

Environmental review and report 2007/09



**HAMPSHIRE
FIRE AND
RESCUE
SERVICE**



Foreword

Practising what he preaches - first a hybrid car, now a bike!



In this review we have taken stock of what we can do to reduce our impact on the environment. We have already said that by 2012 we want to reduce the detrimental impact that fires and other incidents have on the environment by 10%, and reduce our own carbon footprint by 20%. These are challenging targets and we can only achieve them if everyone pulls together: our staff, our partner organisations and our suppliers.

You will see from the report that there is much we can and should do. The good news is that during the course of this review we have identified and already implemented a number of 'quick wins'. We are also well underway with some important complementary reviews - such as the review of Service transport.

We can all do something. It can be as simple as remembering to turn off lights when they are not needed, through to lobbying for more effective fire protection and suppression systems.

My aim as environmental champion for the Service is to encourage 'green-thinking' in everything we do. This report will, I'm sure, help to do just that.

David Howells - Director of Corporate Services



Introduction

Everyone is talking about the environment and sustainable development but why did Hampshire Fire and Rescue Service (HFRS) get involved?

Was it driven from external audit or through genuine concern? Where should the balance lie?

The Local Government Act (1999) requires all public organisations to strive for continuous improvement by reviewing all the services they provide every five years. Results of reviews are reported to the Authority's Performance Review and Scrutiny Committee, where they are used to develop our performance plans. In 2007 HFRS chose to undertake a Best Value Review of the Service's impact on the environment.

The review started in 2007, and reported over a two year period. What were we doing before the review? What have we achieved during the review? What plans do we have following the review?

As a public sector organisation we have a responsibility to demonstrate leadership and innovation, so read on to see what HFRS is achieving.

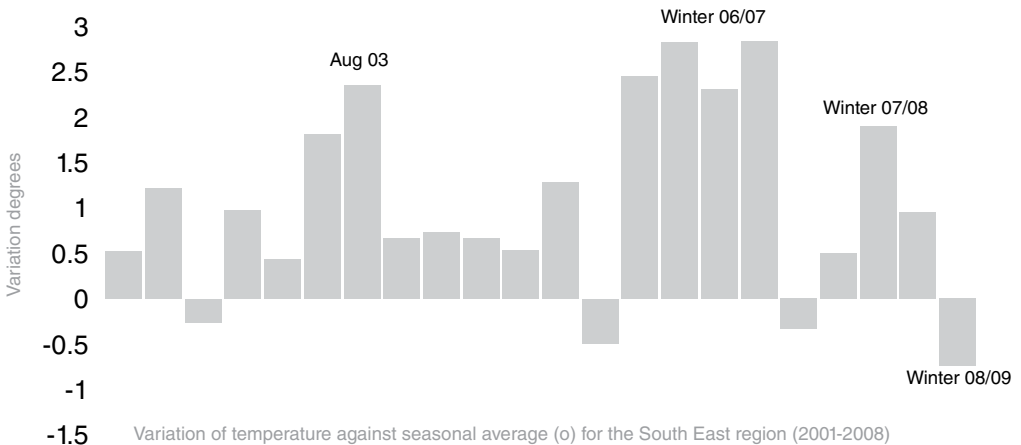


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The changing environment

The Met Office states that “the 17 warmest years have all occurred in the last 20 years”. The long term forecast for the South East would be ‘getting hotter’.



Average daily summer temperatures are set to rise to 30 degrees in the near future, and will rise to over 32 degrees by 2050.

There are many reports confirming that the earth's temperature has increased

since the industrial revolution and that it is likely to rise by 2-3 degrees over the next 50 years.

The cause – increased carbon emissions. With a slight change happening over a period of years - how will we adapt? Will we notice ?!

If current trends continue predictions by the experts include;

- Rising sea levels – leaving up to one billion people worldwide homeless *
- 40% of wildlife species facing extinction
- Wetter winters
- Hotter summers
- Increased flooding and droughts

So if you don't believe in climate change, how about declining natural resources? Fuel sources are finite, what happens when they run out? How will the next generation produce energy?

With so many questions on such a wide and varied subject how and why are HFRS going to be involved? With public awareness increasing and staff wanting to make a difference, coupled with the obligation of showing good practice, we will reduce emissions by mitigating the effects of fires and other incidents that affect climate change. We will also adapt to the climate change that is already happening.

Performance data is reported to the Government via National Indicators (NI's 185, 186 and 188) to help towards the UK targets of reducing carbon emissions by 80% by 2050.

* <http://www.independent.co.uk/environment/climate-change/climate-change-could-force-1-billion-from-their-homes-by-2050-817223.html>



What did we do prior to the review ?

The best value review of our environment impact commenced in 2007.

Prior to this, we introduced bio diesel to replace fleet fuel stocks. With a 95% diesel and 5% bio diesel blend everything has run smoothly and we have been running on bio diesel ever since.

By using bio diesel, we have reduced the amount of carbon we produce by three tonnes per quarter. So over a year we save twelve tonnes of CO₂ which would be the equivalent of filling 68 double decker buses full of carbon!



What happened during the review 2007 to 2009?

It is accepted that consuming natural resources at the current worldwide rate is unsustainable.

We therefore have to be more efficient whilst making the most of our raw materials and renewable energy. Responding to this challenge HFRS created the new role of Environmental Impact Project Coordinator to address the issues. Progress over the last two years has been impressive. The following sections explain in more detail what we have achieved.





Energy management

Using energy and resources efficiently in our processes is a must.

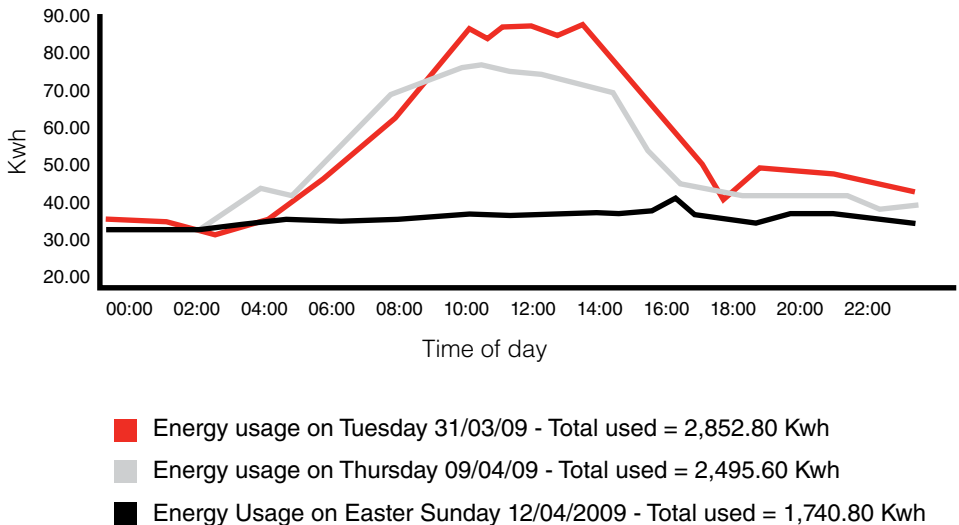
As part of our Beacon Station scheme we have incorporated energy consumption as a performance indicator, this helps to drive performance and energy reduction. Stations read their gas, electric and water meters on a monthly basis, and are set targets to reduce consumption.

Monitoring consumption and setting achievable stretching targets is key to reducing our environmental impact. Through VIEWS – our performance management software, we have been able to identify water leaks and spikes in energy consumption across our sites. In 2008-09 all stations were set the target of not exceeding their baseline average energy usage of 2005-07. For that period, 48 (out of 51) stations achieved target for one or more of the utilities.

In 2007 the Service commenced unannounced energy audits at SHQ, looking mainly at computer and other equipment that wasn't turned off out of office hours. This was necessary to raise staff awareness as the headquarters building has one electricity meter – but many departments with over three hundred staff.

The results of the audit were published and staff reminded to turn equipment off during out of office hours. Throughout the review period there was initially a reduction in the amount of electrical items being left on, but we realise that the headquarters site still needs to significantly reduce its energy consumption.

Energy consumption at SHQ



The graph above shows that on a bank holiday the consumption at Service headquarters is between 35-40 Kwh. Therefore with minimal staff in attendance we could call this the base load required. The graph also shows one of the highest days for consumption, peaking at over 85Kwh during the lunchtime period, and one of the lowest days, peaking at 80Kwh on the lunchtime period, with a base load at the start of the day of just 30 Kwh.

With such variations taking place, the challenge for the future is to target and reduce consumption within the headquarters building. This will be coupled with energy reduction targets for fire stations, which will help the Service achieve an overall annual reduction in carbon emissions.



Community Response

Environmental protection has been a high profile issue within UK fire services.

National environmental operation groups (fire and rescue services and environment agencies) meet regularly with the aim and remit - “In Partnership Towards a Safer and Cleaner Environment”. In 2008 The Fire Service Manual on Environmental Protection was launched, giving detailed information on how fire and rescue services protect the environment via operations, training and good practice.

The review addressed some day to day operational activities. We reduced the time that the automatic turnout lights are on at our fire stations, from 15 minutes down to eight, thus reducing energy consumption.

Stations have also adopted, as part of their routines of securing the site at the end of the day, a sweep to ensure everything is turned off.

Adapting to climate change we have made changes, such as, increasing our water rescue training in areas that have suffered or could suffer from flooding.



Training

The Training department, like Community Response, has included environmental awareness training for staff prior to the review.

Working with the Environment Agency we have issued environmental grab packs to stations. These grab packs assist firefighters to control and minimise the effect of harmful pollutants on the environment, before the arrival of specialists.

Environmental protection training is given to both new recruits and staff undertaking command and control training as stated by the various role maps, in conjunction with the Fire Service Manual.

The fire behaviour training unit at headquarters introduced the burning of sterling board, which uses thinnings and small diameter logs from well-

managed forests, rather than plywood and old furniture as used previously.

Foam drills have been taken off site to designated areas that have pollution controls to deal with the foam, for example the local airport or sewage farm.

Driver training instruct all emergency response drivers (firefighters and officers) in predictive techniques and more efficient ways of driving. This assists staff to drive in an environmentally friendly way.



Waste management

Following a review of our general waste in 2007-08 it became clear that improvements were required to the way we manage waste and identify efficiencies that could lead to financial savings.

General recycling facilities were not available prior to the review.

The initial introduction of recycling and bringing the waste contract under one supplier resulted in £12k of efficiency savings.

The key drivers to improve our waste management included financial savings, staff wanting to recycle and the Service's corporate social responsibility. By the end of the review, the following items are being recycled.

Paper
Print cartridges
Card
Fluorescent lights
Plastic
Batteries
Cans
Metal
Kitchen oil
Glass
Foil
Mobile phones
Furniture
Electrical equipment *
Shredded confidential waste

In 2008 the 'furniture bank' was launched, allowing good quality used furniture to be stored ready for re-issue when required, thus reducing the amount of new furniture purchased. This has been a great success with over 140 items including desks, lockers and filing cabinets being recycled.

*(via The Waste Electrical & Electronic Equipment Regulations 2006)



Information technology

Electronic items such as computers and printers etc, require a large amount of energy both in their manufacture and use.

During the review period a business case was made to change station printers from single sided print to double, thus saving paper, ink and electricity. This business case has been extended to see if a combined printer/photocopier would create further savings.

The Information Services department continue to introduce Windows Terminals (Wintervals) – networked computers to supersede stand alone standard personal computers where possible.

The average computer uses approximately 45 watts of energy per hour whereas a Winterval only uses approximately 10 watts per hour.

The old inefficient monitors are being phased out and replaced by more efficient flat screens, again reducing the energy consumption across the Service.

Video and telephone conferencing was available at headquarters prior to the review taking place. During the review period the Service, especially senior management have taken advantage of these systems, saving travelling and working time.

There are plans to extend the use of these facilities, across the county to enable us to make better use of telephone and video conferencing.





Our estate

The Service currently has an extensive property portfolio, including 51 fire stations and a large headquarters site. The age of the property ranges from the 1940's to modern.

Good housekeeping and switching off items not in use is encouraged as outlined in the energy management section.

Hippo bags have been placed in WC's at stations with suitable water tanks to reduce water consumption.

The Carbon Trust were commissioned to undertake seven site surveys of our buildings. Their report made recommendations for improvements at each site.

The Fleet Maintenance Centre was relocated from Winchester to headquarters in 2007. A new building was constructed to include sensor lights and rainwater recycling. A new fire station is now planned on the old workshops site and this

will be assessed under the BREEAM (www.breeam.org) environmental assessment method. The new station will have a ground source heat pump for space heating as well as photo voltaic cells for the production of electricity and solar thermal cells for hot water.

All public buildings over 1000m² visited by the public are required to have a Display Energy Certificate (DEC) displayed. The assessments are based on energy consumption throughout a year and updated annually. HFRS has 10 sites requiring DEC's. We are very proud to have eight of these 10 buildings accredited as typical or better. The Service aims to improve the rating of these buildings, with our focus on our worst performing buildings.





Environmental Management System

An Environmental Management System (EMS) is a means of developing, implementing and managing the organisation's environmental performance.

As part of the review, the Service has committed to obtaining the international standard ISO14001 by 2010. This requires continual improvement of our environmental performance, compliance with environmental legislation and the registering of all the Service's environmental aspects and impacts.

We have begun listing Service activities to ascertain what aspects affect the environment and what measures we can take to remove or mitigate the effect. We will introduce an environmental policy to support our environment management system.



Awareness

Staff awareness is vital if we are to reduce our impact on the environment. Our people have told us they want to improve our green credentials and it is imperative to keep them informed of all initiatives.

Methods of staff awareness include;

- Managers' seminars
- Carbon Trust awareness training session
- Energy Saving Week exhibition
- Regular "Green Corner" page entries in the staff Exchange magazine
- Taking part in national events such as the Recycling Week and National Bike Week
- Green notice boards at all fire stations
- Energy monitoring posters at all fire stations

Developing environmental training for staff is ongoing to embed a "think green" culture in the Service.



Carbon footprint

The Service's carbon footprint for 2008-2009 was 4849 tonnes of carbon dioxide, a decrease from 2007-2008 of 4%.

Public sector organisations across Hampshire meet on a regular basis to discuss and report back on the national indicators as set by each local area agreement (LAA).

These indicators include the reduction of carbon emissions and the adaptation of public authorities to climate change. The Service's Environmental Impact Project Coordinator was asked to chair the group for 2009 to 2010.

In order for the Service to report on each of the national indicators dedicated to the environment, the Service's annual carbon footprint is calculated.

The Service used the Department of Environment, Food and Rural Affairs

(DEFRA) calculator, which takes into account gas and electric consumption as well as the petrol and diesel usage.

The Chief Officer and Chairman of the Hampshire Fire and Rescue Authority have agreed to sign the Nottingham Declaration to show the Service's commitment to addressing climate change and reducing our environmental impact.

A cycle to work scheme was also introduced within the review period to help reduce carbon emissions. Within the first year we had a fantastic response, with 325 staff taking up the scheme.





What's next?

The environmental review has proven we are reducing our impact on the environment. However, there is still a long way to go and we have many opportunities available to us to lower our environment impact further still.

Gaining accreditation to ISO 14001 by 2010

Reducing HFRS carbon footprint by 20% by 2012

Reduce the effect fires have on the environment by 10% by 2012

Introducing a carbon management programme

Increasing video and telephone conferencing

Utilising our corporate membership of the Wildlife Trust

Green travel plans for HQ and the new Winchester Fire Station

Community Risk Intelligence reports to contain environmental factors wherever possible

Researching projects to help reduce energy consumption

Purchasing electricity from a green tariff where possible

Continual staff awareness and support to national events

Research the benefits of smart metering and building management systems

Use of renewable energy sources for new build projects

The best value review has been successful in reducing our impact on the environment, but has also highlighted areas for improvement.



Environmental Steering Group

An Environmental Steering Group was formed in 2007, comprising elected members and senior managers of HFRS. Its primary role is to set out a strategy for reducing the Service's impact on the environment.

The Environment Centre conducted a baseline study which made a number of recommendations for improvement. One of these included the formalisation of an Environmental Steering Group supported by a working group.

A working group of over 30 volunteer staff from various departments within the Service was formed. The group meets quarterly, with the purpose of advancing predetermined pieces of work around various environmental themes.

Interest in the group is increasing, as they play an integral part in changing the culture of the Service into a more environmentally aware place to work.

To date the projects undertaken by the working group include -

- A review of the halogen lighting at Rushmoor Fire Station
- Renewable options for the new fire station in Winchester
- The benefits of introducing thermostatic control radiator valves at Hightown Fire Station
- Staff awareness campaigns i.e. Energy Saving Week
- Developing environmental awareness pages for the website
- Scoring the environmental aspects and impacts register



Objectives and targets

The Hampshire Fire and Rescue Service Plan 2009 to 2012 sets out our priorities - one of which is to reduce our impact on the environment.

Underpinning this priority are three key objectives:

- **Reduce our carbon footprint by 20% by 2012**
- **Reduce the effect fires and other incidents have on the environment by 10% by 2012**
- **Achieve the international standard for environmental management (ISO 14001) by 2010**

How will we meet these objectives?

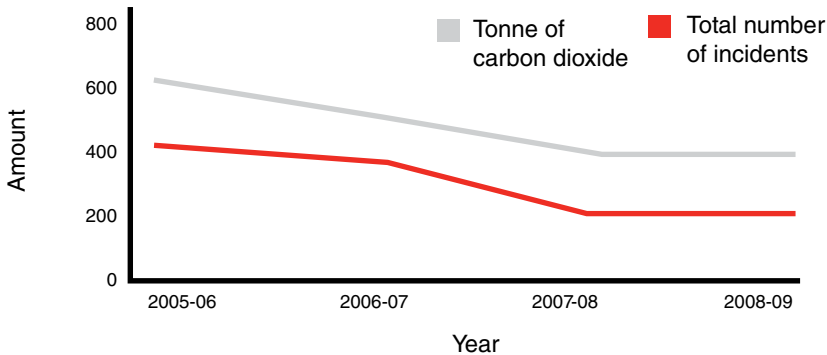
As stated in the energy management section, fire stations record their monthly consumption of utilities and are set annual targets to reduce consumption. From April 2009 to March 2010 all fire stations have a target to reduce their electric consumption by 7.17% and their gas and water

consumption by 3%. This data is converted into the amount of CO₂ produced (using the DEFRA carbon calculator) to monitor our performance against the targets, and ensure that we are on track to reduce our carbon emissions by 20% by 2012.

By preventing fires and other incidents through our community safety work, and adopting new ways of dealing with incidents we aim to reduce the environmental effects of fires by 10% by 2012.

The following graph shows an example of how through our prevention work we are reducing the amount of vehicle fires and therefore our carbon emissions are decreasing.

Southampton Group Vehicle Fires



The fire and rescue services within the South East region have a dedicated group for the environment that meet on a regular basis.

The group is working on formulating a common base and structure for an environmental management system for all the services in the South East region. We aim to achieve ISO 14001 by 2010.

Through the public sector sustainable development group we mark HFRS's performance, against the national indicator 188 (adaptation to climate change). The meetings provide an excellent opportunity for the Service to move up the levels within the indicator.

Want to help make a difference ?

Reduce - use less energy, switch off, don't leave electrical equipment on standby. Lower car emissions, drive slower, car share, cycle, walk.

Reuse - old cartons and containers for lunch boxes or plant pots. Scrap paper for note pads.

Recycle - All that you can !!!

Making lots of small changes can add up to something bigger.

For more information visit www.hantsfire.gov.uk/environment



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If you have any suggestions on how we can improve our environmental performance please contact the

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