

Gloucester City Council

**Gloucester City**  
**Climate Change Strategy**  
**2010**



**GLOUCESTER**  
**CITY COUNCIL**

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## **FOREWORD**

**By Leader of the Council - Councillor Paul James and Cabinet Member for Environment - Councillor Steve Morgan**

Climate Change is a global problem, tackling it however begins closer to home. We all have a responsibility to do this whether it be switching off appliances, thinking about our purchasing choices or recycling our waste material. This document sets out how Gloucester City Council intends to act so we impact upon the climate less and start to adapt to a climate-changed world.

Aware that strategies are all too often a collection of words that gather dust, this strategy has a series of actions and detailed projects at its core. It also sets up processes and procedures that will make these happen.

I believe most of us are humbled by the challenge of climate change, however, that should not put us off action, as only by action at every level at home, at school, at work, at local, national and international level can we prevent the worst effects of Climate Change. We all have a duty to act and I hope this strategy shows how we intend to play our part and hopefully inspire others to play theirs.

This is the third iteration of the strategy. A lot has happened over the past 2 years, not least the weather events of 2007. This updated strategy will ensure we are equipped to adapt to a climate-changed world and do our utmost to reduce climate-damaging emissions

## INTRODUCTION

Gloucester City's Climate Change Strategy will raise awareness of the causes and effects of climate change. It will also set out to explain how climate change will affect Gloucester City and identify a number of actions that can be taken to reduce the impacts of these changes that will occur over the coming years. There will be three main areas for action within the Strategy, these are how we 1) Manage our Own Estate, 2) how we act as a Service Provider and 3) how we act as a Community Leader. The strategy's action plan will address how Gloucester City Council can act in each of these different roles in addressing climate change. There are two main types of action within the Strategy: Mitigation Actions that reduce the emissions that cause climate change and Adaptation Actions that are changes that will be needed to respond to the effects of climate change. Given the events of summer 2007 and the realisation that the effects of climate change are impacting upon us now more emphasis has been placed on adaptation in the current iteration of the strategy Funding has been identified and more will be sought to develop a number of high profile projects to address both of these areas.

The original strategy was adopted by the City Council's Cabinet in July 2007, and will be reviewed annually so please send any comments and suggestions you may have to Policy Design and Conservation. Herbert Warehouse, The Docks, Gloucester. GL1 2EQ. Email [cdc@gloucester.gov.uk](mailto:cdc@gloucester.gov.uk) If you want an informal chat then speak to Meyrick Brentnall on 01452 396829 or Stephen McDonnell on 01452 396209. .

# Section 1

## 1.0 What is Climate Change?

Climate Change as addressed in this strategy is defined as the gradual increase in the world's temperature that is caused by human activity. This warming of the planet is caused by the increase in the concentration of greenhouse gases. These gases when in the atmosphere let through visible light from the sun but trap outward radiating infrared, this results in temperature increase similar to the effects within a greenhouse. The main non-natural source of these gases is in combustion processes using fossil fuels such as coal, oil and gas.

Carbon dioxide is the predominant greenhouse gas others include:-

- Methane
- Nitrous oxide
- Hydrofluorocarbons
- Perfluorocarbons
- Sulphur hexafluoride

The international scientific establishment now accepts that the process of Climate Change is underway as global temperature graphs have been able to show a steady increase in the world's temperature, since the 1920's when measurements began.

Some Carbon dioxide emissions also occur naturally from respiration in animals and other natural processes, however, 95% of the world's Carbon dioxide emissions arise from the consumption of energy through the burning of fossil fuels.

The United Kingdom Impact Projection 09 has now reported (UKCP09) with an updated suite of projections for the climate over the next 70 years. While the projections are broadly in line with previous predictions the detail and clarity is much greater. Scenarios are separated into low medium and high emissions and for 3 timescales (2020, 2050 and 2080). The projections are based on probability. They are presented on a regional basis so for Gloucester the following can be expected for a medium emissions scenario by 2050

Winter mean temperature of increase of 2.1 degrees C. very (unlikely to be less than 1.1 degrees very unlikely to be more than 3.2 degrees)

Summer mean temperature increase of 2.7 (very unlikely to be less than 1.3 degrees and very unlikely to be more than 4.6 degrees)

Summer maximum temperature increase of 3.8 degrees (very unlikely to be less than 1.4 degrees very unlikely to be more than 6.8 degrees)

Annual mean change in precipitation to be 0% (very unlikely to be less than 5% and very unlikely to be more than 6%)

Winter mean change in precipitation is plus 17% (very unlikely to be less than 4% and very unlikely to be more than 30%)

Summer mean precipitation of minus 20% (very unlikely to be less than minus 42% and very unlikely to be plus 7%).

The high emission scenario (essentially business as usual) are even more stark for example by 2080 a maximum increase of 6.9 degrees C is predicted. If this happens we will have a summer temperatures currently experienced in the Middle East. While much of North Africa and southern Europe will be uninhabitable.

Even the lower emission scenarios will result in the following

- Winters up to 42% wetter
- More frequent flooding
- More frequent droughts
- Worsening summer air pollution.
- More storms and gales and the resulting damage to property.
- Loss of wildlife habitats and species.
- Social unrest through increased migration.
- Higher average temperatures will create a greater need for cooling in offices and homes along with a higher probability of extreme temperatures that could threaten the health of many people.
- Drier summers, that will put a greater strain on water resources and wildlife and put pressure on farmers to diversify crops.
- Rising sea levels that will lead to more coastal erosion and a greater risk of flooding.
- Increased heat stress to the elderly and infirm (the 2003 heat wave in France killed 14500 people). The weather conditions causing such events will become very frequent.

Flash floods and increased storm water surges on the River Severn could make the rare flood events such as those experienced in 1947 2000 and 2007 more frequent. Strong winds and flash floods due to heavy downpours will lead to an increasing risk of damage. Long periods of drought can cause subsidence, damaging property for homeowners and other organisations. Loss of wild life habitats will occur and some species may not survive in the changing climate. There will also be effects on human health with higher summer temperatures.

## **1.1 How does Gloucester Contribute to climate change?**

Most human activity involves the use of energy either directly in the form of vehicle fuel for travel, or indirectly in the consumption of goods, food and enjoying leisure pursuits. The combustion of energy to do all these activities produces the gases that are contributing to Climate Change. Carbon dioxide locked up in fossil fuels is released during the combustion process creating the increase in carbon dioxide in the atmosphere. This equates to 2.5 tonnes of Carbon dioxide per resident per year in Gloucester (Source defra 2006) If industrial and road transport emissions are included this figure rises to 5.9 tonnes per resident or a massive 653,000 tonnes per year for the city as a whole. This carbon dioxide adds to the greenhouse effect within the earth's atmosphere that is the main cause of climate change. (This calculation does not include emissions from international air travel).

## **1.2 Why have a Strategy?**

All main political parties are now in agreement that Climate Change is a serious problem that needs to be addressed. If action is not taken now future generations will experience severe consequences such as rising sea levels and extreme weather conditions. In 1997 the Government signed The Kyoto Protocol (and the subsequent Bali roadmap), which acknowledged the problem of Climate Change and committed the United Kingdom to reducing its carbon dioxide emissions by 12.5% by 2012. More recently the 2006 Stern Report gives added impetus to the issue, as did the weather events of 2007. This economic assessment of climate change describes it as the greatest and widest ranging market failure ever seen and unequivocally makes a financial argument for action. The Climate Change Bill passed into law last year. This has committed the UK to an 80% reduction in CO2 emissions by 2050 At a regional level the South West Regional Planning Guidance commits local authorities, energy suppliers and other agencies to a 20% reduction of Carbon dioxide emissions by 2010 and production of at least 11% of electricity from renewable energy sources by 2010. A sub regional target has also been set to generate between 40-50MegaWatts of electricity from renewable resources compared with the current 9MegaWatts being generated.

In June 2001 Gloucester City Council signed the Nottingham declaration, this gives a commitment to address Climate Change at a local level. To achieve these ambitious targets we need a local Strategy to co-ordinate and promote activity within the Council and across the City as a whole.

## **1.3 Gloucester City Council's Commitment**

### **Climate Change Policy Statement**

Gloucester City Council will work in managing its estate, as a service provider and in a community leadership role to manage the activities within the city that contribute towards climate change. It will also prepare and put in place measures to reduce the harmful effects of climate change to enable a process of adaptation to occur over time.

## **1.4 Objectives**

- To increase public awareness of Climate Change, and of what people and the organisations they represent can do to lessen their impacts upon the climate and how they can adapt to a changed climate.
- To maximize the reduction in greenhouse gas emissions over the strategy period and where possible exceed government and regional targets.
- To increase the amount of electricity that is generated in Gloucester from low carbon or renewable sources to a minimum of 11% by 2010 in line with Regional Planning Guidance for the South West.
- To enable Gloucester, its citizens and biodiversity to adapt to the changes brought about by climate change to ensure the maintenance of a high quality of life.
- To reduce emissions from the City Council estate by 10% in the year 2010 and as such sign up to the 2010 campaign.

## Section 2

### 2.0 What are we already doing and what are we going to do?

This part of the strategy details what activities the City Council is already doing to address climate change and what it intends to do in the future. It also gives an indication as to what the general public can do to reduce their carbon footprint and adapt to a climate changed world. As well as policy changes it sets out specific projects that will either reduce emissions or help us adapt to a warmer world. It is recognized that these projects alone will not significantly change matters, however, we are hopeful they will provide inspiration and guidance for others to follow. In setting out this section we have categorised main areas of work under the following headings; **Buildings, Transport, Waste, Water Resources, Renewable Energy, Biodiversity and Adaptation**. Many of these issues are of course inter-related.

### 2.1 Buildings

#### 2.1.1 Issues

The energy we use in our buildings accounts for almost half of all man made carbon dioxide emissions. A quarter of our emissions come from our homes, the rest are down to offices and factories. There are a number of policies and procedures in place at a national level that try to tackle this issue including Building Regulations, The Home Energy Conservation Act and planning policy. Although Carbon Dioxide emissions from homes, offices and factories are generally stable, or even falling due in part to the above policies, electricity consumption in UK homes has increased by 25% over the period from 1990-2005. So even though appliances are as a rule more energy efficient we are using more gadgets for longer and for activities like home computing that were very unusual five or ten years ago.

#### 2.1.2 What are we already doing?

- We support a number of initiatives at the local level including the Gloucestershire Energy Efficiency Advice Centre, the Affordable Warmth Strategy for the County, the Warm and Well Scheme, Warm Front as well as other utility funded schemes.
- We work with Gloucester City Homes and other social housing providers to ensure that high standards of energy efficiency are included in repair refurbishment and the development of new homes.
- We have adopted an Energy Management Strategy that has set ambitious targets to reduce CO<sub>2</sub> emissions in Council buildings. To date this has achieved 6% reduction in CO<sub>2</sub> emissions with a 4.5% reduction in since this strategy was last updated
- We currently buy all our electricity from a provider who uses a combined heat and power that is considered environmentally friendly as it has CO<sub>2</sub> emissions 30% lower than the national average and is climate change levy exempt.

- We use the Local Plan and Local Development Framework (LDF) to ensure that new developments are built to high standards of energy efficiency and where appropriate utilise renewable energy.

- Building Control Officers actively encourage builders to exceed minimum standards and frequently achieve significant improvements especially where long term financial savings can be shown.

### **2.1.3 What are we going to do?**

We will use our role as housing authority to ensure Social housing providers minimise emissions in their developments through natural solar gain and heat storage techniques.

We will also encourage more new build homes in Gloucester to be built to the Government's code for Sustainable Homes standard (this requires developers to build to a higher standard than minimum legal requirement). Similarly we will encourage more commercial developments to conform to the BREEAM standard (Building Research Establishment Environmental Assessment Method). One of the main barriers to implementing The Code for Sustainable Homes and BREEAM is the lack of qualified assessors. We will therefore train our building control staff to become accredited assessors so they can advise developers and our development control staff.

We will ensure that LDF policies encourage the implementation of CHP and other low carbon generation technologies in new development

A significant amount of energy is wasted lighting commercial premises. Although we have no formal control over this issue, through the Lighting Strategy we will endeavour to work with building owners and tenants to reduce their night time energy needs

With regard to our own stock we will ensure that they are as efficient as practicably possible, and managed in a manner that reduces Carbon dioxide emissions.

Gloucester Crematorium is a particularly energy hungry facility. We have been encouraging more carbon friendly burials such as woodland burials, however, cremation will for the foreseeable future be the preferred choice for many. We will work therefore, to make this process as low carbon as possible. Indeed as part of the required mercury abatement re-fit, we hope to fit new more efficient cremators that could save a significant amount of CO<sub>2</sub>.

We will also ensure that the energy usage of each building is publicised in a prominent place so the public can hold us to account.

### **2.1.4 Projects**

#### **2.1.4(i) Solar Hot Water for Social Housing**

We will continue to work with social housing providers principally Gloucester City Homes, to install Solar Hot water systems on their housing stock. We will grant aid the installation of this technology and monitor the results. For large families especially, this can provide significant financial savings and reduce CO<sub>2</sub> emissions.

#### **2.1.4(ii) Solar Hot water for all**

The Governments grant scheme for solar hot water is the Low Carbon building Programme. In partnership with the County Council and the Severn and Wye Energy Agency we will further fund this scheme to make it more accessible to the general public. When the LCBP ends in April 2010 we will look to secure funding to continue the project.

#### **2.1.4(iii) Energy Champions**

Energy Champions are employees who take responsibility for the energy used within a defined area of workspace. We have already piloted energy champions within the City Council. We intend to build on this work and extend the support given to the champions. We will also look to roll out the project to other large organizations in the City in partnership with the Severn Wye Energy Agency.

#### **2.1.4(iv) Heat Candid Camera**

Our Building Control Service has access to a thermal imaging camera. This shows graphically the energy performance of buildings, and an exercise was carried out to monitor non-compliance of new housing stock over the winter. Although only a handful of substandard properties were found, it proved very useful and we will use the camera to do more work this coming winter. We have also commissioned a heat map of the whole City. This will identify poorly performing buildings and will allow targeting of public resources to achieve best-cost benefit. It will also allow individual building owners the opportunity to see how their building performs and to act accordingly. The information will be publicly available towards the end of 2009.

#### **2.1.4(v) Low Carbon Council Buildings**

GL1 although now heated by a combined heat and power plant it is still a very energy hungry building. We have applied for a grant to allow pool covers to be fitted and for more energy efficient lighting to be installed. If successful this will achieve significant carbon savings.

#### **2.1.4 (vi) Low Carbon Housing**

By 2016 all new dwellings should be carbon free. However there are many barriers to achieving this and more exemplar projects are needed to drive the market. To help this happen locally we propose that if City Council owned land becomes available for housing we will seek to ensure that it is a requirement of any land sale that any new housing will fulfil level 6 of the Code for Sustainable Homes. As the vast majority of homes in the City are older often hard to heat properties, where we do re-furbish existing dwellings (for example the recently compulsory purchased house in Bristol Road) we will ensure that they are local exemplars. We were also successful in gaining Government funding to retrofit 5 private sector houses in the city to act as local exemplars.

## **2.14 (vii) National Indicator 186**

This concerns per capita reduction in CO2 emissions in the LA area. As majority of the tools to achieve this concern domestic dwellings it has been included in this section. A county group has been set up to co-ordinate this project. The action plan focuses around existing schemes such as Warm and Well other grants so is in part covered by other projects in this strategy. The targets set are ambitious at 437 kilo-tonnes of carbon dioxide between 2006 and 2010.

### **2.1.5 Targets**

Be responsible for at least 20 new solar thermal collectors in the City by 2010

Through the planning system ensure that all large sites are built to the Code for Sustainable Homes level 3 or better.

Through the planning system be responsible for at least 1 commercial building a year being built to BREEAM standard of 'Very Good' or better.

Reduce the CO2 emissions from council buildings by 10% in the year 2010 and therefore sign up to the 10:10 campaign. This can be achieved if a number of large scale projects are completed namely Alney Turbine the improvements to GL1 and Oxstalls and the cremator upgrade.

To increase the number of homes with improvements made to heating systems and improved thermal comfort. To increase measures installed through Gloucestershire warm and well scheme by 500 per year for next 3 years in line with Local Area Agreement Targets.

### **2.1.6 What you can do**

For home owners the advice is insulate, insulate, insulate! It will save you money and reduce CO2 (you may be eligible for a grant see Gloucestershire Energy Efficiency Advice Centre). Similarly, buying energy efficient light bulbs will save you money over the lifetime of the appliance and reduce CO2. Switch off all appliances when not in use and always buy 'A' rated goods such as fridges and washing machines. They may cost more but they will pay you back in the long run. Choose your electricity generator/supplier carefully and ask if their green tariff supports new low carbon installations.. For more information on all of the above speak to Gloucestershire Energy Advice Centre on 0800 512012 – its free.

For business similar advice applies. For large organisations set up an energy champions network (Severn Wye Energy Agency 01594 545360) can provide advice) you may be able to save significant energy and money on any industrial processes you are involved with. See Severn Wye Energy Advice Agency for information or contact us here at the City Council.

## 2.2 Transport

### 2.2.1 Issues

Transport accounts for almost a third of the total United Kingdom CO2 emissions. 93% of these are as a result of road transport. The simplest way of reducing the level of transport related emissions is by travelling less. If we need to travel then we should try and walk, cycle or use public transport. Other ideas such as car share and car clubs can also help to reduce car use.

Most journeys are actually quite short, indeed the Quedgeley Travel Smart Project 2001/02 found that 28% of all car trips were less than 3km in length and 7% were shorter than 1km. The most recent Travel Smart programme in Barton and Tredworth 2006 saw a reduction in car use of 13%. There is great potential therefore for changing a large number of shorter car journeys to walking, cycling or public transport. Gloucester City Council, colleges, schools, companies and other organisations can all help make this happen. The use of travel plans within organisations to encourage travel by walking, cycle and public transport has been shown to make a real difference.

As an organisation we need to show a lead on this issue and work harder with staff to tackle the problem of single car occupancy travel to work.

A third of all transport related greenhouse gas emissions are due to freight. As the real costs of transporting goods around the world has dropped we have been able to source even perishable goods from far-flung places of the globe. Farmers markets and local purchasing polices can cut this, and provide local economic benefits as well.

Air transport is one of the most rapidly expanding sources of greenhouse gases. Although this is something we generally have little control over as joint owners of Gloucestershire Airport with Cheltenham Borough we have a responsibility therefore to understand better the Carbon Dioxide emissions associated with its use.

In partnership with the County Council a number of transport projects are being developed that should assist in reducing transport borne emissions, for example, improving the reliability and quality of bus services and improving the interchanges such as Gloucester Bus station. At an international level the European Union and the United Kingdom government have requested that car manufacturers reduce Carbon dioxide emissions from new vehicles by 25% from 1995 levels by 2008. It also appears that tough mandatory targets will be set shortly. Other measures such as changes to car tax bands and changes to taxation of company cars are all aimed at encouraging cleaner vehicles.

In Gloucester car ownership is slightly less than the South West as a whole with 24% of Households having no vehicle at all.

### **2.2.2 What are we doing?**

- We are working with Gloucestershire Highways in order to create better cycle paths and reducing traffic speeds in the urban area with homes zones and other measures such as Safer City-
- We promote the adoption of travel plans by schools, businesses and other organisations both as a voluntary measure and as a planning condition on new developments to encourage modal shift. We are also implementing our own travel plan.
- Gloucester City Council adopted a Green Travel Plan in 2001 and has encouraged staff and the public to access all its sites by more sustainable modes of transport. This will shortly be updated.
- We helped set up and continue to support the Farmers' Market in Gloucester.

### **2.2.3 What are we going to do?**

We will continue to work with Gloucestershire Highways and the bus companies to develop the bus quality partnership to improve local services. We will support the building of a new Public Transport Interchange at Elmbridge that connects to the rest of the City through improved public transport links. We will also support new Park and Ride facilities on the west of the City.

We will use the development opportunities promoted by the Gloucester Heritage Urban Regeneration Company and the Gloucester Quays Project to develop better walking and cycling links in the City core.

In partnership with Cheltenham Borough and the airport management we have agreed a methodology and calculated the carbon footprint of the air operations of the airport and agreed an annual ceiling of 4000 tonnes. The management have agreed to set a reduction target for these emissions in the next review of their green policy. It has also being agreed that the airborne emissions will be calculated annually and verified by an independent expert. The 2 councils will also work with the airport management to reduce the carbon footprint of the ground operations including travel to and from the facility

We will revise and update our travel plan, in doing so we will work with staff to ensure that plans and procedures are in place that allow for more ambitious targets to be set for reducing single occupancy car travel to work.

(Gloucestershire County Council is the highways authority with responsibility for Transport planning and infrastructure in Gloucester)

## **2.2.4 Projects**

### **2.2.4(i) New bus station**

We will develop a new bus station to replace the existing one and make it into a more integrated transport exchange facility.

### **2.2.4(ii) Electric Bike**

Following the success of the electric car, we will purchase an electric bike to be used by staff for site visits

### **2.2.4(iii) Car Club**

Car clubs allow residents the benefits of occasional car use without the cost and environmental problems associated with car ownership. Essentially you book a car and only use it when you need to.

We are close to signing a contract Common wheels (a not for profit community interest company) that will deliver a car club in the City. We hope to have the first cars operational by New Year 2010.

## **2.2.5 Targets**

To ensure all partners and contractors adopt green travel plans and fleet management programmes by the end of the strategy period 2010.

To set up a commercially viable car club by the year 2010.

To have an electric pool bicycle operating in the city by the end of 2009

## **2.2.6 What can you do?**

Walk, cycle or take public transport whenever possible. Encourage your employer to adopt climate friendly work practices and policies, for example, car sharing or home working. Don't fly if you can take the train, short haul is often the most polluting per km flown. If you buy a car see how fuel efficient it is.

## **2.3 Waste**

### **2.3.1 Issues**

When biodegradable waste breaks down in a landfill site it gives off gas, which consists of up to 65% methane and 35% carbon dioxide. Methane is a particularly powerful greenhouse gas, which means that waste and how it is disposed of is a serious climate care issue. Another important reason for recycling waste is to conserve energy. Using recycled material in the production of new goods is far more energy efficient compared to using raw materials. For example, recycling an aluminium can saves 95% of the energy that would have been required to make a can from virgin material.

In 2004 methane accounted for about 8% of the UK's greenhouse gas emissions. Of which landfill was the predominant contributor.

Gloucester City Council and other 'District' Councils are the waste collection authorities; Gloucestershire County Council is the waste Disposal Authority. All are working together through the County Waste Management Partnership.

### **2.3.2 What are we doing?**

- We have developed a citywide kerbside recycling scheme and green waste collections for 44,000 households. This is composted in a manner that does not emit methane.
- We promote the 'reduce, reuse and recycle' message through schools and to the public.
- We are increasing the quantity of materials collected for recycling by running a citywide area-marketing programme.
- We recycle office paper from our office buildings
- We have established a commercial glass re-cycling collection.

### **2.3.3 What are we going to do?**

- In partnership with the County Council and other Districts in the County we will support the study of various composting technologies as a sustainable means of dealing with green and kitchen waste. Some processes such as anaerobic digestion produce methane, which can then be used as a substitute for fossil fuel. We will lobby the county council through the Waste Core Strategy and other consultation documents to adopt a low carbon method of waste disposal
- We will introduce an alternate weekly collection of residual waste and thus increase the incentive to recycle.
- We will introduce a weekly food waste and green box collection.
- We will look again at our procurement policies to ensure that where possible we buy products made from recycled goods.

## **2.3.4 Projects**

### **2.3.4(i) Climate Friendly Purchasing**

We will take the opportunity to update our purchasing policies when the new Procurement Strategy is published. The policies will ensure that more recycled and climate friendly products are purchased. On large procurement decisions we will ensure that an officer with an understanding of climate change and sustainability sits on the Project Board and can therefore influence the tendering process.

### **2.3.4 (ii) Recycle at work**

We will ensure that staff at the docks have facilities available to them to recycle cans, glass and other materials in the office.

## **2.3.5 Targets**

To recover value from 45% of municipal waste by 2010.

To recycle or compost at least 50% of household waste by 2010.

## **2.3.6 What can you do?**

Re-cycle at home but don't forget work. Commercial waste accounts for the majority of waste that is landfilled.

Compost your garden and kitchen waste. Even if you have a garden waste collection, compost what you can.

Buy recycled goods. If there is no market for recycled material the loop is broken and more material goes to landfill. Check on the packaging to see if it is made from recycled material (look for the recycled logo)

## **2.4 Water Resources**

### **2.4.1 Issues**

It is predicted that summer rainfall in Gloucestershire will reduce by up to 30% by the year 2080. Worryingly it is thought that more of it will fall in winter causing flooding and less in summer leading to droughts. This will have significant consequences for water security and the sort of problems experienced on an almost annual basis in the South East of England will be common place in Gloucester.

Water is our most precious resource and its profligate use needs to be addressed. Although Gloucester City Council is not responsible for the provision of water supply, it supports the work of the Environment Agency and Severn Trent Water in their efforts to improve efficiency and reduce leakage. It also supports their work in encouraging careful water use by households, businesses and other organisations.

Rainwater can of course be harvested and be employed for non-potable uses such as watering the garden or flushing the loo. Grey water (waste water from washing) can similarly be harvested and used in the same manner.

#### **2.4.2 What are we doing?**

Through the promotion of Sustainable Urban Drainage Systems (see Adaptation) we require water butts to be fitted to new dwellings. As well as reducing surface water run-off they provide a water source for gardens instead of using mains water.

- We have promoted one-day sales of water butts to conserve water.
- Installed water free urinals in council offices
- Undertaken water audits of council buildings to target areas of waste.

#### **2.4.3 What are we going to do?**

We need to work harder with developers both for housing and commercial development to address water use. Retro fitting buildings is seldom economic, but implementing water saving and harvesting techniques such as grey water recycling in new build can pay for itself. We will adopt planning policies therefore, that encourage sensible use of water and, where appropriate, water harvesting and recycling

#### **2.4.4 Projects**

##### **2.4.4(i) Water harvesting on Council Buildings**

We have installed a rainwater harvesting systems at the Crematorium and Robinswood Farm. We will investigate other buildings where this simple technology can be applied to replace mains potable water.

##### **2.4.4(ii) Water butts for all**

We helped give out 2000 water butts in 2009. We will continue to seek funds and develop further projects with Severn Trent to enable householders in Gloucester to access cheap water butts.

## 2.4.5 Targets

50% of new dwellings with gardens to be equipped with rainwater butts.

At least one more water harvesting system to be implemented in the City by 2010.

Reduce the water usage in principal Council Buildings by 5% by 2010 from a 2005 baseline.

Be responsible for at least 500 water butts being sold at reduced rates to members of the public in Gloucester by 2010.

## 2.4.6 What you can do

If you can, fit a water butt. If you are not on a water meter think about changing. If you are a small household you may actually save money, cost is a big incentive and you and future householders will inevitably use less water. Do not fit water-wasting devices such as power showers. Buy appliances that use less water (dishwashers vary significantly in the amount of water they use). If you have old fashioned cistern think about re-fitting or place devices like a 'Hippo' (See Severn Trent) in them. Wash the car with a bucket and sponge not a hose. Use bath water on the garden

At work fit water saving urinals and or water control methods. Consider harvesting water from roof spaces and any water intensive industrial processes. The Environment Agency can help see [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk). 08708 506506 See also Severn Trent [www.stwater.co.uk](http://www.stwater.co.uk) 08007 834444 . Or talk to us.

## 2.5 Renewable Energy

### 2.5.1 Issues

Renewable energy is energy produced from sources that do not use up finite resources such as fossil fuels like coal, oil or gas. The most commonly understood forms of renewable energy are water, wind and solar. Less known are ground source heat (actually solar) geothermal, wave power, tidal power, biomass, biogas and landfill gas. Some of these are applicable to Gloucester, some like Wave power are obviously not. Of all UK renewable energy produced Hydro electric generation is highest with 29%, followed by Landfill gas 25%, and wind power 17% Solar photovoltaics contribute 0.03%. At present just 4.2% of total UK electrical generation is renewable. At a County level just over 9 megawatts is produced through renewable means (enough to power about 9000 houses), as it happens over half of this is produced in Gloucester (Hempsted Landfill gas, Severn Trent biogas and Oxstalls Campus photovoltaic roof). We have the potential to build on this and become the renewable powerhouse of the County – not only would we reduce our CO2 contribution, but provide local jobs and prevent significant leakage of money out of the local economy.

Nuclear energy (Fission) is not considered renewable. As a plant will not get built within or near the administrative area of Gloucester it is not considered relevant for this strategy. It is recognized however, that it is a low carbon technology albeit with disposal problems and a significant employer within the City. British Energy is involved in the Wind farm proposal at Lewis recently turned down by the Scottish Government.

### **2.5.2 What are we doing?**

Gloucester City Council has committed itself to support the development of renewable energy installations within the city and purchases all its electricity from renewable sources. We have signed up to the Gloucestershire Renewable Energy Action Plan and through the 'Community Renewables Initiative' helped set up 'Gloucestershire Wood Fuels' a 'not for profit' company dedicated to supplying wood chip for biomass boilers. Wood waste from our streetcare partner is made in to fuel for biomass boilers.

The City Council has planning consent for a 15 kilowatt wind turbine on Alney Island but excessive grid connection costs has meant this project has to date not been implemented. A 5kw turbine has, however, been constructed and 'plugged in' to the lock cottages on Alney Island thus removing the need for an expensive grid connection.

### **2.5.3 What are we going to do?**

The planning process has the potential to deliver a number of renewable energy projects. We need to look at how flexible the planning policies are so that developers are not put off investing in Gloucester. We also need to be aware that most buildings can generate a percentage of renewable energy on their roofs or as part of their developments generally. We will include policies within our forthcoming Local Development Framework that require developers to generate a percentage of their buildings energy needs from renewable sources or combined heat and power. Compliance with this policy is a big issue so we will therefore train our Building Control staff in energy assessment methodologies and purchase them the software that will allow them to carry out this important work.

A wider marketing and public awareness raising campaign will also be required to increase the take up of Solar Thermal water heaters and other low cost renewable energy installations. This has been done in other urban areas by running clubs, courses, seminars and exhibitions to show the public what is available. Working with other agencies and using Government grants such as the Low Carbon Buildings Programme that offers support to renewable installations, it is hoped that the number of installations in Gloucester City can be increased. See [www.lowcarbonbuildings.org.uk](http://www.lowcarbonbuildings.org.uk) for more details. There are also tough Local Area Agreement targets that if reached will enable the City Council and other agencies in the county to access reward grants allowing further installations to be funded.

A tidal barrage across the Severn Estuary would produce an immense amount of renewable energy but would come with some significant environmental impacts. Tidal lagoons would be more benign but would not generate the amount of energy or mitigate flooding (a potential benefit of a barrage). Although well outside the administrative area of the City its impacts would be felt here. The Government has recently announced a 2-year feasibility study (this should report next year) into the barrage and the City Council is a consultee on its work. We will play an active role in this process and come to a formal position when the study reports.

## **2.5.4 Projects**

### **2.5.4(i) Alney Island wind turbine.**

Alney Island is the large, open, city council owned nature reserve to the west of the docks. Although not as windy as some upland areas it does have a good wind speed that could be considered commercial. We have installed a small scale 5 Kw wind turbine on the island, the energy will be sold to the national grid and used to pump more water on to the island. Following on from a successful feasibility study for a 225kw 32 metre high turbine on Alney Island we have recently obtained consent for a wind monitoring mast. Results from this will be known in the New Year. If wind speeds are up to expectations then we will proceed with an application for the actual turbine. If consented and installed this should generate annually approximately the same amount of electricity we use in the docks complex.

### **2.5.4(ii) Wind turbines for School Grounds**

Schools often have large open playing fields that make them ideal sites for wind turbines. Turbines are also seen by young people as iconic and provide a useful educational tool for the schools giving an insight into renewable energy, wind speed, direction etc. They can also provide a catalyst for further energy work around efficiency and insulation. We have already helped 2 schools obtain planning permission and funding and we hope to work with at least one other school in Gloucester. The information gained from these small domestic sized turbines will be disseminated allowing residents and businesses to understand better the costs and benefits of wind power.

### **2.5.4(iii) Biomass Boiler**

Tree waste from our partner is now used for biomass, though ideally we need to install a biomass boiler in one of our buildings or persuade someone else to do so. We will ensure therefore that before we commission new heating installations that biomass is thoroughly tested as a potential fuel, we will also work with partners to convince them as to the benefit of this sort of cheap carbon free energy. We are currently seeing if Oxstalls can be heated using a wood chip boiler.

### **2.5.4(iv) Hydro Power at Llanthony**

We have commissioned a feasibility study into the potential of Hydropower at Llanthony weir. The report was very positive, with potentially 1 mega watt of energy available. Although a complex project requiring both Llanthony and Maismore weir to be raised (temporarily with deflatable rubber extensions) we believe that given the energy available it is worth pursuing. Subject to no overriding objections from the Environment Agency we shall work with partners therefore, to investigate funding streams that can make this ambitious project a reality. This may include a requirement for developers to pay into a fund as part of their on/near site renewable energy obligation.

#### **2.5.4 (v) Photovoltaics (PV)**

PV systems are expensive with long pay back times, as such they have been a low priority as money has been spent on more productive projects. The grant regime is however, looking better and there are some buildings where no other renewable technology can work. We will look again at this technology therefore and see if it is worthwhile on one of our buildings. As the leisure trust will be able to access more grant funding then one of their buildings could be a possibility.

See also solar hot water for social housing

#### **2.5.5 Targets**

Install a commercial turbine on Alney Island that has gained general acceptance by members of the public by 2010.

To be responsible for installation of at least one biomass boiler within the City by 2010

To achieve 20 renewable energy installations per year on domestic, public sector and community buildings by 2010 in line with Local Area Agreement targets

#### **2.5.6 What can I do?**

Get involved in the consultation process on the Alney Island Turbine. Get involved in the planning process generally either through the Local Development Framework (that's where the policies requiring on-site renewable energy appear) or in actual applications.

Solar hot water is probably the technology with the quickest pay back. It is also mature, reliable and tested. There are grants available which bring the price down and give pay back times of 5 years or so. (See [www.lowcarbonbuildings.org.uk](http://www.lowcarbonbuildings.org.uk))

If you really want to go for it put up you own turbine (you may need planning permission so check first).

## **2.6 Biodiversity**

### **2.6.1 Issues**

The effects of climate change on the plants and animals in Gloucester and the surrounding countryside is there for all to see. Little Egrets (small white Herons), until recently a rare summer visitor from more southern climes, now breed close to the city. Anyone approaching middle age will all know from their own experiences that springs are earlier and autumns later. These effects are likely to become more apparent as climate change continues, with the expansion in the range of some species, local extinction of others, and habitat change becoming increasingly common.

Natural change has of course affected the world's species for millions of years. However, the current rate of change is unprecedented and the ability of species to respond is compromised by man's impact on the environment.

As the climate warms species will tend to drift north (or to higher altitudes), however, this ability is constrained by their mobility and availability of habitat. More importantly fragmented landscapes under intensive agriculture criss-crossed with roads and other impermeable man made barriers will make the northerly drift very difficult.

Some habitats such as wetlands and beech woodlands will be particularly susceptible to changes in rainfall patterns, in particular drier, hotter summers as predicted for this part of the country.

Responses in the uncertain world of climate prediction are difficult, however, the past response to species loss of protecting a few cherished sites is clearly inappropriate. Larger areas need to be managed for nature conservation to allow adaptation to occur within them. More importantly landscape scale corridors need to be created especially with a north south orientation to ensure species can drift and spread to cooler areas as the temperature increases.

### **2.6.2 What are we doing?**

The conservation of habitats and species in Gloucester, as elsewhere, is focussed around protected sites. These are often intensively managed often in order to protect a few important rare species. Some sites like Hucclecotte Hay meadows in Abbeymead (A Site of Special Scientific Interest) is surrounded by development, so any chance of species drift either in or out is limited. As well as managing these sites the City Council manages sites on behalf of, or in partnership with, other bodies. It also helps schools and community groups to understand wildlife and to create their own habitats in their neighbourhoods. On a landscape scale we have hosted the Severnside Countryside Management Project for the past 8 years. This has certainly had an impact on the wildlife value of the wetland and related habitats adjacent to the river Severn both in Gloucester City and in Stroud District. Planning Policy within Gloucester City restricts development in the corridor along the Severn specifically for the purpose of adapting to climate change.

### **2.6.3 What are we going to do?**

We need to ensure that inappropriate management or development of habitat does not impair the north-south drift of species. The Severn corridor gives us a unique opportunity to exploit a natural north south corridor that is relatively free of development though often intensively farmed.

We need to look at management of certain habitats and pre-empt the changes resulting from climate change. For example, we will look at current wetlands to see if they can be artificially charged with water.

If biodiversity is to be more resilient and more capable of adapting to change, we have to ensure that species diversity is achieved across a wider area and not just at designated nature reserves. This will include making sure that the interconnectivity of habitats is taken into consideration.

The tree strategy identifies a schedule of trees appropriate to specific sites and areas within the city. We will thoroughly investigate the potential impact of climate change on urban trees in the Gloucester context and adopt a modified range of trees that will be more resilient to the effects of climate change. When discharging planning conditions for tree planting on new development, species appropriate to a climate-changed world will be specified.

The Natural Environment and Rural Communities Act places a new duty on all public bodies to have regard (as far is consistent with proper exercise of their functions) to the purpose of conserving biodiversity. We will need to be aware of this duty as we discharge our duties across all levels of service.

## **2.6.4 Projects**

### **2.6.4(i) Severn Regional Park.**

A natural extension of the Severnside Countryside Management Project would be a regional park, similar to the successful River Nene Regional Park in Northamptonshire. This would focus around an area of the Severn floodplain broadly from Slimbridge to Tewkesbury. With the current onus through the planning system on Green Infrastructure and the potential to fund some sort of regional park through developer contributions the viability of this project is looking good. We have floated the idea in the current consultation on the LDF and to date partners at the County Council, Cheltenham/Tewkesbury boroughs and the local Wildlife Trust have been supportive. To date it is thought that the park would form a strategic green infrastructure asset that followed the Floodplain of the River Severn and its tributaries.

### **2.6.4(ii) Background Biodiversity**

Urban areas are rich in wildlife and the City Council manages significant areas of land within the City. The new partnering arrangement with Enterprise and working practices at the Crematorium provides us with the ability to manage areas of public open space for biodiversity as well as amenity. We will work with Enterprise and the Crematorium to ensure that wildlife friendly mowing regimes are implemented in target areas. This will also help us discharge our duty with regard the NERC act.

### **2.6.4(iii) Netheridge Traditional farm traditional habitats**

The creation of the new market at Netheridge has provided a golden opportunity to manage some of the market site and the rest of the holding for wildlife. We will work with partners to ensure that a management plan is adopted and implemented over the coming years. This to include traditional farm habitats such as hay meadow and orchard and specific areas for wetland creation.

## **2.6.5 Targets**

By 2010 have in train a process that will lead to the setting up of a Regional Park or similar along the river Severn washlands and its tributaries.

Implement a pumping system on Alney Island that ensures that sections of it are kept wetter even in dry hot summers.

Through negotiation with developers, ensure that runoff from development charges existing wetland systems on at least 1 site. Consent achieved 2010.

At least half of the bedding plants chosen for displays in Gloucester will be nectar rich (not F1 Hybrids or those renowned for poor nectar production) for the 2008 season.

Restore the Netheridge holding to traditional farm habitats and create new areas of wetland habitat.

### **2.6.6 What can I do?**

Garden with wildlife in mind. Compost your waste (a fantastic environment for slow worms and other fauna). Be a bit careful with chemicals, plant lots of nectar loving plants and don't be so tidy.

Join the local wildlife trust. Visit a nature reserve, cherish it while it is still there.

## **2.7 Adaptation**

### **2.7.1 Issues**

More dynamic, stormier weather conditions are expected to be a feature of Climate Change for Gloucester. This will lead to higher surge tides, increased fluvial flooding (belonging to rivers) and stronger wind speeds. When this is coupled with sea level rises flooding will inevitably become a more frequent event. This is especially true for Gloucester being at the head of the estuary and therefore susceptible to high tides and fluvial flooding

These are based on the predictions from the UKCP09 and its predecessors. Generally therefore we should expect hotter and drier summers with wetter winters. Flood events and storms will be more common.

New development therefore needs to be designed to incorporate measures currently used in Southern Europe such as Brieze Soleils (shading over windows) and shutters to address extreme temperatures, it also needs to be out of the floodplain - not just the current area but what we expect it to be in the future.

Parks and open spaces should be in more demand in the future, we need to ensure therefore that there is enough to go round, and that they are landscaped and designed to cope with high temperatures and summer droughts. Management will also need to change to take account of temperature and rainfall changes. Shade will be crucial, not just for public open space but as part of schools, businesses and other development.

Following the storm events of 2007 it became clear that flooding was not just a River Severn event but could result from small scale brooks and ditches not being able to cope. There are areas that need more detailed management and some brooks and culverts need engineering improvement to ensure that they do not cause problems either locally or else where (there is no point in relieving one flood area for another to be come inundated).

### **2.7.2 What are we doing?**

We have put in place a new partnering agreement to cover our streetcare services. This will ensure that management of open spaces is done on need i.e. when the grass is growing as opposed to traditional schedules. The Highway authority plant a significant number of street trees a year, the City Council plant many more in parks and open spaces. Through our planning powers we currently expect development to be out of the existing flood plain plus 60 cm. We are working with the Environment Agency. The County Council and local residents to remove impediments to flood flow on Alney Island, as well as improving flood defences around Alney Terrace and its environs.

Following the events of 2007 a number of changes have taken place with regard to watercourse management within Council ownership. Brooks are inspected every 2 weeks for blockages and a number of restrictions to flow have been removed. Flood fairs have been held where advice and guidance is given out and flood resilience seminars have taken place. A

dedicated officer has been employed to help those who have been flooded. This post has also been responsible for looking at problem watercourses and being a contact liaison point for the EA, ST and other stakeholders. Some engineering works have been carried out.

### **2.7.3 What are we going to do?**

As part of the Local Development Framework we need to ensure that current flooding policies are carried through and enhanced. We also need to be proactive in removing further impediments to flood flow. As well as Alney Island we need to look beyond our administrative boundaries. For example, existing agricultural defences at Minsterworth and further down stream restrict flood flow and flood plain capacity. This was particularly relevant given the Severn Flooding and the impact on Alney Island and Walham substations. Although controversial we shall lobby the Environment Agency to pursue a 'managed retreat' policy in some of these areas whereby agricultural flood defences are not maintained or even removed. Not only will there be flooding benefits but biodiversity ones to.

Through the Local Development Framework we will encourage development that takes on board the needs of a climate changed world. We will be requiring developers to meet a high Code for Sustainable Homes rating and BREEAM standards. This encourages water recycling, passive cooling and other climate sensitive features. Passive design features common in Southern Europe will need to be incorporated in new development

We will work with our Streetcare partner to ensure that planting schemes from bedding to trees take account of drought tolerance and other climatic variances. Similarly landscape schemes submitted, as part of new development will be required to plant climate sensitive schemes.

The Pitt report into the 2007 floods (Sir Michael Pitt was asked by the Government to carry out a review of flood related emergencies) has published its recommendations. We will work with the County Council and other partners to ensure that recommendations are looked at, and where appropriate taken on board.

A capital programme of works has been costed and drawn up. Some of these are repairs following the floods, others are works to ensure that property or other assets are not put at risk. These will be implemented over the coming months and funded from a myriad of sources.

## **2.7.4 Projects**

### **2.7.4(i) Free Trees**

Trees temper winter and summer climatic extremes and soak up carbon as well. They also provide a wildlife habitat and amenity value. We will give away 1000 trees a year to schools, community organizations and individuals to plant on land they are responsible for or in City Council ownership. We shall also with our Streetcare Partner increase the tree stock in the City.

### **2.7.4(ii) Green buildings**

Buildings can be covered in plants. Not only does this look attractive, and provide a habitat, but it reduces the heat effect in urban areas as hard surfaces soak up solar radiation. Green roofs are a particularly useful way of reducing heat and we will work with developers to ensure that some buildings are constructed with a growing, living roof. We will look to our own building stock to see if we can grow plants on them.

### **2.7.4 (iii) Surface Water Management Plans**

Surface water management planning draws on the experience and knowledge of statutory undertakers, the EA and others with understanding of watercourses and sewers. The outcome will be a map and strategy that identifies areas of concern and other surface water issues within a geographical area. Central Gloucester has now been modelled we will press for funding to ensure that the whole of Gloucester is covered.

### **2.7.4 (iv) Retro SUDS**

Sustainable Urban Drainage Systems allow surface water to be managed in a more natural manner. Rather than collecting water from roofs and hard surfacing and putting it in a pipe for it to cause flooding elsewhere, water is stored and managed as much as possible on site. This means that water reaches brooks and streams in a more metered and natural manner. Robinswood School has recently been subject to a comprehensive Retro SUDS scheme to protect it from surface water flooding (this was a county funded scheme though carried out with land and assistance from the City) and we hope to identify another project over the coming year.

### **2.7.4 (v) SUDS Manual**

Although SUDS have the ability to control surface water in a more sustainable manner, their take up from the development industry has been mixed. Adoption of SUDS features is still a block to their implementation and although the City was one of the first to agree to adopt such structures, nervousness and lack of knowledge on behalf of the development industry still prevents many schemes coming forward. We have commissioned consultants therefore to draw up basic guidance as to what SUDS do, how they are to be constructed and what

needs to be done to be have them adopted by the City Council for future management.

#### **2.7.4(vi) Stream Wardens**

Based on our successful 'Friends of' groups and Tree Wardens, we will set up at least one pilot stream warden scheme for a watercourse that has been subject to flooding. The wardens will be trained and will work with the City council ensuring that blockages are identified. We would also like to engage the wardens in the drawing up of management plans for the sites and enlist them in their implementation.

#### **2.7.4(vii) Adapting to Climate Change**

To ensure local authority preparedness to manage risks to individuals, communities and business from a changing climate the Government has proposed a new national indicator 188. Authorities are invited to report on their level of activity on a scale of 0 to 4. Zero is essentially no preparedness with 4 being well prepared with an action plan and processes in place for monitoring progress. We will commit the authority to achieving level 3 by the end of 2011.

#### **2.7.5 Targets**

1000 trees planted over the 2009/2010 planting season

At least one Green roof constructed in the City by 2010.

NI 188 level 3 by 2011

#### **2.7.6 What can I do?**

If you have room, plant a tree (we will give you one if you want). Persuade your employer to plant a tree. Try not to fit air conditioning – use other ways to keep cool. If you work in the office switch off computers and other equipment as they give off heat. Generally fit low energy appliances. You can volunteer as a stream warden. If you are in a vulnerable area you may wish to join a local flood group (contact Wayne Best on 396703).

## **Section 3**

### **3.0 How will we Deliver?**

Strategies do not implement themselves, they need individuals to drive them forward and processes put in place to ensure that policies, programmes and projects are carried through. We currently have an officer Member steering group that meets on an as need basis to steer the strategy and implementation. External Scrutiny will be through the existing Environment and Ecology Forum and potentially a new Environment Partnership.

We recognise that Climate Change is a rapidly changing area of work, and that projects, policies and programmes that may appear ahead of the game today are the norm in a relatively short period of time. We intend therefore to continue to update the strategy on an annual basis. Not only will this allow us to take account of changing attitudes, national/ international policies and new technologies, but also give us an opportunity to formally review progress and targets on a regular basis.

### **3.1 Funding**

It will also be important to identify funding for the implementation of the strategy, initially for development and co-ordination, but over the long term in order to deliver some of the projects that are set out in the strategy action plan.

The priority for these should be based on a detailed evaluation whereby costs and benefits in CO2 reductions are used in order to obtain the greatest benefit towards achieving targets.

Some funding has been identified and has been linked to the existing energy management budget. Additional funds will be sought from both internal and external-funding streams such as the Low Carbon Buildings Programme and European Union funding sources when these can be found. Match funding bids where this will enable invest to save projects to be developed will be supported.

The Stern Report on climate change has indicated that carbon trading schemes may be a way forward for local authorities to offset the impacts of climate change, it is not yet clear what form this government scheme will take. It is however possible that Gloucester could participate in such a scheme in order to achieve carbon reduction targets.

Of course strategy implementation needs officer time. Human resources will be identified that will allow the policies, programmes and projects to be taken forward and developed.

### **3.2 What is not measured cannot be controlled**

There are a number of new national performance indicators that have recently been established. These require the City Council to report on progress towards its climate change objectives and will allow the council to be compared with other similar towns and cities across the country. National Indicator (NI) 186 looks at the percentage of CO2 emission reduction per capita in the local area. There are also NIs on waste, biodiversity and of particular relevance adaptation to climate change. We will attach a table showing these indicators and how we have performed against them to any forthcoming annual report.

### **3.3 Raising Awareness of Climate Change**

One of the most important areas of the strategy is how we get the message across and increase public understanding of climate change and its effects.

In the first year of the strategy we produced and distributed a new leaflet on 'how you can combat climate change in your own home' . We also created display panels and web pages to explain the strategy. We will continue to promote the strategy

- By linking to national programmes.
- By updating web pages.
- By targeting schools and young people.
- By holding displays seminars and road shows
- By printing leaflets posters and distributing information
- Work with and link together existing community groups to help them focus on climate care initiatives
- By setting up a Low Carbon Partnership of large employers based on the Vision 21 model currently working in Cheltenham

We will continue to develop a Communication Programme that will draw these issues together and allow us to market the strategy in a co-ordinated manner.

To ensure the profile of Climate Change is raised on a regular basis a Climate Care Award that recognises the contribution that an organisation and/or an individual has made towards combating climate change has been incorporated into the Gloucester Civic Awards. This high profile event should capture the imagination of the public and provide inspiration for others to follow.

The slogan for the national campaign is "Save Your 20%" for more information log on to the energy saving trust web site at [www.saveyour20percent.co.uk](http://www.saveyour20percent.co.uk). Or ring your local energy advice centre for a leaflet 0800 512012.

### **3.4 Conclusion**

Gloucester City Council has an obligation as the local district council to act in a community leadership role in preparing the city and its people for the challenges and surprises that will result from the effects of Climate Change. It will also need to demonstrate good practice and stewardship through the way that it manages its own estate and assets and as a service provider.

By setting up the necessary framework for addressing these and unforeseen changes that may occur as a result of climate change. The implementation of the work plan, the input of the Officer Member Group the Environment and Ecology Forum and potentially the Environmental Partnership will enable the city to protect and conserve a healthy and pleasant environment for its citizens and visitors despite the impacts of Climate Change. The strategy also outlines a number of practical projects, which will help Gloucester respond to climate change.