



# BOLLINGTON CARBON REVOLUTION

Proposed action plan for reducing the carbon footprint of  
Bollington, Cheshire, UK

January – December 2007

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## EXECUTIVE SUMMARY

Activities in recent years have seen the start of a wave of local action to tackle the global problem of climate change. Formed in Autumn 2006, the Bollington Carbon Revolution group is a sub-committee of the local Civic Society and is made up of around ten committed volunteers who want to be a part of this local action movement, and make a difference to their town's carbon footprint.

This report is the product of four months of research into how the Bollington Carbon Revolution can take effect. The research detailed in this document looks at the impacts climate change are predicted to have in Cheshire, and other similar carbon reduction community schemes which are comparable and from which we can learn. It examines what types of action the community needs to take in order to measure and reduce their carbon footprint, and reviews how our voluntary group can structure itself, communicate to the community and obtain funding to achieve our objectives.

There are four key areas identified, which will be the focus for 2007, as follows:

- Establish our towns' carbon footprint and monitor reductions over the coming years
- The provision of advice to residents, businesses and the community as a whole on how to reduce their carbon footprint
- The engagement and education of local schools in the project as a whole
- Installation of low carbon renewable technologies, including a flag ship water wheel project..

Each key focus area will require engagement with stakeholders and the generation of funds in order to realise our objectives. A three year plan is presented in the penultimate chapter, along with a proposed management structure which will ensure that the group will achieve its objectives, with the overarching guidance of the Steering Committee and Civic Society.

In 1783, at the start of the Industrial Revolution, Edmund Burke said the following during his speech on "Mr Fox's East India Bill" ...

*"Nobody made a greater mistake than he who did nothing  
because he could do only a little"*  
Edmund Burke, 1783

This is as true today in the plight of climate change as it was 224 years ago. Our group is setting itself up to help our community on their journey to reduce their carbon footprint, and perhaps be a part of leading a new Carbon Revolution.

## ACKNOWLEDGEMENTS

The Bollington Carbon Revolution group would like to thank the following people:

- The Civic Society, and in particular Tim Boddington and Graham Barrow in thinking up the idea for the group and making it a reality
- Garry Charnock and Roy Alexander from Ashton Hayes Going Carbon Neutral for showing us how it can be done
- Jill Richardson and David Ward in the development of the communications plan
- The editors Nicola Riley, Peter Mould and Tim Boddington for the production of the report
- The researchers and authors Nicola Riley (introduction, benchmarking, setting the scene, communications, action plan), Peter Mould (management), Rob Ashby (funding & sequestration), Sonia Mysko (water), Graham Mellish (energy conservation), Peter Neville (energy production), Warren Percival (food & waste), Dan Slinn (communication)
- The wider Bollington Carbon Revolution group members for their ongoing contributions

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# 1 INTRODUCTION

## 1.1 What is the purpose of this report?

Inspired by Ashton Hayes's commitment made in 2006 to go Carbon Neutral, Bollington Civic Society has initiated the concept of a carbon management programme within the town. It seems that the UK is embarking on a new wave of thinking globally, acting locally, this time driven by the voluntary sector at the community level. Community groups from around the country are starting to speak with Ashton Hayes, currently totalling around twenty in number, and embark on their own Carbon Reduction programmes, through measuring their impact and motivating people to be more carbon conscious and make changes to their lifestyle. There has been similar work undertaken in communities over the past few years, but perhaps nothing on this scale. This has been spurred on by a recent DTI grant of £27,000 for Ashton Hayes to communicate to other communities the positive work they have been doing to reduce their carbon footprint.

This report is the result of four months of research by ten individuals, looking into what actions Bollington can take to reduce its carbon footprint, how we can spread information across the town, how we can measure our impact, and perhaps most importantly how a small group of eager volunteers can manage this process and really make a difference, whilst carrying on with their day jobs.

The research process and presentations enabled the group to get up to the same level of knowledge, as we had different levels of expertise on carbon management when we first met. The production of a report means that when we have new members join us, they can read up on the background and get up to speed quickly. It also makes our process transparent, meaning that other community groups starting out can see the process we have undertaken and adapt it to suit them.

## 1.2 How was the research undertaken?

The Bollington Carbon Revolution group was formed following an article in our local magazine, Bollington Live. After an initial introduction of group members and brainstorming session, a number of research topics were identified and allocated across the group. These were:

Energy production; energy efficiency; waste and recycling; water consumption; transport; food; holidays; communications, resources, management; benchmarking; prioritisation.

Research was predominately desk based, with the exception of discussions held with Garry Charnock of Ashton Hayes Going Carbon Neutral, and Matt Taylor of CRed at the University of East Anglia. Then, over a series of three evenings, each researcher gave a presentation to the rest of the group. The findings were collated into this report. Full presentations and research notes can be found in the appendices of this report which are displayed on the Bollington Carbon Revolution website [www.happy-valley.org.uk/revolution](http://www.happy-valley.org.uk/revolution)

The recommendations in this report will form the strategy and action plan for 2007 and beyond, which has been presented to the group for agreement in February 2007.

## 1.3 How is the report laid out?

We shall assume the reader has no current level of knowledge of climate change, or the human contribution to climate change through the production of greenhouse gases. Chapter 2 sets the scene, by providing a background to the problem we face, and also explains some of the consequences of climate change that we will experience in Cheshire in the future. In Chapter 3 we consider other community groups in the UK that have looked at reducing their environmental impact over the past few years and how they have gone about doing this.

Chapter 4 looks at what we as a community can do to reduce our carbon impact, by making lifestyle changes, and who can help us along the way.

Chapters 5, 6, and 7 examine what funding and resource options are available to us, our three year plan, and how we are going to manage ourselves. After all, we are all volunteers with full time day jobs and families!

The final chapter proposes our Communications Plan for 2007, which is key to the success of this project.

#### **1.4 Full research information**

Additional information for each researched subject area can be found in the Appendices to this document which are available as separate documents (see Table of Contents).

## **2 SETTING THE SCENE**

### **2.1 What is carbon and what's the link with climate change?**

In simple terms there is a layer of gases that lie above the earth. They allow heat from the sun in, but do not let it back out again. This has a warming effect on the earth, just like being inside a greenhouse, hence the term 'greenhouse gases'. There are a number of greenhouse gases but the principle one is Carbon Dioxide, or 'Carbon'.

We need to reduce the amount of these gases which are released into the air. If we could see the gases we would know what we needed to do. But they are invisible. They come from the burning of coal, oil and gas, what we term 'fossil fuels'. We use these fuels for almost everything we do, from heating our homes, using electrical equipment, driving our cars and flying to our holiday destinations. These types of emissions are called 'direct emissions'. We also indirectly generate greenhouse gases through all the products we use, as energy was used to source the raw materials, manufacture them and transport them. Other 'indirect emissions' include gases produced through the decomposition of our waste, and from the production and transport of the food that we eat.

So the earth will warm up, but by how much and how quickly, and will we here in the UK be affected? Scientists are finding it difficult to accurately predict this, after all the earth is a big place and the timescales we are interested in are over decades, not years. However, they currently predict a global increase in temperature of between 2.5 and 6.4°C between today and 2080. This will bring with it a number of impacts including a change in sea level, and therefore coastal flooding, a change in rainfall patterns, expansion of deserts, melting of glaciers, and a northward shift in plant and animal species. We are already starting to see some of these changes taking shape here in the UK, with longer, hotter, summers, and the UK is now producing some of the best wine in the world!

### **2.2 Cheshire in 2080**

But what changes will we experience here in Cheshire? We will expect to see the following changes in the Northwest in years to come:

- Average temperature increase of up to 5°C by 2080
- More frequent high summer temperatures
- Up to 60% decrease in summer rainfall and 30% increase in winter rainfall by the 2080s
- Five-fold annual increased risk of flooding
- Snowfall disappearing by the 2080s
- Sea level rise of up to 67cm by the 2080s

### **2.3 How much do we emit now?**

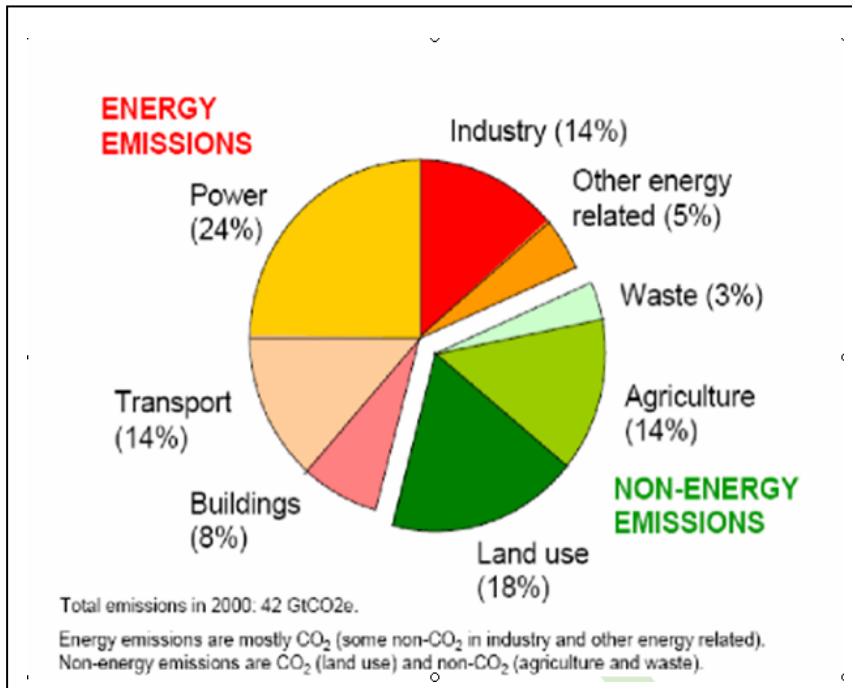
We do not have a picture for Bollington, but there is data for the UK, and we do know the people of Cheshire are responsible for some of the highest carbon emissions per capita in the world.

National average emissions are 10 tonnes per capita. The UK government has pledged to cut emissions by 20% before 2012, to around 8 tonnes per capita. This forms part of an International Agreement to reduce global climate change, called the Kyoto Protocol. This reduction level makes a good initial target for individuals. The UK government further aims to reduce national emissions by 60% before 2050, to around 4 tonnes per capita. It is estimated that the sustainable carbon dioxide emission quota per capita for each of 6 billion global inhabitants is 2 tonnes per annum. Until this target has been reached we

continue to accelerate the rate of climate change, so anyone who attempts to reach this target is providing a great service and example.

There is also information on what types of activities cause the greatest amount of emissions. This can be seen in Figure 1. This is a global picture. For the Northwest Region of the UK, our transport emissions would make up a greater proportion and non-energy emissions a smaller proportion.

Figure 1: Global sources of carbon dioxide



It is predicted that if global energy use continues at the same rate, our carbon dioxide emissions will be 50% higher by 2030 than they are now. There is clearly a need to start to understand and reduce our contribution to this global problem.

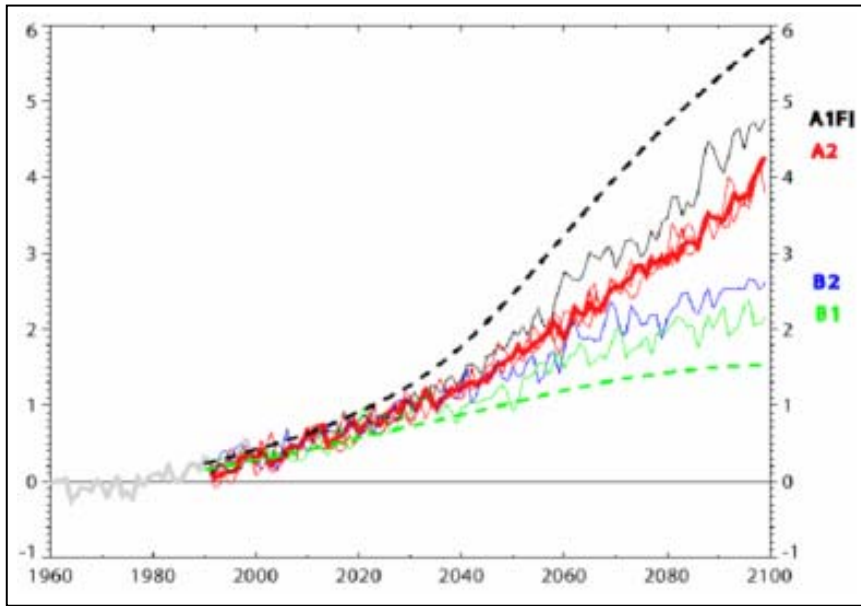
## 2.4 Can we make a difference?

Figure 2 below shows a number of different scenarios of carbon dioxide emissions and subsequent temperature increases. Up until around 2020 the temperature changes remain similar, regardless of the rate of carbon dioxide emissions. However, after 2020 the differences in temperatures changes significantly. Where emissions are controlled (the green line) prior to 2020 the global mean temperature increases by around 1.5°C. Where emissions were higher prior to 2020 the resulting temperature in 2080 is 4°C.

We are in the crucial 10 years; any changes we can make now will have a significant reduction in global mean temperature in years to come.

Figures 3, 4 and 5 below show the difference these temperature ranges will make to Cheshire in the 2020s, 2050s and 2080s.

Figure 2: Global temperature increase scenarios 1990 – 2100 (Source: UKCIP)



The black dotted line in Figure 2 shows the scenario if carbon emissions remain unchecked. In this scenario global temperatures will increase by 6°C by 2100.

The green line shows the best case scenario where, if emissions are reduced substantially in the next 10 years, global average temperature will only increase by 1.5°C.

Figure 3: Predicted Northwest change in annual average daily temperature (Source: UKCIP)

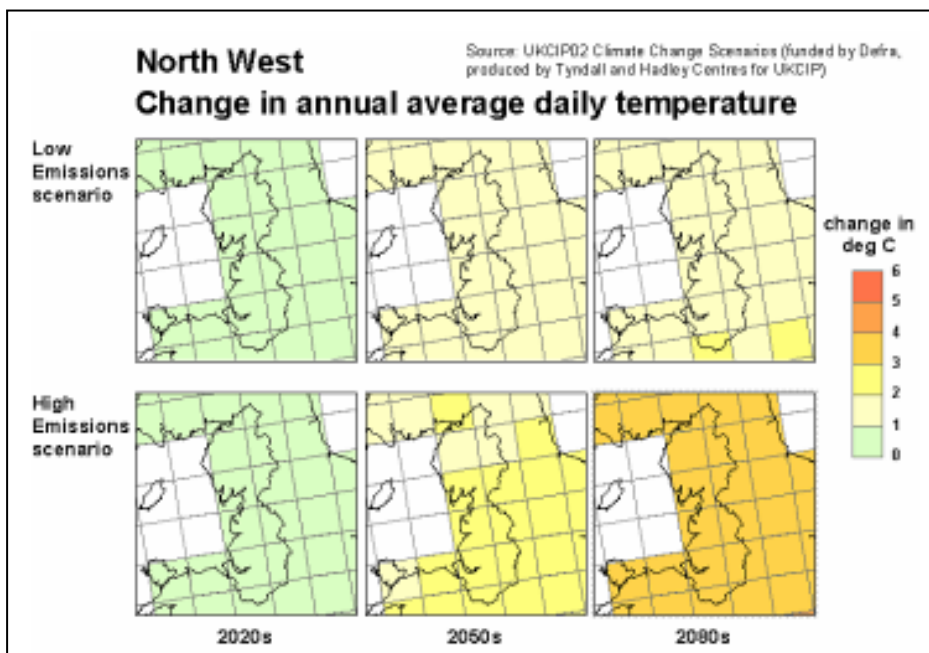


Figure 3 illustrates the low emission scenario. This shows that annual daily temperature will increase by 1-2°C in the northwest of the UK, compared with a 4°C increase in the high emission scenario.

Figure 4: Predicted Northwest percentage change in summer precipitation (Source: UKCIP)

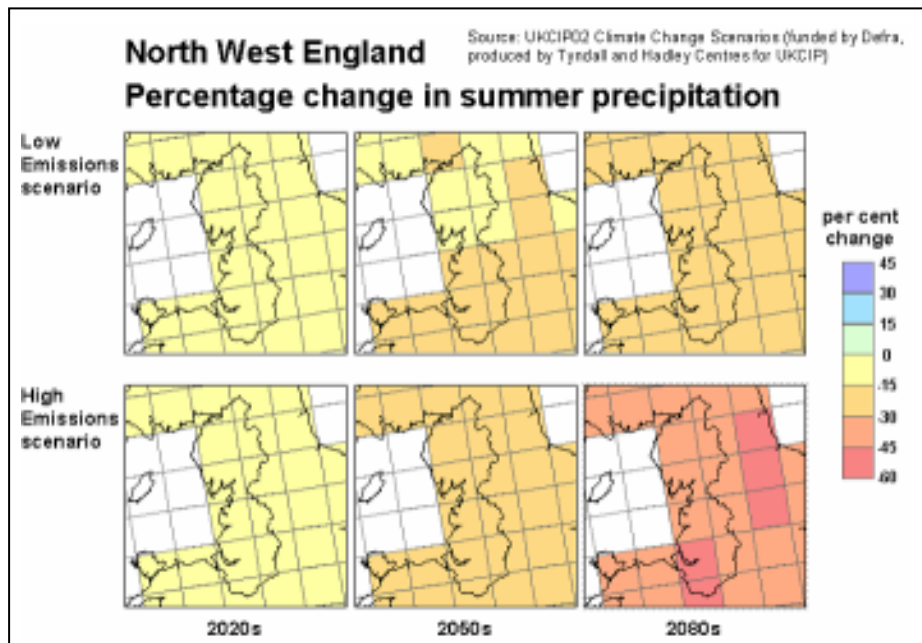


Figure 4 illustrates the low emission scenario. This shows a decrease in summer precipitation of 30%. The high emission scenario shows a much higher decrease of 60%.

Figure 5: Predicted Northwest percentage change in winter precipitation (Source: UKCIP)

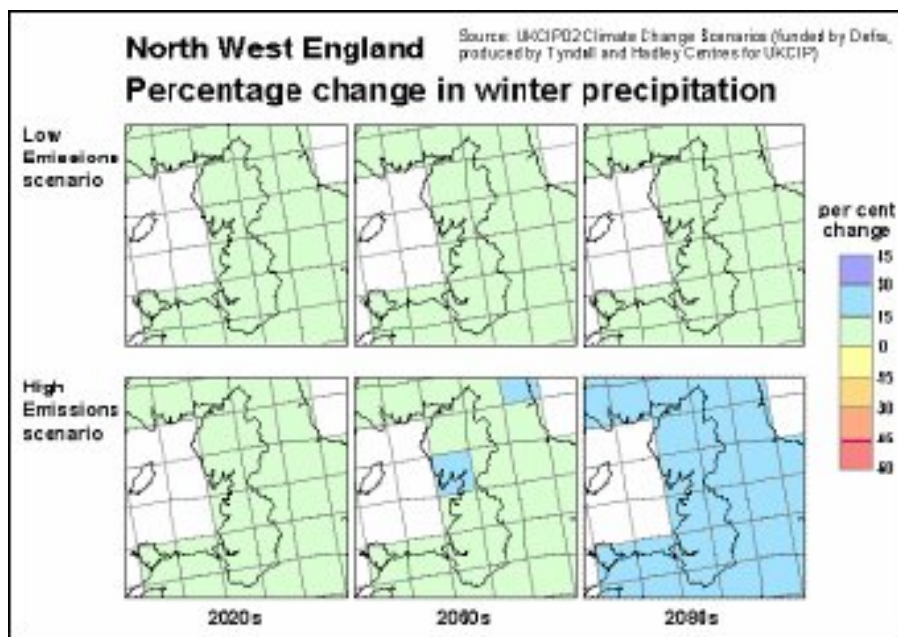


Figure 5 illustrates the low emission scenario and shows a small increase in winter precipitation of between 0-15%. The high emission scenario shows a larger increase of 15-30%.

## 2.5 How much carbon does Bollington produce?

We don't yet know how much Carbon our town produces, but we do have a few facts which will help us start to gather the information.

Bollington is a town of approximately 7,200 people and 3,200 homes.

The housing stock is mixed. The older part of the town is essentially composed of stone built cottages and houses, now generally surrounded by more modern developments. The remainder of the town has more recently built stone properties, and a large number of more modern houses. There are groups of

properties that were built as public housing on the old council estates, now in private ownership or managed by housing trusts. New developments continue apace, the most recent being Bollin Heights and Hawthorn Road.

There are a number of industrial sites in the town, and dozens of small businesses. Of the four remaining mills, two are entirely industrial, one has two floors of apartments and two of business units, and the fourth is sub let to small businesses. There are four primary schools, several churches, an arts centre, public library, community centre, leisure centre, a hotel, a recreation ground with a pavilion and a town hall. There are also five restaurants, 13 pubs and a number of community buildings. There are ten allotments, and several areas of land that are currently derelict.

Running through the town is the River Dean, which provides opportunities for hydro-power developments. The Middlewood Way links Macclesfield with Marple utilising the old railway line, and is a walk and bridleway now run as a conservation project. The viaduct across the main street is listed. The Macclesfield Canal runs essentially parallel to this, and features a number of superb bridges and two fine aqueducts.

The hamlets of Kerridge and Lowerhouse adjoin Bollington and for the purposes of the project are considered part of the town. Tytherington High School, although not situated in the town, is a partner in the project as the majority of children from Bollington will attend it.

A separate project is underway on Kerridge Ridge, which joins Bollington with Rainow. Further information can be seen at [www.kriv.org](http://www.kriv.org)

A list of community groups and businesses can be found on the Bollington website at [www.happy-valley.org.uk](http://www.happy-valley.org.uk)

## **2.6 Summary**

There are a number of crucial questions that need answering. What is Bollington's carbon impact? How can we find this out? How can we help our community to reduce their carbon impact? What are the benefits to the individual people who take part and our community as a whole? Who can help us along our way? How are we going to organise ourselves? This report goes some way to answering these questions.

One thing we can say is that we are fortunate to be in one of the best regions in the UK to start to tackle this issue and answer these questions. The Northwest region wants to take a lead on climate change and energy. England's Northwest led the industrial revolution through innovation, resourcefulness and significant amounts of fossil fuel. It defined the shape of modern society, and as a very early cotton town Bollington played a key part in this. The Northwest region wants to be the first to find the solution and lead the world through another revolution.

Our community can play a key part in this through learning from similar voluntary groups and taking action. The next chapter will examine some similar schemes in the UK and assess their suitability for application in Bollington.



## 3 SIMILAR SCHEMES

### 3.1 Broad community schemes

#### Ashton Hayes – Going Carbon Neutral



In January 2006 Ashton Hayes, a small Cheshire village eight miles east of Chester with a population of 1,000, announced its plans to aim to be the first Carbon Neutral village in the world.

Carbon Neutrality is a term used to describe a balance between the amount of carbon emitted, and the amount absorbed by the earth. Trees absorb carbon, and if enough trees are planted, and enough measures are taken to reduce the amount of carbon emitted in the first place, the theory is that you will reach a state of 'Carbon Neutrality', i.e. zero net carbon is produced. Carbon Neutrality can also help to be reached by setting up 'carbon off-setting' schemes, where the amount of carbon produced through driving a car for a year is, for example, offset by the amount of carbon free energy produced by non-carbon energy production, such as wind power or solar power.

The term Carbon Neutral has been used in the business sector for a number of years but this is the first time it has been used by a community. The idea and community group was founded by two individuals, Garry Charnock and Roy Alexander. They firstly approached the Parish Council, then set the rules of the project. The launch event at the local primary school drew in a crowd of 400 people, lured by the following attractions:

Short film; hybrid vehicles; presentations; village maps; dedicate-a-tree; wind and renewable energy technology; local food information; elephant grass energy crops; recycling; biofuels; solar panels; energy in the home; energy-efficient vehicles; insulation grants; composting; climate change information; media coverage; project plans and the 2006 survey programme; sign up for a free eco-vehicle driving day (EU financed).

They now have five sub-groups of 4-5 members, each sub-group being responsible for the following areas:

- Carbon Clinics – we will help you and lead you by the hand
- Technology Team – we will answer questions about renewables
- Carbon Sink Team – tree planting and run a carbon offset scheme
- Conference and Exhibition Team
- Media and PR team – who handle public relations and support the other teams

The initial set of the project took 2-3 days per week for the first six months, and now the two-man management committee spend approximately 1½ days per week on the project.

Sponsorship is provided through local businesses who are incentivised through free advertising on banners and via the website.

Their tips to other community groups wanting to follow a similar path are:

- Focus on awareness raising and keeping their message in the public eye
- The carbon footprinting exercise was very useful. Student residents were used to gather data and this process was very good for awareness raising. A participation rate in the survey was very high, at 50%
- Provide information to the public through the press and schools

Further information can be seen at [www.goingcarbonneutral.co.uk](http://www.goingcarbonneutral.co.uk) or by contacting the Project Co-ordinator Garry Charnock, email [charnock@t-e-s.co.uk](mailto:charnock@t-e-s.co.uk) telephone 01829-752714.

The baseline survey questions used by Ashton Hayes can be found in Appendix 8. The contact at AEA Technology is Dr Mary Gillie, [mary.gillie@aeatechnology.com](mailto:mary.gillie@aeatechnology.com)

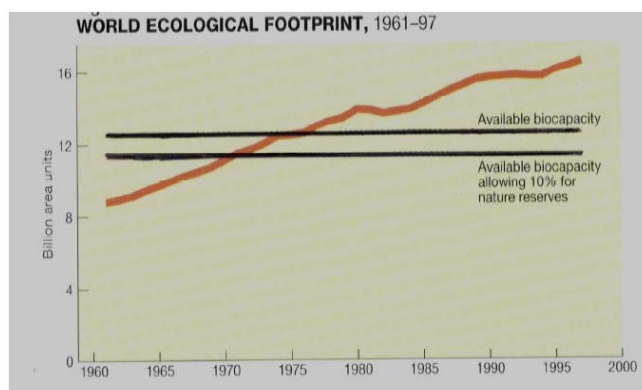
### 3.1.1 Ecological Footprint of Brechin



Brechin itself (population 7,777) sits within the larger Angus region in Scotland (population over 110,230). The Angus Council commissioned a study to calculate the ecological footprint of the community.

Ecological footprinting measures environmental impact in terms of land use and resources. It looks at answering the question 'how many planets would we need if everyone lived as we do?' The graph shows that on a global level, we passed the capacity of the earth to meet our demands in around 1975. Since then we have been putting more demands on the earth than it can cope with, and hence leading an 'unsustainable' lifestyle.

Figure 6: Carrying capacity of the Earth



The ecological balance sheet is calculated by looking at our basic human consumption needs:

Food, materials and energy (demand) converted into areas of biologically active land required to produce them and absorb wastes (supply).

The interest in eco footprinting has grown enormously in recent years as both a means of communicating sustainability and a method of measuring our progress. It is very popular on a country or regional level, but in the case of Brechin was applied at the local community level.

Angus Council decided to carry out a survey of households in the Brechin area to determine the size of the average household's ecological footprint.

This involved inviting people to complete a questionnaire regarding their lifestyles. The responses were analysed and reported back to the community. Questionnaires, developed in collaboration with Best Foot Forward, were given out through schools in the Brechin area but were also available to the public through the libraries, housing office and the local community centre. People were encouraged to take part through money-off vouchers for items that would help reduce their footprint, for example low energy 'A' rated white goods and window blinds – donated by local stores. Other local businesses donated items for a prize draw, e.g. an organic hamper, a bicycle, wild bird food and organic dog food. Everyone who participated in the project and returned a completed questionnaire received a free low energy light bulb.

Children participating through the schools all received a free goodie bag (made out of unbleached cotton), containing items which reinforce the message, e.g. recycled pens, pencils, rubbers, rulers, mouse mats (donated by the Scottish Executive), and wildflower seeds (donated by Scottish Natural Heritage) as well as leaflets containing information about the environment.

Pre-publicity included a leaflet explaining the project, and the concept of ecological footprinting, being placed in the lid of every household's bin. Some publicity was also given through the local press, which included a photograph of schoolchildren participating in one of the schools and another with the businesses who sponsored the prizes.

A paper questionnaire was produced (on 100% recycled paper) because schoolchildren needed to take it home for help to complete it. However, people were also encouraged to complete a specially prepared online questionnaire at Best Foot Forward's website. Most of the schools had the children complete their questionnaires on-line and the website also included a facility for teachers to request an eco footprint for their class.

The questionnaire also contained an insert page giving 'Footprint Tips' on how to reduce the size of a household's footprint. The 'Footprint Tips' page was loose and could be retained by the recipient for future reference. The schools also received a 'Footprint Challenge' leaflet giving numerous ideas for projects and offering prizes for the best ones.

The project was part funded by the Fresh Futures/New Opportunities Fund and was match funded by the Council through in-kind contributions of officer time and cash for printing costs, purchasing the cotton goodie bags and recycled pens.

### 3.1.2 Global Action Plan EcoTeams



The Global Action Plan was created in 1993 as a different kind of environmental organisation, focusing on people and how they can take practical action in their everyday lives for a better world. An EcoTeam is a group of households (usually 6-8) who, for four months, commit to monitoring their habits with regard to waste, gas, electricity, water, transport and shopping.

EcoTeams are built upon a few simple principles:

- Nobody can do everything, but we can all can do something
- The work is shared by a group so that members can support and encourage one another and share experiences and ideas
- It's a step-by-step process that helps you to change your lifestyle by small adjustments that become good habits
- By measuring resource use, improvements can be monitored during the course of the programme

EcoTeams has been tested over three years in Nottinghamshire with initial funding by Biffaward, Rushcliffe Borough Council, Nottinghamshire County Council and the Energy Savings Trust. Funding for an extension of the project has been received from the Big Lottery Fund's CRed Programme, Broxtowe Borough Council, Rushcliffe Borough Council, Nottinghamshire County Council, Nottingham Green Partnership and the project is working in partnership with the Broxtowe Partnership Trust.

At monthly meetings EcoTeamers discuss modules on waste and shopping, energy and water. Each module has been developed through feedback with team members and reflects the environmental impact that arises from day to day living.

Additionally, each month, members monitor and record gas, electricity and water consumption. Each week, they weigh the household waste to be sent to landfill. The results are collected and analysed, then individual and joint achievements are fed back to the EcoTeam.

The commitment is small, just a couple of hours per month for the group meeting and a few minutes for measuring each week.

These resource savings were calculated using the average results from 11 teams in 2002:

- Just under 50% on waste
- Around 27% savings on gas and electricity combined
- Around 17% savings on water use (where meters are fitted)

Further information can be obtained from 0207 405 5633 or email [ecoteams@globalactionplan.org.uk](mailto:ecoteams@globalactionplan.org.uk)

### 3.1.3 Energy Descent Pathway

The Energy Descent Pathway has been developed as part of a PhD at Plymouth University by Rob Hopkins. He has developed:

- An Energy Descent Action Plan which can be seen at [www.transitionculture.org](http://www.transitionculture.org)
- Powerswitch – A Personal Energy Descent Plan

He is currently speaking with seven other 'Transition Towns' who can use the name, website and generic leaflet layout. The first 10 steps for a TT group can be seen at [www.energybulletin.net/25464.html](http://www.energybulletin.net/25464.html) They are:

1. Awareness raising
2. Lay the foundations
3. The official unleashing
4. Form groups
5. Use open space
6. Develop physical practical manifestations for the project
7. Facilitate the great reskilling
8. Build a bridge to local government
9. Honour the elders
10. Let it go where it wants to go and reflections

### 3.1.4 CRed



CRed was developed a few years ago by climate change experts at the University of East Anglia in response to the government's calls for individuals to reduce their

carbon emissions. It is a web based tool, which functions as a personal trainer, encouraging and helping users to make pledges to cut their greenhouse gas emissions, while highlighting the financial and environmental benefits of their actions. It also calculates the carbon reduction value of their pledges and gradually tots up the total emissions savings of the entire community.

Further information can be obtained from [www.cred-uk.org](http://www.cred-uk.org) or call 01603 592838 or email [cred@uea.ac.uk](mailto:cred@uea.ac.uk)

The system has been adopted by a number of towns and regions throughout the UK. It has recently been adopted by Chester, which is the first city in the world to offer its 160,000 residents a personal pathway to reducing carbon emissions and becoming carbon neutral. The scheme has substantial business backing and support of students and staff from the University of Chester.

In addition to CRed there are other initiatives running alongside the scheme. There is a special 'going carbon neutral' exhibition at Chester Town Hall, and an exclusive screening of Al Gore's acclaimed new film 'An Inconvenient Truth' that highlights the threats climate change pose for society.

There will be a short conference led by PricewaterhouseCoopers, whose specialists will explain the social and business impacts of global warming. Guest speakers at the event will include representatives from industry and academic sectors, including main sponsor RSK ENSR and the University of Chester.

The cost of setting up CRed in a community is £20,000.

### **3.1.5 Local Public Service Agreement 2 – Cheshire Low Carbon Partnership**

LPSA2 is a Cheshire-wide approach to reducing domestic Carbon Dioxide emissions. It supports communities to become more sustainable through decreasing energy consumption, increase levels of renewable energy and a greater awareness of energy efficiency.

For more information contact Shona Thomas (LPSA2) 01606 594165.

They also run the Cheshire Energy Efficiency Advice Centre, telephone 0800 512 012.

## **3.2 Individual schemes**

### **CRed**

CRed can be used by individuals free on the internet. To use CRed go to [www.cred-uk.org](http://www.cred-uk.org) and register as the 'central or other' region.

### **Carbon Calculators**

Carbon calculators are a tool which has been used for a number of years to help individuals calculate how much carbon they emit each year and what activities cause these emissions. There are many different versions to use for free on the internet but the one developed by Resurgence is widely considered to be the best, coming first in an independent survey of carbon calculators. It can be found at [www.resurgence.org/carboncalculator](http://www.resurgence.org/carboncalculator)

Resurgence is the leading international forum for ecological and spiritual thinking.

The Carbon Calculator was developed in 2004 by Mukti Mitchel, a sailor, carpenter, environmental designer and pioneer of low carbon lifestyles who lives by the sea in North Devon.

Additional footprint calculators include:

- Ecological footprinting at [www.myfootprint.org](http://www.myfootprint.org)
- Carbon footprinting at [www.carbonfootprint.com](http://www.carbonfootprint.com)

### **Carbon Coaches**

There are a number of carbon coaches in the market place. These are individuals that charge a fee to advise individuals on how to work to a continual reduction of their carbon usage. An example is Dave Hampton, whose services are described at [www.carboncoach.com](http://www.carboncoach.com) He has shrunk his own carbon footprint significantly over recent years, and can steer individuals towards those actions that are the most effective, most practical and most rewarding in their situation.

### 3.3 Business schemes

#### Envirowise

Envirowise is a Government funded programme aimed at improving resource efficiency in business. It offers a range of free services including:

- Onsite visits by a resource adviser
- Best practice booklets
- Case study examples

Further information can be found at [www.envirowise.gov.uk](http://www.envirowise.gov.uk) or telephone 0800 585794.

#### The Carbon Trust

The Carbon Trust is a government organisation which funds energy management programmes within businesses. The amount of support available is dependant on energy spend, and eligible organisations must have an energy spend in excess of £50,000 per year.

They have wide range of free advice materials, including a free online energy benchmarking tool which can be accessed from [www.thecarbontrust.co.uk/energy/assessyourorganisation/benchmarking.htm](http://www.thecarbontrust.co.uk/energy/assessyourorganisation/benchmarking.htm)

Further information on the Carbon Trust can be found at [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

#### ENWORKS

This is an environmental business support programme charged with improving business competitiveness and environmental performance throughout the northwest. It is aimed at small and medium sized businesses with a maximum of 250 employees.

Services include:

- A free initial consultation at the business premises
- A dedicated advisor as a contact point ready to answer queries
- A telephone support helpline
- A programme of relevant training events and seminars
- The opportunity to network and trade with other companies and suppliers in your area
- The opportunity to become a member of the ENWORKS Business Environment Association

Further details can be found at [www.enworks.com](http://www.enworks.com)

#### The Cheshire Sustainability Forum Eco-Audits

The Cheshire Sustainability Forum run an Eco Audit project. This project offers free and confidential environmental reviews to small and medium sized businesses and all types of organisations throughout Cheshire. To date over 600 reviews have been carried out across a diverse range of sites. A number of other local authorities, both in the UK and internationally, have used the scheme in their areas. The project has also won a number of awards, both locally and nationally.

For more information about Eco Audit, contact the Eco Audit Co-ordinator on 01244 603125 or email [emma.edwards@cheshire.gov.uk](mailto:emma.edwards@cheshire.gov.uk)

### **3.4 Other community groups/ services**

#### **3.4.1 The Church of England: Shrinking Footprint**

Shrinking the Footprint is the Church of England's national strategic campaign to enable its members and institutions to address - in faith, practice, and mission - the pressing issue of climate change. It aims to challenge, encourage and support the whole body of the Church to shrink their environmental footprint to create the 'The 40% Church' by:

- Making a difference now by following the Shrinking the Footprint path - simple steps to reduce consumption of non-renewable resources by 2008
- Planning to make a difference in the future through a growing series of strategic initiatives and partnerships which will change Church activities, structures and processes, producing sustainable reductions in the Church of England's carbon emissions to 40% of current levels by 2050 – 'The 40% Church'

Further information can be found at [www.shrinkingthefootprint.cofe.anglican.org](http://www.shrinkingthefootprint.cofe.anglican.org)

#### **3.4.2 Schools**

##### **The Global Action Plan – Action for Schools**

Action at School is an environmental programme that helps schools to save resources and money. It is curriculum linked for key stages three and four and is recognised by the United Nations Environment Programme, [www.unep.org](http://www.unep.org)

Action at School helps schools to tackle either water, waste, energy or transport over three terms. Because Action at School is a year-long programme of training and support, it requires third-party funding, which is usually met by Local Authorities or local companies.

The Action at School process is quite unique and involves the formation of an 'Action Team' that includes students, teachers, school site managers, caretaking staff and governors. The Action Team is trained by Global Action Plan to undertake the programme.

The training day is an exciting mixture of games, role-plays and guest speakers. A Global Action Plan trainer works with the team to carry out an audit of the chosen resource and to plan an awareness raising campaign. The team then re-audits at the end of the campaign.

Further information can be found at [www.globalactionplan.org.uk](http://www.globalactionplan.org.uk)

##### **Education for sustainable development**

The Education for Sustainable Handbook (ESD) has been produced by Cheshire County Council and a large number of partner organisations. There are eight chapters each dedicated to different aspects of sustainable development: energy and climate change, wildlife and biodiversity, transport, food, waste, water, waste and resources, health, economy and trade.

A document has been designed for use at all Key Stages providing potential activities, guidance and lesson plans. Throughout the document Cheshire examples have been used to demonstrate the key concepts.

Each chapter provides suggested classroom activities, case study material, good practice guidance and advice on where to find further information.

Further information can be found at [www.cheshire.gov.uk/ecoschools](http://www.cheshire.gov.uk/ecoschools)

## **Eco-Schools**

The Eco-Schools programme provides a simple framework to enable your school to analyse its operations and become more sustainable. Full details are at [www.eco-schools.org.uk](http://www.eco-schools.org.uk)

By following the programme, your school will become a more stimulating place in which to learn, whilst reducing the environmental impact of the whole school on the community.

The scheme is rooted in a genuine desire to help children become more effective citizens by encouraging them to take responsibility for the future of their own environment. It is not about environmental excellence, it is about your school starting to look at how it impacts upon the environment and how this is decided upon and can be managed.

Pupil involvement is a key part of the Eco-Schools programme. Having pupils engaged in the whole process, including monitoring, action planning and decision-making, leads to genuine ownership of the programme and an increase in their sense of responsibility for the school environment and local area.

There are three award levels:

- Bronze award - self-assessed via website leading to a certificate
- Silver award - self-assessed via website leading to a certificate
- Green Flag - externally assessed leading to a certificate and flag

Eco-Schools is run internationally by the Foundation for Environmental Education (FEE). It is administered by ENCAMS in England and Tidy Northern Ireland in Northern Ireland. Eco-Schools is supported by a wide variety of partners.

## **Schools Waste Action Club (SWAC)**

Schools Waste Action Club is an exciting Waste Watch project that provides advice on waste reduction, reuse and recycling in schools, and helps children take practical action on waste.

SWAC has developed a wide range of fun, curriculum-based activities focused on the 3Rs - reduce, reuse and recycle - for use in both primary and secondary schools.

Pilot projects run in Stockport and York during 1998-2000 were a great success with 40% of schools in both areas expressing an interest in the project, many of these becoming actively involved after the first year. The pilot projects paved the way for the current SWAC projects around the country. One of the secrets of SWAC's success is its great flexibility, allowing it to be adapted to suit the individual needs of all schools; primary, secondary and special.

For more information about SWAC please contact Melanie Ducret on 0207 549 0334, or view the website at [www.wastewatch.org.uk/education/swacs.aspx](http://www.wastewatch.org.uk/education/swacs.aspx)

## **Co-operative Group funds wind turbines on schools**

In December 2006 the Co-operative Group launched a £1.5m scheme that will help bring home the message of combating climate change to the next generation by enabling schools across the UK to install solar panels and wind turbines at no cost.

Following the Department of Trade and Industry's (DTI) announcement that its Low Carbon Building Programme (LCBP) will provide up to 50 percent of the cost for schools installing renewable technology, the Co-operative Group's scheme will finance the other half.

This will enable more than 100 schools in 2007 to install photovoltaic panels or micro-wind turbines at no cost to themselves.

## **3.5 Recommendations for 2007**

### **3.5.1 Branding**

#### **Carbon reduction v. sustainability**

There are schemes that focus on both carbon management, and also on living a more sustainable lifestyle. They are very closely interrelated. Are we missing an opportunity by focusing just on carbon reduction? Should we brand ourselves as a sustainability project? There are big government drives for sustainability, as there are for carbon reduction. The problem is there isn't a widely used indicator for sustainability other than ecological footprinting. Also there is an argument to say focus on something which is easy to understand and easy to communicate – start off small with carbon management and then grow from there once the challenge has been achieved.

#### **One Planet Living**

The WWF and David Miliband, HMG Environment Secretary, widely promote the concept of One Planet Living in the context of sustainability. Should we go down this route?

#### **Link to history**

Bollington is steeped in history, being one of the towns of the North to lead the Industrial Revolution. Could we use this link to drive the message – we are going to lead the world in another revolution? This may fit well with the culture of Bollington which has an active Civic Society who are tasked with preserving the old and developing the new.

We could be the 'First Industrial town to become Carbon Neutral'. Leading the Carbon Revolution.

### **3.5.2 Partners**

#### **NWDA**

In November 2006 the NWDA launched 'Rising to the Challenge', its 2007-9 climate change action plan for the northwest. A copy of the report is available from [www.nwda.co.uk/climatechange](http://www.nwda.co.uk/climatechange)

The Bollington initiative delivers on no less than nine out of their 27 actions, as follows:

5. Promote best practice in personal and workplace travel planning to enable individuals and organisations to reduce their reliance on private cars and to make more sustainable travel decisions
7. Encourage the installation of microgeneration and energy efficient technologies and maximise regional access to financial mechanisms to reduce upfront costs for commercial property owners and householders
8. Promote regional pledge initiatives to encourage individuals, groups and organisations to identify and take action to reduce their resource use
9. Support initiatives to encourage the use of sustainable transport
10. Implement a regional carbon offsetting scheme to mitigate for unavoidable carbon emissions
13. Develop and support sub-regional climate change partnerships and Agencies to identify and deliver local action and provide the dissemination mechanism for the implementation of the Northwest Climate Change Action Plan
14. Define, develop and implement a targeted regional energy and climate change communications strategy, with regional media and national support organisations, to raise awareness of the causes of climate change and the necessary actions required to mitigate and adapt, using language appropriate to the different audiences

22. Identify, support and promote demonstration projects on energy efficiency and demand reduction, climate change adaptation measure, low carbon buildings and transport to exemplify best practice
27. Develop the market and regional supply chain for biomass and biofuels including energy from waste, waste wood for biomass and the co-firing potential of biomass in larger schemes

Meet with Mark Atherton and Joe Flanagan to discuss our project and the support we could get from NWDA.

**Macclesfield Borough Council**

Contact Macclesfield Borough Council: Trevor Bithell – 01625 504652. [t.bithell@macclesfield.gov.uk](mailto:t.bithell@macclesfield.gov.uk)

### **3.6 Summary**

This chapter summarises some of the types of community schemes which are currently around which Bollington could replicate. It also looks at existing organisations which may be able to help us on our journey.

## **4 REDUCING OUR IMPACTS**

Previous chapters of this report have looked at why we need to reduce carbon emissions, along with a review of existing community, business and individual schemes set up to help people make these reductions.

This next section explores what we can do within Bollington to reduce our carbon footprint. It looks at how we could generate our own energy, how we could make energy savings through using less at home, and by using less water, generating less waste and reducing our food miles. It also touches on how we can make personal transport decisions to reduce carbon emissions, and finally the different offsetting schemes which are available to us.

### **4.1 Energy production options**

Renewable energy generation would result in reduced reliance on fossil-fuel based energy use for the community, and would thus have a direct benefit on reducing Bollington's carbon footprint. In addition, individual households, businesses and other groups could purchase their existing energy from renewable sources. Whilst this does not mean that the electricity used within a household will definitely be from a green supplier, it increases the demand for renewable energy production.

A range of renewable energy production options are available to the project.

#### **4.1.1 Energy production methods**

##### **Hydro-generation**

Development of a large-scale hydro scheme, perhaps in conjunction with a heritage centre and/or educational facilities, or even a green housing development. This development would not merely provide a clean energy source for the town, but would act as a flagship enterprise for the community as a whole.

Micro-hydro generation could also be utilised at various 'drops' along the River Dean. There are eight drops in total.

##### **Micro-turbines**

Micro-turbines could be installed on mills, public buildings, schools, business premises and private homes, and would both reduce carbon impact and reduce real energy costs per customer. Planning and conservation concerns would need to be addressed before considering wind energy options, as would noise impact.

##### **Solar energy**

Solar energy options are available for mills, public buildings, schools, business premises and private homes, and would both reduce carbon impact and real energy costs per customer. As with wind options, the planning and conservation issues would need to be addressed.

##### **Micro-CHP**

Micro combined heat and power plants could be considered for installation within new developments in Bollington.

##### **Ground Heat Pumps**

Ground Heat Pumps could be utilised for individual premises if feasibility costs could be met.

## Bio-mass

The group should look into the feasibility of local landowners and farmers developing biomass crops for local use. A useful publication in relation to this is 'Woodfuel Heating in the North of England – A Practical Guide'.

## Local distribution

The local distribution of renewable energy generated from the various proposals could either be sold to the grid, or a local grid and distribution network could be created.

### 4.1.2 Future developments of interest

The following future developments could be of great interest to this project:

- The repair and adaptation of the disused Turner's Square toilet block. It could be redeveloped with a low energy consumption approach and possibly have a small water turbine located alongside it. The building is probably going to become the offices of the Bollington Initiative Trust and Bollington Civic Society, so would be a most appropriate project to get everyone involved
- The potential conversion of Bollington Civic Hall could incorporate sola generation
- The potential new pavilion building/cafe in the Recreation Ground incorporate sola generation
- New housing in Hawthorn Road could incorporate advanced energy conservation techniques

### 4.1.3 Summary

Appendix 1 outlines all possible sources of energy generation, even those that are not relevant to Bollington and this project. In respect of the project, the various renewable options are the most likely to be investigated by the Technologies Group. Ultimately, the production of renewable energy on a local basis is a fundamental requirement if we are to achieve our aim of reducing actual carbon levels and thus our carbon footprint, and a combination of the various technologies is likely to be required.

- Organisations who can help us along our way are:
- Renewables Northwest at [www.renewablesnorthwest.co.uk](http://www.renewablesnorthwest.co.uk)
- Cheshire Renewable Energy Initiative at [www.cheshirerenewables.org.uk](http://www.cheshirerenewables.org.uk)

## 4.2 Saving energy

Some estimates say that as much as 40% of UK carbon emissions come from the buildings we occupy. It seems that good energy conservation at home has a great potential to reduce our individual carbon footprint, and the research presented in Appendix 2 looks into how both no cost and low cost savings can be made.

There are a number of organisations set up to help individuals reduce their energy consumption at home. These include:

- Local Public Service Agreement 2 – Cheshire Low Carbon Partnership – Shona Thomas – 01606 594165
- Energy Savings Trust – 08701 261 444

There is also a number of organisations set up to advise businesses on energy reduction and resource efficiency. The key one for direct energy use is The Carbon Trust, [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

### 4.3 Saving water

Water use accounts for less than 2% of our average carbon footprint. However it would still be a valuable exercise to incorporate general water reduction advice into the awareness programme. The main benefit to individuals, other than making a small contribution to overall carbon impact, is a financial one. As 75% of homes remain un-metered, the benefit to most households of installing a meter and reducing their water consumption would be tangible.

United Utilities have produced a guide to reducing water consumption which we could disseminate to the community. In addition, there is a strong case for providing advice on re-using and saving water for use in gardens.

With regard to new developments and any input that we would have in respect of future planning applications, we could try to influence the provision of more efficient water related products. An example of these can be found at [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk) and further information and contacts can be found at the Association For Environment Conscious Building [www.aecb.net](http://www.aecb.net)

The full research for this section is presented in Appendix 3.

### 4.4 Reducing waste

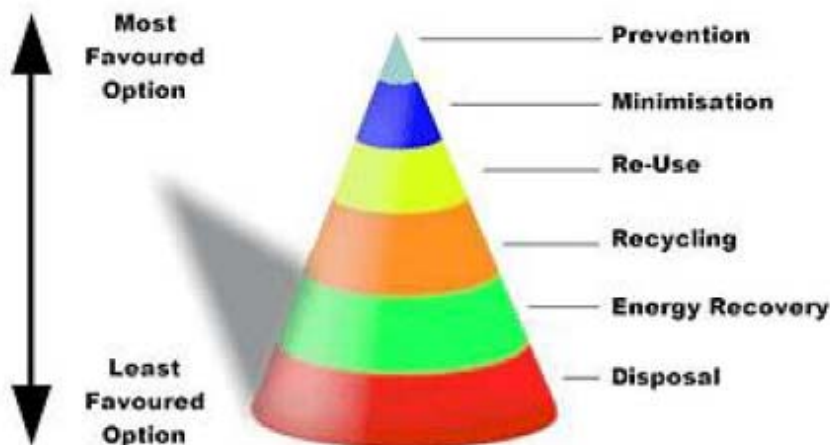
On average, each household produces 1.5 tonnes of waste per year, and approximately 75% of this goes to landfill. Additionally, it is estimated that waste volumes are increasing by 5% per year.

Strategies for reducing waste will form an integral part of the home awareness campaign, in conjunction with energy and water consumption reduction.

In order to minimise the carbon impact of waste production, we will need to raise awareness within the community of the benefits and values of waste minimisation, and we will also need to consider the current status of the various disposal and recycling options available.

Waste management should be addressed through the waste hierarchy, as shown in Figure 7.

Figure 7: Waste hierarchy



Bollington Carbon Revolution will use this waste hierarchy to attempt to reduce the impact of waste in the community:

- Prevention starts at home. Re-using bags, avoiding buying over-packaged products, and campaigning for improved packaging options with manufacturers and suppliers will all form part of a prevention strategy

- Minimisation builds from this, and essentially revolves about personal awareness. Each of us can minimise our waste by thinking before buying, thinking before replacing, and thinking before disposing
- Re-use needs little explanation. Whether it is shopping bags or tin foil, re-use before replace should be the mantra
- Recycling is the preferred disposal option when the above are not applicable. The project needs to consider an integrated recycling/re-use programme for Bollington, for businesses and other groups as well as households. There are other issues with recycling within the context of carbon reduction. The ultimate destination of the materials sent for recycling will impact on any carbon benefits associated with recycling. If, as suspected, our recycled materials are sent to China or elsewhere for reprocessing, the benefit of recycling is at best reduced, and at worst eradicated
- Energy recovery schemes are a possible use for certain materials, and there may be a place for this in Bollington. Further research needs to be conducted to assess the viability of such schemes
- Ultimately, if there is no option other than disposal, the real cost of the disposal option chosen must be calculated

Towards the end of 2006, Bollington's home waste disposal service changed. Now different waste streams have to be separated. Glass & tins, paper & card and textiles are all separated for recycling throughout the town and in some areas biodegradable waste is also segregated. In addition the Recycling Centre on Albert Road provides a number of other recycling options including plastics, batteries and oil, as well as general waste disposal not appropriate for household bins.

The full research for this section is presented in Appendix 4.

#### **4.5 Reducing impact of food**

Food miles, or the distance travelled by food from farm to fork, accounts for around 2% of the average carbon impact of a household. In pure carbon terms, this is relatively insignificant, but overall environmental impact of food transportation is more profound. Additionally, consumers are travelling further to purchase their food, thus adding to their carbon footprint through increased travel impacts. The knock on effect is, of course, a potential deterioration of the local shops and services as increasing amounts of a household's expenditure is spent away from the local community. The vast majority of food consumed in the UK is imported, yet we also export a significant amount of produce. This is not something that Bollington Carbon Revolution can have a great deal of influence on in isolation. However, there are many ways in which we, as individuals and as a community, can mitigate this.

A 'shop local' campaign and a 'buy local produce' campaign are immediate ways to make local changes. An awareness campaign highlighting the issue of food miles and food waste should form part of our overall strategy.

More specifically, we can investigate the possibility of a farmers market, build on Jamie Oliver's school dinners campaign in local schools, forge links with the Medical Centre to improve access to healthy eating campaigns, and investigate the possibility of utilising unused green spaces in Bollington for allotments and/or community gardens. In addition we could consider the possibility of organic gardening schemes for schools as an educational resource as part of the Eco-Schools element of the project, and we could look to provide advice and information on growing organically in private gardens. Ultimately, food production within the community could be organised in such a way that local pubs and restaurants make use of locally grown produce when it is available.

Although the carbon impact of food as a proportion of our carbon footprint is relatively small, there are considerable benefits to individuals and to the community as a whole in developing a strategy around food, its provision and its quality. When sufficient resource is available, we should ensure that this important issue is communicated and measured.

The full research for this section is presented in Appendix 5.

## 4.6 Better travel

Transport accounts for around 25% of our carbon footprint. However, travel is a contentious issue. People become very emotive about their choice of car and their holiday plans. It is not the role of Bollington Carbon Revolution to tell people what car to drive or how many flights to take. It is more a case of presenting the information regarding the impact and implications of personal travel and encouraging a more holistic and realistic perception of the options surrounding this issue.

People's transport choices are increasingly constrained by factors outside their control. The patchiness and expense of public transport often precludes its regular use, and getting children to schools that are close to, and often situated on, busy roads mean that driving is the only reasonable, cost effective and safe option. We as a group are not able to influence these external factors. However, we can do some things to try and minimise the impact that our travel has.

We can work with local authorities to consider traffic calming measures and alternatives to the school run. We can raise awareness of the impact of personal travel on our carbon footprint and the environment, and encourage restraint in journeys made. We can highlight the financial benefit of smaller and more efficient cars. We can place travel within the wider context of personal responsibility. We can introduce an offsetting scheme in which funds are channelled into the project to promote other elements of carbon reduction. We can promote the benefits of holidays in the UK.

Essentially, the choice of car that people drive is a personal one, and as the cost of driving increases through such proposals as congestion charging the ultimate appeal is a financial one. However, local congestion charges such as the one proposed for Manchester don't really address the real problems, they merely penalise people who have to get to work. Without a change to the provision of public transport to counterbalance the charge, there will be little environmental, carbon or economic benefit. There may be a case for a national pay-per-mile scheme, but it is controversial for individual locations to introduce charges.

Discussions have in the past been held around the feasibility of running a community bus/ people carrier for Bollington and Kerridge, taking a 30 minute route passing all pubs and shops. A scheme was trialled during the Christmas period one year and it proved to be very successful. This route could be permanently set up and could also be extended to take in Prestbury, Mottram St Andrews, Alderley Edge, Wilmslow and Altrincham, all of which are currently difficult to arrange without going through Macclesfield.

The following websites may be useful in helping people reduce carbon emissions from travel:

- Carbusters - [www.carbusters.org](http://www.carbusters.org) International campaigners for a car free world
- Environmental Transport Association – [www.eta.co.uk](http://www.eta.co.uk) Green car insurance from a company that lobbies for more cycle lanes rather than more roads
- Sustrans – [www.sustrans.org.uk](http://www.sustrans.org.uk) Sustainable transport campaigners
- Transport 2000 – [www.transport2000.org.uk](http://www.transport2000.org.uk) Independent national organisation promoting sustainable transport

- The man in seat 61 - [www.seat61.com](http://www.seat61.com) A personal site set up by a devoted railwayman about non-air routes around the world
- Transport Impact Calculator – [www.travelcalculator.org](http://www.travelcalculator.org) A simple calculator to calculate annual travel emissions
- Air Car – [www.theaircar.com](http://www.theaircar.com) Cars that run on compressed air
- Alternative Vehicles Technology – [www.avt.uk.com](http://www.avt.uk.com) A company selling a wide range of electric cars and vans, including Renault Twingos
- Honda – [www.honda.co.uk](http://www.honda.co.uk) Producers of Honda Civic Hybrid and Honda Insight as well as investing heavily in research into hydrogen
- Lexus Hybrid – [www.lexus-hybrid.com](http://www.lexus-hybrid.com) All about the Lexus hybrid
- Sakura – [www.sbsbsb.com](http://www.sbsbsb.com) – Sellers of the Maranello4, a new electric car
- Toyota – [www.toyota.co.uk](http://www.toyota.co.uk) Makers of the Toyota Prius hybrid
- VillageCarShare.com – [www.villagecarshare.com](http://www.villagecarshare.com) Information about setting up car sharing schemes in villages
- Cycle Campaign Network – [www.cyclenetwork.org.uk](http://www.cyclenetwork.org.uk) – UK national federation of cycle campaign groups

## 4.7 Offsetting

The offsetting of carbon can be a controversial issue depending on the methods chosen. Carbon offsetting can be achieved through the generation of renewable energy, or through tree planting. Ashton Hayes' own experience in respect of tree planting is a cautionary tale. This doesn't mean that we can't have planting schemes or attempt to enhance the green spaces in Bollington as part of the project, it just may be that we will struggle to assign a carbon benefit to that aspect of the project.

Measuring the benefits can be difficult, but there are more fundamental issues surrounding offsetting that need to be addressed. The main problem is that offsetting doesn't address the issue of consumption. Reducing consumption is fundamental to our objective of carbon neutrality for Bollington, and there is a danger that an undue emphasis on offsetting will send the wrong message in this regard.

There is no problem with using offsetting as part of our overall strategy. The scheme at Ashton Hayes in which individuals pay offsetting costs to the project, which are then used to further develop the objectives of the project could be developed in Bollington, although the administrative aspects of it need to be carefully considered. For details of Ashton Hayes' offsetting scheme go to [www.goingcarbonneutral.co.uk](http://www.goingcarbonneutral.co.uk)

DEFRA have recently released a voluntary code of practice for consultation for offset providers. As there has been an absence of standards for carbon offsetting service providers it seems that currently only four existing providers will be able to comply with the Code. Any local scheme developed would need to adhere to this voluntary code of practice. For further information see [www.endsreport.com](http://www.endsreport.com)

Additional websites/ schemes which may be of use are:

- The Carbon Neutral Company offset scheme, [www.carbonneutral.com](http://www.carbonneutral.com)
- The Climate Care offset scheme, [www.climatecare.org](http://www.climatecare.org)
- The Woodland Trust offset scheme, [www.woodland-trust.org.uk](http://www.woodland-trust.org.uk)
- The BP offset scheme, [www.targetneutral.com](http://www.targetneutral.com)

The set up of an offsetting scheme will be a priority focus of this project. It is thought that it will be a lot easier to raise money from local businesses if they can get something tangible for their money, it will allow residents to get involved and demonstrate to third party funders that we can raise our own money.

John Kershaw should be contacted in the first instance regarding the planting of trees.

Similar schemes have involved local schools in tree planting programmes and this should be explored as part of this project.

## **4.8 Summary**

This chapter provides an overview of the range of opportunities Bollington has to reduce its carbon footprint. As it is not possible to do all of these at once we need to prioritise and embark on those which we can easily manage, or that have the greatest impact. We will therefore set up two groups to look at direct carbon reduction as follows:

- Technologies Group: Looking at how our community can produce its own low carbon energy
- Energy Efficiency Group: Looking at how our community can reduce energy consumption

We will also set up a third sub-group focusing specifically on schools, as engaging children will be key to the success of the project.

The fourth and final priority sub-group will be a communications sub-group who will ensure that the right information is communicated at the right time to the right people.



## **5 FUNDING**

### **5.1 Requirement for funding**

This project has been developed and lead by a group of Bollington Civic Society volunteers, who over six months have developed a strategy to deliver the Bollington Carbon Revolution. As part of this research a comprehensive review of all possible funding sources has been undertaken, and the findings are presented in Appendix 6.

However, the success of this project going forward is now dependant on start-up funding for the following reasons:

- The management committee are all in full time employment and only have a limited amount of time available to commit to the project and get involved in the submission of funding applications and the detail of delivery which is required
- It is important that when we launch this into the wider community we maintain momentum, and therefore need the resources in place to help and support residents, businesses and schools on their journey to reduce their carbon emissions
- One of our greatest risks is that we take on too much for us to manage and either manage the project ineffectively, or loose volunteers due to work overload. Having funding available to appoint a part time professional to work for us is considered a key factor to our success

### **5.2 Action plan**

The following action plan is proposed to secure the resources necessary to deliver this project:

1. Draw down a small amount of funding, circa £5-10k to write a business plan. The business plan would deliver on our broad three year objectives, and will be developed in conjunction with the individual sub-groups.
2. Draw down a lump sum of funding, circa £40K to employ a consultant for one day a week for a minimum of two years. This consultant would be tasked with delivering on the business plan, by identifying and making funding applications to deliver on each component of the business plan. This would ensure that the larger sums of monies which are required for example for the water wheel project, or delivering on the communications plan objectives, are secured.

It is recommended that in the first instance the Public Sector stakeholders are made aware of our project through either one-to-one meetings or through a small event staged at the Discovery Centre. Advice should be sought from these stakeholders on how we might secure our initial funds to take our project forward.



## 6 HOW WE MANAGE OURSELVES

Bollington Carbon Revolution is a sub-committee of Bollington Civic Society and as such will operate within the parameters of a charitable organisation. The project is an independent entity in its own right and will have its own steering committee, specialised roles within that, its own bank account and financial record keeping procedures, and finances.

The steering committee defines the aims, terms of reference, and objectives of the project, determines strategy, applies for funding and monitors the individual project groups within it. The individual project streams, which at the time of writing are Energy Efficiency, Technologies (Energy Production), Eco-Schools and Communication, will be self-managed within the terms of reference of the project as a whole.

The specific roles within the committee will rotate annually as long as there is a willingness by an individual to take on one of the roles. The project will be inclusive throughout its lifetime.

Our name reflects the nature of our town, and the way that we feel it needs to develop in the future. The industrial revolution started in the northwest of England, and the Carbon Revolution can begin there as well.

The aim of the project, to help Bollington reduce its carbon footprint, has no defined timescale – it is a journey rather than a destination, and we intend that the whole community takes part in that journey.

We also aim to communicate what we do with other communities, once we have established ourselves and determined the resources necessary for the task. Our experience and information will be available without prejudice, and will hopefully contribute to a grass-roots carbon revolution throughout the UK.

We shall adopt the following rules developed by Ashton Hayes as our own:

- We see this as a journey to reduce our carbon footprint and do not know when we will get there
- It is a non-political 'grass roots' project
- We are a non-confrontational group
- We recognise human activity is contributing to major climate change but we do not apportion blame or point the finger at anyone
- We welcome everyone to join in and support our aims
- We do not focus on the threats of climate change, more on the benefits of taking action

The full research for this section is presented in Appendix 7.



## 7 THE WAY FORWARD

### 7.1 Three Year Plan

The following table shows our draft plan for 2007, 2008 and 2009. The main emphasis of the year will be around communications and the 2007 launch (September TBC), followed by a process of establishing our carbon footprint.

Objectives	Year 1, 2007	Year 2, 2008	Year 3+, 2009
To educate and raise the awareness within our community of the actions we can all take to slow down climate change	Communications plan in place Launch event September 2007 (TBC) See Communications plan for targets		
To establish Bollington's carbon footprint	Establish carbon footprint December 2007	Carbon footprint reduction of 5%	Carbon footprint reduction of 10%
To support Bollington on its journey to reduce carbon emissions	Management structure established Part time/ full time project co-ordinator		
	Technologies sub-group established	Water power feasibility study completed Example low carbon technologies in homes	Water wheel in place Micro grid in place
	Energy efficiency sub group established	Home groups established Community advice mobile centre established	
	Eco-schools sub-group established	All schools engaged in the project	All schools following Cheshire ESD
To share and gain knowledge and experience with other communities and groups without prejudice	Set up a communications sub-group to respond to enquiries Set up website		
To secure funds for all project requirements	Draw down funding to write business plan	Funding secured for all groups	
	Research for the creation of two low carbon offset schemes	Offset schemes established	
To ensure professional execution of our projects	Secure additional funds to enable us to appoint a Consultant for one day/week		

## **7.2 Management committee proposal**

Nicola Riley – Chair

Nicola Riley – Lead – Communications

Peter Mould – Lead – Technologies

Jo Stone – Lead – Eco-Schools

TBC – Lead – Energy Efficiency

Rob Ashby – Funding and baseline review

Alison Kenworthy – Treasurer

The management committee will meet monthly. All sub-group leads will report progress at the monthly management committee meetings.

## 8 WAYS OF COMMUNICATING

### 8.1 Communications group

- Nicola Riley
- Warren Percival
- Rob Ashby
- Graham Barrow

### 8.2 Communications support network

- Jill Richardson – Discovery Centre Communications Manager
- Steve Murphy – Journalist
- David Ward – Guardian Journalist
- James Nicholas – member of Civic Society with TV links
- Louise Tickle – Freelance Journalist
- Jane Kinsley – Ashton Hayes Communications Manager

### 8.3 Objectives and three year plan

Objectives	Year 1, 2007	Year 2, 2008	Year 3+, 2009
To educate and raise the awareness within our community of the actions we can all take to slow down climate change	Communications plan in place Launch event September 2007 (TBC)		
To establish Bollington's carbon footprint	Establish carbon footprint December 2007 (TBC)	Carbon footprint reduction of 5%	Carbon footprint reduction of 10%
To support Bollington on its journey to reduce carbon emissions	Management structure established Part time/ full time project co-ordinator	Part time/ full time project co-ordinator	
	Technologies sub-group established	Water wheel feasibility study completed Example low carbon technologies in homes	Water wheel in place Micro grid in place
	Energy efficiency sub-group	Home groups established Community advice mobile centre established	
	Eco-schools sub-group	All schools engaged in project	All schools following Cheshire ESD

Objectives	Year 1, 2007	Year 2, 2008	Year 3+, 2009
To share and gain knowledge and experience with other communities and groups without prejudice	Set up a communications sub-group to respond to enquiries Set up website	Communications group self running	

## 8.4 Communication methods

1. Media
  - Local television
  - Local newspaper
  - National newspaper
  - Local radio
2. Website
3. Local publications
4. Newsletter drop
5. Face to face
6. Email
7. Posters
8. Event
9. Meetings
10. Committee
11. Workshops
12. Videos
13. Surveys
14. Public meetings
15. Printed materials (reports, brochures & newsletters)
16. Focus group
17. Guided tours with an environmental focus
18. Advisory groups
19. Help desk
20. Art exhibitions

## 8.5 Stakeholder map

Stakeholders i.e. who will our success rely on?	What do they want to know? Plans/progress/benefits/ opportunities/cost/impact	When do they want to know it? Do they have deadlines/specific timeframes for decision making?	What is the best way to communicate with them and how? Meetings/email/face to face /committee/report/media/events	Priority	Resource
Civic Society	Progress	Every 3-6 months	6 monthly presentation, report 6 weekly at committee meeting, Launch event	Red	NR & RA
Town Council	Plans, progress, benefits, costs	At start up and then at a regular frequency TBC	Meetings, newsletter by email, launch event TBC	Red	NR
Macclesfield Borough Council	Plans, progress, benefits, costs	At start up and then at a regular frequency TBC	Meetings, newsletter by email, launch event TBC	Red	Communica- tions group
Cheshire County Council	Plans, progress, benefits, costs	At start up and then at a regular frequency TBC	Meetings, newsletter by email, launch event TBC	Red	Communica- tions group
NWDA	Plans, progress, benefits, costs	At start up and then at a regular frequency TBC	Meetings, newsletter by email, launch event TBC	Red	Communica- tions group
Manchester University	Plans, progress	At start up, as project goes on	Meetings, newsletter by email, launch event TBC	Red	Communica- tions group
Residents	How they can reduce their carbon footprint	At start up and regularly	Launch event, paper newsletter, media, website, face to face, posters, workshops, video, survey, public meetings, advisory groups, help desk, art exhibitions/ other exhibitions	Green	Communica- tions group
Local businesses* <sup>1</sup>	Plans, progress, benefits, costs	At start up and then at a regular frequency TBC	Meetings, newsletter by email, launch event TBC	Red	Communica- tions group
Schools* <sup>2</sup>	How they can reduce their carbon footprint. How they can get kids involved.	At start up and then at a regular frequency TBC	Meetings, newsletter by email, launch event TBC	Red	Schools group

Stakeholders i.e. who will our success rely on?	What do they want to know? Plans/progress/benefits/ opportunities/cost/impact	When do they want to know it? Do they have deadlines/specific timeframes for decision making?	What is the best way to communicate with them and how? Meetings/email/face to face /committee/report/media/events	Priority	Resource
Churches* <sup>3</sup>	How they can reduce their carbon footprint	Launch event and then at a regular frequency TBC	Meetings, newsletter by email, launch event, workshops TBC	Orange	
Other community groups* <sup>4</sup>	How they can reduce their carbon footprint	Launch event and then at a regular frequency TBC	Meetings, newsletter by email, launch event, workshops TBC	Orange	
Sir Nicholas Winterton MP	Plans, progress, benefits, costs	At start up and then at a regular frequency TBC	Meetings, newsletter by email, launch event TBC	Red	Communications group
Funded business support organisations* <sup>5</sup>	Plans/progress/benefits/ opportunities/ /impact	At start up and then at a regular frequency TBC	Meetings/ email	Red	Efficiency group
Funded community energy savings organisations * <sup>6</sup>	Plans/progress/benefits/ opportunities/ /impact	At start up and then at a regular frequency TBC	Meetings/ email	Red	Efficiency group
Eco-school support organisations * <sup>7</sup>	Plans/progress/benefits/ opportunities/ /impact	At start up and then at a regular frequency TBC	Meetings/ email	Red	Schools group
Technologies support organisations * <sup>8</sup>	Plans/progress/benefits/ opportunities/ /impact	At start up and then at a regular frequency TBC	Meetings/ email	Red	Technologies group

## Notes

### **\*1 Local businesses**

(Major businesses):

AstraZeneca (Will Spinks)  
Tullis Russell  
Slater Harrison (Mike Braddock)  
Kay-Metzeler  
Bollington Insurance  
Adelphi Group  
Capitol One  
Pumping & Technical Services  
J A McNulty  
BC Transport  
Adelphi Mill  
Clarence Mill  
Holmes - Naden  
Shops - various

### **\*2 Schools**

Tytherington High School  
Dean Valley  
St John's CofE  
St Gregory's RC  
Bollington Cross CofE

### **\*3 Churches**

Methodist  
St Gregory's RC  
Bollington Christian Life  
St Oswald's CofE  
Savio House RC

### **\*4 Other Community Groups**

Domestic waste disposal site  
Women's Institute  
Bollington Arts Centre  
Bollington Library  
Leisure Centre  
Cricket Club  
Football clubs  
Scouts/ Guides  
Sea Cadets  
Bollington Leisure Centre  
Waterhouse Medical Centre  
Well Dressing Committee  
Others - see organisations section of web site

### **\*5 Funded business support organisations**

Envirowise  
The Carbon Trust  
Envirolink Northwest  
ENWORKS

### **\*6 Funded community energy savings organisations**

LPSA2 - Cheshire Low Carbon Partnership  
Energy Savings Trust

### **\*7 Eco-school support organisations**

Schools Waste Action Club  
Education for Sustainable Development

### **\*8 Technologies support organisations**

Northwest renewables  
Cheshire renewables

## 8.6 Priorities

The rows marked with a red indicator reflect the most important stakeholders to meet with to obtain support and secure funding.

The rows marked with an orange indicator are still important stakeholders and must be contacted during the spring/ summer, but they are not as key at the initial start up phase of the project.

The rows marked with a green indicator are still crucial for the success of the project but at a later stage, once the red and orange stakeholders have been communicated with.

## 8.7 Communication objectives & targets Year 1

Objective	Target
Objective: Meet with primary (red) stakeholders and obtain buy in and secure funding. Agree method and frequency of contact. Identify what they can do for us and when.	Target: All red stakeholders to be met by end April 2007. All to have agreed: <ul style="list-style-type: none"> <li>- What they can do for us and by when</li> <li>- What they need from us and by when</li> <li>- How they would like us to communicate with them and when</li> </ul>
	Target: Establish on-going communication with all red stakeholders by end April 2007
Objective: Meet with orange stakeholders and gear all activities and communications around the September launch event.	Target: Meet all orange stakeholders by end June 2007 All to have agreed: <ul style="list-style-type: none"> <li>- What they can do for us and by when</li> <li>- What they need from us and by when</li> <li>- How they would like us to communicate with them and when</li> </ul>
	Target: Establish on-going communication with all red stakeholders by end June 2007
	Target: Hold launch event in September 2007 (TBC) for all stakeholders
Objective: Undertake baseline review to establish carbon footprint.	Target: Town carbon footprint established by May 2008
	Target: Ongoing communications with all stakeholders

## 8.8 Stakeholder contacts

Sub-group theme	Organisation	Name	Contact details
Communications	Macclesfield Borough Council	Trevor Bithell	01625 504652
Communications	Manchester University	John Handley, Professor & Head of School, School of Environment and Development	<a href="mailto:john.handley@manchester.ac.uk">john.handley@manchester.ac.uk</a> and/or <a href="mailto:awatson@mmu.ac.uk">awatson@mmu.ac.uk</a>
Communications	Cheshire County Council	Michele Burrow, Environmental Co-ordinator	01244 603125 <a href="mailto:michele.burrow@cheshire.gov.uk">michele.burrow@cheshire.gov.uk</a>
Communications	NWDA	Mark Atherton and Joe Flanagan	01925 400100
Communications	Envirolink Northwest	Ian Sibbick, Head of Energy	01925 856048 <a href="mailto:i.sibbick@envirolinknorthwest.co.uk">i.sibbick@envirolinknorthwest.co.uk</a>
Communications	Bollington Well Dressing committee	Janet Beech	<a href="mailto:janetgbeech@btinternet.com">janetgbeech@btinternet.com</a>
Communications	Tree planting	John Kershaw	Details from Tim Boddington
Energy efficiency	Envirowise		0800 585794 <a href="http://www.envirowise.gov.uk">www.envirowise.gov.uk</a>
Energy efficiency	The Carbon Trust		<a href="http://www.carbontrust.co.uk">www.carbontrust.co.uk</a>
Energy efficiency	Local Public Service Agreement 2 – Cheshire Low Carbon Partnership	Shona Thomas	01606 594165 (Also Cheshire Energy Advice Centre, 0800 512 012)
Energy efficiency	ENWORKS		<a href="http://www.enworks.com">www.enworks.com</a>
Energy efficiency	Energy Savings Trust	Community Action for Energy	08701 261 444
Energy efficiency	Cheshire County Council	Helen De Lemos, Waste Strategy Manager	0151 357 4500
Energy efficiency	Global Action Plan		0207 405 5633 <a href="mailto:ecoteams@globalactionplan.org.uk">ecoteams@globalactionplan.org.uk</a>

Sub-group theme	Organisation	Name	Contact details
Energy efficiency	Cheshire County Council	Emma Edwards, Eco Audit Co-ordinator	01244 603125 <a href="mailto:emma.edwards@cheshire.gov.uk">emma.edwards@cheshire.gov.uk</a>
Eco-schools	Schools Waste Action Club	Melanie Ducret	0207 549 0334 <a href="http://www.wastewatch.org.uk/education/swacs.aspx">www.wastewatch.org.uk/education/swacs.aspx</a>
Eco-schools	Education for Sustainable Development		<a href="http://www.cheshire.gov.uk/ecoschools">www.cheshire.gov.uk/ecoschools</a> <a href="http://www.sustainable.cheshire.org.uk">www.sustainable.cheshire.org.uk</a>
Technologies	Northwest Renewables	Julian Carter, General Manager	0161 236 7481 <a href="mailto:julian.carter@renewablesnorthwest.co.uk">julian.carter@renewablesnorthwest.co.uk</a>
Technologies	Cheshire Renewables		<a href="http://www.cheshirerenewables.org.uk">www.cheshirerenewables.org.uk</a>

Further people have been in touch and would like to be kept informed:

Sub-group	Organisation	Name	Contact details
Communications	Bosley Carbon Neutral project	Sam Alston	01260 226340 <a href="mailto:sam.alston@naturalengland.org.uk">sam.alston@naturalengland.org.uk</a>
Communications	Ashton Hayes Going Carbon Neutral	Garry Charnock	01829 752714 <a href="mailto:charnock@t-e-s.co.uk">charnock@t-e-s.co.uk</a>
Communications	The National Centre for Business and Sustainability	Penny Street	0161 247 7979 <a href="mailto:p.street@thencbs.co.uk">p.street@thencbs.co.uk</a> <a href="http://www.thecbs.co.uk">www.thecbs.co.uk</a>
Communications		Ben Ruth	<a href="mailto:ben.ruth@escendency.com">ben.ruth@escendency.com</a>

## 9 SUMMARY

Current scientific evidence tells us that the earth is heating up and we have between ten and 15 years to reduce our carbon emissions and prevent the severity of this increase. Bollington is steeped in history, being one of the towns of the North of England to lead the Industrial Revolution and release carbon emissions into the atmosphere. Could we be part of the solution, leading the world into another revolution, the Carbon Revolution? Could this new revolution be started through a handful of eager volunteers?

Bollington Civic Society has initiated the concept of a carbon management programme within Bollington. This report is the product of four months of research by the newly formed Bollington Carbon Revolution group and lays out how our town can embark on the journey of reducing our carbon footprint.

Through this research we have developed the following four objectives which we will deliver on this coming year and in years to come:

- To educate and raise the awareness within our community of the actions we can all take to slow down climate change
- To establish Bollington's carbon footprint
- To support Bollington on its journey to reduce carbon emissions
- To share and gain knowledge and experience with other communities and groups without prejudice

We will work together this year and embark on our journey to be the first industrialised town to become carbon neutral. We do not know when we are going to get there, and we will all have to make changes to the way we normally do things, but hopefully we will achieve our goal and along the way help other communities on their journey too, being part of a Carbon Revolution.

If you would like any further information on our project then please look at our website [www.happy-valley.org.uk/revolution](http://www.happy-valley.org.uk/revolution) or email Nicola Riley on [revolution@happy-valley.org.uk](mailto:revolution@happy-valley.org.uk)