authorities. However, every product and service we purchase has a greenhouse gas impact through the sourcing of raw materials, manufacture, delivery, use and disposal. We will give high priority to environmental impact, and the whole life cost of a product, including disposal, when purchasing goods or services.

Land management

Managing land to maximise benefits for the natural environment is essential if we are to minimise the impacts of climate change in the County. The natural environment provides many essential ecosystem services to society. These include plant pollination, which provides our food, the cleansing of water to improve our water quality, shade and protection against the wind, as well as reducing the effect of flooding and drought. It stores vast quantities of carbon, which would otherwise add to the effects of climate change in peatland, forest and heath. It also provides a home to our rich and varied wildlife, including economically important fish such as salmon. This green infrastructure includes not only wildlife habitats in more rural areas but also green space in urban areas such as parks, gardens and open space.

We have assessed a number of our plans in relation to their impacts on climate change adaptation and mitigation. This means that actions in documents such as the Countryside Strategy take account of climate change, for example, working with land interests to restore wetland areas.

The Council is a partner in developing this vital green infrastructure with Natural England, the Environment Agency, the Forestry Commission and local/National Park Authorities. We are also involved in partnerships looking at coastal erosion, enhancing the value of urban green space and protecting wildlife that is already under threat.

Positive management of green infrastructure benefits wildlife by improving habitat quality and connectivity, allowing species to move through the landscape when threatened by climate change. It also provides multiple benefits for people and the economy, including better health through access and recreation, high visual amenity, attracting economic investment and ecotourism, increased property value and improved quality of life for local communities. It also provides multiple benefits for people and the economy, including better health through access and recreation, high visual amenity, attracting economic investment and ecotourism, increased property value, local food production and improved quality of life for local communities.

Citizen engagement

A Local Government Association (LGA) survey in 2008 found that 70 per cent of respondents believe climate change should be one of the top five priorities for their council and 56 per cent believed councils should make residents take

measures to tackle climate change (www.lga.gov.uk). We recognise the need to engage in an inspiring and innovative manner in order to convince the wider community of North Yorkshire to take action.

The County Council works closely with a number of partners, including the Energy Saving Trust, to provide the support networks and public awareness needed for households, businesses and visitors to reduce their contribution to greenhouse gas emissions. Examples of projects include promoting renewable technologies, encouraging behaviour change in the home and efforts to improve home energy efficiency. The County Council will also work with partners to support the development of sustainable local communities through initiatives such as the Transition Towns network.

We also need to work with agencies such as the Environment Agency to make communities aware of likely negative impacts, including an increased incidence of flooding and support the most vulnerable communities affected by specific instances such as coastal erosion.

The Energy Saving Trust estimate that £90 million is wasted each year by companies wasting energy in the workplace, £60 million of which is simply through equipment being left switched on unnecessarily. The County Council will encourage behaviour change among its staff, particularly in relation to energy use and travel, predominantly through our network of environmental champions.

A school carbon reduction officer works closely with schools to educate students. The County Council will also seek to implement the national framework for Sustainable Schools.

Cross cutting themes

Energy

A Climate of Change the final report of the Local Government Association Climate Change Commission (www.lga.gov.uk) identified that the insecure future of national energy supply should be a major driver for diversifying and de-carbonising the UK energy supply and reducing energy demand. For this to be achieved, the UK must increase energy efficiency and the proportion of energy supply generated from renewable sources.

The Regional Spatial Strategy (www.yhassembly.gov.uk) provides targets for North Yorkshire to increase its contribution to renewable energy production, reduce energy consumption and improve energy efficiency as well as an overall reduction in resource consumption and waste. This is reflected in local development plans, not only with proposals for micro-generation and wind farm schemes, but also the re-use of aggregates from building materials, referred to as secondary aggregates. Homes are required to be zero carbon rated by 2016 with a view to extending this to all other buildings. There are also steps to save water, as this consumes energy in its supply and treatment,

through higher design standards for buildings. This will be determined through the planning system and building regulations.

It is important that the County Council develops a suitable renewable energy policy to make sure we can influence where, and how, this renewable energy development takes place to achieve the best outcomes for North Yorkshire.

The Council's overall annual energy consumption costs approximately £5 million. There are 395 schools in North Yorkshire and these properties account for around 73% of this total. In recent years, advancing technology, including wider use of IT, has led to a steady increase in electricity demand across the organisation.

The County Council joined phase three of the Carbon Trust's Local Authority Carbon Management Programme in 2005 and have identified priority actions to reduce our carbon emissions. These range from some of the more traditional approaches such as insulation measures, improving heating controls and lighting upgrades, to the more innovative projects such as voltage reduction and installing combined heat and power in elderly people homes and residential homes.

The County Council will aim to improve the fabric of existing buildings and minimise the carbon footprint of any subsequent alterations and construction. For example, developing new schools provides an opportunity to ensure higher environmental standards and efficiency savings.

We recognise that the increasing use of and reliance on ICT has a significant environmental impact. The Council's ICT strategy clearly demonstrates a strategic approach to managing the environmental impact of the increased use of ICT across the authority. The climate control action plan documents the procurement, use and disposal of ICT equipment and how the internal operational services and processes will be optimized to mitigate as far as is practical any increase in the use of ICT.

Waste

There are national and regional strategies and targets to reduce waste that North Yorkshire County Council must comply with. These include targets to re-use building waste, that would otherwise be discarded, reduce the production of hazardous waste, which can contaminate land and water, and find ways to reduce household waste. Disposing of waste in an appropriate and safe way is a key element of responding to climate change, given the impact land filling waste has on the production of greenhouse gases. As biodegradable waste decomposes it produces carbon dioxide and methane both of which are greenhouse gases that contribute to climate change.

The York and North Yorkshire Waste Partnership's strategy Let's Talk Less Rubbish is based upon the accepted 'waste hierarchy' of reducing, reusing, recycling, composting and recovering energy from waste with disposal as the

final option. This will be reflected in the Council's formal policy through the emerging waste Local Development Framework.

Water

Water is a critical issue in relation to climate change and there are a number of elements that need to be considered. Water consumption generates carbon emissions and a high volume of energy is used to clean and transport water. It is also important to consider the water that is consumed indirectly through production processes and produce that is purchased and consumed. Consumption levels are likely to increase across North Yorkshire due to the warmer climate, which is likely to put increased pressure on available water resources. Water is a finite resource. The Yorkshire & Humber Region already suffers water stress, with low, or no, flow in some rivers, especially in summer months and the depletion of some water supplies. The Environment Agency has a duty to improve the overall quality and availability of water to sustain life. This requires cross-sectoral action by partners including the water industry, agricultural sector, industry, local authorities and others. Actions include re-instatement, or creation, of areas, which store water, cleanse it and release it during dry periods. This includes flood meadows and sustainable drainage schemes which, if well designed, also support wildlife, amenities and improve our quality of life.

The Council's overall annual consumption of water in 2008 equated to 193 Olympic sized swimming pools and cost £1.3 million. Consumption in schools accounted for approximately 77% of this total. The organisation is committed to reducing water consumption across its operations.

The independent, not-for-profit organisation, Waterwise, state that 'the average person in the UK consumes 150 litres of water every day and one third of this is wasted. The County Council will, therefore, work with partners to encourage households to reduce water consumption and avoid wastage.

Performance

In order to ensure that the County Council delivers on its priorities, we have implemented a performance management framework to assess achievements across each of the different themes. A number of these indicators are part of our main performance management regime.

National indicator set

Performance will be assessed against the national indicator set, which all local authorities are required to report on. Performance will be measured by the Audit Commission as part of the Comprehensive Area Assessment (CAA) process and it is, therefore, important that the County Council is able to demonstrate continual progress in this area. Those national indicators included in the North Yorkshire Local Area Agreement 2008/11 are denoted by a * in the table below.

Government Agreement (PSA) or Departmental Strategic Objective (DSO)	Supporting National Indicator
PSA 27 Lead the global effort to avoid dangerous climate change	* NI 185 CO2 reduction from Local Authority operations
	* NI 186 Per capita CO2 emissions in the Local Authority Area
	NI 188 Planning to adapt to climate change
PSA 28 Secure a healthy natural environment for today and the future	NI 194 Level of air quality – reduction in NOx and primary PM10 emissions through local authority's estate and operations
	* NI 197 Improved local biodiversity – active management of local sites
Defra DSO: Climate change tackled internationally; and through domestic actions to reduce greenhouse gas emissions	NI 187 Tackling fuel poverty – people receiving income based benefits living in homes with a low energy efficiency rating
Defra DSO: Economy and society resilient to environmental risk and adapted to the impacts of climate change.	* NI 189 Flood and coastal erosion risk management
Defra DSO: Sustainable patterns of consumption and production	NI 191 Residual household waste per household
	* NI 192 Household waste reused, recycled or composted
	* NI 193 Municipal waste landfilled
DfT DSO: To sustain economic growth and improved productivity through reliable and efficient transport networks	NI 167 Congestion – average journey time per mile during the morning peak
	NI 177 Local bus passenger journeys originating in the authority area
DfT DSO: To sustain economic growth and improved productivity through reliable and efficient transport networks	* NI 175 Access to services and facilities by public transport, walking and cycling
	NI 176 Working age people with access to employment by public transport (and other specified modes)

Local indicators

In addition, we will use a number of local performance indicators to measure progress.

Procurement	5% minimum standard for consideration of sustainability issues in tendering
Construction	Increase in percentage of recycled materials used in property construction
Transport	Reduction in staff travel
Waste	Increase % of waste from NYCC properties which is recycled
Water	Reduction in NYCC operational water consumption per head or per meter squared per annum
Advocacy	Consideration of how whole life costing in procurement is implemented
Advocacy	Development of an environmental risk register

Measuring progress

The County Council will seek to ensure that progress is made across the full range of indicators. In order to make this effective, an Assistant Director Environment Group will meet regularly to assess progress and set future priorities.

Annual review

We will present an annual report, setting out progress over the previous year, to the Executive and publish it on our website.

Conclusion

This climate change strategy sets out the likely impact of climate change in North Yorkshire. There is strong evidence that the climate is already changing and will continue to change.

There are actions that the County Council will take in relation to its own operations. These are actions that we have direct control over, such as improving the energy efficiency of our buildings and developing the understanding of students in schools. However, there are many more actions that we can only influence and there is an inherent need to work with partners on delivery. We are committed to pooling knowledge and resources through the appropriate partnerships to ensure that actions to address climate change are delivered.

The timescale for delivering actions contained within this strategy varies considerably. Some of the actions are already being delivered, whilst others will be delivered in the short-term. There are other actions that we are working towards, but are longer-term in outlook.

Climate change is an evolving agenda and we recognise that we will need to review this strategy annually to take account of this. Whilst this is clearly a global issue, the impact of climate change will be felt in North Yorkshire. This strategy, therefore, demonstrates a clear commitment by the County Council to reduce this impact across North Yorkshire.