

# A greener way to get fit

Recreation sector  
Low Carbon Case Study  
Carn Brea Leisure Centre

This case study demonstrates the business benefits of improved **energy efficiency** and **carbon abatement** to a community leisure centre.



**carnbrea**  
leisure centre

**A major investment in facilities and new eco-friendly technology at Carn Brea Leisure Centre has reduced the company's carbon footprint and cut energy bills.**

Carn Brea Leisure Centre was built in 1973 and currently employs more than 100 people. The centre is operated by an independent Charitable Trust and governed by a Board of Trustees.

The successful charity-run facility, which has more than 500,000 visits a year, recently saw the installation of new high tech equipment to reduce operating costs and improve environmental sustainability as well as a complete makeover for the changing areas.

In the first phase of work, new boilers, air handling units, electrical systems and a high efficiency hot water system were installed **to help minimise waste heat, significantly reduce day-to-day running costs** and help increase the Centre's environmental performance.

The leisure centre has also invested in a new ultra violet treatment plant which will mean that less chlorine will be used and along with the new air handling system has led to a much better environment for swimmers.

The leisure centre began looking at its environmental impact with help from Envision who carried out a free energy audit for the charity. As the management team had already looked at some of the areas of largest energy consumption the audit focused attention to addressing these areas.

Further to this the leisure centre received a loan from the Carbon Trust in order to install an intelligent lighting system. This system means that resources are managed more effectively leading to less carbon emissions and an estimated **20-30% energy reduction. This equates to a saving of approximately £5,000 per annum on lighting alone.**

These changes have been implemented alongside the installation and replacement of the facilities 1970's 200kw boilers to an energy efficient condensing boiler. This was paid for through a grant from Cornwall Council, which, including the boilers and other mechanical and electrical upgrades saw a total investment of £260,000.

Furthermore, the fitting of new pool covers to retain the heat levels has led to considerable savings. **With an installation cost of £20,000 it is expected to have a pay back period of just 5 years.**



## Background

Carn Brea Leisure Centre Trust is consistently recognised as running the most cost effective leisure centre in Cornwall. The centre is committed to providing a sustainable, essential service for the local community - and the management team are actively pursuing ways in which to ensure the centre's future.

## Resource efficiency projects and initiatives

The installation of a thermal wheel allows the transfer of moisture from exhaust air to incoming air and will replace the existing air conditioning systems. The thermal wheel has a small carbon footprint which allows the size of the air handling unit (AHU) to be reduced. It also reduces the size of heating or cooling coil and allows a reduced capacity boiler or cooling condenser.

The intelligent lighting system through the leisure centre means that lighting is used more efficiently. The lights dim in areas that are used less and in the squash courts both the lighting and ventilation are movements sensitive.

Finally, following the recommendations from the energy audit Carn Brea leisure centre have also installed a building management system allowing the management team to monitor, control and report on energy use throughout the centre, from their desktop. The systems means that if energy consumption rises in a certain area this can be monitored and investigated to ensure resources are managed more effectively.

## Comments from Carn Brea Leisure Centre:

This has been really exciting time for everyone involved at Carn Brea. These new developments have made Carn Brea a more environmentally friendly centre while at the same time ensuring a much better and much healthier customer experience.

**Alex Clifton**, Leisure Centre Manager

## Business support received

**Envision** – A South West environmental support programme which helped businesses to save money and develop new green markets.

**Please note: this programme has now closed.**

W: <http://envisionsw.org.uk/index.php>

**Carbon Trust** – Provide specialist support to business and the public sector to help cut carbon emissions, save energy and commercialise low carbon technologies.

T: **0800 085 2005**

W: [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

**Cornwall Council** – Council advisors and support for business, environment and planning.

T: **0300 1234 202**

W: [www.cornwall.gov.uk](http://www.cornwall.gov.uk)

**Business Link** – A free business advice and support service, available online and through local advisers.

T: **0845 600 9966**

W: [www.businesslink.gov.uk](http://www.businesslink.gov.uk)

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