



Climate Change Plan for Yorkshire & Humber

Your Climate, Our Future

2009 – 2014

Yorkshire & Humber Climate Change Partnership

FOREWORD BY RT HON ROSIE WINTERTON MP

Climate change is the greatest challenge facing our society. The problem is global. In the medium term international action is needed to reduce the threat it poses.

Meanwhile the climate and weather patterns are changing here and now. Severe weather events are getting more frequent. We have to adapt to this change. We also need to do whatever we can to reduce emissions of carbon dioxide and other greenhouse gases. This means finding solutions and changing the way we do things at local level too.

In 2005 Yorkshire and the Humber was the first region in England to produce a Climate Change Plan. Much has happened since then and the issue has climbed to the top of the political agenda. Increasingly climate change will impact on the international economy, business development and every community across the globe. As it does so it will both present big challenges and open up new opportunities. It is right that our region prepares proactively. This new regional Plan is part of that process. Its purpose is to ensure that all sectors are alive to the issues and that these continue to be embedded in regional plans and strategies. It has my wholehearted support as Minister for Yorkshire and the Humber.

ROSIE WINTERTON

A REALISTIC VISION FOR 2020

Yorkshire and Humber is seriously exposed to climate change. For example, as a region we have more properties and businesses at serious flood risk than any other, apart from London. The Humber estuary is vulnerable to rising sea levels. Our industrial base of power stations, oil refineries and chemical plants also means that we have one of the most carbon intensive economies in Europe. Their competitiveness will be under threat as demands for lower emissions increase.

The task of transforming our economy and investment priorities to take account of these factors is urgent. Failure to move quickly will not only add to the risk of potentially damaging climatic events. It would also make our economy less able to compete in the new world of tough emissions targets and growing customer demand for green practices. By contrast if we adopt the right policies and promote change now, we can also make the most of the opportunities that climate change may bring. This is a huge challenge, but it can be done.

To illustrate what this might mean in practice, a realistic view of the region in ten years time would include.

- Climate change mitigation and adaptation underpin future regional strategy and with leadership displayed at regional and local levels.
- The economy is more diverse, with the development of innovative, resource efficient, low carbon products and services in all sectors.
- Businesses use carbon trading effectively to stimulate investment in emissions reduction and new low carbon business opportunities.

- Waste is reduced by making products with fewer resources, breaking the link between economic growth and waste growth.
- Renewable energy forms an increasingly substantial proportion of our energy mix and the region is effective at reducing emissions from this sector.
- Resource efficient living is becoming part of every day lives. We have reduced consumption and waste and many more people are buying local.
- Car use is reducing year on year. Cycling and walking or public transport are much more popular ways to travel.
- All new development is zero carbon. Most of the region's homes and all public buildings have been retrofitted to improve resource efficiency.
- There is less waste. More than half is recycled or composted. More than 75% of our municipal waste has a value recovered from it.
- Agriculture and forestry are achieving higher production in a longer growing season supplying more local markets, and are effectively maintaining soil quality and managing more extreme weather with new disease and pest threats.
- We are better prepared for the management of extreme weather events, including floods and droughts
- We are able to help the natural environment, its habitats and biodiversity stay healthy and have been able to adapt to the changes through an extensive network of green corridors and infrastructure.
- Cities and towns are creating networks of green infrastructure, designed to minimise effects of heat waves in urban areas, to enhance biodiversity and help manage flood risk.

THE CHALLENGE

Key facts

The Regional Adaptation Study has highlighted some of the climate changes we might see by the 2050s (refers to the period 2040 – 2070).

- Annual average temperatures between 1.8°C - 1.9°C
- Summer average temperatures up between 2.1°C - 2.5°C
- Extreme hot temperatures up between 2.8°C - 3.2°C
- Annual rainfall down by approximately 6%
- Winter rainfall up by 12 – 17%
- Summer rainfall down by 22 – 26%
- Winter snowfall down by 54 – 68%
- Annual average wind speeds down by approximately 1%
- Winter average wind speeds up by approximately 1%
- Soil moisture annual average down by around 5 – 11%
- Mean sea level increase of 0.35 metres, with more severe surges.

By the 2050s* we expect average temperatures will have risen by between 1.8°C and 1.9°C. Summer rainfall will have reduced by between 22 – 26%, but winter rainfall will have increased by 12 – 17%. The growing season may lengthen further. The prospect of warmer weather, more time to grow things and less rain may sound appealing, but it hides big threats.

These temperature changes will bring a rise of 0.35 metres in the mean sea level of North Sea, with storm surges being significantly higher. This might not seem much. However, virtually all of Hull and much of the Humber sub region is already below

*refers to the period 2040 - 2070

high tide level. So, it's easy to see that any rise in sea level brings a higher risk of serious flooding. The increases in air temperature will also bring more extreme weather events.

Yorkshire and Humber will experience more extreme weather events. The flooding, heat waves, storm damage and drought that will result will have most impact in urban areas where population densities are greatest. Pressure on water supply will also grow. Some species and habitats in the region will suffer serious threats, although some others may benefit. Air quality is also likely to suffer. Public health services will face some big new challenges. Agriculture too will have to deal with new pressures and threats. Coastal areas will experience increased land erosion, loss of intertidal habitats and more tidal flooding.

The impact of climate change will be global. So there will be knock-on effects for the UK and our region, for example as a result of greatly increased competition for food and water resources or migration. There are already pressures to reduce carbon and other greenhouse gas emissions so as to contribute to reducing the rate of future global climate change. This places new demands on business. But the demand for new technologies, processes and products will also create a new business environment – leading to new opportunities and exposing us to new risks and competition.

We must prepare for these changes and adapt. At the same time we need to help prevent further climate change by reducing carbon emissions in Yorkshire. In this regard there are already regional and national targets to cut carbon/greenhouse gas emissions and increase supply of energy from renewable sources. New long term emissions targets will also form part of the Climate Change Act.

As the figures below show, meeting our region's existing climate change targets is a big challenge which so far we are not managing to meet. The region is home to several power stations that burn fossil fuels to produce electricity and industry that provides goods and services for export. This means that although much of the energy, goods and services produced are exported to the rest of the country we produce high levels of greenhouse gas emissions as a region. Recent studies suggest that without significant change emissions will increase steadily, while national target levels call for reductions. In similar vein, the region's power generation from renewable sources in 2007 had achieved only about a quarter of the modest target level set for 2010.

Although achievement is lagging behind the targets, there are very many programmes and initiatives in the region which will help to improve delivery. These are led by organisations in every sector – local councils, companies and business organisations, voluntary groups, health trusts, regional agencies, government bodies and many others. Examples include Kirklees Council's Warm Zone Initiative, which aims to tackle fuel poverty by providing cavity wall and loft insulation, and the Whizz Go car club – providing corporate car sharing to Leeds City Council. There are growing networks between concerned individuals; and organisations. Awareness of the issues is rising. But more will need to be done if the challenging national and regional targets are to be met. By setting out a framework for ensuring that as many plans, policies and decisions affecting the region can take account of climate change issues the task should become more manageable.

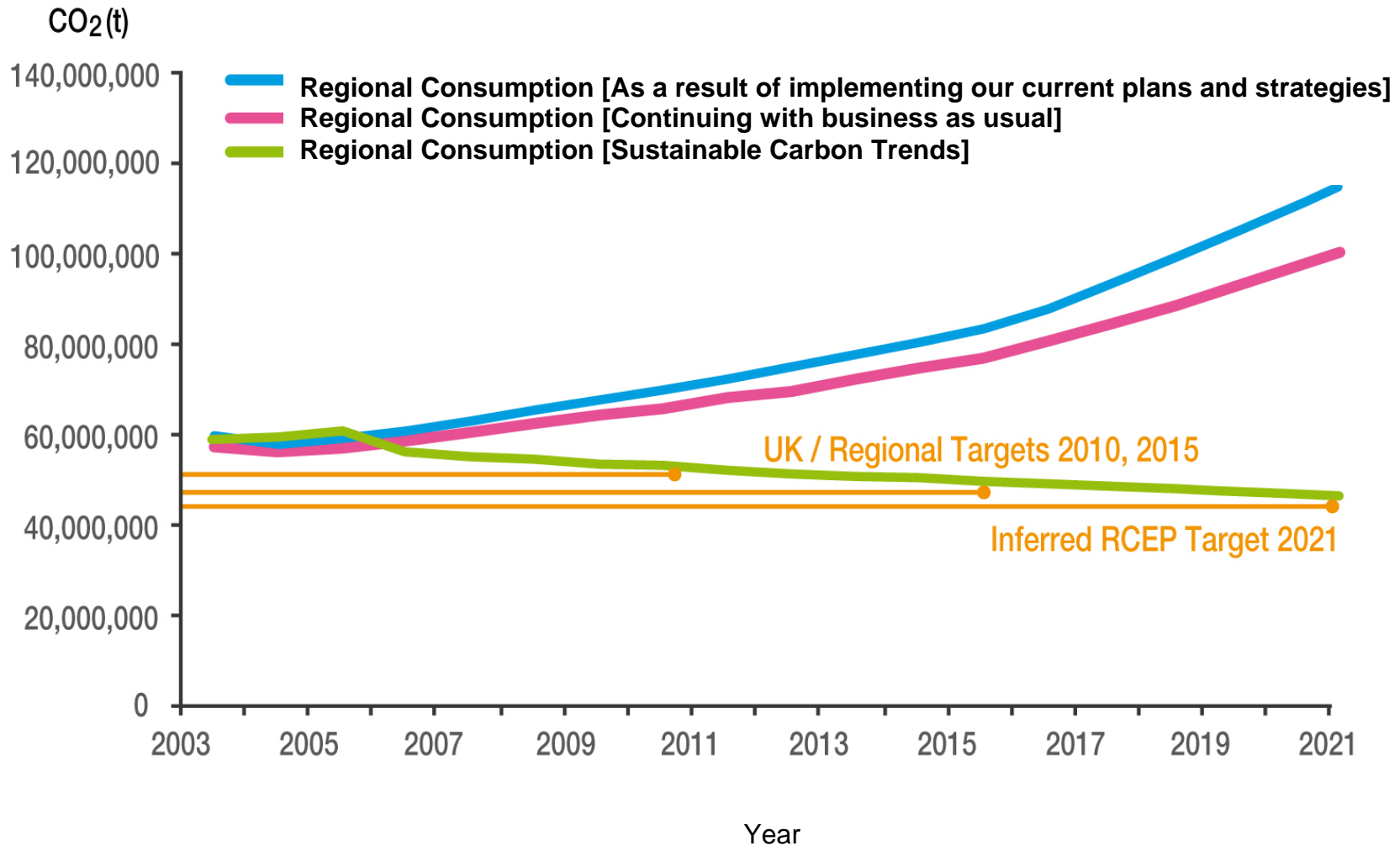
This framework for action will not be static. It will need to be reviewed in light of significant new regulation and knowledge. It will be developed as new information becomes available, as new technologies come on stream and new initiatives taken up. The legal context has developed significantly with the Climate Change Act 2008 which became law on 26 November 2008 introducing the world's first long term legally binding framework to tackle the dangers of climate change.

More regional, national and international research can be expected. Specifically 2009 will see the Yorkshire and Humber Regional Adaptation Study published (and launched together with this plan), the UK Climate Impacts Programme publish detailed regional and local information about the predicted effects of climate change, and the United Nations Climate Change Conference to be hosted by Denmark in December 2009 will aim to establish an ambitious global climate agreement for the period from 2012.

This plan will be updated regularly and appropriate actions will be added.

Regional consumption scenarios, CO2 totals.

The graph illustrates the unintended consequences of higher carbon emissions if we successfully deliver all of our current plans and strategies in the Yorkshire and Humber region.



Source: [Yorkshire & Humber Assembly: Evaluating the Contribution that Key Regional Strategies make towards addressing Climate Change](#) (page 4).

THE PLAN

This action plan sets a strategic direction for managing and combating climate change in the Yorkshire and Humber region over the next five years.

The plan does not list lots of detailed actions. It is not specifically linked to CO₂ targets and cannot provide a breakdown of how they will be achieved. There are already a number of national, regional and local initiatives to deliver these targets. The plan sets out a way forward, which will become clearer in the future Single Integrated Regional Strategy - that will bring together the Regional Economic Strategy (RES) and Regional Spatial Strategy (RSS).

It identifies gaps and sets out added value so partnership working will bring greater impacts rather than listing the mitigation and adaptive actions that every organisation needs to be putting in place.

The plan's purpose is to demonstrate the principles for regional and local leaders, and for decision makers in all sectors of what we require to help the region adapt to climate change, and to reduce our contribution to its causes. It covers areas where discussions with regional and local stakeholders suggest that current work and programmes on their own will not deliver the outcomes required and joint action will be required.

Although it begins with a vision of how Yorkshire and The Humber might want to look in 2020, this plan is intended to inform and influence developments over the next five years. Its framework for action is divided into nine priority areas:

- **STRATEGY AND MONITORING**, because new regional and local plans such as the Integrated Regional Strategy, Sustainable Community Plans and Multi Area Agreements being developed. The latest information on climate change impacts and forecasts needs to be an integral part of them. The Plan puts a responsibility on the region to track progress and take remedial action where necessary.
- **THE BUILT ENVIRONMENT**, because almost half of our carbon emissions come from the operation of our housing stock. Although the Government aims to have all new build carbon neutral from 2019 at least 70% of the housing stock we will have in 2050 is already built to much lower carbon efficiency standards.
- **TRANSPORT**, because around 30% of greenhouse gas emissions come from transport. Research also tells us that making significant progress will be very difficult without a big reduction in car use or the development of low carbon alternatives.
- **HEALTH SERVICES**, because the health sector must deal with the growing impact of extreme weather on health and welfare, which will get more serious as the population ages. The health sector also generates significant carbon emissions.
- **BUSINESS**, because industry and business account for around a quarter of carbon emissions, and because there are major business opportunities in developing low carbon technologies, products and processes.

- **LAND MANAGEMENT**, because the way the land is managed needs to adapt to changing weather patterns and can help to increase the resilience of the region to the impact of climate change. Different land management practices can also reduce the impact of change on species and agriculture, as well as create opportunities for sustainable food and energy supply, and carbon sequestration.
- **CITIZEN ENGAGEMENT**, because adapting to change and reducing future emissions require all of us to be prepared to do things differently and to make choices which at first seem difficult and inconvenient.
- **ENERGY**, because the consumption of fossil fuel based energy sources is the biggest direct influence on the volume of greenhouse gas emissions.
- **WASTE**, because waste streams are important potential sources of materials and energy. Increasing recycling and reducing landfill will significantly reduce greenhouse gas emissions.
- **WATER**, because the pressures on water resources and water and sewerage infrastructure will increase. Water efficiency is key to reducing the impact of water treatment and pumping on carbon emissions and ensuring security of water supply over the longer term. The region already recognises its vulnerability to flooding and must improve resilience to increased flood risk as a result of climate change.

The resources required are indicated by

£ Likely to be delivered from existing allocated resources

££ Additional resources will be needed

£££ This needs a major shift in mainstream funding to deliver

PRIORITY AREA 1: STRATEGY AND MONITORING

New arrangements for regional governance under the Sub National Review are still being finalised. Currently the region will be tasked with developing a single Integrated Regional Strategy (IRS) that incorporates the current statutory strategies and action plans, including the Climate Change Plan. The IRS will undergo a substantial process of sustainability appraisal and strategic environmental assessment. The Climate Change Plan and Partnership members must seek to strongly influence the development of the IRS. Progress against targets will need to be closely monitored, and will need to take into account current obligations under Planning Policy Statement 1 on Sustainable Development and its supplement on climate change, and legal requirements emerging from the Climate Change Act of 2008.

Work at the sub regional and local level will need to be co-ordinated across sectors, as will be work on adaptation to climate change following completion of the regional adaptation study.

Action	Outcome	Lead & partners	Timescale	Resource Implications
1. Climate Change Partnership to fully engage in the consultation processes for the development of the IRS, including feeding in the results of the Regional Adaptation Study	Action on climate change is mainstreamed in the Integrated Regional Strategy, including adaptation risks identified	Climate Change Partnership, LGYH, Yorkshire Forward	2009-2010	£
2. Leadership and advocacy on the need to mitigate and adapt to climate change is displayed at regional and local levels that can promote and support activity to ensure the delivery of the IRS reflects our climate change ambitions and implements any regional obligations of the Climate Change Act.	The capacity exists in the region to ensure the implementation of the IRS meets our ambitions in climate change mitigation and adaptation and the establishment of a low carbon economy.	Climate Change Partnership, LGYH, Yorkshire Forward	2009-2014	£

Action	Outcome	Lead & partners	Timescale	Resource Implications
3. Carbon trajectory research	IRS developed in the context of a well evidenced regional carbon trajectory	Yorkshire Forward (YF), Yorkshire Futures, YHA	2009-10	£
4. Regional greenhouse gas inventory	Regular exercise to evidence regional progress against targets and to take corrective action where necessary	Yorkshire Forward	Every 3 years from 2009	£
5. Appropriate targets agreed in each Local Agreement and in relevant Multi-Area Agreements. Progress against targets tracked and regional and local support provided to share best practice and support delivery.	Emissions targets met, local authorities and partners infrastructure and services more resilient to climate change	Government Office for Yorkshire and The Humber (GOYH), Local authorities, Local Strategic Partnerships (LSP)s, YF, Environment Agency (EA), Regional Improvement and Excellence Partnership (RIEP)	2009 -11	££

PRIORITY AREA 2: BUILT ENVIRONMENT

Approximately 46 % of the UK's total carbon emissions are generated from the operation of our building stock. Encouraging adoption of building design, maintenance and refurbishment leads to better homes that use far less energy – providing more affordable warmth for inhabitants and helping to meet the region's climate change targets by reducing greenhouse gas emissions.

A key driver for improved building design will be through enhance energy efficiency of new building stock, with the aim of all new housing being zero carbon from 2016, public buildings from 2018 and commercial buildings from 2019.

The majority of the housing stock in Yorkshire and Humber will be around in 2050 has already been built, so retrofitting and refurbishment will play a key part in reducing carbon emissions. The better understanding of modeling tools such as REAP (Resource and Energy Analysis Program) to determine the impacts of housing policy measures will also aid decision makers greatly.

The Government also published The Yorkshire and Humber Plan – (The Regional Spatial Strategy) in May 2008. The Plan is now being updated to reflect the Government's plans for increased rates/levels of house building. The impacts of additional housing units and their associated impacts on climate change will need to be considered in great detail.

Action	Outcome	Lead & partners	Timescale	Resource Implications
1. To establish a clear regional pathway to ensure the region becomes a model for low carbon housing through a number of initiatives including:	A clear reduction in greenhouse gas emissions from the region's housing stock and demonstrable progress	Regeneration and Housing Thematic Board (under proposed new regional governance)	2009 - 2013	££

Action	Outcome	Lead & partners	Timescale	Resource Implications
1.1 support and promote flagship interventions in the region such as the Kirklees free home insulation scheme* and the Henley Rise* development in Rotherham	towards achieving the aspirations detailed in the Code for Sustainable Homes	arrangements) in conjunction with the Homes and Communities Agency, and the sub-regional Housing Partnerships. We will also need to integrate the region's centre for excellence in skills for regeneration and the built environment.		
1.2 boost regional skills and expertise in sustainable design and construction by integrating these with existing skills initiatives				
1.3 for existing homes research the relative carbon impacts of retrofitting/refurbishment and demolition to inform the choice between stock options				
1.4 consider how to provide support to existing and new communities in terms of renewable energy supply infrastructure and management at all levels				
1.5 adopt the 5 key recommendations contained in the UK Green Building Council report on Low Carbon Existing Homes and support the Government Low Carbon Homes Strategy				

Action	Outcome	Lead & partners	Timescale	Resource Implications
2. Supporting the recommendations arising from the UK Green Building council consultation on the proposed Code for Sustainable Buildings		Adaptation study team?	Proposals expected March 2009	
3. ensure the recommendations of the Regional Adaptation Study are incorporated in to the Regional Housing Strategy to increase the resilience of new and existing housing to climate change	Sector better informed on risk from changing climate and can prepare better and prioritise actions	Adaptation study team – supported by CC Co-ordinator will advise the regional housing board	Initial input October 2008- Full report February 2009 Delivery by 2012	£ to deliver study £££ to make changes required

- Yorkshire and Humber Assembly [Advice Note on Climate Change and Sustainable Design and Construction](#)
- “Making homes more energy efficient : How to reduce domestic carbon emissions while delivering a growth based housing strategy” Carbon footprint of housing in the Leeds City Region - Environment Agency and SEI report 2008
- UK Green Building Council report “Low Carbon Existing Homes” (October 2008)
- UK Green Building Council Consultation – Code for Sustainable Buildings Task Group (November/December 2008)

PRIORITY AREA 3: TRANSPORT

The transport sector is a major source of climate change emissions and it is vital that the region investigates and delivers ways of moving towards a low carbon transport system. Recent evaluated measures to reduce CO2 emissions from transport concentrating on what could be practically delivered through transport focused interventions by key organisations in the region. The actions below reflect the recommendations of this report.*

Action	Outcome	Lead & partners	Timescale	Resource Implications
1. Work towards a low carbon and sustainable transport system in Yorkshire and Humber by (amongst other measures):	Significant progress towards achieving the Accelerated scenario identified in the JMP/SEI report (2008)	Transport thematic board (under the proposed new regional governance arrangements) in conjunction with Integrated Transport Authorities and Local Authorities	2009 – 2013	££
1.1 Increasing the number of bus and cycle lanes using DfT funding				
1.2 Promoting changing attitudes to different modes of transport (as exemplified by the Sustainable Towns Demonstration project) to facilitate a shift to more sustainable modes of transport				
1.3 Encouraging greater use of travel plans with these being explicitly linked to planning, for example by utilising the Doncaster model (a good example of travel plans being linked to planning decisions)				
1.4 Exploring the potential for the introduction of road user charging in specific areas				
1.5 Identifying and promoting a suite of initiatives to decrease the number of journeys undertaken and increase average vehicle				

Action	Outcome	Lead & partners	Timescale	Resource Implications
occupancy				
1.6 Encouraging the implementation of more car club initiatives (such as those currently existing in Calderdale and Leeds) and the use of low carbon vehicles				
1.7 Promote the need for faster long distance train travel to facilitate substituting rail journeys for air travel internally in the UK and also to the near continent				
2 Ensure recommendations from the regional adaptation study, (particularly from the infrastructure & utilities sector) are incorporated into key transport policy documents	Sector better informed on risk from changing climate and can prepare better and prioritise actions	Regional Adaptation Study Team – supported by CC Co-ordinator	Initial input October 2008; Full report _ February 2009; delivery by 2012	£ to deliver study £££ to make changes required

- [Achieving Low Carbon Sustainable Transport Systems in Yorkshire and The Humber](#), Yorkshire and Humber Assembly, March 2008

PRIORITY AREA 4: HEALTH SERVICES

Recent national and regional major weather events greatly raised the importance in considering the health impacts of climate change. There is a key role the health and resilience sectors can play in preparing for these impacts whilst working with other key sectors.

The Health Protection Agency* has already outlined the key impacts and how agencies need to respond – but these actions are mostly longer term than the scope of this plan. The shorter term actions, including those needed to prepare for future challenges are given below.

The health sector is keen to play its part in reducing emissions and needs to follow actions outlined under Priority Area 2 (Built Environment) and Priority Area 5 (Business). Actions below how the sector can work together.

The actions to reduce the impacts of climate change can also have benefits to the health of the population, such as increased cycling and walking and improving green spaces and planting trees. This can be positively utilised in selling the benefits of action on climate change.

Action	Outcome	Lead & partners	Timescale	Resource Implications
Ensure that vulnerability of sections of the population are kept under review so that any future research results (such as from the SCORCHIO project)+ are shared in the region to help assess risk and help action planning	Results from research projects circulated promptly to key stakeholders. Response tailored to needs of the population.	GOYH/Regional CC Coordinator / Directors of Public Health	On-going reviewed annually	Limited for sharing knowledge ££ for extra studies
Regional & local resilience fora to keep risk under review with climate	Annual Community Risk review to take account of	GOYH / Regional Resilience Forum /	Review annually	Part of existing process

Action	Outcome	Lead & partners	Timescale	Resource Implications
scenarios emerging including direct impacts – such as disease threat including insect borne diseases and more indirect impacts – such as air pollution changes, including increased ozone levels.	UKCP09 scenarios and other developing regional and sub-regional data sources.	HPA		
Population to change behaviours to prepare for a changing climate and the possible health impacts including food safety and excess heat Longer term planning is need on life styles in a warmer climate, such as when activities are taking place and care for vulnerable parts of the population.	Behaviour change communications tool supporting Your Climate - to include health impacts and life style under a changing climate. Should show positive links to the well-being agenda.	GOYH/Regional CC Coordinator / DoH	January 2009	Website maintenance £
Support continuous development of carbon reduction projects across the health sector	Region wide NHS Carbon Reduction Steering Group established. Board level carbon leads identifies in all NHS organisations. New carbon reduction targets established. Five carbon reduction work streams underway including energy management, procurement, transport and waste. Partnership with Carbon Action Yorkshire established.	Yorkshire & Humber Strategic Health Authority, NHS Primary Care Trusts and NHS Service Provider Trusts/ CAY	'First cut' Carbon Reduction Plans in place by March 2010; overall minimum 10% reduction target by 2015, 26% by 2020 and	£ initial short term capital ££ - £££ service redesign

Action	Outcome	Lead & partners	Timescale	Resource Implications
			80% by 2050.	
Building design and local plan makers to take into account the need to prepare for scenarios with much higher temperatures. The retrofitting of current housing and other buildings need to take into account the necessary adaptation measures.	Lower deaths/illness from high or low temperature, less days lost at business or in education	Feed into Action Plan on built environment	See 'Built Environment above	See 'Built Environment above
Ensure recommendations from the regional adaptation study, (particularly from the health & welfare sector) are incorporated into key regional documents	Sector better informed on risk from changing climate and can prepare better and prioritise actions. This can include better provision of public drinking water under a warmer climate...	Regional adaptation study team – supported by CC Coordinator	Initial input October 2008 Full report _ February 2009 delivery by 2012	£ to deliver study £££ to make changes required

- [*Health Protection Agency's 'Health effects of Climate Change in the UK 2008'](#)
- [+Sustainable Cities: Options for Responding to Climate Change Impacts and Outcomes](#)

PRIORITY AREA 5: BUSINESS

Engagement with business is critical if we are to develop a lower carbon economy that can mitigate and adapt to climate change. The Stern Review of the economics of climate change highlighted the billions of pounds of opportunity that a low carbon economy can bring. All of the major national business organisations (e.g. CBI, Chambers of Commerce) have put climate change at the centre of their strategies and a number of businesses such as BT and Marks and Spencer are acknowledged as leaders in the field. Regional business support and engagement using Business Link for small and medium enterprises and delivered through both national and regional delivery partners will ensure that businesses of all sizes and sectors are prepared for a lower carbon economy.

Action	Outcome	Lead & partners	Timescale	Resource Implications
Deliver practical support for businesses to improve their resource efficiency	Businesses reduce costs and emissions	Strategic lead from YF, with delivery through Resource Efficiency Yorkshire (REY), Business Link, MAS and national delivery partners (e.g. Carbon Trust, Envirowise, and WRAP etc).	2009 onwards	£
Establish high level business leadership group of Executive Directors from major regional companies	Formation of influential group of regional business leaders to drive action on climate change	Carbon Action Yorkshire (CAY), Business in The Community (BiTC)	2008 onwards	£
Increased use of carbon foot printing by businesses	Businesses can measure then manage their carbon emissions	YF, BiTC ,REY, CAY, Business Link, Carbon Trust	2009 onwards	£
Increase awareness and take up of sustainable procurement	Businesses reduce their emissions through the procurement of low carbon	Strategic lead from YF with delivery through appropriate partners	2009 onwards	££

Action	Outcome	Lead & partners	Timescale	Resource Implications
	products and services			
Increase business awareness of the benefits of developing low carbon products and services	Business are ready to compete in the emerging global low carbon economy	CAY, YF	2009 onwards	£
Support businesses to deploy renewable energy and develop at an effective scale and products services for the renewable energy market	Increased take up of renewable energy by businesses. Regional businesses more able to compete in the renewable energy market.	FEY, YF	2009 onwards	£££
Ensure recommendations from the regional adaptation study, (particularly from the business & economic sector) are incorporated into key regional documents	Sector better informed on risk from changing climate and can prepare better and prioritise actions	Adaptation Study team – supported by CC Co-ordinator	Initial input October 2008 Full report _ February 2009 delivery by 2012	£ to deliver study £££ to make changes required

PRIORITY AREA 6: LAND MANAGEMENT

There is much activity in the land management sector in response to climate change issues. These activities are being carried out by a number of different organisations and groups. The wide range of activities and the number of organisations involved adds to the complexity of the issues for this sector.

We want to ensure the Region's land is managed in a way that optimises its use whilst maximising its ability to provide resilience to climate change and minimising emissions. We want to ensure changes in land management practices are balanced so as to not exacerbate the issues Land management needs to balance the requirements for food, biodiversity, flooding, forestry, wetlands, bio-fuels and development. A multifunctional approach will be promoted, where multiple benefits are sought from use and management. As the Region's population grows the pressures on the land will increase.

Current land management practices can be enhanced by a coordinated approach which maximises the resources of the Region with the aim of ensuring climate change adaptation and mitigation. This approach will need to consider current strategies, plans and projects in order to provide a coordination and consistency.

Action	Outcome	Lead & partners	Timescale	Resource Implications
Establish a Regional Land Management Forum to provide essential links between those key organisations involved in land management. Is a forum for the issues of 'non developed land' and land / soil quality. It will have strong links to development and spatial planning and the IRF. The composition and work will be detailed in the Terms of reference for the Forum.	A coordinated and coherent approach to key land management plans and activities, with the aim of optimising land management activities to address climate change.	Lead: Regional Climate Change Coordinator. Partners: Environment Agency, Natural England, Government Office, Yorkshire Forward. Yorkshire Water. Local Authorities Representative,	Forum Established by April 2009	£

Action	Outcome	Lead & partners	Timescale	Resource Implications
		Forestry Commission, MoD National Park Authorities, National Farmers Union, CLA, National Trust. Woodland Trust. University Representation		
Produce an overview report of the current land management in the Region – establishing a baseline, current practices, identifying gaps and providing recommendations for optimising land management to address climate change.	Report on the current picture of land management in the Region, with respect to climate change adaptation and mitigation.	Commissioned by Regional Climate Change Land Management Forum	April 2010	££
Develop a land management database/hub – ensuring information on land management plans, activities, projects, contacts, guidance and best practice can be easily accessed. Bringing together current mapping work and if required building on this to map and quantify the potential for carbon sinks and ensure that these sinks are safeguarded.	Enable practitioners to make links between their own and other organisations' activities and encourages better coordination.	Regional Climate Change Land Management Forum	Work to commence 2009 Completion date 2011	£££
Share best practice on land management practices within priority	Land management practices with regard to Climate Change	Environment Agency, Forestry Commission,	Ongoing As an when	£

Action	Outcome	Lead & partners	Timescale	Resource Implications
topics which will include softer flood management schemes, the creation of habitat networks/green infrastructure, water demand and the protection of carbon sinks such as in the uplands	improved in the region.	YF, Natural England,	project/work complete All complete by April 2012	
Produce Regional climate change land management guidance – Providing a coordinated approach with guidance that incorporates existing strategies, policies, national and other region's information, research and best practice to allow informed decisions on land management.& use	Barriers to climate change orientated land management addressed	Regional Climate Change Land Management Forum	October 2010	££
Identify barriers to land management change for climate change and take forward actions resolve those issues	Highlights what can be done to remove the barriers that prevent land management actions to address climate change and identify who should be responsible for those actions. Where possible take action to resolve the issues or influence policy to make action possible	Regional Climate Change Land Management Forum	April 2011	££
Produce a Regional land management climate change strategy	Provides the framework for addressing climate change and land management in the Region.	Regional Climate Change Land Management Forum	April 2010	££
Monitoring and reporting	The Forum will monitor and report	Regional Climate	April 2009	£

Action	Outcome	Lead & partners	Timescale	Resource Implications
	on progress against the action every six months. These will be made available on the "Your Climate "website.	Change Land Management Forum		
Ensure recommendations from the regional adaptation study, (particularly from the biodiversity sector) are incorporated into key regional documents	Sector better informed on risk from changing climate and can prepare better and prioritise actions that include the region's ability to have robust ecosystems and 'functional habitat networks' which allow organisms to respond to the threat of climate change	Adaptation Study team – supported by CC Co-ordinator	Initial input October 2008 Full report _ February 2009 delivery by 2012	£ to deliver study £££ to make changes required

PRIORITY AREA 7: CITIZEN ENGAGEMENT

A key factor in delivering both reduction in carbon emissions and developing resilience to a changing climate is changing the behaviours of all citizens, and through the goods and services they purchase the behaviours of businesses and public bodies.

This Plan is aimed at regional and local bodies but the Climate Change Partnership want to ensure that information is available on a simple web based system on how individuals in the region can take their own steps to address climate change.

Defra have identified the key behaviours* that they consider can and should be changed to deliver the benefits needed and the attitudes of different groups to these changes. They are set out below and the full paper is at:

<http://www.defra.gov.uk/evidence/social/behaviour/index.htm>

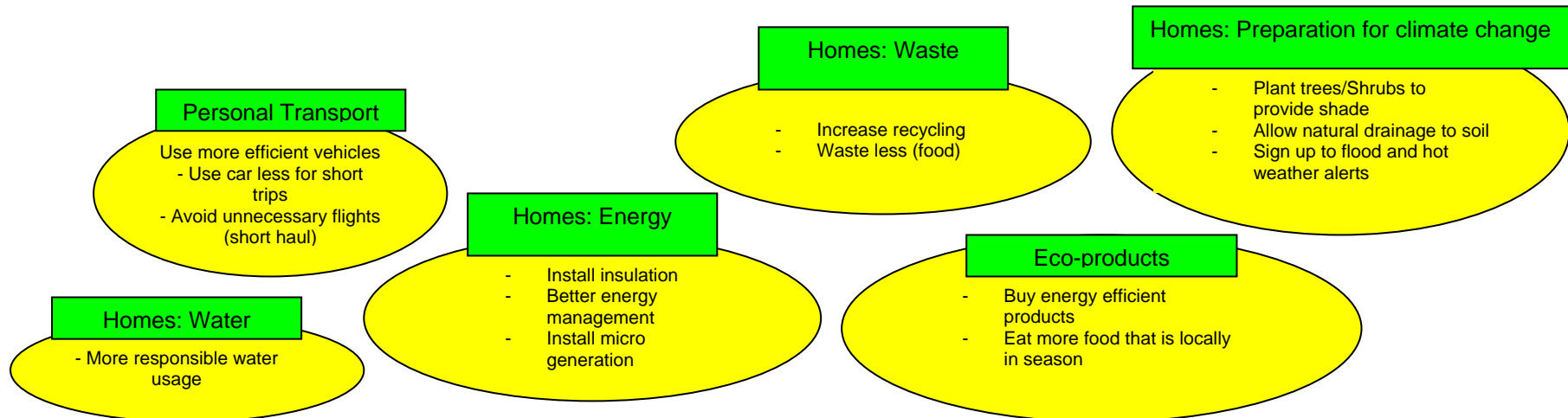
Action	Outcome	Lead & partners	Timescale	Resource Implications
<p>Establish a group to look at the behaviours to be addressed and the level to address them i.e. look at national, regional and/or local level and examine how programmes of activity can be taken forward in Yorkshire and Humber.</p> <ul style="list-style-type: none"> • Need to support current local and sub-regional work, build on examples such as the Care4air work in South Yorkshire. • Utilise businesses as influencers of 	<p>Co-ordinated campaigns help regional and local bodies to bring about changes in behaviour, which reduce emissions and improve resilience</p> <p>Production of a regionally/locally focused guide to behaviour change</p>	<p>GOYH</p> <p>Local authorities</p> <p>VCS sector - FoE /WWF/ YHREF/Faith sector</p> <p>Businesses representatives such as BiTC</p>	<p>Establish group by March 09</p>	<p>Partner time to discuss best approach</p> <p>May need extra resource to generate guide and produce website of information</p>

Action	Outcome	Lead & partners	Timescale	Resource Implications
customer choice and as employers of staff, use customers to influence services and products available				
Use schools as excellent places to encourage environmental good practice and so that young people sell the benefits to their families to encourage in the home Coordinate activity between the Climate Change Partnership and sustainable schools work	Future generations are aware of the need and informed on how to make pro-environmental behaviours	GOYH/Sustainable schools – LA/LEA/Education for sustainable development	Initial work by Summer 09 – on-going programme	£ to and build on maintain existing networks ££ to fund exemplar and mainstream projects
CCP website (Your Climate) to provide links to enable citizens to gain information on how to take positive action – to provide links to existing websites and information at the national, regional and local level	Yorkshire and Humber citizens better able to make pro-environmental choices and local communities able to respond	GOYH /YHREF Hub	March 2009 – to be regularly updated LAs	£ Time to establish website and regularly update
Take forward annual programmes of co-ordinated activity in Yorkshire and Humber to support the other areas for action in the CCP Develop work on adaptation behaviours including developing green space and planting appropriate tree species, not covering gardens with hard services, signing up to alerts	Pro-environmental behaviours promoted, which reduce carbon emissions in the region	Contact with other groups where cuts across specialist areas, e.g. Waste Regional Advisory Group on waste minimisation	Annual progress	££ Resource from /business Potential support from RIEP

Action	Outcome	Lead & partners	Timescale	Resource Implications

* DEFRA Headline Behaviour Goals

The behaviour changes to be considered for bringing about at the regional and local level to reduce emissions are shown below. Further adaptation behaviours need to be considered.



PRIORITY AREA 8: ENERGY

Although the region is a substantial energy producer, with large shares of both national oil refining capacity and power generation, the key to reducing future emissions lies in reducing demand through lower use and better management.

We want to see more efficient energy use in all sectors and reduced demand through alternative modes of transport and improved processes, while also stimulating cleaner power generation from both conventional and new, renewable sources.

Actions in other priority areas – especially the built environment, transport and business – will make a major contribution here. And importantly other strategies exist to promote these objectives and monitor progress towards them

To co-ordinate these activities, the region has an established Energy Infrastructure Strategy with active programmes led by Yorkshire Forward on renewable energy, carbon capture and storage, heat networks and energy services and fuel poverty.

The Climate Change Partnership will work with the Regional Energy Forum to ensure that progress against targets for emissions and renewable fuels is tracked and monitored.

Details can be found at:

- [Regional Energy Infrastructure Strategy](#)
- [Vision for Biomass](#)
- The Status of Biofuels in Yorkshire and Humber
- Vision for Coal
- [A Carbon Capture and Storage Network for Yorkshire and Humber](#)
- [Energy Services and Heat Networks](#)
- [Regional Affordable Warmth Action Plan](#)

PRIORITY AREA 9: WASTE

There are both regional and local strategies for the management of municipal waste that will continue to lift recycling rates and reduce landfill, including by recovery of energy.

Commercial and business waste management and minimisation is of great importance too and has the potential to increase the resource efficiency of business in the region (see Priority Area 5).

Minimising domestic waste through more effective engagement of the individual citizen is an important dimension in Priority Area 7, where strategies for combining local initiatives and regional work will be investigated.

Waste management is part of the current regional spatial strategy and will need to be included in the new integrated regional strategy. The Climate Change Partnership will work with local authorities and others to track and monitor progress against already established waste reduction targets.

PRIORITY AREA 10: WATER

Climate Change will put pressure on water resources and water and sewerage infrastructure. On average, summer rainfall will reduce, resulting in lower availability and increased demand, as well as affecting river water quality. Changed winter rainfall patterns and variability in extreme rainfall events will increase the risk of flooding from all sources.

Water is a key issue for adaptation, and the way we pump, treat, clean, heat and use water has profound implications for energy use. Water efficiency is therefore crucial to both reducing carbon emissions and adapting to reduced water availability. Work is being done to ensure water resources, water supply and water quality are safe-guarded for the future. The Region already recognises its vulnerability to flooding and the need to take cooperative and coordinated action to improve its resilience to future change.

There are a number of national and regional policies, which will further assist with the management of climate change impacts on the water sector. For example, the Climate Change Act will introduce a statutory requirement for water companies to report on the actions they are taking to respond to climate change.

Other priority areas, particularly the built environment, business and community engagement, will play a key role in contributing to water related adaptation. The Climate Change Partnership will monitor progress in addressing the impact of climate change on the water sector through a review of all these areas.

Relevant water related documents include:

- [Environment Agency Water Resources Strategy 2009, \(Regional Action Plans end of 2009\)](#)
- [Water Company water resource management plans \(final due July 2009\)](#)
- [Water Company Business Plans 2010-2015 \(final to be submitted April 2009\)](#)
- [Catchment Abstraction Management plans for Yorkshire and Humber Catchments](#)
- Drought Plans (due 2010)
- [Catchment Flood Management Plans for the Yorkshire and Humber Catchments](#)
- [Humber Flood Risk Management Strategy](#)

NEXT STEPS

This Action Plan, together with a number of companion documents, provides a framework for ensuring that the region puts climate change issues centre stage in future plans and strategies. The Climate Change Partnership will monitor progress against it, making periodic reports to regional leaders in all sectors, and publishing them where appropriate. The prospect of good progress is greatly enhanced by the commitment of key regional organisations as evidenced by the statement below:

CLIMATE CHANGE IN YORKSHIRE AND HUMBER *OUR COMMITMENT*

We recognise that the climate is changing now, and that more change is in the pipeline. It will take time and coordinated international action to stabilise and reverse these changes. But that does not mean we have to wait before taking action in the region and locally.

Climate change and action to combat it and to adapt to its effects present both challenges for our region and opportunities for our economy. In developing new regional strategies we will plan for these challenges and address how best to help businesses and communities make the most of the opportunities. We will use this plan to help guide our work.

As a region we want to lead the field in living with climate change and reducing its future impact. We believe the success of Yorkshire and Humber depends on it.