Joint Climate Change Strategy and Action Plan

Bromsgrove District and Redditch Borough Councils

(2010-2013)

"We face only one truly existential threat: that is climate change, the great moral imperative of our era".

(Ban Ki-Moon, January 2009)

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Foreword:

This strategy has been jointly produced and demonstrates the importance of the issue to both our organisations and the commitment of our staff to ensuring that we act now to tackle climate change.
The UK Government has committed to take action now and has introduced the Climate Change Act with a target to cut carbon emissions by at least 80% by 2050, with a minimum reduction of 26% by 2020 across the UK. We are keen to support and contribute to these targets and ensure our area is doing enough to tackle the issues and take advantage of the opportunities climate change will bring. We therefore welcome this Climate Change Strategy and hope that we can demonstrate that by working together, we can show leadership in this area and ensure our organisations are run sustainably and in a low-carbon way and that our communities are empowered to embrace this agenda alongside us.

Councillor Peter Whittaker

Councillor Brandon Clayton

2. Vision and Objectives

2.1. VISION - the Strategy's vision is to provide a policy framework in which the two Authorities can reduce both their own and their communities carbon footprints, mitigate against future climate change and identify how best to adapt for the risks and opportunities that future climate change will bring.

2.2. This joint strategy is aligned to the Worcestershire Partnership Climate Change Strategy and both the Bromsgrove and Redditch Sustainable Community Strategies (2010-13) and is broadly grouped into three areas:

- **Mitigation** - which means taking action to tackle the causes of climate change - reducing emissions of greenhouse gases in the atmosphere arising from Bromsgrove and Redditch.
- **Adaptation** – which means taking action to deal with the consequences of a changing climate, resulting from already emitted and increased levels of greenhouse gases.
- **Raising awareness** of climate change related issues to our residents and businesses.

2.3. This strategy will allow us to play our part in delivering:

- on our National Indicator targets;
- on our LAA obligations and recognises that a partnership approach is key to delivering proportionally big enough change;
- it will ensure that we learn from each others though best practice;
- but also allows us to deliver on locally important priorities relating to climate change and incorporate flexibility in our approach to dealing with climate change.

2.4. Objectives

- Establish our current carbon emissions baseline as organisations and communities and set targets to reduce them
- Identify the likely changes in climate locally and risk assess against them
- Communicate with all communities and promote active engagement; support innovative change and development of a greener economy locally
- Embed climate change activity across the Council and its partners
- Monitor and evaluate progress

3. Background

3.1. What is climate change?

This strategy does not aim to explain the science of climatic change nor to persuade the reader that climate change is happening*. Both Councils have acknowledged that climate change is real and intend to try and reduce our impact on future climate change.

Climate refers to weather patterns experienced over a long period of time, around 30 years, whereas weather refers to what we see on a daily basis. Climate change generally refers to weather patterns since the 1900's (UKCIP, 2010). Variations in the Earth's climate are normal, however the changes we are currently seeing are happening much faster than any natural variance would cause. The IPCC (2007) concludes that this is as a result of increasing human-caused emissions of greenhouse gases such as carbon dioxide (CO_2) and Methane (CH_4). If we want to try and pollute the atmosphere less with these emissions, we try to **'mitigate' climate change**.

3.2. Why is climate change important?

The effects of climate change will differ across the globe and inevitably will affect those who are least able to deal with the consequences disproportionately. The UK Climate Impact Profile (UKCIP) projected in 2009 that the following changes are likely to occur in the West Midlands under a medium emissions scenario – acknowledging these changes and aiming to reduce their impact is known as '**adapting' to climate change,** please note these are average predictions:

*If required, more detailed information regarding the science of climate change is available from the Met Office (http://www.metoffice.gov.uk/climatechange/guide/) or Intergovernmental Panel on Climate Change (www.**ipcc**.ch)

Table x: Predicted changes to climate

Impact	By 2020's	By 2050's	By 2080's
Hotter, drier summers	Average mean summer temperature rises between 1.5 °C	Average mean summer temperature rises by 2.6°C	Average mean summer temperature increases by 3.7°C
	Average summer precipitation reduces by 7%	Average summer precipitation reduces by 17%	Average summer precipitation reduces by 30%
Milder, wetter winters	Average winter temperature rises by 1.3°C Average precipitation increases by 5%	Average winter temperature increases by 2.1°C Average precipitation changes by 13%	Average winter temperature increases by 2.9°C Average precipitation changes by 17%

(Source: UKCIP 09)

According to the prominent economist, Sir Nicholas Stern (2006), "the price of inaction would be extraordinary and the cost of action modest" – suggesting that investment of 2% of UK GDP would be appropriate funding for the climate change agenda. This strategy therefore requires the acceptance of the **'spend to save'** concept.

The Earth's changing climate was shown to be an important concern for Worcestershire residents – in a recent survey only 7% of respondents were not at all concerned about climate change (Citizens Panel, 2009). This high awareness of the importance of Climate Change will hopefully mean that residents will be receptive to change and will embrace the opportunity to influence this agenda on a personal basis.

Worcestershire Partnership's (2006) study illustrates a changing climate in the County; Worcestershire's annual temperature has risen by 0.6°C since the 1900s coupled with an increased intensity of rainfall events. This is predicted to continue, and will also include increased frequency of extreme weather events, such as storms and floods. The effects of this can be devastating, e.g. the 2007 floods cost Worcestershire over £150 million, and affected both households and businesses. Although a single such event cannot be singly attributed to climate change, the increased frequency of flooding, (both fluvial and pluvial events) is clearly being seen within the County.

The extent of how serious the impact of climate change is, will ultimately depend on how we react now. Historic GHG emissions emitted will continue to exist in the atmosphere for some time. However, continuing with this trend will only amplify the impact of climate change, which is why it is very important that we begin to reduce emissions right away. Taking action to tackle climate change can provide numerous benefits. For example, improving the energy efficiency of our homes can help combat rising fuel costs and tackle cold and damp associated health problems as well as reducing emissions. For the business sector, climate change may provide opportunities, for example in the environmental technologies sector and the development of green collar economies. For the Councils internally, we can combine reducing emissions with reducing ongoing revenue costs.

3.3. Other reasons to act

- Security of supply – we need to ensure we have access to secure, clean and affordable energy sources
- Health Issues – e.g. reduced emissions will result in better air quality, increased cycling/walking and healthier living may impact on obesity and fitness levels; and

- Social – increased summer temperatures can lead to increased summer deaths, illness (e.g. food poisoning) but milder winters may reduce excess winter deaths, a particular area of concern in Bromsgrove.
- Economic issues – increased severe weather events can cause disruption to the point where it affects the economy, for example the transport network is vulnerable to roads melting, rail tracks buckling, drainage issues leading to flooding etc.
- Other factors, will, in time, also influence activity, for example Peak Oil (when the fossil fuel generation of oil production peaks and begins to decline, prices will increase; although global demand will likely be sustained or be increasing). A number of scientists predict we are very close to peak oil, and although this will have a massive impact on global travel, food supplies and energy security, until recently, little attention has been given to the issue. Reducing our reliance on oil and other non-renewable fossil fuels now, can therefore only increase our resilience to future changes in production.

3.4. How can we respond?

There are significant economic and social drivers which push LA's towards leadership on these issues including maintenance and improvement of quality of life for our residents, ensuring sustainable and green economic development and sensible consumption of resources.

This strategy aims to tackle the issue of climate change in a more coordinated manner, to ensure that our objectives are met in the most efficient way possible, with the most far ranging benefits for all, bearing in mind the severe financial restrictions being placed on local government for the foreseeable future. Essentially, we need to lead on and influence community wide carbon emissions reductions and increase the resilience of Bromsgrove and Redditch to inevitable changes that climate change will bring.

We recognise that there are some tough decisions to be made if we are to ensure the future viability and sustainability of the Redditch and Bromsgrove areas and we believe that this strategy provides a platform for us to begin to do this.

4. Strategic context

The Climate Change Act (2008) resulted in a legally binding obligation on the UK to reduce its CO_2 emissions by 80% from 1990 levels. In 2007, total UK emissions were 532 Mt CO_2e/yr tonnes (532'000'000 tonnes). In addition, the Carbon Reduction Commitment (CRC) means that large energy users can no longer ignore the issue.

There is also an interim target in the Low Carbon Transition Plan (2009) of reducing UK carbon emissions by 34% by 2020.

Renewable Energy Strategy (2009) also requires the UK to source 15% of its energy from renewable sources by 2020 (2008 level was 5.4%)

National Indicators relating to Climate Change were introduced in 2008/9.

Climate Change is one of the few issues that political parties have a consensus on...

- Conservatives (2010)"A Conservative Government will make developing renewable and low carbon energy sources a priority"
- Liberal Democrats (2010) "We believe achieving sustainability cannot be done by one government department alone. Damage to our environment damages personal health, impoverishes economies and weakens communities"
- Labour (2010) "Climate change is the greatest long term threat facing the world today. We all need to make changes to help our environment and avoid the terrible consequences of climate change".

The new Coalition Government have stated: "this will be the greenest Government ever" and have pledged to reduce their own emissions by 10% by May 2011 (David Cameron, May 2010)

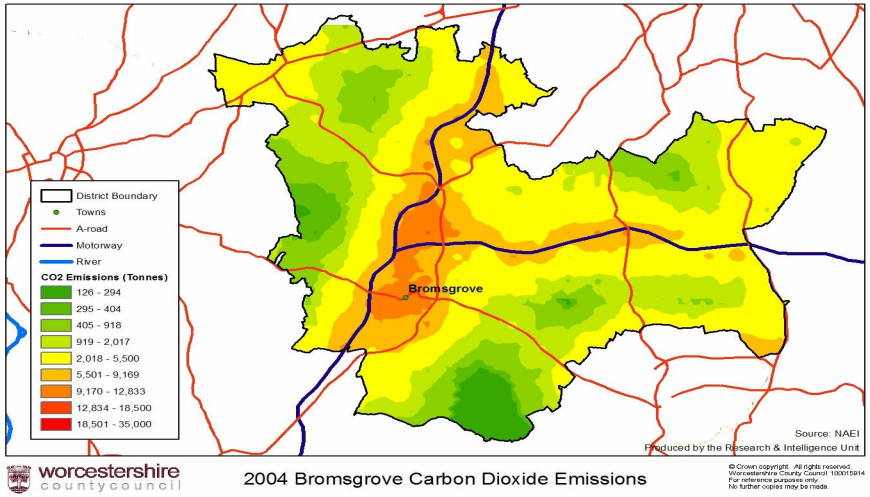
At the County level, the Worcestershire Partnership has made tackling climate change a key crosscutting issue throughout its Sustainable Community Strategy and the Worcestershire Partnership Environment Group, along with the Worcestershire Climate Change Task Group has developed the Worcestershire Climate Change Strategy and Pledge, which both Bromsgrove District Council and Redditch Borough Council have signed. In addition, the Worcestershire Local Area Agreement (LAA) includes a number of targets to help tackle climate change.

Both Bromsgrove District Council (BDC) and Redditch Borough Council (RBC) are signatories of the Nottingham Declaration and key partners in the delivery of the LAA. The Bromsgrove Partnership, in which BDC is a key partner agency, has prioritised climate change mitigation and adaptation in 2009/10 as their key environmental objectives for the next few years. Redditch Partnership of which RBC is a key partner agency has climate change as 'golden thread' running through its Sustainable Community Strategy. Both Councils have included climate change as key corporate priorities in their corporate plans and both have signed up to the 10:10 commitment, pledging to aim to cut emissions by 10% in 2010, in addition to existing commitments to the Nottingham Declaration and Worcestershire Climate Change Pledge.

What and where are our current emissions, and what might future emissions be?

The maps below show the main sources of CO_2 emissions in the Bromsgrove and Redditch district. The highest concentrations of emissions are from our towns, main roads and industrial estates. Central government now provide CO_2 emissions data for each Local Authority area and 2005 data was used as the baseline for Worcestershire's emissions reduction targets (NI 186), being the first year of detailed CO_2 monitoring activity.

Figure x: 2007 split of emissions by area



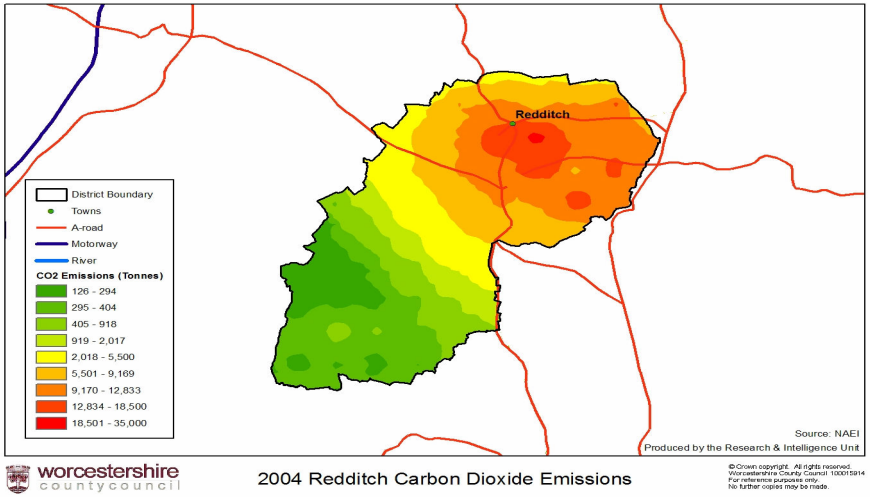
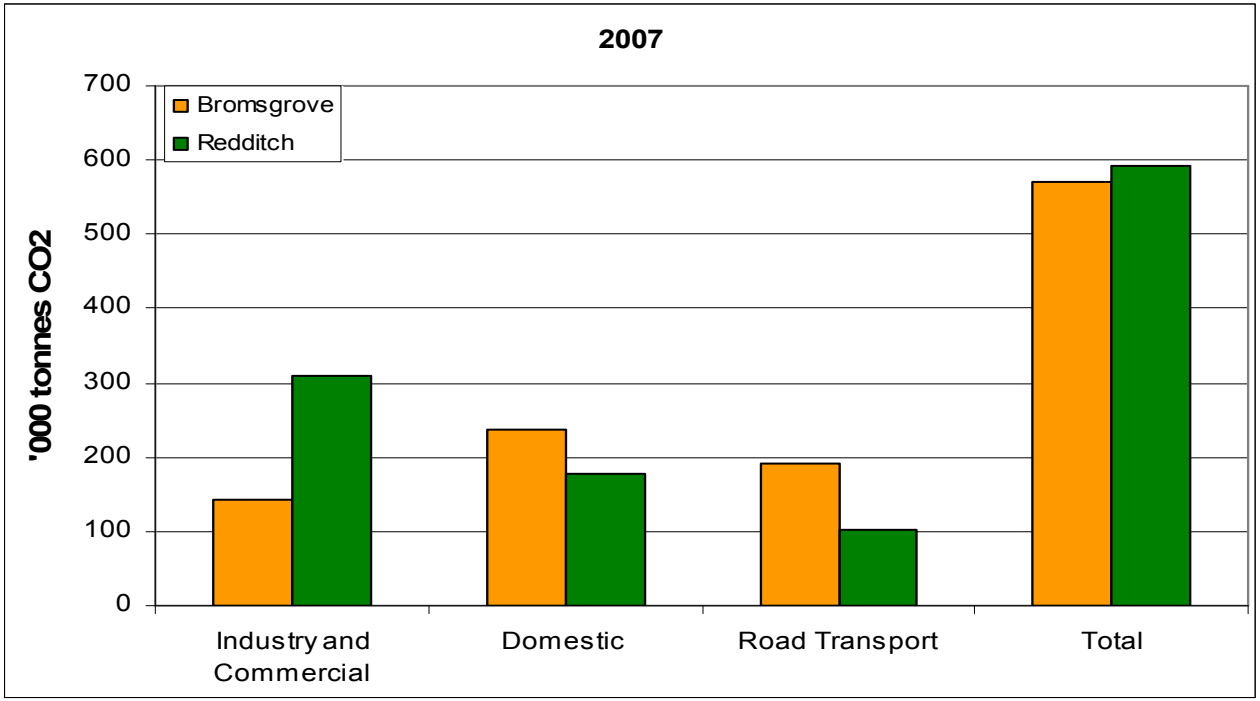


Figure x illustrates differences between the two areas, notably that Redditch has far higher industrial emissions, but much lower transport emissions. The older housing stock and potential income-based factors in Bromsgrove probably influences for the higher domestic emission results.



What might future emissions be?

Emissions in both areas rose between 2005 and 2006 but reduced slightly in 2007. It is anticipated that emissions will also reduce in 2008-10 as a result of the economic situation.

5. Performance management – Indicators and data quality

Central Government announced new climate change performance national indicators (Nis) in 2008. Three of the following indicators are also LAA indicators (NI186, NI187, NI188).

NI185 – CO2 reduction from local authority (LA) operations

Rationale: Action by local authorities is likely to be critical to the achievement of Government's climate change objectives. The public sector is in a key position to lead on CO_2 emissions reduction by setting a behavioural and strategic example to the private sector and the communities they serve. The manner in which the local authority delivers its functions can achieve CO_2 emissions reductions.

The aim of this indicator is to measure the progress of local authorities to reduce CO_2 emissions from the relevant buildings and transport used to deliver its functions and to encourage them to demonstrate leadership on tackling climate change.

Measurement against this indicator will require each local authority to calculate their CO_2 emissions from analysis of the energy and fuel use in their relevant buildings and transport, including where these services have been outsourced.

Definition: Percentage CO_2 reduction from LA operations:

The indicator being assessed will be a year on year measured reduction of CO_2 emissions.

CO_2 emissions: is the total amount of direct and indirect CO_2 emitted as a result of LA operations.

Direct emissions are emissions from sources that are owned or controlled by the local authority, e.g. emissions from the combustion in owned or controlled boilers and vehicles.

Indirect emissions are emissions that are a consequence of the activities of the local authority, but occur at sources owned or controlled by another entity, i.e. emissions from consumption of purchased electricity or heat, transport-related activities in vehicles not owned or controlled by the local authority and outsourced activities.

LA Operations: The delivery of the relevant functions of a local authority which result (either directly or indirectly) in the emissions of CO_2 into the atmosphere. Functions of an authority covers all their own operations and outsourced services. Even if the services are being provided by an external body (e.g. a private company) they remain the function of the authority. This includes schools, but excludes social housing.

Good performance: Year on Year reductions

Baseline Year (2008/9): Bromsgrove DC (349 employees) – **2414** tonnes; Redditch BC (997 employees) – **3788** tonnes

Current position – 2009/10 estimated out-turns are:

Bromsgrove – 2515 tonnes (5% increase) – buildings emissions have gone up 10%, staff and Councillor mileage up 18%, but a reduction in operational fleet emissions.

Redditch – tbc – anticipate approx 3% reduction

Three year target (2013) – 6% overall reduction from baseline for both Authorities

Long term target – by 2020 – anticipate12% overall reduction from baseline for both Authorities

NI186 - Per capita reduction in CO2 emissions in the LA area

Rationale: Action by local authorities is likely to be critical to the achievement of Government's climate change objectives. Local authorities are uniquely placed to provide vision and leadership to local communities by raising awareness and to influence behaviours. In addition, through their powers and responsibilities (housing, planning, local transport and powers to promote well-being) and by working with their Local Strategic Partnership they can have significant influence over emissions in their local areas.

This indicator relies on centrally produced statistics to measure end user CO_2 emissions in the local area from:

- Business and Public Sector,
- Domestic housing, and
- Road transport

This data is already captured and analysed to produce area by area carbon emissions per capita. It is sufficiently robust with relatively low levels of uncertainty.

The percentage reduction in CO_2 per capita in each local authority area will be reported annually. The statistics for 2005 will be used as the baseline.

Definition: Percentage reduction of the per capita CO_2 emissions in the local authority area: The indicator comprises of an annual amount of end user CO_2 emissions across an agreed set of sectors (housing, road transport and business) measured as a percentage reduction (or increase) of the per capita CO_2 emission from the 2005 baseline year.

End user: calculations allocate emissions from fuel producers to fuel users. The end user calculation therefore allows estimates to be made of emissions for a consumer of fuel, which also include the emissions from producing the fuel the consumer has used.

Domestic Housing: All housing in the local authority area, including Arms Length Management Organisation (ALMOs), privately owned and leased housing

Business: Industry and commercial emissions, including public sector, but not those included in the EU Emissions trading scheme

Road Traffic: All road traffic, (but excluding motorways)

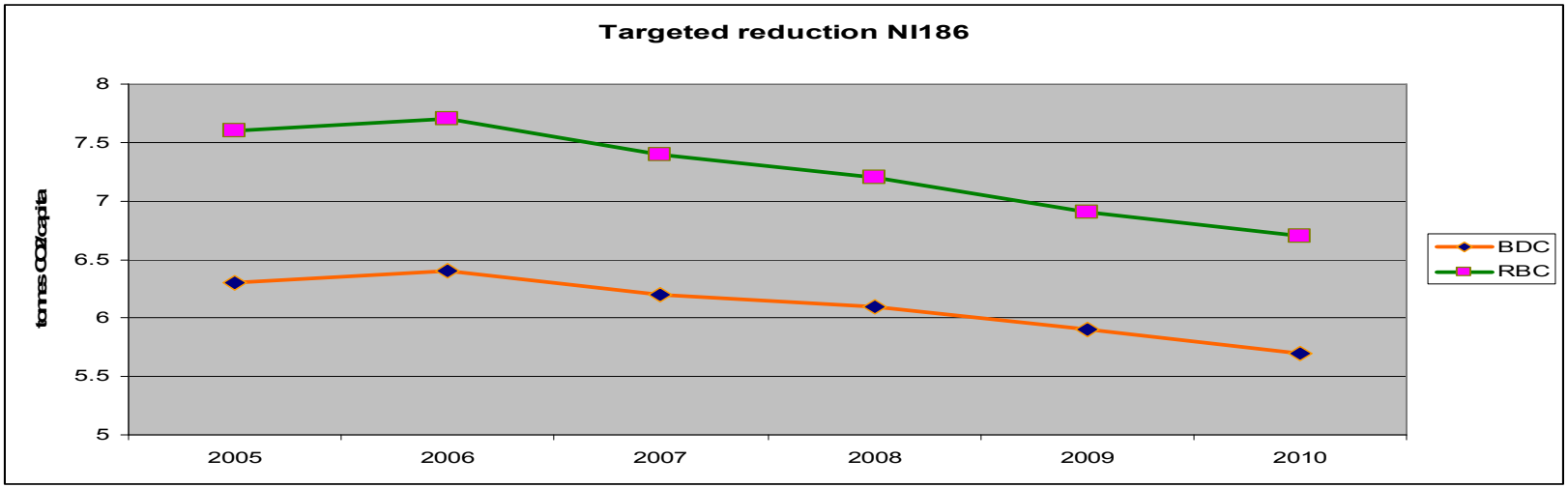
Good performance: Year on Year reductions and demonstrable activity that would likely result in the required reductions, for example, the Warmer Worcestershire project.

Baseline Year (2005) – there is a 2 year time lag from which data is available.

(Bracketed figures indicate the reduction required to meet the target set)

				3% reduction	3% reduction	3% reduction
	2005	2006	2007	2008	2009	2010
Bromsgrove	6.3	6.4	6.2	(6.1)	(5.9)	(5.7)
Redditch	7.4	7.7	7.4	(7.2)	(6.9)	(6.7)

Or



Current position – 2008 data should be available in Autumn 2010. We believe we are on target for this indicator.

Three year Target (2013) – 9% reduction from 2005 baseline (3% from local measures).

The yearly changes may not seem very important, but multiplied across combined populations of 92'300 in Bromsgrove and 79'600 in Redditch, the difference between 2005 and 2010 to meet our 9% reduction target is 51'390 tonnes in Bromsgrove and 54'450 tonnes in Redditch.

Long term target (2020) – not confirmed locally, but nationally, the Climate Change Act (2009)'s target is to achieve an 80% reduction by 2050 with an interim target of 34% reduction by 2020 (from 1990 levels).

NI187 Tackling fuel poverty - % of people receiving income based benefits living in homes with a low and high energy efficiency rating

Rationale: To measure progress in tackling fuel poverty through the improved energy efficiency of households inhabited by people claiming income based benefits.

Definition: The indicator measures the proportion of households on income related benefits for whom an energy assessment of their housing has been carried out, living in homes with:

1. Low energy efficiency
2. High energy efficiency

The energy efficiency of a house can be measured using the Standard Assessment Procedure (SAP). The procedure calculates a number between 1 and 100, low numbers generally indicate a house that has low levels of insulation and an inefficient heating system where as numbers closer to 100 indicate a very energy efficient house. SAP is the Government's recommended system for energy rating of dwellings.

SAP is being used as a proxy for fuel poverty in households of people claiming income based benefits, given the link between income poverty and fuel poverty.

- Low energy efficiency - A SAP rating of less than 35
- High energy efficiency - A SAP rating of 65 or more

Fuel poverty is the requirement to spend more than 10% of household income to maintain an adequate level or warmth and includes non-heating fuel use.

Adequate level of warmth follows World Health Organisation (WHO) guidelines of 21°C in main living areas and 18°C in other areas. A full definition of fuel poverty is available in the Department of Energy and Climate Change's fuel poverty strategy (external link).

Income based benefits - the sub-population claiming income related benefits includes all people claiming at least one of the following; Income Support, Council Tax Benefit, Housing Benefit, income based Job Seekers Allowance, Pension Credit or tax credits (with an income below a certain threshold). Include all households which include someone claiming one of the above.

Housing - all households in both private and social sectors.

The survey is based on an annual, random sample SAP survey of households, inhabited by people claiming income based benefits.

Good performance: Reducing number of homes with SAP <35 and increasing number of homes with SAP>65

Baseline Year: 2008 – and target reduction is shared County-wide.

Current position

Bromsgrove

Progress from baseline		
year	%<SAP35	%>=SAP65
2008-09	8.89%	36.51%
2009-10	7.55%	42.32%
Change	-1.34%	5.81%

Redditch

Progress from baseline		
year	%<SAP35	%>=SAP65
2008-09	5.93%	49.70%
2009-10	3.79%	53.73%
Change	-2.14%	4.03%

Future targets - subject to national targets: not yet set

NI188 – Planning to adapt to Climate Change

Rationale: To ensure local authority preparedness to manage risks to service delivery, the public, local communities, local infrastructure, businesses and the natural environment from a changing climate, and to make the most of new opportunities. The indicator measures progress on assessing and managing climate risks and opportunities, and incorporating appropriate action into local authority and partners' strategic planning.

The impacts might include increases in flooding, temperature, drought and extreme weather events. These could create risks and opportunities such as: impacts to transport infrastructure from melting roads or buckling rails, increases in tourism, increased damage to buildings from storms, impacts on local ecosystems and biodiversity, scope to grow new crops, changing patterns of disease, impacts on planning and the local economy and public health.

Examples of the processes, tools and evidence that could be used to reach the various levels have been included. However, this list is not exhaustive and any appropriate methodology can be used.

Definition: Local authorities should report the level of preparedness they have reached against the 5 levels of performance, graded 0 to 4. The higher the number, the better the performance.

The criteria for achievement of each of the levels is detailed below.

Level 1: Public commitment and prioritised risk-based assessment

The Authority has made a public commitment to identify and manage climate related risk. It has undertaken a local risk-based assessment of significant vulnerabilities and opportunities to weather and climate, both now and in the future. It can demonstrate a sound understanding of those not yet addressed in existing strategies and actions (i.e. in land use planning documents, service delivery plans, flood and coastal resilience plans, emergency planning, community risk registers/strategies etc). It has communicated these potential vulnerabilities and opportunities to department/service heads and other local partners and has set out the next steps in addressing them.

Examples of evidence:

- the authority and partners have made a public commitment to manage climate risks, e.g. signed up to the Nottingham Declaration or an equivalent
- a Local Climate Impacts Profile or equivalent process is ongoing
- initial assessment produced using the UKCIP scenarios
- department/service heads facing significant vulnerabilities and opportunities have an understanding of the issues, with evidence of actions already in place to address these
- evidence of working in partnership and pooling of resources and expertise across sectors, areas and council tiers where applicable

Level 2: Comprehensive risk-based assessment and prioritised action in some areas

The Authority has undertaken a comprehensive risk based assessment of vulnerabilities to weather and climate, both now and in the future, and has identified priority risks for its services. It has identified the most effective adaptive responses and has started incorporating these in council strategies, plans, partnerships and operations (such as planning, flood management, economic development, social care, services for children, transport etc). It has begun implementing appropriate adaptive responses in some priority areas. In its role as a community leader the council has started working with its LSP encouraging identification of major weather and climate vulnerabilities and opportunities that affect the delivery of the LSP's objectives.

Examples of evidence:

- comprehensive risk assessment produced (for example using the UKCIP method)
- Nottingham Declaration accreditation
- Council Members and department and service heads have a detailed understanding of weather and climate risk in all vulnerable areas identified in risk assessment and actions taken in priority areas.
- documents like Local Development Frameworks include climate change adaptation
- local adaptation partnership established

- LSP partners are aware of actions being taken by the council, feel engaged in the process and confirm they have started to identify weather and climate risk that affect the delivery of their own objectives

Good performance: Progression through the levels

Baseline Year – 2008/9 – Level 0 for both Authorities

Current position – Level 1 for both Authorities

Three year Target (2013) Not agreed Nationally. Level 2 to be reached by 2011/12 by both Authorities.

Long term target (2020) Not agreed Nationally.

There are also two other relevant indicators for this strategy, namely:

(NI189) Flood and Coastal Erosion risk management

(NI194) Air quality – % reduction in NOx and primary PM10 emissions through local authority's estate and operations

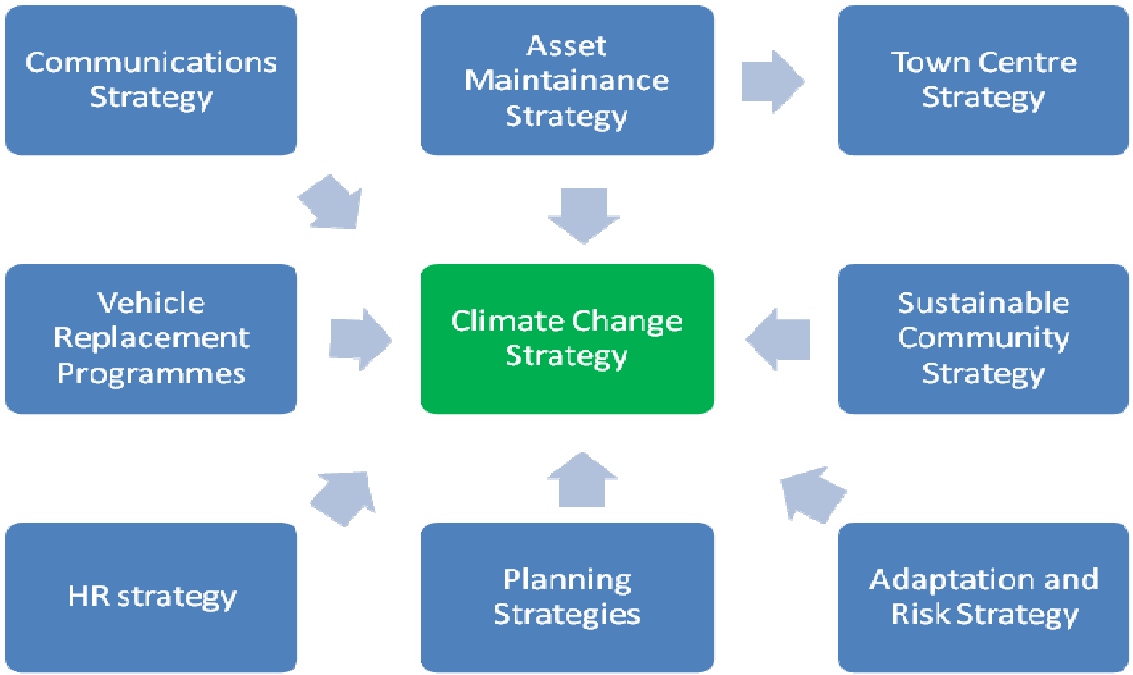
Data quality

The method of calculating carbon emissions is relatively new and also complex, involving gathering data from a number of sources.

- For NI185, data quality issues are internal and as such a method of auditing this has been developed by Policy Officers.
- NI186 data is externally calculated and is usually 'tweaked' as issues are identified, therefore published figures can be subject to change.
- NI187 data is supplied by homeowners and is therefore subject to data quality issues as the responses cannot be fully verified.
- NI188 is a process based indicator.
- Each indicator is subject to national definitions.
- Locally calculated indicators must produce a performance certificate and procedure note.
- As part of the Councils Data Quality Strategy the indicators are also subject to an internal quality check.
- NI185 has been selected to go through this process in 2010/11,

6. Strategic Management

Climate change is a cross cutting theme involving a number of different strategies/work programmes:



In addition, during the budget setting process, proposals will be impact-assessed against their contribution to reduce or increase our energy costs and carbon emissions.

The role of the Climate Change Manager:

1. The Climate Change Manager is responsible for leading the delivery of both Bromsgrove District and Redditch Borough Councils' commitments to Climate Change, with a particular focus on developing and implementing a Climate Change Strategy and associated Action Plan which will relate to departmental activity in this area, and monitoring/reviewing progress.

2. To lead on the establishment and on-going management of corporate and associated environmental management initiatives relating to natural resource use across all departments of both Bromsgrove District and Redditch Borough Councils.

3 Lead or co-ordinate delivery of National Indicators relating to the mitigation and adaptation to Climate Change for both Bromsgrove District and Redditch Borough Councils.

4 To be the climate change conscience of both Organisations.

The role of others in the organisation:

Corporate Management Team has a significant role to play in delivering the aims of this strategy and as such are required to incorporate climate change activity in their business plans. Climate Change is a priority for both Councils and is a 'golden thread' running through both Sustainable Community Strategies. Clearly, delivery of this priority requires significant input from all employees and all Services are required to contribute to the climate change agenda, with directive support and coordination from the Climate Change Manager.

Governance:

<u>Bromsgrove</u>

Governance in Bromsgrove in relation to Climate Change is through the established LSP Better Environment Theme Group, whose two priorities are mitigating and adapting to Climate Change. Activity is monitored through the LSP board. In addition, internal activity is monitored through the Corporate Performance Management Process.

Recommendation: Continue with existing arrangements.

Redditch

Internal activity is monitored through the Corporate Performance Management Process.

Redditch BC has an established Climate Change Advisory Panel, made up of Councillors, whose purpose is to:

- Influence positive change and raise the profile of climate change and sustainable development;
- Champion environmental issues in decision-making to improve the quality of life of local residents and ensure the borough is resilient to change;
- Ensure that all Council services are run sustainably and that CO_2 emissions resulting from the organisations activity is reduced on an ongoing basis;
- Support appropriate funding applications for implementing action and develop projects to mitigate or adapt to climate change;
- Encourage our communities, visitors and businesses to reduce their carbon footprint.

Recommendation: Redditch LSP needs to increase activity on this Theme. Because Partner organisations, as well as the joint objectives of this strategy do not take into account the area boundaries, it is recommended that a joint Better Environment Group be set up with BDC to avoid duplication and drive the agenda forwards.

7. Climate Change Strategic Themes:

7.1. Energy

Community Energy Issues

Statistics and Key Information:

Contextually, there are 39'048 households in Bromsgrove and 34'955 households in Redditch and these account for 25% in Bromsgrove and 29% in Redditch of local CO_2 emissions. Most of these emissions come from the energy used to heat and power our homes. Because the cost of fuel is volatile and generally increasing, more people are likely to suffer fuel poverty and this has important social and health inequality impacts. There is great potential to reduce CO_2 emissions and tackle fuel poverty, as well as the associated health problems, by improving the energy efficiency of the housing stock. In addition, Redditch Borough Council still maintains around 6000 social housing properties while Bromsgrove has a number of partnerships with housing associations, most notably BDHT.

The cheapest and most effective option to reduce emissions would be widespread loft/cavity insulation, but there are limits to this, especially in Redditch as there are very few uninsulated properties left, as current fuel price increases have been enough of a financial incentive for owner-occupiers to insulate their homes, and Councils own schemes have been running for several years. Taking Headless Cross and Oakenshaw ward as an example, approximately only 7% of homes have no loft insulation and 22% have unfilled cavity walls (404 homes).

Inequality, poverty and climate change issues are closely connected. According to Oxfam (2010) people in poverty are most vulnerable to negative climate change impacts, as they tend to have lower levels of physical and mental health, live in worse housing with less access to insurance and have fewer resources to cope with rising costs.

What is the current housing situation?

A large proportion of Bromsgrove district's existing, older housing stock is in need of improvement in terms of adequate insulation & energy efficient heating and lighting systems, whereas a large proportion of homes in Redditch were built during the new Town Corporation Development (1964) and as such were built to 1970's and early 1980's building standards. The Home Energy Conservation Act 1996 (HECA) requires District/Borough Councils to work to improve the energy efficiency of existing homes in their area by 30% by 2012.

<u>The Councils' existing policy on home energy efficiency.</u>

Various grant and subsidised insulation schemes are in operation the district and free low energy light bulbs are distributed – for example, over 10'000 bulbs were distributed in the Redditch area by the Council alone in 2008-10, many others will have been obtained by households.

There is still plenty of potential to further improve the energy efficiency of the district/borough's housing and to encourage more energy efficient behaviour amongst our householders, ranging from how appliances are used e.g. washing clothes at 30.C.

Free insulation for over 60's in Bromsgrove: In 2008 Bromsgrove Council launched a scheme to encourage the over 60's (in Council tax bands A-E) to have their lofts and cavity walls insulated for free. The scheme is administered by Act on Energy and has been extremely popular, with over 185 homes being insulated each year, and the fund (£50,000) was fully subscribed. Based on average figures, these loft/cavity wall insulations have saved 116 tonnes of CO emissions each year.

What do we need to achieve over the life of this strategy?

- Deliver our targets under LAA and National Indicator 186 (per capita CO_2 emissions). In Bromsgrove and Redditch, this equates to a reduction of 9% from 2005 levels, through a combination of National (7.1%) and Local (1.9%) measures, of 51'390 tonnes CO_2 /annum in Bromsgrove and 54,450 tonnes CO_2 /annum in Redditch by 2011.

- Contribute to the delivery of National Indicator 187 (Tackling fuel poverty) by improving the energy efficiency of households in receipt of means tested benefits.

Business, Public and Voluntary Sector Energy Issues

Analysis of Statistics and Information

This sector accounted in 2005 for 147'000 tonnes in Bromsgrove and 320'000 tonnes of CO_2 in Redditch and includes emissions from our own assets, and all other non-domestic premises in the localities. The main sources of emissions are from the use of gas and electricity to provide heating and lighting and to power equipment, although in Redditch there are a number of manufacturing and food based, power-hungry industries whereas in Bromsgrove light industrial and technology activity is the main sector. This sector, in line with the domestic sector, has seen energy bills increase significantly in recent years (e.g. the combined energy bill for both Councils is over £750'000 per annum). Good energy management makes good economic, as well as environmental, sense. For private businesses, reducing energy bills by 20% can add the same amount to profits as a 5% increase in sales (*source: Carbon Trust).* For the public and voluntary sectors, improving energy efficiency should mean more money available to spend on service provision.

What is available for businesses?

There are various sources of assistance to help organisations improve their energy efficiency and their bottom line, examples of which include the following:

- The Carbon Trust works with organisations to help them reduce their carbon emissions.
- Envirowise provides advice to business to improve resource efficiency.
- The Chamber of Commerce is a partner in the Worcestershire Partnership Environment Group.
- Economic Development staff at Bromsgrove and Redditch run seminars and events to promote business continuity and efficiency.

Case study: Leading by example at Redditch Town Hall

Redditch Borough Council were early adopters of detailed monitoring of energy consumption and invested in remote logging equipment in 2004. This equipment paid for itself in less than a year due to the ability to be able to identify wasteful activity, such as out of hours electricity use. The equipment also means that energy saving activity, for example installing sensor lighting, can be fully evaluated and proves value for money.

What do we need to achieve?

Contribute to the local delivery of NI186 (per capita CO_2 emissions). In Bromsgrove and Redditch, this equates to a reduction, as a result of local measures, of at least 2'940 and 6'400 respectively tonnes of CO_2 from the business, public and voluntary sectors by 2011. The longer term aim is to achieve the transition to a low carbon economy, as described in the Low Carbon Transition Plan (2009).

Internal Council Energy Issues

In 2008/9 for the first time we were required by Government to make a detailed calculation of emissions arising as a result of running our business and services. The main areas of focus include looking at our buildings; our fleet transport and business mileage undertaken by staff. Our baseline CO_2 footprints were as follows:

Bromsgrove (349 employees) – 2440 tonnes CO_2 Redditch (997 employees) – 3637 tonnes CO_2

Both organisations have committed to a 2% year on year reduction in our carbon footprint.

BDC have committed to moving out of the current Council house which is currently very energy inefficient – as demonstrated by a thermal image taken in winter 2009: moving to new premises would have a significant impact on the organisations corporate carbon footprint.

Redditch Council has an agreed Energy Strategy and Action Plan (2009) to deliver CO2 savings largely based around Salix funding to make physical improvements to assets.

Figure x: Thermal Image of Bromsgrove Council House

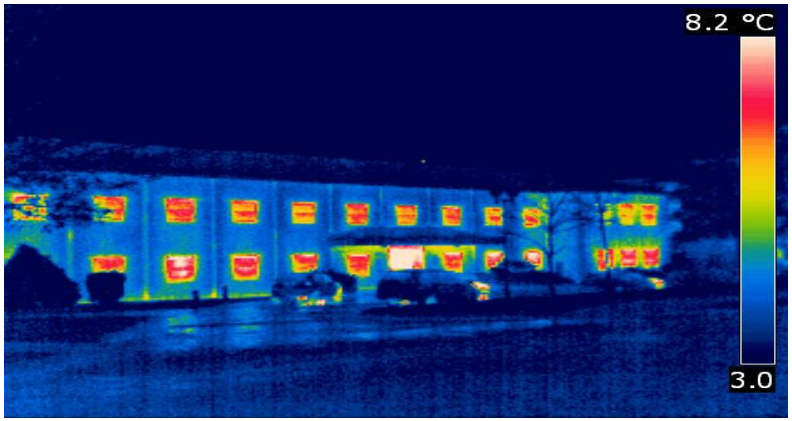


Figure x – Bromsgrove Council target reductions

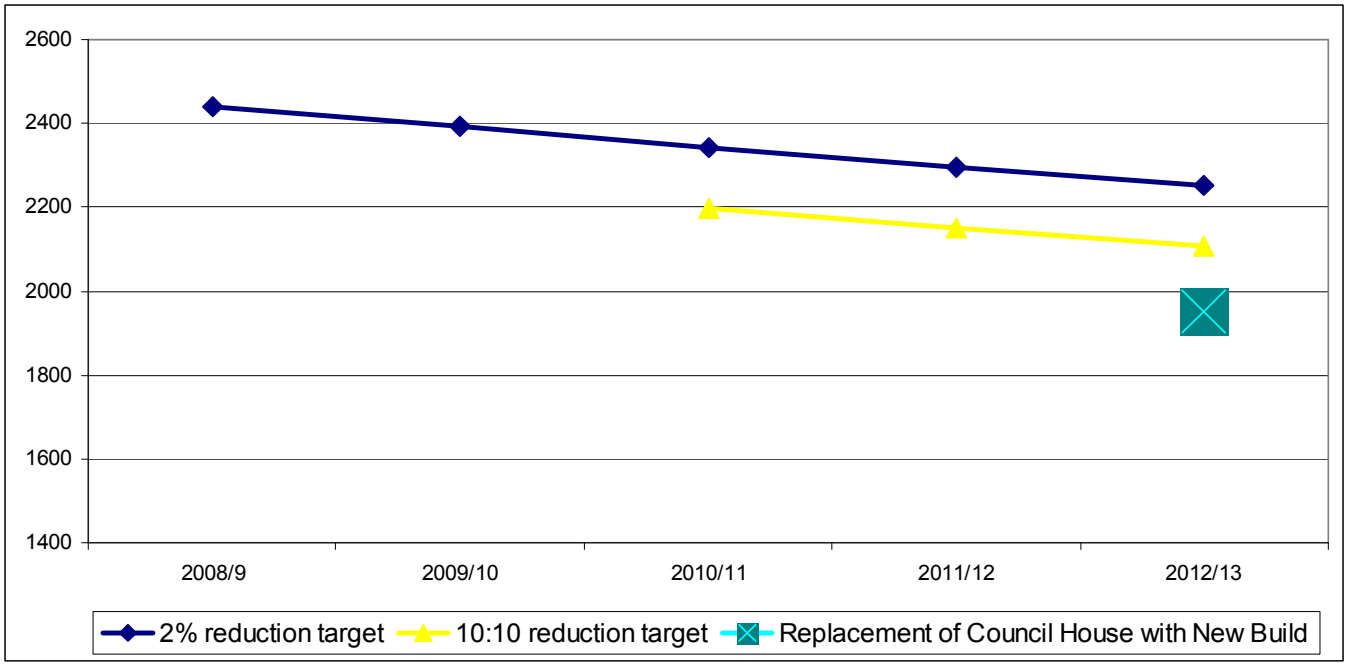
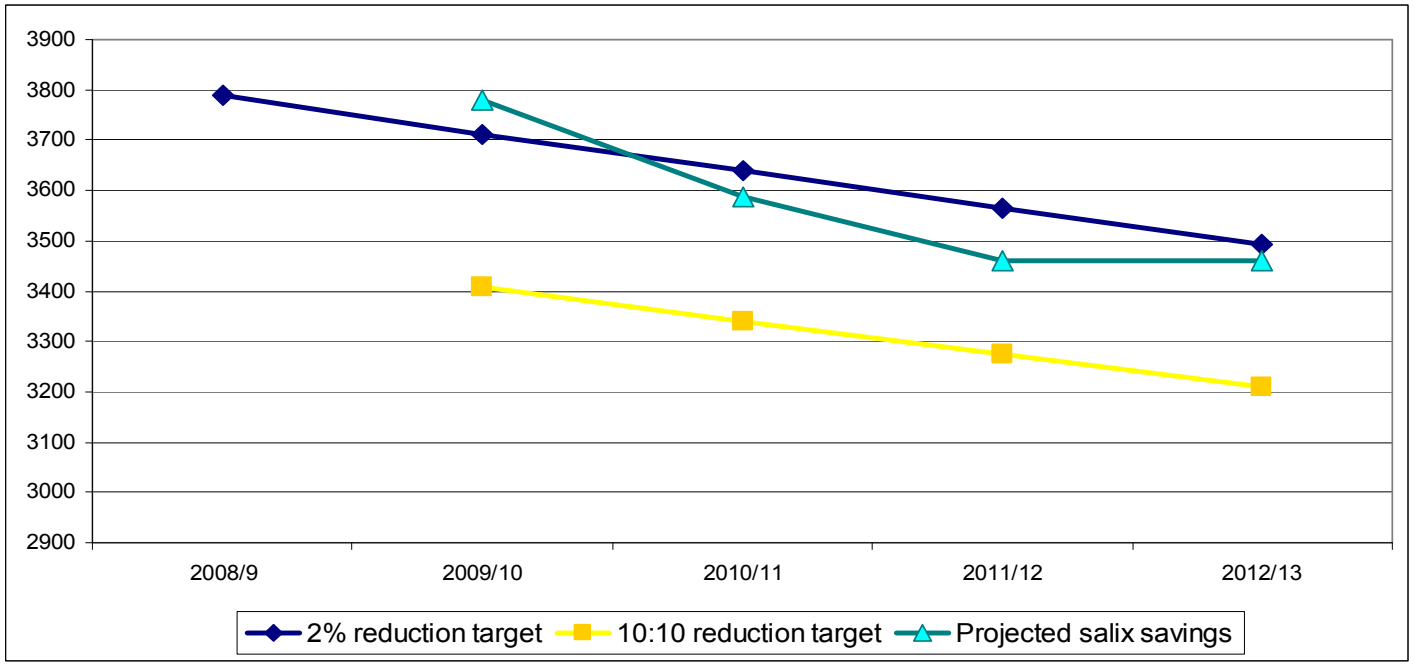


Figure x: Redditch Council target reductions



What do we need to do?

1. Reduce energy consumption in our buildings through the Asset Management Strategy and staff communications
2. Reduce emissions from our fleet transport i.e. use the most efficient vehicles and travel only essential miles.
3. Reduce staff mileage and ensure only essential travel is undertaken.

Strategic Actions Arising

- **Continue schemes to promote loft/cavity wall insulation, improve RBC housing stock and work with Housing Associations to increase domestic energy efficiency.**
- **Reduce internal energy consumption including transport fuel**
- **Work with LSP partners (e.g. PCT, New College) to improve their own performance in relation to energy efficiency**
- **Make available good practice to others in the business community**

7.2 Renewable Energy

This is important because…

The demand for energy is increasing, and where financially feasible, should be sourced from clean renewable (e.g. solar, wind, hydro, biomass) and low carbon sources (e.g. Combined Heat and Power). The potential to increase renewables locally are two-fold:

- large scale projects and
- smaller installations, for example micro-renewables such as solar panels on individual homes.

What is the current situation?

There are several planning applications for industrial sized wind turbines in the Bromsgrove area. We do not have an established list of micro-generating properties in the area although a number of homeowners have installed solar hot water panels (historically the most viable option) and these can be seen when driving/walking around the areas. Solar hot water systems have historically been the most viable option.

Actions which will contribute to achieving our aim

Increase Domestic renewables

Both Bromsgrove District (up to £1000) and Redditch Borough Councils (up to £600) offer a grant scheme to help residents meet the cost of installing renewable energy systems at home. Combined with the new electrical renewable incentive, or Feed-in-Tariff scheme, this makes renewables more economically viable than ever – for example, in Redditch, 3 residents have installed solar PV systems between April-June 2010. In terms of renewable heat, it is unclear whether or not the renewable heat incentive will go ahead. .

Increase in the amount of renewable energy capacity, specifically large scale wind power in the Bromsgrove area.

A WCC (2008) study concluded that there is only potential in the Bromsgrove area only to support large scale renewable energy generation, and not in the Redditch area:

District	Potential number of large-scale renewable energy installations*		
	WIND TURBINES†	BIOMASS PLANTS	HYDROPOWER PLANTS
Bromsgrove	19	1	0
Malvern Hills	20	1	3
Redditch	0	0	0
Worcester	0	1	1
Wychavon	83	5	3
Wyre Forest	21	2	0
Totals	**143**	**10**	**7**

Bromsgrove's contribution could range between 1-73 MWh capacity, depending on how much investment is available.

Strategic actions arising:

- **Continue to promote and provide grants for domestic renewable installations**
- **Increase internal renewable capacity and also encourage partners to do so**

- **Support development of large scale renewable projects in Bromsgrove where appropriate**

7.3 Water

Although the UK is perceived as a rainy area, because population density is high and geographical and seasonal variance of available water is variable, there is relatively little water available per person. This situation is likely to worsen as the climate

changes, especially during summer months – our plan for adaptation will consider these issues – for example how to ensure service delivery (e.g. maintaining open spaces) and how we can reduce this (e.g. using drought resistant plants). Using water efficiently is important, because heating hot water, and processing all water uses a large amount of energy, resulting in carbon emissions. Wasting water is also a waste of money for the majority of local residents, public bodies and businesses who are on meters.

Analysis of Statistics and Information,

- Water consumption is at its highest for both Authorities in its swimming pools at leisure centre's, the street sweeping process and at Depot vehicle washing facilities. When improvements are carried out to these, and other buildings, water conservation/reuse should be considered.
- The UK average water consumption per person per day is about 150 litres. The Government's Water Strategy aims to reduce this to 130 litres per person/day by 2020 and this strategy supports this aim. Bromsgrove's Draft Core Strategy is considering using 105 litres/person/day for new developments.
- However, these figures are not a true representation of our water usage, these figures represent how much clean drinking water we use via taps, toilets, bathing and using the washing machine for example.
- Realistically, we each use about 4645 litres per day, that's the same as 50 baths of water. Water is embedded in the products that we drink and consume and it is this much higher figure that tells us our water footprint.
- We each on average use 3400 litres through agricultural crops, 1095 litres through manufactured products and 150 litres in the home.
- It takes 10 litres of water to produce one A4 sheet of paper, 70 litres of water to produce just one apple, 140 litres to produce one cup of coffee, 2700 litres to produce one cotton shirt and a staggering 15,500 litres to produce 1kg of beef.

Source:waterwise.org.uk

Strategic Actions Arising

- **Communicate water issues**
- **Ensure water efficiency/harvesting wherever possible, including at heavy user sites e.g. Depot, Leisure Centres etc.**
- **Ensure drainage systems are maintained and appropriate**
- **Work with the Environment Agency to develop local flood plans.**
- **Encourage green roof installations**

7.4 Waste

Disposal of waste adds to the climate change problem by releasing greenhouse gases such as methane and CO2 as it breaks down in landfill sites. Energy is also used to collect, transport, manage, process and dispose of waste, including recycling, creating further emissions. However, in general, less energy is needed to make items from recycled materials than from raw materials,

which often require energy-intensive processes such as mining, to release them. This is why it is critical that all types of waste is minimised, and that as much as possible of created waste is recycled. Landfill space is decreasing and will eventually run out (by 2016), leading to the need to create new ways of dealing with residual waste, such as incineration (Energy from Waste).

Analysis of Statistics and Information:

Recycling rates are currently:

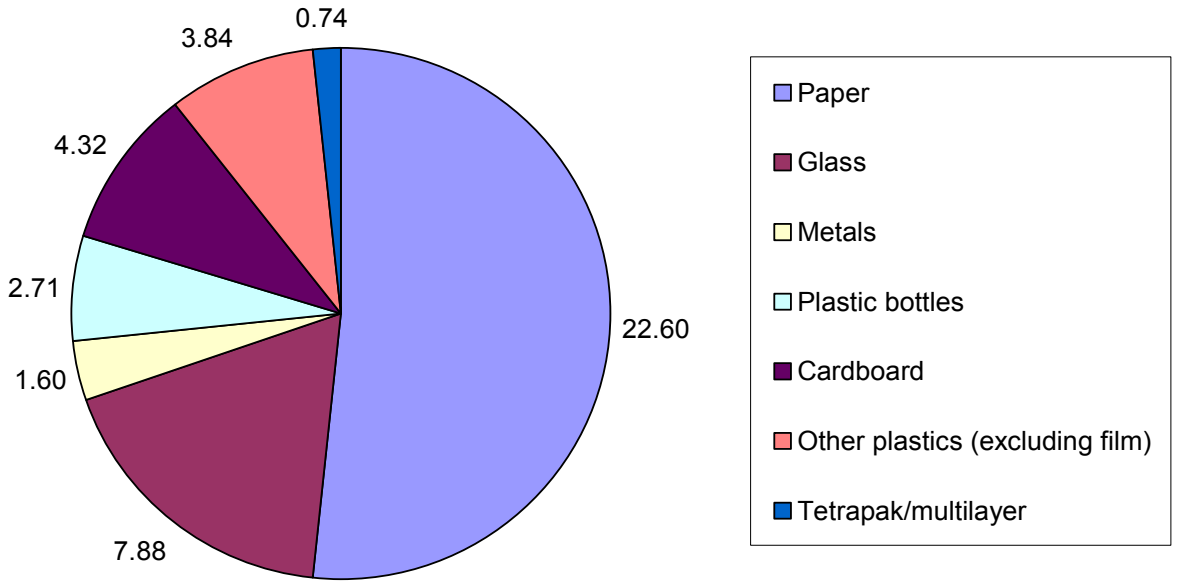
Bromsgrove – 21% (dry) 16% (garden waste) - 37% total

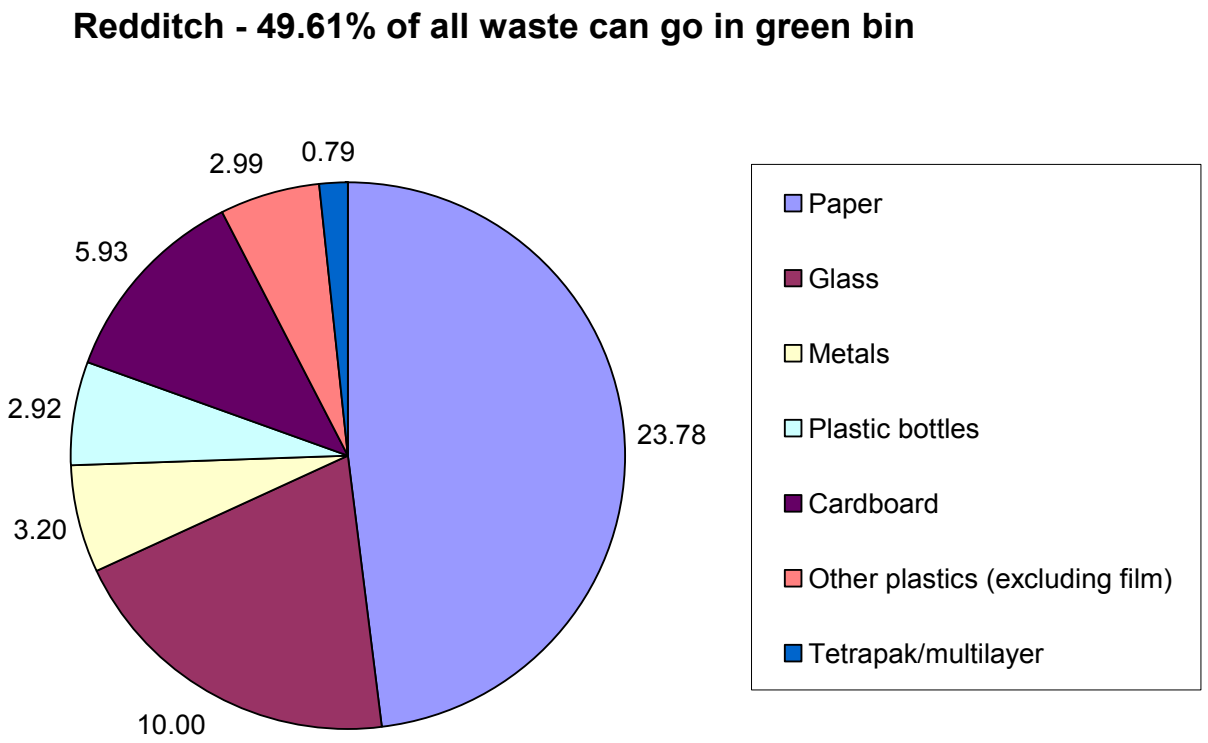
Redditch – 28.3% (dry) – note a garden waste trial begun in early 2010.

The majority of residual (grey bin) waste is sent to Energy from Waste plants.

We need to encourage residents to minimise the waste they generate, and also reuse and recycle more. A waste analysis study conducted indicates the average household in Bromsgrove and Redditch could be recycling more, 44% and 50% respectively.

Bromsgrove 43.69% of all waste can go in green bin





Strategic Actions Arising

1. **Participate in waste minimisation programmes such as Love Food, Hate Waste.**

2. **Work with Worcestershire County Council to increase recycling rate**
3. **Ensure non-recycled waste is used as a resource e.g. as feedstock for EfW plants.**
4. **During periods of very hot weather, the Councils should consider the need to move collection times to cooler times of day to ensure staff satefy.**
5. **The Councils need to risk assess for prolonged periods of cold weather/snow to ensure service delivery resilience.**
6. **Reduce our own waste and recycle more internal waste.**
7. **Ensure waste collection and disposal options are considered in relation to carbon emissions as per the Joint Municipal Waste Management Strategy.**

7.5 Transport

This is a prime example of a situation which requires completely different approaches between Bromsgrove and Redditch areas. The Citizens Panel results showed that 70% of Redditch residents felt that using an alternative to a car for transport was a good way of tackling climate change, which was the highest in the County. However, Redditch New Town was designed for the easy use of a car, and therefore, although regular public transport is readily available for the majority of residents, there is little incentive to use it.

In Bromsgrove however, being a more rural and larger district, solutions are more difficult to find. The price of fuel on one hand may reduce unnecessary mileage (Petrol is currently at £1.20 litre - a 17% rise from Feb 2010 to March 2010), but this may cause a real problem for those who have no alternative but than to drive – and can limit access to services and employment. Road transport accounts for approximately 57% of CO_2 emissions in Bromsgrove. Traffic congestion is an issue within Bromsgrove Town; which can cause air quality problems, health impacts and may limit economic development in the town. One of the county's four Air Quality Management Areas is within Bromsgrove District, near the M42 (Lickey End), although there is a possibility that Bromsgrove Town will also need to be declared a Management Area in 2010. Future development must include the provision of a sustainable transport network if these issues are to be improved.

What is the current situation?

Proposals to reduce transport emissions and promote more sustainable travel are included in several key district and county strategies. The Worcestershire Local Transport Plan (2006-11) includes several Bromsgrove District specific policies mainly related to the Train Station improvements.

Bromsgrove LSP Transport group will be responsible for achieving transport related CO_2 reductions in Bromsgrove. However, it is acknowledged that responsibility for achieving reductions in the transport sector is largely based at Worcestershire County Level.

Council-specific fleet transport

Both Councils are participating in the Energy Saving Trust green fleet review which will form the basis of both Councils strategy to reduce emissions from transport.

Strategic Actions Arising

- **Encourage partner organisations to ensure that key services are accessible to everyone via public transport.**
- **Planning Departments to influence sustainable travel options in new developments.**
- **Identify vulnerabilities relating to transport in a changing climate, e.g. the impact of melt point of tarmac during heatwaves.**
- **Encourage use of walking and cycling – to achieve significant health benefits.**
- **Establish a Council Travel Plan/s for our own business miles**
- **Review staff mileage reimbursement rates**

7.6 Green economy

This is a relatively new policy area but it is imperative that Bromsgrove and Redditch take full advantage of this opportunity. According to the then Government's 2009 Low Carbon Transition Plan, "*Many more of us will find ourselves working in a growing low carbon industry. Already 880,000 people in the UK work in the low carbon and environmental sector, a rapidly growing worldwide market worth £3 trillion per year and £106 billion per year in the UK. By 2020, this could rise to more than a million people if we seize the opportunity to establish the UK as a global centre of low carbon industries and green manufacturing. Around 200,000 of these new jobs by 2015 are expected to be in renewable energy, which could grow by a further 300,000 additional renewables jobs by 2020 as set out in the UK Renewable Energy Strategy, a total of half a million additional UK jobs in the renewable energy industry to 2020.2 In doing this, the UK will need to focus on low carbon sectors where we are likely to have a competitive advantage such as offshore wind, marine energy, civil nuclear power, carbon capture and storage, renewable chemicals, low carbon construction and ultra-low carbon vehicles, and specialist financial and business services".*

Strategic Actions Arising

- **Ensure the Economic Development Team are encouraging a local green economy**

7.7 Open spaces, land use and biodiversity

Land use and management can impact upon the levels of carbon emissions released and stored in the environment. Different types of habitats and agricultural crops emit and retain different levels of carbon - the Forestry Commission estimate that semi-natural woodland stores on average 1588 tonnes of carbon per hectare. Carbon emissions are also influenced by land management practises, such as the cutting or burning of vegetation.

Redditch is noted for its high amount of trees and ancient forests, and how these are managed could affect climate change emissions, much of which is in Council ownership. Bromsgrove District has extensive areas of significant landscape value, particularly the uplands of Clent, Waseley, Beacon, Lickey and Weatheroak Hills which are of regional importance and are more generally owned by other bodies, for example the National Trust, Worcestershire County Council/Birmingham City Council. There are a number of specially designated sites across both Authority areas.

It is important to take into account emission levels from changing land use (e.g. development) and management practices (e.g. drainage). In the urban landscape, green infrastructure (trees and green spaces in urban settings) can also play a role in climate change mitigation and adaptation, for example by increasing the floodwater storage capacity of the land. The Councils, as major landowners, are well placed to positively influence this.

Climate changes will affect biodiversity and wildlife because natural ecosystems are very sensitive to climatic changes, and extreme weather events such as flooding and heat waves can also affect local populations. The Councils have a duty to have regard for biodiversity through the Natural Environment and Rural Communities Act (2006) which aims to ensure all public authorities have to conserve biodiversity. Both Councils are also signatories to the West Midlands Biodiversity Pledge.

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What is the current situation?

Land use management and climate change is a new area of work in Worcestershire and further research is needed on this topic. There is much to do to raise awareness about how land use and land management practices contribute to carbon emissions and

Bromsgrove and Redditch Councils will need to work with the Worcestershire Partnership, including key partners such as English Nature, Forestry Commission and Environment Agency on this topic.

What do we need to achieve?

Gain a better understanding of how land use contributes to total carbon emissions in the district/borough.

Seek to influence land use decisions in a way that helps reduce emissions and store carbon.

Strategic Actions Arising

1. Actively participate in countywide work to increase and share knowledge and understanding of this issue.

2. Green spaces such as parks should be planted with more climate change tolerant species and there will be more opportunities for shade. This will be achieved through a mixture of planting different species, installing benches in shadier spots and setting up permanent shades for public use. Green space is extremely valuable for providing cooler spaces which also help to mitigate the urban heat island effect. Overheating is likely to become a major health risk, particularly affecting vulnerable residents on hot summer nights.

3. Green spaces are important for both areas, but especially more urban Redditch, and are a very effective form of 'soft' flood management options which reduce total flow, reduce peak runoff rates and allow water to drain away into the ground; unlike hard surfaces such as concrete and tarmac.

4. The Council should consider planting fruit trees in community gardens as part of local food growing initiatives.

5. There are separate Biodiversity strategies which should be read in conjunction with this one.

7.8 Sustainable New development

Buildings contribute almost half of the UK's carbon emissions. By looking at where and how new developments are built, and the way that existing buildings are refurbished, it is possible to reduce these emissions. The new Coalition Government has yet to announce the formal plans for new development locally but the general principle, such as ensuring sustainable development is achieved is encouraged to reduce emissions and adapt for a changing climate.

What is the current situation?

All new development in Bromsgrove and Redditch meets, but does not necessarily exceed, the energy efficiency standards required by the UK Building Regulations. The Code for Sustainable Homes sets six target levels for emissions from new homes and will provide a stepped progression in standards, leading to the overall target for all new homes to be zero-carbon by 2016. Housing Associations are already required to meet Level 3 of the Code, a 25% improvement on the energy standards in the 2006 Building Regulations. Standards similar to those in the Code are provided for non-domestic buildings through the Building Research Establishment Environmental Assessment Method (BREEAM).

Redditch Borough Council was a partner with Redditch Cooperative Homes project to build the country's first Code for Sustainable Homes Level 4 eco-home, timber framed development in Sillins Avenue and Farm Road, which have been very successful and have an average SAP rating of 83. Further developments are planned e.g. Walton Close.

What do we need to achieve?

Construction of new buildings that reduces environmental impacts, for example by encouraging implementation of the Code for Sustainable Homes ahead of the government's timetable.

Strategic Actions Arising

- **Lead by example - ensure that sustainable construction techniques are used in Partners new build and refurbishment projects and adopt planning policies that set higher energy efficiency standards than national guidelines.**
- **Promote more sustainable, energy efficient construction, utilising the planning system to promote sustainable development where possible, e.g. through the Local Development Framework and Core Strategy and also consider future adaptive techniques such as shuttering for shading.**
- **Smart metering and energy monitors to encourage behavioural change towards efficient use of energy in the home.**
- **Encourage the use of green roofs for improved insulation, reduced surface water run off and biodiversity.**
- **Ensure that any extensions to existing properties result in improved energy efficiency**
- **Consider combined heat and power/district/community heating systems for new properties built, including non-residential development.**
- **Ensure planning policy takes into account measures to tackle future water stress issues such as grey water recycling/storage in new homes.**
- **Ensure planning policy encourages water efficiency in new dwellings, and that sustainable urban drainage systems (SUDS) are in place.**
- **Encourage electric charging points to facilitate electric vehicles in new developments**.

7.9 Adaptation to Climate Change

What is adaptation?

We need to reduce our vulnerability to the effects of climate change, build adaptive capacity in our organisations and make plans to capitalise on the opportunities they bring. We need to "climate change-proof" ourselves and our communities because even if we drastically reduce emissions now, we are still facing years of unavoidable change. A key area of work in these early years of adaptive activity is to anticipate and prepare for key impacts of climate change across the complete range of Council services and infrastructure through the existing risk management process.

What are the likely changes in climate?

This depends on the ongoing rate of CO_2 emissions (mitigation) into the future. UKCIP (2009) – has concluded that the 'medium-emissions' scenario is the most likely, and will likely lead to local changes:

Key findings for the West Midlands, 2080s

- the central estimate of increase in **winter mean temperature** is 2.9ºC; it is very unlikely to be less than 1.6ºC and is very unlikely to be more than 4.4ºC. By 2020, on average, winter mean temperature will be warmer than we are used to.
- the central estimate of increase in **summer mean temperature** is 3.7ºC; it is very unlikely to be less than 2ºC and is very unlikely to be more than 6.1ºC. By 2020, on average, mean summer temperature will be 1.6oC higher than we are used to. On paper, this sounds like a good thing, but there are a number of problems associated with this.
- the central estimate of change in **winter mean precipitation** is 18%; it is very unlikely to be less than 3% and is very unlikely to be more than 39%. By 2020, on average, there will be 6% more winter precipitation than we are used to.
- the central estimate of change in **summer mean precipitation** is –20%; it is very unlikely to be less than –43% and is very unlikely to be more than 6%. By 2020, it is estimated that there will be 7% less summer precipitation than we are used to.

We know that our current climate has impacts on our economy, health and environment, and that the changing climate of the UK will pose increased risk in future due to higher temperatures and a greater frequency of extreme events such as heatwaves, flooding, extreme cold weather and drought.

Although we cannot say with certainty exactly what will happen in our local areas, UKCP 09 allows us to make assumptions based on previous events and can mean we are better prepared for whatever does happen, for example:

- There were about 35,000 premature deaths across Northern Europe in the intense heatwave of 2003 with around 2000 premature deaths in the UK. The heatwave in 2003 occurred during a summer in which average summer temperatures were 2°C above the 1961-1990 average in the UK. However it was the high daily maximum temperatures, combined with a lack of effective plans to deal with these that created casualties. As average temperatures increase, so do the number of hot days, although this relationship is not necessarily linear. A study undertaken by the Met Office suggests that such heatwaves are expected to become more frequent in coming decades, as summers as warm as this will be 'normal' by the 2040s.

- In its 2004 report, 'A Changing Climate for Insurance', the Association of British Insurers notes that claims from storm and flood damages in the UK doubled to over £6 billion over the period 1998-2003 with the prospect of a further tripling by 2050 (UKCIP 09).

- In the 2007 floods, 10,000 motorists were trapped in vehicles on the M5 and surrounding roads and residents in Bromsgrove and Redditch were affected by the transport disruption.

Looking ahead, the impacts of the changing climate will depend significantly on how well central Government, local councils, businesses, voluntary organisations and individuals plan for and adapt to these changes. As with mitigation, our response to climate change adaptation affects all of our departments and the majority of our partners too.

The effects on our health during a heatwave can be reduced through effective planning by the NHS and social services, and by individuals knowing what to do. Similarly, the effects of flooding can be reduced by investment in flood defences and sensible long-term planning.

How this will affect The Council and its Departments (Service Provision), Partners and the Public

In Bromsgrove and Redditch, the most significant problems will be more serious water stress and overheating. Rainfall is projected to decrease during the summer and increase during the winter months, with an increased risk of more intense events which will increase the risk of fluvial and surface water flooding and parts of the drainage system is prone to being over-whelmed during heavy rainfall. How we deal with this will form part of our work under the risk management process for NI188 and is a developing area of work.

The following are examples of how adaptation could filter down through our organisations.

Buildings

Offices are more likely to overheat as a result of warmer summer temperatures.

- Methods of passive cooling, such as the use of blinds and external shading, will be needed so as not to increase the reliance on air conditioning/desk fans, which will increase energy consumption.
- Our buildings may be exposed to increased risk of flooding due to higher winter rainfall levels and an increased frequency of extreme weather.
- There will be increased risk of subsidence.

Economy and society

We need to think about how severe weather and longer term climate changes affect the economy and local people:

- Climate change may affect food supply chains, for example, where our food comes from/availability.

- There may be opportunities for new markets and new jobs; for example in tourism or from making new products to help us cope with these changes.

Agriculture

There is likely to be:

- Risks to agriculture from changes to the growing season, droughts and floods, increased heat stress in livestock, more storm damage and increased risks from pests and diseases.
- Agriculture may, however, also see increased yields in some crops with higher temperatures, and the opportunity to grow new crops.

The natural environment

The natural environment is likely to suffer from:

- Fire risks on heathlands (especially in the Clent/Lickey Hills) could increase as a result of higher summer temperatures and lower rainfall.
- Spring is already happening earlier in the year. Some key trees are leafing and some butterflies arriving 10 days earlier than was the case 30 years ago due to increases in temperature in March and April.

Transport infrastructure

- Road surfaces will need to be more heat resilient to cope with higher projected summer temperatures.
- Rail lines could be prone to buckling in high temperatures
- Alternative routes may need to be found or existing routes protected for road and rail infrastructure.

Why do we need to adapt?

1. Our organisation is affected by changes in weather and climate in a number of ways, including disruptions to movement of people and goods, and many of our services are reliant on power, safe premises to work in, and transport; all of which may be affected.
2. Our organisation takes decisions and makes investments which have long term life spans.These investments often have high values at stake including the safeguarding of human life and the natural environment.
3. Our organisation provides support in emergencies and have a duty of care for vulnerable groups.

Strategic actions arising:

- **Ensure CMT fully considers adaptation for their service area, and develop adaptive capacity through/with LSP organisations**

7.10 Public Health, Health Inequality and Climate Change

Health inequality is a key issue locally in Redditch (although there are pockets of areas in Bromsgrove which also experience similar issues), as are above average incidences of excess winter deaths in Bromsgrove and there is a clear policy agenda link between climate change, health and wellbeing. According to the Chartered Institute of Environmental Health (CIEH), health impact include possible increased infectious and vector-borne diseases (e.g. malaria), deaths from prolonged heat/cold exposure, skin cancers, food poisoning etc.

A recent report, Health Effects of Climate Change in the West Midlands found that deprived communities face greater impacts because:

1. They have the smallest potential to adapt (e.g. cannot move, afford more expensive food, buy air-cooling systems)

2. Generally they are less healthy and therefore would be more susceptible

Strategic actions arising:

- **This issue can only be tackled through a partnership approach with LSP members but ensure that the Councils actively participate in this agenda.**

8. Community Engagement and Communications

Whilst surveys have shown a high level of concern about climate change in Worcestershire, a significant decrease in CO2 emissions has yet to occur. Increased awareness of the urgent need to take action is needed, together with clear, consistent, practical advice to help people actually make the necessary changes.

We also need to raise awareness about the issue of climate change with Partnership Organisations and Businesses - there are good opportunities to do this throughout the existing LSP network. However, more needs to be done to support Businesses locally, including SME's. However, financial resources are currently strained therefore all activity will need to demonstrate good value for money.

This is important because…

All sectors of the community will need to take action to tackle climate change; no one group (including the two Councils alone) can solve the issues alone. Effective awareness raising can help individuals understand the positive changes they can make in different aspects of their lives. The public also expect community, public and private sector organisations to demonstrate leadership on this issue.

What is the current situation?

Research carried out in 2007 shows that there is a high awareness of the issue of Climate Change throughout the county, including in Bromsgrove and Redditch areas. Therefore, we now need to shift our attention from raising awareness of the general issue i.e. we no longer need to persuade residents to "believe in climate change" - to motivating physical action and behavioural change leading to physical reductions in emissions: being mindful of "greenwash"/ "green fatigue".

What do we need to achieve?

To move on from raising awareness of climate change, to delivering real action in homes, organisations and businesses. We need to ensure that messages are clear and consistent, including county wide and national messages.

Strategic Actions Arising

- **Encourage staff and members of the Councils and our partner organisations to tackle climate change at home and at work and actively promote the issues as part of their work (where appropriate)**
- **Introduce a green office policy and encourage take up of this across both areas in other organisations and businesses. Set up a climate change champion network to share best practice.**
- **Use the Warmer Worcestershire project as a key vehicle to capture residents attention, using the information from the aerial thermal imaging survey (2009) to help raise awareness about heat loss from properties in the district and to help deliver targeted energy efficiency improvement measures.**
- **Actively participate in county-wide awareness programmes and activities, such as the annual Switch It Off campaign.**
- **Focus communications on the basis that saving energy saves money as well as carbon emissions.**
- **Develop a low carbon communication strategy and investigate opportunity for county wide branding to increase recognition**

Yearly Communications Planner

Topic / event	**Key Message/background**	**Event date**	**Risk and Implication**	**How we will respond**	**When**
Fair Trade Fortnight	Supporting the fair trade movement locally	February 2011	Reputation	Increase staff awareness	February 2011
Earth Hour (WWF)	Global switch off of lights to highlight climate change issues	March 2011	Reputation	Investigate if possible to switch off our buildings lights	Start work Jan 2011
World Environment Day	Global celebration of Environmental issues	June 2011	Reputation	Increase staff awareness	May 2011
10/10/10	Global event to highlight the recent 10:10 campaign, which both Councils have signed up to.	10/10/10	Reputation	Tbc – some sort of event	September 2011
Switch it Off Week	County wide event to promote energy efficiency	November 2011	Reputation	Tbc – county wide promotions. Would like to run a Council meeting by candlelight…	September 2011.
Launch of Climate Change Strategy	New strategy for both Councils agreed	Tbc	Reputation	Publish on website. Press releases.	tbc

Topic / event	Key Message/background	Event date	Risk and Implication	How we will respond	When
Other events as they happen e.g. procurement of electric vehicles, launch of solar panels at Sanders Park etc.	n/a	n/a	n/a	n/a	n/a

9. Consultation

This strategy has been consulted upon by the following key partners:

WPEG, Bromsgrove Better Environment LSP Group, Members of the Public who have expressed an interest via the webpage, Internal Staff at both Councils (including Waste Management, Planning, EDU, Communications, Biodiversity, Overview and Scrutiny Panels, Climate Change Advisory Panel.

Once the strategy has been in place for at least 1 year, and we are clearer about the carbon emission data locally, it is intended that there will be a wider community consultation.

10. Delivery Partners

Worcestershire County Council, Worcestershire LSP, Environment Agency, Bromsgrove LSP members, Redditch LSP members.

11. Equality and Diversity

Equalities Impact Assessments will be undertaken on a case by case basis.

12. Conclusions

As Local Authorities, we have a moral and legal obligation to tackle climate change and to demonstrate leadership in this area. We need to reduce carbon emissions from our own and other buildings, our homes and our transport, and this needs to be tackled at a personal, community, business and organisational levels. We need to be ready for the challenges and opportunities that a changing climate, and associated increase in severe weather events will bring. Finally, we need to move beyond awareness raising and communicate the need to take action to our own staff and residents.

Dealing with climate change is challenging, but a sustained focus on the broad issues involved will mean that we can achieve our objectives.

13. Date of Review

This strategy is due for review by 2014 at the latest. The action plan will be continually reviewed and added to, and will be monitored quarterly.

14. Contact Information

The author of this strategy is Ceridwen John, Climate Change Manager for Bromsgrove District and Redditch Borough Councils who is contactable on (01527) 64252 x3046 or ceridwen.john@redditchbc.gov.uk

APPENDIX 1 - Action Plan

Strategic Priority 1:	**Mitigating against climate change by reducing carbon emissions**
LAA Link:	**NI186, NI187**

Strategic Outcome Measures	Baseline (2005)	2009/10 Outturn	2013/14 Target	2049/50 Target
e.g. NI 186 – reducing per capita CO emissions	BDC – 6.3 tonnes/capita RBC – 7.4 tonnes/capita	6% reduction	Aspire to 12%	Aspire to 40%

1.1	Strategic Action	**Improve Home Energy Efficiency**				
Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.1.2	Provide home energy advice to residents	2004/5	Ongoing	SLA c.£6000 per annum	L	Act on Energy

1.1.3	Provide and promote grants for domestic loft and cavity wall insulation. Set targets for completions.	2004/5	Ongoing	BDC £46'000	M	Act on Energy/BDC LSP

1.2	Strategic Action	**Improve Business Energy Efficiency**				
Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.2.1	Engage with LSP organisations and other large local employers to reduce their energy use, as well as reducing the Councils emissions – including identification of the most inefficient buildings (pareto principle).	2008/9	Ongoing	Staff time	M	Climate Change Manager WCC Property Service Economic Development Team
1.2.2	Signpost businesses towards available information and funding sources. Explore opportunities to green the local economies.	2009/10	Ongoing	Staff time	L	LSP Climate Change Manager

1.3	Strategic Action	**Reduce fuel poverty**				
Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.3.1	Use the warmer Worcestershire project to target vulnerable households	2008/9	Ongoing	Staff time	M	Katie Sharp-Fisher CCM
1.3.2.	Area based programmes and landlord programme for home insulation. Consider specific programme for Areas of Highest Need.	2009/10 Redditch only	Ongoing		M	Andy Coel Don Wright
1.2.2	Develop and deliver Affordable Warmth Programme	Ongoing	Ongoing		L	Andy Coel Don Wright

1.4	Strategic Action	**Increase renewable energy capacity**				
Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer

	Promote incentives and grants available for home and SME micro-generation of energy, as well as funding for public buildings. Set targets for completed installations.	2008/9	Ongoing	BDC - £18000p.a. RBC - £6000 p.a.	H	Strategic Housing
	Monitor take up of commercial renewable planning applications including potential decentralised schemes in new developments	2009/10	Ongoing	Staff time	M	Planning
	Consider viability of solar PV for our own buildings	September 2010	Ongoing	A business case will be required as upfront investment will be needed, although payback approx 7 years followed by 19 years of income generation	H	Climate Change Manager

1.5	Strategic Action	**Strategic corporate actions relating to this strategy**

Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
	Ensure all Service Business plans address this strategies objectives	2009/10	Ongoing	Staff time	H	Hugh Bennett/ Ceridwen John
	Reduce the amount of paper sent out as part of the committee process. Set target for print cost savings at 10%.	2009/10	Ongoing	Staff time	L	Ivor Westmore
	Office space to be re-planned to avoid heating and lighting unused spaces. Consider impact of shared services on energy consumption.	2009/10	Ongoing	Property Services SLA may not cover this, therefore costs involved	M	Teresa Kristunas
	Deliver on 10:10, Nottingham Declaration and Worcestershire Climate Change Pledge Commitments	2008/9	Ongoing	Staff Time	H	
	Disposal of Assets -Council House BDC and move to more efficient building. -Hewell Road demolition/Abbey Stadium				H	

	development					
	Asset Maintenance – The main emitters are: BDC – Council House, Dolphin Centre, Depot and Car Park. RBC – Town Hall, Abbey Stadium, Crematorium, Depot and Hewell Road. Reduce emissions from these buildings.	2009/10	Ongoing	No budget exists for improving energy efficiency – funds will be required if physical investments needed.	M	Property Services/ Teresa Kristunas
	Ensure all new policies/proposals are checked for climate change impacts.	2009/10	Ongoing	Staff time	M	Committee Services/CCM

1.6	Strategic Action	**Encourage efficient use of water**				
Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.2.1	Investigate opportunity for water efficiency internally				L	Ceridwen John Relevant

						departments
	Communicate water issues to staff and residents				L	CCM
1.2.2	Work with Environment Agency to reduce flood risk				M	Clive Wilson ?

1.7	Strategic Action	**Increase the amount of waste recycled and decrease the amount of waste disposed of**				
Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.2.1	Internal waste issues to be considered at both Councils to identify if waste can be minimised/increase recycling	2009/10	Ongoing	Tbc	M	Guy Revans
	Continue to encourage domestic and business sustainable waste management	Ongoing	Ongoing	Staff time	M	Guy Revans

1.8	Strategic Action	**Transport**

Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
	As part of the harmonisation of Terms and Conditions, consider revision of mileage reimbursement rates and policy to ensure travel to Birmingham is undertaken on the train only.	2009/10	Tbc	Staff time	H	HR CCM
	Undertake green fleet review recommendations	2009/10 BDC 2008/9 RBC	Ongoing	Staff time	M	Guy Revans
	Reduce fleet emissions through vehicle replacement programme and reduced mileages undertaken – target of 4% reduction in 2010/11	2009/10	Ongoing	Staff time	H	Guy Revans
	Regeneration of Bromsgrove Train Station and the Longbridge Access Strategy				H	tbc
1.2.2	Introduce internal Travel Plan to reduce business mileage	2010/11	Ongoing	Unknown	L	CCM HR

1.9	Strategic Action	**Green Economy**

Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.2.1	**Encourage a local green economy**	2009/10	Ongoing	Staff time	M	EDU/CCM

1.10	Strategic Action	**Sustainable New Development**				
Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.2.1	Planning policy to support achievement of zero-carbon housing	2009/10	Ongoing	Staff time	M	Ruth Bamford
	Adopt Planning policy towards renewable energy and more sustainable homes – go further than current building regulations	2009/10	Ongoing	Staff time	H	Ruth Bamford
	Providing advice and information – provide a detailed guide on how to improve domestic dwellings for climate change including RET/FiT.	2009/10	2010/11	Staff time	L	Ceridwen John

1.11	Strategic Action	**Open Spaces, Land use and Biodiversity**

Ref.	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
1.2.1	Develop skills and knowledge in the area of land use management and carbon emissions				M	JB/PG
	Ensure biodiversity strategies are implemented and considerate of climate change issues.				H	JB/PG

2.2	Strategic Action	**Communicating the Challenge**				
	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
	Add to the communications planner at both Councils relevant events such as 10/10/10, and run awareness campaigns. Potential staff OWL monitor energy loan scheme.	2009/10	Ongoing	Staff time	M	CCM/Comms
	Explore viability of an area based approach delivery for insulation measures in Charford/Sidemoor and Winyates	2009/10	Ongoing	Staff time	H	CCM

	Work with Blackwell PC as a pilot project to increase solar PV	2010/11	2010/11	Staff time	M	CCM
	Actively seek funding for communication initiatives e.g. eco-driving simulator	2009/10	Ongoing	Staff time	H	CCM
	Encourage LSP partners to sign the Worcestershire Climate Change Pledge	2009/10	Ongoing	Staff time	M	BDC LSP
	Encourage Transition Town initiative through LSP Better Environment Group	2009/10	Ongoing	Staff time	M	BDC LSP CCM
1.2.1	Contribute to the Worcestershire LSP CC communications plan	2009/10	Ongoing	Staff time	M	CCM

2	**Strategic Priority:**	**Adapting to climate change by increasing local resilience**			
	LAA Link:	**NI188**			
Strategic Outcome Measures		Baseline	2009/10 Outturn	2013/14 Target	2049/50 Target
e.g. NI 188		Level 0	Level 2	Level 3	Not set

2.1	Strategic Action	**Adapting to Climate Change**				
	Action	Start Date	Finish Date	Resource	Priority (H,M,L)	Lead Officer
	Requirements for Level 2: The Authority has undertaken a comprehensive risk based assessment of vulnerabilities to weather and climate, both now and in the future, and has identified priority risks for its services. It has identified the most effective adaptive responses and has started incorporating these in council strategies, plans, partnerships and operations (such as planning, flood management, economic development, etc). It has begun implementing appropriate adaptive responses in some priority areas. In its role as a community leader the council has started working with its LSP encouraging identification of major weather	2009/10	Ongoing	Staff time	H	HoS/ Ceridwen John HoS/ Ceridwen John HoS/ Ceridwen John

	and climate vulnerabilities and opportunities that affect the delivery of the LSP's objectives.					LSP
	Climate Change to be included in Risk Management Plans	2009/10	Ongoing	Staff time	M	Heads of Service