

# Building a low carbon future

# ENVIRONMENT





Mike Batt, Manager for Carbon Trust Wales

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**As many of us prepare to embark on a renewed round of business planning for 2011 and beyond, prudent organisations are already incorporating energy, cost and carbon reduction measures into the planning process.**

**W**e all have an active role to play in moving our individual business and Wales-wide carbon emissions onto a downward trajectory. And, given that non-domestic buildings account for around one fifth of all carbon emissions in the UK, a key goal must be to have more energy efficient buildings that are used more effectively. If we can collectively deliver against these two ambitions, Wales will be well on its way to a low carbon economy.

To make the most of the carbon reduction opportunity, we need to not only upgrade our building stock, but also to upgrade our knowledge regarding its design, operation and maintenance of buildings. Many organisations have made strides forward in this area through employee awareness-raising programmes. A number of local organisations are also working with the Carbon Trust to train their facilities management teams to ensure more efficient building operation. This skill enhancement needs to become the norm rather than the exception. A well-designed

building operated badly is an opportunity missed.

In conclusion, improving the environmental performance of our non-domestic buildings represents a clear 'win-win'. Not only will this deliver more carbon reductions faster, but in doing so it will deliver significant savings for the Welsh economy, thereby increasing security of energy supply and provide organisations throughout Wales with better, more productive buildings and lower carbon workplaces.

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Mike Batt, Manager of Carbon Trust Wales with Jane Davidson, Minister for Environment, Sustainability and Housing

**About the Carbon Trust**

The Carbon Trust aims to accelerate the move to a low carbon economy by working with business and the public sector to develop commercial low carbon technologies and help organisations reduce their carbon emissions.

Our business consists of five complementary areas: Insights, Solutions, Innovations, Enterprises and Investments. We believe that all of these are critical in the creation of a low carbon economy.

**Insights**

Explaining the issues and opportunities around climate change and carbon reduction.

**Solutions**

Working with business and the public sector to identify carbon emissions and find ways of cutting them; and providing the knowledge and resources to help them do so.

**Innovations**

Helping to develop commercially promising low carbon technologies through partnerships, funding, expert advice and large-scale demonstrations.

**Enterprises**

Creates new, high-growth, low carbon businesses by identifying opportunities and combining key skills and resources.

**Investments**

Carbon Trust Investments finances emerging clean energy technology businesses that demonstrate commercial potential, helping to leverage further venture capital funding. It specialises in identifying and investing in early stage technologies and credible management teams with the ability to create and deliver clean energy businesses. It is a co-investor of choice in the low carbon technology field.

For more information on how Carbon Trust can help your organisation, please visit [www.carbontrust.co.uk](http://www.carbontrust.co.uk).

# Helping organisations make business sense of climate change now

**At Carbon Trust Wales we have a range of services to help public and private sector organisations cut cost and carbon now. These include carbon surveys, 0% business loans for new equipment, specialist advice and online tools.**

**O**ur carbon surveys highlight how an organisation can save on energy costs and reduce environmental impact.

Each survey is conducted by an independent accredited consultant and produces a practical action plan tailored to your needs. We can also measure your organisation's carbon footprint as part of the survey.

We also offer interest free loans of £3,000 - £100,000 for private and public sector organisations to invest in energy saving projects. Our interest free loans provide the opportunity to modernise a business and reduce overheads. Our business loans are unsecured and interest free, with no arrangement fees and a straightforward application process. Loans can be repaid over a period of up to four years and, as the scheme is designed in such a way that the financial savings made through energy savings will cover repayments, the loan will effectively pay for itself.



Mark Richards Director of Operations at National Museum Wales

Amgueddfa Cymru - National Museum of Wales manages seven sites throughout the principality, including National Museum Cardiff, which has been working with Carbon Trust Wales since 2005 to become more energy efficient. The Museum has already calculated its savings as 1,300 tonnes in carbon emissions.

Following an additional energy saving assessment carried out by Carbon Trust Wales last summer, further measures to reduce costs and carbon emissions at the Museum were identified. Once

implemented, these additional measures will save the Museum an extra £138,000 in annual operating costs and reduce its annual carbon emissions by a further 648 tonnes.

Mark Richards Director of Operations at National Museum Wales said: "As the largest energy user of all our sites, National Museum Cardiff was a logical place to start our energy saving. And the expert help and advice received from Carbon Trust Wales over the last four years has been second to none. Thanks to a suite of energy saving measures now implemented at the museum, we are already saving around £10,000 a month in energy costs and, having secured funding from the Welsh Assembly Government, we can action further energy saving recommendations made by Carbon Trust Wales."

Frontier Medical Group manufactures and supplies a wide range of medical products to healthcare providers throughout the world, including the world's first purpose designed plastic sharps containers, Sharpsafe, manufactured in Blackwood. As part of Frontier's ISO14001 commitment to environmental management, a comprehensive energy audit of Frontier Medical Group's injection moulding plant was undertaken, following which Carbon Trust Wales awarded a

series of loans for upgrading to more energy efficient systems. Frontier Medical Group used these interest free loans to invest in three key pieces of energy efficient kit – a variable speed drive compressor, an energy efficient air blast cooler and more energy efficient injection moulding equipment.

In addition to financial support, Carbon Trust Wales has also provided expert advice and recommendations on other energy saving measures to be adopted over time; recommendations that Frontier Medical Group is systematically working through as part of its commitment to reducing its corporate carbon footprint.

Brian Steele, electrical engineering manager at Frontier Medical Group said: "The expert help and advice received from Carbon Trust Wales has been phenomenal. Having the objective opinion of these experts in their field, as well as an interest free cash injection, has been invaluable in helping us establish a realistic carbon reduction commitment and achieving some energy and cost saving quick-wins as well as setting benchmarks against which we can measure our progress long term. Having upgraded our equipment, we are now working hard on our housekeeping and procedures to realise even greater carbon and cost savings."



Brian Steele, electrical engineering manager at Frontier Medical Group

# Helping Wales lead the way in cutting carbon in the future



Carbon Trust Wales Insights & Innovations Manager, Karen Griffiths

**At Carbon Trust Wales we believe that there are tremendous market opportunities for organisations in Wales that are at the forefront of the move to a low carbon economy and we can help realise these opportunities in a number of ways.**

**T**he Carbon Trust provides support for early stage low carbon companies and technologies and encourages private investment into organisations.

A key part of our Innovations activity is to accelerate the commercialisation of Britain's best early stage clean tech companies, taking them from high risk start-ups to attractive investment propositions. Our new Entrepreneurs Fast Track will provide a customised package of research and development funding, expert advice and enhanced networking opportunities, to the leading UK clean tech ventures with the highest growth potential.

## Supporting in Wales

A number of emerging clean tech firms across the UK have already benefited from Carbon Trust support, including Conwy-based energy management company, SenseLogix.

SenseLogix is a provider of automated, real-time energy saving products and services designed to eliminate the electrical waste of vending machines, water coolers and heaters, air con and

room heating and ICT equipment in offices and educational establishments. Energy metering and control devices are placed behind wall sockets and a PC power management solution is installed to manage ICT equipment. The system then uses an energy dashboard to increase awareness and provide individual energy profiles. Through a central computer system, the SenseLogix technology can track and manage computers and other machines such as copiers, printers, vending and water coolers and turn them off when not needed.

Jonathan Luke, Director of SenseLogix said: "The support provided by the Carbon Trust was absolutely crucial in enabling SenseLogix to realise its technology solution and support important commercialisation processes that are critical to continued growth of the company."

Any entrepreneur, start-up or spin-out company with a genuinely innovative low carbon idea or technology should visit [www.carbontrust.co.uk/fast-track](http://www.carbontrust.co.uk/fast-track) to register your interest and find out more about the application process.

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# Sustaining Wales – Sustainability through legal eyes

Kate Beauchamp

**With a breathtaking coastline and green valleys, Wales is one of the most beautiful countries in the world. It is little wonder then that the Welsh want to keep it that way. What may come as a surprise to outsiders, however, is that the Welsh are legally obliged to do just that.**

[ The sustainable development requirements of clients in their business transactions need some creative thinking on the part of the lawyers. New ways of doing business are emerging to meet the demands of the parties, from unusual forms of corporate structure like community interest companies to innovative public private partnerships. ]

There is legal duty that sets Wales apart from the rest of the United Kingdom and almost every other nation state on the planet. Wales, as a result of having a devolved government, has control over most practical aspects of Welsh national administration, excluding taxation, foreign policy and defence. Under the terms of the Government of Wales Act 2006, the promotion and achievement of sustainable development is embedded in law as the overarching policy consideration for the Welsh Assembly Government (WAG). It is therefore a topic that the Welsh take very seriously.

May 2009 saw the publication of the key Welsh Government policy document, One Wales: One Planet, detailing the application of the sustainable development agenda. Sustainability ideals are implanted in a legally binding 'scheme' that encompasses all aspects of social, economic and environmental wellbeing within the context of Welsh Governmental policy.

Rhodri Morgan, the then First Minister for Wales, introduced the new scheme as providing Wales with "...an opportunity to show leadership and ambition and to learn from the past. It gives us the opportunity to show how we are playing our full role as a global citizen..."

Echoing the socially-focused nature of the Welsh psyche, Morgan went on to say that sustainable development is "as much about social justice as it is about securing economic resilience and living within environmental means."

Ioan Prydderch is a construction, energy and projects partner at Hugh James Solicitors in Cardiff, the largest independent law firm in Wales. Being at the heart of development and regeneration matters in Wales, the firm is perfectly placed to see the effects of that 'legally binding' sustainability agenda on Wales and on business within her borders.

Ioan said: "Sustainability is what it's all about now. Every aspect of our work, from transactions to strategic management, is inherently focused on the sustainability agenda."

But what does that mean in real terms for business in Wales?

Ioan continues: "From a legal perspective, the sustainable development requirements of clients in their business transactions need some creative thinking on the part of the lawyers. New ways of doing business are emerging to meet the demands of the parties, from unusual forms of corporate structure like community interest companies to innovative public private partnerships. There has to be a balance between meeting the stringent sustainability targets in place in Wales and the economic considerations of business. All in all, it's an exciting and dynamic time to be working in the development, regeneration and energy fields, despite the obvious financial constraints."

By any standards, taking on sustainability as a legal responsibility is a challenging and precocious step. Clearly, this is not a programme WAG can deliver on its own. The One Wales: One Planet scheme therefore encourages other organisations within Wales to play their part, including businesses, the third sector, communities and individuals.

The Hugh James Construction Energy and Projects team are of course well aware that the law and governmental regulation clearly have an important role to play. Ioan explains: "With the Welsh planning system heavily supportive of sustainability and measures such as the Welsh Quality Housing Standard underpinning WAG's aims, clients are bound to the legal duty that WAG carries. When Building Regulations become devolved to Wales next year, that trend will continue."

Sustain Wales/Cynnal Cymru, the main

independent, not-for-profit organisation in Wales promoting sustainable development, also works closely with the Welsh Assembly Government to help push forward the ideals of the One Planet Scheme. The forum Sustain Wales provides for the sharing of information and effective communication is vital to the successful engagement of all sectors in the Welsh sustainability story.

Increasingly, Welsh communities are embracing sustainable ideals by setting up their own micro-generation projects, for example biomass, solar or wind power installations.

Given that the broad notion of sustainability is not always seen as being aligned with economic strategies for growth and prosperity, the question then arises whether those contemplating doing business with Wales should be concerned by Wales' bespoke approach.

Ioan's opinion on that subject is clear: "The short answer is not at all. In fact, it is possible to argue that the exact opposite is true. Doing business in a sustainable way, economically, socially and ecologically, forms the backbone of a business's corporate responsibility credentials. On the other hand, doing business in an unsustainable way often proves, in the long run, to be a false economy."

And that view is supported by the fact that Wales is full of examples of business successes where sustainable development sits at the heart of enterprise. The development of Wales' renewable energy supplies through tidal and wind power is a case in point, as are the plans for the Severn Barrage and the hugely successful Cardiff Bay Regeneration Project – the largest waterfront development in Europe.

We'll leave the last word to Ioan: "At the end of the day, the need for sustainable means of achieving corporate, environmental and social goals is a no-brainer. Wales knows that. The rest of the world will just have to catch us up."



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# Charity places trust in Cardiff firm to reduce carbon footprint



**The economic downturn has placed corporate IT spending firmly under the microscope. 'Green IT' has come under particular scrutiny, perceived by many as a vanity project offering good PR and little else. In fact, the reality can be very different. Managed hosting specialist eLINIA believes that a well-planned, well-implemented green IT programme can help businesses to unlock cost-savings and efficiencies that few would believe.**



**E** LINIA did a recent project with the National Trust, a project which saw eLINIA nominated for the Environmental Project of the Year award at the IT Industry Awards.

The National Trust approached eLINIA as part of a project to overhaul its existing IT infrastructure, which was outdated, spread over multiple locations and power hungry.

As an organisation that places protecting the environment at the heart of what it does, the National Trust was keen to ensure that the new IT infrastructure was, above all else, kind to the environment.

eLINIA prides itself on creating bespoke solutions for its clients in order to help them reach their goals and came up with a solution to help the National Trust save money while substantially reducing its carbon footprint.

The managed hosting specialist migrated physical elements of the Trust's existing IT infrastructure onto a virtual platform run on HP blade servers. This approach has allowed the charity to cut its data centre consumption by 70 per cent thanks to both a consolidation of the existing IT systems by eLINIA as well as the fact that virtualisation requires fewer physical servers.

The new infrastructure boasts significantly reduced cooling costs, since there are now fewer servers generating heat. The reduced power needed within the data centre has bolstered the charity's goal of conserving the environment, while offering savings estimated at £78,000 per year.

Further cost savings have also been achieved through reduced hardware and software and reduced storage and backup costs, resulting in an estimated total cost saving of £168,000 each year.

Adrian Rapps, Technical Director at eLINIA, said that virtualisation projects make sense for a number of reasons. "Even when economic times are tough, projects such as this one have benefits both financially and environmentally.

"With businesses continually looking to cut capital expenditure, hosted services that promise to cut energy bills and reduce carbon emissions will replace the more flamboyant green projects of the past few years."

The new infrastructure has been moved to eLINIA's environmentally friendly data centre in Slough, providing an additional boost to the National Trust's green credentials.

The data centre, which is run by Equinix, is powered by a converted power station which generates hot water and electricity by burning wood chips and fibre cubes made from used paper and cardboard.

Steve Heath of the National Trust commented: "Protecting our environment is at the centre of our very existence and is almost synonymous with the National Trust. Introducing IT systems that minimise our impact on the world we live in is key, and our partnership with eLINIA has been very beneficial.

"Add to this the fact that, as a charitable body, we need to ensure our funds are being used in the most cost-effective way and it becomes clear why a project which has revamped and streamlined the National Trust's IT, limited our carbon footprint and saved us money, is deemed to have been such a success."

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