

YOUR CLIMATE

SUMMARY DOCUMENT

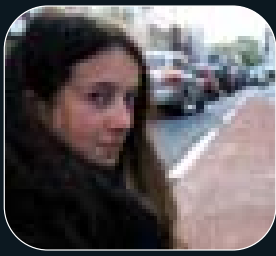
2005



Yorkshire & Humber's
**Climate Change
Action Plan**

www.yourclimate.org

 **Yorkshire**
Alive with Opportunity!



Business in the Community

Business in the Community recognises the potential impact of climate change on the region's economy. It is committed to working with organisations to improve understanding in this area. Working together, we will identify and respond to the risks and opportunities that such a major climate shift can pose.

Pam Lee, Regional Director



English Nature

The unique wildlife and natural beauty of this region provide us with a key social and economic asset. Climate change presents a direct threat to our wild plants and animals but also potentially presents major opportunities. The Action Plan is a platform for making a positive response across all sectors, and a benchmark for regional partnership that English Nature will actively support and pursue.

Dr Lawrence Jones-Walters, North and East Yorkshire Area Manager



Environment Agency

It is important for us all to work together to mitigate and adapt to climate change. It requires individuals, businesses and regional fora to address the problems and take advantage of the opportunities that will arise. This Climate Change Action Plan is an important step in ensuring the region works collectively to take action and is prepared for a changing climate.

Andrew Wood, Regional Director



Friends of the Earth

Yorkshire and Humber leads the way amongst the English regions in creating the necessary institutional framework to confront the threat of climate change. This Action Plan will help regional and local authorities, businesses and communities, to take determined, collective action now. We must all work hard to avoid new activities that will simply erode hard-won emissions reductions.

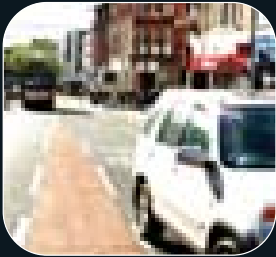
Anthony Rae



Humber Industry Nature Conservation Association (Humber INCA)

The Humber Estuary is outstanding for its habitats and bird populations, and of vital importance for the UK's economy. Climate change, including the rise in sea level, poses threats for the habitats, and for the industry and communities on the tidal floodplain and along the coast. The Action Plan will play a valuable role in helping Humber INCA's work with business, planners, agencies and NGOs.

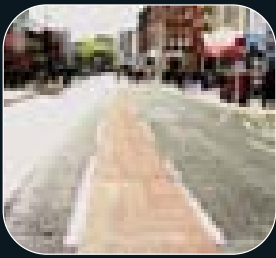
Tony Edwards, Chief Executive



UK Climate Impacts Programme (UKCIP)

Climate change is an important issue that is going to affect all aspects of our way of life. UKCIP are pleased that the Yorkshire and Humber Region has addressed both the adaptation and mitigation agendas in "Your Climate". We hope the region is successful in delivering this action plan and we will continue to support them in doing so.

Chris West, Director



Yorkshire Universities

Through our active involvement in a number of initiatives in the region, the universities and higher education colleges in Yorkshire and the Humber have shown they are fully committed to the Climate Change Action Plan and its ambitions.

Michael Noble, CEO

Yorkshire Water

Yorkshire Water recognises that the long term viability of our business, social progress and economic growth all depend on sustainable operations that result in efficient resource use and a healthy environment. As a company we strive to provide a sustainable future for our environment. We are therefore pleased to support action that addresses climate change in Yorkshire and Humber through this Action Plan.

Tony Harrington, Head of Environment, Health and Safety

Foreword

Our way of life in Yorkshire and Humber is based on the existence of a stable, temperate climate. But our demand for energy and transport and our consumption and disposal of goods could be changing that climate.

Over the past six years, scientific opinion has moved towards a universal consensus that climate change is happening and is primarily the result of emissions of greenhouse gases generated by human activity. The time for debating is over: we now need to take positive action to deal with the adverse impacts and to harness the opportunities that climate change brings.

Our region is determined to help avoid further damaging shifts in climate. We have the only Regional Economic Strategy in England that publicly commits to reducing greenhouse gas emissions. We have a forward looking Regional Spatial Strategy (published in December 2004) with a comprehensive climate change policy. We have businesses working hard to reduce emissions. Many of our local authorities are developing planning policy to support renewable energy generation and some are developing climate change strategies. And we have committed local people working to reduce emissions from across their communities.

Our region is also determined to reduce the primary risks and to adapt to the impacts of climate change. We have significant flood risks around the Humber Estuary and throughout our extensive network of river valleys; the east coast is susceptible to increased erosion from rising sea levels and winter storms; our upland heathlands and peat bogs are under threat from a warmer climate and greater demand for water combined with lower summer flows could result in water scarcity in parts of the region. A lot of work is already underway to reduce risks and address these impacts but we must plan to cope more effectively with them and with others. We must also ensure that we take the opportunities that climate change presents. For example, a changing climate could offer the chance for agricultural diversification, increased local tourism and opportunities for regional businesses to develop new products and services for a climate-aware economy.

This climate change action plan has been developed and refined through a consultation process across all sectors within the region. We would like to thank all those who took the time to contribute to this document. We will review the action plan regularly to ensure that it continues to develop as our knowledge and capacity to effectively tackle climate change grows.

This action plan aims to help build the capacity within Yorkshire and Humber to reduce emissions and to adapt to the impacts of a changing climate. We look forward to working with partners in all parts of the region to deliver it.



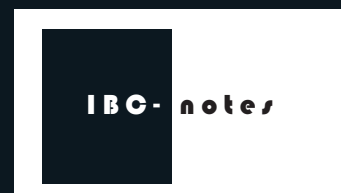
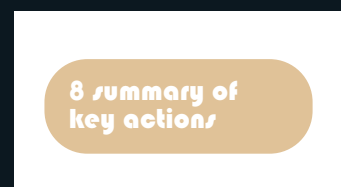
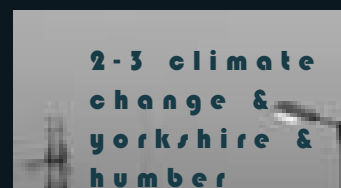
Felicity Everiss, Regional Director
Government Office for Yorkshire &
the Humber



Jan Anderson, Director of Environment
Yorkshire Forward



Councillor Arthur Barker,
Member of the Yorkshire and Humber
Assembly Executive Board and
Chair of the Climate Change Steering Group



Climate Change and Yorkshire and Humber

Your Climate: Yorkshire and Humber's climate change action plan is a firm statement of our region's determination to be a leader in managing climate risk. It aims to provide a co-ordinated approach to reduce regional emissions and to develop solutions to adapt to the impacts of a changing climate. The focus of *Your Climate* is on delivering actions that directly contribute to these aims. The action plan will also support regional and local policy makers to ensure that the right policy framework is in place to deliver these actions and the actions required in the future.

This summary provides an outline of the key issues, impacts and responses for organisations and individuals who may be unfamiliar with climate change issues and work. A copy of the full action plan, containing technical information, context and detailed actions, can be downloaded from www.yourclimate.org

Climate change: science and impacts

It has been established beyond reasonable doubt that climate change, accelerated by human activities, is happening now. The widespread use of fossil fuels combined with a reduction in natural carbon sinks like forests and woodland which absorb CO₂ (the principle greenhouse gas) has led to increased concentrations of CO₂ in our atmosphere. The increase in atmospheric concentrations of this and other greenhouse gases has been directly linked by respected climate scientists to the observed rise in global surface temperatures of 0.6°C since 1850. This apparently small increase in global temperatures has had a significant physical effect across our planet. For example, it has contributed to an increase in sea-levels, a reduction in mountain glaciers and changes to the growing season.

The concern of the global scientific community is that, without concerted action to constrain the growth of greenhouse gases, climate change may impact upon the global environment to such an extent that social and economic progress is reversed and that runaway climate change could be triggered.

It is therefore imperative that we adopt a precautionary approach to climate change and take steps now to limit greenhouse gas emissions and develop strategies to manage the unavoidable impacts.

Climate change: issues for Yorkshire and Humber

Yorkshire and Humber is both a contributor to global greenhouse gas emissions and an area which is particularly susceptible to the impacts of a changing climate. This is why all of our key regional strategies are working towards a 20% reduction in regional greenhouse gas emissions between 1990 and 2010.

Our region is a major source of greenhouse gas emissions, primarily because of the high proportion of electricity generating capacity and heavy industry that it contains. Our region contains 18% of the electricity generating capacity in the UK and in 2001 our power stations produced 58% of regional greenhouse gas emissions¹. In the same year, the region produced 12.5% of total UK greenhouse gas emissions² from all activities, the highest output of any region. An alternate measure of greenhouse gas emissions is the consumption of energy, goods and services by households. Using this measure, in 2001 our region consumed 21.5 tonnes of CO₂ per household³, the lowest of any region.

The production of greenhouse gas emissions in our region is forecast to rise by 14% between 2000-2010⁴, mostly as a result of increased electricity generation but partly due to rapidly rising transport emissions.

The challenge is now to make greater use of technologies that reduce emissions from electricity, to avoid increasing emissions from a society that demands greater mobility and to reduce demand for electricity and fossil fuels in all areas - at home and at work.

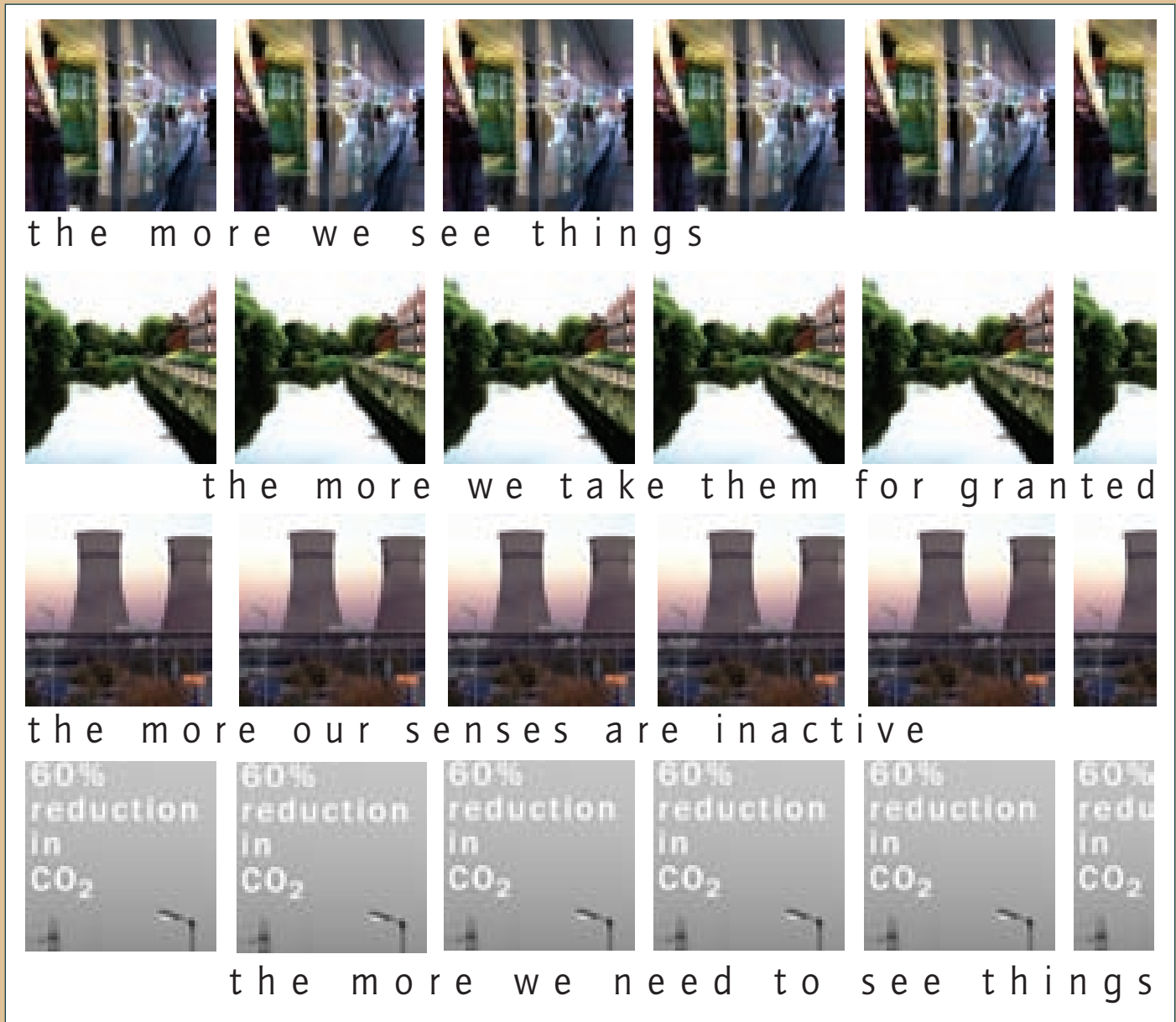
We must not forget that our region is also at risk from the impacts of climate change. The Humber flood defences protect assets worth £7bn, including the busiest ports in the UK. It will cost, in today's money, £1bn to maintain them over the next 100 years⁵. Thousands of tourists visit the region, attracted by the stunning, diverse landscapes of our three national parks. But the ecosystems within these environments are already fragmented and vulnerable to climate change.

Three quarters of the region is agricultural land, much of it of high quality, but climate change is already impacting on water resources and the growing season, presenting challenges, as well as opportunities.

Many of our towns and cities, including Leeds, York and Hull are vulnerable to flooding, whether it is caused by higher sea levels or heavy rainfall swelling river flows. The evidence and potential impact of climate change is literally on our doorsteps.

The challenge is now to ensure that all of today's business decisions are robust enough to withstand the impact of tomorrow's climate.

The key issues for our sub-regions are detailed on pages 6 - 7.



What can you do about climate change?

Responsibility for managing climate change does not just rest with large corporations or government; everyone has a role to play. Simple steps that you, your friends and family can take at work and at home will help the global response to climate change.

At home

- Do you save yourself money and time by walking, cycling or using public transport?
- Have you insulated your home and installed an efficient heating system?
- Do you take at least one holiday a year in the UK, rather than abroad?
- Do you reduce food miles by buying locally sourced food?

In small businesses

- Have you put someone in charge of monitoring and reducing your water and energy use and waste production?
- Have you had free professional advice from Envirowise (0800 585794) to reduce resource costs?
- Are you a member of the Green Business Support Organisation run by Business in the Community (0113 205 8200)?

In schools, colleges and universities

- Do you encourage your students to recycle?
- Do you monitor energy and resource use in your buildings and fleet and work to reduce them?
- Do you teach climate change in maths, science and citizenship classes?
- Do you encourage greater use of public transport?

In local authorities

Do you monitor energy and resource use in your buildings and fleet and work to reduce them?
Do you consider the impacts of climate change in your long-term strategic decisions and in emergency planning?
Does your Local Strategic Partnership have a climate change strategy for your area?

In hospitals and health care

Does your emergency planning cover climate risks, such as prolonged heat, drought or flooding?
Do you monitor the energy and resources used in your buildings and fleet and work to reduce them?
Do you specify high energy efficiency standards in all your new buildings?

In companies

Have you implemented an Environmental Management System in your company?
Have you sought assistance from the Carbon Trust (0800 085 2005) to reduce your energy costs?
Do you know what your climate risk is and do you actively manage it?
Do you invest in companies that are exposed to climate risk or produce significant greenhouse gas emissions?
Do you influence your supply chain?

Responding positively to the challenge of climate change need not be hard.

Many of the actions that you can take reduce your exposure to risk, improve profitability and help protect you from fluctuating energy prices. Taking positive action will earn you respect from friends, colleagues and potential customers.

Climate change across the region

North Yorkshire contains only 15% of the region's population yet covers over 53% of the land area. Overall emission levels are correspondingly low, but emissions from transport and housing are proportionately high. Therefore action 3.6 to reduce the carbon intensity of transport and action 3.7 to install community scale renewable energy sources will be important to this sub-region.

NORTH YORKSHIRE

Some of the impacts of climate change will be felt more intensely in rural areas than urban areas due to historically lower investment in adaptation measures. Action 3.4 will help rural areas to design solutions to localised flooding that prevent flash floods at source, whilst also enhancing the local environment. Action 3.5 will help to ensure that valuable natural environments are preserved and enhanced to protect important habitats and to ensure that the tourism potential of the region is not diminished.

West Yorkshire is the most heavily urbanised of our sub-regions and therefore contributes a high percentage of regional emissions. There are many high value businesses operating in the area many of which contribute to Business in the Community's Yorkshire and Humber Environment Index. Action 5.1 will increase support to active businesses and seek to engage those that have yet to make climate change a corporate priority.

WEST YORKSHIRE

The concentration of regional Government, private sector headquarters and key statutory bodies in this area can be utilised to push for greater coordination of action. Action 3.1 to push national Government for a greater recognition of regional and local climate change roles will be driven from this area. West Yorkshire will likewise have a strong role to play in co-ordinating Actions 2.1 and 2.2 to develop and deliver a climate change communications strategy for delivery across the whole region.

The impacts of climate change will be felt through increased flood risk in the valleys of West Yorkshire and the larger urban areas will experience the worst of any prolonged extreme heat through the urban heat island effect. Action 3.9 to ensure that new developments in the Northern Way growth corridors are developed to be climate resilient will therefore be critical.

The Humber area has the highest concentration of electricity generation plant in the region, including Western Europe's largest coal burning power station. The area is also home to the UK's busiest port and a high number of large manufacturing and refining sites. The primary greenhouse gas emissions are correspondingly high although all the largest primary emission sources are included within the EU Emissions Trading Scheme and electricity generation is covered by the Renewable Energy Obligation. The new Regional Energy Strategy (see Action 3.3) will place a focus on achieving additional emissions reduction from primary energy production in the region. Action 5.2 will develop new emission reduction mechanisms for medium and large-scale businesses.

THE HUMBER AREA

The Humber area is particularly susceptible to the impacts of climate change, most noticeably through increased flood risk. The Environment Agency is responsible for the management of flood defences in the region and has committed to upgrading the defences around the Humber estuary through both hard and soft solutions, including managed realignment schemes. Action 3.2 will report progress towards the adaptation priorities identified in *Warming up the Region* and will help to ensure that organisations across the region are aware of the threats and opportunities presented by climate change.

South Yorkshire has a strong manufacturing and coal mining heritage. Historically therefore it has been an area of relatively high emissions. With recent economic changes the area has lost many mining and manufacturing jobs. The area has the expertise and capacity to develop a strong manufacturing base in niche environmental and renewable technologies and could benefit greatly from a well developed biomass supply chain (Action 3.3).

SOUTH YORKSHIRE

Many public sector organisations in South Yorkshire are taking a strong lead in action to manage climate change. Actions 4.1 and 4.2 will help local authorities and Local Strategic Partnerships (LSPs) across the region to better manage corporate carbon emissions and lead climate change risk management in their areas.

For more information on actions, see page 8 or visit www.yourclimate.org

CASE STUDIES

At Alkborough on the south bank of the Humber estuary, the clock is being turned back and land which was reclaimed from the river is being returned to the estuary. Breaching existing flood defences will allow 440 hectares of land to become a wetland, harnessing natural forces to reduce the threat from tidal flooding.

TURNING THE CLOCKS BACK AT ALKBOROUGH

A flagship of the Government's approach to flood risk management, the Alkborough Flats scheme will widen existing river corridors, reshaping the shoreline and creating new wetlands and washlands. In addition to protecting homes and businesses, the scheme will create new wildlife habitats. It reflects an understanding of estuary processes and the need to work with nature rather than against it.

Using wind turbines to generate their own energy and biodiesel to fuel fleet transport are just two methods being considered by regional companies to reduce carbon emissions and save money.

Yorkshire Forward has developed two innovative Carbon Management Clubs, one focusing on the food and drink sector and the second providing support to other companies. Club members receive detailed advice and support to encourage them to identify ways to reduce their carbon emissions including the application of Monitoring and Targeting techniques.

CARBON MANAGEMENT CLUBS

Most of the measures being introduced can be applied in many organisations including industrial process optimisation, improvements in lighting and heating controls, raising awareness and developing green travel plans. Other measures reflect the nature of the industry. Examples include the use of bio diesel in delivery vehicles, installing biomass fuelled CHP and improving site energy services. One wood products company is even undertaking a wind energy feasibility study.

In most cases, the cost of the work is paid back within two years through lower energy bills. It is expected that the 2006 target to reduce CO₂ emissions by 17,600 tonnes per annum will be comfortably met.

A problem shared is a problem solved could be the mantra for the National Industrial Symbiosis Programme (NISP). This new business initiative is linking companies in different sectors to create sustainable commercial opportunities.

NISP aims to optimise resources including manufacturing capacity, energy systems and land as well as reduce the amount of potentially valuable material being wasted because the company producing it has no further use for it.

HEADACHE SOLUTIONS

An early success of the Yorkshire and Humber NISP team came from a partnership between Hull-based independent fuel retailers Rix Bio Diesel and British Industrial Plastics Ltd (BIP). Rix were able to use spare capacity within the BIP processing facilities to convert waste vegetable oil into bio diesel for sale through its network of petrol stations. In 2003, following commercial trials, BIP began large scale production, converting 15 million litres of waste oil into bio diesel on behalf of Rix.

Since April 2005, NISP has helped to divert more than 78,000 tonnes of waste from landfill sites and cut CO₂ emissions by more than 200,000 tonnes nationally.

Barnsley Council now boasts the largest wood-fired Community Heating System in the country. Currently 166 flats in three Council owned blocks have switched from coal to wood as their heat source. At the nearby RSPB Old Moor Reserve, wood fuel is also being used to heat the newly opened visitor centre and café.

Both are fuelled using wood trimmings from the Council's tree management operations, coppicing of neglected woodland or wood chips produced from willow trees grown specifically for the purpose. The latter crop offers a potentially huge market for farmers in region.

BARNSLEY'S BURNING AMBITION

The potential to convert existing coal, gas or oil-fuelled buildings to wood chip has been highlighted by Framework4Change (F4C).

"Wood fuel is not just limited to domestic or small scale use," says Steve Dunkley of F4C. "Wood chips are being used to part fuel Drax power station and the work undertaken by Barnsley Council demonstrates that there is huge potential to re-use material which otherwise would go into landfill. The combination of using post consumer wood and growing specific energy crops reduces our dependence on fossil fuels, cuts CO₂ emissions and provides valuable income for farmers and growers in the region."

F4C has produced a guide to using wood fuel systems in public buildings available from www.yourclimate.org

Summary of key actions

Action area

International, national, regional and local policy development

Aim

To principally work within the existing policy framework but to also work with national, regional and local policy makers to remove inconsistencies and strengthen the policy framework.

Communications

To develop and deliver a climate change communication strategy to raise awareness of climate change and to encourage individuals and organisations to take positive action.

New project development and research

To improve the evidence base to allow organisations and individuals to take positive action to address climate change and to develop new projects with sufficient resources to achieve positive results.

Local Strategic Partnership (LSP) action

To work with LSPs within the region to maximise the direct benefits that responding to climate change offers and to make the most of their community leadership potential.

Priority Action Deliverables

- 1.1 Evidence provided to assist strategic decision makers to enhance regional strategic framework.
- 1.2 Regional response provided to key climate change related consultations.
- 1.3 Climate risk management integrated with Sustainability Appraisals.
- 1.4 Emissions forecasting tool developed and used to support 1.3.

- 2.1 & 2.2 Climate change communications strategy developed and delivered.
- 2.3 & 2.4 Database of regional stakeholders established and kept informed of climate change developments.
- 2.5 & 2.6 Database of regional mitigation and adaptation case studies and resources established.
- 2.7 Profile of climate change enhanced through high profile regional conferences.

- 3.1 Central Government encouraged to recognise local and regional climate change roles.
- 3.2 New actions initiated to deliver *Warming up the Region* recommendations.
- 3.3 Action plan well integrated with Regional Energy Strategy.
- 3.4 Enhanced catchment management to reduce flood risk and conserve water.
- 3.5 Enhanced climate resilience of fragile ecosystems.
- 3.6 Demonstrable emissions reduction from non-infrastructure transport measures.
- 3.7 Emissions reduction from innovative fuel poverty and renewables initiative.
- 3.8 New research conducted to assist evidence based decision making.
- 3.9 Adaptation guidance published to reduce climate risk to new developments.

- 4.1 & 4.3 Local authority emissions monitoring tool developed and used in conjunction with impact assessment tool.
- 4.2 & 4.6 Assist LSPs to develop corporate approach to climate change and to share best practice.
- 4.4 Comprehensive Performance Assessment process encouraged to include climate change mitigation and adaptation factors.
- 4.5 Primary Care Trusts assisted to take action to manage climate risks.

Business engagement

To seek to achieve additional emissions reductions from the most carbon intensive businesses and to engage small businesses in climate risk management activities.

- 5.1 Materials, training and support available to assist SMEs to reduce emissions and manage climate risk.
- 5.2 New programme of support established to assist businesses to reduce emissions.

Monitoring and review

To ensure that all actions are delivered and that the action plan remains fit for purpose. To monitor overall climate change indicators.

- 6.1, 6.2 & 6.3 Climate change adaptation and mitigation indicators established and monitored regularly.
- 6.4 Action plan reviewed and updated annually to reflect scientific and policy developments.
- 6.5 Progress against actions monitored and reported every 6 months.

The full regional climate change action plan, containing all actions planned for the region, can be downloaded from www.yourclimate.org
This site also contains useful resources to help your organisation to take action to tackle climate change.

Developing Your Climate

The Government Office for Yorkshire and the Humber has led the development of this climate change action plan with the assistance of a steering group chaired by Councillor Arthur Barker. It is based upon the outcome of 5 stakeholder workshops attended by 71 individuals from 47 organisations in early 2004. The consultation draft, published in January 2005 received a total of 47 detailed comments from organisations and individuals.

The full version (available from www.yourclimate.org) has been strengthened by the inclusion of many of these comments.

Steering Group Members

Business in the Community
English Nature
Environment Agency
Friends of the Earth
Government Office for Yorkshire and the Humber
HBOS
Humber Industry Nature Conservation Association (Humber INCA)
UK Climate Impacts Programme (UKCIP)
Yorkshire and Humber Assembly
Yorkshire Forward
Yorkshire Universities
Yorkshire Water

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Notes from pages 2 & 3

1. *Regional Greenhouse Gases Emissions Monitoring and Modelling Study - update of baseline data*, Cambridge Econometrics (2003)
2. *Regional Greenhouse Gases Emissions Monitoring and Modelling Study - update of baseline data*, Cambridge Econometrics (2003)
3. *Economic Trends (611) The impact of UK households on the Environment*, ONS (2004)
4. *Regional Greenhouse Gases Emissions Monitoring and Modelling Study*, Cambridge Econometrics (2002)
5. *Planning for the Rising Tides*, Environment Agency (2005)

Visual Identity and Graphic Design by the Environment Room.

All photographs by Richard K except back cover by Richard K and Andrew W, and photograph 1, inside front cover, Andrew W.

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Thanks to Jess W.

practical help for your climate
in Yorkshire and Humber

www.yourclimate.org

