



Climate Change Strategy

2012/13 - 2015/16



BEDFORD
BOROUGH COUNCIL

Contents

Foreward	Page 3
Introduction	Page 4
a) Climate Change: The Need for Action	Page 4
b) Drivers to Tackle Climate Change	Page 10
c) Aims	Page 12
d) Objectives	Page 12
Priority One: Tackling Climate Change	Page 14
a) Energy Efficiency	Page 14
b) Renewable Energy	Page 24
c) Emissions from Transport	Page 32
d) Adaptation	Page 38
Priority Two: Using Resources Efficiently	Page 42
a) Waste	Page 42
b) Water	Page 45
c) Purchasing	Page 50
d) Sustainable Building Development	Page 56

Foreward

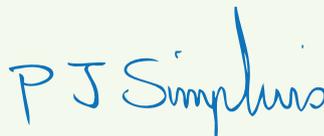
Climate change is one of the greatest environmental challenges facing our world today. There is now wide scientific consensus that states that human activity is a major cause of recent warming and that incidents relating to climate change will become a more frequent occurrence, including but not limited to extreme weather events, water shortages and damaging storms.

Although a global issue, climate change should be tackled at all levels. The Council is committed to playing its part at a local level to encourage actions to tackle Climate change. Priority Area 2 of the Council's Corporate Plan (2012-2016) refers to Climate Change and Environmental Sustainability with a clear objective "To ensure that the Borough reduces its carbon footprint, including by managing our waste more effectively". The Sustainable Community Strategy (2009-21) also sets out a vision for the future of Bedford Borough and the goals that the Partnership is seeking to achieve. Theme 2 'A Greener Borough' is particularly relevant to climate change. Aim 1 is to "minimise carbon emissions and adapt to the impacts of Climate change focussing on transport, business and homes". Aim 6 refers to "Reducing our dependence on fossil fuels".

This updated Climate Change Strategy and Action Plan replaces the 2010-12 strategy and covers the period 2012/13 - 2015/16. It reviews the progress made by the Council to date to mitigate and adapt to the impacts of climate change, whilst also providing a framework for action over the next four years. As an organisation, the Council will review and reduce the impact it has on the environment and that of the services it delivers in the Borough. The Council will also continue to work in partnership with other organisations in the Borough, including businesses, community groups and local residents to help the Borough mitigate and adapt to climate change.



Dave Hodgson
Mayor of Bedford Borough



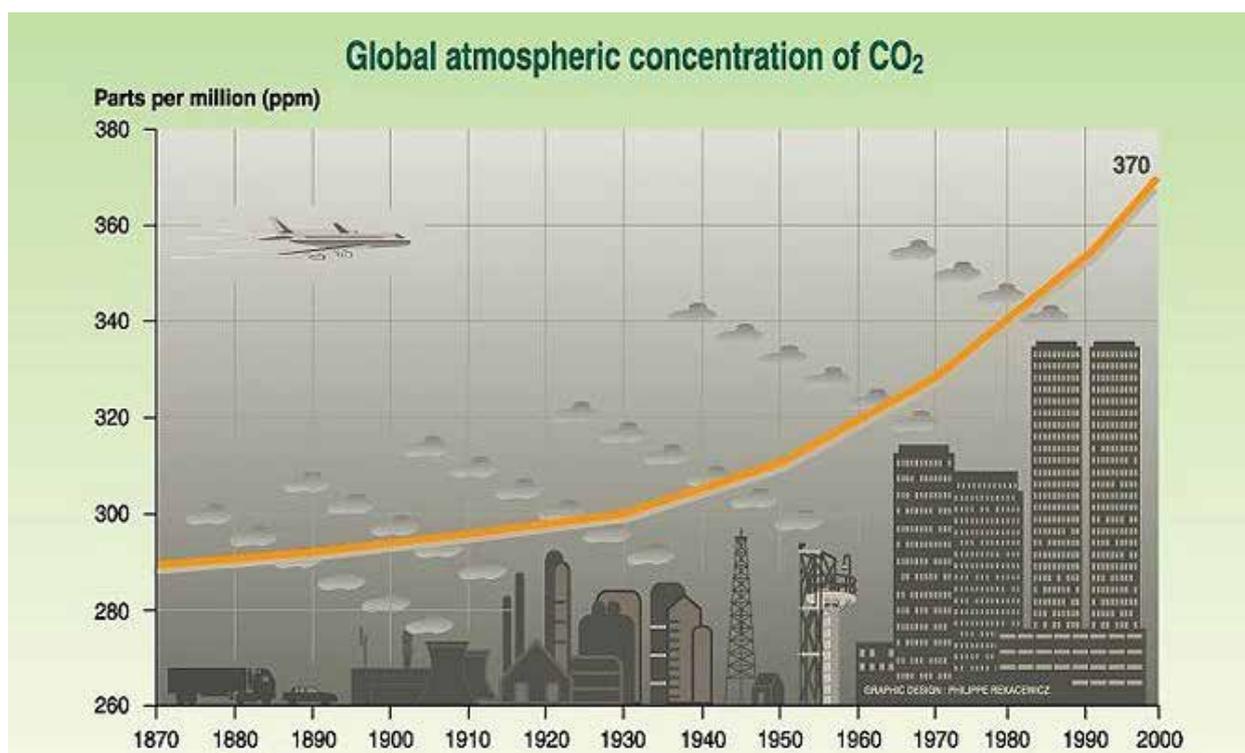
Philip Simpkins
Chief Executive

Introduction

a) Climate Change: the Need for Action

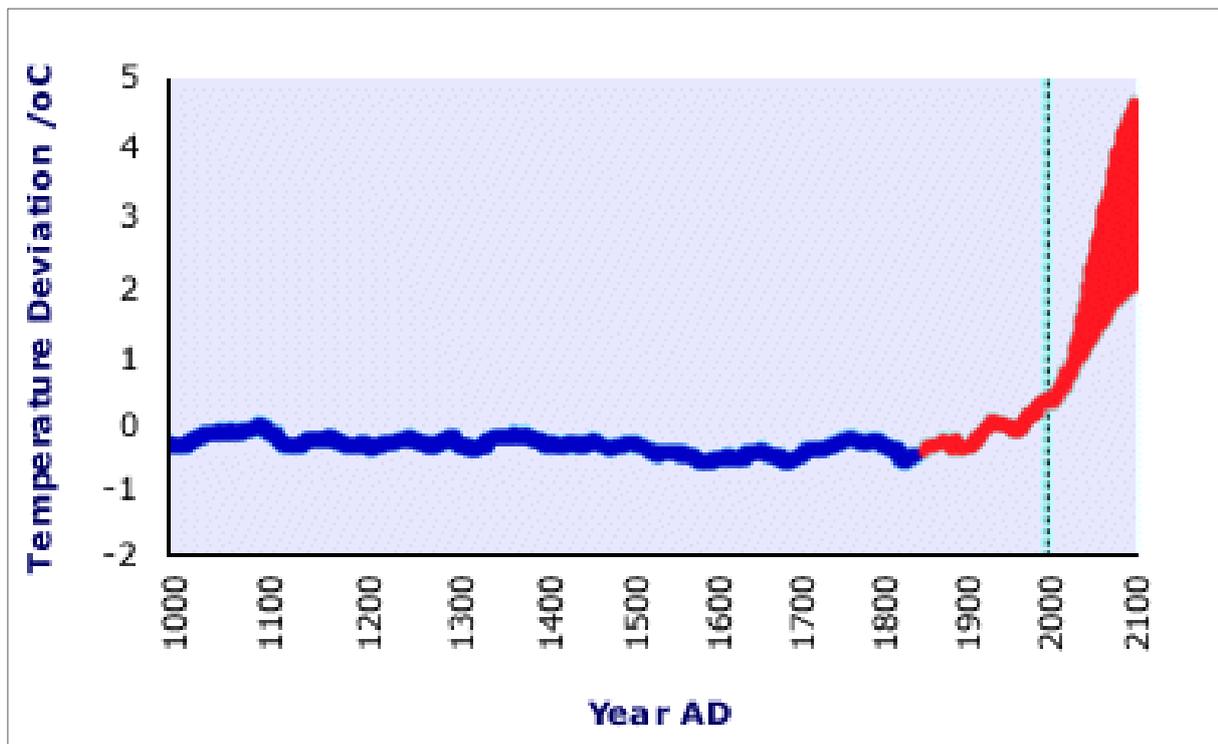
Causes and Effects

Climate refers to the average weather experienced over a long period, typically 30 years. The Earth's climate has changed many times in response to natural causes. However, in recent years we have entered into a consistent upwards trend in world temperatures. The term climate change usually refers to changes that have occurred since the early 1900s. In 2007, the Intergovernmental Panel on Climate Change (IPCC), the world's most authoritative body on climate change, concluded that 'most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic (man-made) greenhouse gas concentrations.' Increased industrial activity and the burning of fossil fuels like coal, oil and natural gas to power our homes and vehicles have resulted in a dramatic increase in the level of carbon dioxide released into the atmosphere. Trapping more heat in our atmosphere, our global climate has become a lot warmer.



Source: TP Wharf SCripps, Manna Lea Observatory, Hawaii, Institution of Oceanography (SIO), University of California, United States, 1999

Increases in temperatures have already had significant impacts on global climate systems and the effects of climate change have already been and continue to be felt. The graph below shows how the temperature has increased since the late 1800s and how it is predicted to increase over the next 90 years.



Source: www.cred-uk.org/centralcontent.aspx?intCID=2

Potential Impact and Implications for the Council and the Borough

According to the UK Climate Impacts Programme, established in 1997 to help co-ordinate scientific research into the impacts of climate change and to help organisations prepare and adapt to climate change, average temperatures have increased by 0.7°C in the UK since 1659. Summers have become hotter and drier; winters milder and wetter. Despite efforts to reduce carbon emissions and mitigate climate change the projections show that some degree of climate change is now inevitable whatever we do. We must prepare for these changes now.

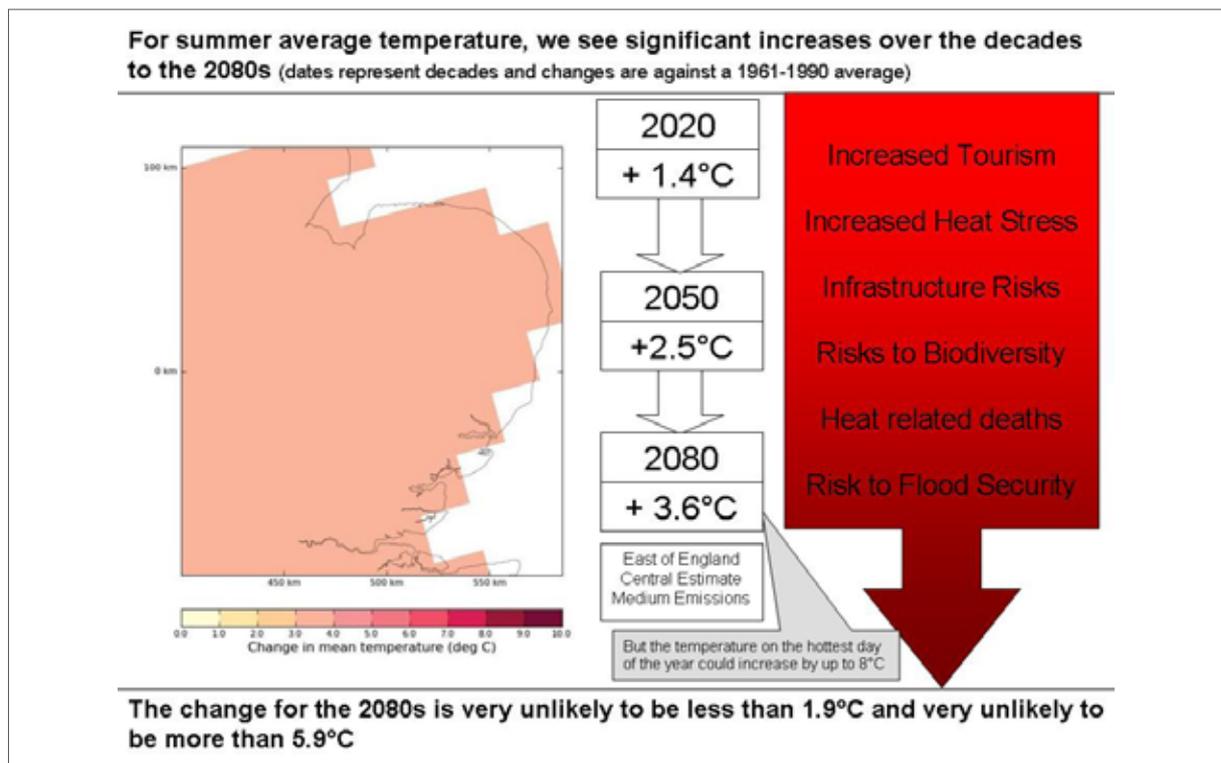
Past emissions are likely to make summers over 2 degrees hotter in southern England by the 2040s (compared to the 1961-1990 average). This might seem like a relatively small increase, but even this increase in temperature is likely to have a significant impact upon our region. Taking the 2003 heat wave in Europe for example, an increase in average daily temperatures of 2 degrees resulted in 35,000 deaths across Northern Europe. It is vital that we plan and prepare for the potential impacts of Climate change in order to adequately adapt to them.

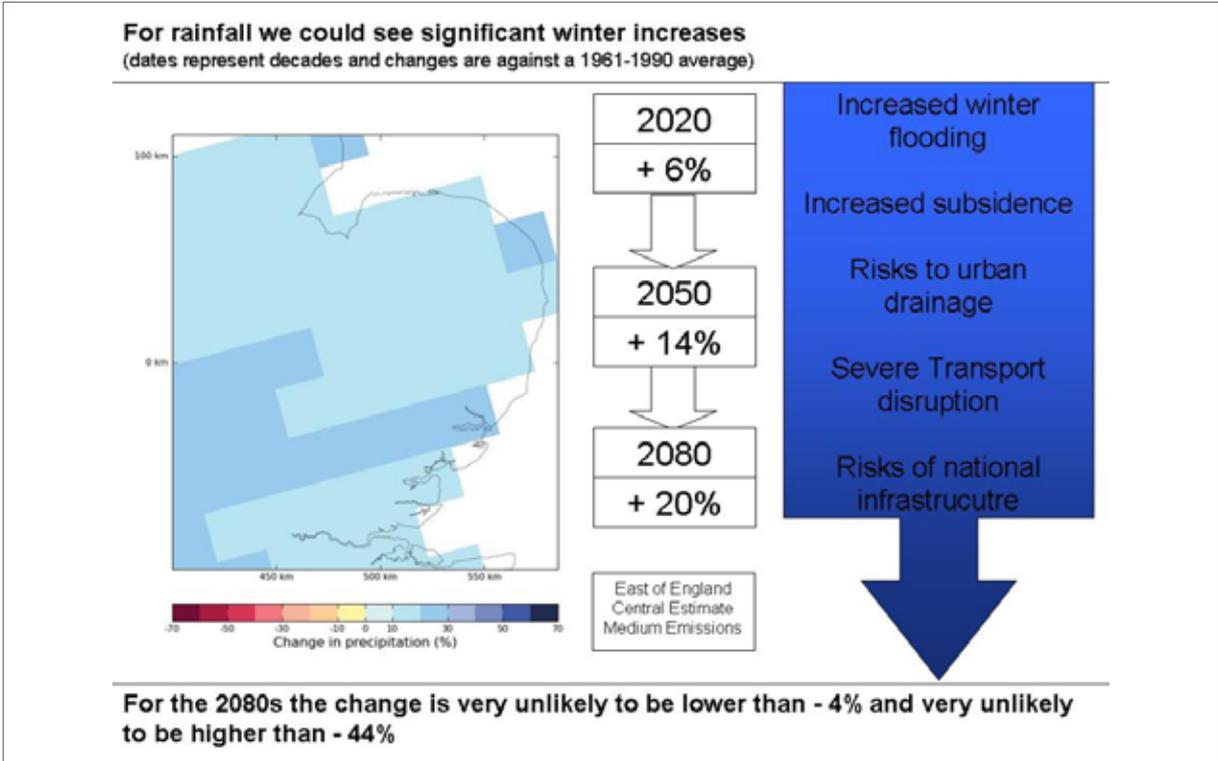
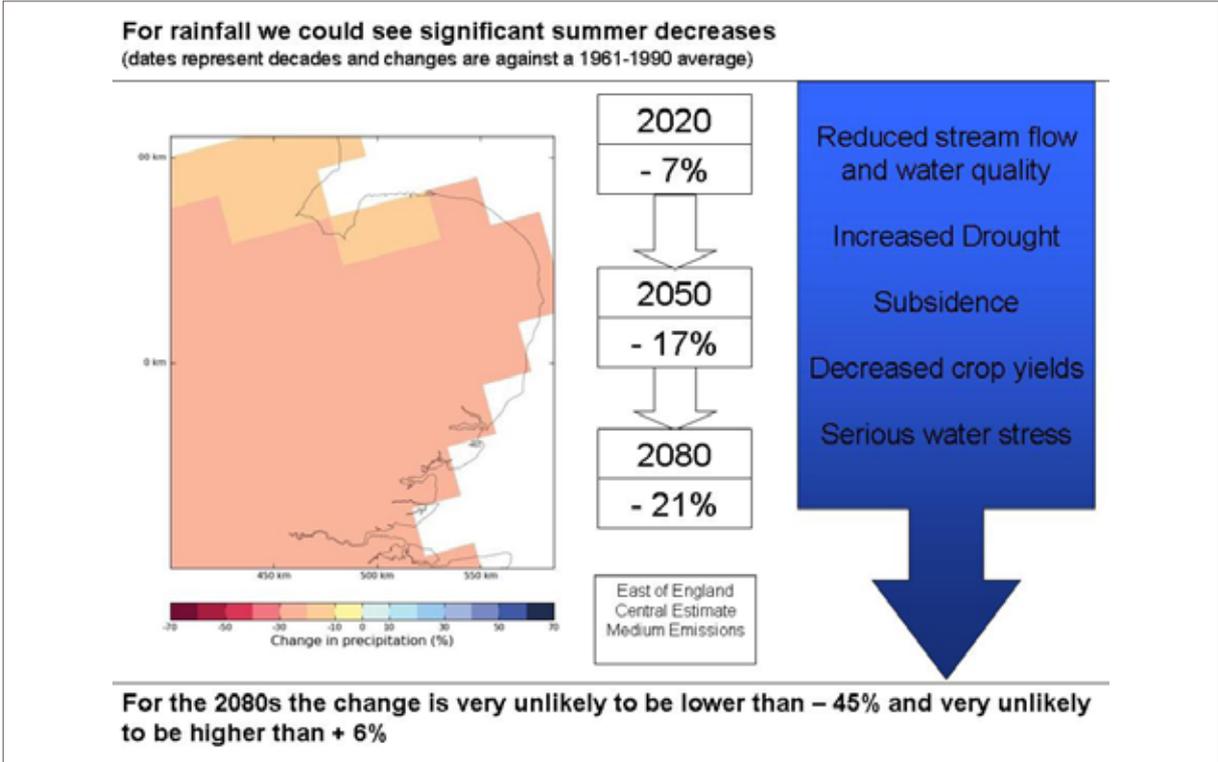
A 2°C rise in global temperature will also have other serious impacts: rising sea levels and extreme events like droughts and heavy rainfall are extremely likely to disrupt both natural and man-made habitats. Communities across the UK may struggle to cope with the effects of warmer summers and wetter winters.

For the East of England, under a medium emissions scenario, climate change predictions for the 2080's include:

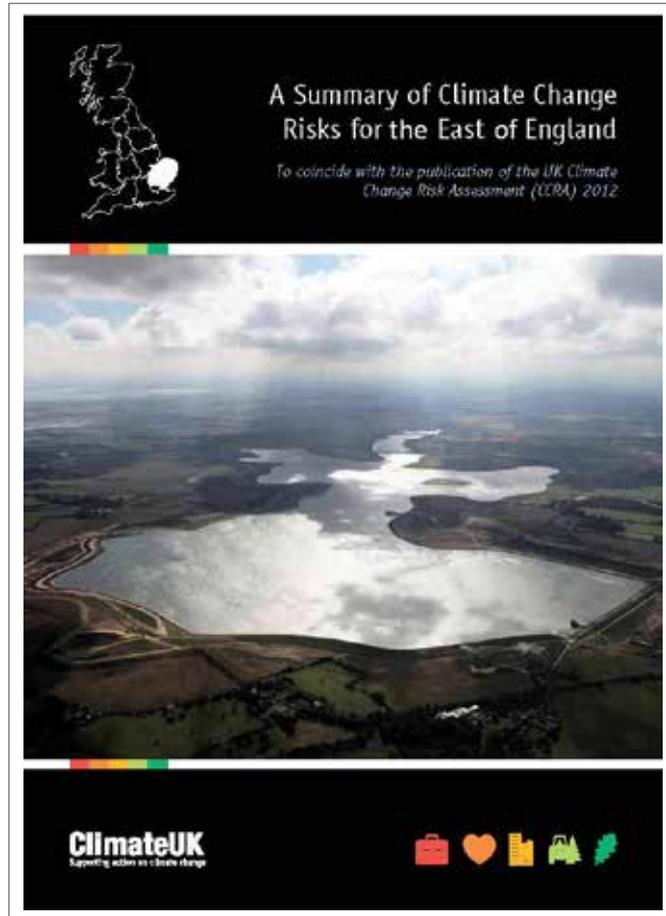
- hotter summers, with mean temperatures likely to increase between 1.9°C and 5.9°C on 1990 levels;
- drier summers, with a range of precipitation between 6% and -45%;
- warmer winters, with temperatures predicted to increase between 1.6 °C and 4.7°C; and
- wetter winters, with precipitation predicted to increase between 4% and 44%.

The series of images that follow explain the effects of these changes; likely to affect our region.





In January 2012, the UK Government published the UK Climate Change Risk Assessment (CCRA) to provide further information to policy makers on the risks and opportunities from climate change and the vulnerability of the UK.



The analysis is presented in 5 themes: Agriculture and Forestry; Business, Industry and Services; Health and Wellbeing; Buildings and Infrastructure; Natural Environment.

Identified threats include:

- Increased temperatures may lead to increased levels of mortality and morbidity due to heat as the East of England is in the warmer part of the UK and so will be more affected.
- Changes in water availability, particularly reductions in the summer, may lead to increased water shortages affecting the supply for the public, businesses and industry. This is a significant issue for the East of England as one of the most vulnerable regions.
- Increased frequency of flooding may lead to increased number of deaths, injuries, damage to buildings and infrastructure, and loss of business continuity.



Flooding on the River Ouse at Bedford Easter 1998

Climate change and the potential implications it has for our society has become a major issue causing it to rise to the top of a number of political agendas. There is a consistent theme in government policy and emerging legislation that emphasises the opportunities for local government to act as a role model for change, by reducing their own carbon footprint, and in an enabling role, by mobilising investment and behavioural change across all sectors of their community.

This revised and updated Climate Change Strategy focuses on two fundamental areas of action associated with climate change, mitigation and adaptation; both are described in more detail below:

Mitigation of Climate Change

Mitigation refers to the reduction of CO₂ emitted to reduce the effects of climate change. This is usually achieved by reducing the energy consumption of buildings and vehicles.

Adaptation to Climate Change

Adaptation refers to addressing the possible impacts and effects of climate change due to past and future emissions, such as increased flood or drought risk and health impacts.

b) Drivers to Tackle Climate Change

International

Kyoto Commitment 1997 The Kyoto Protocol is a protocol to the United Nations Framework Convention on Climate Change (UNFCCC or FCCC), aimed at fighting global warming. Initially adopted on 11 December 1997 in Kyoto, Japan and entered into force on 16 February 2005. As of September 2011, 191 states have signed and ratified the protocol. At the 2011 Climate Change Conference in Durban, a decision was made to adopt the second commitment period of the Kyoto Protocol in 2012 to run to 2017/2020. **UK's Commitment: Reduce its greenhouse gas emissions by 12.5% below 1990 levels. Deadline: 2008-2012**

National

Climate Change Act 2008. Established a legally-binding target to reduce the UK's greenhouse gas emissions by at least 80% below base year levels by 2050 and introduced a series of carbon budgets (a cap on the total quantity of greenhouse gas emissions emitted in the UK over a specified time) which provide legally binding limits on the amount of emissions that may be produced in successive five-year periods, beginning in 2008. **UK's Commitment: Reduction of at least 34% in greenhouse gas emissions below 1990 levels by 2020 and at least 80% by 2050. Deadline: 34% by 2020. 80% by 2050**

European Renewable Energy Directive (2009/28/EC). This directive requires the UK to submit a National Renewable Energy Action Plan (NREAP). The plan sets a target for the UK to achieve 15% of its energy consumption from renewable sources by 2020. **UK's Commitment: UK to achieve 15% of its energy consumption from renewable sources by 2020. Deadline: 2020**

The Carbon Budget Framework To drive progress and set the UK on a pathway towards this target, The Carbon Plan, published in December 2011, sets out plans for achieving the emissions reductions committed to in the first four carbon budgets up to 2027, on the way to reducing UK emissions by 80% from 1990 levels in 2050. Each carbon budget covers a five-year period. The first 3 carbon budgets (set in law spring 2009) run from 2008-12, 2013-17, 2018-22 and require emissions to be reduced by at least 34% below base year levels in 2020. **UK's Commitment: 34% below 1990 levels (21% relative to 2005) Deadline: 2020**

Government's 4th Carbon Budget (2023-2027) The 4th carbon budget, running from 2023-2027, was set in law at the end of June 2011 and requires emissions to be reduced by 50% below 1990 levels. **UK's Commitment: 50% below 1990 levels. Deadline: 2027**

Climate Local Commitment. This initiative succeeds the Nottingham Declaration on Climate Change which the Council signed in 2007. It committed the Council to work towards delivery of the UK Climate Change Programme and to reduce emissions in line with the Kyoto protocol and 2010 targets, by encouraging the Council and all sectors of the local community to reduce emissions and adapt to change.

Climate Local was launched by the Local Government Association (LGA) on the 28th of June 2012 and will provide a 'Council Framework on Climate Change' to enable the Council to develop a suite of commitments and actions that are chosen by the Council to demonstrate commitment to addressing climate change.

The UK Climate Change Risk Assessment (CCRA) The first assessment of its kind for the UK published on 25th January 2012. The CCRA UK Government Report sets out the main priorities for adaptation in the UK under 5 key themes identified in the CCRA 2012 Evidence Report: Agriculture and Forestry; Business, industries and Services; Health and Wellbeing; Natural Environment and Buildings and Infrastructure – and describes the policy context, and action already in place to tackle some of the risks in each area. A Summary of Climate Change Risks for the East of England was one of the regional information packs produced to coincide with the publication of the CCRA to highlight key risks and opportunities from climate change and what they mean across a range of sectors in the region.

CRC Energy Efficiency Scheme. The UK's mandatory climate change and energy saving scheme came into force in April 2010. It is central to the UK's strategy for improving energy efficiency and reducing carbon dioxide (CO₂) emissions, as set out in the Climate Change Act 2008. It requires organisations to monitor and report their energy consumption and purchase allowances to cover their carbon emissions. Council's Commitment: The Council will enter Phase 2 of the scheme in 2013/14 (Annual Reports will be produced during this period and allowances will be purchased and surrendered).

HECA The Home Energy Conservation Act 1995 (HECA) requires local authorities to report on action to improve the energy efficiency of the area's residential accommodation.

Local

Bedford Borough Council's Carbon Reduction Target

The Council joined the Carbon Trust's Local Authority Carbon Management Programme in May 2010 and adopted a Carbon Management Plan in March 2011. This Plan sets out a programme of action for the Council to achieve its 40% aspirational carbon reduction target. It will do this by implementing projects to reduce energy consumption from its buildings, business transport, fleet, streetlighting and schools. **Council's Commitment: Aspirational 40% reduction (from 09/10 baseline) Deadline: March 2015**

Bedford Borough Sustainable Community Strategy 2009/21

Aim 1: Minimise carbon emissions and adapt to the impacts of climate change focussing on transport, business and homes. Aim 6: Reduce our dependence on fossil fuels.

Bedford Borough Council's Corporate Plan 2012-2016 2B: Climate Change and Environmental Sustainability. Objective: 'To ensure that the Borough reduces its carbon footprint, including by managing our waste more effectively'.

Bedford Borough Council's Sustainable Development Policy This policy, which is regularly updated, recognises that provision of the Council's services has impacts on the Borough, and that the Council has a responsibility to manage those impacts and lead by example. The Council, therefore, aims to deliver services that are sustainable, and consider equally social, economic and environmental aspects.

c) Aims

The Council aims to influence and empower residents, community groups, schools, and businesses in the Borough to help them to mitigate climate change by reducing their carbon emissions and also aims to implement carbon reduction project to reduce the carbon emissions of our own buildings. We will also work to increase the resilience and capacity of the Borough Council's services to a changing climate and will support the residents and businesses of the Borough to adapt to climate change by helping them to prepare and increase their resilience to the possible impacts of climate change.

The Climate Change Strategy will help the council to demonstrate its commitment to ensuring that climate change mitigation and adaptation actions are implemented across the Council's estate, the staff and through the services it provides and communicated to the community and businesses of the Borough to ensure that a joined-up approach is achieved. The activities detailed in the strategy are driven by the membership of the Council's Sustainability Committee. The committee, chaired by the Deputy Mayor and Environment Portfolio Holder, meets regularly to consider matters related to environmental sustainability, carbon reduction and climate change; receive reports from Council officers on actions that the council has taken to mitigate and adapt to climate change; improve sustainability at the Council and within the Borough; and make decisions on further activities to be carried out. The Sustainability Committee will help to drive forward and ensure the objectives of the Climate Change Strategy are met.

d) Objectives

Priority one: Tackling Climate Change:

Energy Efficiency

- Reduce the carbon emissions from the Council's buildings (including schools).
- Support the communities and businesses of Bedford Borough to reduce energy consumption and mitigate climate change.
- Advise and support residents of the Borough to help them to affordably heat their homes.

Renewable Energy

- Increase the use and provision for renewable energy within the Borough.

Emissions from Transport

- Reduce greenhouse emissions from vehicles through transport planning and the use of alternative fuels and technologies;
- Improve and promote a safe and convenient walking, cycling and public transport network; and
- Ensure that new developments are located and designed to encourage the use of public transport, walking and cycling.

Adapting to Climate Change

- Prepare and adapt the Council's services to the possible impacts of climate change.
- Support the residents and businesses of the Borough to prepare and increase their resilience to the possible impacts of climate change.

Priority two: Using Resources Efficiently:

Waste

- Minimise waste sent to landfill from the council, and the residents and businesses of the Borough.
- Reduce greenhouse gas emissions from waste disposal.

Water

- Reduce water usage and conserve water where possible within the Council and encourage residents and businesses to be water efficient.

Purchasing

- Seek to minimise the Council's impact on the environment when procuring, by ensuring the optimum levels of sustainability are achieved.

Sustainable Building Development

- Promote the construction of carbon neutral building developments in the Borough
- Encourage the installation of measures to new and existing buildings to improve their energy efficiency, sustainability and adaptability to climate change.

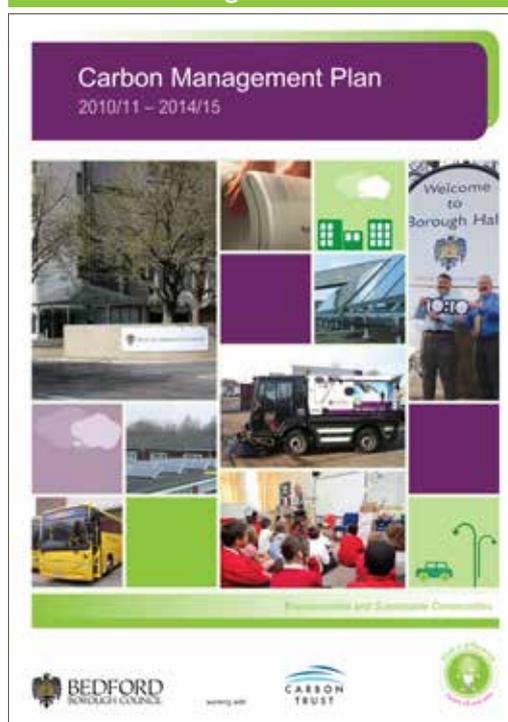
Priority One: Tackling Climate Change

a) Energy Efficiency

Energy efficiency is one of the easiest and most cost-effective ways to reduce carbon emissions. Most of the energy that is used in homes and businesses is produced using processes that release carbon dioxide (CO₂) emissions, the main greenhouse gas causing climate change, into the air. Reducing the waste of energy, where energy which is consumed but not required (e.g. when buildings are over-heated) or not used (e.g. when heat escapes from an un-insulated building) will reduce the amount of CO₂ which is emitted unnecessarily. The Council is working to reduce its carbon emissions by implementing projects which will reduce the amount of energy the Council's buildings consume and works to encourage the residents and businesses of the Borough to be more energy efficient.

Energy used in homes is responsible for over a quarter of all UK emissions of CO₂, so making homes as energy efficient as possible and saving energy at home is one of the most important things that residents of Bedford Borough can do to fight climate change and reduce fuel bills. The Council's Private Sector House Condition Survey 2011 states that 17.9% of properties within Bedford Borough have a SAP rating (Standard Assessment Procedure – method of measuring the overall efficiency of a property) of less than 35 which is an inefficient home that will be costly to heat sufficiently. According to the Department of Energy & Climate Change's sub-regional data, in 2009, 14.7% of households in Bedford Borough (9,366 households) were fuel poor, which is when, in order to heat their home to an adequate standard of warmth the household needs to spend more than 10% of its income to maintain an adequate heating regime.

Bedford Borough Council's Environmental Footprint



Bedford Borough Council's Carbon Management Programme

The Council was selected in March 2010 to participate in Phase 8 of the Carbon Trust's Local Authority Carbon Management Programme. The programme has led to the development of a Carbon Management Plan which outlines the steps that the Council will take to achieve an aspirational carbon reduction target of 40% by March 2015. Projects completed so far include:

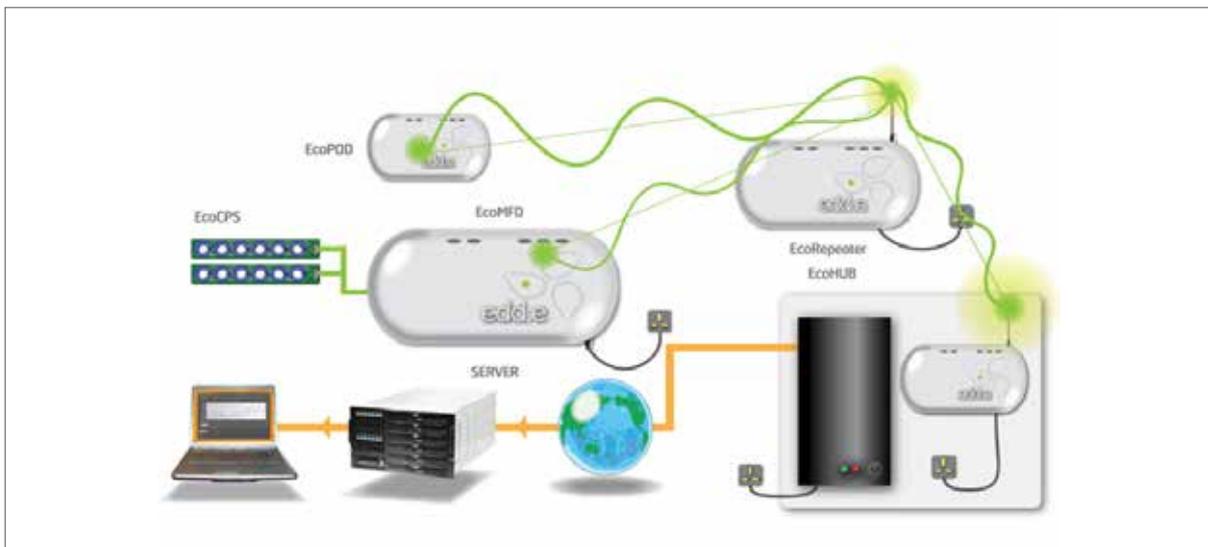
AMR Installation: Automatic Meter Reading devices (AMR) have been installed across the Council's portfolio of buildings (including schools). Data is automatically captured from the meters and tagged with a unique meter reference and time



An AMR

stamp. Details of the Council buildings' electricity and gas consumption are then transferred into a software package for interpretation and analysis which will help to monitor, control and reduce energy usage across the Council's buildings.

edd:e: A wireless energy monitoring system was initially trialled and then rolled out across Borough Hall (the Council's headquarters building) in 2011, providing real-time energy consumption readings. The system allows the Council to monitor in greater detail individual areas (circuit-level) of energy usage, helping the Council to identify potential energy saving opportunities.



The edd:e system

Lighting Upgrades: A series of lighting projects have been implemented across the Council's estate. The lighting in Bedford International Athletics Stadium and Borough Hall for example has been replaced with an energy efficient alternative and controls have also been installed; ensuring the most efficient use of energy is made.

ICT Improvements: A number of projects have been completed to reduce the amount of energy consumed by ICT equipment. Firstly, the Council has completed a printer rationalisation project; replacing individual printers with multifunctional devices. The Council has also taken significant steps to virtualise its servers; consolidating physical servers in its data centre into a virtual environment. The significant savings achieved by the server virtualisation project will be further enhanced when the Council completes another project;

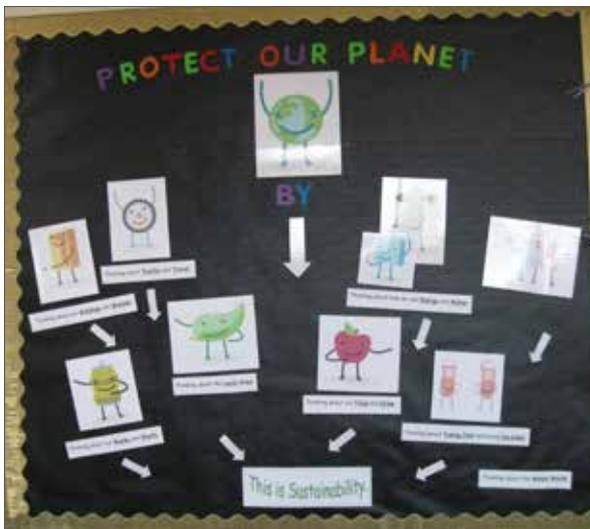
installing evaporative coolers to cool its server room. An evaporative cooler is a device that cools air through the evaporation of water; removing the requirement for air conditioning, resulting in significant cost and carbon savings.

Norse Road Crematorium Heating Improvements: Having identified that a huge amount of heat at Norse Road Crematorium was being wasted following the installation of abatement plant to remove mercury emissions in order to meet EU targets, the Council investigated whether this waste heat might be used more effectively. The Council decided to utilise the existing heat exchanger on site to reuse waste heat to heat the Crematorium building. By utilising this once wasted secondary heat on the site, the Council has made significant reductions in carbon emissions as well as its energy costs.

RE: FIT: RE: FIT is a ready to use, cost neutral procurement initiative that allows the public sector to retrofit existing buildings with energy saving measures, reduce carbon emissions and achieve substantial guaranteed annual cost savings. Bedford Borough Council is utilising this framework to speed up the delivery of many of the projects within its Carbon Management Plan to help it to achieve its aspirational 40% carbon reduction target.

Priory Country Park: As a part of the Renewable Energy and Sustainability Demonstration Project, energy efficient lighting, triple glazed windows and doors and a natural daylight system or 'Sun Pipes' were installed.

Collaborative Low Carbon Schools Service: In May 2011, Bedford Borough Council successfully gained a place on the Carbon Trust's Collaborative Low Carbon Schools Service; a service which helps local authorities to engage with and support their schools in cutting carbon emissions and energy costs. The Collaborative Low Carbon Schools Service was launched in June 2011 and comprised a 10 month programme which initially involved working with a pilot group of 10 schools. The Council is now reviewing the scheme and is developing a programme of support to roll out to other schools in the Borough.



Shackleton school's work



Internal Awareness Campaign:

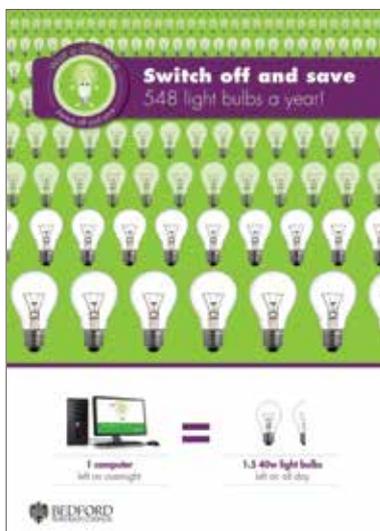
Energy Champions: Relaunched in April 2010, Bedford Borough Council's 'Energy Champions' scheme currently has over 40 Energy Champions across the organisation. These staff members are responsible for providing information and advice to colleagues on energy saving in the workplace and participating in campaigns and surveys of equipment left on in the Council's buildings.

Green Office Guide: The Council's first Green Office Guide was launched in 2010, and aims to answer any sustainability related questions staff may have and provide staff with advice on no-cost actions that they can take to help the Council reduce its carbon emissions.



The Council's Green Office Guide

'Watt a Difference' Campaign: This is an internal energy awareness campaign that has been developed to raise awareness amongst staff regarding energy and carbon reduction.



Council Energy Poster



Watty logo

Eco-Schools

The Council is working with schools to promote the Eco-Schools scheme; currently 60 schools have registered and seven schools have achieved Green Flag awards.

Renewable Energy Kits have been made available for schools to borrow at no cost, for up to 28 days. The kits are designed to increase the understanding of pupils of alternative sources of energy and the need to conserve energy.

Actions

- Carbon Reduction from Council Buildings: Implement the Carbon Management Plan to reduce the energy consumption of Council buildings (including schools) to work towards reducing the Council's carbon emissions by the aspirational target of 40% by 2015.
- Reduce energy consumption in schools: Promote the Council's Climate Change Fund to schools and support schools and Council building managers to implement projects to improve the energy efficiency of Council buildings and reduce carbon emissions in the Borough.
- Eco-Schools: Promote and support Borough schools to achieve an aspirational target of 100% of schools registered on Keep Britain Tidy's Eco-Schools scheme.

Bedford Borough's Environmental Footprint

Warmer Beds Home Insulation Scheme: The Council's scheme for homeowners to get discounted or free loft insulation and cavity wall insulation has been aimed at the Borough's most deprived areas as stated within the index of multiple deprivation and the households most likely to be fuel poor, however, all households within the Borough were able to access this offer. Over 1000 installations have been carried out.

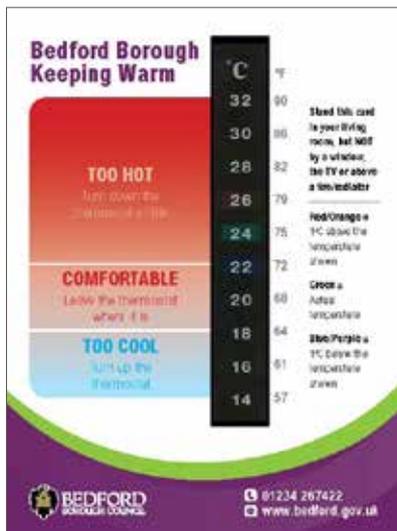


Loft insulation being Installed

Boiler Replacement Loan Scheme: The Housing department and the Sustainability Team successfully applied to the Department of Health's Warm Homes Healthy People Fund 2011/12, which was set up to help implement its Cold Weather Plan. The Council were awarded funding to continue its Boiler Replacement Loan Scheme for residents that are over 60 years old who have a boiler that is either inefficient or not working. In total over 130 boilers have been installed through the scheme. Households over the age of 60 who would otherwise be unable to afford a new boiler have been able to get an interest free boiler loan from the Council. All of the installations completed have been to replace a broken boiler or an inefficient boiler over 12 years old helping to reduce the level of CO₂ emissions in Bedford Borough.

Warm Homes Healthy People Fund - Warm Packs: The Adult Services department and partners including Bedfordshire Rural Communities Charity, Bedfordshire & Luton Community Foundation, Age UK Bedfordshire, Bedford & District Citizens Advice Bureau and Salvation Army Bedford, made a successful application to the Department of Health's Warm Homes Healthy People Fund 2011/12. The group was awarded funding to provide grant funding to the partners and to local community organisations to provide 'Warm Packs' to residents in the Borough. The Sustainability Team helped put together and promote the 'Warm Packs', which each contain a blanket or 'Snuggie', fleece gloves and hat, soup sachets and leaflets with advice on keeping warm and insulation measures that could be applied for. The Community Rangers delivered the packs to residents identified as in-

need and vulnerable to the cold. The Sustainability Team also designed and arranged for thermometer cards to be produced for inclusion in the packs to help vulnerable residents be aware of heating their home adequately and stay warm and healthy.



Thermometer card

Keep Warm in your Home

Try to keep the temperature of your living room in the 'Comfortable' area of the thermometer – between 18°C and 21°C.

If the temperature goes into the 'Too Cool' area:

- Turn up the heating so that the temperature goes into the 'Comfortable' area.
- Put on several warm light layers of clothing.
- Have regular hot meals and drinks.
- Draw your curtains as soon as it gets dark to stop the heat escaping and the drafts coming in.
- Avoid sitting down for long periods – keeping active such as doing housework will generate body heat, helping to keep you warm.
- Use a hot water bottle or blanket if sitting down to provide extra warmth.
- On cold days, try to avoid going outdoors, but when you need to, remember to wrap up warm.
- Consider improving the efficiency of your home with loft or cavity wall insulation.
- If you need health advice contact NHS Direct on 0845 4647.

Useful Contact Details

Bedford Borough Council Phone: 01234 267422 Web: www.bedford.gov.uk	Bedford & District Citizens Advice Bureau Phone: 0844 245 1030 Web: www.bedfordcab.org.uk
Bedfordshire and Luton Communities Foundation Web: www.bclcf.org.uk	Salvation Army Bedford Phone: 01234 328200 Web: www2.salvationarmy.org.uk/bedford
Bedfordshire Rural Communities Charity Phone: 0800 636 4234 Web: www.bdrcc.org.uk/postack	Age UK Bedfordshire Phone: 01234 360510 Web: www.ageuk.org.uk/bedfordshire

Logos for Bedford Borough Council, Bedfordshire and Luton Communities Foundation, Bedfordshire Rural Communities Charity, and Age UK Bedfordshire.

Reverse of Thermometer card

Community Engagement Events: Stands are regularly held at events, such as the Council's Ageing Well Exhibition and also in the local shopping areas to raise awareness to the public of how to be more energy efficient and live more sustainably. Leaflets, advice and measures to help the public reduce their energy consumption are made available at these events to help them take action. For Climate Week, a stand was held in the Howard Shopping Centre on the 14th of March 2012 to promote to visitors ways to reduce their energy consumption. Energy saving devices such as TV Powerdowns (courtesy of E-On) to reduce energy wastage when televisions and DVD players are left on standby were distributed to those who attended the stand.



The Mayor's Climate Change Fund: Launched in January 2010, this Council grant-funded scheme provides 50% match-funding towards the cost of installing measures at community buildings which will reduce the building's energy consumption and contribute to the reduction of the Borough's carbon footprint. Applications are welcomed from voluntary and community groups, not-for-profit organisations, public sector including schools and parish council, and registered charities. Eligible projects include photovoltaic solar panels, energy efficient lighting, insulation and boiler replacements. 19 groups have so far have benefitted from the 50% match-funding and in total; these projects will save over 100 tonnes of CO₂ per year.

The fund has encouraged many different community groups and charities to measures that will improve the energy efficiency of their buildings and reduce the energy consumption and energy bills. Successful applications have been received to install the following carbon saving projects at community buildings in the Borough:

Loft insulation has been installed at:

- Pavenham Village Hall and Playing Field Charity
- Harrold Playing Field Pavilion
- Priory Country Park Visitor Centre
- Elstow Bunyan Hall

Low Energy Lighting has been installed at:

- Daubeney Middle School
- Mark Rutherford Upper School
- Priory Country Park Visitor Centre

- Biddenham Upper School applied for 50% match-funding from the Climate Change Fund for the installation of low energy lighting in the Sports Hall and 3 classrooms at the school. The T8 fluorescent lamps were replaced with T5 lamps which use approximately 50% less energy and also last up to 3 times longer resulting in significant energy and maintenance savings.

Costs:

- Installation of T5 lighting, to replace T8 fittings, in the Sports Hall and 3 classrooms at the school = £18,897.58.
- Contribution from Climate Change Fund – 50% match-funding = £9,448.79.

Savings: The installation of the low energy lighting will:

- Reduce the school's electricity consumption by approximately 22,807 kWh per year.
- save approximately 12.43 tonnes of CO₂ per year which will contribute to reducing the carbon emissions of the Borough
- save the school approximately £2,736.84 on their electricity bill per year.

Solid Wall Insulation has been installed at:

- Bedfordshire Rural Communities Charity

Secondary Glazing has been installed at:

- Elstow Bunyan Hall

A New Heating System and Boiler have been installed at:

- Community and Voluntary Service (CVS)
- Elstow Bunyan Hall
- The Hills Lower School

Pavenham Sports Changing Rooms: The first community group to receive funding from the Mayor's Climate Change Fund was Pavenham Village Hall and Playing Field Charity. The charity applied to the fund in July 2010 and in September 2010 was awarded £8,084.50 match funding to install loft insulation and solar photovoltaic (PV) panels on the roof of the sports changing rooms, adjoining the village hall sports field.



Solar Photovoltaic PV Panels on Pavenham Village Hall Sports Changing Rooms

Costs:

- Installation of a 3.84 kWp solar photovoltaic system consisting of 16 panels = £15,540
 - Installation of 150mm (6 inches) of fibreglass loft insulation = £629
- Total project cost = £16,169
Contribution from Climate Change Fund – 50% match-funding = £8,084.50.

Savings:

The installation of the solar photovoltaic (PV) panels will:

- generate approximately 2,772 kWh per year of electricity from a fossil-free source
- save approximately 1.55 tonnes of CO₂ per year, which will contribute to reducing the carbon emissions of the Borough
- save the charity approximately £173 on their electricity bill and generate approximately £1,243 through income from the Feed-In Tariff per year.

The installation of the loft insulation will:

- reduce the charity's gas consumption by approximately 4,348 kWh per year.
- save approximately 0.8 tonnes of CO₂ per year, which will contribute to reducing the carbon emissions of the Borough
- save the charity approximately £173.91 on their gas bill per year.

In total, the measures installed should save approximately 7,120 kWh of energy, 2.35 tonnes of CO₂ and save the charity £1,589.91 on their fuel bills per year. For the first year of its operation, the charity has reported that the solar photovoltaic system has generated £1,536.98 from the Feed in Tariff and has resulted in a saving of £155 on their electricity bill.

Bedfordshire Green Business Network (GBN): This network is supported by the Council to provide practical local support to businesses in the Borough in the form of regular environmental management seminars, workshops, on-site and on-line advice and help, quarterly newsletters, and training and workshops. As climate change, disposal of waste, scarcity of resources, rising utility costs, and a plethora of environmental regulations climb higher on local, regional, national and global government agendas, it is imperative that all businesses recognise and manage their environmental impacts. This, in addition, to exceptionally high rises in the cost of fuel, utilities and waste disposal and a potential global recession, makes it even more important that businesses are aware of the help that is available to them and the potential cost savings they can make through taking action to reduce their environmental impacts.

Over the course of 2010-12, over 20 business seminars and events were held by GBN for businesses and were attended by more than 125 participants who learnt about subjects such as carbon footprinting, waste and renewable energy. A Business Cluster Project was carried out in partnership with Resource Efficiency East where resource efficiency reviews were provided to identify areas in which environmental improvements and/or cost savings could be made at businesses on industrial estates in the Borough. Savings achieved by the businesses include £47k, over 100,000 kWh, more than 50 tonnes of CO₂ and 1209 m³ of water. Overall, over 200 businesses were supported by GBN to reduce their energy consumption and improve their water efficiency and generally work in a more sustainable way such as through ISO 14001 (environmental management systems) and encouraging businesses to adopt good practices to manage the possible impacts of climate change.

Green Office Guide: A business version of the Council's Green Office Guide was developed and was made available to on the Council's website. Businesses can use the guide as a template for their own guide or can follow the tips to help them reduce their emissions and costs in their own business.

Carbon Trust Energy Efficient Breakfast: Local businesses attended a breakfast meeting at the Council suite where the Carbon Trust delivered an energy efficiency presentation.

Energy Auditing Train the Trainer Course: In partnership with Central Bedfordshire Council and Luton Borough Council, the Council was successful in securing funding through the Climate Change Skills Fund, administered by Sustainability East. An energy auditing training programme was commissioned and delivered during March by EiE at Oxford Brookes University and CREATE. The training programme was promoted to schools, council building managers, community groups and businesses and was designed to help these groups understand how to carry out energy audits and manage the energy use of their building to reduce bills. 6 free full-day training sessions were delivered across Bedfordshire and follow-up support will be provided to the participants, to help them make changes in their buildings.

Actions

- Promote the carbon reduction and financial benefits of reducing energy consumption from improving the energy efficiency of homes and businesses.
- Promote the Council's Climate Change Fund to community groups to increase the energy efficiency of community buildings and reduce carbon emissions in the Borough.
- Promote the Government's upcoming Green Deal and Energy Company Obligation schemes to the residents and businesses of the Borough to increase the scheme's uptake to encourage the improvement in the energy efficiency of homes and businesses premises which will reduce fuel poverty and carbon emissions in the Borough.

b) Renewable Energy

Increasing the amount of energy that is generated from renewable energy significantly contributes to reducing carbon emissions in the UK as fossil fuels are not burnt to produce energy, which results in the release of carbon. Renewable energy generation was responsible for 9.5% of all electricity supplied in the UK in 2011 and as a result carbon emissions fell by 7% in the same year. The 2009 Renewable Energy Directive sets a target for the UK to achieve 15% of its energy consumption from renewable sources by 2020 so more needs to be done to encourage the installation of renewable energy generating technologies such as ground source heat pumps, biomass, solar PV, hydropower. The Council works to raise awareness of and encourage the installation of renewable energy.

Bedford Borough Council's Environmental Footprint

Solar Photovoltaic (PV) Panels have been installed on the following Council buildings: Scott Lower, Brickhill Lower and Beauchamp Middle Schools in Brickhill each had a 3.88 kWp solar photovoltaic (PV) system consisting of 21 panels each, installed on their roofs, with funding from the local councillors' Ward Funds and 50% match-funding from the Mayor's Climate Change Fund.

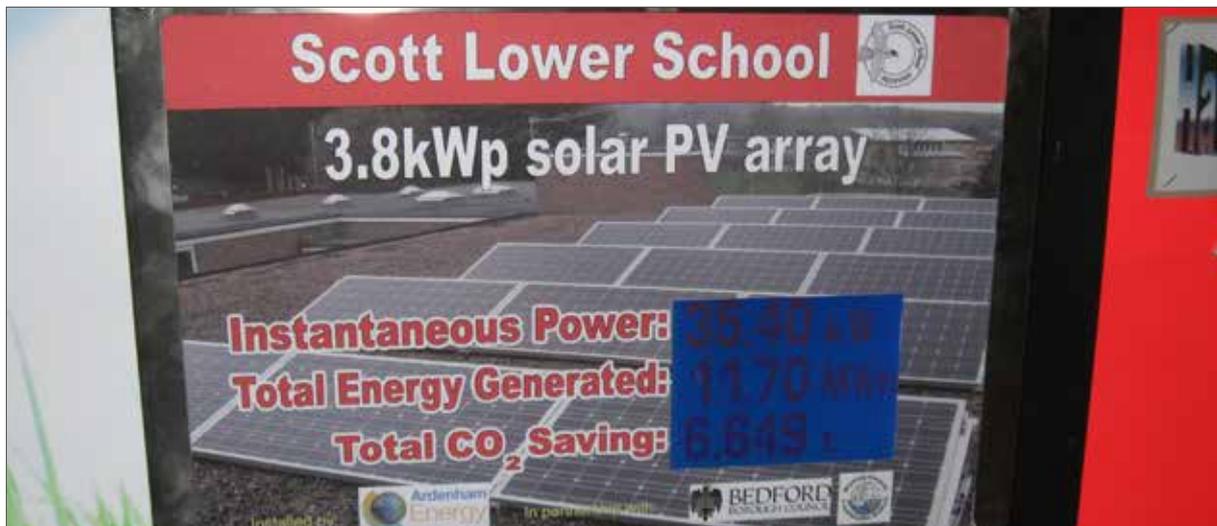


PV panels at Scott Lower School

Power Generation Display Units were also installed in the reception or hall at each school to raise awareness of the installation of the solar PV panels to the pupils, staff and visitors to the school.

The display units show:

- the amount of energy being generated at the time (Instantaneous Power)
- the total amount of energy generated by the panels (Total Energy Generated)
- the CO₂ saving as a result of the electricity generated (total CO₂ Saving).



PV display panel

The display units will help to raise awareness of the benefits of renewable energy and its role in mitigating climate change, and will also help to educate the staff and pupils of the schools of the need to be more efficient with their use of energy. This will hopefully result in a reduction in energy consumption at the schools as for example; lights and computers will be turned off in the schools when not required.

Costs for each School:

- Installation of a 3.88 kWp solar photovoltaic system consisting of 21 panels = £21,179.43
- Contribution from Climate Change Fund – 50% match-funding = £7,059.81

Total Savings:

The installation of the 3 solar photovoltaic (PV) systems at the schools will:

- generate approximately 9,876 kWh per year of electricity from a fossil-free source
- save approximately 5.37 tonnes of CO₂ per year, which will contribute to reducing the carbon emissions of the Borough
- save the 3 schools approximately £618 on their electricity bills and generate approximately £4,428 through income from the Feed-In Tariff per year.

Great Barford Lower School received 50% match-funding from the Climate Change Fund to install 21 PV panels on the roof of the school.

Priory Country Park Visitor Centre has, as part of the Renewable Energy and Sustainability Demonstration Project, had 26 PV panels installed on the roof which was 50% funded through the Growth Area Fund and 50% match-funded through the Climate Change Fund.



PV panels at Priory Park Visitor Centre

Lakeview Lower School has 45 PV panels which were installed as part of the Section 106 agreement (Town and Country Planning Act 1990) with the developers of the Wixams housing development, east of Bedford.

Hydropower project: Bedford Borough Council has installed a hydropower scheme on the River Ouse at the Boat Slide Weir in Bedford. A concrete structure has been cast in place of the boat slides to house the two 2.1 meter diameter Archimedean Screw Generators. The two screws run independently, are fish-safe and will produce approximately 160,000 kWh of power each year. The renewable energy produced from this facility will be used to power the amenity lighting on the river as well as exporting spare energy into national grid.



The hydro power plant



The turbines being installed

Renewable Energy Kits: These kits have been made available for schools to borrow at no cost, for up to 28 days. The kits are designed to increase the understanding of pupils of climate change and renewable energy. The kits available are:

- Wind turbine: Can be used outdoors in the wind or indoors with a desk fan to show the function and benefits of wind power
- Solar PV: pupils can use solar power to generate electricity and power an LED, motor and buzzer.
- Solar Hot Water: pupils can use solar power to heat water, measure heat rise with the digital thermometer and experiment with different sun conditions.
- Powerhouse: building projects include:
 - the power house
 - solar panels
 - windmill
 - greenhouse and desalination system
 - solar cooker
 - solar hot water tank.
- Powerhouse, Green Essentials: building projects include:
 - the power house
 - greenhouse
 - solar cell array
 - passive solar collector
 - solar oven
 - air conditioner
 - refrigerator
 - hydrometer
 - wind power generator.



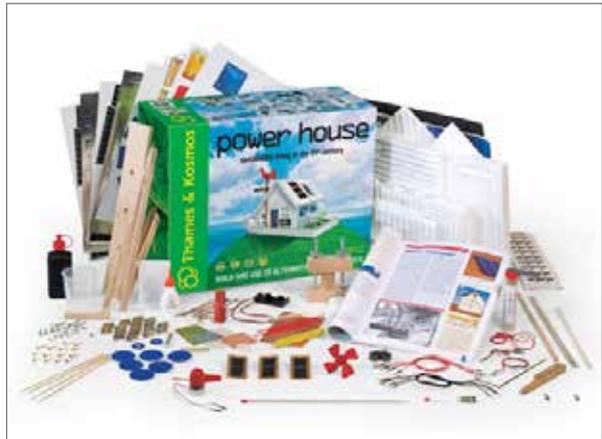
Wind turbine kit



PV kit



Solar hot water kit



Powerhouse kit



Powerhouse green essentials kit

Actions

- Promote the carbon reduction and financial benefits of installing renewable energy generating technology to schools and managers of Council buildings.
- Investigate the opportunity of installing renewable energy generating technology in Council buildings (through the RE: FIT initiative).
- Promote the Council's Climate Change Fund, and the Government's Feed-in Tariff and the Renewable Heat Incentive schemes to schools and managers of Council buildings to encourage the installation of renewable energy generating technology in Council buildings.
- Biomass: Carry out a wood fuel assessment on the Council's land to determine the biomass potential.

Bedford Borough's Environmental Footprint

The Mayor's Climate Change Fund: This fund has provided contributions up to 50% match-funding towards the cost of installing measures on community buildings which will reduce energy consumption and carbon emissions in the Borough. Applications are welcomed from voluntary and community groups, not-for-profit organisations, public sector including schools and parish council, and registered charities. The fund has encouraged many different community groups and charities to install renewable energy generating technology.

Solar photovoltaic (PV) panels have been installed at:

- Pavenham Village Hall and Playing Field Charity
- Scott Lower, Brickhill Lower and Beauchamp Middle Schools in Brickhill
- Guru Nanak Gurdwara, Queens Park (see picture - Guru Nanak Gurdwara)
- Christ Church, Denmark Street
- Bedfordshire Rural Communities Charity
- Wilden Village Hall
- Colmworth Village Hall (see picture - Colmworth Village Hall)
- Harrold Playing Field Pavilion
- Priory Country Park Visitor Centre
- Great Barford Lower School

An Air Source Heat Pump has been installed at:

- Bedfordshire Rural Communities Charity

An air source heat pump extracts heat from the outside air in the same way that a fridge extracts heat from its inside. It can get heat from the air even when the temperature is as low as -15° C. Heat pumps need some electricity to run, but the heat they extract from the ground, air, or water is constantly being renewed naturally.

Biomass Workshop: Bedford Borough and Central Bedfordshire Council's jointly arranged a Biomass Workshop which was held at the Forest Centre at Marston Vale on the 5th of October 2012. Local stakeholders were invited to attend and contribute to identifying the barriers to development, opportunities and actions to take to drive forward the biomass agenda in Bedfordshire.

Actions

- Promote the carbon reduction and financial benefits of installing renewable energy generating technology to residents, community groups and businesses in the Borough including via the website: (www.bedford.gov.uk/sustainability) and at events.
- Promote the Council's Climate Change Fund to community groups, and the Government's Feed-in Tariff and Renewable Heat Incentive schemes to residents, community groups and businesses to encourage the installation of renewable energy generating technology in homes, community buildings and business premises.
- Encourage and provide advice and sign-posting to other organisations, to those interested in producing or using biomass.



Guru Nanak Gurdwara



Colmworth Village Hall

c) Emissions from Transport

Road transport is one of the biggest sources of pollution in the UK as it accounts for 22% of total UK emissions of the greenhouse gas carbon dioxide (CO₂), the major contributor to climate change. It also contributes to poor air quality, congestion and noise disturbance. Air pollutants from transport include nitrogen oxides, particles, carbon monoxide and hydrocarbons which all have a damaging impact on the health of people, animals and vegetation locally. Choosing to use the car less, or using alternative methods of transport such as public transport or cycling will reduce greenhouse gas emissions which contribute to climate change.

The Council works with residents, communities and local businesses to encourage the use of more sustainable methods of transport to reduce greenhouse gas emissions, pollution and congestion. The Council's Green Office Guide advises staff how to commute to work in a more sustainable way such as by choosing a more fuel-efficient car. The more fuel efficient the car, the less fuel it burns, so the less CO₂ it produces, reducing its contribution to climate change.

Bedford Borough Council's Environmental Footprint

Reducing Energy Use and Emissions from Staff Business Travel

Route Optimisation Project: Bedford Borough council currently runs 18 waste collection vehicles 5 days per week serving over 66,000 properties. Annually these vehicles travel over 224,000 miles, emitting over 600 tonnes of CO₂. The existing waste collection rounds have historically been created and edited on an electronic system by the refuse supervisors with new properties added on to rounds based on spare vehicle capacity rather than proximity and efficiency. Subsequently, the current waste collection rounds are at full capacity and relatively inefficient, with many routes overlapping. The Route Optimisation Project aims to rearrange these routes to become more efficient and achieve monetary and carbon savings and provide future-proofed waste collection routes for the Borough. The new Waste Manager software uses address data to map existing rounds with details such as road speed, vehicle capacity and yields added to the model to create a realistic model. This model can then be edited or rearranged to test the benefits of potential routes or fleet changes. Optimising the vehicle routes should reduce the fleet mileage and may result in resource reductions. Potential reductions of carbon emissions by up to 68 tonnes of CO₂ per year.



Recycling truck

Cycle to Work Guarantee: Bedford Borough Council also demonstrates its commitment to increasing the amount of cycling in the borough by meeting all 5 commitments of the Department for Transport's 'Cycle to Work Guarantee'. This means the Council:

- Provides secure, safe, and accessible bike parking facilities for all staff who want them.
- Provides good quality changing and locker facilities for all staff who want them.
- Offsets the cost of cycling equipment and save on tax through the 'Cycle to work scheme'
- Offers bike repair on or near site
- Training, reward and incentive programs to achieve targets for more cycling

Cycle to Work Scheme: The Council has signed up to this Government backed programme that allows employees to claim a voucher to buy a new bike and equipment to cycle to work. The cost of the bike can then be paid back with tax free deductions from the employee's salary.



Council Cycle Loans:

- **Borough Bikes:** The Council has 4 'pool' bikes that can be borrowed for staff business use during the day, enabling staff to cycle to meetings and make site visits without needing to use a vehicle. A helmet and a pannier containing equipment including a high visibility kit, a first aid kit and a tool kit are also provided.

Borough Bikes

- **Borough Cycles:** This scheme gives staff the chance to borrow a bicycle and equipment for a 3 week period.

Plugged in Places: The East of England's bid to Plugged in Places, which includes Bedford Borough Council, was successful and a network of electric car charging points is being developed across the region. Plugged in Places is a Government initiative which offers match-funding to consortia of businesses and public sector partners to support the installation of electric vehicle recharging infrastructure in lead places across the UK. The charging points in Bedford Borough have been installed at various locations including one in

the Borough Hall visitors' car park. It is hoped that this contribution to the regional network of points will help to encourage staff to use electric vehicles now and in the near future.



Electric charging point at Borough Hall

Action

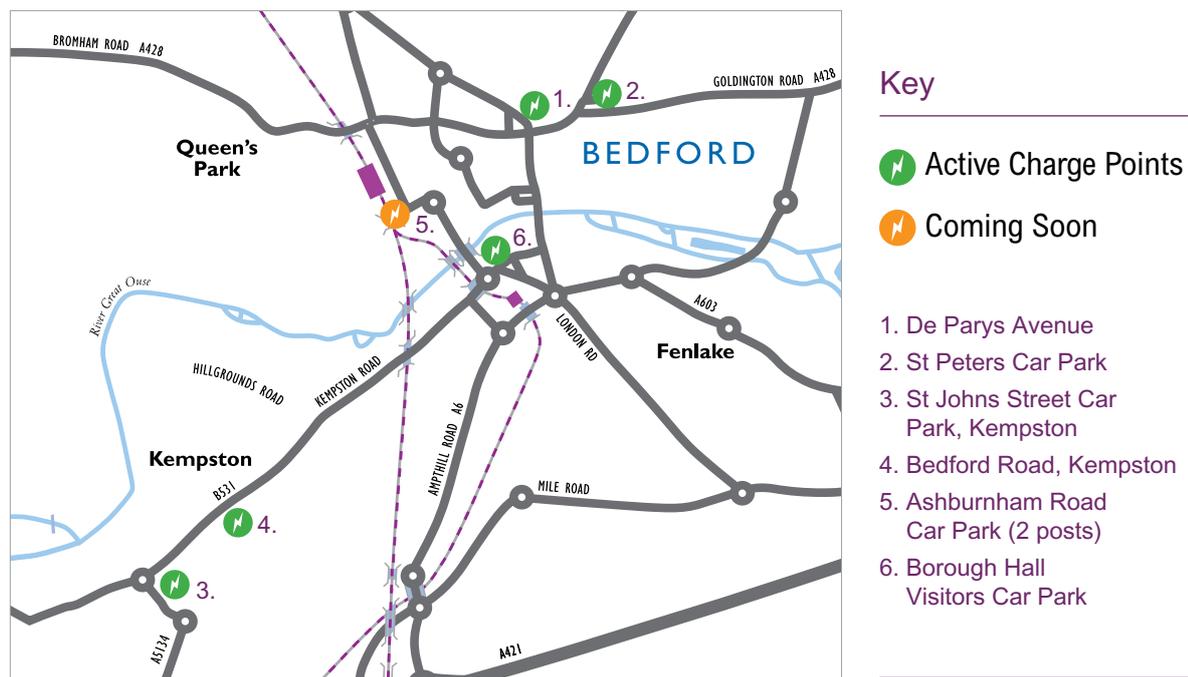
- Complete route-optimisation projects to improve the efficiency and time taken to make waste collections and passenger transport journeys, which will also reduce the amount of fuel used and therefore carbon emissions produced by council vehicles.

Bedford Borough's Environmental Footprint

Reducing Energy Use and Emissions from Transport in the Borough

Plugged in Places: The East of England's bid to Plugged in Places, which includes Bedford Borough Council, was successful and a network of electric car charging points is being developed across the region. Plugged in Places is a Government initiative which offers match-funding to consortia of businesses and public sector partners to support the installation of electric vehicle recharging infrastructure in lead places across the UK. The charging points, have been installed at the following locations:

- De Parys Avenue
- St Peters Car Park
- St Johns Street Car Park, Kempston
- Bedford Road, Kempston
- Ashburnham Road Car Park (2 points)
- Borough Hall Visitors Car Park



Map showing electric car charging points

Cycle Map – Bedford & Kempston: The Council has supported the production of a fourth edition of the cycle map which was designed and produced by CCNB (Cycling Campaign for North Bedfordshire), which shows cycle routes for Bedford and Kempston and categorises them as quiet or busy to encourage cycling. There is also a detailed plan of the town centre including cycle parking locations.



Cycle map

Green Wheel: The Council works with the partners of the project: Sustrans, Bedfordshire Rural Communities Charity, Marston Vale Trust, Conservation Volunteers (TVC), Cycling Campaign for North Beds and Bedfordshire PCT to improve sections of the Green Wheel Network. The Green Wheel project aims to develop and enhance the existing network of traffic-free paths and quiet routes around the Bedford urban area for use by pedestrians and cyclists. The completed Green Wheel will provide attractive, convenient and safe travelling environments, encouraging cyclist and pedestrians to use the routes for trips such as travelling to work, schools or the shops instead of using the car.

Motorcycles & Mopeds use of Bus Lanes: European Mobility Week is an awareness campaign aimed at encouraging more people to cycle, walk or use public transport and takes place every September. To coincide with the Council's support for the week, in 2010 the Council opened up the 4 bus lanes in the town centre for use by bicycles, motorbikes, taxis and private hire vehicles in an 18 month trial designed to reduce congestion around the town centre and also contribute to a reduction of emissions and an improvement in air quality.

Local Transport Plan 3 (LTP3): The Council's LTP3, which will run until 2021, sets out what the Council plans to do for all modes of transport (road, walking, cycling, public transport etc.) over the next 10 years. It also sets out a range of indicators, by which the Council will measure its performance, as well as targets for these indicators that the Council proposes to achieve over the lifetime of the Local Transport Plan. The plan has eight key supporting strategies, with one of its underlying aims being to reduce energy use and emissions from the transport sector.

Travel Planning in the Development Control Process: As a matter of course, development applications which are likely to create appreciable traffic and transport movements are required to be supported with business travel plans. The Council works with business to ensure that for any given situation the most sustainable transport options are available.

Leading by Example: The Council recognises the position of influence that it has in helping to engage the community in exploring different ways to travel sustainably. The Council will, where possible and beneficial, develop in-house case studies and through its projects, demonstrate the viability and benefits of sustainable travel solutions for business.

Actions

- Continue to provide the residents and businesses of the Borough with a wider range of travel choices as an alternative to the private car such as buses, trains and cycling, thereby contributing to reducing congestion, which will reduce air pollution and carbon emissions.
- To deliver improvements that encourage a reduction in transport emissions and greenhouse gases, in order to tackle climate change and develop a low carbon community capable of adapting to the impacts of climate change.
- Implement the Local Transport Plan 3.

d) Adaptation

Climate change is an issue that will affect us all. Average temperatures are expected to rise between 2 degrees and 3.5 degrees and will result in hotter, drier summers, water shortages caused by reductions in water availability and more intense heat waves. Summer overheating will contribute to heat-related health problems and result in increased numbers of premature deaths. Winters will be milder and wetter with a greater risk of flooding which often affects people's homes and wellbeing, especially for vulnerable groups. In addition to mitigating climate change by reducing greenhouse gas emissions which contribute to global warming, and by conserving our natural assets – land, air and water – we also need improve our reliance to the effects and adapt to the possible impacts of climate change.

Bedford Borough Council's Environmental Footprint

Local Climate Impact Profile (LCLIP): This document has been produced to help the Council identify climate related risk to the Council and its services and to raise awareness about vulnerabilities and opportunities from weather and climate, both now and in the future to Council staff and services, and members. It identified impacts of extreme weather that the Borough area has experienced and the effects on the Council's building and services, such as the 1998 floods and the winter 2009/10 and winter 2010/11 snowfalls and includes recommendations for improving the recording of impacts.

The Council has advised staff who complete the JCAD Risk Register, which is used to collate and manage risks to the Council's services, to ensure that they consider the vulnerabilities to weather and climate, both now and in the future and the impacts of severe weather events on their service area and where applicable, include these risks in business continuity plans and take them into account when completing service plans.



During the January 2003 event, floodwater crossed St Mary's Embankment at Borough Hall

Actions

- Ensure that the Council prepares and improves the resilience of the Council's services to the possible impacts of climate change identified in the UK Climate Change Risk Assessment.
- Draw together an Adaptation Action Plan for the Council's services detailing all identified, significant vulnerabilities and opportunities to the impacts of extreme weather impacts and the actions that will be taken to ensure services are prepared.

Bedford Borough's Environmental Footprint

Local Climate Impact Profile (LCLIP): This document has been produced to help the Council identify climate related risk to the Borough and its residents and businesses and to raise awareness about vulnerabilities and opportunities from weather and climate, both now and in the future to the Borough's residents and businesses. It identified impacts of extreme weather that the Borough area has experienced and the effects on residents and communities such as the 1998 floods and the winter 2009/10 and winter 2010/11 snowfalls.



Aerial photograph of Bedford during the Easter 1998 flood

Climate Change Gardeners poster: The Council's Sustainability Team worked with the Parks Team to develop a poster to raise awareness and assist gardeners in the Borough to mitigate and adapt to climate change whilst gardening. The poster was displayed on notice boards at all allotment sites and advises on the possible impacts of climate change for gardening and allotment keeping. It promotes ways to conserve water in the garden and the types of plants to grow that will withstand drought conditions.



Climate Change for Gardeners Poster

Snow and Ice: To be more prepared to deal with the more frequent and harsher winters that the Borough experienced in 2009 and the worst winter conditions in 30 years it experienced in 2010, the Council took several actions. It worked to identify alternative salt supplies to ensure it was prepared with sufficient grit for winter 2011 taking stocks from a previous maximum of 5,000 tonnes up to 8,000 tonnes. Also, since they were noted as being impassable during the snow of 2010, 45 extra roads have been added to those to which snow ploughs are sent to ensure a safe, clear path in heavy snow. A Pothole Hit Squad was also set up, with four crews out on the street every day who are able to respond quickly to reports of potholes to use new 'hot box' equipment which allows them to carry out permanent repairs 'on the move.'

In December 2011 a new service which allows local residents to track the exact location of gritting lorries in the Borough was made available on the Council website to join the Gritter Twitter page. The location of the lorries as they make their way around the Borough is shown in real time using GPS to keep the public informed and the Borough moving during the cold weather. A special quad bike, fitted with a de-icing spray and snow plough has been introduced to operate alongside the gritter lorries to clear pedestrianised areas and routes inaccessible to the lorries.



Borough Snow Plough Quad Bike

Action

- Disseminate the opportunities and risks identified in the UK Climate Change Risk Assessment and LCLIP to raise awareness of the residents and businesses of the Borough of the need to prepare and ways to increase resilience to the possible impacts of climate change.

Priority Two: Using Resources Efficiently

a) Waste

Recycling reduces the need to consume natural resources and saves energy, which reduces greenhouse gas emissions, helping to tackle climate change. Using recycled materials in the manufacturing process uses considerably less energy than that required for producing new products from raw materials. Recycling waste reduces the amount of waste sent to landfill sites which reduces the amount of methane, a greenhouse gas, which is released by these sites as the waste breaks down. The Council works to encourage and support the Borough's residents to reduce the amount they consume, re-use items that would normally go to waste and finally recycle as much of their waste as possible. Over 80% of the Borough's residents now regularly recycle their waste and the Council is aiming to recycle 60% of the Borough's waste by 2020.

The Council is re-tendering the residual waste and comingled recycling treatment/disposals contracts in 2012, and is looking reduce its environmental impact by diverting s much waste from landfill whilst also increasing the amount of material recycled in the new contracts.

Bedford Borough Council's Environmental Footprint

Minimising Waste & Greenhouse Gas Emissions from Landfill

Office Recycling: Recycling points have been upgraded in the Council's buildings to coincide with the re-launch of the Borough's office recycling scheme.



Borough Hall Recycling Flyer

Batteries: The Council has teamed up with 'BatteryBack' – encouraging staff to recycle their used batteries with a collection point at Borough Hall .

Action

- Promote the reduction of waste within the Council and continue to encourage the recycling of all material possible, as detailed in the Green Office Guide.

Bedford Borough's Environmental Footprint

Minimising Waste & Greenhouse Gas Emissions from landfill

Batteries: The Council is working in partnership with Valpak to roll out a kerbside collection scheme for batteries to households across the borough. Twenty three thousand households currently have the scheme and plans are in place to roll out to the rest of the Borough in April 2012.

Household Waste Recycling Centre: To improve recycling rates and offer more services to the public an additional container has been provided at the Household Waste Recycling Centre for the collection of old carpet and underlay.

Recycling at Blocks of Flats: Two hundred and thirteen blocks of flats (over 5000 individual flats) have received improved facilities for recycling and information has been given to residents on how to recycle and dispose of their waste responsibly.

Recycling at Houses in Multiple Occupancy (HMO): Housing in multiple occupancy have traditionally had a poor uptake of the recycling services. The Waste Services Team has identified approximately three thousand properties which are now being assessed for recycling services. Approximately six hundred flats have already had improved recycling services implemented and received information on how to recycle and dispose of their waste responsibly.

Bring Bank Sites: The network of bring bank sites for glass, textiles and shoe recycling has expanded with new sites now available at the Wixams and New Cardington developments as well as at Milton Ernest Garden Centre. In addition, all of the councils 27 glass recycling skips and over 50 1100litre bring bank bins have been refurbished and rebranded to encourage more items to be recycled and diverted from landfill.



Cardington Bring Site Bins

Home Compost Bins: The Council continues to subsidise the cost of home compost bins (220 & 330 litre containers).

Real Nappies: The Council continues to subsidise the start up cost of real nappies by £25 (up to fifty a year on application) to incentives families to reduce the amount of disposable nappies sent to landfill.

Town Centre Recycling Bins: New recycling bins have been installed in the town centre to allow visitors to recycle 'on the go'. There are further plans to extend this scheme to other high profile areas such as the Embankment.



Town Centre Recycling Bin

Business Waste: The Council's Waste Services Team and Direct Works Department continue to work with local businesses to provide information and increased opportunities for them to recycle their waste. The Council's Direct Works Department operates a commercial waste recycling collection round 4 days a week with more new customers signing up each week.

Action

- Recycling target: To recycle 60% of the Borough's waste by 2020.

b) Water

Across East Anglia, the months Oct 2011 – March 2012 were the driest since records began in 1921, according to the Environment Agency. Most of the south east and eastern England, including Bedford, was in drought as a result of two consecutive dry winters with below average rainfall. The efficient use of water is not something that should only be considered during times of drought conditions, but is something we all need to be concerned with and take action, everyday, to conserve this precious resource.

Treating, transporting and heating domestic water uses energy and increases emissions of greenhouse gases which contribute to climate change. One fifth of a household's carbon footprint comes just from heating water for baths, showers and washing up. So by using water more efficiently and cutting out waste and unnecessary use, residents can conserve water, save energy and money on water and energy bills.

Bedford Borough Council's Environmental Footprint

Reducing Water Usage

Anglian Water Promise:



Anglian Water Promise

Bob Wilson, Director, AW Business and Mayor, signing the Promise 27.03.12

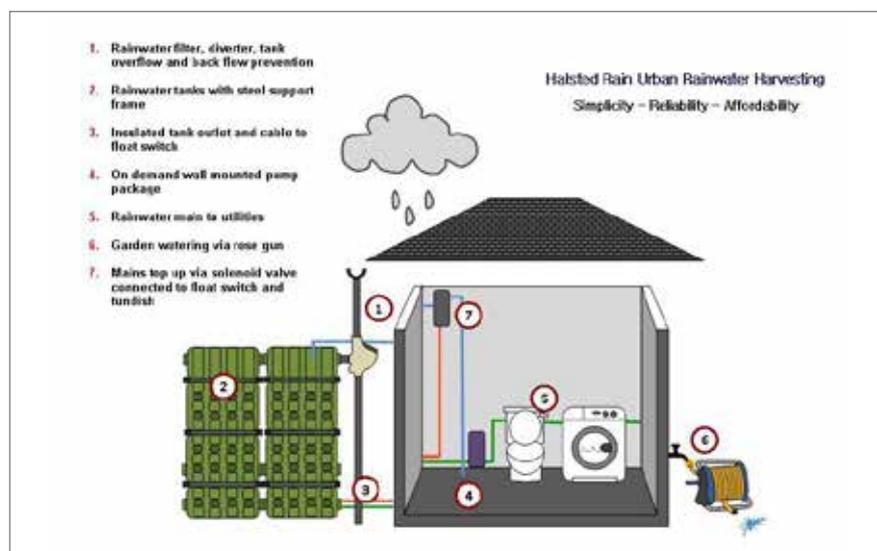
Anglian Water Promise: Bedford Borough Council has become the first local authority to sign the Anglian Water Promise at a ceremony on the 27th of March. By signing the Promise, Bedford Borough Council has demonstrated its commitment to reducing water usage by 20 per cent by 2015, across all Council buildings. In addition, the Council has also pledged to cut wastewater by 20 per cent, reduce its carbon footprint by 700 tonnes and reduce water and energy costs.

The Council will continue to work in partnership with Anglian Water (AW) to increase water efficiency through:

- Water Efficiency Audits (WEAs): AW will conduct audits of the Council's sites to determine where and how the Council can use water more efficiently
- Tariff Optimisation: AW will check the Council's sites are on the correct tariff
- Collective Billing: Move to 'bulk billing' to reduce administrative time and cost
- Leak Detection: To reduce water waste.
- Benchmarking: To identify high consuming sites and potential inefficiencies.

An action plan will be developed; identifying areas for improvements. By implementing this action plan the Council hopes to significantly reduce its water usage and its associated costs.

Priory Country Park Visitor Centre: As part of the Renewable Energy and Sustainability Demonstration Project a rainwater harvesting system was installed at the Visitor Centre. Rainwater harvesting systems often have tanks installed in the ground, but this was not possible at this site due to the land's previous use as a landfill site. A 660 litre slim-line Wall Tank System has been installed which is connected to 2 toilet cisterns in the public toilets, enabling them to be flushed with rainwater collected from an area of the Visitor Centre's roof.



Rainwater Harvesting System

Actions

Work with Anglian Water to:

- Reduce the water usage across all Council buildings by 20% by 2015 (which will also reduce the carbon footprint from water usage by 700 tonnes of CO₂)
- Reduce wastewater across all Council buildings, by 20% by 2015

Bedford Borough's Environmental Footprint

Reducing Water Usage

Various water efficiency offers are promoted to residents:

Water Butts: The Council annually subsidises the cost of 100, 190 litre Rainsaver Water Butt Kits (one per household) to encourage their use. The kit is ideal for collecting water from the home, garage, greenhouse or shed and includes a stand which enables a watering can to fit under the tap.



Water Butt

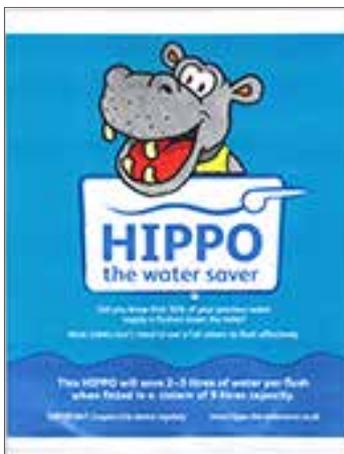
Anglian Water's 'Bits and Bobs': This is a water saving kit, which contains various water saving measures that are fitted free, by a qualified plumber, and is promoted to residents at events.



Anglian Water 'Bits and Bobs' water saving kit

Community Engagement Events: Stands are regularly held at local events and also in the local shopping areas to raise awareness to the public of how to be conserve water. Leaflets, advice and measures to help the public reduce their water consumption are made available at these events to help them take action. Water displacement and saving devices for toilet cisterns and showers are distributed to residents at events to help them start reducing water consumption in their home:

- 'Hippos' or 'Save-a-flush' (courtesy of Anglian Water) for use in toilet cisterns to reduce the amount of water used to flush.



Hippo



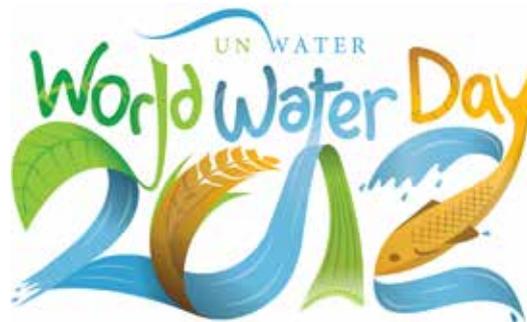
Saveaflush

- ShowerSaves, courtesy of E-ON, which reduce the flow of water in non-electric showers.



ShowerSave

For World Water Day 2012, a stand was held in the Howard Shopping Centre on the 22nd of March to promote ways to reduce water consumption to visitors. Water saving devices were distributed to those who attended the stand.



Action

- Raise awareness of behaviours and measures to install in the home to conserve water through the website (www.bedford.gov.uk/sustainability) and at events.

c) Purchasing

Buying products or contracting for services can have significant environmental impacts. Sustainable procurement can ensure that these impacts are lessened and carbon emissions reduced. Sustainable procurement involves integrating environmental considerations into all stages of the purchasing process such as avoiding unnecessary purchases and identifying greener products which are products that use fewer natural resources, have a longer life span, consume less energy or water in production or use; can be reused or recycled on disposal; generates less waste, for example: be made from recycled materials, use less packaging or can be recycled by the supplier.

Bedford Borough Council's Environmental Footprint

Sustainable Procurement:

The council has a Procurement Strategy: Guide to Sustainable Procurement - Green Procurement Guidelines which is promoted to staff in the Council's Green Office Guide to ensure sustainability is part of the procurement process. Staff are encouraged to follow the guidelines when making buying decisions and awarding contracts for example, taking into account whole life costs such as energy, maintenance and end of life disposal costs when considering tenders and purchasing green products which are energy efficient and have recycled content wherever possible to minimise waste and pollution. The Council's Sustainable Development Policy (Appendix 1) outlines the Council's aims to improve the sustainability of the services it provides.

Stationery: The Council has rationalised its stationery purchases, from 1600 product lines to 160 core items, which are, wherever possible, 'green' alternatives, resulting in financial and resource savings. The number of deliveries to the Council of stationery supplies has also been reduced from daily, to twice a week which has reduced vehicle journeys, resulting in reductions in CO₂.

Bottled Water: The use of bottled water at council meetings and staff events was discontinued and replaced with jugs of tap water where required, saving resources by using re-usable jugs and reducing costs (approximately £1,373.52 annually).

Paper: Currently the Council is reviewing the use of printer paper with a higher recycled content.

Actions

- Review and update the Council's Sustainable Procurement Strategy.
- Develop procurement projects to further reduce the Council's impact on the environment.

Bedford Borough's Environmental Footprint

The Council encourages residents and businesses to be sustainable with procurement to reduce waste and save energy. Residents and businesses are encouraged to buy products certified by scheme such as those that bear the Fairtrade Mark and therefore meet international Fairtrade standards which are set by the international certification body: Fairtrade Labelling Organisations International (FLO). When purchasing, residents and businesses are also encouraged to support other ethical, certification schemes such as sourcing wood products bearing the FSC logo from Forest Stewardship Council (FSC) certified forests.



Green Borough Fair: the Borough Council holds an annual fair with invited organisations that have displays and stands to promote the great outdoors, green activities and a sustainable, active lifestyle to residents.



Community Engagement Events: Stands are regularly held at local events and also in the local shopping areas to raise awareness to the public of how to live more sustainably such as using left-over food, re-using shopping bags and buying Fair Trade products. Leaflets, advice and cotton shopping bags to advise on how to buy more sustainably and consume fewer products are made available at these events to help the public take action.

Action

- Promotion of sustainable procurement and sustainable living to the residents and businesses of the Borough through the website: (www.bedford.gov.uk/sustainability) and at events.

d) Sustainable Building Development

The purpose of the planning system is to contribute to the achievement of sustainable development. (National Planning Policy Framework – March 2012). There are three dimensions to sustainable development: economic, social and environmental. The environmental role is to contribute to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change such as considerations with regards to future water supply and demand. Planning plays a key role in helping to reduce greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure in the Borough.

New Developments: The Council as local planning authority has a role in contributing to the achievement of the objectives of the Climate Change Strategy. A full explanation of this role is set out in the National Planning Policy Framework published by the Government in March 2012. This can be viewed at: www.communities.gov.uk/planningandbuilding/planningsystem/planningpolicy/planningpolicyframework.

Specific actions which the local planning authority can undertake include:

- requiring new development which generates significant amounts of movement to prepare and follow a travel plan aimed at reducing private car use
- requiring new development to provide safe and attractive walking and cycling opportunities
- restricting the provision of parking spaces for private cars at accessible new developments where alternative public transport is available
- maximise the provision of renewable and low-carbon energy development
- (Figure 1) Good Practice: Solar PV roof tiles at Kingsway House, 13 Kingsway, Bedford. The tiles have a rated output of 1.25 kW.
- (Figure 2) Good Practice: Wind turbine at 53 North End, Bletsoe. The turbine has a rated power output of 5 kW.
- setting local requirements for building sustainability
- requiring new development to avoid increased vulnerability to impacts arising from climate change
- (Figure 5) Good Practice: The University of Bedfordshire information centre building includes external louvres to provide shading whilst allowing light into the building and views out of it.
- protecting and enhancing green open spaces, trees, green infrastructure and areas important for biodiversity
- requiring development to provide sustainable drainage systems or otherwise limit the discharge of surface water into the river system
- (Figure 3 and 4) Good Practice: These pictures show how sustainable drainage systems can be attractive as well as effective in dealing with surface water.

- preventing development from occurring in areas at risk of flooding
- securing sustainable waste management as part of new development.

The Council's planning policies in respect of these matters are set out in the Core Strategy and Rural Issues Plan, saved policies of the Bedford Borough Local Plan and the (emerging) Allocations and Designations Plan.

Existing Buildings: The Council works to enforce the Building Regulations 2010 which sets standards for design and construction and apply to most new buildings and many alterations to existing buildings in England. The legislation includes energy and water efficiency requirements to reduce the energy and water consumption of new buildings and those that are being altered or extended. The legislation is regularly amended by the Secretary of State and the Building Regulations Advisory Committee to drive forward improvements to reduce the carbon emissions from buildings.

Action

- Continue to promote and encourage the installation of renewable energy measures and low carbon building design within new and existing buildings.



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5

Notes

Notes

Finding out more

If you would like further copies, a large-print copy or information about us and our services, please telephone or write to us at our address below.

Për Informacion

معلومات کے لئی

للمعلومات

ਜਾਣਕਾਰੀ ਲਈ

Informacja

برای اطلاع

Za Informacije

Per Informazione

তথ্যের জন্য



01234 718259



Bedford Borough Council

Borough Hall

Cauldwell Street

Bedford MK42 9AP



janet.millar@bedford.gov.uk