



Oak Tree House in Knaphill, Woking has been transformed from an ordinary three-bedroom detached house into Woking's first low carbon demonstration home. It is a showcase for energy efficiency, renewable technology and water saving improvements to show local people what measures they can implement in their own homes to help reduce their energy use and water consumption.

Working with its energy company, ecsc, building partner, Mansell Plc, and environmental partner, Woking LA21, Woking Borough Council has created Oak Tree House as a focal point for its Low Carbon Homes Programme, which aims to help local homeowners transform their properties into low carbon homes. Residents who are keen to make a difference can see for themselves how different energy efficiency measures and installations work.

Oak Tree House uses three different types of insulation to reduce heat loss and has a high-efficiency boiler and heating controls to provide heat where and when it is needed. Much of the hot water required in the house will be provided by a solar hot water system that harnesses the energy of the sun,

reducing gas consumption and bills still further. Energy saving lights and appliances help to reduce the amount of electricity used in the house and a solar photovoltaic system will generate electricity from the sun's energy. Simple water-efficient shower and tap fittings reduce water consumption and a rainwater harvesting system provides water for flushing the toilet and for taps in the garden. This system and the permeable paving on the driveway will also contribute to efforts to reduce the risk of flash flooding in the Borough.



The garden at Oak Tree House has been designed with water and energy conservation in mind, with drought-tolerant planting and low-maintenance wildflower turf.

The refurbishment has been designed to minimise the environmental impact of the house and maximise quality of life. It has been furnished using sustainable materials wherever possible and is intended to show that an energy and water-efficient house can also be a welcoming, attractive and comfortable home.

Find out more about Woking Borough Council's initiatives at www.woking.gov.uk/environment/climate



During the summer of 2009, Surrey County Council worked with partners to successfully deliver two schemes to promote cycling and sustainable transport.

The **Cycle 50% Challenge** offered local employers funding for the installation of cycle storage or changing facilities to the value of £6,000. Employers with more cyclists suffer fewer parking problems and their staff are more active and healthy. The challenge asked employees of local companies to cycle to work 50% of the time over a period of four weeks. Employers paid £100 per employee for a minimum number of ten participants per organisation.

Participants were kitted out with the loan of a bicycle, lights, pannier bags, helmet, lock and high visibility jacket. Cycle maintenance, route planning and commuting advice were available as well as cycle skills training from qualified trainers for up to three hours per person. As an extra incentive, participants could take advantage of discounted bike and accessory purchases following the challenge period.

Together with CTC (the UK's national cyclists' organisation www.ctc.org.uk), Surrey County Council

also promoted the **Workplace Cycle Challenge**. This initiative is a behaviour change programme that has proven to be highly successful at getting more people cycling. It involves organisations, and the departments within them, competing to see who can get the most staff to cycle at least once for 10 minutes over a two-week challenge period. The objectives of the challenge were two-fold:

- encourage non-cyclists to take up cycling
- encourage recreational cyclists to start cycling to work.

The two-week cycle challenge saw 420 people from 40 organisations getting on their bikes and saved up to 1,397 car trips from Woking's roads.

The Woking Cycle Challenge formed part of Woking Borough Council and Surrey County Council's **Cycle Woking** programme. In June 2008, the partnership successfully secured £1.82 million from Cycling England to be spent on improving cycling facilities in the area. Woking was one of only ten towns, plus one city, to have successfully achieved the funding and the title of Cycling Town for the next three years.

The funding, together with the money that the two councils have ear-marked for this project, will now be used to push forward with a range of cycling schemes. More information about Cycle Woking is available at www.cyclewoking.org

Find out more about Surrey County Council's initiatives at www.surreycc.gov.uk and enter 'climate change' in the search function.



If you would like to find out more about the Tackling Climate Change Together project, please email climate@surreyimprovement.info or visit www.surreyimprovement.info/climate

For more information about the Surrey Climate Change Partnership, email Lara.Curran@woking.gov.uk or visit www.surreyimprovement.info/climate/sccp

To find out more about IESE visit www.southeastiep.gov.uk

For further details on individual local authority climate change and energy projects, please check out the web references at the end of each case study.

This publication was coordinated and produced by Woking Borough Council on behalf of Tackling Climate Change Together, a SIP project, in autumn 2009. It has been printed on stock from well-managed forests, controlled sources and recycled wood or fibre.



Improvement and Efficiency South East



A Surrey Improvement Partnership (SIP) Project



Introduction

Sustainability and positive action to mitigate against and adapt to climate change are priorities for many local authorities in Surrey and across the South East. This leaflet outlines local activities that address these objectives. In particular, it covers the following initiatives.

- 1) **Tackling Climate Change Together** – a Surrey Improvement Partnership (SIP) funded climate change project that will enhance capacity both locally and regionally to deliver against climate change targets.
- 2) **Surrey Climate Change Partnership (SCCP)** – a local authority officer group convened in 2008 to facilitate and develop joint working on climate change issues. The SCCP is key to the development and delivery of work streams within the SIP project.
- 3) **Local authority case studies across Surrey** that highlight good practice within this agenda.

Surrey Improvement Partnership (SIP)

The Surrey Improvement Partnership (SIP) brings together all of the local authorities in Surrey to deliver improvements and efficiencies in local government services throughout the county.



SIP is funded by Improvement and Efficiency South East (IESE) and is one of seven such partnerships in the South East. It sits under the guidance and management of the Surrey Local Government Association (SLGA).

Improvement and Efficiency South East (IESE) is the South East Regional Improvement and Efficiency Partnership (RIEP), established to help the region's 74 local authorities in their drive to increase efficiency and improve services.

Tackling Climate Change Together

Tackling Climate Change Together is one of six SIP projects that successfully received funding from IESE in 2007.



The project was developed in response to the following key local, regional and national drivers:

- national policy requirements to address climate change e.g. Climate Change Act and National Indicators
- local requirements to address climate change e.g. Surrey Local Area Agreement (LAA) and local climate change strategies
- a need to enhance capacity to address these requirements

- learning from existing good practice and dissemination of learning across Surrey and the region – sharing the benefits of replication.

The overarching objectives of the project are:

- work together and share good practice
- build capacity to address climate change
- promote local and national good practice and disseminate learning.

The objectives will be met through the delivery of four key work streams:

- the development of a county-wide Climate Change Strategy
- adapting to climate change
- sustainable transport
- member training and awareness raising.

Using a phased approach over three years (2008-2011), the project is based in part around using good practice and disseminating this across councils in Surrey and the region in a format that is easy to replicate. A circle of learning and mentoring is proposed for later on in the project that will give learning points a practical dimension. Established networks within the county and the region will be used to raise the profile of the project and to share learning points and opportunities to replicate and enhance capacity in other areas.

To find out more about the project, please visit www.surreyimprovement.info/climate

Enquiries can be emailed to climate@surreyimprovement.info

Surrey Climate Change Partnership (SCCP)

Sustainability and positive action to reduce CO₂ emissions are priorities for many local authorities in Surrey and across the South East. This is evident from the many projects and activities in our county that contribute to our climate change targets. The wish to contribute to a more sustainable future for Surrey has been at the centre of the Surrey Climate Change Partnership (SCCP) since it formed in 2008, bringing together officers from all eleven districts and borough councils and Surrey County Council to share their knowledge and experience. The Partnership was established to:

- facilitate and develop joint working on climate change issues
- develop best practice, which can be shared throughout the county and region and
- create a Surrey wide approach that can lead to improvement and efficiency.

This leaflet features spotlight case studies for SCCP members. Each one has web links to help you find out more about each authority's climate change and environmental initiatives.

Surrey Climate Change Strategy

Thanks to funding and support from SIP and IESE, the SCCP commissioned Jacobs consultants to produce a joint Climate Change Strategy to formulate a new and far reaching agreement for Surrey local authorities.

At its foundation is a core strategy which recognises the established and ongoing work of authorities and their partners. It also aligns shared goals and objectives to better enable us to tackle climate change together looking ahead to 2020 and beyond.

Whilst establishing a common purpose by using a core strategy that identifies agreed objectives and

actions for Surrey local authorities, recognition has been given to the fact that it's our differences that makes the SCCP special. In this way, the action plan represents a menu of activities and actions that can form a tailor-made approach for individual authorities to meet our collective aspirations.

The strategy provides a framework for:

- establishing a consistent approach and overarching policy for the county
- building on work to date and planning future activity through identified work streams
- communicating key messages internally within local authorities and externally to residents and
- providing an exemplar approach for the South East region.

The SCCP believes that this approach will help us to build capacity and bring about efficiencies in addressing our local climate change targets and help to make significant contributions to the regional and national picture. Regional estimates developed by Defra showed that in 2007 residents, business and visitors in Surrey produced 7,330 kt CO₂. This strategy will be at the centre of all that we do to reduce our county-wide environmental footprint.

The Strategy is available to download at www.surreyimprovement.info/climate/sccs

Elmbridge Borough Council

To respond to the challenge of carbon reduction and the increasing role of councils in promoting sustainable development, Elmbridge Borough Council created a Sustainable Energy Officer post to coordinate and lead their Sustainable Elmbridge Strategy. With limited resources to cover both the work programme and the post, the Council had resources to employ only a part-time appointment. It was anticipated that it would struggle to attract a suitable candidate if the job was offered on that basis. However, the Council learnt that neighbouring Epsom & Ewell Borough Council was also looking to initiate work in this area. Since the district councils already had a strong working relationship, they decided to recruit a full-time Sustainable Energy Officer to be shared across the two authorities.

The councils' HR departments worked together to produce joint recruitment material for the post. And in July 2007, the councils were able to appoint a jointly funded, jointly managed full-time Sustainable Energy Officer. Instead of buying in resources from other authorities, using consultants or recruiting individually, both councils were able to recruit a high quality candidate at a lower cost.

The officer has since implemented programmes to improve energy efficiency and sustainable procurement, reduce CO₂ emissions and raise the profile of sustainability work across both councils. Since they face similar issues, the councils have been able to minimise duplication and have benefited from shared learning.

Find out more about Elmbridge Borough Council's initiatives at www.elmbridge.gov.uk/environment/climate.htm



Epsom & Ewell Borough Council

Epsom & Ewell Borough Council is working hard to reduce its carbon footprint. Over the last two years, it has reduced the energy consumption in its buildings by 10%.

The Council is aware that one of the key elements of energy management is monitoring usage, so in 2008 a business case was prepared for the installation of smart meters in a number of Council properties. Smart meters allow customers and suppliers to monitor gas and electricity usage remotely.

Smart meters help the Council to understand its energy consumption, whilst eliminating the need for estimated bills and saving the time of officers who deal with queries on such bills.

In 2008, Epsom installed 12 smart meters in major buildings. The meters measure consumption of gas and electricity every half hour and transmit the reading to a central point. This data is then available for Council staff to access via a password protected website.

In 2009, having proved the benefits of installing smart metering solutions, an additional 15 smart meters were installed in Council buildings. By September, 89% of gas consumption and 81% of electricity consumption in Council-owned buildings will be monitored by smart meters.

As well as improving knowledge of consumption levels and helping to identify savings, the smart meters have also assisted the Council in fulfilling its obligation to report on climate change national indicators.

Find out more about Epsom & Ewell Borough Council's initiatives at www.epsom-ewell.gov.uk/EEBC/Environment/Energy



Guildford Borough Council



In partnership with Surrey Libraries, Guildford Borough Council has introduced a free loan scheme for energy monitors in the following libraries:

- Ash
- Guildford
- Horsley.

The monitors help residents identify ways that they can reduce electricity usage and save money on energy bills. Residents of Guildford Borough are able to borrow the monitors for up to three weeks on the condition that they are a full member of Surrey libraries.

This scheme was successfully launched in February 2009 and, to date, over 100 residents in the borough have benefited from this scheme. Following Guildford Borough Council's success, from 1 October 2009 smart meters became available from all Surrey libraries, including mobile libraries, for members of the public to borrow in order to understand their energy use and reduce their energy bills.

Find out more about Guildford Borough Council's initiatives at www.guildford.gov.uk/GuildfordWeb/Environment/ClimateChange



Mole Valley District Council



Mole Valley District Council has recently embarked on the Carbon Trust's Local Authority Carbon Management Programme. This programme focuses on reducing the Council's internal carbon footprint, which encompasses:

- all buildings including offices, depots, leisure centres and entertainment venues
- the Council's fleet of vehicles including business mileage
- the Council's primary contractors' vehicles.

The Council has established a team of officers from various departments to form a Carbon Management Team which is responsible for identifying and implementing carbon saving projects.

The Programme Board has agreed an initial carbon reduction target for the Council of 35% by 2015. This is an ambitious target that aims to encourage innovation and alternative solutions. Achieving the target will rely on identifying suitable opportunities within the Council's buildings and vehicle use that can deliver the required carbon savings. This is expected to involve investing in low carbon and energy efficient technologies in its offices, leisure centres and other buildings such as voltage optimisation, combined heat and power generation, pool covers, and improved lighting technology.



Reigate and Banstead Borough Council



When Reigate and Banstead Borough Council regenerated the Borough's flagship park, Priory Park, in 2007, sustainable energy was a high priority in the design. The pavilion that is the focus of the new-look park incorporated a high-tech sustainable energy solution that saves 13.5 tonnes of carbon dioxide a year. A ground source heat pump was installed that provides under-floor heating for the building, courtesy of Mother Earth.

The benefit is that, as well as being a heating system, it also acts as a cooling system, keeping the pavilion warm in winter and cool in summer. The system is also used to provide the pavilion's hot water supply.

A series of pipes are buried in the ground to gather up the earth's heat, which is relatively warm, even on a cold, frosty day, and the heat is then transferred to the building.

The technology works a bit like a household refrigerator in reverse. Three hundred metres of long, slinky coils (known as "slinkies") are buried in deep trenches (1.5 metres below the surface) around the outside of the pavilion building. A liquid is run through the tubes to collect the earth's heat, which remains pretty constant at around 8-13 degrees centigrade throughout the year, to compressors. The compressors put the liquid under pressure to extract the heat, which is then transferred into the building through under-floor heating pipes. As a result of this process,

each unit of electricity that is used to run the system generates three units of renewable heat energy.

During the heat of the summer, the system can be run in reverse and, using the same principle as a fridge, draws the heat out of the pavilion and transfers it to the ground outside, where it is stored.

The Council secured £15,000 of funding from the Government's Low Carbon Building Programme Grant scheme which covered half of the cost of the ground source heat pump and its installation.

The pavilion formed part of the £6.6 million project to restore and enhance Priory Park. The Priory Park Restoration Project was backed by a £4.2m grant from the Heritage Lottery Fund as well as support from Legal & General, Parador Properties, Canon (UK) Ltd, Watson Wyatt Worldwide, Fidelity Investments and Charles Church.

The ground source heat pump was provided by Eco Heat Pumps, a supplier accredited by the Building Research Establishment, and installed by Crispin & Borst, the Priory Park contractors.

Find out more about Reigate and Banstead Borough Council's initiatives at www.reigate-banstead.gov.uk/environment/energy_saving



Runnymede Borough Council



Runnymede residents will soon be able to access grants for insulation under Warmth 1000 – a scheme run on behalf of Runnymede and six other local authorities – Hart, Waverley, Guildford, Woking, Elmbridge and Spelthorne.

The scheme offers grants for a range of insulation measures, including external and internal solid wall, cavity wall and loft insulation and insulation of park homes. The scheme aims to target hard-to-treat homes which have previously not been covered by grant schemes for simple cavity wall and loft insulation. There is also a limited amount of funding to support biomass boilers for off-grid homes on low incomes.

Grants are means tested and where possible those on the lowest incomes will have the full cost of the measures met. Each application is dealt with on a case-by-case basis and grants will depend on the cost and the potential reduction in carbon emissions.

The scheme receives funding from Runnymede Borough Council, the Regional Housing Board and through the Carbon Emissions Reduction Target Scheme – an obligation on major energy providers. It is managed by Climate Energy, a company that already runs a similar scheme in Sussex.

Find out more about Runnymede Borough Council's initiatives at www.runnymede.gov.uk



Spelthorne Borough Council

Spelthorne Borough Council's Civic Offices cover an area of 6,400 square metres and accommodate approximately 350 employees. A 210kVA powerPerfector Plus dynamic Voltage Power Optimisation unit was installed at the Council Offices in December 2008 and has achieved the following results:

- 8.2% reduction in weekly average consumption
- £4,700 average savings per year
- £13 per day
- 20,000kg CO₂ per year.

"Installing powerPerfector was one of the first steps we took to reduce energy usage within the main council building. We significantly reduced our energy consumption and electricity costs following the installation of a powerPerfector Plus in December 2008. Working with powerPerfector ensured the smooth running of the installation and project on a whole. We are now looking at installing powerPerfector in other locations such as our car parks."

Francesca Nesbitt, Climate Change Officer, Spelthorne Borough Council

Analysis of electricity consumption at the Civic Offices indicates that an 8.2% reduction in average kWh energy consumption is attributable to the powerPerfector. This equates to a projected annual saving of approximately 20,000kg of carbon dioxide emissions.

Find out more about Spelthorne Borough Council's initiatives at www.spelthorne.gov.uk



Surrey Heath Borough Council

The Warm Front Scheme aims to make homes warmer, healthier and more energy efficient. It's a government-funded initiative, providing home insulation and heating improvements for vulnerable households up to the value of £3,500 and can include boiler replacement, loft and water tank insulation, heating repairs and draughtproofing.

Fuel poverty affects households where more than 10% of income is needed to heat the home to an adequate standard which can be caused by a combination of poor energy efficiency, high energy prices and low income.

Warm Front aims to combat fuel poverty in vulnerable households including the elderly, families with young children, the long-term sick and people with disabilities. A further benefit of the scheme is that energy efficiency measures reduce carbon emissions and help tackle climate change in a low-tech, cost effective way.

Residents that own their own home or rent from a private landlord may be eligible for a grant under the Warm Front Scheme. More Surrey Heath households have signed up to the scheme than any other borough in the local region. In the period April 2008 to March 2009, Warm Front received a take-up in Surrey Heath of more than 200 homes with an overall annual spend on Warm Front grants of £318,586 – well above the local average of £267,934.

More information about Warm Front scheme is available at www.warmfront.co.uk

Find out more about Surrey Heath Borough Council's initiatives at www.surreyheath.gov.uk/environment



Tandridge District Council



Following the enactment of the Planning and Compulsory Purchase Act 2004, councils are now required to produce a suite of local planning documents that are collectively known as the Local Development Framework (LDF). This sets out the Council's overall vision for the area and the policies and proposals to achieve it both by influencing planning decisions in the area and by wider spatial planning.

The Core Strategy is the key document on which all the other documents hang and the production of this document has given local authorities the opportunity to ensure that sustainability elements are included.

The UK emitted more than 530 million tonnes of carbon dioxide in 2008, of which around 27% of this originated from the domestic sector. It is anticipated that by 2050, as much as one third of the total housing stock in the UK will have been built between now and then. It is, therefore, vital that planning policy takes this opportunity to ensure that homes are built in a way that minimises CO₂ emissions.

The Core Strategy must conform to national and regional planning policy. However, Tandridge District



Waverley Borough Council

HeatSeekers offers a fully managed information scheme to home owners and private tenants, which uses thermal imaging technology to identify properties that would benefit from improved insulation.

The project is supported by the Carbon Emissions Reduction Target (CERT) funding. CERT is a statutory obligation on energy suppliers to deliver energy improvements in housing. Free insulation will be offered to the priority groups (those over 70 or on income related benefits), and heavily subsidised insulation will be offered to all other residents. HeatSeekers was launched in Waverley in October 2009 and will run until March 2011. Funding has been secured for the duration of the scheme.

HeatSeekers uses thermal imaging technology to identify homes that may benefit from cavity wall or loft insulation. This is achieved by simply driving down a street in specially adapted vehicles, which take thermal images, and highlight those properties that appear to be losing excessive amounts of heat. The surveyors will then call on the identified properties, discuss their findings and advise residents on the options. Residents are under no obligation to take part and if they want to opt out they can do so by contacting HeatSeekers directly.

This scheme will positively contribute to Waverley Borough Council's targets under the climate change national indicators NI186 and NI187 at no cost to the authority. Information on the number of properties visited and installations will be supplied by HeatSeekers on a regular basis.

Find out more about Waverley Borough Council's initiatives at www.waverley.gov.uk

