



Working towards a Core Strategy for Wiltshire

Topic paper 1: Climate change

Wiltshire Core Strategy
Consultation January 2012

This paper is one of 16 topic papers, listed below, which form part of the evidence base in support of the emerging Wiltshire Core Strategy. These topic papers have been produced in order to present a coordinated view of some of the main evidence that has been considered in drafting the emerging Core Strategy. It is hoped that this will make it easier to understand how we had reached our conclusions. The papers are all available from the council website:

Topic Paper

- TP1: Climate Change
- TP2: Housing
- TP3: Settlement Strategy
- TP4: Rural Signposting Tool
- TP5: Natural Environment
- TP6: Retail
- TP7: Economy
- TP8: Infrastructure and Planning Obligations
- TP9: Built and Historic Environment
- TP10: Transport
- TP11: Green Infrastructure
- TP12: Site Selection Process
- TP13: Military Issues
- TP14: Building Resilient Communities
- TP15: Housing Requirement Technical Paper
- TP16: Gypsy and Travellers

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Abbreviations

AONB	Area of Outstanding Natural Beauty
BERR	Department for Business, Enterprise and Regulatory Reform
BRE	Building Research Establishment
BREEAM	Building Research Establishment Environmental Assessment Method
CAVE	Chippenham and Villages Environmentalists
CIL	Community Infrastructure Levy
CLG	Department for Communities and Local Government
CO ₂	Carbon dioxide
CSH	Code for Sustainable Homes
DEFRA	Department for Environment, Food and Rural Affairs
DPD	Development Plan Document
EU	European Union
FIT	Feed in Tariff
GHG	Greenhouse Gas
GOSW	Government Office for the South West
IPCC	Intergovernmental Panel on Climate Change
kW	Kilowatts
LAW	Local Agreement for Wiltshire
LCLIP	Local Climate Impacts Profile
LDD	Local Development Document
LDF	Local Development Framework
LGR	Local Government Re-organisation
LPA	Local Planning Authority
MOD	Ministry of Defence
MW	Megawatts
NHS	National Health Service
PPS	Planning Policy Statement
PV	Photovoltaic
RE	Renewable Energy
RHI	Renewable Heat Incentive
RSL	Registered Social Landlord
RSS	Regional Spatial Strategy
SA	Sustainability Appraisal
SAP	Standard Assessment Procedure
SCS	Sustainable Community Strategy
SES	Sustainable Energy Strategy
SPG	Supplementary Planning Guidance
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Drainage Systems
UKCP09	United Kingdom Climate Projections 2009
UK RES	United Kingdom Renewable Energy Strategy
UNFCC	United Nations Framework Convention on Climate Change
WSEPS	Wiltshire Sustainable Energy Planning Study

Glossary

Definitions of the key terms used in this topic paper are provided below. Many of these definitions are sourced from the *South West Planners Toolkit*¹ and the *Wiltshire Sustainable Energy Planning Study (2011)*².

Allowable solutions: Used in the Definition of Zero Carbon Homes and Non-Domestic Buildings consultation (CLG, 2008) to describe a range of solutions that can deal with the remaining building emissions, after maximising solutions that are on the site of the development.

Anchor heat load: A pre-existing heat load that could be connected to a district heating network. The benefit of heat loads which exist before the district heating network are that they can use heat from the district heating network immediately it is available, providing an early income stream for the operators of the network and making it more financially attractive.

Biomass: Living matter within an environmental area, for example plant material, vegetation, or agricultural waste used as a fuel or energy source. This is a 'carbon neutral' energy source because carbon dioxide is absorbed during the life of the crop, which is then released during combustion.

Building for Life standards: This is the national standard for well-designed homes and neighbourhoods.

Building Regulations: The Building Regulations set standards for design and construction which apply to most new buildings and alterations to existing buildings in England and Wales.

Building Research Establishment Environmental Assessment Method (BREEAM): A voluntary scheme from the Building Research Establishment (BRE) that aims to quantify and reduce the environmental burdens of buildings by rewarding those designs that take positive steps to minimise their environmental impacts.

Carbon dioxide: One of the Greenhouse Gases (GHG), which cause climate change. It is the most significant due to its extreme proliferation caused by the burning of fossil fuels, but not the most potent in terms of impact per unit.

Carbon footprint: A measurement of the total greenhouse gas emissions caused directly and indirectly by a person, organisation, product or event. Usually measured in tonnes of carbon dioxide equivalent (tCO₂e) to allow different greenhouse gases to be compared on a like-for-like basis relative to one unit of carbon dioxide.

Climate change: The process by which human activities, most specifically the burning of fossil fuels, is believed to be altering Earth's climate, leading to unpredictable extreme weather conditions.

Climate change adaptation: Actions taken to adjust natural or human systems in response to existing or expected climatic effects, which either moderate harm or exploit beneficial opportunities.

¹ Regen SW (2010). South West Planners Toolkit.

² Camco (2011). Wiltshire Sustainable Energy Planning Study – January 2011.

Climate change mitigation: Actions taken to reduce the impact of human activity on the climate system, primarily through reducing greenhouse gas emissions.

Code for Sustainable Homes: This is the national standard in England for the sustainable design and construction of new homes. Each new home is given a star rating of between one and six to communicate its overall sustainability performance.

Combined Heat and Power (CHP): The simultaneous generation of usable heat and power (usually electricity) in a single process, thereby reducing wasted heat and putting to use heat that would normally be wasted.

Community Infrastructure Levy (CIL): A proposed levy, which can be charged by Local Authorities, on most types of new development in their area. CIL charges will be based on simple formulae which relate to the size and character of the development.

Decent Homes standard: Communities and Local Government standard which states that a home must be warm, weatherproof and have reasonably modern facilities in order to be classed as 'decent'.

Decentralised energy: Energy from local renewable and low-carbon sources (i.e. on-site and near-site, but not remote off-site).

District heating network: A system where a centralised heat generating plant (using any one of a range of technologies) provides heat to surrounding buildings in the area by means of a network of pipes.

Emissions scenarios: A plausible representation of the future development of emissions of substances (e.g. greenhouse gases) that can influence the global climate. For example those developed by the Intergovernmental Panel on Climate Change (IPCC).

Energy efficiency measures: Design measures which reduce the base energy demand from a building.

Energy from waste: The conversion of waste into a useable form of energy, often heat or electricity.

Feed in Tariff (FIT): A UK Government cash back scheme guaranteeing payment to people who generate low carbon electricity up to 5 mega watts (MW).

Fuel poverty: The Department of Energy and Climate Change states that "a household is said to be in fuel poverty if it needs to spend more than 10% of its income on fuel to maintain a satisfactory heating regime (usually 21 degrees for the main living area, and 18 degrees for other occupied rooms)".

Green Infrastructure: A network of multi-functional green spaces, both new and existing, both rural and urban, which supports the natural and ecological processes and is integral to the health and quality of life of sustainable communities.

Greenhouse Gas (GHG): Any gas that absorbs infra-red radiation in the atmosphere, thus contributing to global warming. Carbon dioxide is a greenhouse gas.

Heat mapping: A visual representation of the heat demand in a given area.

Heat pumps: Heat pumps use heat from either the ground or the outside air to heat a building. Ground- and Air- source heat pumps are not completely 'renewable' as they require electricity to drive their pumps or compressors.

Hydro power: A technology generating electricity from running water.

Intergovernmental Panel on Climate Change (IPCC): The leading international body for the assessment of climate change. The IPCC is a scientific body which reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change.

Lifetime Homes standard: The Lifetime Homes standard is a set of 16 design criteria that provide a model for building accessible and adaptable homes. The design features aim to support the changing needs of individuals and families at different stages of life.

Low carbon technologies: Low-carbon technologies are those that can help reduce carbon emissions.

Micro-generation: Any renewable energy installation which produces less than 50 kW of electricity (Energy Act 2004).

National Indicators (e.g. NI 187; NI 188): A single set of indicators for measuring performance against national priorities. It has been announced that national indicators will be replaced with a single comprehensive list of all data reporting requirements for local government.

On-site measures: Any measures taken by a developer within the boundary of a site.

Passive design measures: Design measures which seek to use natural elements to heat, cool or light a building.

Practical potential: The potential for renewable development depending upon a number of physical constraints as well as other assumptions regarding economic and social issues such as development economics, existing market mechanisms, typical UK planning approval rates, etc. These assumptions vary depending on the technology discussed and act as a guide only for potential development.

Precautionary approach: This approach involves taking action now to avoid possible environmental damage when the scientific evidence for acting is inconclusive but the potential damage could be great.

Probability level: The UKCP09 work includes probabilistic climate projections. Each projection is accompanied by a 'probability level' which indicates the degree of certainty associated with that projection.

Regulated emissions: That element of a building's carbon dioxide emissions which are controlled by Part L of the Building Regulations (space and water heating, ventilation, lighting, pumps, fans & controls).

Renewable Heat Incentive (RHI): The Energy Act 2008 allows for the setting up of a Renewable Heat Incentive (RHI), which would provide financial assistance to

generators of renewable heat and to some producers of renewable heat, such as producers of bio-methane.

Renewable energy: Renewable energy covers those energy flows that occur naturally and repeatedly in the environment, from the wind, the fall of water, the movement of the oceans, from the sun and also from biomass.

Retrofitting: Improving existing buildings in order to increase energy efficiency and reduce their carbon footprint.

Standard Assessment Procedure (SAP): This is the methodology which must be used to demonstrate compliance of any new dwellings with Part L of the Building Regulations.

Section 106 Agreement: 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.

Solar gain: Heat gain in a building which results from solar radiation. This can be maximised through the use of passive design measures such as building orientation or window placement.

Solar Photovoltaics (Solar PV): Renewable system for converting sunlight into electricity.

Solar thermal: This is primarily a hot-water technology. It works by absorbing energy from the sun and then heating water (using heat exchangers).

Sustainable development: A widely used definition is that drawn up by the World Commission on Environment and Development in 1987: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Sustainable Drainage Systems (SUDS): A sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques.

Technical potential: The potential for renewable development depending upon a number of physical constraints but ignoring any financial or planning implications of such developments.

Unregulated emissions: Emissions arising from appliances and other electrical items which are not controlled by Part L of the Building Regulations.

1. Executive summary

1.1 Introduction

- 1.1.1 Climate change has been reported to represent ‘**by far**’ the greatest threat to our natural environment, social well-being and economic future³.
- 1.1.2 In 2009, the international community reached agreement, in Copenhagen, that the rise in global temperature should be limited to 2⁰C, above pre-industrial levels. Beyond 2⁰C warming, the risks associated with climate change, are considered to be ‘dangerous’⁴. However, to achieve this target, ambitious reductions in global emissions of Greenhouse Gases (GHG) will be necessary.
- 1.1.3 The temperature in England has already risen by about 1⁰C since the 1970’s and 2006 was the warmest year of 348 years on record⁵. It has been reported that a ‘**step change**’ is needed to ensure the international and UK commitments to addressing climate change are met.
- 1.1.4 The planning system is expected to make a significant contribution to tackling climate change. Planning is pivotal, for example, to energy demand reduction, delivering renewable energy and for addressing problems such as extreme temperature and flood risk to new development.
- 1.1.5 The Wiltshire Core Strategy will set a strategic policy framework to influence the shape of development in Wiltshire up to 2026. This paper summarises evidence to support the policies included in the core strategy relating to climate change.
- 1.1.6 Climate change is a highly cross cutting topic and many policy areas within the core strategy will relate to it. The Climate Change Topic Paper addresses specific areas relating to both climate change adaptation (how we deal with its unavoidable consequences) and mitigation (how we help to reduce the overall severity of its impacts).
- 1.1.7 Other topic papers, for example concerning water management, green infrastructure or transport, also refer to matters relating to climate change. A list of topic papers is shown on page ii and cross cutting matters are summarised in **Appendix 1**.

1.2 Policy and regulatory framework

- 1.2.1 A comprehensive review of international, national, regional and local policies, strategies and regulations has been undertaken to inform policy development for the Wiltshire Core Strategy relating to climate change.

³ Town and Country Planning Association (2009). Planning and climate change coalition: position statement – October 2009.

⁴ United Nations (2009). Framework convention on climate change (Copenhagen accord). FCCC/CP/2009/L.7.

⁵ Department for Environment, Food and Rural Affairs (2009). Adapting to climate change: UK projections – June 2009.

- 1.2.2 Overall it is clear that a strong national policy framework exists with an imperative for action and an expectation that planning policy will make a significant contribution.
- 1.2.3 In the UK, two national policy drivers are particularly important. These are the *Climate Change Act (2008)*⁶, which sets a legally binding target to reduce carbon (an important GHG) emissions by at least 34 % by 2020 and the *UK Renewable Energy Strategy (2009)*⁷, which states that 15 % of the energy we use should be derived from renewable sources by 2020 (within this target 30 % of electricity should be derived from renewables and 12 % of heat).
- 1.2.4 The UK government sets out policy and guidance to Local Planning Authorities (LPAs) in national Planning Policy Statements (PPS). *The Planning and Climate Change Supplement to PPS 1 (2007)*⁸ is particularly significant to this topic and its recommendations should be **'fully reflected'** in Local Development Documents (LDDs), such as the Wiltshire Core Strategy.
- 1.2.5 A series of requirements are set out within the PPS 1 supplement, which include: providing a framework that promotes and encourages renewable and low-carbon energy generation; that LPAs will form an **'evidenced based'** understanding of the local feasibility and potential for renewables and low-carbon technologies to supply new development in their area; and that new development should be planned with both climate change mitigation and adaptation in mind.
- 1.2.6 A strong framework of policy drivers is also in place in Wiltshire relating to climate change including: *People, Places and Priorities: Wiltshire Community Plan 2011 – 2016 (2010)*⁹. This includes a specific objective on climate change which is to: **"Significantly reduce domestic, business and transport CO₂ emissions across the county in line with national targets"**.
- 1.2.7 The *Wiltshire Energy, Change and Opportunity Strategy (2011)*¹⁰ outlines aspirations for the role of planning policy to contribute to the wider climate change targets for Wiltshire. These include, for example, maximising the opportunities for delivering decentralised, low-carbon and renewable energy.
- 1.2.8 However, a review of the existing planning policy framework in Wiltshire and consultation with council Development Management Officers reveals that this framework has failed to achieve the step change required to meet national and local targets. It is clear that this policy framework is not fit for purpose and is out of date.

⁶ Climate Change Act (2008).

⁷ Department for Energy and Climate Change (2009). UK Renewable Energy Strategy.

⁸ Department for Community and Local Government (2007). Planning and Climate Change Supplement to Planning Policy Statement 1.

⁹ Wiltshire Council (2010) People, Places and Priorities: Wiltshire Community Plan 2011 - 2016

¹⁰ Wiltshire Council (2011). Wiltshire Energy, Change and Opportunity Strategy.

1.3 Evidence

- 1.3.1 Evidence to inform policy development has been considered in relation to three areas. These are: consultation responses to earlier stages of preparing the Wiltshire Core Strategy; climate change adaptation; and climate change mitigation.

Previous consultation responses

- 1.3.2 Responses to earlier consultation events in the preparation of the Wiltshire Core Strategy reveals clear public support for tackling climate change through planning policy. There was, for example, broad support for Strategic Objective 1 which related to climate change, and was set out in the consultation document '*Wiltshire 2026 – Planning for Wiltshire's Future (2009)*'¹¹.

Climate change adaptation

- 1.3.3 It is known that some degree of climate change is now unavoidable. The *Planning and Climate Change Supplement to PPS 1 (2007)*¹² states that: **“New development should be planned to minimise future vulnerability in a changing climate”**.
- 1.3.4 Research has been undertaken to inform the preparation of a Wiltshire Council Climate Change Adaptation Plan. It has been predicted, for example, that annual mean temperature in Wiltshire will rise by between 1.2 and 1.7⁰C by the **2020's** (2010 to 2039) and by 3.1 and 4.1⁰C by the **2080s** (2070 to 2099). This is based on the medium emissions scenario developed by the Intergovernmental Panel on Climate Change (IPCC) and uses the United Kingdom Climate Projections 09 (UKCP09)¹³ tool developed by the Met Office Hadley Centre.
- 1.3.5 A review of media stories over an eight year period from January 2003 to March 2010, reveals that Wiltshire is already experiencing major weather events and that several highly significant events have occurred in the last few years. These include a heat wave in 2003 and excessive rainfall and flooding in 2007¹⁴.
- 1.3.6 Particular vulnerabilities to extreme weather in Wiltshire have been identified and these include: high temperatures/ heat waves; wind; and excessive rainfall/ flooding. Overall, there is a clear need for a Wiltshire specific policy response to ensure that new development is resilient to unavoidable climate change.
- 1.3.7 A review of best practice reveals four areas where planning policy can influence resilience to climate change, which are: managing high temperatures; managing flood risk; managing water resource and water

¹¹ Wiltshire Council (2009). *Wiltshire 2026 – Planning for Wiltshire's Future*.

¹² Department for Community and Local Government (2007). *Planning and Climate Change Supplement to Planning Policy Statement 1*.

¹³ Wiltshire Council (2010). *Wiltshire climate change adaptation plan: Level 1 report – April 2010*.

¹⁴ Wiltshire Council (2010). *Local climate impacts profile: summary report – June 2010*.

quality; and managing ground conditions. Managing flood risk and reducing water consumption will be dealt with separately within the Strategic Flood Risk Assessment and Green Infrastructure Topic Paper. Further assessment may be needed to ascertain the extent ground conditions in Wiltshire may be vulnerable to climate change.

- 1.3.8 A specific policy is needed for inclusion in the Wiltshire Core Strategy to ensure new development is resilient to likely future rises in temperature.

Climate change mitigation

- 1.3.9 The evidence outlining the case for action in Wiltshire to reduce carbon emissions and deliver an increased level of renewable energy is compelling. Key issues include:

- **Wiltshire's per capita carbon emissions are greater than for either the South West or for the UK**¹⁵. In the period from 2005 to 2007 the emissions in Wiltshire went up (by approximately 3.1 %) whereas for the South West overall they went down (by approximately 2.1 %);
- 14,700 owner occupied and 5,600 private rented properties in Wiltshire are living in fuel poverty¹⁶;
- 68 % of private sector properties in Wiltshire do not have a mains gas connection¹⁷ and the rural nature of Wiltshire, overall, may mean households are more vulnerable to fuel poverty;
- The target amount of renewable energy to be installed in Wiltshire (including the administrative area of Swindon Borough Council) by 2010 was for 65 to 85 Mega Watts (MW). The actual amount of renewable energy installed in this area in 2010 was 15.30 MW¹⁸;
- By far the largest component (94 %) of existing renewable energy capacity in Wiltshire is derived from landfill gas which will reduce in the future as the amount of waste sent to landfill is reduced; and
- **Wiltshire contributes the second lowest level of renewable electricity of all authority areas in the South West** (8.9 %) and makes the lowest contribution of renewable heat (4 %)¹⁹.

- 1.3.10 A study was commissioned towards the end of 2009 to fulfil the requirements set out in the PPS 1 supplement. This study, the Wiltshire Sustainable Energy Planning Study (WSEPS) broadly set out to: assess the feasibility and potential for renewable and low-carbon technologies, including micro-generation (any installation that produces less than 50 kilo Watts (KW) of electricity²⁰), to supply new development in Wiltshire; and to make a series of policy recommendations to inform the core strategy.

¹⁵ Department for Energy and Climate Change (2010). Local and regional CO₂ emissions estimates for 2005 - 2008 – Full dataset.

¹⁶ Wiltshire Council (2009). Wiltshire Private Sector House Conditions Survey.

¹⁷ Camco (2011). Wiltshire Sustainable Energy Planning Research.

¹⁸ Regen SW (2010). Renewable electricity and heat projects in South West England.

¹⁹ Regen SW (2010). Renewable electricity and heat projects in South West England.

²⁰ Energy Act (2004).

1.3.11 The WSEPS assessed the potential for a range of Renewable Energy (RE) technologies across Wiltshire. These included large scale technologies such as wind, biomass, hydro and solar arrays. For each technology, both the technical and practical potential was investigated. These considered what was technically possible for a technology (technical potential) and also a more realistic level based on a detailed analysis of constraints and limitations (practical potential). For each technology, a base level scenario was then developed which represents an estimate for the amount of RE that could be delivered in Wiltshire.

1.3.12 The WSEPS has concluded that there is potential for almost 30 % of the projected electricity demand in 2020 and over 9 % of the projected heat demand in 2020, to be derived from renewables in Wiltshire. The report suggests that an installed capacity of almost 367 MW would be needed to meet this level of electricity to be supplied from renewables (Figure 1.1)²¹.

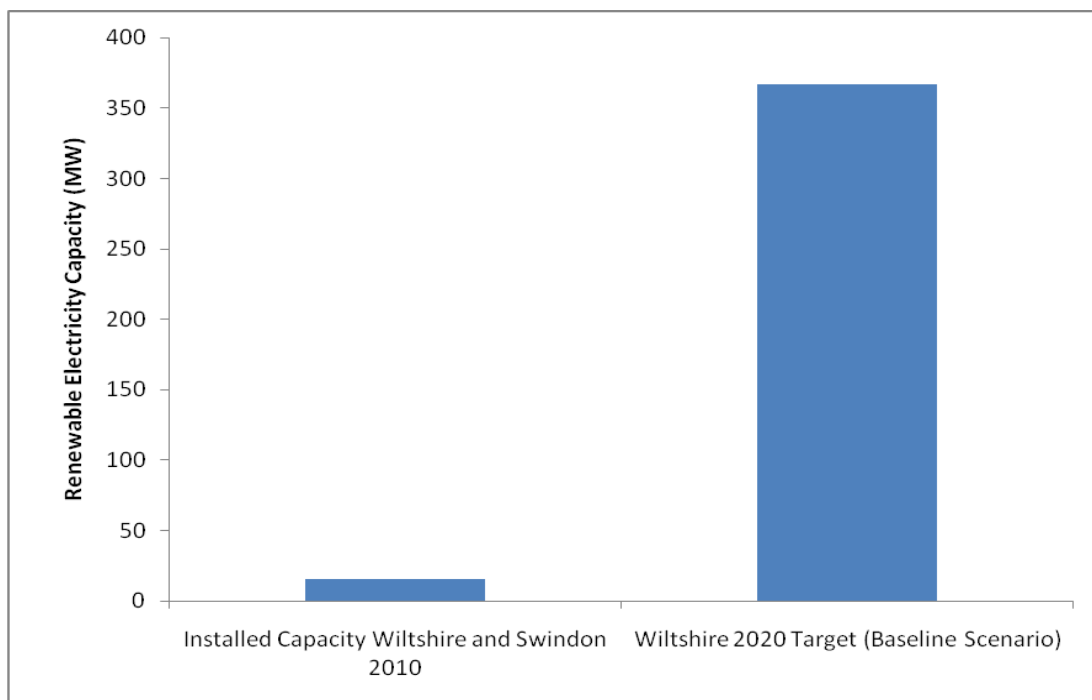


Figure 1.1: Comparison between the installed capacity of renewable electricity in Wiltshire and Swindon in 2010, with the installed capacity for renewable electricity needed in Wiltshire in 2020, to deliver almost 30 % of the projected electricity demand*, in line with targets set out in the *UK Renewable Energy Strategy (2009)*.

1.3.13 Positive policies are needed to maximise the delivery of large scale, standalone RE technologies in Wiltshire to help ensure national and local targets can be met.

²¹ Camco (2011). Wiltshire Sustainable Energy Planning Study.

***This level of renewable energy is based on a scenario developed within the Wiltshire Sustainable Energy and Planning Study (2011) and is based on a series of strict assumptions. The study should be referred to for full details.**

1.3.14 A range of other policy recommendations have been drawn from the WSEPS which seek to maximise the delivery of decentralised, low-carbon and RE and reduce carbon emissions both through new and existing development (these are discussed further in Section 1.5 – over page). However, appropriate low-carbon solutions can only be determined at a site specific level, based on the number of units being proposed, building densities and the mix of the buildings being proposed, along with other factors such as the proximity to renewable resources. These factors need to be considered in relation to policy development.

1.4 Community priorities

1.4.1 Community aspirations and existing actions to help address climate change across Wiltshire have been reviewed. This has included reviewing Community and Parish Plans, any area specific consultation responses to the *Wiltshire 2026* consultation, and other community documents or actions.

1.4.2 It is clear that there is wide ranging support for planning policy to be used to improve delivery of energy efficiency and RE, particularly in new development. Other priorities relate to improving sustainable construction standards and helping to address fuel poverty.

1.4.3 New development should also be considered alongside existing development to maximise the opportunities for developing district heating networks.

1.4.4 A specific opportunity has been identified in Trowbridge for delivering a district energy/ heat network. Three factors make this proposal especially attractive, which are:

- a programme to substantially re-model County Hall, one of the main Wiltshire Council offices located close to the centre of Trowbridge commenced in 2011
- a new leisure campus may be developed on council owned land close to County Hall (this could provide an ‘anchor’ heat customer)
- a number of sites have been identified through the Trowbridge Scoping and Vision Study (2010) which may be suitable for redevelopment. Connecting these sites to an energy/ heat network in Trowbridge may help to improve the overall viability of a scheme.

1.4.5 Planning policy should be used positively to ensure any opportunities for delivering district energy/ heat network in Trowbridge are maximised. Failure to provide certainty through policy may delay delivery of a scheme and jeopardise its long term viability.

1.5 Recommended policy approaches

1.5.1 This paper, in part informed by the WSEPS, makes a series of recommendations for developing policies for inclusion in the Wiltshire Core Strategy to address specific aspects of climate change. Policies are proposed which address six identified issues. These are:

- to ensure new development is resilient to likely future rises in temperatures resulting from climate change

- to set Wiltshire wide sustainable construction standards for new development
- to improve the energy performance of the existing Wiltshire Building stock (where permitted development rights do not apply)
- to maximise opportunities to deliver decentralised, low-carbon and renewable energy in new development
- to encourage the development of large scale standalone renewable energy schemes in Wiltshire
- to support the delivery of a district low-carbon or renewable energy/ heat network in Trowbridge Town Centre.

1.5.2 A summary of the recommended approaches to policy is shown by Table 1.1 (over page).

Table 1.1: Summary of the preferred policy options identified within the Climate Change Topic Paper and recommended for inclusion within the Wiltshire Core Strategy.

Policy Number	Issue/ policy area	Preferred policy option	Category/ policy type
Wiltshire wide			
Core Policy 1	Ensure new development is resilient to likely future rises in temperatures resulting from climate change	Policy to ensure new development is resilient to likely future rises in temperatures, resulting from climate change, through encouraging good design. Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change adaptation • Supporting principles • New development (residential/ commercial)
	Wiltshire wide sustainable construction standards for new development	Set Wiltshire wide standards for sustainable construction (full Code for Sustainable Homes (CSH) - across all nine categories) in line with national timetable for changing Building Regulations to improve the energy performance of buildings (equivalent to the energy component of the CSH). Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change mitigation • Setting minimum standards • New development (residential/ commercial)
	To maximise opportunities to deliver decentralised, low-carbon and renewable energy in new development	Policy seeking to maximise opportunities for delivering decentralised, low-carbon and renewable energy in new developments. A Sustainable Energy Strategy (SES) would be required for all new developments demonstrating how the requirements of the changes to Building Regulations to deliver zero-	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • New development (residential/ commercial)

Policy Number	Issue/ policy area	Preferred policy option	Category/ policy type
		carbon development by 2016 (for residential) and 2019 (for non residential) would be delivered. For major development, the SES should demonstrate why the development was not zero carbon (if this was claimed and if to be built prior to 2016 (for residential) or 2019 (for non residential). Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	
Core Policy 2	To improve the energy performance of the existing Wiltshire building stock (where permitted development does not apply)	Facilitating policy to support and encourage improving the energy performance of the existing building stock in accordance with the energy hierarchy. Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • Existing development (where no permitted development rights)
Core Policy 3	To encourage the development of large scale stand alone renewable energy schemes in Wiltshire	Policy which seeks to encourage and support, where appropriate, large scale renewable technologies. Reference made to targets for renewable energy delivery in Wiltshire in line with UK Renewable Energy Strategy. Reference also made to evidence base setting out identified opportunities. Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • New development (significant infrastructure)

Policy Number	Issue/ policy area	Preferred policy option	Category/ policy type
Location specific			
Area Policy 1	To support the delivery of a district low-carbon or renewable energy/ heat network in Trowbridge Town Centre	Policy supporting the principle of a district energy/ heat network in Trowbridge. This would identify any key development sites and safeguard any land critical for the schemes delivery (for example for heat pipes). Supporting details outlined in subsequent Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • New development (residential/ commercial)

2. Introduction

2.1 Climate change is happening

- 2.1.1 The climate is changing, both in the UK, and around the world. Climate change has been reported to represent **'by far'** the greatest threat to our natural environment, social well-being and economic future²². Two factors are considered to be particularly important:
- i) Because of the time lag in the climatic system, current global Greenhouse Gas (GHG) emissions, and those over the past few decades, have already committed us to some level of change in our climate, which is now unavoidable.
 - ii) Projections of the future likely changes to our climate indicate that the impacts experienced will be significant²³.
- 2.1.2 Extreme weather events are already having an impact in Wiltshire. A review of the past eight years media archives revealed 78 major weather events including: flooding (extensive property damage and infrastructure disruption); snow (infrastructure damage and disruption, health concerns for vulnerable groups); wind (property damage and infrastructure disruption); heat waves (infrastructure damage and disruption, significant health concerns for vulnerable groups)²⁴.
- 2.1.3 Six significant weather events have occurred in Wiltshire since January 2003. These include a heat wave in August 2003 where damage to both rail and road infrastructure was significant and an increase in excess deaths was reported as a result of high temperatures. Flooding in July 2007 caused significant damage and costs to properties in several towns across the county³.
- 2.1.4 It is predicted that annual mean temperature in Wiltshire will rise by between 1.2 and 1.7⁰C by the **2020's** (2010 to 2039) and by between 3.1 and 4.1⁰C by the **2080's** (2070 to 2099)²⁵. This is likely to have serious impacts as shown by Figure 2.1 (over page).
- 2.1.5 The average temperature in England has already risen by about 1⁰C since the 1970s and 2006 was the warmest year of 348 years on record²⁶.

²² Town and County Planning Association (2009). Planning and climate change coalition: position statement – October 2009.

²³ Jenkins, G. J., Murphy, J. M., Sexton, D. S., Lowe, J. A., Jones, P. and Kilsby, C. G. (2009). UK climate projections briefing report. Met Office Hadley Centre, Exeter. UK.

²⁴ Wiltshire Council (2010). Local climate impacts profile: summary report – June 2010.

²⁵ Wiltshire Council (2010). Wiltshire climate change adaptation plan: Level 1 report – April 2010.

²⁶ Department for Environment, Food and Rural Affairs (2009). Adapting to climate change: UK projections – June 2009.

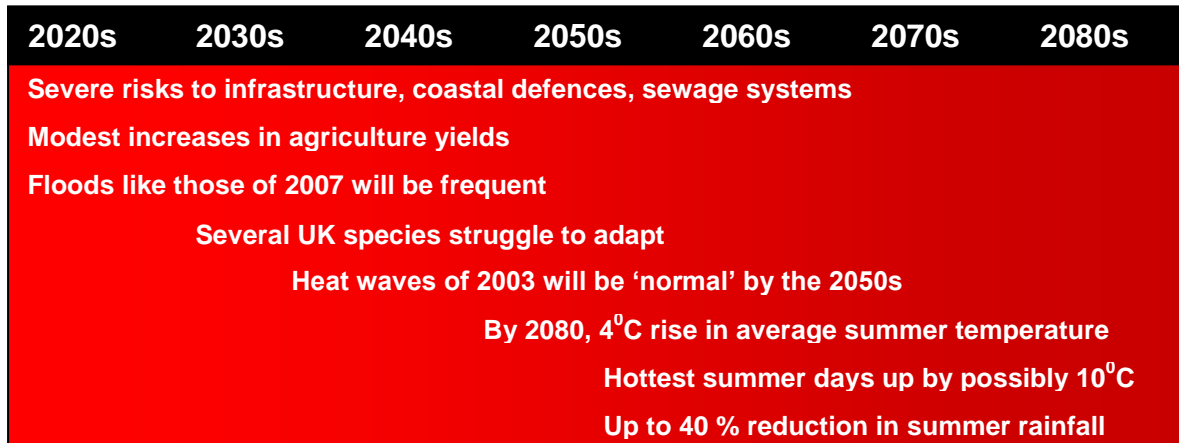


Figure 2.1: Examples of future climate change impacts in the UK²⁷.

2.2 The scale of the challenge

- 2.2.1 In 2009, the international community reached agreement, in Copenhagen, that the rise in global temperature should be limited to 2⁰C, above pre-industrial levels. Beyond 2⁰C warming, the risk of **'dangerous'** climate change becomes much greater²⁸.
- 2.2.2 The Intergovernmental Panel on Climate Change (IPCC) have developed three emissions scenarios for GHG emissions, based on factors such as population, economic growth and energy usage. These help to show how such factors might increase GHG emissions over time. Figure 2.2 (over page) plots these three scenarios up to 2100 against the 'World Stabilisation Scenario'. This shows the scale of the reduction in GHG emissions needed to restrict global temperature increase to no more than 2⁰C.
- 2.2.3 The 'high' emissions scenario represents what happens if we continue our reliance on fossil fuels. Therefore, the gap between the 'high' emissions scenario and the 'World Stabilisation Scenario', illustrates the size of the reduction needed in emissions to avoid dangerous climate change (i.e. no more than a 2⁰C rise in global temperatures).
- 2.2.4 The reduction in GHG emissions necessary to make the UK contribution to limiting global temperature rise to 2⁰C are set out in the *Climate Change Act 2008*²⁹. This sets out a legally binding commitment to reduce carbon dioxide emissions, an important GHG, by at least 34 % by 2020 and 80 % by 2050, both below 1990 levels.
- 2.2.5 However, it has been reported that a **'step change'** is still needed to ensure these UK commitments under the *Climate Change Act*³⁰ are met.

²⁷ Derived from: Intergovernmental Panel on Climate Change (2007). Synthesis Report – Summary for Policymakers; and Tregay, R. (2009). Planning for climate change. Royal Town Planning Institute Conference - November 2009.

²⁸ Department for Environment, Food and Rural Affairs (2009). Adapting to climate change: UK projections – June 2009.

²⁹ Climate Change Act (2008).

³⁰ Committee on Climate Change (2010). Meeting carbon budgets – ensuring a low carbon recovery. Second progress report to parliament – June 2010.

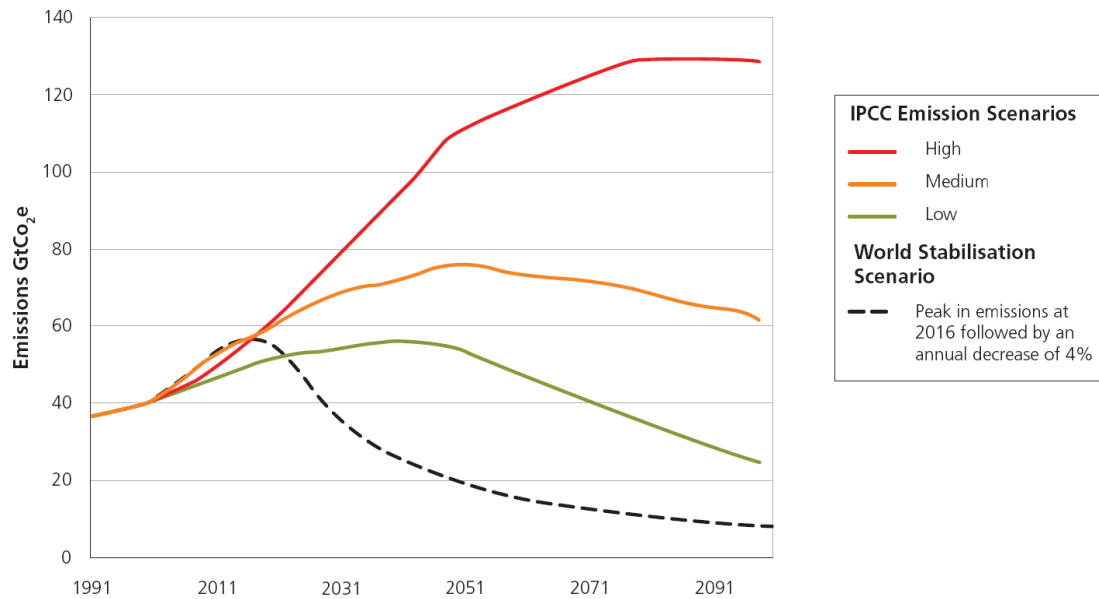


Figure 2.2: Global emissions scenarios for greenhouse gases as set out by the Intergovernmental Panel on Climate Change (IPCC)³¹.

2.3 The role for local authorities and the Wiltshire Core Strategy

2.3.1 Local authorities are ‘**uniquely placed**’ to act on climate change. The UK Town and Country Planning Association suggests that planning can make a ‘**major**’ contribution to tackling climate change by³²:

“Shaping decisions which reduce carbon emissions and positively build community resilience. It is a pivotal delivery framework for energy demand reduction and renewable energy and for addressing problems such as extreme temperatures and flood risk”.

2.3.2 Wiltshire Council has made tackling climate change a corporate priority and a strategy illustrating how climate change can be addressed in Wiltshire, was adopted in January 2011. This document sets out the council’s approach to reducing GHG emissions across the county and to help shape communities that are resilient to the impacts of unavoidable climate change.

2.3.3 In October 2009, the consultation document ‘*Wiltshire 2026 – Planning for Wiltshire’s Future*’ was published. This document is part of the process of developing the Wiltshire Core Strategy, which will set out a strategic framework of planning policies, to help guide development in Wiltshire up to 2026. Climate change was identified as a key priority in this document. The first of ten strategic objectives in ‘*Wiltshire 2026*’ referred to climate change and is shown below.

³¹ Department for Environment, Food and Rural Affairs (2009). Adapting to climate change: UK projections – June 2009.

³² Town and County Planning Association (2009). Planning and climate change coalition: position statement – October 2009.

Strategic objective 1: To address climate change

Climate change is possibly the greatest long-term challenge facing the world today. Tackling climate change is therefore a key government priority for the planning system. Local authorities are uniquely placed to act on climate change. The planning system can help deliver sustainable development and shape communities that are resilient to the unavoidable consequences of this global problem

Key Outcomes

A sustainable pattern of development, including the self-containment of settlements and a reduction in the need to travel, will have contributed towards meeting the council's climate change obligations:

- The supply of energy and heat from renewable sources will have met national and regional targets
- New development will have incorporated sustainable building practices and where possible will have contributed to improving the existing building stock
- High energy efficiency will have been incorporated into new buildings and development
- New developments will have incorporated appropriate adaptation and mitigation for climate change
- New development will support sustainable waste management
- The sourcing and use of local food will have helped to reduce Wiltshire's ecological footprint.

2.3.4 The planning system can contribute towards reducing GHG emissions, for example by reducing energy consumption. This is an example of '**climate change mitigation**'.

2.3.5 However, we also need to ensure that developments are designed to withstand the effects of unavoidable climate change, such as hotter summers and wetter winters. This is referred to as '**climate change adaptation**'.

2.4 The scope of this climate change topic paper

2.4.1 This paper summarises the evidence to support the development of policies for possible inclusion in the Wiltshire Core Strategy relating to climate change. Policies are separated into the two categories of '**mitigation**' for example relating to energy provision and waste, and '**adaptation**' which includes the design of new buildings and their construction.

2.4.2 As the climate change topic is highly cross-cutting, overlapping areas are also highlighted where the core strategy can contribute to tackling climate change through other policy areas, such as economic development or for the protection of biodiversity. Cross cutting areas are described in more detail in **Appendix 1**.

2.4.3 This paper is separated into several sections which cover the following areas

Section 3: Policy and regulatory framework – provides an overview of relevant policy influencing this topic.

Section 4: Evidence – a summary of any relevant evidence which is helping to inform the development of Core Strategy policies.

- Section 5: Identifying priorities at a community level – summarises any community priorities relating to climate change.
- Section 6: Challenges and opportunities – provides an overview of the main issues and opportunities identified in the paper.
- Section 7: Policy options – summarises proposed options for addressing the identified issues and opportunities.
- Section 8: Conclusions.
- Appendix 1: Summary of cross cutting matters – an overview of cross cutting matters relating to climate change to be addressed more directly by other topic papers.
- Appendix 2: Details of consultation undertaken to inform the preparation of this climate change topic paper.
- Appendix 3: Summary of consultation responses relating to climate change as part of developing the Wiltshire Core Strategy.
- Appendix 4: List of Community and Parish Plans reviewed.

3. Policy and regulatory framework

3.1 Introduction

3.1.1 This section summarises international, national, regional and local policies, strategies and regulations, relating to climate change, which should help inform policy development for inclusion in the Wiltshire Core Strategy.

3.1.2 The following section has been separated into six sub-sections which cover:

3.2 – International policies and regulations

3.3 – National policies and regulations (non-planning)

3.4 – National planning policy

3.5 – Regional policies and regulations

3.6 – Local policies and regulations (excluding 'local plans')

3.7 – Wiltshire 'local plans'

3.2 International policies and regulations

Adapting to climate change: towards a European framework for action – European Commission White Paper (2009)³³

3.2.1 This White Paper sets out a framework to reduce the EU's vulnerability to the impacts of climate change. A phased approach is outlined, which includes the integration of adaptation into key EU policy areas and stepping up international cooperation on adaptation.

Copenhagen Accord (2009)³⁴

3.2.2 This document sets out an agreement between 115 world leaders relating to climate change. The agreement included the following statement:

3.2.3 "We underline that climate change is one of the greatest challenges of our time...we emphasise our strong political will to urgently combat climate change...to stabilise the GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system...recognising the scientific view that the increase in global temperature should be below 2 degrees Celsius".

3.2.4 The agreement goes on to suggest that:

3.2.5 "We agree that deep cuts in global emissions are required according to science, and as documented by the International Panel on Climate Change (IPCC) Fourth Assessment Report" and "Enhanced action on international cooperation on adaptation is urgently required".

³³ Commission of the European Communities (2009) Adapting to climate change: towards a European framework for action – European Commission White Paper. COM (2009) 147.

³⁴ United Nations (2009) Framework convention on climate change – Copenhagen Accord. FCCC/CP/2009/L.7

Kyoto Protocol (1998)³⁵

- 3.2.6 The Kyoto Protocol is an addition to the United Nations Framework Convention on Climate Change (UNFCCC) which sets binding targets for the reduction of GHG emissions. It is currently signed by 191 parties. The Kyoto Protocol reaffirms the commitment under the UNFCCC to publish national programmes relating to climate change mitigation and adaptation.

Landfill of Waste Directive (1999)³⁶

- 3.2.7 The main aim of the Landfill Directive 1999/31/EC is to prevent, or reduce as far as possible, the negative effects of the land filling of waste on the environment and human health. This includes reducing greenhouse effects for example reducing emissions of methane (a powerful GHG). Progressively diminishing limits on the landfill of biodegradable municipal waste are also introduced.
- 3.2.8 This EU legislation has been translated into UK legislation including, for example, the *Landfill Regulations 2002*. The importance of reducing waste disposed of to landfill and utilising waste as a resource, particularly as a energy source are key considerations.

Waste Framework Directive (2008)³⁷

- 3.2.9 The revised Directive (2008/98/EC) sets out requirements relating to waste management. It includes the need to reduce waste and encourage its recovery, which may include the use of waste as a source of energy.

3.3 National policies and regulations (non-planning)

Annual Energy Statement (2010)³⁸

- 3.3.1 The government's first Annual Energy Statement sets out progress to achieving the requirements of the Climate Change Act. It also acts as a guide to the direction of the coalition government in the UK following the election in 2010. It is stated that:
- 3.3.2 "The mission of this government is to support the transition to a secure, safe, low-carbon, affordable energy system in the UK, and mobilise commitment to ambitious action on climate change internationally".
- 3.3.3 Action 22 states that the government has asked for advice to see if there is scope to set more ambitious targets for renewables. Action 23 states that the government will publish a renewables delivery plan to drive faster deployment through the decade.

³⁵ United Nations (1998) Kyoto Protocol to the United Nations framework convention on climate change.

³⁶ Official Journal of the European Communities (1999) Council Directive 1999/31/EC. L18/21

³⁷ Official Journal of the European Union (2008) Directive 2008/98/EC of the European Parliament and of the Council of 19 Nov 2008 on Waste L312/3

³⁸ DECC (2010) Annual Energy Strategy

Climate Change Act (2008)³⁹

- 3.3.4 The Climate Change Act 2008 is the world's first long term legally binding framework to tackle the dangers of climate change. It provides a statutory commitment to reduce the UK's CO₂ emissions by 34 % by 2020 and by at least 80 % by 2050, both below 1990 levels. It also introduces five year carbon budget periods and sets the first three periods (15 years) for 2008-2012; 2013-2017; and 2018-2022.
- 3.3.5 The Act requires that a climate change risk assessment for the UK is undertaken every five years, and that this is followed by a national adaptation programme to address the identified risks.

Energy Act (2008)⁴⁰

- 3.3.6 This Act implements aspects of the 2007 Energy White Paper, which states, for example, that the role of the planning system is to give weight to the wider benefits of renewables, even if there are no immediately apparent local benefits. The Act ensures there is adequate protection for the environment and the taxpayer as the energy market changes. This document paves the way for the introduction of Feed-in Tariffs (FITs) and the Renewable Heat Incentive (RHI). FITs will enable the government to offer financial support for low-carbon electricity generating projects up to 5 megawatts (MW). The aim is for generators to receive a guaranteed payment for generating low-carbon electricity.

Household Energy Management Strategy (2010)⁴¹

- 3.3.7 This strategy sets out plans for meeting the target of a reduction of 29 % in carbon emissions from the household sector by 2020 and aligns the national interests of tackling climate change and limiting our dependence on foreign energy with everyone's personal financial interest in saving money. The document sets out proposals for a wholesale transformation of how energy is used in our homes.
- 3.3.8 The interim target is outlined where loft and cavity wall insulation should be installed in all households where it is practical to do so by 2015.
- 3.3.9 The document also sets out an enabling framework to encourage deployment of district heating. It is specifically stated that spatial planning can be helpful for creating conditions to support the planned development of heat networks, particularly through heat mapping and energy master planning.
- 3.3.10 The co-location of heat supply with demand should be considered to support networks as this reduces the distance heat needs to be transported. The relationship with existing buildings also needs to be considered.

³⁹ HM Government (2008) Climate Change Act (c.27)

⁴⁰ HM Government (2008) Energy Act (c.32)

⁴¹ HM Government (2010) Warm Homes, Greener Homes: A strategy for household energy management

Micro-generation Strategy – Consultation (2010)⁴²

- 3.3.11 A consultation document was published in 2010 on a new micro-generation strategy. This will aim to set priorities for action, promote a holistic approach to reducing carbon emissions in homes, and develop the micro-generation supply chain.

Planning Act (2008)⁴³

- 3.3.12 The Planning Act 2008 places a duty on local authorities to include policies on climate change within development plan documents. The Planning and Compulsory Purchase Act 2004 is amended to state that:

- 3.3.13 “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”.

- 3.3.14 The Act also ensures that energy infrastructure projects are integral to the security of energy supply.

Planning and Energy Act (2008)⁴⁴

- 3.3.15 This Act enables LPAs in England and Wales to set requirements for energy use and energy efficiency in local plans. LPAs are given the power to include policies that impose reasonable requirements for a proportion of energy used in development to be energy from renewable sources, a proportion of energy used in development to be low-carbon energy, and development to comply with energy efficiency standards that exceed building regulations.

UK Low Carbon Transition Plan (2009)⁴⁵

- 3.3.16 This White Paper sets out the UK’s first ever comprehensive low-carbon transition plan to 2020. The document describes a wide range of initiatives which include carbon emission cuts, the increased use of renewable energy, making homes greener and helping vulnerable people.

UK Renewable Energy Strategy (2009)⁴⁶

- 3.3.17 This document sets out how the UK will meet the legally-binding target to ensure 15 % of our energy comes from renewable sources by 2020. This is to comply with EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources. Total energy includes electricity, heat and transport fuels. The lead scenario states that 30 % of electricity should be generated from renewable sources by 2020 (up from approximately 5.5 % in 2010), whilst 12 % of heat and 10 % of transport fuels should also be generated from renewable sources.

⁴² DECC (2010) Consultation on a micro-generation strategy

⁴³ HM Government (2008) Planning Act (c.29)

⁴⁴ HM Government (2008) Planning and Energy Act (c.21)

⁴⁵ DECC (2009) UK Low Carbon Transition Plan

⁴⁶ DECC (2009) UK Renewable Energy Strategy

Waste Strategy for England (2007)⁴⁷

- 3.3.18 The Waste Strategy for England highlights the contribution waste production and management is making to climate change. The strategy sets out the policy drivers, targets and actions for waste to ensure that waste is managed more sustainably, and has a reduced impact on climate change. The strategy emphasises the importance of delivering the waste hierarchy by reducing the use of natural resources, re-using or recycling more materials, recovering energy from wastes, and reducing the amount of waste that is sent to landfill.

3.4 National planning policy

PPS 1 Delivering Sustainable Development (2005)⁴⁸

- 3.4.1 PPS 1 states that sustainable development is the core principle underpinning planning and that LPAs should ensure that development plans contribute to global sustainability by addressing the causes and potential impacts of climate change. The PPS indicates that planning policies should reduce energy use, reduce transport emissions and promote renewable energy development. The impacts of climate change should also be taken into account when considering the location and design of development.

Planning and Climate Change Supplement to PPS 1 (2007)⁴⁹

- 3.4.2 This document sets out in more detail how planning should contribute to reducing emissions and stabilising climate change and take into account its unavoidable consequences. It is suggested that where there is any difference in emphasis on climate change between the policies in this supplement and other PPS, the climate change PPS should take precedence.
- 3.4.3 The climate change PPS makes it clear that tackling climate change is a key government priority for the planning system and that the content of the PPS should be 'fully reflected' by the planning authority in preparation of Local Development Documents (LDDs).
- 3.4.4 It is outlined that planning authorities 'should apply' various principles in making decisions about spatial strategies. These should include:
- new development should be planned to make good use of opportunities for decentralised and renewable or low-carbon energy
 - new development should be planned to minimise future vulnerability in a changing climate
 - mitigation and adaptation should not be considered independently of each other, and new development should be planned with both in mind.
- 3.4.5 The PPS emphasises the need for a positive approach towards renewable energy generation, and states that:

⁴⁷ DEFRA (2007) Waste Strategy for England

⁴⁸ ODPM (2005) PPS 1 Delivering Sustainable Development

⁴⁹ CLG (2007) Planning and Climate Change Supplement to PPS 1

- 3.4.6 “In developing Core Strategies and supporting LDDs, planning authorities should provide a framework that promotes and encourages renewable and low carbon energy generation. Policies should be designed to promote and not restrict renewable and low carbon energy and supporting infrastructure”.
- 3.4.7 The PPS highlights situations where it could be appropriate for planning authorities to anticipate levels of building sustainability in advance of those set nationally. Where local authorities propose to set local sustainable building standards they ‘must be able to demonstrate clearly the local circumstances that warrant and allow this’. This could include where:
- there are clear opportunities for significant use of decentralised and renewable or low-carbon energy
 - without the requirement, for example on water efficiency, the envisaged development would be unacceptable for its proposed location.
- 3.4.8 In particular the PPS states that planning authorities should have an ‘evidenced-based’ understanding of the local feasibility and potential for renewable and low carbon technologies, including micro-generation, to supply new development in their area.
- 3.4.9 As noted above, the climate change PPS highlights the importance of adaptation measures alongside mitigation. The PPS indicates that adaptation should be considered when selecting land for development. In particular, the following factors should be taken into account:
- The capacity of existing and potential infrastructure ... to service the site or area in ways consistent with cutting carbon dioxide emissions and successfully adapting to likely changes in the local climate.
 - The ability to build and sustain socially cohesive communities with appropriate community infrastructure, having regard to the full range of local impacts that could arise as a result of likely changes to the climate.
 - The effect of development on biodiversity and its capacity to adapt to likely changes in climate.
 - The contribution to be made from existing and new opportunities for open space and green infrastructure to urban cooling, sustainable drainage systems, and conserving and enhancing biodiversity; and known physical and environmental constraints on the development of land such as sea-level rise, flood risk and stability.
- 3.4.10 It is stated that a precautionary approach should be taken when considering ‘increases in risk that could arise as a result of likely changes to the climate’.

Planning for a Low Carbon Future in a Changing Climate – Consultation (2010)⁵⁰

- 3.4.11 In March 2010, the Department for Communities and Local Government (CLG) published a draft PPS for consultation, which was intended to replace the *Planning and Climate Change Supplement to PPS 1* and PPS 22. Although this document will no longer be adopted, following changes to the planning system since the 2010 election, it does provide some useful updated information.

⁵⁰ CLG (2010) Planning for a Low Carbon Future in a Changing Climate - Consultation

3.4.12 For example, it is made clear that since the publication of the *Planning and Climate Change Supplement to PPS 1*, there has been a 'significant' amount of new legislation and policy put in place that affects planning (the documents listed are included in the review in this paper). It is also made clear that 'considerable inconsistencies' exist between targets and accompanying policies in the Regional Spatial Strategies (RSS) and that at a local level, implementation of the PPS 1 supplement has been 'patchy'.

Planning Policy Statement: Eco-towns – A supplement to Planning Policy Statement 1 (2009)⁵¹

3.4.13 The eco-towns PPS identifies potential locations for eco-towns and sets out the standards that eco-towns will need to meet. Although not directly relevant to Wiltshire (as no eco-towns are proposed) it nonetheless provides an indication of best practice. The PPS states that:

3.4.14 "Many of the principles and stretching standards required by this PPS could potentially be adopted by other developers as a way of meeting the wider objectives of the Climate Change PPS".

3.4.15 Policy ET8 focuses specifically on climate change adaptation, and states that eco-towns:

3.4.16 "Should be planned to minimise vulnerability in a changing climate, and with both mitigation and adaptation in mind" and that "developments should be designed to take account of the climate they are likely to experience".

3.4.17 Policy ET8 also refers to eco-towns standards on water, flooding, green infrastructure and biodiversity, and to wider best practice on tackling overheating.

3.4.18 Policy ET17 of the eco-towns PPS states that:

3.4.19 "Eco-towns should be ambitious in terms of water efficiency across the whole development, particularly in areas of serious water stress".

PPS 10 Sustainable Waste Management (2005)⁵²

3.4.20 The main objective for waste is to protect human health and the environment by producing less waste and by using it as a resource wherever possible. The use of waste as a source of energy forms part of the strategy. The government aims to break the link between economic growth and the environmental impact of waste.

PPS 12 Local Development Frameworks (2008)⁵³

3.4.21 This PPS sets out the government's overall policies on spatial planning. It sets out what spatial planning is and how local spatial plans should be prepared. It is stated that the planning system has been substantially

⁵¹ CLG (2009) Planning Policy Statement: Eco-towns – A supplement to PPS 1

⁵² ODPM (2005) PPS 10 Sustainable Waste Management

⁵³ CLG (2008) PPS 12 Local Development Frameworks

reformed to make contributing to the achievement of sustainable development a 'statutory objective'.

- 3.4.22 The aims of local spatial planning are explained and these include creating 'a positive framework for action on climate change' and contributing 'to the achievement of sustainable development'.

PPS 22 Renewable Energy (2004)⁵⁴

- 3.4.23 PPS 22 sets out the Government's policies for renewable energy, which planning authorities should have regard to when preparing local development documents. A number of key principles are set out which include:

- local development documents should contain policies designed to promote and encourage, rather than restrict, the development of renewable energy resources
- planning authorities should set out the criteria that will be applied in assessing applications for planning permission for renewable energy projects
- the wider environmental and economic benefits for all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission.

3.5 Regional policies and regulations

Draft Revised Regional Spatial Strategy for the South West (2008)⁵⁵

- 3.5.1 The Draft Revised Regional Spatial Strategy (RSS) set out a strategic policy framework for the south west region. A number of specific policies were covered relating to climate change and renewable energy and these included, for example, that planning authorities should include 'positive policies' within LDDs to enable the achievement of renewable energy and heat targets set for counties for 2010 and for the south west for 2020. The Draft Revised RSS also put into regional policy the renewable energy and heat targets prepared through the Revision 2010 work (see Wiltshire and Swindon Renewable Energy Action Plan - page 27).
- 3.5.2 The Secretary of State announced the revocation of Regional Strategies (which had already replaced Regional Spatial Strategies) on 6 July 2010. However, in the case of climate change policies, it is worth stressing that the Draft Revised RSS was already out of date and had been superseded by a range of national legislation and policy which has not been revoked. This includes, for example, the *Climate Change Act (2008)* and the *UK Renewable Energy Strategy (2009)*, both of which are legally binding.
- 3.5.3 Furthermore, a note accompanying the Secretary of State's letter makes it clear that local authorities, through their local plans, should:
- 3.5.4 "Contribute to the move to a low carbon economy, cut greenhouse gas emissions, help secure more renewable and low carbon energy to meet national targets and to adapt to the impacts arising from climate change".

⁵⁴ ODPM (2004) PPS 22 Renewable Energy

⁵⁵ GOSW (2008) Draft Revised Regional Spatial Strategy for the South West

3.6 Local policies and regulations (excluding 'local plans')

Draft Strategy for the Development of the Economy in Wiltshire 2011 - 2015 (2010)⁵⁶

3.6.1 This document sets five strategic objectives for action in Wiltshire relating to economic development. The fourth of these strategic objectives relates to tackling climate change and is entitled: 'enable the transition to a low carbon economy'. Five priorities for action relating to this objective have been developed and these are:

- encouraging the reduction of commercial waste and the introduction of energy efficiency measures within new developments
- promoting sustainable transport
- promoting renewable energy production
- encouraging sustainable practices within existing businesses and services
- developing business networks.

Building Strong Foundations - Draft Wiltshire Housing Strategy 2011 - 2016 (2010)⁵⁷

3.6.2 This document sets out an ambitious action plan built around a series of objectives and priorities. The objectives include: 'reducing our environmental impact – working together to ensure that all aspects of housing and its management make a positive contribution to minimising environmental impact. Specific actions for this objective are listed below. It is clear that planning policy has an important role to play in positively contributing to meeting many of these actions, in particular, maximising opportunities to deliver decentralised and low-carbon energy within new developments.

Reducing waste and increase recycling

- increase recycling and reduce waste
- recycling within our offices
- provision of advice and information on recycling

Reduce energy consumption in Wiltshire's homes

- enforce the Housing Health and Safety Rating System
- ensure the appropriate Code for Sustainable Homes is enforced
- build good quality environmentally sustainable developments that are locality appropriate and sympathetic
- promote behaviour change and encourage uptake of community energy efficiency measures
- increase take up of energy efficiency schemes, warm front, or through the Energy Savings Trust as well as provide grant funding or loans for energy efficiency improvements in private sector homes
- fund energy efficiency measures in own stock

⁵⁶ Wiltshire Council (2010) Draft Strategy for the Development of the Economy in Wiltshire 2011-2015

⁵⁷ Wiltshire Council (2010) Building Strong Foundations – Draft Wiltshire Housing Strategy 2011 - 2016

- improve SAP ratings on homes and monitor this work with vulnerable households through NI 187
- meet decent homes targets for private sector stock

Increase low-carbon and renewable energy supply

- ensure the appropriate Code for Sustainable Homes target is enforced
- maximise opportunities to improve the energy efficiency of new homes
- maximise opportunities to deliver low-carbon, decentralised and renewable energy developments
- ensure opportunities for improving the environmental performance of existing homes are maximised
- encourage retrofit to existing properties
- fund low-carbon or renewable energy measures in own stock
- provide loans or grant funding for renewable energy measures in private sector homes

Wiltshire Energy, Change and Opportunity Strategy (2011)⁵⁸

- 3.6.3 This strategy highlights the key challenges and opportunities facing Wiltshire relating to climate change. It is a framework document which will be supported by detailed actions plans to be prepared during 2011 and 2012. Four actions plans will be prepared:
- Carbon Management Plan for the council's emissions
 - Climate Change Adaptation Plan for Wiltshire
 - Low Carbon Transition Plan for Wiltshire
 - Renewable Energy Action Plan for Wiltshire
- 3.6.4 Climate change has been identified as a corporate priority for Wiltshire Council and ambitious targets for reducing the council's carbon emissions have been set (20 % reduction in council emissions against a 2008/09 baseline by 2014).
- 3.6.5 It is made clear that carbon emissions in Wiltshire have risen between 2005 and 2007, whereas for the UK and the south west as a whole, they went down. Wiltshire is therefore lagging behind the rest of the country in cutting its carbon emissions.
- 3.6.6 The importance of building community resilience to adapting to unavoidable climate change is also stressed (details of the likely impacts of climate change in Wiltshire are discussed further in Section 5 of this paper).
- 3.6.7 A number of aspirations are stated for how the planning process can contribute to the councils overall aims for addressing climate change. These include:
- maximising the opportunities for delivering decentralised and low-carbon energy within large scale developments
 - developing positive policies that support large scale renewable energy installations

⁵⁸ Wiltshire Council (2011) Wiltshire Energy, Change and Opportunity Strategy

- ensuring that new developments achieve carbon neutral standards by 2016 (for residential property) and by 2019 (for commercial buildings)
- ensuring that the planning process enables renewable technologies to be retrofitted to existing homes, including those in conservation areas, and on listed buildings where possible
- influencing the design of new developments so that they incorporate climate change adaptation principles.

Wiltshire Council Environmental Policy (2010)⁵⁹

3.6.8 This policy was adopted in October 2010 and states that:

3.6.9 “The authority is committed to reducing its carbon footprint, preparing residents for the unavoidable consequences of climate change, pollution prevention and demonstrating continuous improvement”.

3.6.10 The policy sets out key environmental objectives under the themes of waste, transport, water, purchasing and procurement, biodiversity and natural environment, energy, spatial and transport planning, and communicating environmental issues.

3.6.11 The objective for spatial and transport planning is to:

3.6.12 “Ensure that the planning system helps deliver a reduction in average carbon emissions per resident, whilst establishing communities that are resilient to the future impacts of climate change”.

Wiltshire Local Transport Plan 2011 – 2026: Consultation Draft (2010)⁶⁰

3.6.13 Local authorities have a statutory obligation, under the Transport Act 2008, to develop a transport strategy. The new plan in Wiltshire will cover all modes of transport - including walking, cycling, public transport, car based travel and freight.

3.6.14 The document should be adopted during 2011 following public consultation in 2010. The reduction of carbon emissions has been identified as one of the most important national priorities and measures are proposed to help tackle this matter in Wiltshire.

3.6.15 In relation specifically to planning, the draft strategy outlines two specific proposals:

- use the planning system to develop, monitor and enhance mandatory residential and business travel plans, and promote the use of voluntary travel plans by organisations generally. Require appropriate contributions to support sustainable transport measures.
- promote limited smarter choices measures in appropriate new development and the market towns, and undertake a range of targeted smarter choices promotions.

3.6.16 This topic area is discussed in more detail within the Transport Topic Paper.

⁵⁹ Wiltshire Council (2010) Wiltshire Council Environmental Policy

⁶⁰ Wiltshire Council (2010) Wiltshire Local Transport Plan 2011 – 2026: Consultation Draft

Nottingham Declaration (2009)⁶¹

- 3.6.17 The Nottingham Declaration was launched in October 2000, and has now been signed by more than 300 local authorities (Nottingham Declaration Partnership, 2010). Signatories to the Nottingham Declaration commit to work with partners and the local community to address the causes and impacts of climate change.
- 3.6.18 Wiltshire Council signed the Nottingham Declaration in May 2009. Although a motion was debated in September 2009 proposing withdrawal from the Nottingham Declaration, this was defeated by 83 votes to 6. The result of the debate was overwhelming support for council action to tackle climate change and a reaffirmation of the council's support for the declaration.

People, Places and Promises: Wiltshire Community Plan 2011-2026⁶²

- 3.6.19 A new Wiltshire Community Plan was adopted in October 2010. Three priorities have been agreed and one of these is tackling the causes and effects of climate change.
- 3.6.20 The plan notes that Wiltshire has the highest per capita CO₂ emissions and lowest level of renewable electricity and heat production of any county in the south west. It also states that action is essential at a local level to reduce the carbon footprint of individuals, households and businesses by minimising energy use and maximising the use of renewable resources.
- 3.6.21 Specific objectives relating to tackling climate change include:
- significantly reduce domestic, business and transport CO₂ emissions across the county in line with national targets.
 - contribute to creating greater energy security by significantly increasing the amount of electricity and heat generated in the county at community level and on a large-scale through renewable schemes to bring Wiltshire more in line with the rest of the south west region.
 - prepare for the impacts of unavoidable climate change, by increasing the resilience of communities, businesses and wildlife to events such as extreme heat waves, droughts and frequent flooding, through designing and implementing appropriate adaptive responses.
 - continue to reduce the amount of waste produced in the county and increase the proportion of waste which is recycled.

Local Agreement for Wiltshire (2008)⁶³

- 3.6.22 The Local Agreement for Wiltshire (LAW) was prepared in 2008 and covers the period up to 2011.
- 3.6.23 One of the identified priority actions is to reduce Wiltshire's carbon footprint. This includes both the carbon footprint of public sector businesses and that of households across the county. There is a commitment to bid for funding to

⁶¹ Wiltshire Council (2009) Nottingham Declaration

⁶² Wiltshire Council (2010) People, Places and Promises: Wiltshire Community Plan 2012- 2026

⁶³ Wiltshire Assembly (2008) Local Agreement for Wiltshire

develop renewable energy in Wiltshire and to address the need to reduce carbon emissions through planning policies within the emerging Wiltshire Core Strategy.

- 3.6.24 The LAW also includes a commitment to prepare Wiltshire for the consequences of unavoidable climate change by assessing the likely impacts of unavoidable climate change on Wiltshire's services and setting out how Wiltshire's public services are going to adapt and prepare for events like storms, flooding and heat waves to minimise disruption. There is also a commitment to promote water efficiency through the provision of water butts, cistern devices and water audits.
- 3.6.25 Wiltshire Council has adopted National Indicator 188: Planning to Adapt to Climate Change as one of the indicators within the LAW, and has a commitment to meet Level 3 of NI 188 by March 2011. Work has already been undertaken to fulfil the requirements of Levels 0 - 2 of the indicator. This has included developing an understanding of current vulnerability and potential future impacts of climate change in Wiltshire (refer to Section 5 of this Climate Change Topic Paper).

Wiltshire and Swindon Renewable Energy Action Plan (2005)⁶⁴

- 3.6.26 The Government Office for the South West (GOSW), in partnership with the South West Regional Assembly, funded the REvision 2010 project, to develop county or sub-regional targets for renewable electricity up to 2010. The project identified a target range for Wiltshire, including the administrative area of Swindon Borough Council, of 65-85 MW of renewable electricity generation by 2010.
- 3.6.27 The 2010 annual survey published by Regen SW (the sustainable energy agency for the South West) indicates that the installed renewable energy capacity in Wiltshire and Swindon in January 2010 was 15.30 MW, mainly from landfill gas.
- 3.6.28 The target range of 65-85 MW was incorporated into the Wiltshire and Swindon Renewable Energy Action Plan, which promotes the development of renewable energy projects within Wiltshire and outlines the actions required to achieve the target. A new Renewable Energy Action Plan will be developed by April 2012.

Wiltshire and Swindon Structure Plan 2016 (2006)⁶⁵

- 3.6.29 The Structure Plan provides a strategic policy framework for Wiltshire, including the administrative area of Swindon Borough Council, up to 2016. This document continues to form part of the Development Plan for Wiltshire and should be used alongside the existing local plans. A summary of relevant policies is shown in Table 3.1 (Page 32).

⁶⁴ Wiltshire and Swindon Renewable Energy Forum (2005) Wiltshire and Swindon Renewable Energy Action Plan

⁶⁵ Swindon Borough Council and Wiltshire County Council (2006) Wiltshire and Swindon Structure Plan

Wiltshire and Swindon Waste Core Strategy 2026 (2009)

- 3.6.30 This document sets out the strategic approach to managing waste in Wiltshire and Swindon. Capacity figures are also calculated for the future needs for waste management facilities for municipal waste and Industrial and Commercial waste. It is estimated that the councils will need to provide additional waste treatment capacity for 54,000 tonnes per annum of municipal waste and 250,000 tonnes per annum of Industrial and Commercial waste by 2026. Although not all of this waste will be classed as a renewable source, waste wood, paper and card, green waste and food waste can be used to generate renewable energy that may help to achieve renewable energy targets for the council.
- 3.6.31 Strategic Objective 3 (The Environment) of the Waste Core Strategy includes the commitment to 'contribute to reducing and adapting to the impacts of climate change'. Relevant policies are summarised in Table 3.2 (Page 32).

Wiltshire and Swindon Waste Development Control Policies DPD 2026 (2009)⁶⁶

- 3.6.32 The document supplements the Waste Core Strategy and focuses on the development control of new waste facilities to ensure there are no adverse impacts of development. Relevant policies are summarised in Table 3.3 (Page 34).

Draft Wiltshire and Swindon Waste Site Allocations DPD (2009)⁶⁷

- 3.6.33 The role of this document is to deliver a suitable network of sites to address the needs identified in the Waste Core Strategy. The document is currently at an early phase with consultation occurring in January 2010. It is anticipated that the document will be adopted in November 2011. Any sites contained within it will be safeguarded for waste management uses.
- 3.6.34 Fifty two sites have been considered of which 16 were for waste treatment facilities that could contribute renewable energy. A detailed review of these sites is currently being undertaken.

3.7 Wiltshire 'local plans'

Former Wiltshire District Council 'local plans'^{68, 69, 70, 71}

- 3.7.1 This section summarises relevant policies from the local plans for the four former District Council areas of Kennet, Salisbury, North Wiltshire and West Wiltshire. These documents form part of the existing development plan for

⁶⁶ Swindon Borough Council and Wiltshire Council (2009) Wiltshire and Swindon Waste Core Strategy 2026

⁶⁷ Swindon Borough Council and Wiltshire Council (2009) Wiltshire and Swindon Waste Development Control Policies DPD 2026

⁶⁸ Kennet District Council (2003) Kennet Local Plan 2011

⁶⁹ North Wiltshire District Council (2006) North Wilts Local Plan 2011

⁷⁰ Salisbury District Council (2004) Salisbury District Local Plan 2011

⁷¹ West Wiltshire District Council (2004) West Wiltshire District Plan 2011

Wiltshire, in conjunction with the Wiltshire and Swindon Structure Plan 2016 (see above), and provide a local policy framework to guide development up to 2011.

- 3.7.2 The documents contain a number of policies relevant to climate change. However, only those policy areas directly relevant to this topic paper are discussed here (Table 3.4 – Page 35). Some policies which relate to climate change are discussed in separate topic papers, such as those for transport or biodiversity.
- 3.7.3 Discussions with development control officers reveal that many of the existing Wiltshire policies seeking to encourage more sustainable design and construction have had only limited success. Such matters are often considered desirable and only given token consideration. Furthermore, to date, very few applications for large scale renewable energy schemes have been received. Specific officer comments have been included within Table 3.4.

Kennet District Council Interim Policy (Sustainable Development; 2007)⁷²

- 3.7.4 This document sets out an interim development control policy to be considered in determining planning applications within the former Kennet District Council area. The policy applies to any large scale development (over 10 dwellings or 0.5 ha for residential or 1000 m² or 1 ha for non-residential). The policy specifies that sufficient on-site renewable energy should be installed, as part of the new development, to reduce CO₂ emissions, from the development, by 10%.
- 3.7.5 Development Control officers report that this policy has functioned successfully and no problems have been experienced implementing it. An energy performance statement is submitted with the application to demonstrate how the target will be met.

South Wiltshire Achieving Sustainable Development SPG (2005)⁷³

- 3.7.6 This SPG provides sustainable development guidance for minor applications. The guidance takes the form of a sustainability assessment, and includes questions relating to surface water drainage, use of recycled materials, making efficient use of energy and water, using energy from renewable sources, and encouraging occupiers to reduce their waste.

South Wiltshire Creating Places Design Guide SPG (2006)⁷⁴

- 3.7.7 This SPG provides guidance on design for all developments and includes a checklist for achieving sustainable design. The SPG states that:
- 3.7.8 “Planning applications for new buildings, or conversion of existing ones, must clearly demonstrate that the checklist has been fulfilled”.

⁷² Kennet District Council (2007) Kennet District Council Interim Policy – Sustainable Development

⁷³ Salisbury District Council (2005) South Wiltshire Achieving Sustainable Development SPG

⁷⁴ Salisbury District Council (2006) South Wiltshire Creating Places Design Guide SPG

3.7.9 The checklist includes questions relating to the use of raw materials from renewable sources, design of the building to maximise the benefits of natural energy from the sun, the inclusion of energy saving features and insulation, inclusion of sustainable drainage solutions and reducing water usage, and encouraging recycling and composting of waste.

3.7.10 Additional relevant matters can be summarised as follows:

- renewable energy which can be generated on-site and technologies such as solar panels, photovoltaic roof tiles, wood-fuel heaters, and small-scale wind turbines will be encouraged in new developments.
- the district council encourages all new residential development to meet at least Building Research Establishment (BRE) 'Good' Eco-home rating.
- sustainable Drainage Systems (SUDS) should be employed wherever possible.
- developments should incorporate water saving measures to reduce impacts on nature conservation.

South Wiltshire Core Strategy – Submission Document (2009)⁷⁵

3.7.11 The South Wiltshire Core Strategy was submitted to the Secretary of State in November 2009. The document was prepared in accordance with advice from the GOSW to address a shortfall in housing supply in South Wiltshire. It is intended that this document will be replaced by the Wiltshire Core Strategy during 2012.

3.7.12 Climate change is identified as one of the key challenges within the document. The need to provide more sustainable transport choices and to facilitate the increased use of renewable and low carbon energy sources is also highlighted. The document states that it is important to ensure that development is resilient to the effects of climate change and measures relating to flood risk, safeguarding water quality, and to reduce water consumption are addressed by the document.

3.7.13 Strategic objective 1 includes the following: “to ensure south Wiltshire is a place where the role and function of settlements is understood and the location of development addresses the causes and effects of climate change”. The desired outcomes for this objective include that: “new development will have been designed to incorporate renewable or low carbon energy technology and to be resilient to the effects of climate change”.

3.7.14 As the South Wiltshire Core Strategy will be replaced by the Wiltshire Core Strategy, any policies relating to renewable energy will be set out in the Wiltshire Core Strategy (to be informed by this topic paper).

3.7.15 The document was subject to an examination in public between March and April 2010. The council consulted on major changes to the proposed submission draft between May and June 2010.

⁷⁵ Wiltshire Council (2009) South Wiltshire Core Strategy Submission Document

Table 3.1: Policies relating to climate change set out within the Wiltshire and Swindon Structure Plan 2016⁷⁶

Policy	Summary	Comments
RE1 Renewable Energy	This policy suggests that renewable energy schemes will be supported in 'appropriate locations'. It is suggested that 'regard should be paid to their impact on the environment and to any potentially cumulative effects of similar development in the locality'.	
RE 2 Wind Power	This policy is worded to ensure that any proposals do not detract from the value or interest of areas and features designated for their landscape and natural conservation interest. It is suggested that provision within the New Forest, World Heritage Site, AONBs 'should not be made' unless proved to be in the national interest and not capable of being accommodated outside of these areas.	
W2 Provision of Recycling and Recovery Facilities	This states that proposals for the recovery of energy from waste 'will be favourably considered, subject to their environmental impact'.	

Table 3.2: Policies relating to climate change set out within the Wiltshire and Swindon Waste Core Strategy DPD 2026⁷⁷

Policy	Summary	Comments
Policy WCS1: The Need for Additional Waste Management Capacity and Self Sufficiency	A commitment is made to deliver additional waste management facilities in line with forecast requirements. The key areas for additional facilities will be the growth areas of Swindon, Chippenham, Trowbridge and Salisbury.	

⁷⁶ Swindon Borough Council and Wiltshire County Council (2006) Wiltshire and Swindon Structure Plan

⁷⁷ Swindon Borough Council and Wiltshire Council (2009) Wiltshire and Swindon Waste Core Strategy

Policy	Summary	Comments
	The distance that waste will be transported in the future should be reduced.	
Policy WCS2: Future Waste Site Locations	The policy allows new strategic waste facilities to be located within 16 km of the key growth areas of Swindon, Chippenham, Trowbridge and Salisbury. The policy also notes that developments will be given priority where they utilise the most appropriate haulage routes within and around the Plan area and implement sustainable modes and methods for transporting waste.	
Policy WCS3: Preferred Locations of Waste Management Facilities by Type and the Provision of Flexibility	The policy outlines the preferred locations of each type of waste facility type. For example waste treatment facilities are considered to be broadly acceptable on industrial / employment allocations and site allocations or current waste management facilities.	
Policy WCS5: The Wiltshire and Swindon Waste Hierarchy and Sustainable Waste Management	The waste hierarchy sets out the preferred method of waste management in order of preference with elimination, reduction, re-use, recovery and safe disposal.	
Policy WCS6: Waste Reduction and Auditing	The policy requires developers to submit a waste audit as part of the planning application process. All development over 10 dwellings; shopping centres or facilities over 500 m ² ; business, industrial, distribution or storage development over 300 m ² and transport, leisure, recreation, tourist, community or educational facilities including public car parks and park and ride facilities are included. The policy requires the applicants to demonstrate how waste will be minimised or re-used through the demolition, conversion or construction of the development. The policy also requires applicants to demonstrate how waste will be managed once the facility is in operation.	

Table 3.3: Policies relating to climate change set out within the Wiltshire and Swindon Waste Development Control Policies DPD 2026⁷⁸

Policy	Summary	Comments
WDC1: Key Criteria for Ensuring Sustainable Waste Management Development	<p>The key criteria for assessing any proposed development include:</p> <ul style="list-style-type: none"> • The extent to which adverse environmental impacts and cumulative impacts associated with other local development, are avoided, and the adequacy of mitigation and/or compensation for the proposals. • The impact of transporting waste to and from the site is minimised. • The extent to which adverse impacts on the water environment and flood risk are avoided. • The extent to which the development ensures protection and enhancement of local biodiversity, geo-diversity and cultural heritage. • The extent to which the impact of any structures and buildings is minimised in terms of the appropriate use of scale and form, informed by the Wiltshire Landscape Character Assessment 	
WDC2: Managing the Impact of Waste Management	<p>This policy aims to minimise the impacts of waste management development by supporting proposals that firstly avoids, adequately mitigates against, or compensates for significant adverse impacts relating to various factors including:</p> <ul style="list-style-type: none"> • Transportation of waste. 	

⁷⁸ Swindon Borough Council and Wiltshire Council (2009) Wiltshire and Swindon Waste Development Control Policies DPD

Policy	Summary	Comments
	<ul style="list-style-type: none"> • Air emissions and climate change. • The water environment. 	
WDC 12: Renewable Energy	<p>The policy states that planning applications for waste management proposals in Wiltshire and Swindon must demonstrate to the satisfaction of the councils that they have had regard, where appropriate, to the following criteria:</p> <ul style="list-style-type: none"> • The need to maximise the opportunities for renewable energy production both for electricity and heat generation. • New landfill developments have made provision for the recovery of energy from landfill gas. • New waste management facilities will be required to demonstrate sustainable construction methods including where appropriate the provision of energy from renewable sources. 	

Table 3.4: Policies relating to climate change set out within the Local Plans, as published by the former Wiltshire District Councils of Kennet, Salisbury, North and West Wiltshire^{79, 80, 81, 82}.

Policy	Summary	Comments
Kennet District Council		
PD1 Development and Design	This policy suggests that all development proposals should	The issue of sustainable design has not

⁷⁹ Kennet District Council (2003) Kennet Local Plan 2011

⁸⁰ North Wiltshire District Council (2006) North Wilts Local Plan 2011

⁸¹ Salisbury District Council (2004) Salisbury District Local Plan 2011

⁸² West Wiltshire District Council (2004) West Wiltshire District Plan 2011

Policy	Summary	Comments
(B) Considerations (1) Sustainable Design Principles	'adequately address' various factors including sustainable design. Supporting text describes that this should include minimising resource and energy consumption, the use of renewable energy and water recycling.	been regularly implemented. It is considered to be desirable not a requirement. The policy itself has no targets or measurable requirements.
Policy HC7 Housing Layout	This policy requires proposals for residential development to promote sustainable development objectives through measures such as 'using topography and aspect to maximise solar gain and reduce energy consumption' and 'ensuring that natural resources and materials, which exist throughout the life of the development, are re-used and re-cycled whenever possible'.	The sustainability aspects of this policy are generally not prioritised. Officers do not feel they have a strong enough position to negotiate on specific issues relating to sustainability, especially if other aspects of the policy are addressed.
Policy NR19 Renewable Energy Proposals	This policy suggests that proposals for wind turbines or biomass will be permitted where various criteria are met, including being appropriate to the character of the landscape and not resulting in loss of amenity through noise, dust, smoke, or smell.	<p>There have not been any major applications for renewable energy generation within the Kennet District.</p> <p>There is some concern about the potential impact on the AONB and any future policies need to identify the issues which may make it difficult to construct renewable energy generators on countryside locations such as:</p> <ul style="list-style-type: none"> • The value of farmland • The sensitivity of designated areas • The visual impact on the open countryside • Potential traffic generation • Sources of fuel (when it comes to

Policy	Summary	Comments
		biomass). <ul style="list-style-type: none"> The impact of putting the infrastructure in place.
North Wiltshire District Council		
C1 Sustainability Core Policy	Development proposals will be considered in relation to their performance against four criteria, including: demonstrating the prudent use of natural resources and incorporating (where relevant), recycling, renewable energy and energy conservation measures.	
C3 Development Control Core Policy	New development will be permitted subject to various criteria including: incorporating energy conservation features and design principles to promote the use of renewable energy sources and prioritise the use of local, natural and recycled materials, provide satisfactory arrangements for efficient water supply, use and disposal and proposals for the storage, collection and recycling of refuse.	It is suggested that by not encouraging the re-cycling of buildings materials could encourage the theft of historic materials.
NE16 Renewable Energy	This policy suggests that renewable energy projects will be permitted provided that they do not either cause harm to designated historic areas or natural landscape, or conflict with objectives to protect the Green Belt.	
CF3 Provision of Open Space	This policy sets standards for open space provision for new housing development.	
Salisbury District Council		
G2 General Criteria for Development	These criteria for development include a minimum loss of disturbance to forestry land, and respect for existing beneficial ecological features and measures for the enhancement of such features where appropriate.	
G3 The Water Environment	States that 'development will not be permitted which would	

Policy	Summary	Comments
	increase the requirement for water unless adequate resources already exist, or will be provided in time to serve the development, and without detriment to existing abstractions, water environment, both quality and quantity, fisheries, amenity or to nature conservation'.	
G5 Water services	This requires that adequate water supplies, drainage, sewerage and sewage treatment facilities should be available (or suitable arrangements have been made for their provision) in order for development to be permitted.	
Policy C9 Loss of woodland	The local planning authority will seek to prevent the loss of woodland of landscape, historical or nature conservation value and to encourage the planting of indigenous tree species appropriate to the area.	
S11 Farm Shops	This policy states that 'the establishment of small scale farm shops will be permitted' subject to certain criteria.	
PS8 Renewable Energy	This policy suggests that proposals for renewable energy will be permitted providing that they will have no unacceptable adverse impacts on certain designated areas (New Forest, Stonehenge World Heritage Site, Cranborne Chase and West Wiltshire AONBs, SSSIs, and other designated areas of nature conservation or archaeological importance), there will be no unacceptable intrusion on the landscape and there is no unacceptable adverse affect on amenity.	
R2 and R3 Open Space Provision	Policy R2 sets an open space standard for new residential development. Policy R3 sets out a reduced standard for new development providing accommodation for the elderly.	
West Wiltshire District Council		
C33 Recycling	This policy requires the provision of a recycling station for development of 50 or more dwellings (unless adequate and	Although this policy is sometimes considered during the design process, it is

Policy	Summary	Comments
	convenient provision already exists in the locality).	often overlooked by officers. It is considered that more detail is needed relating to existing provision. For example, would this include kerb side collection?
C34a Resource Consumption and Reduction	This policy suggests that development will only be permitted where all practical measures have been included in the proposal for three criteria relating to: energy efficiency; water use; and waste minimisation. The policy applies to any development over 10 dwellings or for other development over one hectare.	<p>It is considered that this policy does not function successfully, principally as there are no specific targets or measurables included within it. The word 'practical' introduces ambiguity and although statements are sometimes submitted with applications, little is ever delivered once permission is granted. This policy has never been used as a reason for refusal. Sustainability issues tend to only receive tokenistic consideration and rarely form part of the application.</p> <p>Meaningful targets are needed which can be monitored.</p>
C34 Renewable Energy	This policy sets out criteria for where proposals for generation of renewable energy will be permitted.	<p>No relevant applications have been received within the former West Wiltshire area.</p> <p>Future policies need to address decentralised and low-carbon technologies, as an application for district energy could not be assessed against this policy.</p>

4. Evidence

4.1 Introduction

4.1.1 This section summarises key evidence to support policy development for the Wiltshire Core Strategy relating to climate change. The section is split into three main areas, which cover:

- 4.2 – Summary of previous consultation responses
- 4.3 – Evidence relating to climate change adaptation
- 4.4 – Evidence relating to climate change mitigation

4.2 Summary of previous consultation responses

4.2.1 This section briefly summarises the results of previous consultation stages of developing the Wiltshire Core Strategy relating to climate change. Some additional detail of the results is set out in **Appendix 3**.

Issues and options

4.2.2 Prior to Local Government Re-organisation (LGR), which occurred in Wiltshire in April 2009, the four former District Councils were working on separate core strategies. After April 2009, these processes were merged and are now managed by the newly formed Wiltshire Council.

4.2.3 One of the early stages of consultation, in preparing a Core Strategy, is referred to as the 'Issues and Options' stage. This was conducted in Wiltshire by the former District Councils, between 2005 and early 2008. The issues and options consultation helps to identify key issues of relevance to the local area and therefore helps to shape the emerging policy document.

4.2.4 A number of questions were raised during the issues and options consultations relating to climate change, and particularly in relation to renewable energy. These responses are discussed briefly below. Detailed reports into the issues and options consultation responses have been prepared and are available on the council website. Reference should be made to these documents for full details of the responses.

www.wiltshire.gov.uk/wiltshirecorestrategy

4.2.5 It should be made clear that the topic of climate change and national government policy to address its impacts, is rapidly changing, and has changed a great deal since 2005 and even since 2008. It is also the case that public perception of the topic has also changed a great deal in this time. For this reason, some of the questions raised at the issues and options stage of consultation may have been superseded. An example is the suggestion that a percentage of the energy needs of a new development, are provided on-site using renewable energy. This is no longer considered to represent good practice⁸³, as improvements to the energy performance of buildings will be delivered through changes to building regulations. Furthermore, the energy

⁸³ Town and Country Planning Association (2010). Planning for climate change – guidance and model policies for local authorities. Planning for climate change coalition, November 2010.

hierarchy should be followed (i.e. use of energy efficiency measures, before installing renewable energy technologies).

- 4.2.6 Each of the former District Councils asked a number of questions relating to climate change, this ranged from three questions within the West Wiltshire District Council consultation document, to as many as ten questions, by Salisbury District Council. The document produced by Salisbury District Council therefore provides by far the most detailed insight into the respondents' views into this topic area.
- 4.2.7 Within the Salisbury District Council Issues and Options consultation document, ten questions were asked where the following five responses were available:
- Strongly agree
 - Agree
 - Neither agree, nor disagree
 - Disagree
 - Strongly disagree
- 4.2.8 If the 'Strongly Agree' and 'Agree' answers are combined, then the number of responses to the ten questions referred to was for between 66 % and 94 % agreeing with the question. These questions included for example:
- 4.2.9 "Climate change and global warming should be a top priority for action" or "We should make a policy that encourages the development of renewable energy technologies within the district".
- 4.2.10 The number of people who answered 'Disagree' or 'Strongly Disagree' for the ten questions ranged from 1 % to 19 %. Overall, the ten questions referred to were answered by a minimum of 372 respondents.
- 4.2.11 Overall, it is clear that the majority of respondents from all four of the former District Councils consultations, supported the need for policies tackling climate change and for the provision of renewable energy. When questions asked for preferences for any particular type of renewable technologies, the responses were however more mixed, and it is not possible to identify a preferred technology.
- 4.2.12 A brief summary of each of the Issues and Options documents is outlined below.

Kennet District Council – Spatial Options for Future Development Consultation: May – June 2008

- 4.2.13 The proposed vision for Kennet identified the need to mitigate the effects of climate change. Encouraging more sustainable forms of development was identified as one of the planning policy issues for Kennet as a whole, but there was no specific mention of climate change within the summaries of the issues identified for Kennet, or for each of the community areas (Devizes, Marlborough, Pewsey and Tidworth). However, the Community Area Overviews document which informed the consultation, does state that 'dealing with the impact of climate change' will be one of the issues faced by Kennet

over forthcoming years. The consultation paper focused on spatial options for growth, and did not include options for core policies.

**North Wiltshire District Council – Second Issues and Options
Consultation: May – July 2007**

- 4.2.14 Sustainability was identified as one of the main issues facing the district, and it was recognised that:
- 4.2.15 “The widest concept of sustainability should be addressed; it is not only necessary to reduce greenhouse gas emissions, but there is a need to maintain or create vital and viable communities – now and in the future”.
- 4.2.16 The natural environment is also identified as one of the main issues, with particular reference to the predicted impacts of climate change on biodiversity and geo-diversity, and the need to manage water resources.
- 4.2.17 Strategic Objective 3, within the North Wiltshire document, was concerned with the mitigation of climate change, but did not mention the need for climate change adaptation. The consultation paper included discussion about a possible core policy on climate change. Although this discussion focused on reducing carbon dioxide emissions, the need for the core strategy to ‘set out how spatial planning will ... provide resilience to the climate change now accepted as inevitable’ was also included.

**South Wiltshire Core Strategy Our Place in the Future
Consultation: July – October 2007**

- 4.2.18 The consultation paper identifies “ensuring a sustainable future for south Wiltshire” as one of eleven issues to be addressed. Examples are provided of actions which can be taken through planning policy to address this issue, including “ensuring that new homes, offices, and other buildings are as energy-efficient as possible” and “promoting sources of renewable energy”.
- 4.2.19 Another of the eleven issues to be addressed is “facing challenges such as flood risk, reducing waste and pollution and providing transport choices”. Key points identified within this theme include that “flood risk events will increase in frequency and severity over the decades to come” and that there is a “need to put in place measures to safeguard water quality and reduce water consumption”. Elsewhere in the paper it is suggested that there is a need to “encourage farmers to make the best use of water and use renewable energy on their land wherever this is possible”, and that “the design of buildings and spaces must address the causes and impacts of global warming but still respect local heritage and character”.

**West Wiltshire District Council – Issues and Options Paper
Consultation: December 2007 – February 2008**

- 4.2.20 One of the spatial objectives identified in this document was to reduce the impact of local people on climate change, but there was no mention within the vision or strategic objectives of the need to adapt to a changing climate. The environment was one of the policy themes identified in the document, and the specific issues of renewable energy and sustainable construction are covered under this theme.

- 4.2.21 It is noted in the consultation document that the need for sustainable construction was voiced in West Wiltshire. One of the policy options presented in relation to sustainable construction was that all new residential development should meet Code for Sustainable Homes (CSH) Level 6 by 2016.
- 4.2.22 The consultation document also notes that design is one of the tools that can help to address climate change, and promoting sustainable forms of development is one of the proposed objectives for a design policy.

Preferred options

- 4.2.23 Following the 'Issues and Options' stage of consultation described above and the creation of a unitary authority in Wiltshire, another consultation document was published in October 2009. This document, referred to as '*Wiltshire 2026 – Planning for Wiltshire's Future*', set out a 'Vision', 'Strategic Objectives' and also 'Preferred Options' for where future large scale development across each of the Wiltshire community areas might be located.
- 4.2.24 A brief summary of the relevant content of the Wiltshire 2026 document is presented below along with a summary of the key responses relating to climate change.

Contents of Wiltshire 2026 – Planning for Wiltshire's future

- 4.2.25 The vision proposed in Wiltshire 2026 states that:
- 4.2.26 "By 2026 Wiltshire will have a much more sustainable pattern of development' and that 'this pattern of development, with a more sustainable approach towards transport and the generation and use of power and heat, will have contributed towards tackling climate change".
- 4.2.27 The proposed vision also includes a reference to the need to adapt to climate change:
- 4.2.28 "Housing, employment and other development will have been provided in sustainable locations in response to local needs as well as the changing climate and the incorporation of exceptional standards of design".
- 4.2.29 The first strategic objective set out within *Wiltshire 2026* relates specifically to climate change (refer to Section 2 of this paper – Page 4). Key outcomes include meeting national and regional targets for renewable energy, supporting sustainable waste management, reducing Wiltshire's ecological footprint through the sourcing and use of local food, and incorporating sustainable building practices, high energy efficiency, and climate change adaptation and mitigation measures within new buildings.
- 4.2.30 Separate strategic objectives which also relate to climate change include the need to secure appropriate infrastructure and services, to protect and enhance the natural environment, and to minimise the risk of flooding.

Responses to Wiltshire 2026 – Planning for Wiltshire’s future

- 4.2.31 A number of the consultation responses commented on climate change and a clear majority supported the idea of tackling climate change in principle. Some respondents did however feel that there was conflict between the plan objectives to build a large number of new houses and the need to reduce GHG emissions. There was also some cynicism about the council’s ability to meet its objectives concerning this topic area.
- 4.2.32 The consultation responses also included comments from developers who were happy to support the objective in principle, but who would object to any ‘onerous’ targets, should they be imposed, such as minimum targets for renewable energy to be provided on site within new developments. There were also a number of comments displaying some misunderstanding of the topic area, indicating that any future proposals will need to be more fully explained.
- 4.2.33 Specific responses relating to the climate change objective indicated that it was broadly supported (31 responses were supporting or supporting with conditions, 12 responses were objecting, and there were 19 other comments). It is noted that those responses which were listed as ‘objecting’ were mainly criticisms of detail, rather than direct opposition to the principle of tackling climate change as a strategic priority.
- 4.2.34 A detailed report into the consultation responses is available from the council website:

www.wiltshire.gov.uk/wiltshire2026

Waste Core Strategy

- 4.2.35 Previous consultations on the Waste Core Strategy and the Draft Waste Site Allocations Development Plan Document have revealed that the general consensus is that local communities would like to be self sufficient and manage waste as close as possible to its arising and not to manage waste from other counties. The diversion of waste from landfill is also widely supported and the change to treat waste as a resource to gain energy is generally accepted.

4.3 Evidence relating to climate change adaptation

Introduction

- 4.3.1 As already discussed earlier in this paper, we know that the climate is changing now, and that some further change cannot be avoided. Climate change adaptation is about how we prepare for these unavoidable consequences, which are likely to include hotter, drier summers and wetter, milder winters.
- 4.3.2 A certain amount of climate change cannot now be avoided because of the time lag in the climatic system and because GHG emissions remain in the atmosphere for long periods of time. So we are already locked into a certain amount of climate change because of current emissions and the emissions made in the past.

4.3.3 This section briefly summarises what we know about how the climate is likely to change in Wiltshire. It also outlines how developing new planning policies can help to ensure new communities are resilient to the unavoidable effects of climate change. The specific areas covered are:

- Likely climate changes in Wiltshire
- Existing climate impacts in Wiltshire
- Examples of best practice

Likely climate changes in Wiltshire

4.3.4 A report on the likely climate changes in Wiltshire was prepared as part of the council's work towards developing a Wiltshire Climate Change Adaptation Plan. This report is based on the latest UK Climate Projections (UKCP09) which were published in June 2009 by the Met Office Hadley Centre

4.3.5 An assessment of the UKCP09 data has been made to consider possible climate changes in Wiltshire. This work has considered the predicted changes to both temperature and precipitation in summer and winter for the **2020's** (2010 to 2039), **2050's** (2040 to 2069), and **2080's** (2070 to 2099).

4.3.6 There are a number of choices and variables when presenting findings from the UKCP09 work which need to be considered. These include the following: time period; spatial resolution; emissions scenarios; probability levels; and climate variables. These matters are discussed in more detail in the *Wiltshire Climate Change Adaptation Plan: Level 1 Report*, which is available from the following web address:
www.wiltshire.gov.uk/climatechangeadaptation

4.3.7 Summaries are outlined by Figure 4.1 (over page) which shows the likely changes in temperature and precipitation in Wiltshire for the 2020's, 2050's and 2080's.

4.3.8 Figure 4.1 is based on the 'medium emissions scenario' from the UKCP09 work. This is one of a number of emission scenarios developed by the Intergovernmental Panel on Climate Change (IPPC) to consider how factors like population, economic growth and energy usage will affect GHG emissions over time (this matter is also discussed in Section 2 – page 8).

4.3.9 The likely changes shown by Figure 4.1 represent the 'likely range' (probability levels of between 33 % to 67 %) and changes are relative to the 1961 - 1990 baseline.

<p>2020's Likely changes in temperature and precipitation in Wiltshire for the 2020's under a medium emissions scenario</p> <p>Temperature</p> <ul style="list-style-type: none"> • Increase in annual mean temperature by between 1.2°C and 1.7°C • Increase in summer mean temperature by between 1.2°C and 2.0°C • Increase in winter mean temperature by between 1.0°C and 1.6°C • Increase in temperature of warmest summer day by between 0°C and 2.7°C. <p>Precipitation</p> <ul style="list-style-type: none"> • Annual precipitation stays roughly the same • Decreases in summer mean precipitation by between 1 % and 15 % • Increase in winter mean precipitation by between 2 % and 10 % • Increase in precipitation on the wettest winter day by between 2 % and 11 %
<p>2050's Likely changes in temperature and precipitation in Wiltshire for the 2050's under a medium emissions scenario</p> <p>Temperature</p> <ul style="list-style-type: none"> • Increase in annual mean temperature likely to be between 2.2°C and 2.9°C • Increase in summer mean temperature by between 2.3°C and 3.5°C • Increase in winter mean temperature by between 1.8°C and 2.6°C • Increase in temperature of warmest summer day by between 0.9°C and 4.4°C <p>Precipitation</p> <ul style="list-style-type: none"> • Annual precipitation stays roughly the same • Decrease in summer mean precipitation by between 1 % and 28 % • Increase in winter mean precipitation by between 9 % and 22 % • Increase in precipitation on the wettest winter day by between 6 % and 21 %
<p>2080's Likely changes in temperature and precipitation in Wiltshire for the 2080's under a medium emissions scenario</p> <p>Temperature</p> <ul style="list-style-type: none"> • Increase in annual mean temperature likely to be between 3.1°C and 4.1°C • Increase in summer mean temperature by between 3.3°C and 4.9°C • Increase in winter mean temperature by between 2.4°C and 3.5°C • Increase in temperature of warmest summer day by between 1.2°C and 5.8°C <p>Precipitation</p> <ul style="list-style-type: none"> • Annual precipitation stays roughly the same • Decrease in summer mean precipitation by between 13 % and 34 % • Increase in winter mean precipitation by between 12 % and 29 % • Increase in precipitation on the wettest day by between 11 % and 29 %

Figure 4.1: Likely changes in temperature and precipitation in Wiltshire for the 2020's, 2050's and 2080's under a medium emissions scenario⁸⁴.

⁸⁴ Wiltshire Council (2010). Wiltshire Climate Change Adaptation Plan: Level 1 Report – April 2010.

4.3.10 The medium emissions scenario is considered to be the most appropriate for Wiltshire following guidance from the South West Climate Change Adaptation Group. This is an officer group for local authorities across the south west and is administered by the Environment Agency.

4.3.11 Overall, it is predicted that annual mean temperature in Wiltshire will rise by between 1.2 and 1.7⁰C by the **2020's** and by between 3.1 and 4.1⁰C by the **2080's**.

4.3.12 The changes shown by Figure 4.1 are likely to result in a number of climate trends in Wiltshire. A summary of these trends are shown by Table 4.1, which apply to the period up until the end of the century.

Table 4.1: Summary of likely climate changes in Wiltshire⁸⁵.

Long-term/seasonal changes	Extreme events
<ul style="list-style-type: none"> • Increase in annual average temperature • Hotter, drier summers • Milder, wetter winters 	<ul style="list-style-type: none"> • More hot days • Fewer frost days • More dry spells • Increase in temperature of warmest day • Increase in precipitation on wettest day

4.3.13 The report into the likely climate changes in Wiltshire also highlights some of the potential impacts of these climate changes, drawing on a summary of likely impacts in the UK produced by the Met Office. It is noted that the severity of any impacts will depend upon local circumstances, and that further work is needed to ascertain the particular nature of vulnerabilities or opportunities associated with climate change in the county.

4.3.14 Possible future climate change impacts which are thought to be applicable to the south west have been published by the Environment Agency⁸⁶. Example impacts on the built environment and on housing are shown in Table 4.2 (over page).

⁸⁵ Wiltshire Council (2010). Wiltshire Climate Change Adaptation Plan: Level 1 Report – April 2010.

⁸⁶ Environment Agency (2010). Warming to the idea: building resilience to extreme weather and climate change in the south west – Climate South West.

Table 4.2: Possible future climate change impacts, applicable to the south west, relating to the built environment and housing¹⁵.

Theme	Impact
Built Environment	Increased need for cooling of buildings in summer but less demand for heating in warmer winters. Practical technologies are needed for passive cooling of buildings, to avoid more releases of greenhouse gases in powering cooling plants.
	Reduced summer rainfall and more frequent droughts will put pressure on water supplies. Increased use of existing water efficient and rainwater harvesting technologies is therefore, needed to reduce water consumption in buildings especially in summer.
	Wetter winters and heavier rainfall will exacerbate problems with damp and leaks in older buildings, as well as increasing the risk of flooding.
	Increased solar radiation may provide more opportunity for solar heating in winter and cooling in summer.
Housing	Housing will be at increased risk from flooding and will need to be resilient to heavy rainfall and storms.
	Housing will need to be able to cope with increased temperature and become more water efficient to reduce reliance on an increasingly scarce water supply.
	Buildings on clay are vulnerable to subsidence and ground movement from clay drying and shrinking during drought.
	The changing climate is likely to have an effect on residents' behaviour and expectations – for example, the demand for outdoor space may grow. The design of buildings and housing developments will need to take this into account if the quality of life for residents is to be sustained and improved.

Existing climate impacts in Wiltshire

4.3.15 A Local Climate Impacts Profile (LCLIP) has been produced for Wiltshire and this will also be used to inform the Wiltshire Climate Change Adaptation Plan. The LCLIP assesses the current vulnerability of council services to severe weather events, and is based on a review of media stories in the local press over an eight year period (specifically The Wiltshire Times and The Salisbury Journal). The LCLIP covers the period between January 2003 and March 2010 and is available from the following web page:

www.wiltshire.gov.uk/climatechangeadaptation

4.3.16 The most frequent major weather event types in Wiltshire were found to be excessive rainfall / flooding (44% of total events); frost / snow / ice (21%); wind (19%); and high temperature / heat wave (12%). The most frequent impact of these events was infrastructure disruption.

4.3.17 Several events which took place during the study period were widely recognised as being highly significant. These can be summarised as:

- high temperatures / heat waves in August 2003 and July 2006: leading to strain on water and energy utilities, significant damage to road infrastructure (and also to rail infrastructure in 2003), danger to vulnerable groups (and excess deaths reported nationally in 2003)
- excessive rainfall / flooding in July 2007 and January 2008: leading to flooding of properties in several towns across Wiltshire, infrastructure disruption (particularly road and rail infrastructure in 2008)
- frost / snow / ice in February 2009 and January 2010.

4.3.18 Appendix 3 of the LCLIP identifies possible impacts arising due to weather events. Examples include:

- high temperatures / heat waves: health risks, melting roads, rails can buckle, property damage due to increased numbers of fires, increase in opportunistic crime as property security fails to facilitate cooling (windows left open)
- wind: health risks due to dislodged material or vegetation damage, infrastructure disruption and damage, property damage
- excessive rainfall / flooding: health risks (both direct dangers and indirect danger from contamination of premises), infrastructure disruption and damage, property damage.

4.3.19 The LCLIP also notes that subsidence can result in significant damage to property and can be the result of high temperatures and corresponding changes in the moisture content of soil or growth of vegetation.

Examples of best practice

4.3.20 There is a clear national policy framework setting out the need for LPAs to address climate change adaptation. The *Planning and Climate Change Supplement to PPS 1*, for example, makes it clear that new development should 'minimise future vulnerability in a changing climate' (this is discussed further within Section 3 of this paper).

4.3.21 According to *Climate Change Adaptation by Design* a guide produced by the Town and Country Planning Association⁸⁷, there are four main areas planning policies can address to help deal with climate change adaptation. These are:

- Managing high temperatures
- Managing flood risk
- Managing water resources and water quality
- Managing ground conditions.

4.3.22 Several policies relating to climate change adaptation have been adopted by other LPAs, which often focus on the provision of green infrastructure, tackling flooding and reducing water consumption. Sustainable construction standards are also sometimes set. Examples include the Reading Borough Council Core Strategy adopted in January 2008 and the Southampton City

⁸⁷ Shaw, R., Colley, M., and Connell, R. (2007). *Climate change adaptation by design: a guide for sustainable communities*. Town and Country Planning Association, London.

Council Core Strategy adopted in January 2010. Both include sustainable construction standards and policies to address water consumption.

Managing high temperatures

- 4.3.23 The provision of green infrastructure (open spaces and planting), which can help provide shading and cooling in urban areas and allow biodiversity to better respond to climate change is considered separately in the Green Infrastructure Topic Paper.
- 4.3.24 Policies can be developed to influence the design of new buildings to ensure they are resilient to future temperature rises. Tonbridge and Malling Borough Council developed a Managing Development and the Environment DPD which was adopted in April 2010. This includes a policy designed to address the design of buildings to ensure buildings are adapted to future hotter drier summers. However, it is suggested that designing the layout, building orientation and landscaping of development will need to strike a balance between harnessing natural heat and light from the sun, particularly during the winter, and maximising cooling during the summer. Example policy wording is shown by Table 4.3 (over page).
- 4.3.25 Sustainable construction standards are discussed further below. However, it is important to note that standards such as the Code for Sustainable Homes (CSH) do not currently address the need for cooling during summer months. The Tonbridge and Malling policy specifically addresses heat retention and the need to avoid building overheating.

Table 4.3: Example policy wording from Tonbridge and Malling Borough Council, Managing Development and the Environment DPD, to address managing high temperatures⁸⁸.

Policy CC 1	
1.	<p>All proposals for new development, building conversions, refurbishments and extensions will be required to incorporate passive design measures to reduce energy demand. Proposals will be required to be well insulated and air tight and designed to take advantage of natural light and heat from the sun and use natural air movement for ventilation, whilst maximising cooling in the summer. This should be achieved by such of the following means as practicable:</p> <ul style="list-style-type: none"> (a) Orientating windows of habitable rooms within 30° degrees of south utilising southern slopes. (b) Locating windows at heights that allow lower sun angles in the winter and installing shading mechanisms, for example awnings, to prevent overheating during summer months. (c) Using soft landscaping, including deciduous tree planting, to allow natural sun light to pass through during the winter months whilst providing shade in the summer. (d) Integrating passive ventilation, for example wind-catchers installed on roofs. (e) Planting green roofs to moderate the temperature of the building in order to avoid the need for mechanical heating and/or cooling systems.

Managing flood risk, water resources and water quality

4.3.26 The issues of managing flood risk and reducing water consumption are dealt with separately in the Strategic Flood Risk Assessment and Green Infrastructure Topic Paper.

Managing ground conditions

4.3.27 Ground conditions could be affected by many of the climate changes that are projected, such as changing temperature and rainfall patterns, which could lead to increased risk of subsidence. An example adaptation measure could include the provision of deeper and stronger foundations. No example policies from other LPAs have been identified which address the issue of 'managing ground conditions'.

4.3.28 Further research may be needed to ascertain how much this issue may be a problem within Wiltshire and whether a specific Wiltshire policy response is justified. The severity of the impact will be linked to a range of site specific factors, including soil type.

⁸⁸ Tonbridge and Malling Borough Council (2010). Managing development and the environment DPD.

4.4 Evidence relating to climate change mitigation

Introduction

- 4.4.1 Climate change mitigation is about taking action to decrease the severity of future climate change, principally by reducing our GHG emissions. The introduction to this paper explains that the international community has reached agreement that the rise in global temperature should be limited to 2°C, above pre-industrial levels. Beyond this level, the risk of 'dangerous' climate change, becomes much greater⁸⁹.
- 4.4.2 As the temperature in England has already risen by about 1°C since the 1970s, a significant reduction in GHG emissions is needed to meet the challenging target set out above.
- 4.4.3 As discussed in Section 3 of this paper, the UK contributions to this global target are set out in the *UK Climate Change Act (2008)*. This states that a reduction of at least 34 % in our carbon emissions should be met by 2020. A range of UK national policies have also been described clearly stating the role planning is expected to play in meeting this target.
- 4.4.4 This section outlines key evidence to support policy development in the Wiltshire Core Strategy relating to climate change mitigation. This paper covers areas that can maximise carbon reduction in new development, deliver sustainable development (through sustainable construction) and deliver an increased level of installed renewable energy. The specific areas covered are:
- Wiltshire's carbon emissions
 - Fuel poverty in Wiltshire
 - Existing renewable energy and heat installations in Wiltshire
 - Future potential for renewable energy and heat in Wiltshire
 - Summary of additional evidence
 - Examples of best practice

Wiltshire's carbon emissions

- 4.4.5 In 2007, the county's total carbon footprint was 4.76 million tonnes. This is approximately 12 % of the total carbon emissions for the South West and approximately 1 % of the total for the UK⁹⁰.
- 4.4.6 Wiltshire's per capita emissions are greater than for the South West and for the UK (Figure 4.2). In the 2005 to 2007 period the emissions in Wiltshire went up (by approximately 3.1 %) whereas for the South West overall, they went down (by approximately 2.1 %). It is therefore clear that Wiltshire is lagging behind many other authority areas for cutting its carbon emissions⁹¹.

⁸⁹ Department for Environment, Food and Rural Affairs (2009). Adapting to climate change: UK projections – June 2009.

⁹⁰ Department for Energy and Climate Change (2007). Local Authority carbon Dioxide Emissions.

⁹¹ Wiltshire Council (2010). Draft Energy Change and Opportunity Strategy 2011 – 2020. October 2010.

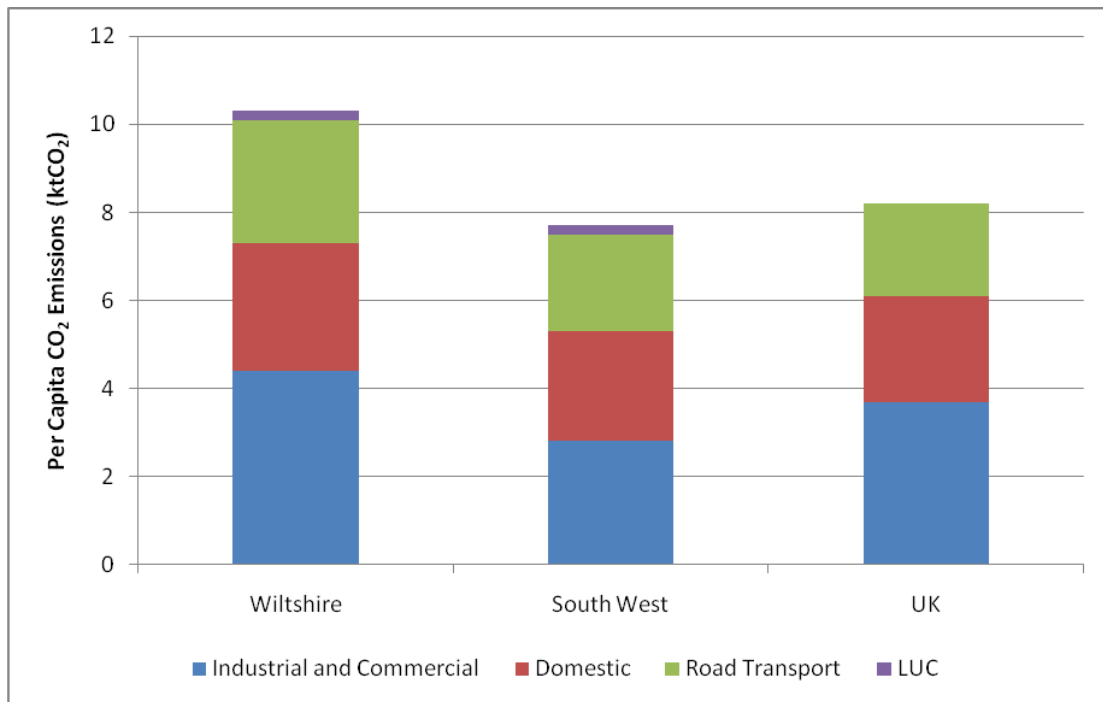


Figure 4.2: Per capita carbon dioxide (CO₂) emissions by source for 2008 for Wiltshire, the South West, and the UK⁹². LUC refers to emissions associated with land use change and forestry and includes forestation, reforestation and deforestation.

4.4.7 As domestic housing accounts for 24 % of carbon emissions in Wiltshire, it is also clear why planning has an important role to play in reducing emissions, either from new development, or from the existing building stock.

Fuel poverty

4.4.8 The *Wiltshire Private Sector House Conditions Survey (2009)*, states that 14,700 owner occupied and 5,700 private rented properties, are living in fuel poverty in Wiltshire⁹³. A household is said to be in fuel poverty if it is required to spend more than 10 % of its income on domestic fuel use to maintain a satisfactory heating regime.

4.4.9 The rural nature of Wiltshire may mean its residents are at greater risk of fuel poverty as it is known that rural households have poorer access to mains gas. Alternate fuel sources to mains gas, such as grid electricity, oil, bottled gas and solid fuel are generally much more expensive. Sixty eight per cent of private sector properties in Wiltshire do not have access to mains gas⁹⁴ and are shown by Figure 4.3.

⁹² Department for Energy and Climate Change (2010). Local and regional CO₂ emissions estimates for 2005-2008 – Full dataset

⁹³ Wiltshire Council (2009). Wiltshire Private Sector House Conditions Survey.

⁹⁴ Camco (2011). Wiltshire Sustainable Energy Planning Study.

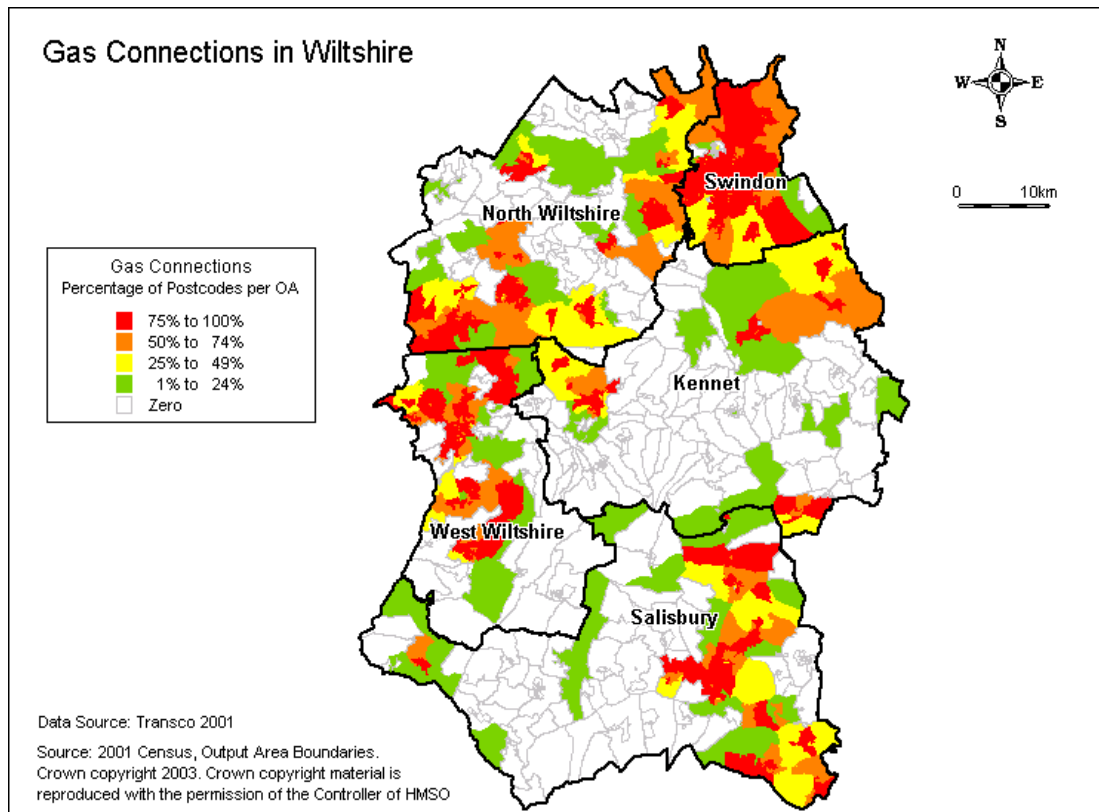


Figure 4.3: Percentage of postcodes per output area with mains gas connection in Wiltshire⁹⁵.

4.4.10 Research conducted by the University of Exeter, found that average room temperatures in properties located within a ward in Exeter which were ‘off-gas’, were significantly lower than in properties from a neighbouring area where mains gas was available. It was concluded that the ‘off-gas’ households were effectively ‘living cold’⁹⁶. This provides some evidence that the cost of fuel can be a problem in properties without mains gas supply.

4.4.11 It is also important to consider that the carbon intensity of different fuel types varies from one fuel type to another. This is the amount of carbon emitted through using the fuel type. As an example, the carbon intensity of grid electricity is 0.544 kg per unit of energy, whereas for natural gas, it is 0.185 kg per unit of energy.

4.4.12 Therefore, increasing the energy efficiency of housing and increasing the provision of renewable energy could help to reduce carbon emissions. These actions will also help to provide a more cost effective fuel option for properties that do not have access to mains gas or are otherwise living in fuel poverty.

⁹⁵ Camco (2011). Wiltshire Sustainable Energy Planning Study.

⁹⁶ University of Exeter (2009). Analysis of options for the retrofit of sustainable energy solutions in the electrically heated homes in Exwick – May 2009.

Existing renewable energy and heat installations in Wiltshire

- 4.4.13 Targets for the installed capacity of renewable energy in Wiltshire were set within the *Wiltshire and Swindon Renewable Energy Action Plan 2005* (refer to section 3 of this paper – page 19). The target for Wiltshire, including the administrative area of Swindon Borough Council, was for 65 to 85 Mega Watts (MW) of installed capacity to be in place by 2010.
- 4.4.14 However, in January 2010, the actual installed capacity of renewable energy for Wiltshire and Swindon was only 15.30 MW (Table 4.4 – over page), which clearly falls far short of the target⁹⁷.
- 4.4.15 Furthermore, it is clear from Table 4.4, that by far the largest component of installed renewable energy in Wiltshire is derived from landfill gas (94 %). This figure will reduce in the future as the amount of waste sent to landfill will be progressively reduced.
- 4.4.16 Although the *Wiltshire and Swindon Renewable Energy Action Plan 2005* did not set targets for the installed capacity of renewable heat in Wiltshire, this is also an important consideration. Table 4.5 (over page) shows the amount of renewable heat installed in Wiltshire in 2010.
- 4.4.17 Wiltshire contributes the second lowest level of renewable electricity of all authority areas in the South West, contributing only 8.9 % of the regions total (Figure 4.4 – page 50). Furthermore, Wiltshire is the worst performing area for delivering renewable heat, contributing only 4 % of the region's total (Figure 4.5 – page 50)⁹⁸.

⁹⁷ Regen SW (2010). Renewable electricity and heat projects in South West England.

⁹⁸ Regen SW (2010). Renewable electricity and heat projects in South West England.

Table 4.4: Installed renewable electricity capacity (MW) in Wiltshire and Swindon in January 2010, by administrative area, and technology type⁹⁹.

Authority	Advanced Treatment of Waste	Hydro	Landfill Gas	Onshore Wind	Sewage Gas	Solar PV	Area Total
Swindon	0	0	4.35	0.01	0.45	0.10	4.90
Wiltshire	0	0.08	10.02	0.01	0.17	0.12	10.39
Total	0	0.08	14.37	0.02	0.62	0.22	15.30

Table 4.5: Installed renewable heat capacity (MW) in Wiltshire and Swindon in January 2010, by administrative area, and technology type¹⁰⁰.

Authority	Advanced Treatment of Waste	Biomass	Heat Pumps	Sewage Gas	Solar Thermal	Area Total
Swindon	0	0.42	0.01	0	0.02	0.45
Wiltshire	0	1.18	0.46	0.20	0.41	2.25
Total	0	1.60	0.47	0.20	0.42	2.69

⁹⁹ Regen SW, 2010. Renewable electricity and heat projects in South West England.

¹⁰⁰ As above.

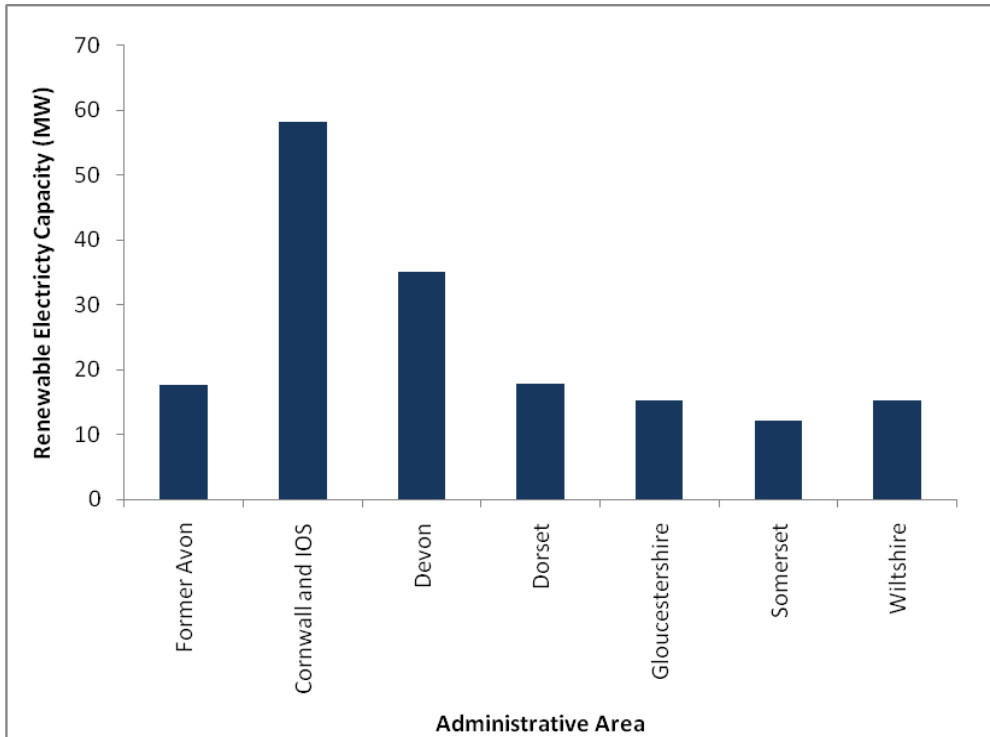


Figure 4.4: Installed capacity of renewable electricity by administrative area in the South West in January 2010¹⁰¹.

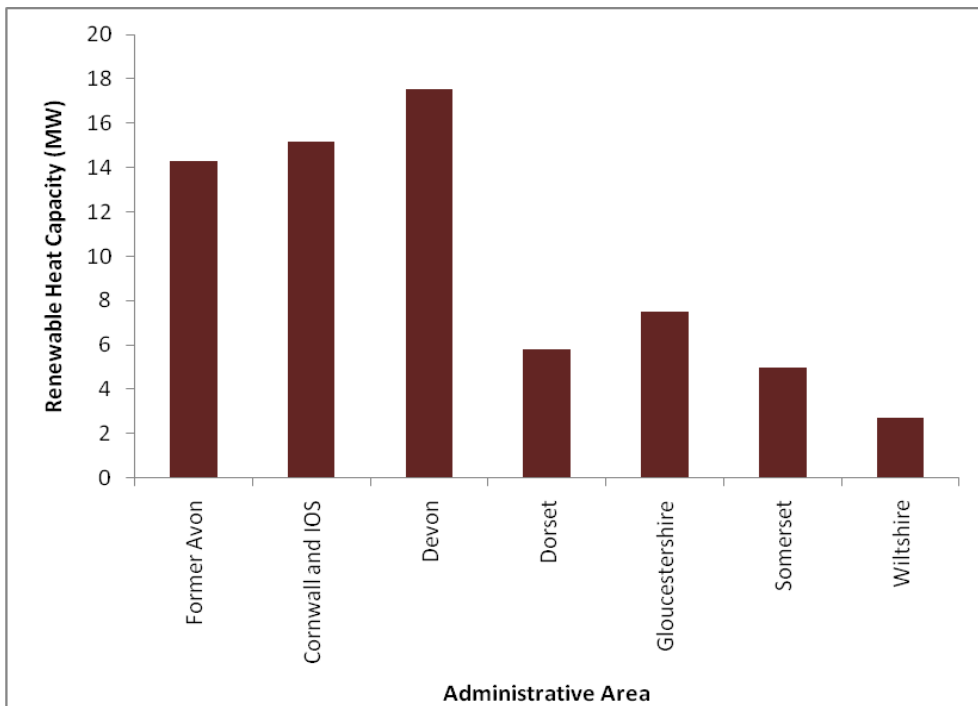


Figure 4.5: Installed capacity of renewable heat by administrative area in the South West in January 2010¹⁰².

¹⁰¹ Regen SW (2010). Renewable electricity and heat projects in South West England.

¹⁰² Regen SW (2010). Renewable electricity and heat projects in South West England.

Future potential for renewable energy and heat in Wiltshire

- 4.4.18 One of the requirements set out within the *Planning and Climate Change Supplement to PPS 1*, is that LPA's should have an 'evidence-based' understanding of the local feasibility and potential for renewable and low-carbon technologies, including micro-generation, to supply new development in their area. A study was commissioned towards the end of 2009 to fulfil the requirements set out within the PPS 1 supplement, the Wiltshire Sustainable Energy Planning Study (to be referred to as WSEPS). This is available on the council website.
- 4.4.19 Although some key findings from the WSEPS are summarised in this paper, it is not intended to describe the results in detail. Reference should be made to the full report for detailed information.
- 4.4.20 The WSEPS assessed the potential for a range of Renewable Energy (RE) technologies across Wiltshire. These included large scale technologies such as wind, biomass, hydro and solar arrays. Small scale renewables, known as micro-generation (any installation that produces less than 50 kW of electricity¹⁰³) were also considered in relation to both new developments and existing buildings.
- 4.4.21 For each RE technology, both the technical and practical potential was investigated. These considered the technical potential for a technology (technical potential) and also a more realistic level based on a detailed analysis of constraints and limitations (practical potential). For each technology, a base level scenario was then developed which represents an estimate for what level of RE could be delivered in Wiltshire. It should be stressed that this is only a 'scenario' based on a series of assumptions which are more fully explained in the WSEPS.
- 4.4.22 A summary of the base level scenario for renewable electricity is shown by Table 4.6 (over page), with a breakdown of the micro-generation component shown by Table 4.7 (page 59). This level of RE development in Wiltshire would provide almost 30 % of the projected electricity consumption in Wiltshire in 2020 (a target as stated in the *UK Renewable Energy Strategy*).
- 4.4.23 The WSEPS assessed the potential for a number of micro-generation technologies which were: solar photovoltaic (PV); solar thermal (hot water heating); heat pumps; and small-scale wind (Tables 4.7 and 4.9 – pages 59 and 60).

¹⁰³ Energy Act, 2004.

Table 4.6: Potential for renewable electricity in Wiltshire for 2020 - base level scenario¹⁰⁴ *.

Technology	Number or area	Capacity (MW)	Percentage of projected electricity consumption (%)	Total carbon savings (tCO ₂)
Large scale wind turbines (2.5 MW)	64	160.0	15.0	176,094
Biomass ^a	-	148.0 ^b	11.7	141,336
Hydropower turbines	6 – 9	1.2	0.3	3,570
Ground mounted solar PV	0.69 km ²	28.6	1.0	12,096
Micro-generation	^c	29.0	1.2	13,490
Total	-	366.8	29.2	346,586

* Scenario for renewable energy based on a series of assumptions. Reference should be made to the Wiltshire Sustainable Energy Planning Study for detailed information.

^a Biomass is taken to include a range of sources: energy crops, crop residues and food waste – refer to Wiltshire Sustainable Energy Planning Study for full details.

^b The installed capacity for biomass is a combined value for electricity and heat based on assumptions set out in the Wiltshire and Sustainable Energy Planning Study.

^c A breakdown of micro-generation technologies is shown by Table 4.7.

Table 4.7: Potential for micro-generation renewable electricity in Wiltshire for 2020 - base level scenario²⁶ *.

Technology	Number or area	Capacity (MW)	Percentage of projected electricity consumption (%)	Total carbon savings (tCO ₂)
Solar PV	125,000 m ²	21	0.7	8,729
Small Wind (6 kW turbine)	1,400	8	0.5	4,761

* Scenario for renewable heat based on a series of assumptions. Reference should be made to the Wiltshire Sustainable Energy Planning Study for detailed information.

¹⁰⁴ Camco (2011). Wiltshire Sustainable Energy Planning Study.

Table 4.8: Potential for renewable heat in Wiltshire for 2020 - base level scenario²⁷ *.

Technology	Number or area	Capacity (MW)	Percentage of projected thermal consumption (%)	Total carbon savings (tCO ₂)
Biomass ^a	-	^b	6.33	61,092
Micro-generation ^c	14700	96	3.20	10,126
Total	-	-	9.50	71,218

* Scenario for renewable energy based on a series of assumptions. Reference should be made to the Wiltshire Sustainable Energy Planning Study for detailed information.

^a Biomass is taken to include a range of sources: energy crops, crop residues and food waste – refer to Wiltshire Sustainable Energy Planning Study for full details.

^b An installed capacity for biomass is provided within Table 4.6 and is a combined value for electricity and heat based on assumptions set out in the Wiltshire and Sustainable Energy Planning Study.

^c A breakdown of micro-generation technologies is shown by Table 4.9.

Table 4.9: Potential for micro-generation for renewable heat in Wiltshire for 2020 - base level scenario¹⁰⁵ *.

Technology	Number or area	Capacity (MW)	Percentage of projected electricity consumption (%)	Total carbon savings (tCO ₂)
Solar Thermal	13,500	29	0.4	3,762
Heat Pumps	12,000	67	2.8	6,364

* Scenario for renewable heat based on a series of assumptions. Reference should be made to the Wiltshire Sustainable Energy Planning Study for detailed information.

4.4.24 The WSEPS has demonstrated that almost 30% of the projected electricity demand and 9.5% of the projected thermal demand of Wiltshire, in 2020, could be met by renewable technologies. A base level scenario has been developed to illustrate how these levels could be achieved following detailed analysis of constraints and limitations.

4.4.25 Although no renewable energy or heat targets have currently been set for Wiltshire for 2020, the scenarios do provide a useful illustration of what level of capacity would be needed to meet the *UK Renewable Energy Strategy (2009)* targets. This states that 30% of electricity and 12% of heat should be provided by renewable sources. Figure 4.6 (over page) compares the Wiltshire 2010 target for renewable electricity, with the existing installed capacity and the 2020 base level scenario developed by the WSEPS.

¹⁰⁵ Camco (2011). Wiltshire Sustainable Energy Planning Study.

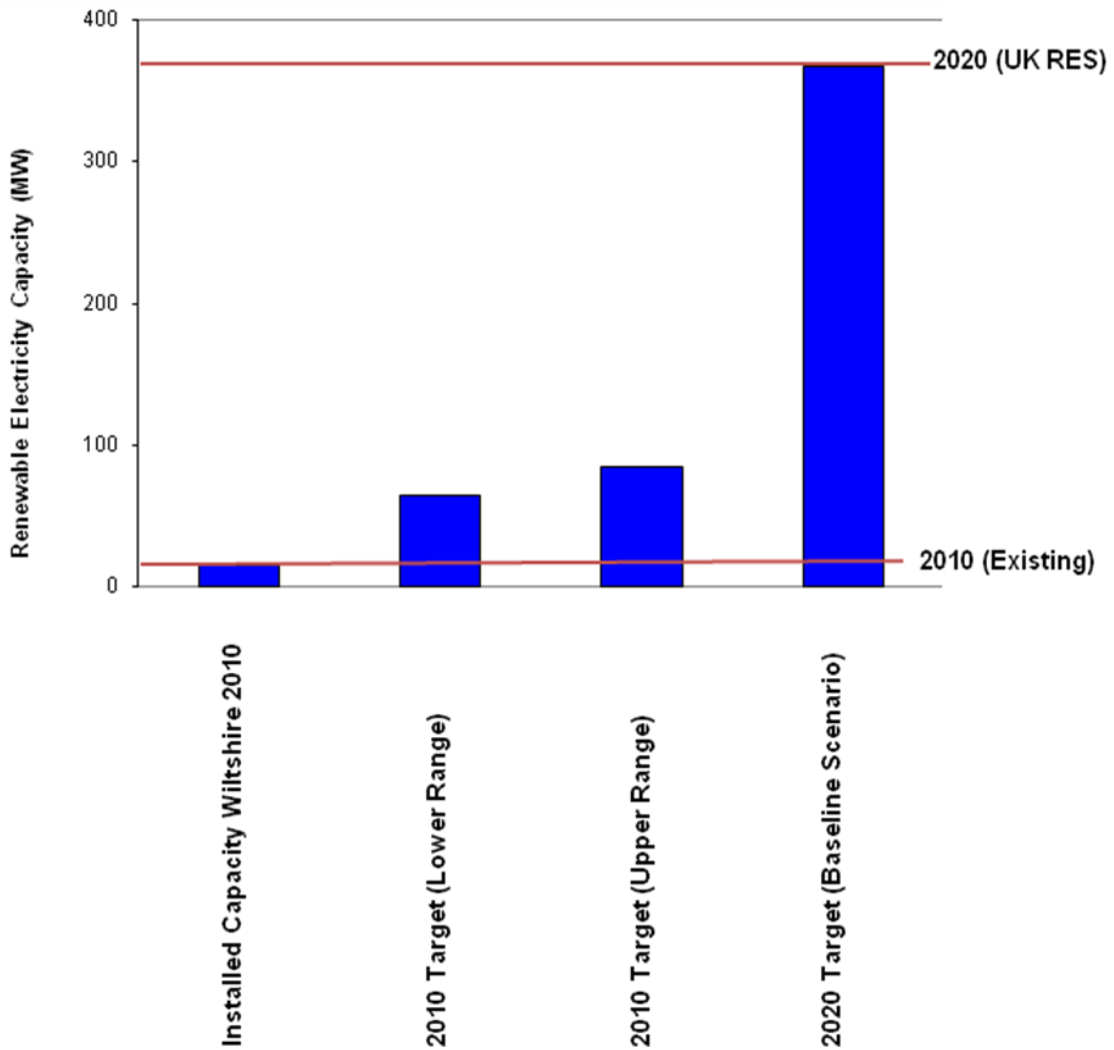


Figure 4.6: Comparison of the existing renewable installed electricity capacity in Wiltshire, the targets for Wiltshire and Swindon for 2010 (set out in the *Wiltshire and Swindon Renewable Energy Action Plan 2005*¹⁰⁶), and the base level scenario for renewable energy potential in Wiltshire for 2020 (taken from the *Wiltshire Sustainable Energy Planning Research 2011*¹⁰⁷). The base level scenario is close to the level of renewable electricity which would need to be installed in Wiltshire to meet the national government targets set out in the *UK Renewable Energy Strategy (2009)*¹⁰⁸, denoted by UK RES).

¹⁰⁶ (2005). Wiltshire and Swindon renewable energy action plan.

¹⁰⁷ Camco (2011). Wiltshire Sustainable Energy Planning Study.

¹⁰⁸ (2009). UK Renewable energy strategy.

4.4.26 It is clear from the evidence presented that a positive policy supporting large scale standalone renewable energy in Wiltshire is needed for inclusion in the Wiltshire Core Strategy.

Summary of additional evidence

4.4.27 This section summarises other key evidence, partly from the WSEPS, particularly relating to policy development to address climate change mitigation in new development. Three specific areas are covered, which are:

- Sustainable construction standards
- Wiltshire wide carbon standards for new development
- Area specific carbon standards for new development

Sustainable construction

4.4.28 The UK government has set out its intention for improving the carbon performance of new developments with the tightening of Building Regulations, for new homes, along the following lines:

- 2010 – a 25 % carbon reduction beyond current (2006) Building Regulation requirements, which is equivalent to the Code for Sustainable Homes (CSH) Level 3 (for the energy and carbon component of the CSH).
- 2013 – a 44 % carbon reduction beyond current (2006) Building Regulation requirements, which is equivalent to CSH Level 4 (for the energy and carbon component of the CSH).
- 2016 – a 150 %* carbon reduction beyond current (2006) Building Regulation requirements, which is equivalent to CSH Level 6 (for the energy and carbon component of the CSH). This will need to be in line with the definition of zero carbon development.

* Energy use is categorised as both regulated (space heating, domestic hot water, lighting, fans and pumps) and un-regulated (appliances and other electrical items). Only the zero carbon standards required from 2016 will include both forms of energy and hence the large reduction required in carbon emissions to meet this target.

4.4.29 There is also an intention for non-domestic buildings to be zero carbon by 2019.

4.4.30 As it may be difficult to achieve zero carbon standards on all types of development on-site, CLG have consulted on a definition for zero carbon. It is anticipated that the definition will follow the preferred hierarchy shown by Figure 4.9.

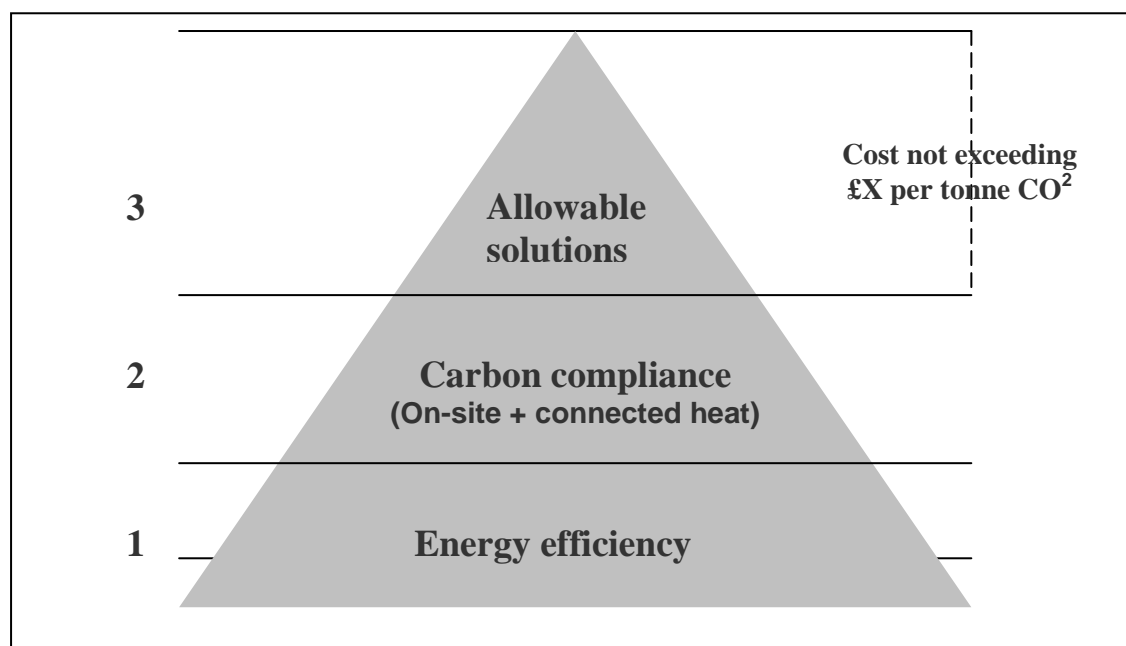


Figure 4.9: The UK Governments preferred hierarchy for achieving zero carbon standards in new residential development¹⁰⁹. The term ‘allowable solutions’ means allowing some carbon reduction to be achieved ‘off-site’, such as the provision of renewable energy, but that this still counts towards the carbon budget of the new development itself.

4.4.31 It is expected that minimum levels of energy efficiency and minimum levels of on-site energy generation will be set with the residual carbon emissions reduction being offset through off-site generation or investment in other carbon reduction measures. Typically, between 10 and 20 % carbon reduction can be achieved through energy efficiency measures. It is expected that 70 % of regulated emissions will need to be abated through energy efficiency and carbon compliance on-site. This allows ‘allowable solutions’ to meet the remaining 30 % of regulated and 100 % of unregulated emissions¹¹⁰.

4.4.32 Consideration is also needed for other elements of development, beyond energy efficiency and provision of RE, such as the materials used or waste generated during construction. These areas also make a large contribution to GHG emissions and sustainability overall.

4.4.33 A number of assessment tools have been developed to rate new developments in terms of how sustainable they are, and how much carbon is used either during construction, or during the life of the buildings. An example is the Code for Sustainable Homes (CSH) which applies to residential developments and rates them between 1 and 6, with 1 being the least sustainable and 6 being classified as zero carbon.

¹⁰⁹ Camco (2011). Wiltshire Sustainable Energy Planning Study.

¹¹⁰ Camco (2011). Wiltshire Sustainable Energy Planning Study.

- 4.4.34 Other tools are available for non-residential development, such as the Building Research Environmental Assessment Method (BREEAM) assessment tools. It is not intended to provide a detailed explanation of these tools in this paper.
- 4.4.35 The CSH is voluntary, except that social housing currently needs to be built to CSH Level 4. To date, the government have not indicated that the CSH will become mandatory in the future.
- 4.4.36 The CSH is divided into nine categories relating to sustainable design and construction which are:
- Energy and carbon emissions
 - Water consumption
 - Materials
 - Surface water run-off
 - Waste
 - Pollution
 - Health and wellbeing
 - Management
 - Ecology
- 4.4.37 Meeting the zero carbon standards (the energy and carbon emissions component of the CSH), are reported to account for up to 80 % of the overall costs of meeting the CSH across all nine categories. This requirement (the energy and carbon emissions component) is mandatory (as discussed above).
- 4.4.38 For this reason an assessment has been conducted to see if CSH targets could be set in Wiltshire, in line with changes to Building Regulations for the energy and carbon emissions component, but for all of the other eight categories.
- 4.4.39 Details of the viability assessment will be set out within an addendum to this paper.

Wiltshire wide carbon standards for new development

- 4.4.40 As discussed above, the UK government has set a timetable for tightening carbon standards to achieve zero-carbon development in 2016, for residential, and 2019, for non residential development.
- 4.4.41 It is important to consider whether these requirements are considered adequate for Wiltshire, or whether zero-carbon targets should be set in advance of 2016/ 2019. Given the very low level of renewable energy currently installed within Wiltshire, and the poor historic performance of Wiltshire to reduce carbon emissions, setting targets in advance of the national requirements may be considered desirable.
- 4.4.42 The WSEPS has demonstrated that there is sufficient technical resource for renewable energy in Wiltshire to meet low-carbon standards in Wiltshire in advance of 2016/ 2019. The WSEPS has also stated that achieving zero carbon standards in advance of 2016/ 2019 can be financially viable, although

this is clearly related to individual sites. However, wider considerations are needed to consider if this is an appropriate objective for Wiltshire.

- 4.4.43 Guidance recently published by the Town and Country Planning Association, suggests that the improvements to the energy performance of buildings to be delivered through changes to Building Regulations, may render authority wide targets, in advance of these changes, unnecessary. Furthermore, feedback from developers to the *Wiltshire 2026* consultation (Section 4), along with comments made at a workshop held for developers to discuss the WSEPS, indicates that setting Wiltshire wide targets for achieving zero-carbon in advance of 2016/ 2019 would have a detrimental impact on the viability of development in Wiltshire.
- 4.4.44 Clearly, the viability of development and whether meeting zero-carbon standards are achievable will vary on a site by site basis, and so should be considered in relation to specific site characteristics (discussed further below).
- 4.4.45 The costs of meeting zero-carbon standards by 2016/ 2019 are considered challenging enough, without accelerating the timetable for their delivery in Wiltshire. Overall, it is considered that there is insufficient evidence to support the setting of 'Wiltshire wide' standards for delivering zero-carbon targets in advance of changes to Building Regulations. However, site specific opportunities to deliver decentralised, low-carbon and renewable energy should still be maximised, where this is appropriate.
- 4.4.46 It is felt that the council should seek to provide support to developers, where appropriate, thus helping to ensure the standards that will be required through changes to Building Regulations, are adequately delivered in Wiltshire. Example approaches are set out within the WSEPS. In particular, the WSEPS and subsequent work should be used to highlight to developers the key renewable energy sources in the area and how these relate to key development sites. The use of heat mapping can also be useful to appraise possible heat infrastructure projects linked to major new developments and the existing major heat loads and major heat waste opportunities.
- 4.4.47 Heat mapping has been undertaken for the main towns within Wiltshire showing the areas of greatest heat demand and therefore highlighting where district heating networks could be most effective. These are set out in the WSEPS. Potential anchor loads, of heat uses, have also been indicated to give an indicative assessment of where future heat networks could be located.
- 4.4.48 These maps can be used to highlight particular opportunities for decentralised, low-carbon or renewable energy installations or systems in the main settlements. They can be used to help inform the proposals for new development to ensure they maximise any opportunities and comply with the tightening Building Regulations moving towards zero-carbon standards.

Area specific carbon standards for new development

- 4.4.49 The ability to set and achieve higher carbon standards is determined by the specific characteristics of a development rather than the general area in which it is located, and whether it can support district energy systems which can enable better carbon standards to be achieved.

- 4.4.50 District systems, powered by renewable resources, such as a district heating network, typically enable the greatest carbon reductions in new development.
- 4.4.51 All sites will have specific characteristics and cost effective solutions for each site will vary. The WSEPS states that planning policy should require developers to produce a Sustainable Energy Strategy for the development they are proposing which demonstrates how they intend to meet carbon targets, in line with tightening Building Regulations, and why they are using any given solutions.
- 4.4.52 Accurate carbon standards, with an understanding of costs, can only be developed for specific developments when detailed information is available about the development, in terms of densities, number of units, and breakdown of housing/ building types.
- 4.4.53 Although density is vitally important in determining the practicality and viability of district energy and heating, average density thresholds recommendations are indicative only, and other characteristics of specific schemes such as scale and building mix are equally important in determining whether district systems are suitable. The general criteria for a communal system are a scale of 500 units and a density of 50 units per hectare. The number of units could however be lower if non domestic buildings are in the development or if appropriate high density existing development is adjacent which could also be served by the district energy/ heat network.
- 4.4.54 The WSEPS states that developers should thoroughly explore the opportunities for communal energy infrastructure rather than just opting for the smaller, less complex building integrated renewables to achieve current and near term 'lower' carbon standards. If developers only opt for building integrated strategies in the earlier phases, this is likely to jeopardise the ability of the development to achieve significant carbon savings in the longer term.
- 4.4.55 Specific recommendations from the WSEPS include:
- Sustainable Energy Strategies (SES's) should be prepared for any development being proposed which describe how carbon targets will be met in line with tightening Building Regulations. For large development proposals the SESs should prove why zero carbon standards are not possible (if this is the claim and if development occurs in advance of 2016 for residential or 2019 for commercial buildings).
 - Ensure that master plans for the key growth sites contain comprehensive zero carbon methodologies addressing buildings and low-carbon infrastructure.
 - Developers should be encouraged to install communal systems, where applicable, and consideration could be given to these being a requirement for larger scale developments.

Examples of best practice

4.4.56 In relation to developing future policies, this paper covers the following specific areas:

- Standalone renewable energy and heat installations
- Sustainable construction
- Carbon standards for new development

4.4.57 Other policy areas which also relate to aspects of climate change mitigation, such as transport, are covered in separate topic papers. A summary of cross-cutting matters is set out in **Appendix 1**.

Standalone renewable energy

4.4.58 The national policy position for standalone large scale renewable energy proposals is provided by PPS 22: Renewable Energy. It is for example stated that:

4.4.59 “Local development documents should contain policies designed to encourage, rather than restrict, the development of renewable energy resources” and at “the local level, planning authorities should set out the criteria that will be applied in assessing applications for planning permission for renewable energy projects”.

4.4.60 A number of policies included within adopted core strategies, for other LPAs, state that applications for large scale standalone renewable energy will be assessed on a case by case basis against national guidance. However, several adopted, and proposed policies, also highlight a series of locally specific constraints that should be taken into consideration. These include impacts on:

- Designated environmental assets
- Nationally designated areas (such as Areas of Outstanding Natural Beauty)
- Landscape
- Biodiversity
- Historic environment
- Amenity of neighbourhood residents and land uses
- Farming and land based industries
- Noise
- Local transport network

Sustainable construction

4.4.61 A number of authorities have successfully adopted sustainable construction policies, many incorporating minimum standards and some of these are in advance of national policy requirements.

4.4.62 Tonbridge and Malling Borough Council have published a Managing Development and the Environment DPD, which was adopted in April 2010. This policy includes provision for the CSH as shown by Table 4.10. The justification provided for this policy relates primarily to water demand. Tonbridge and Malling is classified as being within an ‘area of serious water stress’ and a water supply zone within the borough is classified as ‘over abstracted’. A number of opportunities for developing renewables within the

council area were also identified. On this basis it was considered appropriate for CSH Level 4 to be met. A separate policy was developed relating to waste minimisation.

4.4.63 Matters concerning water conservation and flood mitigation are also dealt with in the Strategic Flood Risk Assessment and Green Infrastructure Topic Paper.

Table 4.10: Example policy wording from Tonbridge and Malling Borough Council, Managing Development and the Environment DPD, to address sustainable construction¹¹¹.

Policy CC 1
<p>2. The achievement of Code Level 4 of the Code for Sustainable Homes will be encouraged in all proposals for new residential development, (excluding extensions and conversions). Water efficiency standards are specified.</p> <p>4. Conversions of properties to residential use will not be permitted unless BREEAM's Homes 'Very Good' Standard is achieved.</p> <p>5. In all cases, the council will have regard to the impact of these requirements on the viability of development.</p>

Carbon standards for new development

4.4.64 Many existing policies call for a given percentage of energy, or carbon, to be derived from renewable sources. However, as has already been discussed, this policy area is rapidly evolving and recent guidance indicates that this may be unnecessary¹¹². The energy performance of buildings will be improved through changes to Building Regulations leading to zero carbon housing from 2016 and 2019 for non-residential property.

4.4.65 It is expected that the first 10 to 20 % of carbon reduction in new buildings will be derived from energy efficiency measures, in accordance with the energy hierarchy (Figure 4.9 – page 63). It is therefore possible that specifying minimum percentages of renewable energy to be installed in properties in the current and near term would actually be at the expense of achieving these savings through energy efficiency measures.

¹¹¹ Tonbridge and Malling Borough Council. Managing Development and The Environment DPD.

¹¹² Town and Country Planning Association (2009). Planning and climate change coalition: position statement – October 2009.

4.4.66 Some LPAs have adopted policies which include provision for a carbon offset fund. This may be necessary as part of the, as yet undefined, definition for zero carbon development (discussed above). If such a fund is required to facilitate allowable solutions, then a mechanism for this will be required in Wiltshire.

5. Identifying priorities at a community level

5.1 Introduction

5.1.1 This section summarises evidence of either community aspirations or specific actions to address climate change. The section is split into three main areas, which cover.

5.2 – A review of community documents

5.3 – Summary of area specific responses to *Wiltshire 2026*

5.4 – Summary of other community actions

5.2 A review of community documents

5.2.1 This section provides a summary of any aspirations or actions relating to climate change included within existing Wiltshire Community Area Plans (Table 5.1), Parish Plans (Table 5.2 – page 72) or other plans such as Town or Master Plans (Table 5.3 – page 93). A full list of documents reviewed is set out in **Appendix 4**.

5.2.2 A large number of Community and Parish Plans refer to common issues or actions which have not been added to the following tables. These include: the need to support local food producers, for example through farmers markets; promoting local food production with allotment provision; and the need to increase recycling facilities and promote waste minimisation. A number of plans also highlight particular issues around flooding and concern that this may increase in the future as a result of climate change.

Table 5.1: Summary of aspirations or actions relating to climate change from Wiltshire Community Area Plans. Refer to Appendix 4 for document references.

Community Area	Comments/ Actions
Bradford on Avon	<ul style="list-style-type: none"> • Lack of energy strategy, considerable local potential for hydro, solar and wind power. Target for the town to produce as much energy as it consumes by 2010. • Energy efficiency identified as priority. Target for 90 % of houses to have maximum level of recommended loft insulation by 2010. • Promotion of biodiesel is a priority. • Concern over local businesses paying for recyclable waste collections, which is being land filled. • Priority to strengthen fair trade status of town.
Calne	<ul style="list-style-type: none"> • Increasing the number of homes reaching energy efficiency standards and encouraging environmentally sustainable new build.
Chippenham	<ul style="list-style-type: none"> • Chippenham and Villages Environmentalists (CAVE) promoting a low carbon economy and suggest that the Wiltshire Core Strategy should support the development of a green economy. • Detailed work is under way into hydro power on the River Avon in Chippenham. • Climate change should be addressed through planning policy, promoting green tourism, increasing the production of renewable energy and improving energy efficiency in public buildings.
Corsham	<ul style="list-style-type: none"> • Research is needed to understand opportunities for sustainable energy. • Sustainability should be encouraged in new development.
Devizes	<ul style="list-style-type: none"> • Energy efficiency of new and existing buildings should be improved, particularly for those on low incomes or in poor health.
Malmesbury	<ul style="list-style-type: none"> • Unsustainable development should be stopped.
Marlborough	<ul style="list-style-type: none"> • River flow on the Kennet is identified as an issue. • Poor energy efficiency of existing and new buildings is a concern.
Mere	<ul style="list-style-type: none"> • Fuel poverty is a particular issue. Mere is within the top 30 % of wards nationally for households in fuel poverty. Western Ward and Knoyle Ward are also within the top 40 and 50 % nationally respectively.
Pewsey	<ul style="list-style-type: none"> • Local scheme to give advice on energy efficiency and home energy grants.
South Wiltshire	<ul style="list-style-type: none"> • Principle identified to identify environmental friendly solutions to rural issues. • Local action to promote energy awareness, establish Community Transition Groups to 're-localise' the community and plan for a low-carbon lifestyle.

Community Area	Comments/ Actions
Tisbury	<ul style="list-style-type: none"> Fuel poverty is a particular issue in the Fontwell Ward, which is within the top 40 % of wards nationally for households in fuel poverty. Strong desire for waste minimisation and renewable energy (42 % of Tisbury residents in favour of biomass energy scheme – People’s Voice Survey 2004). Community priority for promoting energy efficiency in the home.
Tidworth	<ul style="list-style-type: none"> Desire to improve energy efficiency of new and existing buildings.
Trowbridge	<ul style="list-style-type: none"> Concern over environmental gain within large development. All developments should be carbon neutral by 2008, incorporating sustainable urban drainage, renewable energy and the use of sustainable construction materials. Support for projects that reduce carbon emissions.
Warminster	<ul style="list-style-type: none"> Support for Wiltshire Wildlife Trust projects, e.g. waste minimisation and energy audits.

Table 5.2: Summary of aspirations or actions relating to climate change from Wiltshire Parish Plans. Refer to Appendix 4 for document references.

Parish Area	Comments/ Actions
Amesbury	<ul style="list-style-type: none"> Amesbury Market Towns Partnership (AMTP) identified the need for more emphasis on sustainability in new builds as a key issue. AMTP has urged Salisbury District Council (now Wiltshire Council) to adopt a broader Sustainability Statement, alongside the Salisbury District Council Creating Places Design Guide as supplementary planning guidance on the type of design and use of materials that are acceptable in new housing.
Christian Malford	<ul style="list-style-type: none"> Frequent power cuts reported during periods of bad weather. Connection to mains gas supply should be a priority.
East Knoyle	<ul style="list-style-type: none"> Suggestions that the parish council should develop an environmental strategy for the village, to include energy saving and efficiency measures, as well as alternative sustainable sources. 70 % of respondents said that all new buildings in the village should have renewable energy provision. Concern from farmers that climate change will cause a disruption to weather patterns.
Figcheldean	<ul style="list-style-type: none"> Awareness of future use of energy is highlighted.
Great Cheverell	<ul style="list-style-type: none"> 37 % of residents were keen to learn more about energy efficiency.
Kingston St Michael	<ul style="list-style-type: none"> Over 50 % of respondents agreed that the village should have a community renewable energy scheme.

Parish Area	Comments/ Actions
Laverstock and Ford	<ul style="list-style-type: none"> Action to raise awareness of what actions individual households can do to reduce their carbon footprint. parish council policies or actions should demonstrate good practice and this should also be advertised in the parish newsletter.
Market Lavington	<ul style="list-style-type: none"> Energy was identified as an issue and high energy efficiency standards for new development were proposed along with providing help for residents to install solar water heating.
Mere	<ul style="list-style-type: none"> Suggests that in future there will be pressure for renewable sources of energy to be provided in the area (mentioned in the context of the need to reduce the visual impact of modern facilities on the outstanding natural landscape).
Rowde	<ul style="list-style-type: none"> Energy efficiency was identified as an issue.
Tisbury	<ul style="list-style-type: none"> New housing should incorporate modern energy saving technologies (e.g. solar panels) and reuse grey water as part of the build design. 76 % of respondents would support a Tisbury initiative to find out more about energy saving technologies for the community.
Urchfont	<ul style="list-style-type: none"> Energy saving was identified as an issue.

Table 5.3: Summary of aspirations or actions relating to climate change from other Wiltshire Plans at the community or parish scale^{113; 114}.

Document	Comments/ Actions
Transforming Trowbridge Master Plan Development Stage One: Scoping and Vision Study - July 2010	<ul style="list-style-type: none"> The vision states that Trowbridge “Will be immediately recognisable as ... a place that has embraced sustainable living”; that “a range of buildings ... will be designed to be exemplars in design and sustainability”; that “Trowbridge will be a place that cares for its environment. It will be clean, attractive and green. It will adapt to the challenge of Climate Change and will promote sustainability at the heart of all development proposals”. The objective for the ‘environment’ theme is that “Trowbridge will be a town that has adapted to climate change, with locally generated energy, a low carbon footprint, green environment and healthy sustainable lifestyles”. The study highlights the “significant swathes of vacant land which will be redeveloped over the coming years which represent a significant opportunity to introduce

¹¹³ Urban Practitioners (2010). Transforming Trowbridge Masterplan Development Stage One: Scoping and Vision Study – Final Report July 2010.

¹¹⁴ Urban Practitioners (2008). Vision and Scoping Study for Warminster Town Plan. Final Report – August 2008.

Document	Comments/ Actions
	<p>renewable energy generation and low carbon development to put Trowbridge at the forefront of sustainable development”.</p> <ul style="list-style-type: none"> • The guiding principles for the environment objective are: resilience to climate change; low carbon development; self sufficient energy generation; healthy natural environment; best use of vacant sites; and promoting local goods and services. • Opportunity to renovate buildings to reduce carbon emissions is mentioned. • Specific reference is made to an “Opportunity for the council to lead by example through the refurbishment of their properties integrating sustainable technologies and renewables wherever possible and taking the lead in setting up a wider renewable energy network”.
Warminster Town Plan: Vision and Scoping Study – August 2008	<ul style="list-style-type: none"> • The vision states that Warminster “Will develop as a truly sustainable town”. • Suggestion that farmers’ market should be introduced • Recommendation that a tree audit should be undertaken and a tree planting programme investigated for the town centre.

5.2.3 The *Trowbridge Scoping and Vision Study (2010)* (Table 5.3 – page 73) refers to specific opportunities for Wiltshire Council to lead through ensuring that renewable technologies are incorporated into their own buildings and for establishing wider energy networks in Trowbridge.

5.2.4 The WSEPS also identified a specific opportunity to investigate such proposals in Trowbridge. Three factors help to improve the likely viability of such a proposal in Trowbridge:

- A programme to substantially re-model County Hall, one of the main Wiltshire Council offices located close to the centre of Trowbridge is commencing in 2011
- A new leisure campus may be developed on council owned land close to County Hall (this could provide an ‘anchor’ heat customer)
- A number of sites have been identified through the *Trowbridge Scoping and Vision Study (2010)* which may be suitable for redevelopment. Connecting these sites to an energy/ heat network in Trowbridge may help to improve the overall viability of a scheme.

5.2.5 District energy/ heat networks can substantially reduce carbon emissions as conventional power stations typically do utilise the majority of the heat generated, which results in waste, and a large proportion of energy generated, is lost through its transmission. Producing energy and heat locally (this is called decentralised energy) avoids wasting the heat produced and avoids any loss through transmission.

5.2.6 As outlined in Section 3 of this paper, the *Planning and Climate Change Supplement to PPS 1* makes it clear that new development should be planned to make good use of opportunities to deliver decentralised energy.

Furthermore, the Planning for Climate Change guidance produced by the TCPA states that LPAs should:

- 5.2.7 “Set out how any opportunities for district heating (to supply existing buildings and/ or new development) identified through heat mapping will be supported”¹¹⁵.
- 5.2.8 Planning policy should be used positively to ensure any opportunities for delivering district energy/ heat network in Trowbridge are maximised. A feasibility study is currently underway to investigate the potential to develop an energy/ heat network in Trowbridge.
- 5.2.9 The results of this study should be used to inform policy development for the Wiltshire Core Strategy.

5.3 Summary of area specific responses to *Wiltshire 2026*

- 5.3.1 In addition to the more general responses received to the *Wiltshire 2026* document discussed in Section 4, responses were also received that specifically related to individual community areas. A summary of these responses relating to Strategic Objective 1 – Climate Change, is shown by Table 5.4

Table 5.4: Summary of responses to the Wiltshire 2026 consultation relating to specific community areas and climate change (excluding south Wiltshire).

Community Area	Summary of Response
Bradford on Avon	<ul style="list-style-type: none"> ▪ Bradford on Avon could be a local exemplar for community action on climate change (example of the Climate Friendly Bradford on Avon group). ▪ Would like strategic commitment to carbon reduction in the community area (possibly through the Town Plan); ▪ Opportunities for community based renewable energy generation. ▪ Should be greater emphasis on sustainable low carbon development. ▪ Issue of fuel poverty. ▪ Sustainable homes should be encouraged.
Chippenham	How will building more homes tackle climate change?
Corsham	<ul style="list-style-type: none"> ▪ Corsham has the potential to generate renewable energy – this should be factored into the plan. ▪ Worrying lack of linkage between sustainability aspirations and actions. Are these just fine words and will anything really change?
Devizes	<ul style="list-style-type: none"> ▪ Air quality issues linked to congestion. ▪ Include smarter interventions in all developments to reduce car use.
Melksham	All new building should be sustainable.

¹¹⁵ Town and Country Planning Association (2009). Planning and climate change coalition: position statement – October 2009.

Community Area	Summary of Response
Trowbridge	<ul style="list-style-type: none"> ▪ Any development should be carbon neutral ▪ It is suggested that the wording should be changed to demonstrate that environmental factors, like low carbon, and a localism agenda have been truly considered in putting the strategy together. ▪ The development proposal is logical but greater recognition of environmental needs should be made. A new business park should be low carbon, incorporate an energy from waste facility and be linked to a district heating network.
Warminster	Large developments on the floodplain increase the effects of climate change. There is a major problem of floodplain around Warminster.
Westbury	<ul style="list-style-type: none"> ▪ Improve more sustainable forms of transport, such as walking and cycling links within the town and to nearby villages and towns, such as Trowbridge and Warminster, and pursue a more integrated public transport system. ▪ Reduce the need to travel by appropriate location of housing and employment development and their proximity to local services and facilities.
Wootton Bassett and Cricklade	<ul style="list-style-type: none"> ▪ Concern that the Core Strategy had little detail on how the document will help to tackle climate change. ▪ The emphasis should be on changing 'habits'. ▪ There should be more detail on the local production of energy. ▪ Climate change should be an overarching strategic objective and cannot be a stand-alone objective.

5.3.2 As part of the *Wiltshire 2026* consultation a series of workshops were held in each community area across Wiltshire (excluding south Wiltshire). These workshops were attended by a range of local stakeholders including representatives of town councils, the local police force, local businesses and other community groups.

5.3.3 The local representatives who attended each workshop were asked to select the top three or four strategic objectives, outlined in *Wiltshire 2026*, which were most relevant to their own community area. Three communities selected climate change as their top objective. These were Bradford on Avon, Devizes and Malmesbury.

5.3.4 The representatives at the Bradford on Avon workshop also suggested that a further strategic objective should be added relating to sustainable development. It was suggested that this topic was not reflected strongly enough throughout the *Wiltshire 2026* document.

5.4 Summary of other community actions

5.4.1 There are a number of community based action groups in Wiltshire that have an interest in climate change related projects. These groups range in size from a few individuals based within a small village to larger groups that cover entire community areas.

- 5.4.2 Examples of the types of projects that have been implemented include the Climate Friendly Bradford on Avon 'Green Streets' project and the Chippenham and Villages Environmentalists (CAVE) 'Thermal Imaging' project.
- 5.4.3 Climate Friendly Bradford on Avon was awarded around £140,000 from the British Gas Green Street Energy Fund. This money is being spent on upgrading the energy efficiency of a number of homes, schools, and community buildings in the town. Some homes are also being upgraded to showcase various renewable energy technologies.
- 5.4.4 CAVE secured funding through the Community Area Board Performance Reward Grant. The CAVE group purchased a thermal imaging camera which is being used to photograph properties in the locality to show residents where heat is being lost in their properties.
- 5.4.5 Other community groups or projects which have a climate change focus include:
- Climate Friendly Melksham;
 - Friends of Urchfont (add full title);
 - Wiltshire Community Wind Energy;
- 5.4.6 Although not located in Wiltshire, the Westmill Wind Farm Cooperative is an example of a wholly owned community renewable scheme, and is very close to the Wiltshire boundary (east of Swindon). The project consists of five 1.3 MW turbines and is the largest community owned renewable energy project in the UK. This represents a model for a community owned renewable energy projects which could be replicated by groups within Wiltshire.

6. Challenges and opportunities

Introduction

- 6.1.1 This section seeks to briefly summarise the key issues (challenges and opportunities) identified earlier in this paper relating to climate change that have implications for policy development for the Wiltshire Core Strategy. In particular, issues are identified from Sections 3 (policy and regulatory framework), 4 (evidence) and 5 (community priorities).

Policy and regulatory framework

- It is clear that a strong international, national and local policy framework exists with an imperative for action and an expectation that planning policy will make a significant contribution.
- Key policy drivers in the UK are the *Climate Change Act 2008* (which sets out a legally binding target to reduce carbon emissions by at least 34 % by 2020) and the *UK Renewable Energy Strategy 2009* (which states that 15 % of energy should be from renewable sources by 2020). It is recognised that these targets are challenging and that a 'step change' is needed to ensure they are met.
- The *Planning and Climate Change Supplement to PPS 1* is of particular significance to planning. LPA's should have an 'evidenced-based' understanding of the local feasibility and potential for renewable and low-carbon technologies including micro-generation to supply new development in their area. Detailed requirements are set out for how LPAs should address both climate change mitigation and adaptation.
- There is a strong local policy framework in Wiltshire relating to climate change including *People, Places and Promises: Wiltshire Community Plan 2011-2016*. This includes a specific objective on climate change which is to: "Significantly reduce domestic, business and transport CO₂ emissions across the county in line with national targets".
- A number of council strategies are highly relevant to the emerging Wiltshire Core Strategy in relation to climate change. These include the *Draft Strategy for the Development of the Economy in Wiltshire 2011 – 2015 (2010)*; *Building Strong Foundations – Draft Wiltshire Housing Strategy 2011 – 2016 (2010)*; *Wiltshire Energy, Change and Opportunity Strategy (2011)*; *Wiltshire Local Transport Plan 2011 – 2026 – Consultation Draft (2010)*; and the *Wiltshire Waste Strategy*.
- The *Wiltshire Energy, Change and Opportunity Strategy (2011)* outlines aspirations for the role of planning policy to contribute to the wider climate change targets for Wiltshire. These include maximising the opportunities for delivering decentralised and low-carbon energy within large scale developments and developing positive policies that support large scale renewable energy installations.
- It is clear that many aspects of the existing planning policy framework in Wiltshire for supporting renewable technologies and sustainable development have failed to achieve the step change required to meet national targets. Consultation with Development Control Officers within the council suggests that these policies are not fit for purpose and a number of specific issues have been identified.

Evidence

Consultation responses

- The consultation responses, to both previous Issues and options consultation events or the more recently published 'Wiltshire 2026' clearly demonstrates public support for tackling climate change through planning policies. Overall there was broad support for the Strategic Objective set out in *Wiltshire 2026* relating to climate change.

Climate change adaptation

- Some degree of climate change is now unavoidable.
- It is predicted that annual mean temperature in Wiltshire will rise by between 1.2 and 1.7⁰C by the 2020's and by between 3.1 and 4.1⁰C by the 2080's (based on the medium emissions scenario developed by the IPCC – 2020's refers to 2010 to 2039/ 2080's refers to 2070 to 2099).
- It has been demonstrated that Wiltshire is already experiencing major weather events and that several highly significant events have occurred in the last few years. These include a heat wave in 2003 and excessive rainfall and flooding in 2007.
- Particular vulnerabilities to extreme weather in Wiltshire have been identified and these include: high temperatures/ heat waves; wind; and excessive rainfall/ flooding.
- There is a clear need for a policy response in Wiltshire to ensure new development is resilient to unavoidable climate change and to meet the requirements set out in national policy.
- Best practice suggests that four main areas need to be addressed which are: managing high temperature; managing flood risk; managing water resource and water quality; and managing ground conditions.
- A specific policy is needed for inclusion in the Wiltshire Core Strategy to ensure new development is resilient to likely future rises in temperatures.
- Managing flood risk and reducing water consumption will be dealt with separately within the Strategic Flood Risk Assessment and Green Infrastructure Topic Paper.
- Further assessment may be needed to ascertain how ground conditions (such as subsidence) could be affected in Wiltshire as a result of climate change.

Climate change mitigation

- Wiltshire's per capita carbon emissions are greater than for either the South West or for the UK. In the period from 2005 to 2007 the emissions in Wiltshire went up (by approximately 3.1 %) whereas for the South West overall they went down (by approximately 2.1 %).
- 14,700 owner occupied and 5,600 private rented properties in Wiltshire are living in fuel poverty.
- 68 % of private sector properties in Wiltshire do not have a mains gas connection and the rural nature of Wiltshire, overall, may mean households are more vulnerable to fuel poverty.
- The target amount of renewable energy to be installed in Wiltshire (including the administrative area of Swindon Borough Council) by 2010 was for 65 to 85 MW. The actual amount of renewable energy installed in this area in 2010 was 15.30 MW.

- By far the largest component (94 %) of existing renewable energy capacity in Wiltshire is derived from landfill gas which will reduce in the future as the amount of waste sent to landfill will be reduced.
- Wiltshire contributes the second lowest level of renewable electricity of all authority areas in the South West (8.9 %) and makes the lowest contribution of renewable heat (4 %).
- The *Wiltshire Sustainable Energy Planning Study (2011)* has concluded that there is potential for almost 30 % of the projected electricity demand in 2020 and over 9 % of the projected heat demand in 2020 to be derived from renewables in Wiltshire. Scenarios have been developed to illustrate how different technologies could be utilised to deliver these amounts.
- Positive policies are needed to maximise the delivery of large scale, standalone renewable energy technologies in Wiltshire to help ensure national and local targets can be met.
- Financial viability testing has been undertaken to test if it would be viable to set targets for sustainable construction standards in new development in Wiltshire. This would help to improve the overall impact of new development on climate change.
- It is recommended that Wiltshire wide standards for meeting zero-carbon in new development are not required in Wiltshire as zero-carbon standards will be met through changes to Building Regulations for residential property by 2016 and commercial property by 2019.
- However, site specific opportunities to deliver decentralised, low-carbon and renewable energy should be maximised, along with investigating opportunities for district energy/ heating networks.
- Appropriate low-carbon solutions can only be determined at a site specific level, based on the number of units being proposed, building densities and the mix of buildings being proposed, along with other factors such as the proximity of the site to renewable resource.
- To ensure opportunities to deliver decentralised, low-carbon and renewable energy are maximised through new development the following specific recommendations have been made:
 - Sustainable Energy Strategies (SES's) should be prepared for any development being proposed which describes how carbon targets will be met in line with tightening Building Regulations. For large development proposals the SESs should prove why zero carbon standards are not possible (if this is the claim and if development occurs in advance of 2016 for residential or 2019 for commercial buildings).
 - Ensure that master plans for the key growth sites contain comprehensive zero carbon methodologies addressing buildings and low-carbon infrastructure.
 - Developers should be encouraged to install communal systems, where applicable, and consideration could be given to these being a requirement for larger scale developments.

Community priorities

- A range of community aspirations and actions have been identified from Wiltshire Community and Parish Plans. These include: the need to increase the delivery of renewable energy; improve energy efficiency of new buildings and improve sustainable construction standards; address fuel poverty and provide access to the mains gas network; and air quality issues (Devizes).

- Specific proposals for renewable energy are being pursued in Bradford on Avon, Chippenham and Corsham.
- Community groups in Bradford on Avon (Climate Friendly Bradford) and Chippenham (Chippenham and Villages Environmentalist) are supporting particular RE initiatives.
- A specific opportunity for delivering a district energy/ heat network has been identified in Trowbridge and a detailed feasibility study is currently under way to investigate this proposal. A specific policy approach is needed to aid the delivery of this scheme.

7. Policy options

Introduction

- 7.1.1 This section sets out a series of policy options, for possible inclusion within the Wiltshire Core Strategy, which seek to address those matters relating to climate change, identified within this paper, and summarised in Section 6.
- 7.1.2 Six issues have been identified within this paper where a Wiltshire specific policy response is recommended for inclusion in the Wiltshire Core Strategy, these are:
- to ensure new development is resilient to likely future rises in temperatures resulting from climate change
 - to set Wiltshire wide sustainable construction standards for new development
 - to improve the energy performance of the existing Wiltshire building stock (where permitted development rights do not apply)
 - to maximise opportunities to deliver decentralised, low-carbon and renewable energy in new development
 - to encourage the development of large scale stand alone renewable energy schemes in Wiltshire
 - to support the delivery of a district low-carbon or renewable energy/ heat network in Trowbridge Town Centre.
- 7.1.3 Alternative policy approaches (options) are considered for how each of the six issues listed above could be addressed (Tables 7.1 to 7.5).

Policy Options

Table 7.1: Issue 1 – To ensure new development is resilient to likely future rises in temperatures resulting from climate change.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
1a. Policy included in Core Strategy to ensure new development is resilient to likely future rises in temperature, resulting from climate change, through encouraging good design (such as the Tonbridge and Malling example). Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	*	Yes: Policy developed to address climate change adaptation requirements in Wiltshire in accordance with the Planning and Climate Change Supplement to PPS 1 and best practice guidance.	Yes: Policies seeking to address similar issues have been successfully adopted by other authorities; Does not duplicate national policy; Standard assessment tools for sustainable construction (such as the Code for Sustainable Homes) do not address resilience to future likely temperatures rises; Policy wording encouraging and flexible, not rigid.	Yes	Strong evidence of future impacts which need to be considered through improved building design.	Recommended approach
1b. As for CP1a	*	This approach	Uncertain:	Yes	Encouraging	Not

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
but incorporating minimum design standards.		could be consistent with national policy providing specific evidence is presented which tests financial viability.	Financial viability not tested – further work necessary.		approach taken by Option 1a may not deliver improved design standards fast enough.	recommended: Insufficient evidence
1c. Fail to incorporate Core Strategy policy to address likely future rises in temperatures resulting from climate change.	*	No: The Planning and Climate Change Supplement to PPS 1 is clear that new development should be planned to minimise future vulnerability in a changing climate	N/A	No:	Without any policy it is unlikely that new development would be adequately resilient to future impacts of climate change	Not recommended: Inconsistent with national policy; Would not deliver desired standard of new development.

* SA (Sustainability Appraisal) this tests how sustainable the policy options are in comparison to all policy proposals across all topic areas. Refer to SA Report.

Table 7.2: Issue 2 – To set Wiltshire wide sustainable construction standards for new development.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
<p>2a. Set Wiltshire wide standards for sustainable construction (full Code for Sustainable Homes (CSH) standards across all nine categories) in line with national timetable for changing Building Regulations to improve the energy performance of buildings (equivalent to the energy component of the CSH). Detailed guidance and supporting information outlined in subsequent</p>	<p>*</p>	<p>Yes: Does not duplicate national policy; Policy specifically designed to help address climate change mitigation in Wiltshire based on evidence.</p>	<p>Yes: The majority of the cost of meeting the Code for Sustainable Homes (across all nine categories) are from meeting the improvement in energy performance of buildings which will be mandatory through changes to Building Regulations (equivalent to the energy component of the CSH); This has been demonstrated to be financially viable**.</p>	<p>Yes:</p>	<p>Financial viability has been specifically tested**. Meeting the CSH standards incorporates a high degree of flexibility as developers can achieve different CSH standards by using different measures which are appropriate to individual development sites.</p>	<p>Recommended approach. **</p>

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
Climate Change Supplementary Planning Document (SPD).						
2b. Develop policy to be included in Core Strategy to address sustainable construction. However, do not set any targets and use an encouraging and guiding approach.	*	Yes:	No: This type of policy has failed to deliver the step change required in Wiltshire in the past.	Uncertain: This approach may not deliver the improvements in building standards required.	This approach may not deliver the desired changes to building standards in Wiltshire. Specifying standards (Option 2a) is justified as the cost implications have been specifically tested.	Not recommended: May not deliver desired changes to buildings standards.
2c. Fail to incorporate any policy within the Core Strategy to address sustainable construction.	*	No: Failure to address sustainable construction would be contrary to the Planning and Climate Change Supplement to PPS 1. Tackling climate change should be 'fully	N/A	No: Clear community aspiration for improving energy efficiency and sustainable construction highlighted from a wide range of Community and Parish Plans	The absence of any policy to address sustainable construction would be extremely unlikely to lead to improved standards of sustainable construction in	Not recommended: Inconsistent with national policy; Would not deliver desired standard of new development.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
		reflected' in preparation of LDDs.			Wiltshire.	

* SA (Sustainability Appraisal) this tests how sustainable the policy options are in comparison to all policy proposals across all topic areas. Refer to SA Report.

** A study has been undertaken to specifically test the financial viability of this proposal. Refer to Section 4 for more details.

Table 7.3: Issue 3 – To improve the energy performance of the existing Wiltshire building stock (where permitted development rights do not apply). To be added to next version of paper.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
3a Inclusion of a facilitating policy to support and encourage the improvement of energy performance of existing buildings. Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary	*	Yes:	Yes:	Yes:		Recommended policy approach

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
Planning Document (SPD).						
3b No policy included within the Wiltshire Core Strategy	*	No:	The exclusion of a policy from the Wiltshire Core Strategy could lead to some projects not being supported, even where the community were looking to improve the energy performance at a community or street scale.	No:		Not recommended. Failure to develop a facilitating policy may lead to some projects not being supported. Clear requirement in national policy to support the improvement of the energy performance of existing buildings.

* SA (Sustainability Appraisal) this tests how sustainable the policy options are in comparison to all policy proposals across all topic areas. Refer to SA Report.

Table 7.4: Issue 4 – To maximise opportunities to deliver decentralised, low-carbon and renewable energy in new development.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
4a. Policy included in Core Strategy seeking	*	Yes: Does not duplicate national	Yes: Policy should seek to maximise	Yes:	The council can be proactive to help deliver	Recommended approach

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
<p>to maximise opportunities for delivering decentralised, low-carbon and renewable energy in new developments. A Sustainable Energy Strategy (SES) would be required for all new developments demonstrating how the requirements of the changes to Building Regulations to deliver zero-carbon** development by 2016 (for residential) and 2019 (for non residential) would be delivered. For major</p>		<p>policy; Policy developed to address climate change mitigation in Wiltshire.</p>	<p>opportunities for large scale developments; Refer to Section 4 for further details.</p>		<p>decentralised and low-carbon energy.</p>	

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
development, the SES should demonstrate why the development was not zero carbon (if this was claimed and if to be built prior to 2016 (for residential) or 2019 (for non residential). Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).						
4b. Fail to incorporate Core Strategy policy.	*	No: The Planning and Climate Change Supplement to PPS 1 states that new development should be planned to make good use	N/A	No:	Unlikely to encourage development incorporating decentralised or low-carbon energy.	Not recommended: Inconsistent with national policy; Would not deliver desired standard of new development;

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
		of opportunities for decentralised , renewable or low-carbon development.				Failure to address key identified issues (Wiltshire per capita carbon emissions higher than for South West or UK; emissions rising, when regional trend is downwards; very low levels of existing installed renewable capacity in Wiltshire).

* SA (Sustainability Appraisal) this tests how sustainable the policy options are in comparison to all policy proposals across all topic areas. Refer to SA Report

** Zero-carbon will be defined in line with the government's forthcoming definition of zero-carbon.

Table 7.5: Issue 5 – To encourage the development of large scale stand alone renewable energy schemes in Wiltshire.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
5a. Policy included in Core Strategy which	*	Yes:	Yes:	Yes:	A clear Wiltshire specific policy framework is	Recommended approach.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
seeks to encourage and support, where appropriate, large scale renewable technologies. Reference made to targets for renewable energy delivery in Wiltshire in line with UK Renewable Energy Strategy. Reference also made to evidence base setting out identified opportunities. Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).					needed to ensure renewable energy development in Wiltshire is maximised.	
5b. Fail to	*	No:	Failure to develop	No:	Unlikely to	Not

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
incorporate Core Strategy policy.			Wiltshire specific policy would lead to uncertainty and could increase the time and cost required to consider applications.		encourage renewable energy development and deliver the step change needed for Wiltshire to catch up with the other counties in the South West.	recommended: Inconsistent with national policy; Would not deliver increased renewable energy development.

* SA (Sustainability Appraisal) This tests how sustainable the policy options are in comparison to all policy proposals across all topic areas. Refer to SA Report.

Table 25: Issue 6 - To support the delivery of a district low-carbon or renewable energy/ heat network in Trowbridge Town Centre.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
6a. Policy supporting the principle of a district energy/ heat network in Trowbridge included within the Wiltshire Core Strategy. This would also identify any key development sites	*	Yes:	Yes**:	Yes:	A clear policy framework is needed to help facilitate the schemes delivery. Connectivity of wider development sites is considered important for the long term viability of a district	Recommended approach**.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
and safeguard any land critical for the schemes delivery (for example for heat pipes). Supporting details outlined in subsequent Supplementary Planning Document (SPD).					energy/ heat network. Safeguarding land (for example for heat pipes) may be critical for the schemes overall and long term viability.	
6b. Policy supporting the principle of a district energy/ heat network in Trowbridge not included in the Wiltshire Core Strategy, but included within subsequent Development Plan Document (DPD) or Neighbourhood Development Plan (NDP) for Trowbridge.	*	Yes:	Uncertain: The time delay required to prepare a separate DPD or NDP may prevent near term development opportunities in Trowbridge to be integrated into a district energy/ heat network, which may undermine the schemes overall viability**.	Uncertain (as for deliverability).		Not recommended: clear policy support needed in the short term to provide certainty and secure the schemes long term viability.

Policy Options	SA Outcome	Conformity with national policy/ regulations	Deliverability	Community aspirations met	Other	Conclusion
6c. Fail to incorporate Core Strategy policy.	*	No:	Failure to develop Wiltshire specific policy could lead to uncertainty and may hinder the opportunity to deliver a district energy/ heat network.	No:		Not recommended: Policy support considered essential to provide certainty and help to facilitate scheme delivery.

* SA (Sustainability Appraisal) this tests how sustainable the policy options are in comparison to all policy proposals across all topic areas.

Refer to SA Report.

** A detailed feasibility study is underway to test the viability of delivering a district energy/ heat network in Trowbridge. Further details will be added once this study is completed.

Summary

7.1.4 A summary of the six preferred policy options (outlined in Tables 7.1 to 7.5) is shown by Table 7.6. As policy options 1, 2 and 4 all relate to the design of new development, it is proposed that these are combined to form a single core policy, albeit with separate clauses. This would result in three Wiltshire wide core policies and one location specific policy.

Table 7.6: Summary of the preferred policy options identified within the Climate Change Topic Paper and recommended for inclusion within the Wiltshire Core Strategy.

Policy Number	Issue/ policy area	Preferred policy option	Category/ policy type
Wiltshire wide			
Policy 1	Ensure new development is resilient to likely future rises in temperatures resulting from climate change	1a. Policy to ensure new development is resilient to likely future rises in temperatures, resulting from climate change, through the use of encouraging good design (such as the Tonbridge and Malling example). Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change adaptation • Supporting principles • New development (residential/ commercial)
	Wiltshire wide sustainable construction standards for new development	2a. Set Wiltshire wide standards for sustainable construction (full Code for Sustainable Homes (CSH) - across all nine categories) in line with national timetable for changing Building Regulations to improve the energy performance of buildings (equivalent to the energy component of the CSH). Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change mitigation • Setting minimum standards • New development (residential/ commercial)
	To maximise opportunities to deliver decentralised, low-carbon and renewable energy in new development	4a. Policy seeking to maximise opportunities for delivering decentralised, low-carbon and renewable energy in new developments. A Sustainable Energy Strategy (SES) would be required for all new developments demonstrating how the requirements of the changes to Building Regulations to deliver zero-	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • New development (residential/ commercial)

Policy Number	Issue/ policy area	Preferred policy option	Category/ policy type
		<p>carbon development by 2016 (for residential) and 2019 (for non residential) would be delivered. For large (to be defined) scale development, the SES should demonstrate why the development was not zero carbon (if this was claimed and if to be built prior to 2016 (for residential) or 2019 (for non residential). Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).</p>	
Policy 2	To improve the energy performance of the existing Wiltshire building stock (where permitted development does not apply)	<p>3a. Facilitating policy to support and encourage improving the energy performance of the existing building stock in accordance with the energy hierarchy. Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).</p>	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • Existing development (where no permitted development rights)
Policy 3	To encourage the development of large scale stand alone renewable energy schemes in Wiltshire	<p>5a. Policy which seeks to encourage and support, where appropriate, large scale renewable technologies. Reference made to targets for renewable energy delivery in Wiltshire in line with UK Renewable Energy Strategy. Reference also made to evidence base setting out identified opportunities. Detailed guidance and supporting information outlined in subsequent Climate Change Supplementary Planning Document (SPD).</p>	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • New development (significant infrastructure)

Policy Number	Issue/ policy area	Preferred policy option	Category/ policy type
Location specific			
Area Policy 1	To support the delivery of a district low-carbon or renewable energy/ heat network in Trowbridge Town Centre	6a. Policy supporting the principle of a district energy/ heat network in Trowbridge. This would identify any key development sites and safeguard any land critical for the schemes delivery (for example for heat pipes). Supporting details outlined in subsequent Supplementary Planning Document (SPD).	<ul style="list-style-type: none"> • Climate change mitigation • Supporting principles • New development (residential/ commercial)

8. Conclusions

- 8.1.1 This paper outlines the evidence to support policy development for the Wiltshire Core Strategy relating to climate change.
- 8.1.2 Section 6 of this paper summaries any challenges and opportunities which have been identified from the evidence base and highlights any areas which need to be addressed by policy. Overall there are six issues which have been identified: these are:
- to ensure new development is resilient to likely future rises in temperatures resulting from climate change;
 - to set Wiltshire wide sustainability construction standards for new development;
 - to improve the energy performance of the existing Wiltshire building stock (where permitted development rights do not apply);
 - to maximise opportunities to deliver decentralised, low-carbon and renewable energy in new development;
 - to encourage the development of large scale, stand alone renewable energy schemes in Wiltshire; and
 - to support the delivery of a district low-carbon or renewable energy/ heat network in Trowbridge Town Centre.
- 8.1.3 Section 7 of this paper considers a range of policy options to address the above issues and recommends a preferred policy approach. These are summarised by Table 7.6 (page 96).
- 8.1.4 Any updates that may be required to this paper will set out in an addendum, to be published alongside this paper on the Wiltshire Council website.

9. References

- Camco (2011). Wiltshire Sustainable Energy Planning Study – January 2011
- Communities and Local Government (2007) Planning and Climate Change Supplement to PPS 1
- CLG (2010) Planning for a Low Carbon Future in a Changing Climate – Consultation
- Communities and Local Government (2009) Planning Policy Statement: Eco-towns – A supplement to PPS 1
- Communities and Local Government (2008) PPS 12 Local Development Frameworks
- Commission of the European Communities (2009) Adapting to climate change: towards a European framework for action – European Commission White Paper. COM (2009) 147.
- Committee on Climate Change (2010). Meeting carbon budgets – ensuring a low carbon recovery. Second progress report to parliament – June 2010.
- Department for Energy and Climate Change (2010) Annual Energy Strategy
- Department for Energy and Climate Change (2010) Consultation on a micro-generation strategy
- Department for Energy and Climate Change (2009) UK Low Carbon Transition Plan
- Department for Energy and Climate Change (2009). UK Renewable Energy Strategy.
- Department for Energy and Climate Change (2010). Local and regional CO₂ emissions estimates for 2005 - 2008 – Full dataset.
- Department for Energy and Climate Change (2007). Local Authority carbon Dioxide Emissions.
- Department for Environment, Food and Rural Affairs (2009). Adapting to climate change: UK projections – June 2009.
- Department for Environment, Food and Rural Affairs (2007) Waste Strategy for England
- Department for Community and Local Government (2007). Planning and Climate Change Supplement to Planning Policy Statement 1.
- Energy Act (2004).
- Environment Agency (2010). Warming to the idea: building resilience to extreme weather and climate change in the south west – Climate South West.
- GOSW (2008) Draft Revised Regional Spatial Strategy for the South West
- HM Government (2008) Climate Change Act (c.27)
- HM Government (2008) Energy Act (c.32)
- HM Government (2008) Planning Act (c.29)
- HM Government (2008) Planning and Energy Act (c.21)
- HM Government (2010) Warm Homes, Greener Homes: A strategy for household energy management
- Intergovernmental Panel on Climate Change (2007). Synthesis Report – Summary for Policymakers; and Tregay, R. (2009). Planning for climate change. Royal Town Planning Institute Conference - November 2009.
- Jenkins, G. J., Murphy, J. M., Sexton, D. S., Lowe, J. A., Jones, P. and Kilsby, C. G. (2009). UK climate projections briefing report. Met Office Hadley Centre, Exeter. UK.
- Kennet District Council (2007) Kennet District Council Interim Policy – Sustainable Development
- Kennet District Council (2003) Kennet Local Plan 2011
- North Wiltshire District Council (2006) North Wilts Local Plan 2011
- Office for the Deputy Prime Minister (2005) PPS 1 Delivering Sustainable Development
- Office for the Deputy Prime Minister (2005) PPS 10 Sustainable Waste Management
- Office for the Deputy Prime Minister (2004) PPS 22 Renewable Energy
- Official Journal of the European Communities (1999) Council Directive 1999/31/EC. L18/21
- Official Journal of the European Union (2008) Directive 2008/98/EC of the European Parliament and of the Council of 19 Nov 2008 on Waste L312/3

Regen SW (2010). Renewable electricity and heat projects in South West England.

Regen SW (2010). South West Planners Toolkit

Salisbury District Council (2004) Salisbury District Local Plan 2011

Salisbury District Council (2005) South Wiltshire Achieving Sustainable Development SPG

Salisbury District Council (2006) South Wiltshire Creating Places Design Guide SPG

Shaw, R., Colley, M., and Connell, R. (2007). Climate change adaptation by design: a guide for sustainable communities. Town and Country Planning Association, London.

Swindon Borough Council and Wiltshire County Council (2006) Wiltshire and Swindon Structure Plan

Swindon Borough Council and Wiltshire Council (2009) Wiltshire and Swindon Waste Core Strategy 2026

Swindon Borough Council and Wiltshire Council (2009) Wiltshire and Swindon Waste Development Control Policies DPD 2026

Tonbridge and Malling Borough Council (2010). Managing development and the environment DPD.

Town and Country Planning Association (2009). Planning and climate change coalition: position statement – October 2009.

Town and Country Planning Association (2010). Planning for climate change – guidance and model policies for local authorities. Planning for climate change coalition, November 2010.

United Nations (2009). Framework convention on climate change (Copenhagen accord). FCCC/CP/2009/L.7.

United Nations (1998) Kyoto Protocol to the United Nations framework convention on climate change.

University of Exeter (2009). Analysis of options for the retrofit of sustainable energy solutions in the electrically heated homes in Exwick – May 2009.

Urban Practitioners (2010). Transforming Trowbridge Masterplan Development Stage One: Scoping and Vision Study – Final Report July 2010.

Urban Practitioners (2008). Vision and Scoping Study for Warminster Town Plan. Final Report – August 2008.

West Wiltshire District Council (2004) West Wiltshire District Plan 2011

Wiltshire Assembly (2008) Local Agreement for Wiltshire

Wiltshire Council (2010) Building Strong Foundations – Draft Wiltshire Housing Strategy 2011 - 2016

Wiltshire Council (2010) Draft Strategy for the Development of the Economy in Wiltshire 2011-2015

Wiltshire Council (2010). Local climate impacts profile: summary report – June 2010.

Wiltshire Council (2009) Nottingham Declaration

Wiltshire Council (2010) People, Places and Priorities: Wiltshire Community Plan 2011 - 2016

Wiltshire Council (2010). Wiltshire climate change adaptation plan: Level 1 report – April 2010.

Wiltshire Council (2010) Wiltshire Council Environmental Policy

Wiltshire Council (2011). Wiltshire Energy, Change and Opportunity Strategy.

Wiltshire Council (2010) Wiltshire Local Transport Plan 2011 – 2026: Consultation Draft

Wiltshire Council (2009). Wiltshire Private Sector House Conditions Survey.

Wiltshire Council (2009). Wiltshire 2026 – Planning for Wiltshire's Future.

Wiltshire Council (2009) South Wiltshire Core Strategy Submission Document

Wiltshire and Swindon Renewable Energy Forum (2005) Wiltshire and Swindon Renewable Energy Action Plan

Appendix 1: Cross cutting issues

This appendix briefly highlights any cross cutting matters relating to climate change. Examples are given where climate change mitigation or adaptation measures could be pursued through separate policy areas to be considered by separate topic papers. The strategic objectives are taken from the consultation document *Wiltshire 2026* which is available from the council website. Strategic objective 1 relates to climate change and is covered by this paper.

Strategic objective 2: To provide long term economic growth
<ul style="list-style-type: none">• Appropriate standards for new development are required to address climate change mitigation and adaptation as outlined in this paper.• Opportunities to support local food production and sale should be investigated and could include support for locating farm type shops in accessible retail environments, seeking mechanisms to increase the range of local produce in new retail developments and investigating opportunities for distribution hubs for Wiltshire produce to more successfully link into supermarket supply chains.• Opportunities to support investment in decentralised, low-carbon and renewable energy technologies should be investigated. This also relates to opportunities for developing a skills and employment base in green technologies.
Strategic objective 3: To meet Wiltshire's housing needs
<ul style="list-style-type: none">• Appropriate standards for new development are required to address climate change mitigation and adaptation as outlined in this paper.
Strategic objective 4: To secure appropriate infrastructure and services
<ul style="list-style-type: none">• Where new development will be phased with development occurring before and after the dates where appropriate zero carbon standards are introduced (2016 for residential/ 2019 for non residential), appropriate energy infrastructure should be installed in the earlier phases (before 2016/ 2019) to ensure the standards can be fully met. The use of buildings integrated technologies (rather than communal systems) in pre 2016/2019 development, may compromise the opportunity to achieve zero-carbon standards post 2016/2019. This should be addressed through requiring Sustainable Energy Strategies as outlined in this paper.• Opportunities for delivering communal energy or district heating systems should be maximised, again this should be addressed through requiring Sustainable Energy Strategies. However, opportunities for public sector assets (buildings and land) to contribute to this requirement should also be made through the Infrastructure Delivery Plan.• Other appropriate infrastructure should be considered including adequate provision for alternatively fuelled vehicles, such as charging points for electric cars.
Strategic objective 5: To enhance the vitality and viability of town centres
<ul style="list-style-type: none">• Any opportunities for developing decentralised, low-carbon and renewable energy should be maximised through policies developed as outlined in this paper.• Any master planning undertaken should properly assess opportunities as above and include a Sustainable Energy Strategy.
Strategic objective 6: To encourage safe accessible places

Strategic objective 7: To promote sustainable forms of transport

- Opportunities to minimise carbon emissions should be maximised either through improving public transport connectivity, ensuring developments are mixed use (to reduce the need to travel) and are accessible using sustainable forms of transport, and adequate provision is made for alternative (renewable) fuelled transport (within new development).

Strategic objective 8: To protect and enhance the natural environment

- The provision of green infrastructure is important for climate change adaptation (planting can provide shading and cooling in urban areas and assist biodiversity adapt to climate change by providing appropriate habitats). Opportunities for cycling and walking can also be enhanced through GI provision.
- Opportunities to promote local food production should be maximised.
- Consideration for landscape and environmental impacts associated with the development of large scale renewables. Ensure appropriate designated areas are afforded protection through policies to support renewable energy development.

Strategic objective 9: To safeguard and promote a high quality built environment

- Specific design guidance would be useful to specify where the installation of micro-generation technologies would be appropriate in circumstances where permitted development does not apply (Conservation Areas; Listed Buildings; Historic Buildings). This has been addressed in this topic paper.

Strategic objective 10: To minimise the risk of flooding

- Managing flood risk, water resources and quality are important components of adapting to climate change. Water consumption and sustainable drainage are particular considerations which need to be incorporated into any sustainable construction policies.

Appendix 2: Details of consultation undertaken

Consultation relating to this paper may be split into three categories:

1. Consultation into original research which forms part of the evidence base helping to inform the content of the paper; and
2. Consultation and collaborative working during the preparation of the paper itself.

1. Original Research

Three workshops were run during the preparation of the Wiltshire Sustainable Energy Planning Study. The first two workshops were for council officers and the third was principally for developers. All were designed to raise awareness of the study and generate wider comments to inform the work. A list of attendance for these workshops is shown by Table A2.1.

Table A2.1: List of attendance at workshops run as part of preparing the Wiltshire climate change evidence base study.

Name	Department/ Organisation
Workshop 1 - 22nd January 2010	
Vincent Albano – Climate Change Projects Officer	Climate Change
Andy Conn – Waste Services Manager	Waste Services
Ian Gillard – Energy Officer	Strategic Property
Julian Kashden-Brown - Principal Urban Design Officer	Urban Design
Anna Lee – Planning Officer	Spatial Planning
Jane Macey – Spatial Planning Officer	Spatial Planning
Jonathon Manning - Senior Planning Officer	Minerals and Waste Policy
Tim Martienssen - Regeneration Manager	Regeneration
Andrew Maxted - Senior Planning Officer	Spatial Planning
Stephen Morgan - Rural Estates Manager	Strategic Property
Mathew Pearson - Planning Officer	Spatial Planning
David Roberts - Head of Regeneration	Regeneration
Rachel Ross - Home Energy Officer	Private Sector Housing
James Taylor – Planning Officer (West Hub)	Development Management
Janet Wallace – Senior Planning Officer (South Hub)	Development Management
Workshop 2 – 2nd July 2010	
Vincent Albano – Senior Climate Change Officer	Climate Change
Georgina Clampitt-Dix – Head of Spatial Planning	Spatial Planning
Ariane Crampton – Head of Climate Change	Climate Change
Hilary Evans – Urban Design Officer	Urban Design
Julian Head – Principal Regeneration Officer	Regeneration
Anna Jotcham – Planning Officer	Minerals and Waste Policy
Julian Kashden-Brown – Principal Urban Design Officer	Urban Design
Mike Kilmister – Principal Planning Officer (West Hub)	Development Management
Anna Lee – Planning Officer	Spatial Planning
Jonathan Manning – Senior Planning Officer	Minerals and Waste Policy
Tim Martienssen – Regeneration Manager	Regeneration
Andrew Maxted – Senior Planning Officer	Spatial Planning
Stephen Morgan – Rural Estates Manager	Strategic Property

Jo Riley – Waste Services Manager	Waste Services
David Roberts – Head of Regeneration	Regeneration
Rachel Ross – Home Energy Officer	Private Sector Housing
Kate Stethridge – Housing Manager	Housing
Neil Tiley – Monitoring and Evidence Team Leader	Spatial Planning
Dan Townsend – Climate Change Officer	Climate Change
Chris Turnbull – Add	Building Control
David Way – Sustainability Appraisal Officer	Strategic Landscape
Peter Wheelhouse – Head of Economic Development	Economic Development
Hazel Williams – Senior Analyst	Regen South West
Workshop 3 – 6th July 2010	
Chris Beaver	GL Hearn
Rob Bolton	Pegasus Planning Group
Steve Briggs	Smiths Gore
Mike Carr	Pegasus Planning Group
J Ilett	Crest Nicholson
Paul Davis	Persimmon Homes
Eugene Doherty	CG Fry & Son Limited
William Dowling	MOD
Rob Duff	Pegasus Planning Group
Sarah Hamilton-Foyn	Pegasus Planning Group
Emma Jones	Redcliff Homes Limited
Connor Lee	DPDS Regional Ltd
Jamie Lewis	Hunter Page
David Lohfink	CG Fry & Son Limited
Jack Mason	WCWE
Thomas Minter	Malabybiogas
Toby Minter	Malabybiogas
Begonia Pedreira Regueria	MOD
Kevin Pike	Hannick Homes
Martin Tarrant	Avoncliff Hydro
P Walsh	Selwood Housing
Adam Walton	AW Consulting/ Transco
Andrew Watkins	Turley Associates
Nigel Whitehead	WPB
Chris Wordsworth	HPH Commercial Property

Workshop 1 – 22nd January 2010

- There is a perception that planning is currently a barrier to increasing renewables use. It was suggested that a clear planning framework is needed to support renewable energy. A map of the best renewable resource would assist and encourage developers. It needs to be clear what would be considered as acceptable.
- A lack of knowledge amongst council officers and councillors is also perceived as a barrier. Specialist trained planners are needed similar to having specialists in landscape, ecology, heritage or waste.
- It was suggested that only proposals of large scale would be viable, although the council could assist by replacing fossil fuel boilers with biomass boilers. This would help to drive demand. It was suggested that some schools in Wiltshire were sourcing biofuels from Wales: could this be supplied from within Wiltshire?
- A lack of political will was suggested as a barrier to renewable development in Wiltshire. This is also linked to Wiltshire being more than two thirds rural and

several areas are protected for landscape designation. It is often assumed that targets should be modest.

- The highest possible standards should be set for new build. Opportunities for improving the performance of existing buildings should be maximised. Opportunities for improving any council housing stock should also be considered.
- It was suggested that Wiltshire should have a particular opportunity for renewables associated with agriculture, such as anaerobic digestion (AD). Small AD units may be very well suited to rural areas.
- Much of Wiltshire is off-gas, which makes renewables more cost effective, but also means there are a number of communities who are more vulnerable to fuel poverty.
- Many opportunities for energy from waste schemes exist, but a proportion of the waste collected by the council is currently exported out of the county (wood waste to Germany); household waste to Slough.

Workshop 2 – 2nd July

- Some discussion around the existing Council Waste Strategy, the priority has been to reduce the amount of waste sent to landfill. For this reason, an energy from waste contract has been signed which runs until 2035, however, the waste plant is in Slough. The implications for the biomass section of the draft report need to be double checked in light of recent contract decisions.
- The potential for wind power should be mapped against council owned land. MOD sites should also be considered as potential heat loads.
- It was agreed that it is not sensible to set targets in advance of those required through changes to Building Regulations. These are already stringent and so stronger targets will be difficult to implement and will have a relatively small benefit. Greater detail is needed to help developers understand what the cost implications are likely to be.
- The importance of site specific solutions needs to be made. ESCOs can take risk and long term investment costs away from developers to improve their short term viability. For example, it is the energy company who are investing in CHP within the sustainable development to the east of Exeter (Cranbrook), not the developer.
- It is important that appropriate infrastructure is incorporated into any new development sites from the outset, failure to do this will jeopardise the ability to meet zero carbon targets post 2016 and will significantly increase costs.
- The need for clear site specific targets/ requirements to be set out in the Core Strategy was discussed.
- Some discussion around building density, it was suggested that 50 dwellings per hectare has improved viability for developing a heat network. However, in Wiltshire densities tend to be lower. Does having other building uses on site, such as a school, improve viability?
- Some reference to nuclear energy is needed: how does this fit into the wider equation?
- Small scale wind energy opportunities need to be considered in the report. Also, it was suggested that a comparison between Wiltshire and other inland counties would be useful as Wiltshire does not have any opportunities for off shore wind power. However, off shore wind power is already considered at a national level and does not contribute towards the existing south west 2010 renewable energy targets set for each county.
- Questions were raised about how renewable energy targets should be set and if the national targets are appropriate. It was suggested that Wiltshire may not have as much resource as other counties. In reality Wiltshire could deliver much more

renewables than required to meet national targets and has much more resource potential than many other counties. There is a perception that renewable development in Wiltshire should be limited. This is incorrect.

- There was some discussion of what other authorities are doing. For example, Bristol City Council have established a target to reduce carbon emissions by 40 % by 2020, Exeter City Council have established a target to reduce emissions by 30 % by 2020.

Workshop 3 – 6th July 2010

- A view was expressed that meeting the Code for Sustainable Homes targets is already difficult and that meeting Code 6 (zero-carbon) by 2016 would be very difficult.
- There was a general view that council officers and members need to be more flexible and would benefit from visiting examples of successful RE schemes. A lack of technical expertise amongst planners may hinder the planning application process. Similarly, this is a new topic also to many developers and so education may be needed on all sides.
- There were some misconceptions amongst some developers. For example that houses with RE would have lower values, that people would not buy them or that the council should consider what its priorities are before seeking contributions from developers. However, developers will be required to meet standards for improving the energy performance of buildings inline with changes to Building Regulations.
- The role of the council assisting with establishing and running ESCOs is considered essential. Developers are risk adverse. The timing of establishing the ESCO will also be critical.
- There was a general view that guidance would be useful including examples of successful schemes. Information on where opportunities might exist in Wiltshire would be useful, including for example a heat map or highlighting areas suitable for particular types of RE.
- The council needs to be proactive, providing support and also working with communities to help deliver community schemes.

The consultants undertaking the study also carried out direct consultation. Details of this consultation are set out within the final report which is available on the council website.

A number of training sessions were also held during the preparation of the study to help raise awareness amongst council officers and elected members.

2. Paper Preparation

This paper was prepared with collaborative working across several council departments, including from the Spatial Planning, Climate Change and Regeneration, Housing, and Waste Teams.

Appendix 3: Summary of consultation responses relating to climate change as part of developing the Wiltshire Core Strategy

North Wiltshire Core Strategy Second Issues and Options Consultation: May – July 2007

Responses to the consultation: Summary of responses

Responses received relating to climate change adaptation can be summarised as follows:

General comments on climate change

- Concern that the vision did not make reference to climate change.
- Suggestion that climate change should be one of the topics covered by a natural environment core policy.
- There was a desire to include a comprehensive policy approach to deal with all aspects of climate change.

Water management and flood risk

- Protecting floodplains and watercourses from developmental impacts is important, and has not been mentioned.
- Suggestion that issues of water management could be addressed through a sustainable design and construction policy.

Green infrastructure and biodiversity

- Concern that the vision did not make reference to green infrastructure.
- Suggestion that issues of biodiversity could be addressed through a sustainable design and construction policy.

Kennet District Council – Spatial Options for Future Development Consultation: May – June 2008

Responses to the consultation: Consultation responses and the council's decision on considering them

No specific mention of climate change adaptation.

West Wiltshire District Council – Issues and Options Paper Consultation: December 2007 – February 2008

Responses to the consultation – Report on the consultation responses (September 2008)

The report on the consultation responses states that addressing the issue of sustainable construction emerged as an area of uncertainty. The most popular policy option for addressing the issue of sustainable construction was to meet the government's targets for carbon reduction in new developments. However, there was also scattered support for most of the other policy options (including the option that all new residential development should meet CSH Level 6 by 2016), and also for varying combinations.

Other responses relating to climate change adaptation are summarised below:

Biodiversity

- Consider impacts of climate change on biodiversity and wildlife.
- A wildlife climate change adaptation plan should complement the core strategy; analysing potential for creation of wildlife corridors and landscape scale conservation, including relationship to wider objectives, such as flood management and wood fuel supply.

Design

- Should broaden the definition of sustainable development because design has an impact on a wide variety of topics including climate change adaptation.

Responses to Wiltshire 2026: details of individual responses to SO1

Key points arising from the consultation responses relating specifically to climate change mitigation and adaptation included:

General comments on SO1

- SO1 should underpin and inform all other objectives (Peter Newell).
- Request that SO1 should also include reference to the need to promote the re-use of previously developed land ahead of green field sites, and the intensification of development of under performing existing sites (Defence Estates).
- Sustainable and resilient communities are difficult to achieve in conjunction with other objectives, such as housing an increasing population and continued economic growth (The Trust for Devizes).
- It is hard to see how this objective is consistent with the level of housing development proposed in the plan (Duncan Hames).
- The key outcomes are very wholly: there need to be some specifics which are measurable (Corsham Civic Society).
- Suggestion that further work should look more closely at how the core strategy can create a positive framework for action on climate change, including adaptation, local opportunities for renewable energy and solutions such as combined heat and power (GOSW).
- Concern that the evidence base is insufficiently populated with data to come to robust conclusions regarding carbon emissions, biodiversity, landscape, water resources and transport (Campaign for Better Transport).

Code for Sustainable Homes, Building Regulations, and sustainable building practices

- Support for the use of sustainable building practices in accordance with the national approach, but the current timetable requires greater flexibility. There are already technical, viability and 'supply chain' problems with achieving the proposed national timetable (Prospect Land Ltd).
- Support for new development incorporating sustainable building practices, but the standards to be achieved should be assessed on a site by site basis (Ashtenne Industrial Fund Ltd).
- Support for the use of sustainable building practices in accordance with the national approach (East Melksham Consortium).
- Objections to the CSH being introduced in Wiltshire ahead of the national timescale (Ashton Park Trowbridge Ltd, Persimmon Homes, Prospect Land Ltd, Barrett Strategic Ltd, East Melksham Consortium).
- The physical adaptability of a building to climate change is the responsibility of satisfying the relevant building regulations (Galliford Fry Strategic Land).
- Policy should not seek to impose onerous targets on new development (for example relating to renewable energy), and should take into account individual site circumstances, including development viability and other scheme costs (Zog Brownfield Ventures Ltd).
- New building should incorporate sustainable building practices by having materials that contain low 'embodied carbon' and ensuring that buildings are designed to be both low in energy/water demand and high in energy/water efficiency (Climate Friendly Bradford on Avon).

- Renovation and adaptation of existing buildings should be encouraged to adopt best practice in energy efficiency and low carbon materials (Climate Friendly Bradford on Avon).
- An additional key outcome should be added that 'Energy efficiency measures will have been sensitively incorporated into alterations to listed buildings' (Corsham Town Council).
- Energy efficiency measures can only be incorporated where it is viable to do so (Galliford Fry Strategic Land).
- Wiltshire Council should be expecting the highest standards in development, higher than government or regional targets (CPRE North Dorset).
- A discrete policy on sustainable design and construction methods is recommended. The council should also introduce minimum energy efficiency standards for extensions, change of use conversions and refurbishments (BWEA).

Renewable energy and general comments on mitigation

- The Kennet and Avon Canal can contribute to renewable energy targets through on-shore hydro-electric power and the use of canal water for heating and cooling systems (British Waterways).
- Suggestion that greater emphasis should be placed on developing strategies to mitigate climate change in SO1 (Climate Friendly Bradford on Avon).
- The council should take a strong and visible lead regarding the use of energy: for example lights should not be left on in highly visible council buildings (Climate Friendly Bradford on Avon and Corsham Civic Society).
- An additional key outcome should be added that 'facilities for local sustainable energy production will be in place which reduce the dependence on fossil fuels' (Corsham Town Council).
- Specific actions and targets should be included to demonstrate how the key outcomes will be achieved (e.g. how will the renewable energy targets be met, where will the renewable energy facilities be built?) (Transition Community Corsham).
- The core strategy should promote a mix of renewable energy sources, and should recognise the opportunities provided by agriculture (e.g. anaerobic digester units, wind turbines) (National Farmers Union).
- It should be recognised that there are financial and technical obstacles to be overcome and new developments can only assist the council in achieving national and regional targets for renewable energy where possible (Galliford Fry Strategic Land).
- SO1 should incorporate micro-generation of electricity (Alison Bucknell).
- Solar power should be a requirement for all new buildings, both domestic and industrial, within the AONBs (Cranborne Chase and West Wiltshire Downs AONB).
- Strongly recommend that the council should introduce specific policies designed to deliver greater production of renewable energy and increased levels of energy efficiency (BWEA).
- Energy should be included as a key consideration for all of the community areas. This should include identification of areas of fuel poverty, energy intensive industries, opportunities for sustainable energy generation and opportunities for reducing energy costs (BWEA).
- Recommend that the council include a specific development control policy on renewable energy, focussing on the key criteria that will be used to judge applications (BWEA).
- The council is strongly urged to implement a policy for the mandatory requirement of onsite renewables (BWEA).

- All forms of renewable energy (solar, biomass, wind, geothermal, hydro, etc) should be equally encouraged and promoted (BWEA).
- The potential for an Energy Services Company and site-wide DIP should also be considered for inclusion (BWEA).

Existing building stock

- Objections to any possible contribution towards improving existing building stock (Galliford Fry Strategic Land, Persimmon Homes, North Chippenham Consortium).
- Clarity should be provided on the intention of the key outcome relating to contributions to improving existing building stock: the principle of this is supported but the strategy does not deal with the financial implications of consequences on other strategies (Sarsen Housing Association).
- New sustainable building practices, energy efficiency etc should be extended to current buildings, which are far more numerous than new buildings (Corsham Civic Society).
- More detail should be included regarding improvements to existing homes (Wiltshire Rural Housing Association).

Green infrastructure and biodiversity

- The need to encourage the planting and proper management of trees, which can assist with both climate change mitigation and adaptation (Woodland Trust, Malmesbury Civic Trust).
- The need to include appropriate green infrastructure in new developments (Wiltshire Wildlife Trust).
- Potential impact of climate change on biodiversity should be mentioned, and new developments should be required to seek opportunities to enhance biodiversity interests (Environment Agency).
- SO1 should refer to the positive relationship between the natural environment and climate change issues, and the consequent quality of life benefits which can accrue. A policy on climate change should also promote adaptation strategies in relation to protecting and enhancing biodiversity and the natural environment (Woodland Trust).
- Wiltshire's ANOBs should be referred to in SO1 as an important natural resource (North Wessex Downs AONB).

Water efficiency

- SO1 should include reference to the need to incorporate water efficiency measures in the design of new developments. The core strategy could include a requirement for all developments to incorporate water efficiency measures equivalent to CSH Level 3 (Environment Agency).
- Should be more emphasis on encouraging the use of collected rainwater (Mr William Blake, Cllr Alison Bucknell).

Infrastructure

- Climate change adaptation should be included under SO4, which aims to secure appropriate infrastructure and services

Flooding and sustainable drainage

- The possible use of the Kennet and Avon Canal as part of a Sustainable Urban Drainage System (SUDS) (British Waterways).
- The key outcomes of SO1 should include reference to SUDS and the need for new development to take account of climate change to ensure property and

future occupants are not exposed to an unacceptable flood risk (Environment Agency).

- Need to protect/preserve/maintain/increase flood meadows and waterways (Mr E Palmer).

Sourcing local food

- All Grade 1 agricultural land should be protected from industrial and residential development, to assist with the sourcing of local food (Melksham Without Parish Council).
- Unclear as to the policy mechanisms which are available to deliver 'the sourcing and use of local food', other than allotment provision (Natural England).
- The inclusion of reference to the sourcing and use of local food is unnecessary and unclear. The local sourcing of food is unlikely to have beneficial impacts on Wiltshire's 'ecological' footprint (North Chippenham Consortium).
- Unconvinced that the local sourcing and use of food is a legitimate land use planning outcome, and that the planning system would be able to achieve this (Galliford Fry Strategic Land).

Transport

- A key outcome should be added relating to the need to increase the use of sustainable modes of transport (Sustrans and Natural England).
- The Kennet and Avon Canal acts as a sustainable transport route and can be used for waste transfer (British Waterways).
- More consideration should be given to reducing car use (CPRE West Wiltshire).
- How will the core strategy encourage lifestyle and transport choices that reduce CO2 emissions? (CPRE North Dorset).

Waste management

- Support for the key outcome relating to sustainable waste management, but would like this to cover all developments (not just new developments). The wording should be strengthened to state that all developments will 'demonstrate' (rather than 'support') sustainable waste management (Environment Agency).

Community action on climate change

- Suggestion that the council should identify and support exemplar carbon reduction communities, which could then provide leadership and use their experiences to actively encourage others (Climate Friendly Bradford on Avon).

Appendix 4: List of Community and Parish Plans reviewed

Community Plans

Amesbury – Stonehenge Community Area Plan 2004-2009

<http://www.salisbury.gov.uk/amesbury-community-plan-2008.pdf>

Bradford on Avon community Plan 2005 and beyond

http://www.wiltshire.gov.uk/boa_community_plan_2005_and_beyond.pdf

Calne Community Area

http://www.wiltshire.gov.uk/calne_community_area_plan_update-3.pdf

http://www.wiltshire.gov.uk/calne_community_area_plan.pdf

Chippenham Community Area – Chippenham and Villages Community Area Plan

http://www.chap-partnership.co.uk/ch_ap/wp-content/uploads/2010/03/chap_community_plan.pdf

Corsham Area Community Plan

http://www.wiltshire.gov.uk/cacp_plan_update_08-09_final.pdf

Devizes Community Area Plan 2003-2015

http://www.wiltshire.gov.uk/devizes_area_community_plan_pdf.pdf

Malmesbury Community Area Plan 2005-2015

<http://www.northwilts-communityweb.com/site/Malmesbury%2Dand%2DVillages%2DCommunity%2DArea%2DPartnership/>

Marlborough Community Area Plan – 2004-2014

<http://www.wiltshire.gov.uk/marlboroughcommunityplan.pdf>

Melksham Community Strategy 2004-2014

<http://www.wiltshire.gov.uk/melksham-community-strategy.pdf>

Pewsey Community Area Plan – updated 2010/11

<http://www.wiltshire.gov.uk/pewsey-community-area-plan-endorsed-2010-sept.pdf>

Salisbury City Community Area Plan 2004-2009

<http://www.wiltshire.gov.uk/salisbury-community-area-plan.pdf>

Draft Southern Wiltshire Community Plan

http://www.wiltshire.gov.uk/draft_community_plan_final.pdf

Southern Area Community Plan 2004-2009

http://www.wiltshire.gov.uk/southern_community_plan-4.pdf

Mere Community Area Plan 2004-2009

http://www.wiltshire.gov.uk/http_www.salisbury.gov.uk_mere.pdf

Tisbury Community Area Plan 2004-2009

http://www.wiltshire.gov.uk/http_www.salisbury.gov.uk_nadder_valley.pdf

Wilton Community Area Plan 2004-2009

http://www.wiltshire.gov.uk/http_www2.wiltshire.gov.uk_wilton-community-plan.pdf

Tidworth Community Area Plan 2003-2013

http://www.wiltshire.gov.uk/tidworth_community_plan_final_web_version_pdf.pdf

Trowbridge Community Area Plan

<http://www.trowbridge.gov.uk/trowfuture.asp?id=166>

Warminster Community Area Plan 2005-2015

http://www.wiltshire.gov.uk/warminster_and_villages_community_plan_2005_-_2015.pdf

Westbury Community Area Plan

http://www.wiltshire.gov.uk/westbury_area_community_plan_2005_-_2010-2.pdf

Wootton Bassett & Cricklade Community Area Plan 2005-2015

<http://www.wiltshire.gov.uk/wootton-bassett-cricklade-community-plan.pdf>

Parish Plans

Alderbury and Whaddon Parish Plan

<http://www.communityfirst.org.uk/forms/Parish-plans/Alderbury%20and%20Whadden.pdf>

Allington and Boscombe

<http://www.southwilts.com/site/allington-parish/The-Parish-Plan.htm>

Amesbury Community Strategy Plan 2006-2016

<http://www.wiltshire.gov.uk/area-board-amesbury-community-strategic-plan-2006-2016.pdf>

Ashton Keynes Parish Plan 2005

<http://www.communityfirst.org.uk/forms/Parish-plans/AK%20Plan%20HPH%20version%204%20FINAL%20with%20front%20cover.pdf>

Baydon Parish Plan 2009

<http://www.communityfirst.org.uk/forms/Parish-plans/Baydon.pdf>

Bemerton Ward - A Ward Plan for Bemerton 2007-2010

Biddestone and Slaughterford Parish Plan 2009

<http://www.biddestonevillage.co.uk/uploads/images/ABSOLUTELYFINALPLAN1stJune09%20AW.pdf>

Calne Without Parish Plan (2009)

<http://www.calnewwithout.org/wp-content/uploads/cwpp-plan.pdf>

Christian Malford Parish Plan - 2005

http://www.christianmalford.org.uk/Core/ChristianMalfordParishCouncil/Pages/Village_Plan_1.aspx

Dauntsey Parish Plan 2007-2012

http://www.communityfirst.org.uk/forms/Parish-plans/Dauntsey_Parish_Plan.pdf

Dinton

<http://www.southwilts.com/site/Dinton-Parish-Council/The-Parish-Plan.htm>

Donhead St Mary Parish Plan - 2008

<http://www.communityfirst.org.uk/forms/Parish-plans/Donhead%20St%20Mary%20Parish%20Plan%202008.pdf>

Durrington

http://towncouncil.durringtonwilts.co.uk/pdfs/DURRINGTON_PARISH_PLAN_V3.pdf

East Knoyle

http://www.eastknoyle.org.uk/24653_Parish_Plan_WEB_final.pdf

Figheledean

<http://www.figheledean.org/parishplan/Parish%20Plan.pdf>

Great Cheverell Parish Plan - 2006

<http://www.communityfirst.org.uk/forms/Parish-plans/Great%20Cheverell%20Parish%20Plan%20pp%201-26.pdf>

Hilmarton Parish Plan 2005

<http://www.communityfirst.org.uk/forms/Parish-plans/hilmarton%20PP.pdf>

Kingston St Michael Parish Plan 2007

<http://www.kingstonstmichael.com/Uploads/Site126/Files/KSMParishPlan2007.pdf>

Landford Parish Plan 2008-2013

<http://www.communityfirst.org.uk/forms/Parish-plans/Landford%20PP.pdf>

Laverstock and Ford Parish Plan (2009)

http://www.laverstock-ford.co.uk/files/parish_plan_.pdf

Lydiard Millicent -2005

<http://www.communityfirst.org.uk/forms/Parish-plans/Lydiard%20Millicent.pdf>

Maiden Bradley Parish Plan 2005

<http://www.communityfirst.org.uk/forms/Parish-plans/Maiden%20Bradley%20Parish%20Plan%20final%20v1.pdf>

Market Lavington Parish Plan - 2006

<http://www.communityfirst.org.uk/forms/Parish-plans/Market%20Lavington%20PP.pdf>

Mere Parish Plan 2005

http://www.merewilts.org/Mere_parrish_plan/Mere_Parish_Plan_2005.pdf

Newton Toney Parish Plan

<http://www.newton-toney.org.uk/pdfs/NTPP.pdf>

Pitton and Farley

<http://www.pittonandfarley.co.uk/uploads/Pitton%20and%20Farley%20Final%20Plan.pdf>

Rowde's Future Plan (2009)

http://www.rowdevillage.co.uk/pdf/rowdes%20future%20plan%201_9.pdf

Salisbury City Council Plan -2010-2011

http://www.salisburycitycouncil.gov.uk/images/stories/City_Plan_2010-2011.pdf

Tisbury

No online link but electronic copy is available.

Trowbridge Town Council Strategy 2008

http://www.trowbridge.gov.uk/minutes/AGENDA/Strategy%202008-2011_revisedOct09.doc

Urchfont Parish Plan: Summary

<http://www.kennet-communityweb.com/site/Urchfont-Parish-Council/PPSummary.pdf>

Wilton Vision

<http://www.wiltontowncouncil.gov.uk/Core/Wilton-TC/UserFiles/Files/FinishedTownPlan8thJune2010.pdf>

Winterbourne

<http://www.southwilts.com/site/Winterbourne-Parish-Council/WinterbourneParishPlan%2009.pdf>