

Making Climate Change Work for the Healthcare Sector

a report by

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Dr David Vincent is Technical Director of The Carbon Trust, a position he has held since April 2001. In 1999, he began the process of restructuring Carbon Trust's Energy Efficiency Best Practice Programme (EEBPP) to meet the needs of the next decade, and helped develop the enhanced capital allowances scheme to promote energy efficiency investment. He initially helped design the EEBPP in 1988/1989 and took over as its Director in 1994. He joined the Civil Service in 1973 and has been working in the energy efficiency field since the mid 1970s when he helped set up the Industrial Energy Thrift Scheme. Dr Vincent is a physical chemist by profession.

Carbon Trust is one of the key components of the UK's Climate Change Programme. Through its Action Energy programme, it is playing a leading role in helping to deliver the UK's carbon dioxide (CO₂) emissions reduction targets by helping business and the public sector, including the healthcare sector. To discharge the remit given to Carbon Trust by the UK prime minister, its Low Carbon Innovation programme (LCIP) is investing in the development and commercialisation of new and emerging low carbon technologies. This article explains why Carbon Trust was established and describes its programmes.

Carbon Trust was set up in April 2001 with the support of the Advisory Committee on Business and the Environment (ACBE)² as an integral part of the UK's Climate Change Programme. It is an independent, not-for-profit company with a board drawn from business, research, non-governmental organisations, trade unions and government.

Carbon Trust has three key objectives:

1. to help business and the public sector contribute towards on-going targets for greenhouse gas emissions;
2. to improve the competitiveness of business through improvements in resource efficiency; and
3. to support the development of a UK industry sector that capitalises on the innovation and commercial value of low carbon technologies.

Carbon Trust's approach is to invest public money to deliver an effective carbon return over the short, medium and longer terms. Its success will be measured by assessing its performance against three

key parameters: carbon savings, stimulating investment and, ultimately, the respect it earns from the business community.

- Carbon savings – Carbon Trust will measure the size of its contribution to carbon emissions reduction against a baseline of activity, stimulated in the short to medium term by the Action Energy programme, the Energy Efficiency Loan Scheme and the government's Enhanced Capital Allowances (ECA) scheme; and in the medium to long term by the Foundation Programme, which supports low carbon technology innovation.
- Stimulating investment – Carbon Trust seeks to equip its funding with private sector investment funds via the financial instruments that are being developed as part of its low carbon technology investment arm, in particular, by brokering shared funding projects with venture capital and other financial sources to bring forward and commercialise new and emerging technologies.
- Respect – Carbon Trust is a young organisation and the need to build awareness of its activities and its approach is crucial to its success. It is developing a reputation as a serious, uniquely positioned player working with government, business and the public sector to accelerate the UK's transition to a low carbon economy. The success of Carbon Trust will in no small part depend on the respect it earns from stakeholders for the way in which it conducts business.

A report published in June 2000 drew attention to the huge and potentially adverse impacts that climate change will have worldwide.³ The Royal Commission on Environmental Pollution recommended that, in order to stabilise UK

1. *The UK Climate Change Programme, published on 17 November 2000, details action that will be taken by the UK government to meet the UK Kyoto commitment to reduce 1990 emissions by 12.5% by 2008–2012, and move towards the UK domestic goal of reducing CO₂ emissions by 20% by 2010.*
2. *Established in May 1991 in response to a commitment in the 1990 Environment White Paper, This Common Inheritance, ACBE provides for dialogue between government and business on environmental issues and aims to help mobilise the business community in demonstrating good environmental practice and management.*
3. *The Royal Commission on Environmental Pollution's 22nd Report, Energy – The Changing Climate, June 2000.*

emissions at twice pre-industrial levels – which, on current thinking, would avoid the worst impacts of climate change – CO₂ emissions would have to be reduced by 60% by 2050. Tackling climate change, and putting the UK on a path to a low carbon economy over the next few decades is probably the greatest environmental challenge facing us today. Although these are large issues affecting everybody, the level of awareness, interest and willingness to take action – with a few notable exceptions – is wholly inadequate. Creating and sustaining a step change in awareness and behaviour is one of the greatest challenges in tackling climate change.

Carbon Trust faces a huge challenge to engage business and the public sector to deliver the scale of carbon savings which are thought possible. Energy efficiency, renewable energy technologies and the introduction of a hydrogen-based energy infrastructure all have a part to play. However, technologies alone are not sufficient. There is a need for vigorous programmes and policies and, most importantly, long-term commitment to a common goal. A step change in investment in energy efficiency is required. Carbon Trust is working hard to begin that step change with three key programmes: Action Energy, the Foundation Programme and ECA, all of which have relevance to the healthcare sector – both in terms of the day-to-day operations of existing hospitals and associated healthcare facilities and in terms of the way in which new healthcare facilities are designed, built and operated in the future.

Action Energy

Action Energy builds on the success of the former Energy Efficiency Best Practice Programme. Over the last decade, this programme has built up a nationally renowned library of impartial, authoritative information and guidance on a wide range of practical energy efficiency measures. It has also built up a justified reputation domestically amongst energy and other professionals and internationally as a world leader in its class. Most important of all, it met its original target set in 1990 – helping end-users to achieve energy savings worth £800 million per annum by the end of 2000. This saving is equivalent to about 4.5 million tonnes of carbon per annum – achieved at a programme cost of a few tens of pounds per tonne.

Action Energy is already helping to improve energy efficiency across National Health Service (NHS) Trusts in Wales. The case study explains the benefits that a new pilot programme is seeking to achieve (see *Box 1*).

Foundation Programme

The LCIP, launched in May 2002 as a Foundation Programme, has attracted a great deal of interest and the first awards under this programme are currently being made. The Foundation Programme has been designed to assist developing low carbon technologies in overcoming barriers across the innovation chain. It provides a funding continuum across the innovation process from research and demonstration grants through to investment capital. It is designed to consider a wide range of funding propositions from researching new and interesting ideas that are not yet possible or practical to near-market technology that has not yet achieved critical mass in the marketplace.

A range of financial instruments, from grants, guarantees and loans, to equity, convertible debt and carbon-linked instruments, is available – tailored to meet specific needs and different stages of the innovation process.

Through the Foundation Programme – and its planned expansion as the LCIP – Carbon Trust expects to have £75 million of funding available over three years to support the development, deployment and commercialisation of low carbon technologies.

ECA

Although the ECA scheme has been available since April 2001, Carbon Trust has only recently taken over the management and promotion from the Department for Environment, Food & Rural Affairs (DEFRA). The ECA scheme aims to stimulate investment in low carbon technologies by allowing businesses to deduct expenditure on qualifying plant and machinery against taxable profits. The ECA Energy Technology List contains over 3,500 products – ranging from boilers and motors to pipework insulation and thermal screens.

Interest is growing and the Energy Technology List is acting as an energy efficiency promotional tool in its own right. Some £200 million of Climate Change Levy receipts have been allocated to the ECA scheme covering the period April 2001 to the end of March 2003 as one of the key mechanisms designed to recycle those receipts back to business.

A wide range of emerging low carbon technologies exists in the UK. There are individual technologies – fuel cells, micro-CHP,⁴ improved boiler burner and control technologies, process control, hybrid vehicles, novel thermal insulation materials – all of

4. Micro-CHP (combined heating and power) is the simultaneous production of heat and electricity in private homes.

Box 1: Case Study – Welsh Health Estates

In November 2002, Carbon Trust in Wales entered into a major energy efficiency partnership with Welsh Health Estates. The partnership's objectives will be delivered through Action Energy.

The NHS in Wales is a major energy consumer and, in line with the Welsh Assembly Government's commitment to sustainable development, targets for reducing energy consumption have been introduced. As a result, the NHS Trusts have been set the target of reducing primary energy consumption within the NHS by 15%, or 0.15 tonnes of carbon per year, by 2010. In attempting to meet these targets, a wide range of issues need to be addressed ranging from high-level strategic requirements, down to technical issues at an individual site level.

To help the NHS meet the new targets, Welsh Health Estates and Carbon Trust have entered into a partnership to scope the potential for saving energy and explore and implement a range of delivery mechanisms. Initially, the partnership will be working with Gwent NHS Trust, identifying key areas for energy saving, reviewing strategic and policy issues, exploring new initiatives for energy conservation and demonstrating the practical steps required to deliver the energy reduction target in Wales.

David Jones, Gwent NHS, says: *“As part of the pilot scheme, Action Energy has already identified key areas for energy saving following energy surveys on the two sites within Gwent NHS Trust. The partnership we have with Carbon Trust means that we're heavily involved in the energy management process and are looking forward to some excellent energy savings.”*

The potential benefits to the NHS in Wales could be considerable including wide-ranging energy reductions with the associated financial savings and a leading approach to sustainable development. It is planned that the findings of this joint initiative between Welsh Health Estates and Carbon Trust will be rolled out across all of the Welsh NHS Trusts on completion of the pilot.

Neil Davies, Welsh Health Estates, comments: *“The NHS in Wales is a major energy consumer, so it goes without saying that the help from Action Energy is invaluable in helping us to achieve our sustainable development targets. We're pleased with the results of the partnership to date and look forward to the programme rolling out to other NHS Trusts across Wales.”*

As part of its commitment to continuous improvement, Carbon Trust will use this initiative to improve the delivery of Action Energy services to other NHS Trusts and Regional Bodies throughout the UK.

which have the potential to make a significant contribution to reducing carbon emissions – as do the many good energy efficiency technologies already available.

Effective ways of managing carbon also need to be developed. The UK Emissions Trading Scheme – the first of its kind in the world – was launched in April 2002. Through this market mechanism, carbon emissions are assigned a monetary value. This means that energy efficiency investments now have the potential to earn a carbon return as well as an energy cost savings return. Those businesses that invest in energy efficiency projects and can verify their carbon savings can sell them on the carbon trading market, thereby making a real financial return on their balance sheets.

The health sector has demonstrated that it can be at the forefront of investment to improve energy

efficiency in hospitals. There continues to be scope for further worthwhile investment in energy-efficient plant and also in the specification of buildings and building services. In the public sector more generally, there is huge potential to use the considerable power of public purchasing to lead the way on green procurement.

Adopting a 'whole life-cycle' approach to procurement – and moving away from 'first cost' purchasing decisions – would not only bring benefits over the lifetime of the investment but would also send a strong signal to providers of products and services that cost in use is a now a crucial factor that will be considered by procurement managers. Public procurement offers a major opportunity to make a difference and Carbon Trust has been working with the Office of Government Commerce (OGC) to contribute towards their thinking on this key issue. ■