

Stepping forward for Climate Change

Reading's Climate Change Strategy 2008-2013



Reading
BOROUGH COUNCIL

Reading Climate Change Strategy

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Front cover image: Wind Turbine at Green Park, Greater Reading, courtesy of Ecotricity

FOREWORD by Councillor Paul Gittings



I am delighted to be bringing forward Reading's Climate Change Strategy and would immediately like to pay tribute to my predecessor as lead councillor, Steve Waite, for his drive and commitment in starting the process which has culminated in this comprehensive document.

My thanks also to the Sustainability Team at Reading Borough Council and also United Sustainable Energy Agency (formerly TVEC) for their many hours of work in the formation of a strategy with ambitious targets and a clearly defined course of action.

I note too, the excellent contributions of the wider public and our partnership organisations in helping to shape a strategy which I believe we can all take ownership of in the coming years.

The case for urgent action has surely been made and it is becoming increasingly apparent that if we do not alter our activities on the Earth we will cause climatic changes which will be too rapid for us to effectively adapt to, with devastating consequences for our communities.

The world's leading authority on the issue, the Intergovernmental Panel on Climate Change, has projected a global average temperature increase this century of 2 to 3 degrees Centigrade.

This would mean the Earth's climate would experience a greater change than at any time in the last 10,000 years. Current evidence also indicates that atmospheric carbon dioxide levels continue to rise and are higher than at any time in the last 650,000 years.

We are already seeing the dramatic consequences, with many of the natural wonders of the world such as the polar ice caps and coral reefs threatened.

Faced with such vast challenges, it's only natural that individual members of the public feel that their contribution is insignificant, but this issue is everyone's issue and I believe it is the duty of this local authority to lead by example and facilitate change at all levels.

The local business community, the public and voluntary sectors, our universities and places of learning, all have a vital role to play in the transition to a low carbon world, while as individuals we can make our contribution by reducing our personal carbon footprint, using alternative methods of transport, reducing household fuel use and recycling.

For Reading, the benefits of moving early are clear.

A low carbon town with thriving sustainable businesses and communities, which are resilient to the effects of climate change, will mean Reading will continue to attract investment as well as a being an attractive place to visit, live and work.

This strategy is launched at a time of economic uncertainty, but this should only focus us on the economic opportunities that come with meeting our goal of leaving the world in a fit state for future generations.

This is a global problem with local solutions and I am proud that Reading has taken the initiative on this crucial issue and continues to lead by example.

Councillor Paul Gittings

Lead Councillor for the Environment and Sustainability

A handwritten signature in black ink, appearing to read 'Paul Gittings', with a long horizontal line extending to the right.

INTRODUCTION

A scientific and political consensus has now been reached that the average temperature of the earth over the coming century will increase and that this is primarily linked to activities of man since the industrial revolution.

"All across the world, in every kind of environment and region known to man, increasingly dangerous weather patterns and devastating storms are abruptly putting an end to the long-running debate over whether or not climate change is real. Not only is it real, it's here, and its effects are giving rise to a frighteningly new global phenomenon: the man made natural disaster."

Barack Obama, USA President Elect (November 2008)



The movement to a low carbon future that is adapted to climate change brings both challenges and opportunities for this generation in particular. Sir Nicholas Stern, made clear in his report 'The Economics of Climate Change' (2006) that early intervention will be far more effective and that the cost to address climate change if we act today could be as little as 1% of GDP as compared with as much as 20% if we do not.

Image courtesy of revive design ltd

In recent times, though economic conditions have brought a new dimension to the challenge of climate change. Now the opportunities to reduce costs associated with wastage and to become less dependent on the provision of fossil fuels and other unsustainably managed natural resources is greater than ever. We must also ensure that we are not exposed to the economic instability that follows the widespread impacts of extreme weather events. We must ensure that we look after our health and quality of life by minimising pollution, managing disease risks and exposure to UV and heat effects.

"All of us - Government, business, civil society and individuals - have a part to play. Working apart we will surely fail. But working together I have no doubt that this is a challenge to which the human spirit, and our powers of ingenuity and enterprise, will rise."

*Prime Minister Gordon Brown- speech to Foreign Press Association in London
November 2007*

We must also take advantage of new markets and opportunities for local investment. We should support new leisure opportunities, localised tourism and active and vibrant local communities.

"In tough economic times, some people will ask whether we should retreat from our climate change objectives.

In our view, it would be quite wrong to row back and those who say we should, misunderstand the relationship between the economic and environmental tasks we face."

Ed Miliband - Secretary of State of Energy and Climate Change speech to MPs 16th October 2008



Local Authorities have been given the responsibility of leading in their localities. This will be measured against a new set of National Performance Indicators for per capita carbon reductions, council estate emissions, adaptation to climate change and fuel poverty.

"The unique features of local government - its democratic mandate, its close proximity to citizens through the services it delivers, its regulatory and planning responsibilities and its strategic role working with public, private and voluntary sector partners, and regional bodies - mean that it is on the frontline in tackling climate change."

Local Government Association Climate Change Commission 2007

A VISION FOR READING

The council will lead by example to achieve a low carbon Reading which is resilient to the effects of future climate change.

Leading By Example

The council will lead by example by reducing our own emissions of greenhouse gases and becoming zero carbon by 2050. We will work in partnership with other public sector organisations, businesses and with the public to reduce carbon emissions and dependency on fossil fuel. We will develop an environment and communities that are resilient to the extreme impacts of climate change, enhancing the quality of life in the climate of the future.

Reading Borough Council has been leading the way by actively reducing its carbon emissions for some time now. Since signing the Nottingham Declaration on Climate Change in March 2006, the council has been participating in the Carbon Trust's Local Authority Carbon Management Programme, has carried out a full audit of our energy use and is currently implementing an action plan to reduce it. The council has a rolling programme investing money to make savings, putting in place new technology in a number of buildings and this programme is already producing energy savings.

Now is the time to move up a notch, and this strategy highlights a number of approaches which the council endorses in order to make this step change.

Zero Carbon Council by 2050

In January 2008 the council passed a motion to become Zero Carbon by 2050. This ambitious goal will require year-on-year reductions beyond the national targets. Achieving this will require technology, more efficient buildings, non fossil fuel operated vehicles and energy provision, as well as a programme of behavioural change, including different working practices such as remote working.

Reduce borough carbon footprint by 80%

Although the council is the largest employer in Reading, the impact of our measures taken alone is minimal when compared to the whole borough. We need to see the borough footprint reduced by 80% on 1990 figures. In order to do this we need to work in partnership with communities and businesses to significantly reduce their emissions. We all need to think about our buildings, energy use and provision, waste use, behaviour, procurement choices and technology investments.



Illustration after www.eneravsavinatrust.org.uk

Quality of Life in the New Climate



It is predicted that climate change will bring changes in rainfall and storm intensities, temperature and water shortages.

To maintain quality of life we must provide cool environments with large canopy tree species, buildings designed to be cool and capable of withstanding storm damage and flooding and roads that withstand higher temperatures. Communities and businesses need to be ready.

It is important to control the impacts on health and ensure that we continue to become healthier and more aware in a changing climate.

Planning resilience to these impacts is vital. New buildings will need to be designed differently and existing buildings adapted to ensure that quality of life is maintained and residents and businesses are resilient to the impacts of climate change.

CLIMATE CHANGE BACKGROUND

Global Climate Change

The International Panel on Climate Change in its latest report (2007) indicated that the increase in average temperatures will become more rapid as the century progresses and unless mankind dramatically reduces the emissions of greenhouse gases into the atmosphere this level of change could have very severe impacts. Some of these impacts are clearly understood but many remain uncertain.



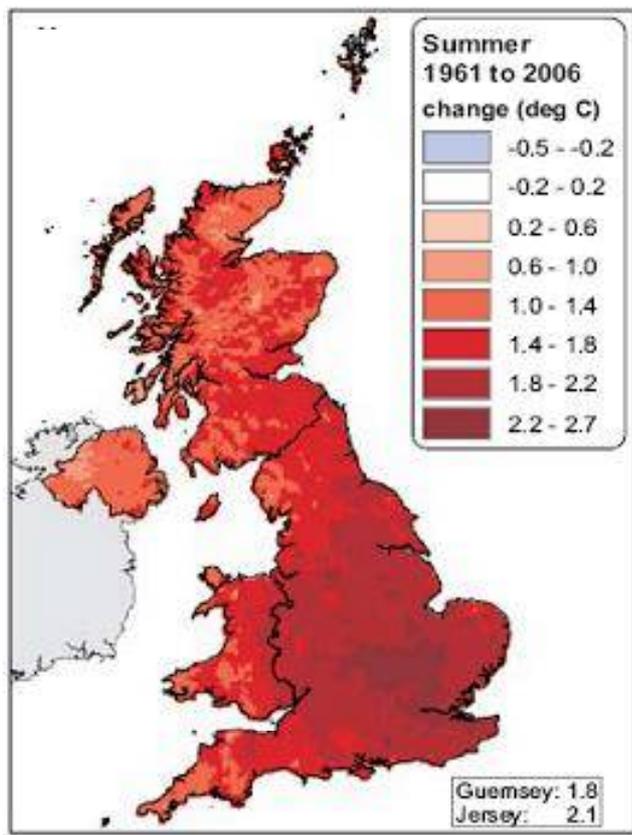
Image from Ivan Somerville

Some changes in climate are now unavoidable due to previous and current emissions and their effects on global temperatures. Current research suggests it is unlikely that the rise in global temperatures this century can be restricted to less than 2°C. This is a global average and local conditions may exhibit greater or lesser changes. Even this level of change will result in shifts in weather patterns with associated effects.

Climate Change in the UK

The United Kingdom Climate Impacts Programme (UKCIP) has provided a number of detailed scenarios for how climate change could impact on the UK. Information on UKCIP's work can be found at www.ukcip.org.uk

In the South East, UKCIP scenarios suggest it is likely that there will be:



- Increased frequency of droughts and likelihood of water shortages
- Increased flooding, including flash flooding
- Significant changes in biodiversity with an impact on native species causing some migration
- Changes to growing seasons and available local produce
- Road subsidence due to drier conditions in summer, and wetter conditions in winter
- Further heatwaves similar to 2003 (35,000 - 50,000 excess deaths in Europe)
- Greater numbers of insurance claims - with insurance more difficult and expensive to provide
- Impact on the economy through direct and indirect disruption to businesses

Figure 1: Figure to illustrate recent trends in UK summer maximum temperature (UKCIP 2008)

Climate change can bring many impacts on health. Although milder winters may lead to fewer common colds, heat waves and flood events could bring severe impacts for people in vulnerable groups (such as the elderly and the very young) in particular. Higher temperatures and wetter environments can bring more disease, food poisoning and air pollution impacts.

POLICY DEVELOPMENT

Global

The first global consensus on climate change came in 1992 with the United Nations Framework Convention on Climate Change. Following this, in 1997 many of the world's nations signed the first protocol on climate change. The Kyoto Protocol (1997) binds countries to meet carbon reduction targets.

Not all countries signed up to the protocol, however, and major emitters such as China, India and the USA refused to sign. In 2007 in Bali these countries agreed in principle to sign up at the 8th Convention on Climate Change in Copenhagen in 2009.

Europe

In 2000 the Commission launched the [European Climate Change Programme \(ECCP\)](#). The ECCP has led to the adoption of a wide range of new policies and measures. These include the pioneering [EU Emissions Trading System](#), which has become the cornerstone of EU efforts to reduce emissions cost-effectively.

To underpin these commitments, EU leaders set three targets to be met by 2020 on a baseline of 1990 levels: a 20% reduction in energy consumption, a 30% reduction in carbon emissions and an increase to 20% in renewable energies' share of total energy consumption.

UK

The UK government will be the first in the world to introduce a Climate Change Bill in 2009. This Act commits energy companies, Local Authorities, Developers and Industry to reduce their emissions of carbon dioxide by 80% by 2050 and by 26-32% by 2020, on 1990 levels.

The many regulations associated with this Act make requirements upon companies and organisations, which will start to impact on the costs of providing products and services. This means that making climate sense will also make business sense in the future.

In October 2008, the government declared the formation of a new Department - The Department of Energy and Climate Change. In addition the Climate Change Committee recommended revision of the 60% reduction target in carbon emissions by 2050 on 1990 levels to 80%.

The Climate Change Act paves the way for carbon trading and introduces the Carbon Reduction Commitment, which is a mandatory cap and trade scheme for the 5000 or so largest energy using organisations in the country.

CLIMATE CHANGE IN READING

The Corporate Plan and Sustainable Community Strategy

Climate change is a cross cutting theme and action is needed in all nine of the Reading Vision themes. Two of these are particularly relevant however:

“Cleaner and Greener Environments”

To enhance and maintain our natural and urban assets, making Reading an attractive place to be, while tackling the causes and impacts of climate change

“Transport and Accessible Spaces”

To enable people to travel into and around Reading - to and from home, work, leisure or the services they need easily, safely comfortably and sustainably.

National Performance Indicators

From 2008/9 onwards, the council is required to report against four national indicators, requiring reporting on emissions from our own operations, per capita emissions for the borough, fuel poverty and adaptation to climate change. The per capita emissions indicator is included amongst the Local Area Agreement targets.

Local Targets

Figure 2 below shows the Local Area Agreement target of 9% carbon emissions reduction by 2011 against a 2008/9 baseline, the target for the Southeast (Regional Economic Strategy) 16% against a 2003 baseline and the medium term national target, as defined in the Climate Change Act of 34% against a 1990 baseline and finally the 80% below 1990 by 2050.

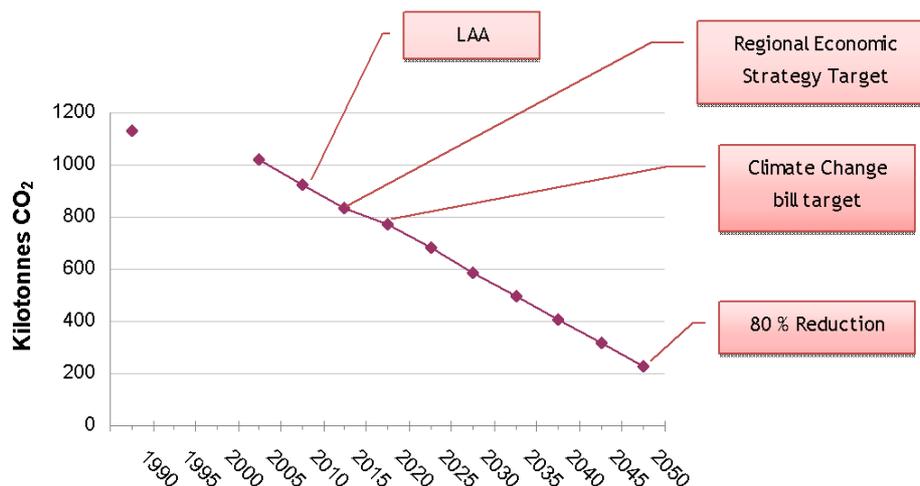


Figure 2: Graph illustrating targets for reducing carbon emissions in Reading Borough, set at a national (UK), regional (South East) and local scale

Reading's Carbon Footprint

The emissions of the main greenhouse gas - carbon dioxide - for Reading in the year 2006 are shown below, in Figure 3. The amount of carbon dioxide emitted is often referred to as a carbon footprint.

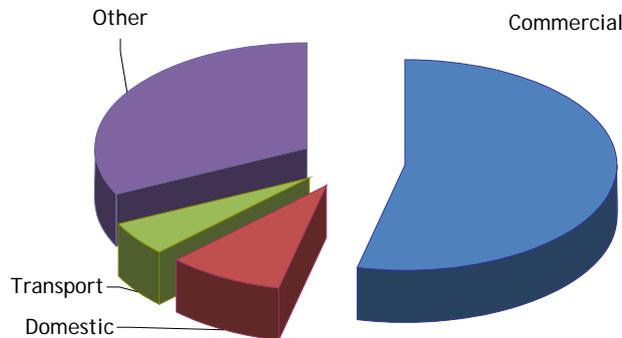


Figure 3: Chart to show carbon dioxide emissions of Reading Borough, 2006, separated by source

Reading has a high proportion of carbon emissions relating to commercial electricity use. This differs from the national picture of end-user emissions, with a greater proportion in Reading from commercial usage, and a reduced proportion from transport.

Reductions in carbon dioxide emissions have to be achieved in the context of Reading's anticipated economic, population and household growth. Historically, economic growth is accompanied by growth in energy consumption and associated greenhouse gas emissions. There is a pressing need to separate economic growth from growth in greenhouse gas emissions.

Decarbonising and Energy Security

As well as reducing our energy use through behaviour change and technology, there are opportunities to reduce the carbon-intensity of our energy supply. Such benefits can be gained by increasing the provision of renewable energy generation and also by localising power generation and using the waste heat in district heating schemes. Being less dependent on foreign imports of oil, gas and coal gives us more economic security, as well as reducing our carbon footprint and access to cost effective energy.

Threats

In Reading we can expect more high intensity rainfall events, which could lead to flooding. Heat waves will also become more common and these can have a severe impact on health and transport. In 2003 the number of deaths of the over 75-age group in UK increased by 30% during the two week heat wave. We can also expect an increase in currently uncommon diseases normally associated with warmer countries than the UK.

By adapting our infrastructure and our services we will reduce the financial and health impacts of the inevitable effects of climate change.

Opportunities

Although the climate change challenge includes threats to people, landscape and the economy, there are also opportunities open to Reading by leading in the challenges that lie ahead nationally and globally. New markets are forming and products and services which assist in reducing our carbon emissions, our energy dependence and our overall ecological footprint, have never been more marketable. By making Reading's communities, businesses and public services more resilient to the likely impacts of climate change we are also developing the skills of the future.

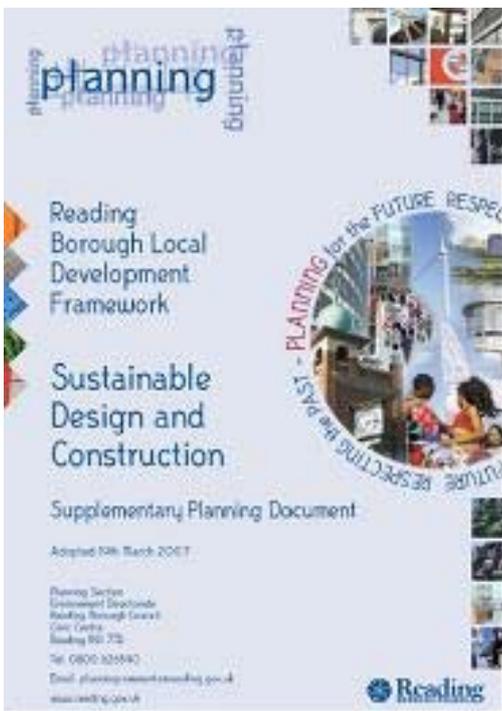
The responsibility to reduce the footprint of the borough, represents the greatest challenge and will include a complete shift in the way that energy and services are provided.



Image of a 'Number 17' bus, one of the Ethanol buses introduced in Reading in 2008

Policy

Reading Borough Council has a number of policies which support work on both adapting to climate change and working to reduce our emissions.



- In January 2008 the council agreed a target of Reading Borough Council being Zero Carbon by 2050.
- Our Air Quality Action Plan is due to be agreed by council in 2009.
- The Local Transport Plan includes measures for reducing traffic in Reading, improving facilities for cycling and also public transport.
- A Supplementary Planning Document on Sustainable Construction and Design was introduced in 2007 and includes measures to improve energy use of all new buildings beyond the national standard.

Climate Change at Reading Borough Council

As a council, employees and the services they deliver will also be vulnerable to climate change just as other residents and businesses in Reading will be.

In 2006/7 we calculated the previous years' carbon footprint from Reading Borough Council's estate including schools and Reading Buses. The council emits 30,470 tonnes CO₂ per annum (Carbon Strategy and Reduction Plan 2007).

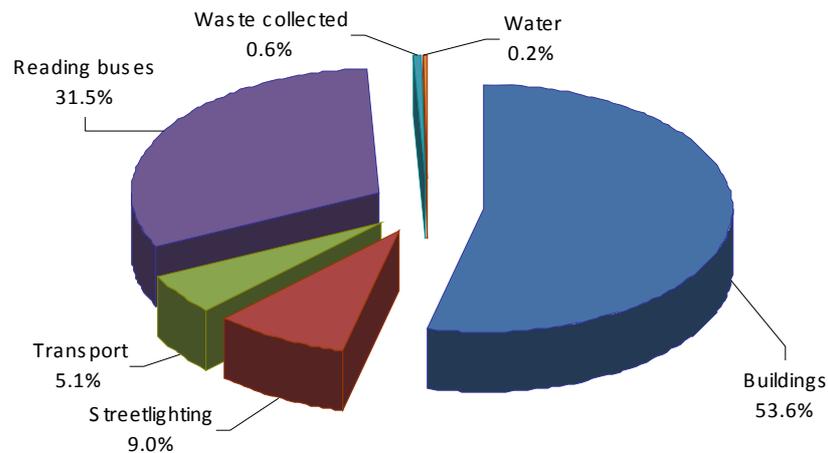


Figure 4: Chart to show Reading Borough Council's carbon footprint from 2005/6 operations (baseline year), including the emissions from schools and Reading Buses.

Pathway to Zero Carbon for the Council

The council plans to reduce its own estate's carbon footprint by 50% by 2020 and then to be carbon neutral by 2050.

Reducing the Local Authority 's Carbon Emissions to zero and doing so early on will make a bold leading statement.

We will do this by following the approach set out by the LGiU in their 'Down to Zero, CO₂', as illustrated in Figure 5 below.

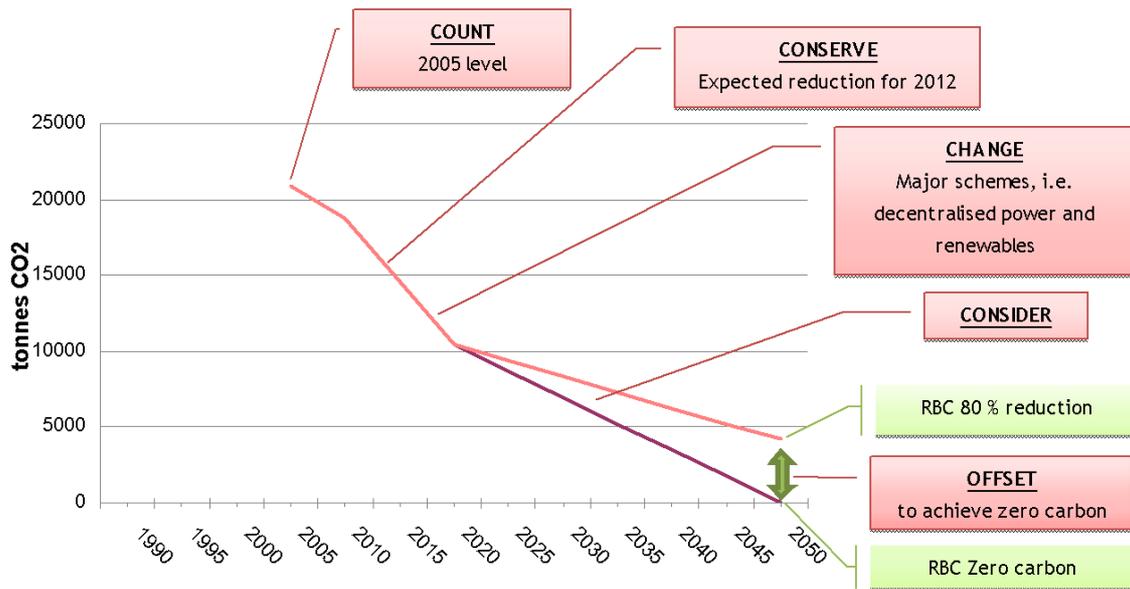


Figure 5: Graph to illustrate Reading Borough Council's route to zero carbon, based on the Local Government Information Unit's (LGiU) 'Down to Zero CO₂'.

What Have we Already Done?

The council achieved a 5% reduction in council CO₂ emissions in 2007/8. We have surveyed all of our larger buildings to check their energy ratings and commissioned additional building and fleet surveys to give us information about where to prioritise investment. We now have a dedicated rolling investment programme for energy reduction within Reading Borough Council buildings.

Insulation for the whole borough

Following on from our successful insulation programme with British Gas, the council is now working with the Energy Saving Partnership on the 'Heatseekers' project.

Heatseekers employs special vans which will provide thermal images of every house in Reading.



Image from ESP heatseekers



Image from Marks group

The results from these imaging surveys will indicate houses with poor insulation which will be offered free or subsidised insulation. The scheme was started in October 2008 and it is estimated will install energy saving insulation in over 5000 homes over 3 years.

Planning

Reading is one of the UK's leaders in implementation of planning policy with a requirement for developers to go beyond the national guidance for energy efficiency and renewable energy provision (see Reading Borough Local Development Framework, Sustainable Design and Construction, Supplementary Planning Document, 2007).

Community Engagement

The council has used a number of community events including our annual celebration for World Environment Day and our annual In Town without My Car day to raise awareness of climate change and encourage sustainable behaviour.

The council launched a Green Team for staff in November 2008 to help encourage better environmental engagement across the authority.

Flooding

A new flood action plan has been drawn up (2008) to respond to possible future flooding events which may be exacerbated by climate change.

Reading as a Diamond for Growth - Ecological Footprint

Nine 'Diamonds for Growth' have been identified in the Southeast. Reading is one of these. The diamond includes the Greater Reading area, incorporating parts of the other adjoining local Authorities.

The ecological footprint work associated with the diamonds will provide a valuable additional platform to help Reading better understand and address the particular challenges associated with the urban area of growth.

Urban centres such as Reading draw in resources. Construction and use of materials within a 'Growth diamond', bring with them a substantial additional environmental impact. The individuals and businesses have global impacts, not just local ones.

'Diamonds' will be leaders in innovation, delivering solutions which address the specific problems in urban areas and connecting these to skills and innovation programmes to reduce their ecological footprints.

A project focussed approach

In drawing up this strategy it was intended that a detailed, quantifiable pathway would be established to take the council and the borough through to 2012 and to plan for reductions to 2020.

This period of increased action also represents the vital planning phase for the medium term. Many of the larger-scale projects will be planned for over the life of this strategy.

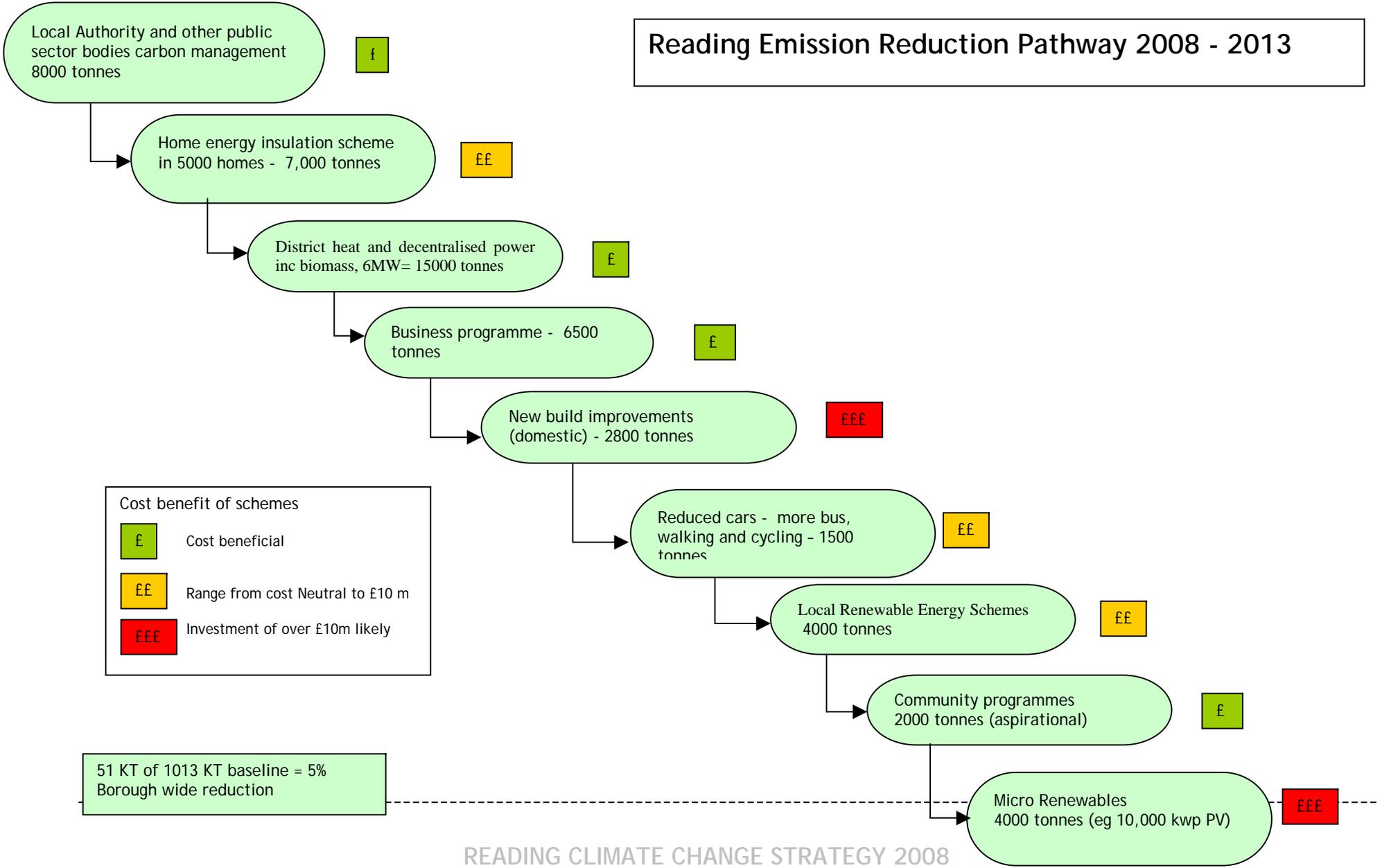
Beyond 2020, the strategic vision will inevitably be redefined by the innovation that will take place over the next decade.

Figure 6 illustrates a number of key projects alongside their estimated carbon reductions. When looking at these ambitious projects it becomes clear that the challenges which lie ahead are significant but by starting now we can begin to make a real difference within a relatively short timeframe.

The proposed reductions in CO₂ emissions for the period 2008-2012 are illustrated in Figure 6.

The diagram demonstrates that the local savings which can be achieved in this way are somewhere in the order of 5-6% of the existing baseline. Whilst these figures do not take growth into account, they also do not take account of reductions achieved through national policy and behaviour change. Between 2005 and 2006 the emissions from the Borough were shown by Defra to have reduced by 1% despite a period of vigorous growth in Reading. Behaviour change and national measures will give rise to further reductions which will form a vital part in the Borough's reductions as a whole.

Reading Emission Reduction Pathway 2008 - 2013



READING CLIMATE CHANGE STRATEGY 2008

Development of the Strategy and Action Plan

As well as detailed research and work with councillors, council officers and partners, this Strategy and Action Plan has been informed by wider consultation. A summary of this consultation is presented in Appendix 1

The remainder of this document is divided into six themed sections covering discrete but linked areas of activity. The action plan is divided into these same six themes.

Under each of these themes a number of actions is identified, both for the council to put its own house in order and on how the council's work impacts on the wider community.

The Climate Change Strategy and Action Plan brings together a number of actions from across the full range of council services, that are either currently being delivered, are planned to be delivered or have been identified as being important to a local response to climate change.

Themes of the strategy and action plan

1. Energy and Water Use
2. Access, Transport and Mobility
3. Built and Natural Environments
4. Buying Goods and Services
5. Waste Minimization and Management
6. Communication, Education and Partnership

These six themes cover areas where the council can have direct influence and demonstrate leadership, as well as actions that the council can take to put its own house in order, and other actions where it has a key influence on the local environment, for example through planning and waste management. Many actions will support progress against more than one theme, but there are a handful of actions (highlighted in the action plan) that are listed under two themes where their joint impact is significant.

The purpose of this action plan is to identify key actions that will impact on reducing our contribution to climate change, and on being prepared for the likely consequences of climate change. The action plan refers to specific actions and action defined in other strategies. A good example of this is the Local Development Framework, where the Core Strategy and supporting documents contain considerably more information regarding the policies for sustainable development that takes account of climate change issues.

Energy and Water Use

The principal source of climate changing emissions is energy use from the burning of fossil fuels. In 2006, 85% of Reading's greenhouse gas emissions was associated with the use of energy in homes and businesses with 52% of these emissions coming from business.



Decentralised power CHP plant - supplied by Utilicom

Water use is also considered under this theme, as the use of water has an indirect energy use linked to extraction, treatment, supply and sewerage. Water is also an important natural resource that good environmental practice uses efficiently and with care. Reading, and the South East as a whole, has a large population for the available water resource, so water efficiency is a key issue, especially if climate change impacts on the frequency and severity of droughts.



Thames Water anaerobic digestors Reading

Energy and water use are key areas where the council needs to demonstrate leadership in managing its own impacts, and improving energy and water efficiency will result in reduced costs.

Alongside energy efficiency in existing and new buildings, there is a need to develop lower carbon decentralized energy, from renewable sources and other technologies such as District Combined Heat and Power. Not only is this a far more carbon efficient way of generating energy close to the user, it also helps provide a degree of energy security, and will reduce costs per unit of energy used as well.

We will therefore promote borough-wide energy efficiency and low carbon energy generation, and set a good example through leadership in this regard.

Access, Transport and Mobility

The 12% of Reading's carbon footprint attributed to transport - around 1 tonne per person - is well below the South East regional average. Although this is to be expected for an urban area it is notable that this figure also compares very favourably with other *urban* areas in the region reflecting the positive impact of sustainable transport measures already taken in the Borough.

The Local Transport Plan (2006-2011) sets out the council's vision to ensure transport in Reading Borough is easy, safe, comfortable and sustainable. This means providing a reliable, convenient and safe public transport system and ensuring priority access to the centre of Reading for cyclists and pedestrians.

Addressing congestion, we will strive to further reduce transport related emissions, recognising the benefits for the global and local environment by both reducing CO₂ and other emissions that contribute to global warming and improving local air quality. There are very closely interlinked causal factors for climate change and poor local air quality relating to transport. An Air Quality Strategy & Action Plan is being developed simultaneously to this strategy and action plan, and both will seek to be complementary in their approach, adopting solutions that are mutually beneficial, reducing adverse impacts on local air quality and climate change.

The hotter drier summers we need to prepare for as a result of climate change will also intensify air quality issues as O₃ and NO_x react to strong sunlight and are not dispersed in still, warm weather.

Disruption to travel has already been experienced, with road surfaces damaged and railway lines prone to buckling in the heat as well as localised flooding causing road and rail closures.

The risk to key infrastructure points needs to be assessed and contingency plans revised. In much the same way as gritting of highways takes place in icy conditions, mechanisms need to be developed to cope with extreme and prolonged heat, and to ensure we are prepared for increased flood risk.

Built and Natural Environments

Due to the energy use associated with buildings, the quality of the built environment is of crucial importance in reducing our contribution to climate change through reducing the amount of energy we use. The resilience of buildings to climate change, in terms of being able to cope with hotter summers and wetter winters, is also important. The natural environment plays a key role in making our urban spaces liveable. Heat island effect, and tree planting can help mitigate the emissions that impact on both climate change and air quality.

The Core Strategy of Reading Borough Council's Local Development Framework, adopted in January 2008, includes a number of policies designed to provide a planning framework for implementing the Strategy for Sustainable Growth. It includes policies seeking ambitious targets for sustainable construction and design, and a new framework for achieving high quality design in new developments.

Buying Goods and Services

The products which we buy have embodied energy and environmental impact. Many of these products also use energy in their lifetime. The contribution to greenhouse gas emissions of purchasing is therefore very significant. Reading Borough Council spends approximately £85 million on buying goods and services each year. Sustainable procurement applies selection criteria, which influences the purchasing process. In this way it is possible to influence the manufacture and design of products and to reduce the ecological footprint of the organisation and other organisations in the supply chain. By joining forces with other organisations in applying these criteria, new innovative low carbon designs will emerge as the markets are driven towards low carbon products.

Local Authorities procure services from stationery to major infrastructure projects such as the building schools for the future programme. Transport and energy procurement decisions are also key, in terms of carbon footprint.

The council has a current commitment to meet the flexible sustainable procurement framework level 2. This means that policies, procedures and training will meet a certain level prescribed in the framework. This strategy includes the council moving to level 3 of this framework.

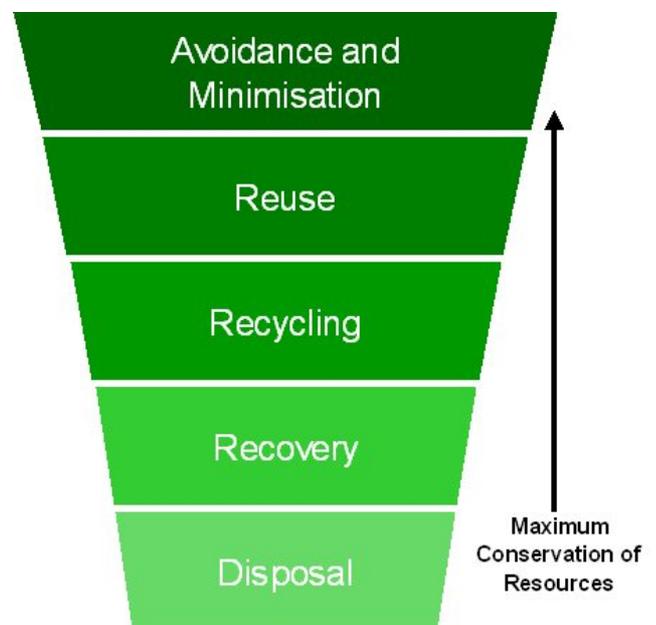
The council will also need to work with other councils and businesses to maximise its purchasing power, and to use this to advance the low carbon economy.

Waste Minimisation and Management

As already discussed the carbon footprint of consumable products is critical when looking at the council's overall impact on Climate change.

When assessing the lifecycle of products, consideration needs to be made of the impact of the waste generated. Energy to process materials reusing and reconditioning products can alleviate the need to manufacture a replacement product. By recycling, raw materials and carbon used in the manufacture can be used again to generate new products and reduce their impact. This lifecycle analysis is critical in considering the whole impact of the council's activities on climate change.

Waste that cannot be recycled or reused can be utilised to produce gas electricity and heat.



Waste that cannot be used in the processes described above may have to be put into landfill. Where it is buried and oxygen is not available methane is produced. Methane is 21 times as damaging as a greenhouse gas than carbon dioxide. Some of this methane can be captured and combusted to produce carbon dioxide and energy but this is not as efficient as harnessing the energy directly from waste.

Anaerobic digesters can be used to generate gas from waste and is already used in the waste water treatment.

Reading is part of re3 - a partnership of three authorities (Bracknell Forest, Wokingham and Reading) working with the Waste Recycling Group (WRG). This partnership will work to reduce the amount of rubbish we send to landfill and to recover value from what we throw away. We will also build on a history of paper and card re-use and recycling in the council's operations by developing a more comprehensive recycling and waste awareness programme in the workplace.

Communication and Education

A key finding from the recent climate change and air quality consultation was that people felt unaware of what the council was doing. We want to help to provide information and awareness to enable people to make the right choices. More than this though we want to engage and develop meaningful partnerships with communities and businesses and enable local people to become part of shaping the Reading of the future.

Building on the work that is already happening such as events, media coverage and supporting local initiatives, the council is developing a communication plan, which will provide accessible and practical information, help build networks and community groups and develop more direct ways that help people make changes to their lifestyles. Changing behaviour can take time but will be crucial to successfully reducing Reading's carbon footprint.

It is clear that whilst the council should - and will - demonstrate leadership, and do what it can directly to help people reduce emissions and prepare for climate change, it cannot meet the climate challenge on its own.

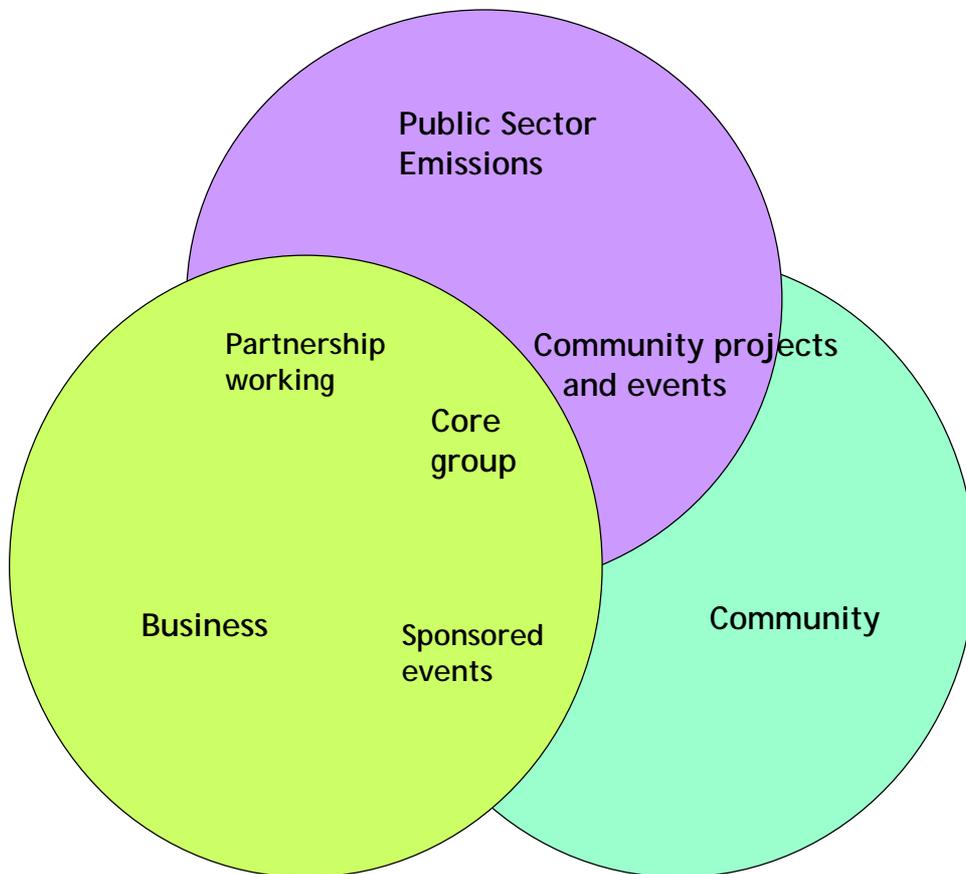
Working closely with schools the council will aim to connect projects on school estates to curriculum activities for the children building on the sustainable schools and Eco-schools initiatives by providing practical involvement in the technologies of the future.

Partnership Working

Reflecting the cross-boundary impacts and opportunities which climate change brings, the Local Authorities across Berkshire are joining forces to develop a new partnership. Led by Reading, this partnership will sit under the Berkshire Economic Strategy Board and will offer a centre of expertise for tackling climate change and moving to a low carbon economy.

A new local partnership consisting of a range of key local stakeholders will be connected to the Local Strategic Partnership.

Businesses and community networks will feed in to the above partnerships offering opportunities for all those who wish to be involved.



References

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IPPC Report 2007 Intergovernmental Panel on Climate Change
Stern Review Nicholas Stern October 2007
Nottingham Declaration on Climate Change October 2000
United Kingdom Climate Impacts Programme: UKCIP Climate of the UK and recent Trends 2008
UN Framework Convention on Climate Change 1992
The Kyoto Protocol 1997
Copenhagen Climate Change Council 2009
ECCP European Climate Change Programme launched 2005
EU ETS European Union Emission Trading Scheme
UK Climate Change Bill to receive Royal Assent Autumn 2008

Local

Diamonds for Growth <http://www.southeastdiamonds.org.uk/>
LGiU Local Government Information Unit; Down to zero 2008
National Indicators for Local Authorities and Local Authority Partnerships: NI 185: CO₂ reduction from local authority operations; NI 186: Per capita reduction in CO₂ emissions in the LA area (DEFRA, 2007)

Reading Borough Council, Corporate Plan 2008/2009 (RBC, March 2008)
Reading Borough Council, Local Transport Plan 2006-2011 (RBC, 2006)
Reading Borough Council's Air Quality Action Plan (draft) (final publication early 2009)
Reading Borough Council's Carbon Strategy and Reduction Plan 2007-2012 (RBC, 2006)
Reading Borough Council's Flood Plan, Fluvial/Rivers & Pluvial/Drains, Version 4.2 (RBC, October 2008)
Reading Borough Local Development Framework, Sustainable Design and Construction, Supplementary Planning Document (RBC, March 2007)
Reading Council's Zero Carbon Motion (RBC, January 2008)
Reading's Local Area Agreement 2008/11 (RBC 2008)
Reading's Sustainable Community Strategy 2008-2011 (RBC, 2008)

Appendix 1

CONSULTATION

This section summarises the outcomes of the consultation activities undertaken by the Air Quality Management Resource Centre at the University of the West of England (UWE) on behalf of Reading Borough Council in support of the development of both the Air Quality Action Plan and Climate Change Strategy and Action Plan.

Consultation responses suggested a range of views regarding the perception of important environmental issues, and this overview cannot reflect the variety and depth of comment. However, it has been possible to draw out eight key points from the process. People involved in the consultation indicated that they wanted to see:

- better information on the causes and effects of climate change and air quality, on what individuals can do, and what the council and others are doing.
- the council taking a lead both in terms of managing their own estate and in encouraging, supporting and enforcing better practice.
- the council trying to resolve the traffic issue mainly through demand management.
- non-car transport given a higher (perceived) priority so that people don't feel that these modes are more dangerous, more expensive or less convenient than car use.
- businesses brought in line and taking action to improve their own energy efficiency, and also to help individuals perform better by, for example, reducing packaging.
- more attention to green spaces to provide pleasant transport corridors for walking and cycling, to help increase fitness and well-being and to help mitigation and adaptation.
- better housing development that ensures high quality low carbon properties at affordable prices and uses appropriate brownfield land.
- regulation and enforcement to ensure that individual actions are on a level playing field and so environmental protection is seen as necessary rather than optional.