

Shaping Our Place 2026

Local Development Framework

Climate Change Background Paper

December 2009

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Climate Change Background Paper

1.0 Purpose of the paper

- 1.1 Herefordshire Council is currently preparing a series of planning documents known as the Local Development Framework (LDF), which will guide development in the county over the next 20 years and will eventually replace the existing Unitary Development Plan adopted in March 2007. The first policy document to be produced for the LDF is the Core Strategy, which is to set out the long-term Vision and Strategy for Herefordshire, up to the year 2026. This will be the principal document of the Herefordshire LDF, and within the context of national and regional policy, it will address a range of social, environmental and economic considerations in order to meet the challenges and opportunities facing the area.
- 1.2 Section 182 of The Planning Act 2008 states that:
- “Development plan documents must (taken as a whole) include policies designed to secure that the development and use of land in the local planning authority’s area contribute to the mitigation of, and adaptation to, climate change.”*
- 1.3 A key issue and objective within the emerging Core Strategy therefore, is to address the impacts of climate change. During the Developing Options consultation, many respondents felt that climate change had not been fully considered and referenced within the Developing Options Paper. This Climate Change Background Paper has been prepared to address this and assist in policy formulation.
- 1.4 The intention of this background paper is to guide the Core Strategy and policies within it and potentially the Hereford Area Plan and the Market Towns and Rural Areas Plan. It is not intended to be a climate change strategy for the council or Herefordshire but to highlight the issues which can be influenced by planning policy. The paper will also provide the evidence to support the policy directions that will form part of the Core Strategy Place Shaping Paper. The full wording of policies will form part of the pre-submission Core Strategy.
- 1.5 This paper sets out the background and policy framework for dealing with climate change; highlights the potential impacts of climate change; and draws together the issues and possible options for addressing these impacts within the Herefordshire Local Development Framework.
- 1.6 The structure of the paper is as follows:
- What is climate change and what are its effects?
 - Policy framework.
 - What are the key issues facing Herefordshire?
 - Planning for climate change
 - The Core Strategy for Herefordshire
 - Evidence base
 - Core Strategy consultations
 - Opportunities for a way forward – Place Shaping Paper
 - Preferred policy directions
 - Preferred Spatial Strategy

- Next steps for the Core Strategy
- Monitoring
- Moving Forward

2.0 Introduction

- 2.1 The consequences of climate change are long-term, global and in some cases already irreversible; making climate change one of the most pressing environmental, social and economic challenges that faces the planet today. A 2007 report by the Intergovernmental Panel on Climate Change (IPCC)[†] demonstrates that human activity is the primary driver for the observed changes in the climate; the main human influences being emissions of the key greenhouse gases – carbon dioxide, methane and nitrous oxide.
- 2.2 In the UK, climate change means increasing temperatures, wetter winters, drier summers, water shortages, more extreme weather, and higher sea levels leading to the flooding of coastal and river areas. Environmental degradation caused by floods, pollution or changes in temperature can damage our wildlife; while drought can have a devastating effect on agriculture and thus on the local economy. Across the globe, there may be even more severe problems facing regions where people are particularly vulnerable to changes in the weather; for example, flooding, droughts, food shortages and more disease have been predicted. Avoiding dangerous climate change will require an 80% cut in global greenhouse gas emissions from 1990 levels by 2050, which is why it is imperative to address the issue of climate change internationally, although many of the actions needed to tackle the problems created will need to be delivered locally.
- 2.3 Herefordshire Council can contribute to tackling the issue of climate change through planning and more specifically the LDF. The Core Strategy will incorporate policies relating to climate change through a number of mechanisms and topics such as: sustainable transport and reducing the need to travel; the location of new development and its accessibility; renewable energy, energy efficiency, waste reduction and flooding. Tackling all these issues collectively; developing ways to monitor positive change; and mitigating against, and adapting to, climate change will be paramount in responding to the challenge.

3.0 What is climate change and what are the effects?

*'Climate change is one of the biggest challenges we face today. The first step towards tackling the problem is to make sure everyone understands exactly what the challenge is and the difference they could make.'*¹

- 3.1 Our earth retains its temperature thanks to a layer of 'greenhouse' gases in the atmosphere, which trap energy from the sun. Without this greenhouse effect, the average global temperature would be more than 30°C colder than it is now.
- 3.2 As human activity involving the burning of fossil fuels increases, the concentrations of the greenhouse gases, particularly carbon dioxide (CO₂), build up in the atmosphere. This causes the world to heat up unnaturally, the weather

[†] Climate Change 2007: Synthesis Report. Summary for Policymakers

to become more unpredictable and increases the likelihood of more extreme weather events. This heating process is often referred to as 'global warming' and the overall effect is known as climate change. We all contribute in some way towards increasing the layer of gases, by producing these emissions through the energy we use *directly*.

- to transport ourselves
- to heat or cool our homes and workplaces
- to cook food
- for any other use, such as lighting, running appliances and entertainment;

and *indirectly* through the energy that goes into producing all the things we purchase, and the things we throw away:

- basics such as food, water, housing, clothing and healthcare
- items like DVDs, electrical appliances, cosmetics and holidays
- gases produced from the items we throw away - such as rotting food

3.3 In Herefordshire and the United Kingdom, climate change is likely to mean:

- hotter temperatures
- warmer, wetter winters
- hotter, drier summers
- increased summer-time thunder storms and intense rainfall events
- less snow
- changes to flora and fauna
- an increased severity and risk of flooding, to include flash flooding

3.4 This is likely to bring irreversible changes to our wildlife and environment, and could have a devastating effect on agriculture, business, our way of life and thus on the local economy - unless we act together now.

4.0 Policy Framework

4.1 One of the key challenges facing governments at all levels is to address the threats presented by climate change. The need to address and mitigate effects from climate change is a relatively new concept in planning terms. However, effective spatial planning is one of the many elements required in a successful response to climate change, and used positively it has a significant contribution to make.

4.2 National Policy

4.2.1 There are a number of policies and strategies at national, regional and local levels that address the issue of climate change. The following list identifies the current key national drivers for local action:

- Stern Review (2006): The Stern review which discusses the effect of climate change and global warming on the world economy, found that there is still time to avoid the worst impacts of climate change. It establishes an

argument for a precautionary approach, with planning identified as one of four priority areas for action.

- EU Directive on the Energy Performance of Buildings (2002/91/EC): On the 4th of January 2003, Directive 2002/91/EC of the European Parliament and Council came into force, which creates for the first time a common framework to promote the improvement of the energy performance of buildings across the EU, to ensure that building standards across Europe place a high emphasis on minimising energy consumption. Under the Directive all buildings, when constructed, sold or rented, will be required to have an Energy Performance Certificate (EPC). This will provide a summary of the energy performance of the property, in relation to the features of construction, heating and hot water. The European Climate Change Programme states that the Directive should be able to deliver reductions of 35 to 45 million tonnes of carbon dioxide per year within the EU by 2010.
- Climate Change Act (2008): Through the Department of Energy and Climate Change (DECC) - responsible for all aspects of UK energy policy, and for tackling global climate change - the UK passed legislation on the 26th of November 2008, which introduces the world's first long term legally binding framework to tackle the dangers of climate change. It includes provision for a legally binding emissions reduction of between 26% and 32% against a 1990 baseline by 2020, 5-year rolling targets and the establishment of a new independent body to oversee progress. Councils will now be able to legally impose obligations for energy use and efficiency in local plans with the approval of the Planning and Energy Act (2008), and this means that councils can set requirements in development plan documents for a quota of energy used in their area to be renewably sourced or low carbon.
- The UK Low Carbon Transition Plan (2009): This White Paper sets out the Government's transition plan for becoming a low carbon country: cutting emissions, maintaining secure energy supplies, maximising economic opportunities, and protecting the most vulnerable. In order to drive this transition, the Government has put in place the world's first ever legally binding target to cut emissions 80% by 2050 and a set of five-year 'carbon budgets' to 2022 to keep the UK on track. This White Paper for the first time sets out how these budgets will be met.
- The Energy White Paper: Meeting the Energy Challenge (2007): Published in May 2007, this paper tackles our need to reduce carbon dioxide emissions both within the UK and abroad; and the need to ensure we have secure, clean and affordable energy as we become increasingly dependent on imported fuel. The paper highlights the uncertainties and risk associated with energy demand, the changing profile of energy sources, the world and energy markets, and the impact of climate change. It also highlights the significant delays that can occur when obtaining planning permission for energy projects, which in turn can slow progress in addressing climate change. In light of this, the paper recognises the need for more flexible and responsive decision-making and planning. This can be addressed locally through the development of clear local policy, developed in accordance with PPS1 - Planning and Climate Change. The Energy Bill will implement the legislative aspects of the 2007 Energy White Paper and was introduced in the House of Commons on the 10th of January 2008.

- The Energy Measures Report (2007): Action by local authorities is critical to the achievements of the Government's climate change and energy objectives. The Government published an Energy Measures Report on the 18th of September 2007, which sets out the steps that local authorities can take to address climate change and fuel poverty, these include:
 - *Community leadership* - for example by supporting and challenging communities to act on reducing carbon dioxide emissions, by working with schools to ensure that children and young people are engaged with the issues, that energy use in school buildings is managed efficiently, and options for renewable energy and energy efficient refurbishment are explored. Also by working to ensure that all communities have good access to public transport links, and by promoting the greater use of existing public transport, alongside the provision of walking and cycling routes.
 - *Management of estate and operations* – for example by making best use of resources while at the same time implementing good practice energy management for each of the buildings and facilities owned or leased; and by exploring options for recycling, the potential for renewable energy, and for minimising CO₂ emissions derived through transport activities.
 - *Service delivery* – for example through the important role that planning policy plays in the shaping of places; through improvements to the energy efficiency of new housing, through traffic management, and through partnership working with a wide range of local and national stakeholders.

- The UK Renewable Energy Strategy (2009): This strategy explains how and why the Government will radically increase our use of renewable electricity, heat and transport. It sets out the path for us to meet our legally-binding target to ensure 15% of our energy comes from renewable sources by 2020, through strong coordinated efforts.

Through the strategy, the Government outlines that it will: put in place the mechanisms to provide financial support for renewable electricity and heat worth around £30 billion between now and 2020; drive the delivery of targets and clear away barriers by ensuring stronger supply chains and collaborative working; increase investment in emerging technologies and pursue new sources of supply; and create new opportunities for individuals, communities and business to harness renewable energy.

- Heat and Energy Saving Strategy – Consultation (2009): The Government launched the Heat and Energy Saving Strategy to seek views on its longer-term ambitions for how we use can transform the way we use heat and energy in our homes and businesses when it comes to heat and energy efficiency. Alongside the joint Communities and Local Government/ Department of Energy and Climate Change (DECC) consultation the 'Community Energy Saving Programme', and DECC's consultation on the Carbon Emissions Reduction Target uplift, the Heat and Energy Saving Strategy will help formulate a successful strategy for national and local government to help people individually, and as a part of their community, to heat and power their homes and businesses. The consultation closed on the 8th May 2009.

- Local Government White Paper - Strong and Prosperous Communities (2006): The White Paper highlights the important role of local authorities in coordinating reductions in CO₂ emissions in their communities, and calls for Local Area Agreements to set out climate change targets - supported by Sustainable Community Strategies. In 2008 a set of 198 national performance indicators were included, which for the first time included several on climate change:
 - NI 185 - CO₂ reduction from local authority operations
 - NI 186* - Per capita CO₂ reduction in the local authority area
 - NI 187 - Tackling fuel poverty
 - NI 188 - Adaptation to climate change
 - NI 189 - Flood and coastal erosion risk management
 - NI 194 - Level of air quality: reduction in NO_x and primary PM10 emissions in local authority estate and operations
 - NI 197 - Improved Biodiversity - active management of local sites

*NI 186 is included as a priority in Herefordshire's Local Area Agreement, where a target to reduce CO₂ emissions in the county by 13.1% per capita by 2010/11, has been set.

- Building a Greener Future (2006): A package of measures for planners and house builders was published in December 2006 by the Department of Communities and Local Government, which aimed to put addressing climate change at the heart of the planning system and the way in which new homes are built. It included the launch of the Code for Sustainable Homes and a new draft Planning Policy Statement on Planning and Climate Change.
- Code for Sustainable Homes (2006): The Government has set out its ambition that all new UK homes should be zero carbon by 2016, which includes the introduction of the Code for Sustainable Homes as a national standard for new homes. It is now mandatory for publicly funded development and will be enforced at Code level 3 through the Building Regulations from 2010. By 2016, all new homes should be at Code level 6 – zero carbon. ††

In mid 2007, the Government revisited the question of whether we needed a Code for Sustainable (non-domestic) Buildings, and in March 2008, set out the ambition that all new non-domestic buildings should be zero carbon from 2019, based largely on the findings of the UK Green Building Council (UK-GBC) task group report, 'Carbon Reductions in New Non-Domestic Buildings'.
- Supplement to Planning Policy Statement 1 (PPS) on Planning and Climate Change (2007): The new supplement, together with PPS3 and PPS22, establishes a robust framework for tackling climate change and delivering more sustainable, decentralised energy through planning.
- The Merton Rule (2003): The 'Merton Rule' is the groundbreaking planning policy, developed by Merton Council, which requires the use of renewable energy onsite to reduce annual carbon dioxide (CO₂) emissions in the built environment. Merton developed the rule and adopted it in 2003, its impact was so great that the Mayor of London and many councils have also implemented it; it has also become part of national planning guidance.

††Code level 3 refers to a minimum standard of 25% improvement in energy efficiency and CO₂ emissions, over the Target Emission Rate (TER) as determined by the 2006 Building Regulation Standards. Code level 6 refers to a 'zero carbon home' (incorporating heating, lighting, hot water and all other energy uses in the home).

Planning Policy Statement 22 (Renewable energy) was published by the Office of the Deputy Prime Minister (now Department for Communities and Local Government) in late 2004, which has provided further support to other local authorities with ambitions to implement a similar policy:

'Local planning authorities may include policies in local development documents that require a percentage of the energy to be used in new residential, commercial or industrial developments to come from on-site renewable energy developments.'

- National Waste Strategy (2007): This sets out the changes that are needed in order to deliver a more sustainable approach to the management of waste. It encompasses a number of challenging targets which include reducing CO₂ emissions, reducing household residual waste, increasing household recycling and composting, and reducing the amount of commercial and industrial waste going to landfill.
- Planning Policy Statement 10 – Planning for Sustainable Waste Management (2005): The overall objective of government policy on waste as set out in the strategy for sustainable development '*Securing the Future*', is to protect human health and the environment. PPS10 advocates that planning authorities should drive waste management up the 'waste hierarchy' by addressing waste as a resource and looking to disposal as the last option. The Government aims to break the link between economic growth and the environmental impact of waste.
- Future Water – The Government Water Strategy for England (2008): In 2008 the Government launched its water strategy for England, setting out its vision for the water sector by 2030. It is a vision of a sector that values and protects its water resources; where flood risk is addressed with markedly greater understanding and use of good surface water management; and where the water industry has cut its greenhouse gas emissions. The vision shows a sector that is resilient to climate change, with its likelihood of more frequent droughts as well as floods; and to population growth, with forward planning fully in tune with these adaptation challenges.
- Catchment Abstraction Management Strategy: The development of Catchment Abstraction Management Strategies (CAMS) by the Environment Agency was a result of the Government publication '*Taking Water Responsibly*'. The principal aim of CAMS is to provide a systematic framework for resource availability assessment and produce a licensing strategy which aids the sustainable management of water resources on a catchment scale. The Water Framework Directive (WFD) imposes duties on regulators and operators to have regard for efficient and sustainable water use, and CAMS thus contribute to wider WFD objectives.
- John Healey - Building momentum for homes of the future: On the 24th November 2009, Housing Minister John Healey confirmed that this country would be the first in the world to require zero carbon homes as a matter of law from 2016. An extra £3.2 million has been pledged to boost long-term research into how we design and build energy efficient homes; and a consultation has been launched to gather evidence on how the zero carbon standards could be applied to non-domestic buildings from 2019. Mr Healey

also announced that a new government consortium will use their combined green buying power of potentially £10bn to boost green skills and technology, while also driving down costs; and stated that the new standards signalled “*real momentum to change and radically re-think how we design our towns and homes for the future.*”

4.3 Regional Policy

4.3.1 Regional Policy that addresses issues of climate change include the following:

- The West Midlands Regional Spatial Strategy (WMRSS): The main purpose of the Regional Spatial Strategy is to provide a long-term land-use and transport-planning framework for the region; and to guide the preparation of local authority development plans and local transport plans. In particular, the strategy includes adopted policies that will work towards creating a more sustainable region. These include adopted Policies EN1 (Energy Generation) and EN2 (Energy Conservation); as well as Policies SR1 (Climate Change), SR3 (Sustainable Design and Construction), SR4 (Improving Air Quality for Sensitive Ecosystems) and W1 (Waste Strategy), which formed part of the Examination in Public in April 2009. Policies EN1 and EN2 although adopted, may be subject to change as part of the single Regional Strategy. The policies which were the subject of the Phase 2 Review were subject to an Examination in Public in 2009 and the Inspectors’ Panel Report was published in September 2009. The proposed changes are expected to be published by the Secretary of State and consulted upon in early 2010 with a view to adoption later in 2010. The policies include those with specific reference to climate change issues.
- West Midlands Regional Climate Change Action Plan (2007): In October 2006, the West Midlands Regional Assembly became the first Regional Assembly to sign up to the Nottingham Declaration on Climate Change. This commits the Assembly to produce with partners a plan of action to progressively address the causes and impacts of climate change. The Regional Assembly has led the development of a Climate Change Action Plan to provide a first step in a programme of work to ensure that regional working addresses the challenges posed by climate change. Delivery of the Action Plan will be led by a Climate Change Panel of partners including Advantage West Midlands, the West Midlands Regional Assembly, West Midlands Local Government Association, Government Office for the West Midlands, the Environment Agency and Natural England, accountable to the Regional Minister for the West Midlands.
- Regional Energy Strategy (2004): The Regional Assembly, Advantage West Midlands and Government Office for the West Midlands, along with other partners including local authorities and energy experts, have produced the West Midlands Regional Energy Strategy. The strategy has four headline objectives: *Improving Energy Efficiency; Increasing the use of Renewable Energy Resources; Maximising Uptake of Business Opportunities* - in terms of energy efficiency, production distribution and use; and *Ensuring Focused and Integrated Delivery and Implementation* by directly influencing patterns of energy use, for example through planning control, construction of new buildings, vehicle fleets and energy purchasing.

- Regional Sustainable Development Framework (RSDF): The Framework sets out sustainable development objectives for the region and a process for incorporating these objectives into policies, strategies and plans in the West Midlands. The Framework is intended to assist in ensuring all policies, strategies and plans play their part in contributing to a sustainable future for the region, and that different policy areas are developed in a way that is complementary and mutually supportive. This has been considered in the development of the Sustainability Appraisal of Herefordshire's LDF – General Scoping Report.
- Connecting to Success – West Midlands Economic Strategy (2007): 'Connecting to Success' sets out the region's approach to closing the £10 billion output gap, by seeking to raise output per head in the West Midlands to at least the average for the UK as a whole. It was launched on 10th December 2007 and has been recognised by government as the UK's first low-carbon economic strategy. It provides the vision and regional leadership for the West Midlands to become a more sustainable region through correctly valuing natural, historic and cultural assets, seeking to minimise the use of resources and preparing for a low-carbon future.
- Evidence of Success – Developing the UK's first low-carbon economic strategy (2008): The West Midlands Economic Strategy was underpinned by a low-carbon evidence base that supported the development of robust and appropriate actions to deliver measurable progress towards the regional low-carbon economy. 'Evidence of Success' provides the blueprint and methodology for developing these actions and stands as an exemplar for integrating climate change policy into existing and future strategies.
- Regional Built Environment Standards: Advantage West Midlands' Built Environment Standards and the Regional Sustainability Checklist provides clear guidance for developers, local authorities and other interested parties to deliver sustainable development and adapt to the impacts of climate change; where for example it can be used to ensure that new developments are appropriately adapted to the impacts of present and future climate change and to minimise their own impact on greenhouse gases, flooding, heat gain, water resources and water quality. The checklist is intended for use at the design and planning application stages of a new development, and focuses on the sustainability issues pertinent to spatial planning.
- West Midlands Regional Flood Risk Appraisal (2007): This appraisal has been prepared to enable the West Midlands Regional Assembly to take flood risk into account when preparing their Regional Spatial Strategy. It takes into account requirements national guidance provided in Planning Policy Statement 25 (PPS25).
The appraisal includes profiling of principal river systems and their tributaries; consideration of both inherent and actual (or mitigated) flood risk in each local planning authority area, and production of Flood Risk Profiles in each area. A possible method is also identified for taking relative levels of inherent flood risk into account when allocating future housing numbers.

4.4 Local Policy

4.4.1 Local strategies and action plans that address the issues of sustainability and climate change within Herefordshire are as follows:

- Herefordshire's Sustainable Community Strategy (2006): The Herefordshire Sustainable Community Strategy is the top-level plan for the county, in which the Herefordshire Partnership (a partnership of public, private, community and voluntary organisations established in 2000), sets out its vision for Herefordshire. The principles and objectives from the national and regional sustainability strategies played an important role in shaping the Community Strategy for Herefordshire. Launched in June 2006, the strategy presents a vision of a sustainable future for the county, and also acts as Herefordshire's Local Agenda 21 Plan - which regards sustainable development as a community issue, involving all sections of society, including community groups, businesses and ethnic minorities. The Herefordshire Sustainable Community Strategy is currently being refreshed and the revised document is expected to be published early in 2010.
- Herefordshire's Local Area Agreement (2006-2009): Prepared by the Herefordshire Partnership, the Herefordshire Local Area Agreement is a three-year agreement that has been made between central government and the local area. It outlines what the challenges are, and what measures are required in order to make life better for those who live and work in Herefordshire. It has adopted 35 of the 198 indicators that were introduced by the Government in 2008, as priorities for the next 3 years. This includes NI 186 - reduction in carbon emissions in the county, for which a challenging target has been set of 13.1% per capita reduction for CO₂ emissions by 2010/11; and NI191 – to minimise domestic waste and improve recycling, for which a target was set to reduce the amount of waste going to landfill, by 6.5% by 2009. Information on the progress of this target will be available shortly. The indicators and targets which help measure how well the county is performing against the priorities were refreshed in March 2009.
- Herefordshire's Climate Change Strategy & Climate Change Action Plan (2006): Produced by the Herefordshire Partnership, its aim is to reduce Herefordshire's greenhouse gas emissions in line with the UK's Energy White Paper: a 60% reduction in CO₂ emissions from 1990 levels by 2050; which it hopes to achieve through raising awareness and understanding – particularly focusing on future generations (through schools) and those in positions of power (local policy-makers within the Herefordshire Partnership).
The Strategy is a two-year plan, which will be updated regularly and has the flexibility to keep up with new evidence and changes that are likely to occur. The Action Plan also encouraged each core partner of the Herefordshire Partnership to develop a Carbon Management Action Plan for their organisation by 2007/08, in order to reduce their carbon footprint.

- Herefordshire Council's Sustainability Strategy (2006 – 2009): Herefordshire Council has agreed a strategy that will build upon and contribute to the Community Strategy for Herefordshire. Its approach is based on UK Government policy and the Regional Sustainable Development Framework (RSDF) for the West Midlands; and its main purpose is to guide, integrate and coordinate the diverse work of the council, so that the principles of sustainability apply across all of its strategies, plans, policies and actions.
- Joint Herefordshire and Worcestershire Municipal Waste Management Strategy (2004-2034): Adopted in 2004, the joint strategy '*Managing Waste for a Brighter Future*' sets out the proposals for addressing the key issues surrounding waste management in Herefordshire and Worcestershire. Based on the national waste hierarchy, a practical vision has been agreed for the implementation of the strategy - namely to: reduce waste and restrict growth; re-use waste; retain waste; recovery of value from residual waste; and final disposal. The strategy has recently been reviewed (November 2009) and is currently in the process of being adopted.
- Herefordshire Council's Carbon Management Action Plan (CMAP) (2005/6-2011/12): This defines the steps that Herefordshire Council will take to secure its contribution to the carbon dioxide reduction targets as part of the Herefordshire Partnership Climate Change Strategy. The CMAP has been developed with the assistance of the Carbon Trust and consultants from Energy for Sustainable Development (EST), and covers the period from April 2005 to March 2012. It sets a target for Herefordshire Council to achieve a 12.5% reduction in CO₂ equivalent emissions from 2002 levels by 2012, from the activities directly controlled by the council or those upon which it has an influence; and to deliver a commitment to securing a 20% reduction by 2020. The inventory of council emissions (Herefordshire Council Carbon emissions April 2004 - March 2009) has shown that over a 5 year period reductions in emissions of just over 10% have been achieved, which is well above the 1.25% a year target set in 2005. This is largely due to the commissioning this year, of the new flare at Stretton Sugwas landfill site, which converts the methane extracted from the site (a greenhouse gas 21 times more powerful than CO₂) to CO₂.

4.4.2 Herefordshire Council signed the Nottingham Declaration in 2005, which recognises the central role of local authorities in leading societal responses to the challenge of climate change. By signing the Declaration councils pledge to systematically address the causes of climate change and to prepare their community for its impacts. Herefordshire Council has set a target of reducing carbon emissions from its own services by 20% by 2020. The 'Emissions Inventory' and the 'Carbon Management Action Plan' provide further information on this work and is available on the council's website - www.herefordshire.gov.uk/environment/29130.asp

4.4.3 Herefordshire Council also signed Herefordshire's Climate Change Strategy '2020 Vision' in June 2006, which aims:

'To place Herefordshire at the forefront of climate change understanding and initiatives within the United Kingdom and to ensure we make our contribution towards tackling this global problem in a coherent, appropriate and beneficial way for Herefordshire'.

Furthermore, the council has produced a 'Local Climate Impacts Profile' (LCLIP) for Herefordshire, through a National initiative designed by the UK Climate Impacts Programme (UKCIP). This is a resource that local authorities can compile so that they better understand their exposure to weather and climate; and is based on evidence of a locality's vulnerability to severe weather events and in particular how these events affected a local community as well as the authority's assets and capacity to deliver services.²

5.0 What are the key issues facing Herefordshire?

5.1 The purpose of this section is to investigate how Herefordshire is positioned within the national context, with respect to the following issues:

- Agriculture
- Transport and Air quality
- Employment
- Flooding
- Biodiversity
- Water availability and quality
- Waste
- Energy insecurity and the need for renewable resources
- Energy efficiency and fuel poverty
- Design and construction

5.2 Although these issues have been addressed individually, it is acknowledged that many of them are linked and interdependent on each other.

5.3 Herefordshire is a predominantly rural county of 2180 square km situated in the southwest corner of the West Midlands Region bordering Wales. The City of Hereford is the centre in the county for employment, administration, health, education facilities and shopping. The other principal locations are the five market towns of Leominster, Ross-on-Wye, Ledbury, Bromyard and Kington (figure 1).

5.4 In 2005, carbon dioxide emissions from Herefordshire were estimated as 9,700kg per person, compared with 7,400kg per person across the region as a whole. When taking population size into account, emissions from Herefordshire are the highest in the region; and at 36%, transport emissions account for a much higher proportion of the total than the regional average of 31%.³

5.5 Herefordshire has a higher proportion of CO₂ emissions arising from road transport and land use change than the West Midlands and UK as a whole, which reflects its rurality and large agricultural sector. Domestic emissions accounted for 24%, and those from industrial and commercial sources 37%. The remaining 3% of emissions is related to land use change.⁴

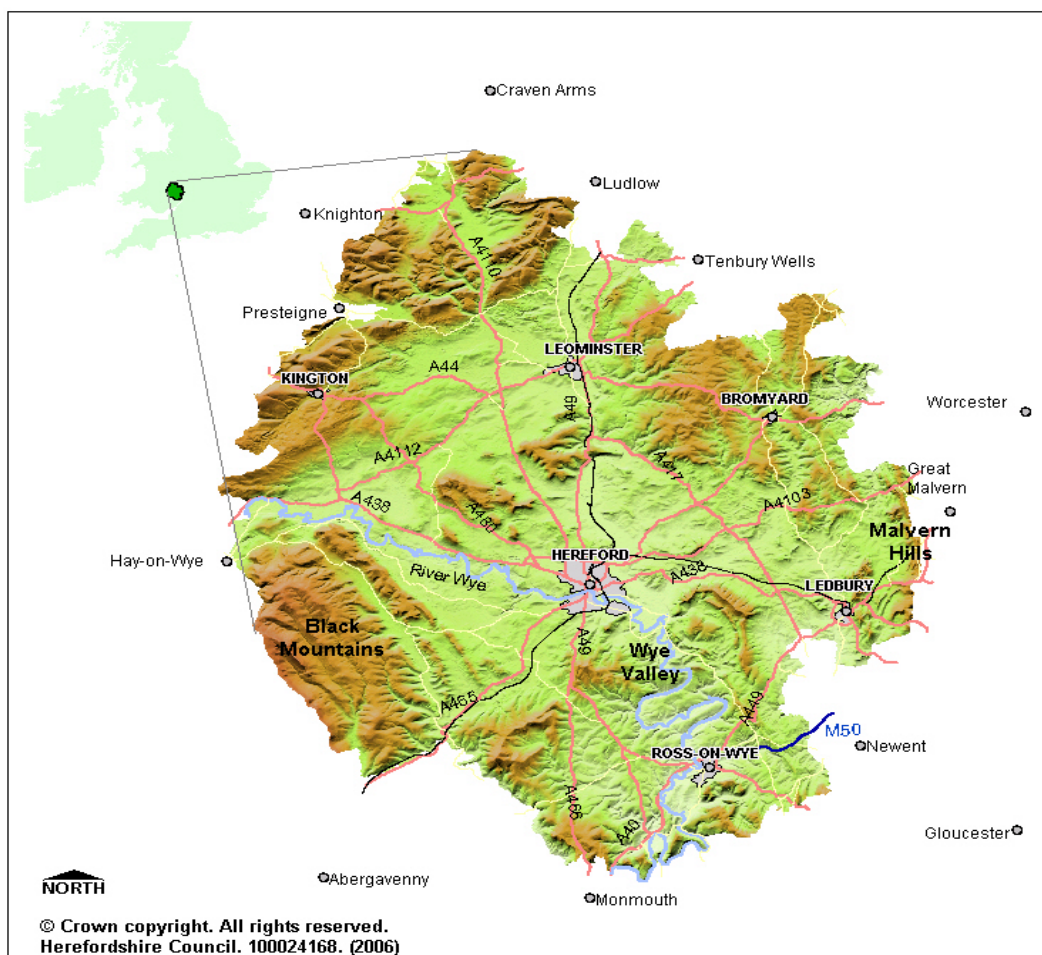


Figure 1 Hereford and the market towns

5.6 Agriculture

- 5.6.1 Herefordshire is a rural county in which farming is a major activity - accounting for 6.7% of the county's employment compared with 1.5% nationally. Addressing agricultural practice is therefore very important to the development of a climate change policy for Herefordshire.
- 5.6.2 In 2005 there were a total of 4,825 working farm holdings in Herefordshire compared to 4,067 in 2001, with the single largest group of farms grazing livestock (22%). Cattle-rearing generates more global warming greenhouse gases, as measured in CO₂ equivalent, than transportation; and according to a new United Nations report released in 2006 – *'Livestock's Long Shadow – Environmental Issues and Options,'* improvements to production methods are urgently needed. This would include improvements to animal diets to reduce enteric fermentation and consequent methane emissions; as well as tackling land degradation through overgrazing, compaction and erosion; and water pollution from animal wastes, antibiotics and hormones, fertilizers and the pesticides used to spray feed crops.
- 5.6.3 We are already experiencing changes to the climate. This may lead to a lengthening of the growing season, while hot summers with short periods of extreme temperatures may increase the risk of damage to crops. Changes in temperature could also affect the timing of maturity, crop uniformity and the

quality of field vegetables, and in particular could impact upon the current varieties of apple grown in the UK, most of which have little trait for climatic tolerance.⁵ Furthermore, approximately 25% of England's fruit is produced in the region - spread mostly across Herefordshire and Worcestershire. This comprises of approximately 3960 hectares of top fruit such as apples and pears, and 1151 hectares of small fruits such as strawberries, raspberries and wine grapes to name a few.⁶ Changes in the climate could therefore have a considerable impact on important horticultural areas, such around Leominster, Ledbury and Ross on Wye.

- 5.6.4 For the region's livestock, increased temperatures bring greater risk of heat stress and disease, especially for those in intensive housing. Decreased spring and summer rainfall with drier, hotter summers will increase scarcity of water whilst hotter conditions will simultaneously increase water demand. This would mean less water available for the region's irrigated vegetable and horticultural produce, as well as for livestock.

5.7 Transport and air quality

- 5.7.1 Transportation and communication infrastructure is a key issue for the county, as it impacts on employment, health, access to services, quality of life and the county's economic prosperity.
- 5.7.2 The most recent estimate of the population of Herefordshire is 178,400. This is the Office for National Statistics' (ONS) 2007 mid-year estimate, published in August 2008. The population of Hereford City is 55,000, with the market towns ranging from 3,200 residents in Kington to 11,100 in Leominster⁷ – many of which may commute in and out of the city on a daily basis for their employment, education and business needs. Given that the central business district and main retail centres lie to the north of the city, and with only one main river crossing to carry traffic in from the south, a significant proportion of traffic has to use the A49 to cross the River Wye, which has led to elevated levels of traffic pollution in the city centre.
- 5.7.3 The rural nature of Herefordshire means that its population is more dependent on road transport compared to the region as a whole; with an estimated 10,380 vehicle km travelled per head in 2006 on all roads - representing a 4% increase compared with 2002. In particular, problems with congestion exist along the A49 trunk road, which passes through the centre of Hereford. It is important therefore that we reduce the need to travel in the first instance - particularly by private car, by locating development in sustainable locations where access to employment, shopping, education, health, recreation, leisure and other services are available by public transport, walking and cycling.
- 5.7.4 Accessibility to public transport is particularly poor in the northern and western parts of the county, where many residents, especially the elderly are dependent on community transport schemes. In that respect, developing and sustaining rural transport networks, and providing attractive alternatives to car travel for short journeys, particularly by promoting walking, cycling and bus use, is important for Herefordshire. This in turn will help towards improving accessibility to jobs and services, reducing dependency on car travel, as well as helping towards traffic reduction, improvements in air quality, and reductions of emissions that contribute to climate change.

- 5.7.5 Councils have a duty under the Environment Act 1995 to review and assess local air quality within their areas, against a set of health-based air quality objectives for a number of specific air pollutants. Since the publication of the Government's National Air Quality Strategy (NAQS) in 1997, Herefordshire Council have fulfilled their obligations to identify any areas where there is a likelihood of air quality failing to meet the objectives as stated in the NAQS. Where exceedences have been identified, Air Quality Management Areas (AQMAs) have been declared and Air Quality Action Plans (AQAPs) prepared, in order to reduce concentrations of air pollutants in pursuit of the objective levels.⁸
- 5.7.6 In accordance with national policies, the Government expects local authorities to adopt as far as possible, a strategic approach to integrate their land use planning processes with plans and strategies for the control, mitigation and removal of pollution, in order to ensure the sustainable and beneficial use of land. As part of this, polluting activities that are necessary for society and the economy should be subject to planning conditions, which minimise and contain any adverse effects to within acceptable limits. When preparing Local Development Documents and deciding on individual planning applications, matters for consideration should include the existing, and likely future air quality of an area, including any AQMAs. The findings of air quality reviews and assessments are also important, when considering local air pollution problems and the siting of certain types of development.
- 5.7.7 In 2001 the A49 corridor was declared a 'Hereford City Air Quality Management Area', as a result of levels of the pollutant nitrogen dioxide exceeding the 40 $\mu\text{g}/\text{m}^3$ set by the Government's National Air Quality Strategy.⁹ Levels of nitrogen dioxide are also being monitored at several locations in Leominster, resulting in an AQMA being declared in 2006 along the A44 - Bargates. An AQMA is also soon to be declared along the A40 corridor between Wilton and Pencraig, near Ross-on-Wye.

5.8 Employment

- 5.8.1 Herefordshire is a predominately rural county which has a relatively low population of approximately 178,400, and as a result it is one of the most sparsely populated of the region, having the 9th lowest population density in England and Wales. Furthermore, Herefordshire has a higher proportion of its population living in very sparse areas (with 0.5 or fewer residents per hectare) than any other English county-level authority; which means that many of its residents have to commute for employment purposes.
- 5.8.2 There is now a growing consensus among policy makers in the UK that we need to make major changes in the way we live and work, to meet the challenges of climate change; and one of the most significant trends today, has been for the home to become an important focus for work. Improvements in the cost and accessibility of advanced telecommunications, changes in work/life balance, removal of the need to commute and the opportunity to combine work space and the home under one roof are among some of the reasons driving the growth in the live/work sector in both rural and urban areas. The footloose nature of many home based businesses enables rural areas to become attractive locations. Furthermore, a growth in the live/work employment sector provides a significant opportunity for the diversification and growth of rural economies, previously dependant on agricultural and traditional economies.

- 5.8.3 One of the key sustainability benefits of the live/work concept is its reduced use of natural resources - where instead of the construction of a separate home and workplace, only one property is constructed; meaning that there is only one property to power and heat, thus leading to a significant reduction in the use of electricity, gas and water.
- 5.8.4 In Herefordshire, the Model Farm site in Ross-on-Wye will be developed as an innovative, environmentally friendly and sustainable employment area to act as a catalyst helping to revitalise the local economy. Within the site 2 hectares has been designated for a live/work development which should contribute to the creation of a critical mass for home-based businesses. The development will also incorporate a Rural Enterprise Hub to act as an incubator for new businesses and provide a centre for the delivery of business support services to local businesses.

5.9 Flooding

- 5.9.1 Climate change is an important factor in increasing flood risk, particularly through the impacts of rising sea levels and more stormy weather, the way we use land and increased urban development. Flooding can arise from a variety of sources, not just the floodplains of rivers; and the widespread flooding of July 2007 confirmed that as much as 40% of flooding within Herefordshire had arisen from sources other than river flooding. Flash flooding occurs when the ground becomes saturated with water that has fallen too quickly to be absorbed. The run-off rapidly flows downhill and collects in low-lying areas. This is of particular concern in towns and cities where, because of the built environment the ground has little capacity to absorb rainfall, leading to flood drainage and sewerage systems being overwhelmed and causing flooding in vulnerable areas.
- 5.9.2 In Herefordshire increased winter rainfall, combined with more frequent occurrence of extreme weather events will present a high flood risk, as many of the region's rivers have extensive flood plains, which regularly flood in most winters. From the 217,000 hectares that make up the county of Herefordshire, approximately 22,500 hectares or 10% is situated within a flood zone 2, which is land assessed as having a medium probability of flooding; and approximately 18,500 hectares or 9% is situated within a flood zone 3 (land assessed as having a high probability of flooding)^Δ; this figure is likely to increase to 10% with the effects of climate change.
- 5.9.3 This situation was reflected in 2007 when Herefordshire's communities and the rural economy was severely affected by flooding, which caused an estimated £3.6 million worth of damage over and above the costs to individuals and businesses, and in turn put significant pressure on local service providers. In light of this, we should be looking at focussing development in flood zone 1 areas, based on an assessment of all sources of flooding, which are those assessed as having a low probability of flooding, with regard to the Herefordshire Strategic Flood Risk Assessment (SFRA).

^Δ A low probability of flooding refers to less than 1 in 1000 annual likelihood of flooding (<0.1% probability). A medium probability of flooding refers to between a 1 in 100 and 1 in 1000 annual likelihood of a river flooding (a 1% - 0.1% probability). A high probability of flooding refers to a 1 in 100 or greater annual likelihood of a river flooding (>1%

5.10 Biodiversity

- 5.10.1 Herefordshire is renowned for its traditional farmed countryside, forestry and rural character. However since the 1950s Herefordshire's grasslands and pastoral landscapes have rapidly declined, which coincides with a move towards increasingly intensive arable farming. Despite this however, the county still retains a significant proportion of the West Midland Region's biodiversity interest.
- 5.10.2 Many of Herefordshire's most important sites and habitats are designated for their interest and comprise of: internationally designated Special Areas of Conservation (4 sites); nationally designated Sites of Special Scientific Interest (76 sites) and National Nature Reserves (3 sites). There are also two types of local site designation: *statutory* Local Nature Reserves (7 sites) and *non-statutory* Special Wildlife Sites (683 sites) in the rural areas of the county, and Sites of Importance to Nature Conservation (56 sites), which can be found in Hereford City (figure 2). In addition to this, Herefordshire is home to 21 UK and county priority habitats and 156 priority species, the majority of which are dependant on focused efforts in conservation.¹⁰
- 5.10.3 According to the Millennium Ecosystem Assessment - a comprehensive assessment of the links between ecosystem health and human well-being; climate change is likely to become the dominant direct driver of biodiversity loss by the end of the century.
- 5.10.4 As climate changes occur, species can often perish in their original habitats, resulting in the colonisation of new areas. This ultimately causes the disruption of natural communities and the extinction of population and species. Projected changes in climate, combined with changes in land use and the spread of exotic or alien species, are therefore likely to limit the capability of some species to migrate and therefore will accelerate species loss.

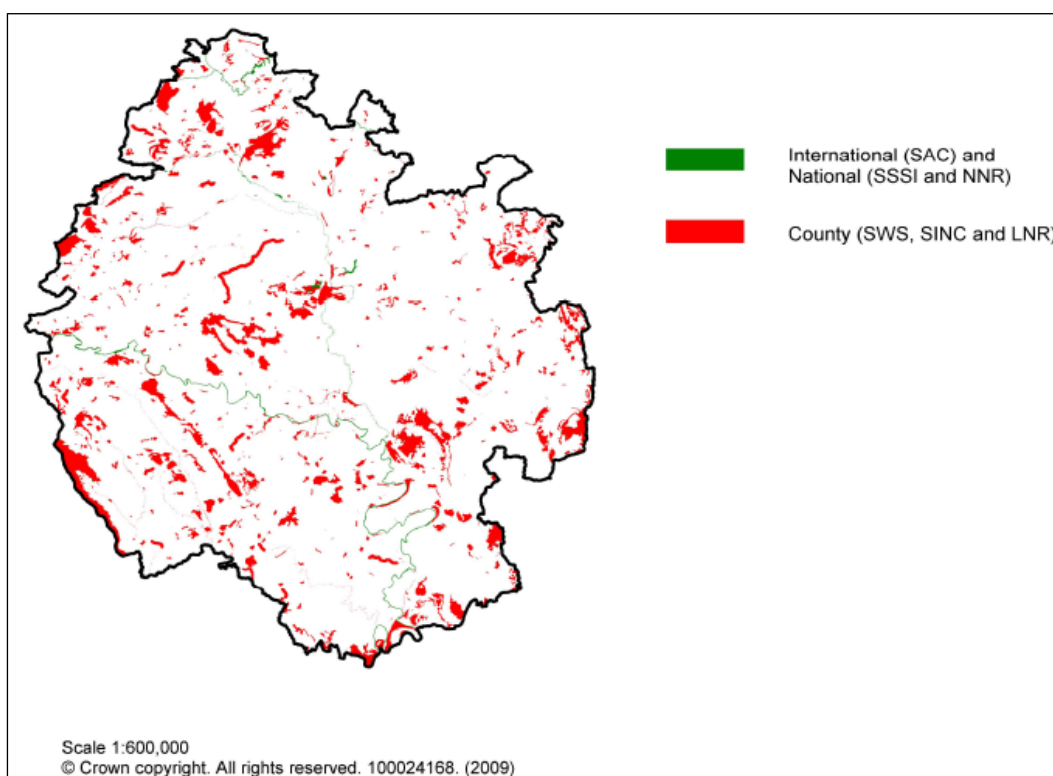


Figure 2. Sites designated in Herefordshire for their biodiversity interest

5.11 Water availability and quality

- 5.11.1 Climate change means that we are likely to experience an increase in the intensity, severity and frequency of extreme weather events such as droughts, storms and floods. Extreme droughts cause adverse effects on water environments, creating not only a problem of water shortage but a larger environmental issue as well, where the discharge of treated wastewater effluent into rivers with low flows means that less dilution takes place than would under normal conditions.
- 5.11.2 A wide range of contaminants can reach the river either via groundwater or through drainage ditches. In an agricultural county such as Herefordshire, this could include residues of artificial fertilizer, insecticides, herbicides, pesticides and farmyard waste - all of which are potentially very harmful and could have significant implications for the county's biodiversity, habitats and species. This is a significant concern when considering that Herefordshire supports the greatest length of river designated for its conservation value of any county in England - the River Wye, which is considered the best salmon river in England; important for both conservation and tourism, and subsequently designated as a Site of Special Scientific Interest (SSSI) and European Special Area of Conservation (SAC) (a strictly protected site designated under the EC Habitats Directive). Part of the River Lugg catchment also falls under the River Wye SSSI and SAC.
- 5.11.3 In addition, water quality and availability are closely linked, meaning that lower quality would result in less water available for abstraction - which could have implications for new development; in particular the provision of new housing.¹¹ Mineral workings can also have a significant impact on water resources, as can agricultural developments. Agricultural developments however are often outside of planning control.
- 5.11.4 Herefordshire is considered to be currently under moderate water stress and facing decreases in river flow by as much as 80% during summer months by the year 2050, under the UKCIP High Emissions scenario predictions. With this in mind, the use of reservoirs could be considered to allow for the abstraction and storage of water during the winter, which can then be used for irrigation purposes during the summer, when water stress is at its highest.
- 5.11.5 It should be noted that the LDF will be subject to a Habitats Regulations Assessment to consider the direct impacts on habitats and species in the River Wye SAC.

5.12 Waste

- 5.12.1 The proportion of waste recycled in Herefordshire has increased over the past few years. Nevertheless each year the average Herefordshire household throws away approximately 521 kg of rubbish, which has profound implications for landfill sites. The county is still not performing as well as other English authorities being placed within the bottom quartile, and the local recycling rate currently stands at 19%. However, this figure is an improvement on the 15% achieved in 2004-05, and there are plans to achieve a recycling rate of 50% by 2010. Minimising the amount of waste sent to landfill sites will be a continuing pressure during the period up to 2026, as will the need to become increasingly self sufficient in managing the waste produced in the county. As a result of a

public consultation held in 2008, a new extended recycling scheme was launched in November 2009, to incorporate every household in the county. Early signs (December 2009) indicate that this initiative has increased significantly the amount of domestic waste being recycled and correspondingly reduced the amount going to landfill.

- 5.12.2 The Government has revised its National Waste Strategy, and now places greater emphasis on the contribution made by waste collection and treatment to climate change. It highlights the need to further increase recycling and to recover value from waste in other ways, for example through energy recovery. The national strategy sets challenging targets to which all local councils must respond. Councils have been given limits to the tonnage of some waste that can be land-filled. These landfill allowances decrease each year and there is an urgent need to provide Herefordshire and Worcestershire with a treatment process to avoid the steep financial penalties attached to excess land-filling of waste. A further significant development of the strategy includes proposals announced in November 2009 to develop an 'Energy from Waste' plant to serve the two counties; thereby reducing to an absolute minimum the tonnage of Municipal Solid Waste going to landfill. A site has been identified (at Hartlebury in Worcestershire) and the project is expected to progress during 2010.
- 5.12.3 A Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire has been developed by the Joint Members Waste Forum; made up of elected representatives from all the local authorities in Herefordshire and Worcestershire. Adopted in 2004, it sets out how Herefordshire Council and Worcestershire County and District Councils will work together to collect and treat waste from homes and businesses in the two counties, and covers the period from 2004 to 2034. The Strategy provides our framework for managing waste and it aims to achieve sustainability in waste management by treating waste as a resource, recycling and composting more waste wherever possible, and ensuring that waste is collected and treated safely. The strategy has recently been reviewed (November 2009) and is currently in the process of being adopted.

5.13 Energy insecurity and the need for renewable resources

- 5.13.1 Renewable energy is increasingly seen as an essential component of a sustainable future. This can be largely attributed to Peak Oil, which refers to a point in time when the maximum rate of global oil extraction is reached, after which oil will become increasingly scarce and more expensive, resulting in serious shortages in the availability of energy. As a consequence it is imperative to look at ways in which we can reduce our energy consumption - which is also referred to as 'energy descent' - and promote the development of renewable energy resources.
- 5.13.2 Applications for renewable energy schemes in Herefordshire have increased significantly since the 2006/2007 monitoring year - from 5 applications up to 17 applications in 2007/2008; the majority of these involving proposals for the construction and/or installation of wind turbines and solar panels. However, following changes to the General Permitted Development Order (GPDO), certain types of domestic development no longer require planning permission, such as the installation of solar panels and ground source heating. This means that the

number of planning applications itself does not represent the full picture of renewable energy development on private dwellings.

- 5.13.3 In September 2008, Hereford City signed up to become a 'Transition Town' which is a community initiative designed to look at the ways in which local communities can respond to the challenges and opportunities surrounding climate change and Peak Oil. The Transition initiative advocates that through collective planning and action, the decline in energy availability could provide the opportunity for positive change; with local communities becoming more self-sufficient. Communities can achieve greater levels of self-sufficiency by growing more of their own food, generating their own power, and building their own homes using local materials; all of which could encourage the development of local enterprise and a thriving local economy.
- 5.13.4 Further options that could be considered, and which may be of value in addition to the above, include the development of a 'viability study' to look at the local potential, viability and deliverability of renewable energy options within the county, as well as the ways in which spatial planning in Herefordshire could help to achieve renewable energy targets. An Energy Descent Action Plan to reduce energy consumption could also be formulated as advocated by the Transition movement. This is a forward-thinking local plan for dealing with Peak Oil, which would set out the framework for dealing with energy descent in a holistic and joined-up manner; its objective being to ensure that communities remain vibrant and viable in a post-carbon era.

5.14 Energy efficiency and fuel poverty

- 5.14.1 Fuel poverty - where a household cannot afford to keep warm - damages the health of those living in cold homes and affects their quality of life. The old, children, and those who are disabled or have a long-term illness are especially vulnerable. The main cause of fuel poverty in the UK is a combination of poor energy efficiency in homes, low incomes and high energy prices.
- 5.14.2 In Herefordshire, it is estimated that 8,540 households are in fuel poverty. This amounts to 10.7% of all households in the county, and compares with 11% in England. The highest rate can be found in the privately rented sector, where 17.3% of households are in fuel poverty. Fuel poverty can be found in 16.9% of dwellings where some form of benefit is received, compared to 7.8% of dwellings where benefit is not being received.
- 5.14.3 In July 2007, Herefordshire Council completed its Affordable Warmth Strategy (AWS), which aims to reduce the level of fuel poverty in Herefordshire by bringing together agencies to promote energy efficiency grants, to give advice on cutting fuel bills and saving energy, and to help residents gain access to benefits. It is intended that the strategy, when linked to other initiatives, will play an important role in reducing health and debt problems associated with living in cold, energy inefficient homes; while at the same time achieving comfort and energy savings for low-income households throughout the county. Furthermore, the more efficient use of fuel resulting from improved energy efficiency will help reduce the emissions produced from burning fossil fuels, which in turn will help to mitigate the impact of climate change.

5.15 Design and construction

- 5.15.1 Herefordshire has beautiful unspoilt countryside, market towns of distinctive character and a wealth of varied landscapes. High standards of design and local distinctiveness which builds on the existing character of Herefordshire is therefore important, not only on the appearance of the area but also on the creation of safer environments, promoting sustainable developments and the more efficient use of resources and local materials.
- 5.15.2 In 2006, the Code for Sustainable Homes was launched as part of a package of measures towards zero carbon development. The ensuing consultation '*Building A Greener Future*' built upon this and set out a 10-year timetable for implementing sustainability targets, one of which seeks to ensure all new homes from 2016 are built to zero carbon standards (Code level 6). Currently a consultation is being undertaken by the Department for Communities and Local Government (DCLG), to seek views on a proposed definition of 'zero carbon' which is intended to apply to all new homes. This proposes a definition of zero carbon, based on high energy efficiency, on/or near-site carbon reduction, and allowable solutions for dealing with the remaining emissions. At this stage it is anticipated that zero carbon standards will be achieved through progressive improvements to Building Regulations; where for example amendments are being proposed to Approved Documents Part G (Hygiene) and Part L (Conservation of fuel and power).
- 5.15.3 The domestic sector in the UK is responsible for approximately 27% of carbon dioxide emissions in the UK. More than 80% of UK housing which we will inhabit in 40 years time already exists; this means that targeting existing housing is a key action required in order to meet the Government's legally binding targets to cut greenhouse gas emissions, by at least 80% by 2050.
- 5.15.4 Many homes in Herefordshire are in rural areas which are off the gas-grid network, which can lead to a higher usage of more expensive forms of heating such as electric, oil or liquefied petroleum gas (LPG), which are more carbon intensive than natural gas. Many of them are also poorly insulated or completely un-insulated, and are often of solid-wall construction, making them harder and more costly to insulate; and there are a large number of listed buildings in the county which can often be very hard to treat in terms of insulation, double glazing or heating installation.
- 5.15.5 The Department of Energy and Climate Change recently released its consultation of the *Heat and Energy Saving Strategy*, which includes a target for all the lofts and cavity walls to be insulated where practicable by 2015. It also draws attention to the importance of insulating housing of solid wall construction. In that respect, Herefordshire Council's energy efficiency team within Private Sector Housing are working to promote and incentivise the uptake of insulation and renewable energy technologies, in line with the National Indicator 186 (per capita CO₂ emissions).
- 5.15.6 In 2008, the Government announced that by 2019, all new commercial buildings should also be zero carbon. In Herefordshire, business emissions account for 38% of the total CO₂ emissions for the county.

- 5.15.7 Herefordshire Council is now facing an increasing urgency to formulate policies which rise to the zero carbon challenge. This will require constructive engagement with developers, to ensure greater clarity for the development industry and other related businesses, in respect of the relationship between planning policies, which (through development control) will regulate the location and siting of development; and Building Regulations, which deal with the conservation of fuel and power, health and safety, accessibility in buildings – the latter being measures of sustainability set out within the Code for Sustainable Homes. This issue will be addressed in our Design Code for Herefordshire Supplementary Planning Document (SPD). Work on this will be commenced early in 2010.

6.0 Planning for Climate Change

- 6.1 The previous section has highlighted the wide and varying affects that climate change could have on the county, and indicates some of the issues which need to be addressed in order to help reduce the occurrence of climate change, and mitigate against its impacts on Herefordshire.
- 6.2 The Planning System provides a key mechanism to influence land use, and to achieve a more holistic and strategic approach to development. It is already working towards making contributions to combating climate change and to the management of CO₂ emissions; having moved forward from its traditional land-use remit, to enable and drive the delivery of sustainable development.
- 6.3 Making efficient use of natural resources is one of the main means of reducing greenhouse gas emissions and reducing the impact of climate change. New development provides us with the opportunity to improve building design to incorporate sustainable building techniques, using materials that have low/zero carbon and greenhouse gas emissions; to minimise waste and to reuse recycled or locally sourced materials.
- 6.4 The LDF can make a significant contribution to protecting people and the environment from the potential adverse effects of climate change by controlling the type and location of new development. Spatial planning is a key player in controlling how developments of renewable and low carbon energy technologies are delivered on the ground; as it provides a way of ensuring that large scale energy schemes, such as wind-farms are built in the most appropriate locations and with the maximum level of social, economic and environmental sensitivity. The production of strongly worded frameworks and policies for the promotion and use of renewable and low carbon energy technologies could establish the mechanism necessary to achieve real reductions in CO₂ emissions.¹³
- 6.5 The LDF also has an important role to play in managing travel demand. The location of new development, housing densities and the layout and design of development in general influences the number of journeys and the chosen mode of transport, which in turn has an impact on congestion and accessibility. Measures which encourage the use of alternative modes to the private car must be balanced with those that deter inefficient use of the car, for example by developing policies to permit small businesses to operate from home, where they would not lead to adverse impacts upon the character of the area and residential amenity.

- 6.6 The availability of car parking also has a major influence on people's choice of transport and is one of the key elements in managing the demand for car use. The development and use of appropriate standards in new development can promote sustainable travel choices and help in tackling congestion. The LDF has an important role to play in setting the policy framework for car parking, determining appropriate standards of provision and controlling the amount and location of car parking in new development.
- 6.7 Climate change is already having a significant impact on the increased risk of flooding in some places; therefore in order to avoid problems in the future, it is essential, where possible, to ensure that development is located away from areas at risk, such as flood plains. Ensuring flood risk can be managed effectively is an important consideration for the LDF when identifying suitable sites for development, particularly housing; and the planning system now provides the means to exercise tougher controls on laying of impermeable surfaces in new development. In particular, the Supplement to PPS1 - Planning and Climate Change, urges local authorities to expect new development to give priority to the use of Sustainable Drainage Systems (SuDS). Furthermore, PPS25 – Flood Risk, requires local planning authorities to help to reduce flood risk; for example through surface water management plans, and by making the most of the benefits of green infrastructure for flood storage, conveyance and again the incorporation of SuDS. The use of planning conditions can also help to minimise the impact of new development on water resources, by introducing measures to minimise water consumption and to maximise water recycling.

6.8 The West Midlands RSS Phase Two Revision – Panel Report (2009)

- 6.8.1 This report sets out recommendations for changes to RSS policies, which have arisen as a result of an Examination in Public (EiP) held between April and June 2009. The report recommends changes to the RSS to ensure that greater emphasis is placed on climate change issues.
- 6.8.2 In particular, the report draws attention to the Regional Economic Strategy (RES) '*Connecting to Success*' (the UK's first low carbon RES), and its associated delivery framework.
- 6.8.3 It suggests that as part of the development of plans, strategies and proposals, reference be made to the work undertaken by the West Midlands Regional Observatory, which highlights: the need to decentralise energy; the need to manage transport networks through the promotion of 'greener' transport choices and smarter, more flexible working practices; the need for waste reduction; and the need to retrofit existing housing stock with insulation and water saving devices.
- 6.8.4 The report also highlights the importance of planning policy in tackling climate change; and advocates that regional and local policy should emphasise the need for low carbon and sustainable development, as well as the need for conserving water resources and protecting or enhancing water quality. The report goes on to emphasise that local authorities should have regard to PPS25, and should use SFRAs to guide development away from areas currently at risk of flooding, and those that are likely to be at risk in the future.

6.8.5 The report includes 3 new spatial strategy objectives as set out below, and a new spatial strategy policy – SS1, the latter which aims to give effect to the spatial strategy objectives.

- 1) To ensure that the region delivers its share of the reduction of greenhouse gas emissions needed to deliver a low-carbon future and that the region is resilient to the future impacts of climate change.
- 2) To ensure the sustainable use of water resources and protection and enhancement of water quality, and to avoid increasing and over time to reduce the exposure of housing and essential infrastructure to flood risk.
- 3) To ensure that everyone in the West Midlands has the opportunity of a decent home at a price they can afford.

7.0 The Core Strategy for Herefordshire

7.1 Herefordshire Council is currently preparing the Core Strategy for the county, which will form part of a series of planning documents known as the LDF. The LDF will guide development in Herefordshire to 2026.

7.2 Addressing climate change will form a key part of the Core Strategy, through the requirement to reduce the need to travel, tackle traffic congestion and improve air quality in Herefordshire; as well as the design and location of new housing and other development; improvements to green infrastructure, the management of waste, and the promotion of renewable energy and energy efficiency.

8.0 Evidence base

(A list of the relevant evidence base used can be found in appendix 3 of this paper)

8.1 This section highlights the evidence base relating to climate change, alongside results of the consultation undertaken so far on the emerging Core Strategy.

8.2 Strategic Flood Risk Assessment (SFRA) (2009)

8.2.1 The SFRA highlights that the common aim for developing flood policy in Herefordshire is to reduce flood risk by:

- Discouraging inappropriate development in areas at risk from flooding; and
- Encouraging adequate technically, environmentally and economically sound and sustainable flood risk management measures.

8.2.2 While to date the council's principal role is in the first of these objectives, there is an increasing momentum at government level for increased coordination of drainage and flood management strategies, and it is now clear that councils will have an increasingly responsible role in coordinating effective drainage strategies through the planning process.

8.2.3 New developments, whether single large sites, or an accumulation of smaller sites, can have profound impacts on local drainage and flood risk. Drainage and flood risk are therefore material considerations in the determination of planning applications, and a satisfactory means of foul water and surface water disposal

must be demonstrated in order to show that: the site can be adequately developed; that any land-take required for proposed drainage facilities has been allowed for; and that due consideration has been given to the impact of the proposed development on the drainage catchment area.

- 8.2.4 Historically these issues have been dealt with on a site-by-site basis, with differing requirements being set for individual developments. However, this piece-meal approach to site drainage and flood mitigation is not sustainable in the long term, as truly integrated strategies require that each site contributes in a consistent way to the wider policy objectives. Conversely, policy objectives must also coincide with what is practicably feasible at the site scale, and at the local catchment scale.
- 8.2.5 The significant risk of dealing with flood issues on a catchment wide basis – the ‘Catchment Flood Management Plan’ approach, is that it is insufficiently detailed so as to take account of site specific practicalities. This therefore, is where the development of *Surface Water Management Plans* have a critical role to bridge the gap between high level policy objectives and detailed site drainage proposals.
- 8.2.6 In critical drainage areas, where the risk from surface water drainage is significant, the council should prepare a Surface Water Management Plan. This would involve the development of an action plan, agreed by all local stakeholders with drainage responsibilities, to clarify responsibilities and manage these risks. For high level policy objectives to be effective, they must build from the bottom up, and not the top down, which means that what is practicably achievable within specific catchments by means of strategic attenuation, SuDS, infiltration, site attenuation, channel improvements and so on, must be the first consideration before high level policies are established.
- 8.2.7 Catchment drainage policies will be one of the largest contributors to improved flood management infrastructure, and there is increasing momentum at government level for increased coordination of drainage and flood management strategies. It is clear therefore that councils will have an increasingly responsible role in coordinating effective drainage strategies through the planning process.

8.3 Minerals and Waste Planning Assessment (2009)

- 8.3.1 The Minerals and Waste Planning Assessment undertaken by Entec (2009) concludes that there will be approximately a 1 million tonne increase in total waste over the plan period, half of which will comprise agricultural waste. Growth in municipal, commercial and industrial waste will account for between 366,000 and 381,000 tonnes of arisings per annum at 2026, equating to 25% of all waste arisings in the county. Significant capacity increases are therefore required over the period of the LDF in order to meet recovery targets for these waste streams - (waste recovery being the diversion of a waste material from the waste stream to form an alternative useful product).

8.3.2 In assessing the evidence base, the Entec Report drew conclusions for each waste stream as follows:

- Municipal Solid Waste (MSW) (this includes all waste, domestic and commercial, collected and disposed of by the council). Herefordshire and Worcestershire have a joint contract, however the means by which the two counties will deal with MSW is as yet unknown, as the new contract is in negotiation. Furthermore, Worcestershire County Council is in the process of preparing its own Waste Core Strategy – due to reach Preferred Option stage during 2010. Until such time as the contractor has selected and developed a site for waste management it cannot be assumed that the primary site for dealing with this waste stream will be in the county. Thus at this stage, policy needs to allow for waste collection, sorting and transfer facilities - however it would be premature to identify a major new site for waste treatment for this waste stream.

There is a potential capacity shortfall of around 33,750 tonnes for municipal recycling and composting waste. When considering typical treatment methods observed elsewhere, strategic facilities would require a site area of around 1-2 hectares, however in-vessel composting would be greater with a mix of facilities. For further recovery a requirement of around 99,000 tonnes would equate to a site requirement of 2 hectares or more. This could increase further if landfill capacity is not available out of county. The issue here is linked to flexibility of the council's waste management contract in order to meet the residual waste need.

- Commercial and Industrial Waste. This is a significant and increasing waste stream which contains a very wide range of waste types from the relatively innocuous and easy to recycle materials such as paper and glass, to difficult materials such as unwanted chemicals and hazardous wastes. The policy objectives must follow the 'waste hierarchy' principle of discouraging waste in the first place, and then seeking all opportunities to recycle waste into other useful materials - before looking to disposal as a last resort. A practical approach would be to add an allowance to the employment land allocations for the large sites, and to rely on policies in PPS10 for occasional small sites elsewhere.

For commercial and industrial waste a recovery capacity for around 176,750 tonnes is required, on the assumption that capacity for 10,000 tonnes is currently available. This is likely to require a site area of between 8-10 hectares, assuming that waste from outside the Herefordshire sub-region will not be imported to the county.

- Hazardous Waste. The Entec Report demonstrated that the amounts of such waste in Herefordshire are relatively small and the policies in PPS10 can be relied on to assess small scale proposals.
- Agricultural waste. With the exception of agricultural plastics the agricultural sector does not generate large amounts of non-organic waste. Agricultural plastic is an increasing volume of waste and for the purposes of this paper it has been assumed that it is accounted for in the commercial and industrial waste stream as discussed above. Organic material is often recycled on-site.

- Construction, Demolition and Excavation waste. By 2026 there will be some 213,408 tonnes of CDE waste arising in Herefordshire. Given the national and regional commitment to maximising the recycling of this waste preferably on site, capacity will be required for the management of this waste stream. Policy should be geared towards encouraging on-site recycling and use as part of development projects. The LDF should therefore investigate opportunities for locating facilities on appropriate sites.
- Green Waste (for example composting). Assuming that the permitted 2 hectare facility at Moreton-on-Lugg is developed, there will be no need to allocate another strategic green waste site in the county as it would meet the requirements highlighted within the Entec report. Policies should however allow for the possibility of small scale local facilities where appropriate management arrangements can be put in place.

8.3.3 Overall, and looking to the plan period to 2026, there is a deficit of disposal and management capacity in the county, and further sites will be needed to deal with the waste streams identified above.

8.4 Water Cycle Study (2009)

8.4.1 The Water Cycle Study highlights a number of issues, alongside recommendations to be considered, as follows:

Water availability

8.4.2 There are 5 Environment Agency defined 'Water Resource Management Units' (WRMUs) in Herefordshire, all of which have been assessed as being at 'No Water Available' status. This means that any increases in demand for water, for example through population growth or agricultural consumption will have to be met through a combination of:

- Decreased demand
- Increased efficiency of use
- Licence revocations (unused or terminated licences)
- Licence trading schemes

8.4.3 In view of Herefordshire as a key Growth Area, water availability and the ongoing licence position may become a critical factor for each sector of potable water, industrial usage and agriculture. In that respect, the council will have a significant role to play in promoting reduced water demands by the baseline population, and in promoting 'water neutrality' (discussed below) for new housing.

8.4.4 It is suggested in the report that the council should be aware of government long-term water demand targets as set out by Defra in respect of new housing, and plan a strategy accordingly. One of the objectives for example, could be to aim for water neutrality, which is a new approach which considers whether new demand for water should be offset in the existing community by making existing homes and buildings in the area more water efficient. The definition of water neutrality used by government and the Environment Agency is:
'For every new development, total water use across the wider area after the development must be equal or less than total water use across the wider area before the development.'

8.4.5 In Herefordshire where there is not an 'overt' shortage of water, the economic marginal costs would have to be assessed carefully, whilst also taking into account the long-term hidden costs of carbon foot-printing, social impacts and environmental damage if water shortages were to become a regular occurrence over the very long term (post 2050).

8.4.6 Climate change is bringing fresh challenges as patterns of rainfall are predicted to change. Planning for water therefore, has to take into account these natural constraints, and factors such as the timing and location imposed by development itself. Increased water efficiencies, reduced demand and aims of water neutrality should therefore be priority areas for investigation by the council, in terms of the impact of new housing.

Sewage Treatment Works

8.4.7 It is recommended that some form of time-line matrix is produced by the council for every sewage treatment works; showing against various housing trajectories, when operational limits will be reached, the possible deficit capacity, and the associated upgrading costs needed to bring the capacity into surplus.

Flooding

8.4.8 Flooding issues are dealt primarily by the SFRA, however it is recommended in the Water Cycle Study, that the Core Strategy should include clear, strategic and robust policies for the management of flood risk, taking climate change into account. The council should also consider whether there are opportunities in the preparation of local development documents, to facilitate the relocation of development, including housing to more sustainable locations at less risk from flooding.

8.4.9 This should be implemented under a multi-agency approach, however with respect to SuDS, a policy statement may be required and precise roles and responsibilities of each agency involved, clarified in the LDF.

8.4.10 In view of the intense housing pressures forthcoming in and around Leominster and Hereford, and the extensive historical flood risk in these areas, Surface Water Management Plans are urgently recommended for Hereford (north-west), Hereford (south-east), and Leominster.

Ecology

8.4.11 If water cycle constraints such as raw water availability or insufficient water to meet ecological river flow objectives become significant issues, water consumption should be appraised proportionately across all sectors.

Additional actions recommended

8.4.12 Develop a GIS layer for help with forecasting emerging spatial strategies, so that housing pressure can be compared to numerous environmental and infrastructure layers for evidence appraisal.

8.4.13 Impact of revised spatial strategies and trajectories must be tested against RoC (review of consents - abstraction) reductions and climate change assumptions in combination.

8.4.14 The council should consider whether a Water Resources Management Plan should be developed for agriculture.

8.5 Herefordshire Green Infrastructure Study (2008)

8.5.1 The Green Infrastructure Study has highlighted a number of issues and opportunities for the county that are relevant to climate change and renewable energy as follows:

Issues

- The risk of flooding in and around the principal settlements and the need to manage the impact of flooding.
- The need to understand and ensure that the hydrological resource in the county has finite limits, particularly in relation to water quality in our main rivers and streams.
- The need to recognise the relationship between topography and hydrological systems and sustainable water resource management, both in terms of water retention and flood prevention.
- The need to understand the role of topography in influencing microclimates and local environmental factors and the development of subsequent land use planning policies.
- Topographical features may impair development and access and movement routes, increasing the amount of land used for 'hard' infrastructure.
- Ensuring adequate flexibility in land use policies to allow for adaptation of species and habitats to climate change.
- The need to identify delivery mechanisms for the protection and enhancement of biodiversity assets at all geographic scales and ensuring that biodiversity enhancements are at the forefront of policy and decision-making.
- The need to preserve a diverse pattern of land use with the flexibility to adapt to both market and climate changes.
- The need to carefully identify appropriate site for waste disposal and landfill, and preparedness for the calls for alternative energy production sites.
- A high dependency on motorcar access throughout the county, using a generally slow and indirect series of routes constrained by geographic features.
- The widely dispersed pattern of settlements, in combination with historically aligned local roads, does not allow for an effective public transportation system for much of the county.
- Only four railway stations serve the county; Hereford, Leominster, Ledbury and Colwall.
- The west of county is poorly provided for in relation to both road and rail networks, on the one hand increasing the sense of rural remoteness, on the other limiting opportunities for economic investment and subsequent contributions to the green infrastructure network.

Opportunities

- The development of a robust flood defence mechanism on all major watercourses utilising existing geographical features and catchments and naturally occurring systems that will also benefit biodiversity.
- Provision of a sustainable source of water to meet the demands of an increased population, agriculture and industry.
- Develop local watercourses, in conjunction with land management schemes and sustainable drainage principles to ensure robust flood alleviation and defence.

- The variation in slope, orientation and altitude presents the potential for adaptability and flexibility in land use, in response to climate and environmental change.
- The potential to manage hydrological systems, influenced by topography, within discrete geographical units to reduce local flood risk.
- Use of resultant microclimates to influence sustainable development, responding to orientation and slope.
- The creation of new, and enhancement of existing, corridors of habitat beneficial to biodiversity. In particular, in conjunction with new and improved transport networks and large residential developments.
- The identification of sites suitable for sustainable waste management and alternative energy production.
- Making linkages between areas of non-traditional land use to ensure connectivity for both people and biodiversity. Developing movement and transport corridors between employment and residential areas that encourage the reduction of individual carbon footprints, but that remain inextricably linked with land use patterns.
- The opportunity for the transport network to incorporate multifunctional environmental infrastructure – improved water management in particular should be explored and realised.
- Continue to promote and develop transport networks that depart from a traditional dependency on motor vehicles.

9.0 Core Strategy consultations

9.1 Key issues

- 9.1.1 The Herefordshire Core Strategy Issues Paper was published for consultation in September 2007, which outlined 14 key issues facing the county. Views and comments were invited on these issues in order to help determine their importance, to see if any issues had been missed and to help develop a vision of Herefordshire up to 2026.
- 9.1.2 From the 14 key issues identified, the issues that relate to climate change are as follows:
- Addressing the impacts of climate change;
 - Improving air quality;
 - Better waste management; and
 - Better use of water.
- 9.1.3 The results of the consultation highlighted five key 'sub-issues' for each of the key issues identified, and included: the need for more energy efficiency/ conservation, better use of public transport, greater levels of recycling, carbon neutral developments, reductions in CO₂ output, mitigation against and management of flooding, and more efficient use of water. Full details of these results can be found in appendix 1 of this paper.

9.2 Developing Options

9.2.1 As part of the second stage in the production of the Core Strategy – the ‘Developing Options’ stage, suggested policy options were set out for dealing with the 14 key issues identified for Herefordshire. A Developing Options consultation was undertaken between June and August 2008, where views and comments were invited in order to help decide which of these options should be looked at in more detail. The following sections provide a summary of the comments made that had specific reference to climate change - in response to the ‘Vision’ for the county, Objective 9 and the Policy Options.

9.2.2 Vision

(Please see appendix 2 for full details of the Vision)

Despite overwhelming support for the Vision as set out in the Developing Options Paper, 243 comments were made with respect to how it could be improved. In particular, the comments made highlighted the need for greater emphasis on the cost of energy, on public transport, and on climate change in general; as well as more reference to local food production. As a result, two ‘visioning’ workshops were undertaken in November and December 2008, and the wording of the vision has now been amended to take account of climate change issues. A Vision and Objectives Background Paper has been produced which contains details of how the vision has been formulated.

9.2.3 Objective 9

‘To work with partners to deliver well designed places, spaces and buildings which use land efficiently, reduce the consumption of natural resources through sustainable construction methods, increase the use of renewable forms of energy, reduce waste and pollution and addressing the wider impacts of climate change including flood risk and the availability of water supply and sewerage facilities.’

9.2.4 The most frequent comments made in response to the Objective 9 were that greater emphasis was needed on sustainable design and construction and on climate change - including carbon reduction.

9.2.5 General comments highlighted the need for more emphasis to be made on climate change issues, for all of the objectives listed in the Developing Options Paper. These have subsequently been amended and a specific objective on climate change introduced – now Objective 11:

‘To address the impacts of climate change by ensuring new development uses sustainable design and construction methods to conserve natural resources, does not increase flood risk to new or existing property, increases the use of renewable forms of energy and maximises energy efficiency to reduce carbon emissions, minimises waste and pollution and manages water supply and conservation.’

9.2.6 Further details on how the Vision and Objectives for the Herefordshire Core Strategy have been developed so far, can be seen in the Vision and Objectives Background Paper - available on the council’s website www.herefordshire.gov.uk/ldf.

9.3 Strategic options

- 9.3.1 Issues relating to climate change, Peak Oil, renewable energy and the reduction in CO₂ emissions were highlighted as important through comments made on the 4 strategic options - with the view that they should be addressed whilst formulating a preferred strategy for the county.

9.4 Policy options

- 9.4.1 The issue of addressing the impact of climate change, and environmental protection and enhancement are recognised as being critical to the development of a sustainable development strategy for the county. On that basis, the Policy Options identified in the Developing Options Paper incorporate important issues, which reflect the need to bring about changes in the way we deal with development. Key areas addressed were renewable energy, minerals, waste management, flooding, water use and the design and construction of buildings.

- 9.4.2 A Core Strategy Developing Options consultation took place through the summer of 2008 in order to help the council decide upon which options should be looked at in more detail. The results of this consultation have helped steer an emerging set of preferred policy directions for dealing with climate change and renewable energy. With reference to climate change, the Developing Options questionnaire posed the following questions:

Q37 - How can Herefordshire increase its usage of renewable energy sources?

1. Highlight specific technologies and locations in Herefordshire where renewable energy sources could be promoted;
2. Set targets and design requirements for the inclusion of energy from renewable sources within new developments of a particular scale.

- 9.4.3 The results of the Developing Options consultation reveal that option 1 gained the strongest support amongst respondents at 93%; however both options were popular at 93% and 82% respectively.
- 9.4.4 Some respondents also decided to take the opportunity to make additional comments. These highlighted the need to promote sources of alternative/ renewable energy, energy efficiency and reductions in CO₂. None of the comments made however, are considered to represent distinctive alternative options to those consulted upon.

Q38 - How should Herefordshire manage the waste it produces?

1. Identify locations where specific waste management facilities will be required;
2. Provide a set of generic criteria in a policy for new waste management facilities which would be used to judge planning applications against;
3. Devise a policy whereby all new developments of a certain size will need to be accompanied by a new local waste facility being built or contributed to.

9.4.5 The results of the Developing Options consultation reveal that option 1 gained the strongest support amongst respondents at 94%; however all options were popular at 94%, 81% and 85% respectively.

9.4.6 Some respondents also decided to take the opportunity to make additional comments. These highlighted the need for improvements in waste management including more recycling. However none of the comments made are considered to represent distinctive alternative options.

Q40 - How should flooding issues in Herefordshire be addressed with the increasing needs for future development?

a - Development in flood risk areas

1. Devise a policy which includes a sequential test to determine the suitability of land for development in flood risk areas, and an exceptions test that provides a method of managing flood risk whilst still allowing necessary development to occur;
2. Adopt a stricter policy, only allowing development in areas with no known flood risk.

9.4.7 The results of the Developing Options consultation reveal that option 2 gained the strongest support amongst respondents at 74%; with option 1 being chosen by just 26% of respondents.

9.4.8 Some respondents also decided to take the opportunity to make additional comments. These highlighted that development should not occur in flood risk areas. However none of the comments made are considered to represent distinctive alternative options.

b - Design of developments

1. Introduce built or natural design approaches to tolerate or adapt to flooding;
2. Ensure all new development includes methods to collect, store and reuse rainwater, including Sustainable Drainage Systems (SuDS) where appropriate to reduce possible non-fluvial flooding;
3. Work with developers to determine the most appropriate design solutions with regard to reducing flooding risks at the application stage.

9.4.9 The results of the Developing Options consultation reveal that option 2 gained the strongest support amongst respondents at 97%, with option 3 a close second at 93%. All options were popular however at 82%, 97% and 91% respectively.

9.4.10 Some respondents also decided to take the opportunity to make additional comments. These highlighted the need for SuDS, and to utilise natural flood prevention methods. However none of the comments made are considered to represent distinctive alternative options.

Q41 - How can we balance the growing needs for water and the special conservation status of the rivers Wye and Lugg?

1. Ensure that all new development incorporates water saving and efficiency measures;
2. Incorporate phasing proposals to enable necessary new infrastructure to be put in place prior to the commencement of new development;
3. Require developments of a particular size to contribute to retrofitting existing properties with SuDS or water efficiency techniques;
4. A combination of the above three elements.

9.4.11 The results of the Developing Options consultation reveal that options 1, 2 and 4 gained the strongest support amongst respondents at 96%, 94% and 93% respectively. Option 3 was also popular amongst respondents but to a slightly lesser extent, at 86%.

9.4.12 Some respondents also decided to take the opportunity to make additional comments. These highlighted the need to promote water saving measures and management. However none of the comments made are considered to represent distinctive alternative options.

9.5 Sustainability Appraisal (SA) and Habitats Regulations Assessment (HRA)

9.5.1 The Sustainability Appraisal showed that all options addressed are considered to be reasonable and moving towards sustainability. So far the Sustainability Appraisal and Habitats Regulations Assessment have arrived at the following conclusions:

Q37

- SA: Both options are seen as moving towards sustainability.
HRA: Impact on sites is likely to vary with site location. Impacts may affect water and air quality.

Q38

- SA: All options are considered neutral as insufficient information/evidence is available.
HRA: Impact on sites is likely to vary with site location. Impacts may affect air quality through transport, soil structure, through cooling waters and so on.

Q40a

- SA: Option 1 is seen as moving towards sustainability.
HRA: A sequential approach is likely to enable better management of flooding. Site specific concerns include water availability and quality, and soil erosion.

Q40b

- SA: All options are seen as moving towards sustainability.
HRA: Option 1 is likely to be most effective at safeguarding designated sites including impacts on water availability, water quality and soil erosion.

Q41

- SA: Option 1 is seen as the most sustainable, with option 2 being the least.
HRA: Option 4 is seen as the most favorable, offering the least impact on designated sites.

- 9.5.2 No clear alternatives from the SA or HRA assessment process were identified.
- 9.5.3 Detailed results of the Developing Options consultation regarding climate change issues can be seen in appendix 2, or full results can be found on the council's website at www.herefordshire.gov.uk/corestrategy.

10.0 Opportunities for a way forward – Place Shaping Paper

- 10.1 The next stage for the Core Strategy has been to formulate preferred strategic options, and to further general policy directions and place shaping options for Hereford, the market towns and the rural areas.
- 10.2 This paper, and the comments received to the Developing Options consultation and the corresponding Sustainability Appraisal, has assisted in focusing on the important elements to take forward. So far, a number of responses to address climate change have been identified; and these have been investigated in more detail whilst the Core Strategy and other associated documents are being developed. These are as follows:
- The formulation of a spatial strategy which takes into account the need to reduce travel by private car;
 - Options to facilitate the use of sustainable modes of transport to reduce the need to travel by private car, to reduce fuel consumption and thus to promote reductions in carbon emissions;
 - A settlement hierarchy which enables the identification of sustainable locations within the county;
 - Develop policy and design guidance to ensure that energy efficiency, the use of resources and flooding are addressed with respect to all new development;
 - Investigate the setting of targets for increasing the proportion of energy within the county that comes from renewable sources, and develop policy to ensure that such targets are met;
 - Investigate possible sites and methods for the development of renewable energy schemes;
 - Investigate possible ways of reducing waste.

11.0 Preferred policy directions

- 11.1 The Place Shaping Paper contains a set of preferred policy directions, which will be subject to public consultation from January to March 2010. The following section highlights these policy directions, and how they have been arrived at.

11.2 Renewable energy/Energy efficiency

- 11.2.1 National and regional policy agendas strive for a reduction in CO₂ emissions. In particular, the Climate Change Act (2008), the Energy White Paper (2007), the Energy Measures Report (2007) and the 'Merton Rule,' highlight the role that renewable energy needs to play in reducing CO₂ emissions; while the Code for Sustainable Homes focuses on the drive for energy efficiency to zero carbon standards for all new UK homes.

- 11.2.2 Regional agendas which specifically relate to promoting renewable energy and energy efficiency include The West Midlands Regional Spatial Strategy (Policies EN1 and EN2), and the Regional Energy Strategy. It is significant that the 'Merton Rule' was endorsed in the Inspectors' Panel Report as part of the Phase 2 review of the Regional Spatial Strategy. This means that there is a strong likelihood of it becoming an adopted policy in the Regional Plan during the course of 2010.
- 11.2.3 At the local level, the Herefordshire Partnership has adopted the national indicator (NI186) based on data produced for Defra, as part of the Local Area Agreement (per capita reduction in CO₂ emissions in the LA area). This means that the promotion of renewable energy production and energy efficiency measures in Herefordshire will play an important role in reducing CO₂ emissions in the county, which in turn will contribute towards the overall achievement of the Government's climate change objectives.
- 11.2.4 In terms of the reviewed evidence base, the emerging Green Infrastructure Study has highlighted that there is a need for Herefordshire to be prepared for the call for sites facilitating alternative energy production.
- 11.2.5 The results of the Developing Options consultation together with the evidence base provide an emerging set of preferred directions for Renewable Energy and Energy Efficiency policies. The preferred approach of the Core Strategy would appear to support both options presented; however the strongest support was given to highlighting specific technologies and locations in Herefordshire for the promotion of sources of renewable energy. To date no detailed studies have been undertaken regarding appropriate locations, or renewable energy technologies appropriate to Herefordshire, therefore at this stage a core policy could not include locations, but could indicate general areas where various technologies could be investigated.

Preferred policy direction - Renewable energy/energy efficiency

The Core Strategy will include a policy to indicate general areas where various technologies could be investigated further. The Core Strategy will also seek to include policies to assist in the reduction of energy use via design standards (Code for Sustainable Homes and BREEAM), and targets for the use of renewable energy sources within new developments.

The design element of the Local Distinctiveness Policy and the Design Code SPD will also include measures to assist in energy efficiency and potential renewable energy technologies incorporated on/within buildings.

11.3 Waste

- 11.3.1 National and regional policy agendas strive for a reduction in waste disposal by placing a greater emphasis on waste prevention and re-use. They highlight the need to secure investment in the infrastructure required to divert waste from landfill, and to increase the recycling of resources and the recovery of energy from residual waste through the use of a mix of technologies.

- 11.3.2 At the local level, the joint waste strategy advocates a practical vision based on the national waste hierarchy, to: reduce waste and restrict its growth; to recycle and compost waste; to use waste as a source of energy; and to use disposal as a last resort.
- 11.3.3 With respect to the reviewed evidence base, the Waste and Minerals Study has highlighted that there is a deficit of disposal and management capacity for waste in Herefordshire, and that further sites will need to be identified to deal with the various waste streams occurring in the county. However, further information on this topic area can be found in the Waste and Minerals Policy Background Paper.
- 11.3.4 The results of the Developing Options consultation together with the evidence base provide an emerging set of preferred directions for climate change policies in terms of waste management. The preferred approach of the Core Strategy is based on option 1 of the Developing Options Paper and the evidence emerging from the Herefordshire Minerals and Waste Planning Assessment 2009. Option 1 which suggested identifying broad locations for waste facilities received most support at the Developing Options stage; however all three options presented were supported.
- 11.3.5 The Hereford Area Plan and the Market Towns and Rural Areas Plan could be the basis for acquiring in-depth site specific information on those areas that have been identified as having potential for the development of waste management facilities.

Preferred policy direction - Waste

The preferred policies for the Core Strategy will identify broad locations for an identified range of waste management facilities; and encourage sustainable waste management development which supports the Waste Hierarchy, to ensure that waste reduction, re-use, recycling and composting are prioritised, to encourage the use of emerging technology and to help to tackle climate change. The preferred policies will also support proposals to meet adopted waste recovery targets for specified waste streams including agricultural, municipal commercial and industrial wastes. This may include at least 2 hectares to accommodate municipal recycling and composting and at least 8–10 hectares for commercial and industrial waste. In addition, the use of integrated waste management plans will be encouraged as part of new strategic developments. Policies will also allow for the preparation of a specific waste Development Plan Document if changes in circumstances justify one during the Core Strategy plan period.

11.4 Managing flood risk

- 11.4.1 There is a wide range of national and regional policy that looks at ways to tackle the effects of climate change; within which flood risk stands out as one of the key issues to be addressed. One of the key agendas of national and regional policy is to ensure that all new development is appropriately adapted to the impacts of present and future climate change and that construction occurs in a sustainable manner, so as to minimise environmental impact. There is also an increasing momentum at government level for the increased coordination of drainage and

flood management strategies.

- 11.4.2 The SFRA which was reviewed as part of the evidence base highlights the need for councils to play a key role in coordinating effective drainage strategies through the planning process. It highlights that the traditional site-by-site approach to managing site drainage and flood mitigation is not sustainable in the long-term, but that dealing with flood issues on a catchment wide basis – through the Catchment Flood Management Plan approach is insufficiently detailed. It therefore advocates the use of Surface Water Management Plans as a means to bridge the gap between high level policy objectives and detailed site drainage proposals.
- 11.4.3 The results of the Developing Options consultation together with the evidence base provide an emerging set of preferred directions for climate change policies in terms of flooding. With respect to managing flood risk, the most popular option presented was to adopt a stricter policy only allowing development in areas with no known flood risk (option 2). The additional comments made highlighted the need to ensure that development does not occur in flood risk areas. With respect to the design of developments, option 2 gained the strongest support – to ensure all new development includes methods to collect, store and reuse rainwater, including SuDS; however all 3 options were popular.

Preferred policy direction – Managing flood risk

The Core Strategy will include a policy based on PPS25 sequential test approach using data from the Strategic Flood Risk Assessment (SFRA), which will seek to avoid further development in areas prone to flooding.

The design element of the Local Distinctiveness Policy and the Design Code SPD will seek to ensure that new development is adapted to the impacts of climate change and that construction occurs in a sustainable manner. This will include Sustainable Drainage systems (SuDS) and Surface Water Management Plans. These measures will assist development to adapt to flooding and to reduce the risks of flooding from surface water.

11.5 Water resources

- 11.5.1 National and regional policy agendas highlight a vision that shows the water industry as being one that is resilient to climate change, and to population growth - with forward planning being fully in tune with these adaptation challenges. Furthermore, it highlights the need for good surface water management to address the issue of flood risk; and the development of Catchment Abstraction Management Strategies to provide a systematic framework to aid the sustainable management of water resources on a catchment scale.
- 11.5.2 In terms of the reviewed evidence base, the Water Cycle Study has highlighted that in view of Herefordshire as a key Growth Area, increased water efficiencies, reduced demand and aims of water neutrality should be priority areas for investigation by the council, in terms of the impact of new housing. Furthermore, in view of the intense housing pressures forthcoming in and around Hereford and Leominster, and the extensive historical flood risk in these areas, Surface Water

Management Plans are urgently recommended. The council are also advised to consider whether a Water Resources Management Plan should be developed for agriculture.

- 11.5.3 The results of the Developing Options consultation together with the evidence base provide an emerging set of preferred directions for climate change policies in terms of water resources. The preferred approach of the Core Strategy would appear to support all the options presented; however the strongest support was given to ensuring that all new development incorporates water saving and efficiency measures. The additional comments made also highlighted the need to promote water saving measures and management.

Preferred policy direction – Water resources

The Core Strategy will include policies to require all new developments to incorporate water saving and efficiency measures via the design element of the Local Distinctiveness Policy; to require necessary new infrastructure to be put in place prior to, or phased with new development via infrastructure planning; and to encourage retrofitting existing developments with SuDS or water efficiency techniques where opportunities arise.

12.0 Preferred Spatial Strategy

- 12.1 The spatial strategy explains what the spatial vision and strategic objectives outlined in the Vision and Objectives Background Paper (2009) will mean for the future development of Hereford, the market towns and the rural areas; and forms the backbone of the Core Strategy from which the eventual policies and proposals will follow.
- 12.2 Following concerns raised during the Developing Options and Visioning events, the spatial strategy will also encompass the need to take account of the issues raised in this background paper and of climate change in general.
- 12.3 The preferred spatial strategy directly addresses the cross cutting theme of climate change by:
1. Allocating about half of all new homes to Hereford, which as the sub-regional focus for the county is where the main services to which people travel on a daily basis (including jobs, shops and leisure uses) are located. This follows from the requirements of the regional plan. The remaining new homes are dispersed to the market towns and certain villages that already support a wide range of day-to-day services or are capable of doing so, with an approach of limiting development elsewhere. This approach is based on the principle of reducing the need to travel by private car in order to lessen the harmful impacts of carbon dioxide emissions. In a rural county like Herefordshire where car travel is used by over 50% of the population, reducing the need for people to travel in the first place is going to be the best long-term strategy for tackling climate change.

- 2 Directing new development to areas of the county's towns and villages at no significant risk of flooding using the evidence in the SFRA and the sequential approach set out in government policy. In addition, new development will be required not to exacerbate the risk of flooding elsewhere by the use of sustainable drainage techniques through the use of a core policy on this issue.

12.4 Over the next few months, the council will be undertaking further consultation with relevant internal departments and external organisations in order to finalise the preferred policy direction. The list of consultees can be found in appendix 4 of this report. The council will also be undertaking four SA workshops towards the end of the summer 2009. Once complete, the results of these will be used to help develop the draft policy wording.

12.5 Core Strategy Objectives

12.5.1 The proposed Policy Directions will help specifically deliver Core Strategy Objectives 4, 10 and 11 (appendix 5).

13.0 Next steps for the Core Strategy

13.1 Following the Place Shaping consultation which will take place from January to March 2010, comments received will be analysed. Further consultation will then be undertaken with relevant internal departments and external organisations in order to finalise policy wording, followed by a sustainability appraisal of the policy wording. A list of consultees can be found in appendix 4 of this report.

13.2 It is anticipated that the Submission Core Strategy will be published towards the end of 2010.

13.3 UDP saved policies

13.3.1 A submission document has been made to the Government Office for the West Midlands of 'saved policies' from the adopted Unitary Development Plan, for beyond March 2010.

13.3.2 With respect to climate change, the following UDP policies are proposed to be 'saved'.

S1 – Sustainable development	T6 – Walking
S2 – Development requirements	T7 – Cycling
S6 – Transport	NC1 – Biodiversity and development
S10 – Waste	NC6 – Biodiversity Action Plan priority habitats and species
DR1 – Design	NC8 – Habitat creation, restoration and enhancement
DR2 – Land use and activity	W1 – New waste management facilities
DR3 – Movement	CF2 – Foul drainage
DR4 – Environment	CF4 – Renewable energy
DR7 – Flood risk	
DR9 – Air quality	
DR11 – Soil quality	
H13 – Sustainable residential design	

14.0 Monitoring

- 14.1 It is crucial that through the LDF, Herefordshire adopts policies that ensure that new development, infrastructure and strategic planning have a positive effect on addressing the causes, and preparing for the impacts of climate change. Annual monitoring should assess progress against the objectives of the PPS on climate change, and should be integrated with monitoring of housing delivery and other policies.
- 14.2 It will be important for Local Development Documents to be reviewed at regular intervals with respect to their impacts on, and the effects of climate change, as they set the framework for the development and use of land in the county for the next 20 years. For each policy which has the potential to impact on climate change, there will need to be an associated indicator, which put simply, is a number, proportion, percentage or rate that suggests or 'indicates' the extent to which planned activities have been achieved. These must be realistic and achievable within the time period specified.
- 14.3 For the purpose of Annual Monitoring Reports, it may be necessary to develop additional indicators to those already monitored - for example through information held within Herefordshire's Carbon Management Action Plan; through the sustainability effects as forecast in the Sustainability Appraisal, as well as in the Strategic Environment Assessments of Herefordshire plans. Other existing sources of indicators at a UK and regional scale include: Defra's Sustainable Development Indicators, the Local Area Agreement, the Local Government White Paper, and the Code for Sustainable Homes.
- 14.4 Whilst Herefordshire Council needs to demonstrate that there are clear mechanisms for monitoring the outcomes of policies within its Core Strategy, it is not the purpose of this paper to propose specific indicators to measure outcomes. The range of possible indicators which could be used to monitor policies will need to be developed through further consultation.
- 14.5 The successful implementation of policies on climate change depends on active stewardship regionally and locally, with effective monitoring and review being essential to securing responsive action. With this in mind, it is proposed that this paper be reviewed and updated on a regular basis, so as to report on additions to the evidence base as well as legislative requirements.

15.0 Moving Forward

- 15.1 There is no doubt that climate change is a growing concern, and as such The Planning Act 2008 states that policies must be designed to ensure to contribute to the mitigation of, and adaptation to, climate change. As a result climate change is now firmly on the political agenda; and recent government measures focus on tackling climate change through the planning system. The UK's Climate Change Programme for example, identifies that the public sector in general is in a key position to lead on carbon emissions reduction by setting a behavioural and strategic example to the private sector. Furthermore, it identifies that action by local authorities is '*likely to be critical to the achievement of government's climate change objectives*' identifying that councils can have significant influence over emissions in their local areas by, for example: providing

vision and leadership to local communities, raising awareness and helping change behaviours; using their considerable powers and responsibilities relating to housing, planning, local transport and promotion of well-being; and by altering their own activities and operations. It is important therefore, that we begin to base the choices we make on asking the right questions, to help us develop effective plans that will provide the framework for all of our decision making, and will allow us to respond positively to the issues of sustainability, Peak Oil and climate change.

- 15.2 To help us achieve this, it is intended that this background paper will bring to the fore, the very difficult decisions that will have to be made to address the issues of climate change. It will form part of the evidence used to formulate the spatial strategy and policies of the Core Strategy and other associated development plan documents.

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Appendix 1 - The top five sub-issues arising from the Key Issues

Key Issue	Top 5 sub-issues				
Addressing the impact of climate change 561 comments were made in relation to this issue	More energy efficiency/conservation	Better use of public transport	Reduce traffic	Encourage more recycling	Carbon neutral developments
	Number of comments				
	87 (16%)	79 (14%)	72 (13%)	67 (12%)	58 (10%)
Top 5 sub-issues					
Improving air quality 210 comments were made in relation to this issue	Reduce CO ₂ output	Encourage greener forms of transport	Air quality is not a key issue	Encourage the use of public transport	Resolve odour problems
	Number of comments				
	59 (28%)	43 (20%)	30 (14%)	28 (13%)	15 (7%)
Top 5 sub-issues					
Better use of waste management 451 comments were made in relation to this issue	More doorstep recycling	Reduce waste outputs	Better recycling facilities	More rural collections	Less packaging
	Number of comments				
	75 (17%)	53 (12%)	50 (11%)	44 (10%)	38 (8%)
Top 5 sub-issues					
Better use of water 313 comments were made in relation to this issue	Flood prevention methods	No development on the flood plains	Provision for the use of grey water	Encourage people to use less water	Build better drainage systems
	Number of comments				
	86 (27%)	73 (23%)	52 (17%)	34 (11%)	18 (6%)

Appendix 2 - The Vision, Objective 9 and Policy Options

This is a revised version of the Vision and Objective 9 following the Developing Options Consultation. For further details see the Vision and Objectives Background Paper.

Vision

The following spatial vision is proposed to help achieve the long-term vision of the Core Strategy:

Revised Vision

Herefordshire will be a place of distinctive environmental, historical and cultural assets and local communities, with sustainable development fostering a high quality of life for those who live, work and visit here. A sustainable future for the county will be based on the interdependence of the themes of social progress, economic prosperity and environmental quality with the aim of increasing the county's self-reliance and resilience.

1. Social Progress

By 2026, decent, affordable homes, jobs, health and community facilities and other necessary infrastructure will have been provided in urban and rural areas to meet the needs of all sections of the population creating safe, inclusive places and robust communities which promote good health and well-being. The opportunities and benefits from open space, leisure, shopping, sport, art, heritage, learning, health and tourism facilities and assets will be maximised enabling more active lifestyles, the progression and retention of our young people and an improved quality of life. Residents, visitors and workers in urban and rural areas will have a reduced need to travel by car with opportunities for 'active travel' i.e. walking and cycling promoted, along with improved accessibility to public transport. In Hereford, congestion will be managed and public transport improved through a balanced package of transport measures including the provision of a relief road, park and ride facilities and bus priority schemes. Residents will have the opportunity to contribute to the shaping of their place through continuous engagement.

2. Economic Prosperity

By 2026, Herefordshire will have a thriving local economy, with a balanced and diversified business base, and a more adaptable and skilled workforce. New employment land will have been provided to complement new homes and support higher-waged jobs enabling existing and future businesses to grow and thrive. Workplace and resident incomes will compare favourably with the regional average and a genuine commitment by all businesses to sustainable development will underpin a unique quality of life with rural enterprise hubs and live-work units promoted. Educational developments (including higher education) will bolster and support local resources and strengths, such as agriculture, food production, forestry, equestrian expertise and tourism as well as support improved skills training, development and local job opportunities. With the implementation

of proposals for city centre expansion and regeneration, Hereford will be a strong, sub-regional shopping, employment, leisure and cultural focus for the county. The market towns will be distinctive, thriving service centres that are better linked to their catchment villages in terms of service provision and transport. Our village-based services will be supported through new development in appropriate locations to foster sustainable communities. Herefordshire will be a sought after destination for quality leisure visits and sustainable tourism by more fully utilising, but respecting, the county's unique environmental assets.

3. Environmental Quality

New development will be accommodated in ways to ensure that local distinctiveness is reinforced. The wider impacts of climate change will be addressed by reducing carbon emissions, minimising pollution and the risk of flooding, ensuring availability of natural resources, and by providing appropriate waste management facilities and renewable energy schemes. Networks of connected, well managed and accessible natural green spaces will provide a range of enhanced leisure and health benefits within and between towns, villages and the countryside. Local food production and processing will be fostered whilst supporting stewardship of soils and water, biodiversity and the characteristic Herefordshire landscape. The area's historic environmental resource, including its natural beauty and quality of landscape, biodiversity, built development and cultural heritage, will be enhanced. It will underpin and foster growth and innovation in businesses and jobs; being accessed, appreciated and actively supported by more people, for more purposes, in all walks of life.

Objective 9

(Objective 9 has been revised, and is now Objective 11).

To achieve the vision, objectives are proposed. Objective 11 focuses on the accommodation of growth in Herefordshire in ways that ensure the environment is sufficiently robust to adapt to the wider impacts of climate change, including minimising pollution, ensuring availability of water resources and providing appropriate waste management facilities.

'To address the impacts of climate change by ensuring new development uses sustainable design and construction methods to conserve natural resources, does not increase flood risk to new or existing property, increases the use of renewable forms of energy and maximises energy efficiency to reduce carbon emissions, minimises waste and pollution and manages water supply and conservation.'

Policy Options

Responses to the policy options have provided a strong steer towards the range of, and emphasis on, the policies to be included in the 'Preferred Options' stage of the Core Strategy, and will ultimately assist in bringing about changes in the way we deal with development in the county. The following policy options fall under the theme of Sustainable Communities, and highlight the role that planning can play in mitigating the causes and effects of climate change.

Summary of responses to the Developing Options Questionnaire:

- **Q37: How can Herefordshire increase its usage of renewable energy sources?**

Option 1 – Highlight specific technologies and locations in Herefordshire where renewable energy sources could be promoted.

Number of respondents: 693

Yes: 93%

No: 7%

Number of 'no opinion' or answer not provided: 289

Option 2 – Set targets and design requirements for the inclusion of energy from renewable sources within new developments of a particular scale.

Number of respondents: 599

Yes: 82%

No: 18%

Number of 'no opinion' or answer not provided: 383

- **Q38: How should Herefordshire manage the waste it produces?**

Option 1 - Identify locations where specific waste management facilities will be required.

Number of respondents: 606

Yes: 94%

No: 6%

Number of 'no opinion' or answer not provided: 376

Option 2 - Provide a set of generic criteria in a policy for new waste management facilities which would be used to judge planning applications against.

Number of respondents: 485

Yes: 81%

No: 19%

Number of 'no opinion' or answer not provided: 497

Option 3 - Revise a policy whereby all new development of a certain size will need to be accompanied by a new local waste facility being built or contributed to.

Yes: 85%

No: 15%

Number of 'no opinion' or answer not provided: 370

- **Q40: How should flooding issues in Herefordshire be addressed with the increasing needs for future development?**

Development of flood risk areas:

Number of respondents: 781

Option 1 - Devise policy based on PPS25 (Flood Risk) and Strategic Flood Risk Assessment: 26%

Option 2 - Adopt stricter policy, only develop in areas of no known flood risk: 74%

Design of development:

Option 1 - Introduce built or natural design approaches to tolerate or adapt to flooding.

Number of respondents: 541

Yes: 82%

No: 18%

Number of 'no opinion' or answer not provided: 441

Option 2 - Ensure all new development includes methods to collect store and reuse rainwater.

Number of respondents: 685

Yes: 97%

No: 3%

Number of 'no opinion' or answer not provided: 297

Option 3 - Work with developers to determine the most appropriate design solutions with regards to reducing flooding risk at the application stage.

Number of respondents: 651

Yes: 91%

No: 9%

Number of 'no opinion' or answer not provided: 331

- **Q41: How can we balance the growing needs for water and the special conservation status of the rivers Wye and Lugg?**

Option 1 - Ensure that all new development incorporates water saving and efficiency measures linked to the code for Sustainable Homes requirements.

Number of respondents: 598

Yes: 96%

No: 4%

Number of 'no opinion' or answer not provided: 384

Option 2 - Incorporate phasing proposals to enable necessary new infrastructure to be put in place prior to the commencement of the new development.

Number of respondents: 496

Yes: 94%

No: 6%

Number of 'no opinion' or answer not provided: 486

Option 3 - Require developments over a certain threshold to contribute to incorporating water saving and efficiency measures into existing properties.

Number of respondents: 470

Yes: 86%

No: 14%

Number of 'no opinion' or answer not provided: 512

Option 4 - A combination of Options 1, 2 and 3

Number of respondents: 647

Yes: 93%

No: 7%

Number of 'no opinion' or answer not provided: 335

▪ **Q43: Is there anything else you would like to say about sustainable communities?**

There were 199 comments to this question. Those that are relevant to climate change can be seen below:

- Improve quality of sustainable design and construction (through design policy) (32)
- Promote sources of alternative/renewable energy (20)
- Improvements needed in waste management including more recycling (25)
- Promote water/energy saving measures and management (16)
- Retain, improve and develop more community services and facilities (13)
- Maintain the distinctive character and diversity of Herefordshire (8)
- Encourage pedestrians and cyclists, provide more public transport (8)

▪ **Summary of responses from Stakeholders:**

Government Office for the West Midlands: Identify broad locations for waste and minerals using generic criteria.

Environment Agency: Appropriate waste storage and management can prevent risks to groundwater. Manage mineral extraction to minimise impact on groundwater quality. Section 106 to be used for tangible benefits. Promote water/energy saving measures and management. Need to look at holistic river catchment management, for example Catchment Management Strategies.

English Heritage: Take into account English Heritage's guidance on renewable technologies and its policy statement on mineral extraction. Improve the quality of sustainable design and construction (through design policy).

Natural England: Consider the merits of a local design panel. Need policy for energy efficiency and reductions in CO₂. Minimise energy wasted through existing housing stock.

Access for all: Financial help should be provided for voluntary organisations. There is a need for affordable housing, and a need for conditions requiring energy saving measures. Encourage green spaces and promote walking and cycling.

The Bulmer Foundation: Support proposals for a county-wide plan for the use of renewable sources. Incorporate natural waste management, for example composting, bio-digesters and water purification systems. Support small-scale mineral extraction. Examine natural flood management and river catchment projects. Support the development of a local design and construction policy. Opt into the Sustainable Communities Act. There is a need for modes of sustainable transport.

Herefordshire Friends of the Earth: Need a section that incorporates an overarching policy on sustainable development. There is a flaw in treating some aspects of development under place shaping, some under policy options, and some under both. A new policy is needed on development and climate change. Section 106 should be used to control commercial waste. Development options are being selected in advance of evidence. A minimum 5-star standard should be adopted from the Code for Sustainable Homes.

Campaign to Protect Rural England: Options are not offered for solving the key issue of reducing the generation of waste. As the waste study has not been completed it is premature and unsound to be deciding on options. Design requirements may inhibit provision of lower cost housing. Policy should reflect the Code for Sustainable Homes.

Appendix 3 - Evidence Base Reports

Strategic Flood Risk Assessment (2009)
Minerals and Waste Planning Assessment (2009)
Water Cycle Study (2009)
Herefordshire Green Infrastructure Study (2008)

Appendix 4 - Internal and external consultees

External consultees

Organisation

Advantage West Midlands
Campaign to Protect Rural England
Chamber of Commerce Herefordshire and Worcestershire
CLA Country Land & Business Association
Commission for Architecture and the Built Environment
Dwr Cymru Welsh Water
English Heritage
Environment Agency
Environment Agency - Upper Severn Area
Forestry Commission
Friends of the Earth (Herefordshire)
Government Office West Midlands
Hereford and Worcester FWAG
Herefordshire Nature Trust
Herefordshire Rural Hub
Herefordshire Wildlife Trust
Highways Agency
Home Builders Federation Ltd
Hyder Consulting (Drainage)
Malvern Hills AONB Joint Advisory Committee
Marches Energy Agency
Natural England
NFU West Midlands
Severn Trent Water Ltd
Sustrans West Midlands Office
The British Wind Energy Association
The Bulmer Foundation
The National Trust
Transition Hereford/Interface Group on Climate Change
West Midlands Region NFU
West Midlands Regional Planning Body (West Midlands Regional Assembly)
Woodland Trust
Wye Valley AONB Office

Herefordshire Council internal consultees

Trish Marsh	Sustainability Unit - Environment and Culture
Debby Klein	Development Management – Minerals and Waste
Mike Willmont	Development Management
Chris Jenner	Building Control
Harry Fitch	Strategic Housing
Richard Wood	Waste Management
Bill Bloxsome	Conservation
Bruce Chartres	Environmental Protection
Philippa Lydford	Herefordshire Partnership
Steve Burgess	Transportation

Appendix 5 – Core Strategy Objectives 4, 10 and 11

4. To reduce the need to travel and lessen the harmful impacts from traffic growth, promote active travel and improve quality of life by locating significant new development where access to employment, shopping, education, health, recreation, leisure and other services are, or could be made available by walking, cycling or public transport.

10. To achieve sustainable communities and protect the environment by delivering well-designed places, spaces and buildings, which use land efficiently, reinforce local distinctiveness and are supported by the necessary infrastructure including green infrastructure.

11. To address the causes and impacts of climate change by ensuring new development: uses sustainable design and construction methods to conserve natural resources, does not increase flood risk to new or existing property, increases the use of renewable forms of energy to reduce carbon emissions, minimises waste and pollution, manages water supply and conservation and conserves and protects biodiversity and geodiversity.

Glossary

Air Quality Action Plan – a local Air Quality Action Plan will be devised to improve air quality, if a local authority declares an Air Quality Management Area.

Air Quality Management Area - an area which a local authority had designated for action, based upon a prediction that Air Quality Objectives will be exceeded.

Annual Monitoring Report - a report submitted to the Government by local planning authorities or regional planning bodies assessing progress with, and the effectiveness of, a Local Development Framework.

Building Regulations - the Building Regulations are made under powers provided in the Building Act 1984 and apply in England and Wales. The current edition of the regulations is the 'Building Regulations 2000' and the majority of building projects are required to comply with them.

Carbon dioxide (CO₂) - a naturally occurring gas, which is also a by-product of burning fossil fuels, biomass burning, land-use changes, and other industrial processes. It is the principal greenhouse gas being emitted by human activities.

Carbon dioxide (CO₂) equivalent - carbon dioxide equivalent is a measure used to compare the emissions from various greenhouse gases based upon their global warming potential. For example, the global warming potential for methane over 100 years is 21. This means that emissions of one million metric tons of methane is equivalent to emissions of 21 million metric tons of carbon dioxide.

Carbon Management Action Plan (CMAP) - the CMAP defines the steps that Herefordshire Council will take to secure its contribution to the reduction targets for CO₂, as part of the Herefordshire Partnership Climate Change Strategy.

Carbon neutral - being carbon neutral involves calculating the total carbon emissions, reducing them where possible, and then balancing the remaining emissions - often by purchasing a carbon offset; for example by paying to plant new trees or by investing in 'green' technologies such as solar and wind power.

Climate change - this refers to the variation in the Earth's global climate or in regional climates over time. It describes changes in the variability or average state of the atmosphere over time scales ranging from decades to millions of years. These changes can be caused by processes internal to the Earth, external forces (e.g. variations in sunlight intensity) or more recently, human activities. In recent usage, especially in the context of environmental policy, the term 'climate change' often refers only to changes in modern climate, including the rise in average surface temperature known as global warming.

Core Strategy - a Development Plan Document setting out the spatial vision and strategic objectives of the planning framework for an area, having regard to the Community Strategy (see also DPDs).

Decentralised energy - a decentralised energy system is one which produces electricity near to where it is used, thereby avoiding the wastage of traditional power stations. Currently around two-thirds of energy in the UK is thrown away as wasted heat at the power station or in long distance transmission, which is why a local decentralised energy system is more efficient.

Development Plan Document (DPD) - Development Plan Documents form an essential part of the Local Development Framework where they outline the key development goals of the local development framework. DPDs include the Core Strategy and where needed, area action plans. There will also be an adopted proposals map which illustrates the spatial extent of policies that must be prepared and maintained to accompany all DPDs.

Energy descent - the transitional period beyond the peak in world oil production, when the ascending use of energy that has occurred since the industrial revolution switches to a descending use.

Energy Descent Action Plan - an Energy Descent Action Plan (EDAP) is a local plan for dealing with Peak Oil. It goes well beyond issues of energy supply, to look at across-the-board creative adaptations in the realms of health, education, economy and much more. An EDAP is a way to think ahead, to plan in an integrated, multidisciplinary way, to provide direction to local government, decision makers, groups and individuals with an interest in making the place they live into a vibrant and viable community in a post-carbon era.

Energy recovery - obtaining energy from waste through a variety of processes (e.g. combustion).

EU Directive 2001/42/EC (SEA-Directive) – the purpose of the SEA-Directive is to ensure that environmental consequences of certain plans and programmes are identified and assessed during their preparation and before their adoption.

Emissions inventory - information concerning the distribution of pollution sources in a certain area and the amount and types of pollutants being emitted.

Energy efficiency - one way of reducing greenhouse gas emissions. This is about making the best or most efficient use of energy in order to achieve a given output of goods or services.

Evidence base - the information and data gathered by local authorities to justify the 'soundness' of the policy approach set out in Local Development Documents, including physical, economic, and social characteristics of an area.

Flood plain - generally low-lying areas adjacent to a watercourse, tidal lengths of a river or the sea, where water flows in times of flood or would flow but for the presence of flood defences.

Flood zone – flood zones refer to the probability of river and sea flooding, ignoring the presence of defences. Zone 1 refers to land assessed as having less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%). Zone 2 comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%), or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year. Zone 3a comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of sea flooding (>0.5%) in any year. Zone 3b comprises the functional floodplain - land where water has to flow or be stored in times of flood.

Fossil fuels (a non renewable fuel) - carbon-rich fuel (coal, oil and natural gas) formed from the remains of ancient animals and plants. Their combustion is considered to contribute to the 'greenhouse effect'.

Fuel poverty - when a household needs to spend more than 10% of their household income on all domestic fuel use including appliances to heat their home to an adequate level of warmth.

General Permitted Development Order (GPDO) - the Town and Country Planning (General Permitted Development) Order 1995 grants rights (known as permitted development rights) to carry out certain limited forms of development without the need to make an application for planning permission.

Global warming - the gradual increase in the average surface temperature of the Earth usually attributed to human activity.

Greenhouse effect - the common term given to the phenomenon whereby certain gases (for example carbon dioxide and methane) build up in the lower atmosphere and prevent heat from the sun's rays from escaping into space.

Greenhouse gases - naturally occurring examples include water vapour, carbon dioxide, methane, nitrous oxide and ozone. Some human activities increase these gases, including fossil fuel combustion within motor vehicles and some power stations.

Growth Point - this refers to the Government's commitment to increasing housing supply, affordable housing and planning reforms. A key element involved local authorities putting forward proposals for sustainable growth in their areas, which could form the basis of a long term partnership with government. Successful authorities could then take a share in

an initial £40m fund for infrastructure projects and essential studies to support sustainable growth.

Habitats Regulations Assessment – assesses the likely impacts of the possible effects of a plan’s policies, in order to protect the integrity of internationally important nature sites.

Indicator - plans should always include clear and measurable indicators that go beyond monitoring the ‘process’ to include also the ‘outcome’ of planned interventions. It is a number, proportion, percentage or rate that ‘indicates’ the extent to which planned activities have been conducted (*process* and *output indicators*) and programme achievements have been made (*outcome* and *impact indicators*).

Local Agenda 21 - a comprehensive action strategy prepared by local authorities to help achieve sustainable development.

Local Area Agreement (LAA) - a three year agreement, based on local Sustainable Community Strategies, that sets out the priorities for a local area agreed between central government, represented by the Government Office (GO), and a local area, represented by the local authority and other key partners through Local Strategic Partnerships (LSPs).

Local Climate Impacts Profile - a simple tool designed to help organisations to assess their exposure to weather and climate. The LCLIP process highlights a locality’s vulnerability to severe weather events and how these events affect local communities as well as local authority assets, infrastructure and capacity to deliver services. Undertaking a local climate impact profile (LCLIP) is one way for local authorities to meet Level 1 of National Indicator 188 – planning to adapt to climate change.

Local Development Documents (LDDs) - these include Development Plan Documents (which form part of the statutory development plan) and Supplementary Planning Documents (which do not form part of the statutory development plan). LDDs collectively deliver the spatial planning strategy for the local planning authority’s area.

Local Development Framework - the Local Development Framework (LDF) is a non-statutory term used to describe a folder of documents, which includes all the local planning authority’s local development documents.

Land bank - the stock land with planning permissions but where development has yet to take place. The land bank can be of land for minerals, housing or any other use.

Local Nature Reserve - non-statutory habitats of local significance designated by local authorities where protection and public understanding of nature conservation is encouraged. (See also Site of Importance to Nature Conservation).

Methane (CH₄) - the primary component of natural gas and an important energy source. Methane is also a greenhouse gas, meaning that its presence in the atmosphere affects the Earth’s temperature and climate system. It is 21 times more potent as a greenhouse gas than carbon dioxide (CO₂), when measured over 100 years.

Mineral reserve - mineral deposits which have been tested to establish the quality and quantity of material present and which could be economically and technically exploited.

National Air Quality Strategy (NAQS) - a national programme to monitor and manage air pollution levels and air quality in the UK. It was published in spring 1997 following the Environment Act of 1995.

National Nature Reserve - areas designated with the aim of securing protection and appropriate management of the most important areas of wildlife habitat, and to provide a resource for scientific research. All National Nature Reserves are Sites of Special Scientific Interest.

Nitrogen dioxide (NO₂) - one of the nitrogen oxides (NO_x), a group of air pollutants produced from combustion processes. In urban areas, the presence of NO₂ is mainly due to traffic. Nitric oxide (NO), which is emitted by motor vehicles or other combustion processes, combines with oxygen in the atmosphere to produce NO₂. NO₂ and other nitrogen oxides are also precursors for a number of harmful secondary air pollutants such as ozone and particulate matter, and play a role in the formation of acid rain.

Nitrous Oxide (N₂O) - Nitrous oxide is emitted by bacteria in soils and oceans, and thus has been a part of Earth's atmosphere for eons. It is the fourth largest contributor to greenhouse gases, ranking behind carbon dioxide, methane, and water vapour. Agriculture is the main source of human-produced nitrous oxide - through the cultivating of soil, the use of nitrogen fertilizers, and animal waste handling, all of which can stimulate naturally occurring bacteria to produce more nitrous oxide.

Nottingham Declaration - launched in October 2000 in Nottingham, the Declaration recognises the central role of local authorities in leading society's response to the challenge of climate change. By signing the Declaration councils pledge to systematically address the causes of climate change and to prepare their community for its impacts.

Peak Oil – a point in time when the maximum rate of global oil extraction is reached, after which the rate of production will enter terminal decline; meaning that oil will become increasingly scarce and more expensive as the current oil producing countries find their easy-to-reach reserves declining.

Performance indicators - are measures that show whether or not objectives are being achieved. They can be used to help show whether planning policy is effective, or be used in helping to conduct a Sustainability Appraisal.

Priority species and habitats - species and habitats listed as priorities for conservation action under the UK Biodiversity Action Plan (UK BAP).

Regional Spatial Strategy - a strategy for how a region should look in 15 to 20 years time and possibly longer. The Regional Spatial Strategy identifies the scale and distribution of new housing in the region, indicates areas for regeneration, expansion or sub-regional planning and specifies priorities for the environment, transport, infrastructure, economic development, agriculture, minerals and waste treatment and disposal.

Renewable energy - energy generated from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are renewable (naturally replenished).

Section 106 agreement - a legal agreement under section 106 of the 1990 Town & Country Planning Act. Section 106 agreements are legal agreements between a planning authority and a developer, or undertakings offered unilaterally by a developer, that ensure that certain extra works related to a development are undertaken.

Settlement hierarchy - a way of arranging settlements into a hierarchy based upon their population or other criteria such as access to services. Position in a settlement hierarchy can also depend on the sphere of influence, for example how far people are prepared to travel in order to use the services.

Site of Importance to Nature Conservation - a non-statutory designation for sites which warrant special protection because of their local importance for flora or fauna.

Sites of Special Scientific Interest (SSSI) - a site identified under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) as an area of special interest by reason of any of its flora, fauna, geological or physiographical features (plants, animals, and natural features relating to the Earth's structure).

Spatial planning - spatial planning goes beyond traditional land use planning to bring together and integrate policies for the development and use of land with other policies and programmes which influence the nature of places and how they function. This will include policies which can impact on land use by influencing the demands on, or needs for, development, but which are not capable of being delivered solely or mainly through the granting or refusal of planning permission and which may be implemented by other means.

Special Area of Conservation - a site designated under the European Community Habitats Directive, to protect internationally important natural habitats and species.

Special Wildlife Site - a non-statutory designation for sites of county significance for their wildlife.

Strategic Environment Assessment - an environmental assessment of certain plans and programmes, including those in the field of planning and land use, which complies with the EU Directive 2001/42/EC.

Strategic Flood Risk Assessment (SFRA) - Strategic Flood Risk Assessments are a required part of the local planning process, as set out in Planning Policy Statement 25. They are primarily produced by local planning authorities, in consultation with the Environment Agency, and are intended to form the basis for preparing appropriate policies for flood risk management at the local level.

Strategic planning - strategic policy and planning takes a long-term view and focuses on medium to long-term implications. It involves the examination of external trends and forces that affect the local community, as well as the adoption of appropriate courses of action and the allocation of resources, that are necessary for carrying out specific goals and objectives.

Sustainability Appraisal - an appraisal of the economic, environmental and social effects of a plan from the outset of the preparation process, to allow decisions to be made that comply with the principles of sustainable development.

Sustainable community - a community which uses its resources to meet current needs while ensuring that adequate resources are available for future generations. Such a community seeks improved public health and better quality of life for all its residents by limiting waste, preventing pollution, maximising conservation and promoting efficiency, and developing local resources to enhance the local economy.

Sustainable Community Strategy - local authorities are required to prepare these with the aim of improving the social, environmental and economic well-being of their areas. Through the Sustainable Community Strategy, authorities are expected to co-ordinate the actions of the public, private, voluntary and community sectors.

Sustainable development - development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The Government has set out four aims for sustainable development to be achieved simultaneously: social progress which recognises the needs of everyone; effective protection of the environment; prudent use of natural resources; and maintenance of high and stable levels of economic growth and employment.

Sustainable Drainage System (SuDS) - a sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques.

Target Emission Rate (TER) - the minimum energy performance requirement for new dwellings approved by the Secretary of State in accordance with Regulation 17B of the Building Regulations. It is expressed in terms of the mass of CO₂, in units of kg per m² of floor area, emitted per year as a result of the provision of heating, hot water, ventilation and internal fixed lighting for a standardised household.

Transition initiative - a community working together to look issues surrounding Peak Oil and climate change; and ways to reduce carbon emissions, and increase community resilience in light of energy descent.

Waste recovery - any waste management operation that diverts a waste material from the waste stream and which results in a certain product with a potential economic or ecological benefit. Recovery mainly refers to: material recovery such as recycling; energy recovery such as the re-use as a fuel; biological recovery, such as through composting; and general re-use.

Water resources management plan - It is now a statutory duty for water companies to prepare, consult, publish and maintain a water resources management plan under new sections of the Water Industry Act 1991, brought in by the Water Act of 2003. A Water Resources Management Plan is a long term (25 year) strategy showing how demands for, and supply of, water will be managed. It shows how any predicted shortfalls in demand will be met through a combination of leakage reduction, demand management measures

and resource schemes; and more specifically, it provides solutions to meet the future supply demand.

Water Cycle Study - this will form part of the Growth Point Study and will investigate the availability of water supply, treatment and infrastructure in Herefordshire County, in addition to areas that are at risk of flooding.

Zero carbon - any activity (whether an operation, plan or policy) where absolute carbon emissions are zero.