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source NW

WATERS | REGENERATION | ENVIRONMENT | SUSTAINABILITY

NORTHWEST CLIMATE CHANGE SPECIAL
SPONSORED BY THE **NORTHWEST CLIMATE FUND**

PROJECTS TO INSPIRE
A carbon cutting school in Cumbria and energy efficient homes in Manchester.

CREDIT CRUNCH AND THE ENVIRONMENT
This time it really is different.

GREEN ROOMS
Your guide to the region's great green venues.

WORKING TOGETHER FOR englandsnorthwest

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The problem with the tide of bad news about the environment is that it risks leaving people feeling overwhelmed and uninspired. Add in fears about the credit crunch, and it's enough to make you want to bury your head in the sand.

In this special issue of **Source NW** we take a regional look at the biggest problem of all – climate change – and find plenty of good news. No one can solve the entire problem single-handedly, but ordinary people across the region are already finding easy ways to tackle parts of it.

We meet some of them in our special section sponsored by the **Northwest Climate Fund**. The fund is helping to finance small scale, community led projects to cut carbon emissions and generate renewable energy.

Elsewhere, we meet the woman who is leading Liverpool's Year of the Environment – without relying on a car – and the man who has made Manchester City the country's greenest football team. We also find out what it's like to live in highly efficient, low carbon homes.

And we offer practical advice on a range of topics, from finding funding for energy efficiency improvement, to switching to low energy light bulbs or finding a green venue for events.

Matthew Sutcliffe, editor
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Source[NW] is the magazine of the Mersey Basin Campaign. The campaign works towards better water quality and sustainable waterside regeneration for the rivers and waterways of England's Northwest.

Cover Projects To Inspire, page 8. Photograph by Dave Willis.

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Changing rooms

Every home to get green makeover by 2030.

Tens of thousands of homes across the Northwest will be in the vanguard of the government's massive new scheme to cut carbon emissions and slash heating bills by improving household energy efficiency.

Around 90,000 low-income households across the UK will be fitted with free or discounted insulation and other energy efficiency measures, such as ground source heat pumps, over the next three years.

Energy companies, councils and local voluntary organisations will go door-to-door in 100 energy-poor neighbourhoods to offer the improvements, starting in autumn.

Thousands of homeowners in Merseyside, Manchester and north Cheshire stand to benefit from the £350 million programme.

THE INFRARED PHOTO SHOWS A HOUSE WHOSE LEFT WALL IS WELL-INSULATED (BLUE AREA) WHILE THE FRONT WALL IS BARELY INSULATED SO THAT THE HEAT CAN ESCAPE TO THE OUTSIDE (RED AREA). BASF, 2007.

The scheme – the Community Energy Saving Programme – is part of a £1 billion package of measures announced in February that extends the government's Home Energy Saving Programme to £6.5 billion by 2011.

In addition to help for low-income households, every home in the country now qualifies for at least 50 per cent off loft and cavity wall insulation and a range of other energy saving devices such as low energy light bulbs and saver plugs. A proposed new tax on utility companies would raise £910 million to help pay for the measures.

The government wants seven million homes – a quarter of all the houses in the country – to benefit by 2020, with every UK home receiving a green makeover by 2030.

The strategy could cut household carbon emissions by a third by 2020 – a significant contribution given that homes account for 27 per cent of the UK's carbon emissions through heating and power.

Climate change secretary Ed Miliband said: "We need to move from incremental steps forward on household energy efficiency to a comprehensive national plan – the Great British refurb.

"We know the scale of the challenge: wasted energy is costing families on average £300 a year, and more than a quarter of all our emissions are from our homes. Energy efficiency and low carbon energy are the fairest routes to curbing emissions, saving money for families, improving our energy security and insulating us from volatile fossil fuel prices."

Environmentalists broadly welcomed the announcement but urged rapid action. Nathan Argent, head of energy solutions at Greenpeace, said: "Tackling energy efficiency is the fastest way to cut emissions, boost our energy security, revitalise the economy and create tens of thousands of jobs.

"And, obviously, this will cut household bills too. But this plan needs much more investment right now. The government needs to put their wallet where their mouth is."

Revived and remade

Work has begun on two new land reclamation projects in Cheshire and Lancashire – the latest in two massive programmes to green almost 500 hectares of brownfield land in the Northwest.

A derelict railway line in Padiham, Lancashire, is being turned into the town's long awaited linear park. The £1.2 million scheme will create a new greenway with landscaping and lighting along a 2.4km stretch of the old Rose Grove to Padiham line.

Lancashire has over 2,400 hectares of derelict land and the project is part of the £22 million REMADE in Lancashire programme, which aims to reclaim 300 hectares by 2011.

Meanwhile, at the former Bewsey tip in Warrington, a two-year project to reclaim the site is busy installing sports pitches, paths and a children's play area.

The £750,000 project is part of REVIVE, which aims to transform 170 hectares of the county's brownfield land.

Both programmes are backed by the Northwest Regional Development Agency, which has supplied total funding of almost £39 million.

MORE INFORMATION
www.lancashire.gov.uk/environment/remade
www.cheshire.gov.uk/planning

Is it getting hot in here?

Scientists at the University of Liverpool have found that changes in the ocean's ability to absorb excess greenhouse gases could lead to a five-fold increase in global heating.

The problem lies in disturbances to the delicate balance between carbon dioxide in the air and in the oceans.

Normally, the world's oceans act as an enormous carbon sink that absorb excess carbon dioxide from the atmosphere.

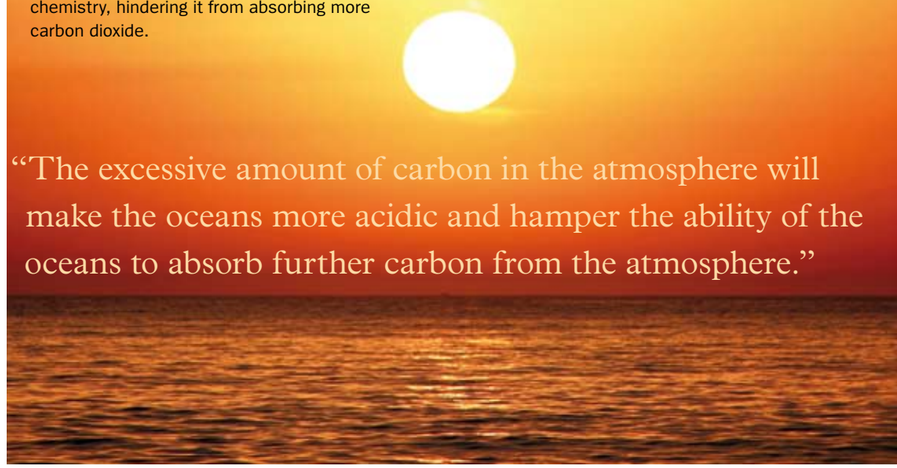
But according to an international team of researchers, including scientists in Liverpool, if all of the world's coal, oil and gas were burned, the massive release of carbon dioxide would alter the sea's natural chemistry, hindering it from absorbing more carbon dioxide.

Professor Ric Williams, from the university's School of Earth and Ocean Sciences, explains: "It is accepted that rising atmospheric carbon dioxide concentrations lead to an increase in heating around the globe.

"It was, however, unclear as to how the ocean's ability to store carbon could affect the future overall heating of the earth.

"The excessive amount of carbon in the atmosphere will make the oceans more acidic and hamper the ability of the oceans to absorb further carbon from the atmosphere.

"The extra carbon dioxide remaining in the atmosphere will lead to an increase in the overall heating of our planet, making sea levels rise and exacerbating the melting of the Arctic icecaps."



SOUND BITES

School greeners. Fourteen Cheshire schools are joining 40,000 others around the globe in a year long eco-challenge. They are taking part in the Eco-Schools award scheme, an internationally-recognised programme for green-thinking schools that runs in 46 countries from the UK to France, Morocco and South Africa. The Cheshire contenders span primary, secondary and special needs schools, and depending on their dedication they can win bronze, silver or the prestigious Green Flag awards.

High tide. Huge new tidal energy schemes could help supply enough power to meet half of the Northwest's energy needs, says the head of the new Northwest Tidal Energy Group. The group is exploring the potential for tidal energy across the region, including major projects on the Mersey, Solway Firth and Morecambe Bay. Partners include the Northwest Regional Development Agency and Peel Energy. The group's chair, Joe Flanagan, said: "England's Northwest has the potential to provide up to half of the region's energy from tidal energy; around 6 per cent of national energy needs."

Three of a kind. Nature lovers in Grimsargh near Preston have a new wildlife park to enjoy. Three old reservoirs have been turned into a variety of wildlife habits – one has been left full, another remains half full, and the third has been breached to allow the water to drain out and create new wetlands. Campaigners hailed the move following fears that landowner United Utilities might fill in the century old reservoirs and sell the land to developers. Instead, the company spent around £175,000 creating the 15-acre wildlife sanctuary.

Our survey says. With the credit crunch continuing to bite, new research reveals that Northwest firms are still not investing in green initiatives such as water and energy efficiency, despite the substantial savings on offer. A survey of 1,000 UK decision makers for the Environment Agency found that 57 per cent expect businesses in the Northwest to cut back on investment in sustainability measures as a result of financial limitations. But business advise service Envirowise estimates that UK companies could save £9 million a day through simple water efficiency measures alone.

Ferry good ideas. Merseytravel has become the first passenger transit authority in the country to win the Carbon Trust Standard – thanks in part to slowing down the engines on the famous Mersey Ferries. New variable speed motors and drives for the giant ventilation fans at the Mersey tunnels are also saving energy and cutting emissions, while a new computerised energy management system has made Merseytravel's buildings greener. The authority's carbon footprint has shrunk by 7 per cent since 2006.

Waterproof. A new project is looking at what the future might hold for the Northwest's water environment. WaterProof Northwest will use the latest research to examine how challenges such as climate change, demographic shifts, economic trends and emerging technologies might affect the region. Different scenarios will be created and a series of seminars will pass on the findings – to attend, contact Caroline Riley on c.riley@merseybasin.org.uk. The project will focus on Manchester, Trafford and Salford and is funded with £49,000 from the Environment Agency, with the support of key partners United Utilities, the University of Manchester and the Mersey Basin Campaign.

Otter-ly lovely to see you. One of Britain's best-loved mammals has returned to the waterways of Greater Manchester after an absence of over a century. Otters had been driven close to the point of extinction across much of England due to water pollution, hunting and habitat destruction. But the last 20 years have seen an incredible transformation, with billions spent on improving water quality and tougher controls on industry. Now otters are back on rivers in Ramsbottom, Bolton and Altrincham. Otters are as illusive as they are charismatic – researchers confirmed their return by hunting for their 'spraints', or droppings.

Got Carter. Dr Jeremy Carter from the University of Manchester will provide academic leadership for an ambitious climate change collaboration between 10 European cities. Cities including Genoa, Malmo, London and Manchester will get help adapting to the impact of climate change. According to Dr Carter, heat waves, flooding and subsidence will be the main threats. Included on the wide-ranging agenda will be proposals to adapt cities by using urban green spaces, waterways and lakes – known as blue space. Carter will also work on a related project called Eco Cities to develop Greater Manchester's first integrated climate change adaptation strategy.

Spend to save. Award-winning business support service ENWORKS estimates it will help save the region's businesses £53m in resource efficiency while cutting carbon emissions by 200,00 tonnes next year, following the announcement of almost £9m of new funding. Already well established, ENWORKS is a not-for-profit service that helps Northwest SMEs reduce energy use, make cost savings and reduce their impact on the environment. The new funding runs through 2010 and consists of £2.55m from the Northwest European Regional Development Fund, matched with £6.1m from the Northwest Regional Development Agency.

INTRODUCING THE NORTHWEST CLIMATE FUND

Funding a low carbon future

The threat of climate change is real, and increasingly apparent. There is an emerging consensus that we have less than five years to seriously reduce carbon emissions before potentially irreversible changes to the climate begin to happen. A future of uncontrolled climate change with flooding, heat waves, and unpredictable weather will create upheaval across the Northwest and UK as a whole. It will affect systems on which we all depend, such as growing food and energy supplies, in turn adversely impacting on human health, housing and livelihoods.

But what if you could do something to reduce carbon emissions? What if there was a dedicated programme that took decisive action right here in the Northwest?

Now there is.

PHOTOGRAPH
Courtesy of eaga plc

Northwest Climate Fund

The Northwest Climate Fund is a unique opportunity to create an innovative and powerful carbon reduction fund for the region, which will help identify, launch and fund a range of projects across Cheshire, Cumbria, Greater Manchester, Lancashire and Merseyside. Together these projects will have a substantial impact on local jobs, communities and our region's carbon emissions.

The regeneration charity Groundwork Northwest has been appointed to administer and deliver the Fund and is working with a consortium of technical experts, including the Energy Saving Trust, ENWORKS, Creative Concern, Quantum and CO_2 Balance.

The Northwest Regional Development Agency (NWDA) has supported the Fund as part of its wider commitments under the region's Climate Change Action Plan. Mark Atherton, director of environment and energy, NWDA, said: "The NWDA is pleased to support this innovative project that will support regional carbon reduction projects which might not otherwise progress.

"The Northwest Climate Fund will energise local initiatives to reduce carbon emissions and will represent a powerful new tool in the drive towards a low carbon economy. The Northwest Climate Fund represents a unique opportunity for regional businesses and individuals to manage their residual carbon emissions in a way that benefits their surrounding communities."

Over £200,000 has already been allocated to the first set of projects but there are many more carbon reduction initiatives set to benefit. What sets the Northwest Climate Fund apart is its local focus. The money goes directly to local projects in the region that are working to reduce carbon emissions and make the Northwest the greenest region in the UK.

Ian MacArthur, regional director, Groundwork Northwest, said: "All the projects that the Climate Fund will help are real grassroots schemes – community centres, schools, those people in fuel poverty and those places that really benefit local communities. They show the way in terms of reducing carbon emissions – and at the same time deliver on Groundwork's objectives of changing places and changing lives.

"The initial projects couldn't be more varied. One of the projects is installing renewable technologies and insulation in schools and community centres in Cumbria; another is restoring mossland and pedestrian access to Astley Moss; and another provides solar hot water for vulnerable households in Merseyside. Funding is also going to the Fylde Coast Credit Union to provide low cost loans to local people who want to install energy saving measures in their homes, and to Bickerton Village Hall to enable them to install photovoltaic panels on the community hall.

"In time, more and more projects will be added to the portfolio and we'd encourage anyone who needs extra funding to make their ideas a reality to apply to the Northwest Climate Fund."

"…a fantastic opportunity to teach our young people more about climate change and the technology being developed…" **(see page 8)**

The Northwest Regional Development Agency has already committed £1.6 million over three years to the Northwest Climate Fund. The opportunity now exists for individuals and businesses alike to contribute to the fund, as a further £3 million of match funding from private and public partners as well individual donations is being sought.

The consortium will liaise closely with sub-regional organisations – The Cheshire and Warrington Economic Alliance, Cumbria County Council, Cumbria Vision, Lancashire Economic Partnership, Manchester Enterprises and The Merseyside Partnership – as well as other partners including Envirolink and The Carbon Trust, to help fill a 'gap in the market' through the Fund.

This will mean: helping individuals and organisations to compensate for unavoidable emissions; investing in low carbon technologies and skills; promoting biodiversity; and advancing social justice by tackling social ills such as fuel poverty. The Fund will support schemes that would otherwise be overlooked due to an absence of, or ineligibility for, existing central government or private funding – seeking out projects that will have the most impact.

Alongside tackling the threat of climate change it is worth noting that the Fund has innovation at its heart and its beneficiary projects represent a tremendous opportunity to develop low carbon economies in the Northwest and make sure the region is well placed to take advantage of the growing 'green collar' market.

Climate change action in the region

In the Northwest's Regional Economic Strategy, the need for a low carbon economy was underlined as a fundamental aim. One of the 'transformational' activities within the strategy is *Rising to the Challenge – A Climate Change Action Plan for England's Northwest (2006–09)*, which was launched in November 2006.

It aims to stimulate and measure the progress of the region towards this low carbon economy, preparing it for the challenges climate change will inevitably bring while protecting our quality of life and rich environment.

The Northwest Climate Change Partnership steers the implementation of the Northwest Climate Change Action Plan. It is led by the Northwest Regional Development Agency alongside the Government Office for the Northwest, 4NW and the Environment Agency. The partnership draws resources from each of these four regional bodies to create the Northwest Climate Change Unit, a multi-disciplinary team that acts as a one-stop shop for all the activities in the action plan.

Climate change is the environmental challenge of the age and this action plan is delivering progress on our mission – to make England's Northwest 'the leading region on climate change'; our vision is of a 'low carbon economy that has adapted well to the impacts of climate change by 2020'.

The Northwest Climate Fund is just one of the activities born out of the Climate Change Action Plan. Initiatives sit under the five action areas – enable, encourage, engage, catalyse, exemplify – which together inspire action and excellence in climate change action.

A COMMUNITY ENGAGEMENT EVENT HELD BY THE CARBON CO-OP – ONE OF THE FUND'S FIRST RECIPIENTS OF SUPPORT

Get involved

Significant funding is already in place for the Northwest Climate Fund, but to make it a real success businesses, organisations and individuals from across the region are being asked to give what they can to fund carbon reduction projects in their area.

The Northwest Climate Fund offers a great opportunity to help local projects while at the same time making clear your commitment to reducing carbon and tackling climate change in the region.

In these times of corporate responsibility and reducing carbon emissions, joining the Fund can be the answer to meeting new policy and legislation requirements.

The Fund not only promotes carbon reduction and compensation, it will also provide local jobs, training and volunteer opportunities through the delivery of the projects.

Private and public sector organisations can become patron sponsors. In addition to helping the sponsors compensate for unavoidable carbon emissions, patron sponsors will also benefit from being positioned as a climate change leader and the opportunity to get involved in shaping the Fund's long-term direction.

Organisations can work with the Fund in other ways, notably by purchasing carbon reductions on a project by project basis as part of their commitment to corporate responsibility and/or carbon neutrality. Donating to the fund could also compliment any existing corporate social responsibility or environmental policy a business may have in place.

For more information or if you would like to get involved, you can contact the Northwest Climate Fund by email at info@northwestclimatefund.org.uk

PROJECTS TO INSPIRE

Carbon cutting community projects around the Northwest are tackling climate change – with the help of the Northwest Climate Fund.

Building the case for a brighter future

Penrith, Cumbria

"Students certainly create an awful lot of energy," says Christopher Kirkup, principal at Queen Elizabeth Grammar School. "But until we're able to bottle it, we'll continue to be heavily reliant on other resources."

The Penrith school, home to almost 900 students, is part of a Cumbria Action For Sustainability (CAFS) project supported by the Northwest Climate Fund. The project will increase energy efficiency in two different buildings near the picturesque Lake District – the school and Rosley Village Hall.

Local firm Sundog Energy will fit 42 photovoltaic panels to the school roof – turning light into electricity and allowing the substantial savings to be ploughed back into the children's education.

Mr Kirkup said: "Apart from the cost issue, it's a fantastic opportunity to teach our young people more about climate change and the technology being developed to tackle carbon emissions. They will see it in action first hand, and it can support their learning in a range of subjects including maths, science and environmental science."

Stuart Harrison, design technology teacher at the school, added: "My department is keen to highlight the benefits of engineering as a career choice. There's no better way of stimulating interest than involving students in this kind of scheme."

The CAFS project will also see a village hall at the heart of this small Cumbrian community increase its own efficiency with the best insulator nature can provide – sheep's wool.

Local firm Second Nature UK has spent years perfecting the ideal blend of sheep's wool to give all the benefits of insulation, without the downsides associated with synthetic materials such as fibreglass.

Managing director Christine Armstrong is in no doubt that users of the village hall – the scheme's beneficiaries – will see a number of improvements from this natural solution to energy loss.

She said: "The building will be warmer in winter and cooler in the summer, and the trustees will see a reduction in their energy bills as a result.

"Our insulation – Thermafleece – only needs to be fitted once, as it will last as long as the building itself.

"I think when you use a natural British product like this, it captures the imagination of the community, getting them involved and engaged."

Richard Suddaby is the project officer at CAFS who set the schemes in motion. He said: "Here are two different venues that require subtly different solutions to their energy issues.

"The Northwest Climate Fund is helping us deliver the right answers for each individual case."

OPPOSITE: **INSPECTING A PHOTOVOLTAIC PANEL AT QUEEN ELIZABETH GRAMMAR SCHOOL**
Dave Willis

Pedal power

Birchwood, Cheshire and Warrington

Employees of Birchwood Business Park in Warrington are being encouraged to get on their bikes to commute between home and work. BikeRight! is to provide cycle training and maintenance, while also trying to get more people onto public transport. The costs and CO_2 savings will be monitored throughout the project, so evidence of behaviour change can easily be demonstrated.

Communities come together

Hulme, Greater Manchester

The way domestic CO_2 emissions are tackled will be revolutionised by a Carbon Co-op project allowing communities to bulk buy for large- and small-scale investments. The Northwest Climate Fund has given money to help create a number of consumer co-operatives throughout the region including Hulme, Chorlton and Moss Side.

Green loans for homes

Fylde Coast, Lancashire

The Northwest Climate Fund is helping set up and launch Fylde Coast Energy Credit Union. The project, organised by Blackpool, Fylde and Wyre Councils, will offer loans to residents to pay for energy efficiency improvements, allowing them to spread the cost into affordable amounts with help from the savings made in their energy bills.

Family look forward to heat that doesn't cost the earth

Trafford, Greater Manchester

Wood burning stoves in 15 Trafford homes will help reduce carbon emissions and cut energy costs while fuelling the local economy.

Those are the aims of a Trafford Council project, supported by the Northwest Climate Fund, to help residents currently in fuel poverty (spending more than ten per cent of their income on energy).

And the council is confident the local economy will be ignited by the initiative as opportunities emerge for businesses to install stoves, supply wood, or redirect waste wood from landfill into people's homes. Suppliers in nearby Bury and Wigan will deliver the fuel initially, but the council will encourage businesses in Trafford to offer the service.

Bernard and Michelle Acton, who live in Stretford with their two sons, are set to benefit from the scheme and will soon have one of the stoves handed over and installed free of charge.

In 1995, Bernard suffered a massive heart attack and was forced to give up his job of twenty years and go on incapacity benefit.

Michelle said: "During the day Bernard is in on his own, so we either have to heat the whole house – which we can't afford to do all the time – or not have the heating on at all. A wood stove will let us properly heat the one room where Bernard spends most of his time."

Bernard said: "I'm not the greenest person in the world but it's nice to think you're doing your bit for the environment. Maybe if everyone could do a bit more it would really start to show.

"I've lived and worked here all my life, many of our friends and family are here too. We're not looking to move, we just want to improve our quality of life where we are."

In addition to the business opportunities the project will create, there's also the savings residents will see in their bills – savings likely to be ploughed into the economy of the surrounding area.

Andy Hunt, sustainability manager at Trafford Council, said: "It's not just a green issue, it's one of general sustainability. The population of the world is increasing and fossil fuel resources are diminishing. It makes sense to prepare for a future when certain fuels won't be as readily available."

BERNARD ACTON
by Graeme Cooper

Project turns small steps into big impact

Pendle, Lancashire

Pendle Borough Council is using money from the Northwest Climate Fund to provide some simple solutions to fuel poverty – adding up to big energy savings and reduced carbon emissions.

New boilers with over 90 per cent efficiency, improved insulation for lofts, cavities and pipes, and new technology that helps people monitor their energy usage, are all part of the answer – and the council is ensuring groups who struggle to find funding elsewhere are among the first to benefit.

Nelson resident, Linda Porter – whose heating system is over 30 years old – said: "There wasn't funding available for families when I had my children. Now the children are grown, and I don't qualify for many schemes because I don't have dependents. This project made me feel like I hadn't been forgotten about after all."

Heather Shaw, home energy officer at Pendle Borough Council, explained: "Pendle has a large number of homes with inadequate, inefficient or non-existent heating, and often they don't qualify for funding because residents are not elderly, disabled or don't have dependents.

"This project provides help for these people, while educating about climate change by encouraging them to monitor their behaviour. It's not rocket science, it's just about making small steps that add up to make a big impact."

Solar power project hits home

Northwich, Cheshire and Warrington

A local project is brightening up seven homes on one Cheshire street by installing the latest solar technology.

Residents of Brakeley Lane in Little Leigh, Northwich, will soon be heating their water at half the cost while heavily reducing carbon emissions after the Northwest Climate Fund provided money towards the cost of a Weaver Vale Housing Trust project.

Gill Hampton has lived on Brakeley Lane for over ten years. She said: "We're not served by the national gas network, so we have to rely on hot water which is heated in a cylinder by an electric immersion. Solar energy will help us significantly reduce our bills and have a very important environmental impact."

Matthew Woolley, energy efficiency officer at Weaver Vale Housing Trust, is delighted to see the project go forward after securing funds.

Mr Woolley said: "We've been looking for the money to make these improvements for over three years, so we're delighted to get to this stage.

"Like many rural homes, those on Brakeley Lane are low-income households without access to the cheapest power and they're forced to use oil, solid fuel and electricity. The solar energy provides about 50 per cent of the annual required hot water so it's unsurprising residents are feeling so positive about this opportunity to improve their standard of living. "

NORTHWEST CLIMATE CHANGE SPECIAL SPONSORED BY THE NORTHWEST CLIMATE FUND

SPHAGNUM MOSS by Christian Fischer

Preserving our unique mossland habitat

Astley Moss, Greater Manchester

Mossland at Astley Moss is set to be restored and protected thanks to the Northwest Climate Fund.

The nature reserve near Leigh is an example of one of our most important carbon sinks. Widely undervalued and misunderstood, mossland is key to tackling carbon in the region.

Rosslyn Colderley of Lancashire Wildlife Trust explained: "Everyone knows about sequestration of carbon in trees but with mossland, carbon capture is much more effective – it locks carbon up forever. The peat underneath is preserved in boggy conditions and the moss never stops growing. In fact, mossland can capture five times as much carbon as the equivalent area of woodland.

"Mossland is a unique habitat and very special to the Northwest because of our wet climate. We have 75 per cent of England's mosslands but we have lost 99 per cent of it already – what's left is just one per cent of what we once had.

"We need to value our mossland, it's our equivalent of rainforests and it plays such an important part in tackling climate change. There is a lot more work to be done urgently on saving our precious mosslands and I would urge local companies to compensate for their carbon by supporting the fund."

The money from the Northwest Climate Fund will go towards restoring 2.5 hectares of mossland at Astley Moss. Currently, there are a number of fragmented sites and the plan is to link them together into a 'living landscape' for wildlife and people.

The funding means that a lot more work will be carried out on the site and the area will be restored much more quickly.

No shock in support for green electricity scheme

Bickerton, Cheshire and Warrington

An initiative that will see 27 electricity producing panels installed onto a village hall roof is set to benefit over 10,000 people during its lifetime.

Users of busy Bickerton Village Hall, Cheshire, will see the impact of the photovoltaic panels – which turn light into electricity even when overcast – as the hall becomes increasingly self-sufficient, and trustees can point to a number of letters from the community showing the swell of support the scheme has attracted.

The project is also good news for businesses in an area of economic disadvantage. Carol Shadbolt, one of the managing trustees of Bickerton Village Hall, said: "The contractors for the project are a local company, and the panels will be made locally too. We feel it's part of our responsibility to contract firms from the region where possible."

Visitors to the hall can see for themselves the environmental impact the green makeover is having, through a monitor that displays the amount of electricity produced and used, and CO_2 savings – which are expected to exceed 55 tonnes per year.

The Bickerton Village Hall Trustees received the final money they needed from the Northwest Climate Fund, and are excited to get the innovative project running.

Mrs Shadbolt added: "We'll be the first village hall in Cheshire to generate electricity for the National Grid, which is another incentive for us.

"If this project could be reproduced in buildings throughout the country the combined impact for the environment would be huge."

INSTALLING PV CELLS
by Dave Willis

Solar heating for Wirral homes

Wirral, Merseyside

Wirral's CosyHomes programme currently supplies boiler replacements and insulation to low income households in Wirral. With funding from the Northwest Climate Fund, the project can now provide solar hot water heating to many properties that are ineligible for government grants.

Ed Kingsley, principal officer for home energy at Wirral Council, explained: "The majority of homes we work with are classed 'hard to treat'. This means that it can be difficult and expensive to improve their energy efficiency. We already do loft insulation, replacement heating systems and cavity wall insulation where we can, but being able to offer solar hot water heating is great.

"It can provide up to 100 per cent of hot water in summer and even during the rest of the year the figure stands at 50–70 per cent, which will save people both money and energy.

"Many of these households suffer from fuel poverty. In the areas we work, fuel poverty stands at 21 per cent. When you compare that to an average of eight per cent for the rest of Wirral, it's easy to see how the funding will help those most in need."

CosyHomes is working in partnership with a local charity, Energy Project Plus, to install the solar hot water. It's a big job but one that's cost effective when completed at the same time as the other energy saving work. The solar water heating installer is also benefiting from the scheme – whereas they now import the heating systems, they are expanding their business and seeking to assemble them at their premises in Liverpool.

HOW WE CAN ALL RESPOND TO THE CLIMATE CHANGE CHALLENGE

"There are two ways of responding to the challenge of climate change that don't need very much imagination at all."

By Alice Owen

Climate change is the defining issue of our age. We'll be judged by how well we get to grips with systems far, far bigger than any individual human. Even before economic collapse appeared, we knew we were facing a massive shock, requiring an almost unimaginable response in order to save human health and well-being on the planet. Climate change is a really visible sign that the planet's resources are overstretched. Where climate change is concerned, the resource we're overstretching is the capacity of the atmosphere to absorb greenhouse gas emissions and still regulate temperature.

And it's that 'unimaginable response' that paralyses us. If we can't imagine what we need to do, how do we do it?

I think there are two ways of responding to the challenge of climate change that don't need very much imagination at all, although they do need a bit of concentration! Firstly, by tackling the root of the problem: how much energy we use. Secondly, we can work in our own real worlds, in our own communities, with the distinct assets that our areas have.

The root of the problem of climate changing emissions is in our use of non-renewable energy, and reducing energy consumption has to be the first priority. Once you've reduced energy consumption, you can focus on how much of the remaining energy use you can get from renewable sources.

So energy conservation matters. Switching lights off matters. Putting insulation, triple glazing and energy efficient appliances into our homes, home by home, street by street, town by town, matters. We can't make vast changes to how much energy we use by building super-efficient new homes alone. Of course new homes need to be as energy efficient as they possibly can, but most of us live in homes that were built before the magnitude of the problem of our energy use became clear. The Sustainable Development Commission's *Stock Take* report estimates that 86 per cent of our current homes will still be in use in 2050. So we have to do much, much more to reduce how much energy we need to keep existing homes warm. And don't forget that using our purchasing power in a positive way, making wise choices in the electricity, goods and services we buy, also matters.

Which brings me to the Northwest Climate Fund and how we have to find new ways of plugging the local gaps that national policy or national initiatives can't reach

The Northwest Climate Fund is a great example of this. National action tackles the really big energy consumers who participate in the EU Emissions Trading Scheme; the pretty big energy consumers who can navigate the Carbon Reduction Commitment; and what electricity suppliers are obliged to do to help domestic energy users at home. But the Northwest Climate Fund allows individual organisations and companies to take action and link their cash and the climate. I'm particularly excited by the work that the Fund supports in improving the vital but rare carbon sinks of the Northwest; the wet bog habitats known as 'mosses'. For me, this is an innovative link between energy costs, energy use and carbon-based conservation, and it's a new take on the value of the Northwest's economic assets.

So let's not let blind panic, or defeatism, set in. Let's take a leaf from the Northwest Climate Fund's book, do what we can and reap the benefits.

Alice Owen is Lead Commissioner for Local and Regional Government in the UK Sustainable Development Commission, the government's independent watchdog on sustainable development.

NORTHWEST CLIMATE CHANGE SPECIAL SPONSORED BY THE NORTHWEST CLIMATE FUND

FUNDING FINDER

If you're thinking of getting started with your own sustainable project it can be a minefield out there. Working in partnership with like-minded organisations is crucial to the success of any project and knowing where to turn for information, advice and grants for low energy projects is invaluable. There are many places that can help with advice, support and even funding – here we outline just a few.

Photo courtesy of eaga plc.

ENERGY

The **Low Carbon Buildings Programme** (lowcarbonbuildings.org.uk 08704 232 313) provides grants towards the installation of microgeneration technologies. The householder stream of funding has been extended and is now available until June 2010. Community groups, public and non-profit sector applicants can apply to the Low Carbon Buildings Programme Phase 2. Grants for the installation of microgeneration technologies are available to public sector buildings, including schools, hospitals, housing associations, local authorities and charitable bodies.

HOME

A grant scheme for private households and private landlords across the UK, **Affordable Energy** (affordableenergy.co.uk 0800 096 6356) offers discounted heating, grant assisted insulation and solar hot water packages to householders who would not normally qualify for a grant. If you are over 70 you can qualify for free cavity-wall and loft insulation, regardless of income. Another initiative aimed at householders is the **Warm Front Scheme** (warmfront.co.uk 0800 316 2805). It offers advice and, if you qualify, free installation of loft insulation, draught proofing, cavity-wall insulation, hot water tank insulation, energy efficient light bulbs, gas, electric or oil central heating and glass-fronted fires.

BUSINESS

There is a lot of advice available to businesses looking to improve their environmental credentials. **ENWORKS** (enworks.com 0161 236 6348) is a unique business support programme co-ordinating environmental advice, training and support to businesses throughout the Northwest. A free, confidential signposting service for businesses, **Environment Connect**, accessed through Business Link (environmentconnect.co.uk 0845 006 6888), can connect you to a whole range of environmental business support services. **Groundwork** (groundworknw.org.uk 0161 237 3200) can offer a range of services to businesses, schools and public organisations that are seeking to improve their environmental performance, ranging from basic training and advice to implementing environmental management systems.

SUPPLIER

If you are looking to change your energy supplier to a green alternative, you can visit the **Consumer Focus** website (consumerfocus.org.uk 020 7799 7900). There is no independent accreditation of any green tariffs but they offer a guide to the various green tariffs available.

ADVICE

For information about grants and free home energy reports, the **Energy Saving Trust** (energysavingtrust.org.uk 0800 512 012) can help. A one-stop shop, it can also provide advice on planning permission, energy saving appliances, home improvements aimed at saving energy and information about generating your own electricity. The **Green Energy Centre** (greenenergycentre.org.uk 020 8683 6683) has been established to help everybody make use of renewable energy technologies and reduce the environmental impact of energy use. Its website includes information about grant programmes and current schemes. The **Renewable Energy Centre** (therenewableenergycentre.co.uk 01926 865 835) also provides an introduction to renewable energy technologies and advice on installation as well as a directory of contractors and suppliers, links to not-for-profit renewable organisations and links to sources of funding and further information.

CLIMATE CHANGE

For more information about climate change and how it could affect our region, **Climate Change Northwest** (climatechangenorthwest.co.uk) is a new regional website exploring the opportunities and challenges that a changing climate presents to England's Northwest. You can use the site to find out how you can help and assist your business, household or school to better understand and manage climate change.

ORGANISATIONS

Aimed at businesses, organisations and charities in the commercial, industrial and community sectors, the **Bio-energy Capital Grants Scheme** (bioenergycapitalgrants.org.uk) can help those that are considering investing in biomass-fuelled heat and/or combined heat and power projects. If you are a small to medium-sized enterprise looking to replace or upgrade your existing equipment with energy efficient versions, **Carbon Trust Grants** (carbontrust.co.uk 0800 085 2005) offer unsecured interest-free Energy Efficiency loans of up to £100,000.

Nationally, the **Big Lottery Fund** (biglotteryfund.org.uk) hands out half of the good causes' money from The National Lottery. It has already awarded seven projects grants of up to £500,000 each under the Bio-Energy Capital Grants Scheme.

Words Louise Tickle

Photographs Rebecca Lupton

BEAT THE CREDIT CRUNCH...

...by greening your home.

Scared of looking at that great big number on your gas and electricity bill? Just ask around friends and family, and you'll soon find you're not alone. After the coldest winter for 18 years, householders across the country are likely to be gasping in collective shock right now as they watch the cost of their utilities soar to previously unknown levels.

There's no way round it – if you want to keep warm in the depths of a bitter and prolonged winter chill, you have limited options: turn the heating up and pay till the pips squeak; pile on the jumpers and walk around like the Michelin man; or get clever with how you use – and save – energy in every area of your home.

For most people, finding ways to save money in the current economic climate is desirable at best, financially imperative at worst. But for some particularly vulnerable sectors of the population – older people, those with chronic and debilitating health conditions, and the very young – cold can kill. The thing is, it doesn't need to.

Greening your house to make it more energy efficient – and so cheaper to run – is not an expensive task, nor do you have to be a vastly wealthy, uncompromisingly committed, bean sprout-munching eco-freako to achieve results.

Given that a poorly insulated house can lose up to 60 per cent of its heat, getting the best energy savings from the least money involves three things: insulation, insulation, and insulation. Throw in a few draught excluders for good measure and you're away. A single trip to B&Q will sort it. And don't get tied up in guilt-ridden knots about the energy it takes to make your insulation and demand only the finest organic Hebridean fleece hand-felted by an ancient crone bent double over her non-peat fire. The consensus among energy saving experts is that any insulation is better than no insulation, and more insulation is better than whatever you've already got. If you can't afford the most eco-friendly variety (the available types are, briefly, oil-derived blown foam; a recycled paper product; and a felt fabric made from the coats of hardy mountain sheep) then buy anything that works.

Two people who took very different approaches to making their homes more environmentally friendly, cheaper to run and more comfortable to live in are environmental consultant Gill Fenna from Lancaster, and tourism manager for the Northwest Regional Development Agency, Phil Reddy.

Both are individuals who might be described as "light green" rather than "deep green". While they are highly motivated to reduce their ecological footprint, both are, for want of a better phrase, perfectly ordinary people who have simply chosen more – and sometimes less – sustainable options to make their homes greener.

Fenna has adapted her "ugly, concrete" house over a number of years. Reddy built his unusual earth-sheltered home in Cumbria from scratch – Channel 4 and Kevin McCloud gave it the *Grand Designs* treatment in 2003. Both are adamant that lessons they've learned can be taken on board by people living in a range of accommodation, and working to a budget.

Putting in a bit of elbow grease does no harm either, laughs Fenna, a woman whose toolbox must now, after years of green DIY experimentation, rival that of any builder. Prioritising eco elements was tricky when she moved into her house eight years ago, she explains, "because it was in such a state that everything needed doing. That meant I didn't necessarily do stuff in the right order."

The entire house was freezing cold, so getting it warm came first, and involved her crawling through 3ft gaps between floorboards to stuff Rockwool insulation into every crevice and cranny.

"It was a horrible job, but we noticed the difference right away," she says. The cost of insulating all the floors, and subsequently the loft, was minimal. "At current prices, around £400 for both, because I did it myself," she reckons.

[CONTINUED OVER]

PHOTOGRAPHS
THIS PAGE: **GILL FENNA**
OPPOSITE: **PHIL REDDY'S HOME IN CUMBRIA**

There was never a sense that money was no object, Fenna emphasises. She always had to weigh decisions carefully. A wood burning stove was installed, “that by current standards probably isn’t as efficient as it could be, but it was a lot better than the old fire. And we got lots of free wood from round and about, so I could keep me and the boys really warm in one room at least.” Wood pellet burners are now more efficient than wood burning stoves, but both are considered carbon neutral fuels. Fenna also installed a solar water heating panel, so has no need of a boiler in the summer. Most recently, she dry-lined the bedrooms, a process that involved insulating the exterior walls to stop heat leaching out. One disadvantage of this process can be losing space: in an old house without cavity walls to insulate, the only option is to place your insulation inside the room itself.

“I lost about two inches of space by insulating inwards, but though I was worried as the boys’ rooms are small, it’s really not noticeable,” she observes.

Insulation grants ranging from 40–100 per cent of the total cost are available for cavity wall and loft insulation.

Check your entitlement at **www.freeinsulation.co.uk**

For a personal energy saving action plan and information on local grants to green up your home, go to the **Energy Saving Trust** website: **www.est.org.uk**

For more help, see our funding guide on page 13.

“If I wasn’t such a cheapskate I’d have got someone in to do the job, but for anyone even a little bit handy, it’s not difficult. It took me a couple of weekends.”

Again, it didn’t cost a fortune: £200 for timber to construct simple frames, £100 on plasterboard to create new “walls”, and £200 for Thermafleece insulation, made from sheep’s wool.

“I chose Thermafleece because the house is slightly damp and the intrinsic properties of wool means it expands and improves its insulation performance in those conditions,” Fenna says. “If I wasn’t such a cheapskate I’d have got someone in to do the job, but for anyone even a little bit handy, it’s not difficult. It took me a couple of weekends.”

This has been, she says, the best value project she’s done in terms of heat retained and comfort achieved set against the cost and trouble involved.

Now that she can cuddle up toasty warm anywhere in her house, what’s left to do?

“Um,” she says sheepishly. “Well, the Aga’s got to go. It’s been my big sin and we’ve all loved it. But I’ve put in a condensing boiler now for hot water, and with some trepidation, I’m about to replace the Aga with a Lancashire-made Esse wood fired range for cooking.”

This is probably a step too far for most householders who just want to come in from work and get their tea on the stove: it will involve Fenna keeping a fire burning day in and day out simply in order to boil an egg. The other option was to buy a conventional oven and hob to replace the Aga, but the cosiness – and habit – of a wood stove in the kitchen has, she says, won out over practicality.

None of Fenna’s choices are, she happily acknowledges, particularly groundbreaking. Step by step, over eight years, she has adopted proven green technologies and has shown that you don’t have to be loaded to achieve good, planet-friendly results.

And even though his earth-sheltered home in a Cumbria quarry may look distinctly more hardcore, Phil Reddy maintains that splashing the cash in pursuit of a green living nirvana is not what his self build undertaking was ever about.

“The idea was to minimise our carbon footprint by not having any heating,” he recalls. Clever design from the off was the route to get there. The home makes use of the earth’s natural insulating properties by being built into a hillside, and maximises the sun’s rays shining through enormous plate glass windows to warm a massive slab of concrete – which offsets its high embodied energy by acting as heat retaining ‘thermal mass’. Reddy also installed ‘sun tubes’ to direct natural light – for free, of course – into the darker anterior of the house.

Most people would baulk at the idea of having absolutely no source of heat that they could just switch on if a cold snap really began to bite. But Reddy isn’t a purist: little electric fan heaters are, he says, just occasionally used if the house cools down too much.

“Our energy bills are not absolutely insignificant, but they are very low,” he says. “However, since we’ve just invested in a wind turbine, we are now a net exporter of energy: we are paid 10p for every single unit we generate whether we use it or not. That could earn us around a thousand pounds a year.”

Plenty of families will be paying that kind of money for their gas or electricity usage alone over the next 12 months, and although most people don’t live in the kind of landscape where it’s possible to stick a windmill on the roof and start flogging ‘leccy back to the big utilities, it’s interesting to know how micro-generation might work in the future.

His earth-sheltered house shows how passive design can be extremely powerful as a way of reducing dependence on costly energy, says Reddy. Though it’s unrealistic to imagine we can all build the perfect eco-home, taking on board the lesson that, for instance, the sun’s free energy might justify investment in a solar panel, particularly if you have a south- or west-facing roof pitch, could quite literally pay dividends in the future.

Still, Reddy and Fenna agree that all the green gizmos in the world can’t compete against insulation. “And the products are so cheap now,” says Fenna. “As well as the grants, and some schemes where you’ll even get it installed for free, there are always promotions in the autumn, so that’s the time to stock up.”

To corrupt the saying, as the only sure things in life now seem to be death, taxes and ever higher energy bills, it might be time to plan that Sunday afternoon outing to a DIY superstore...

THERMAFLEECE INSULATION – A WOOLLY JUMPER FOR YOUR HOME.

Tackle both the credit crunch and the ‘climate crunch’ with a Green New Deal, urges **Ian Christie** of the Green Alliance.

Don’t waste this crisis

How things stand

What began in 2007 with the run on Northern Rock and the collapse of sub-prime mortgages in the USA has turned into a global crisis of capitalism. No one knows how it will evolve, least of all the recently humbled gurus of market deregulation, whose worldview and policies are now in ruins.

The risk is that we face a full blown economic Depression for the first time since the 1930s.

This would not only create widespread misery and poverty but could also undermine efforts to cooperate – from the global to the local level – on solving problems of unsustainable development.

But the current crisis is not simply one of financial meltdown and potential Depression. It is also one of ecological unsustainability: we are plainly in danger of pushing the Earth’s climate and the biosphere into previously unknown states, and thereby of undermining our own life support systems.

We need strategies that will deal with our economic and ecological crises together.

Moreover, this demands that local and regional actors play a much bigger role than they have so far been granted in the responses to the Crash of 2008. Otherwise we will, to quote Barack Obama’s pugnacious chief of staff Rahm Emmanuel, ‘waste a good crisis’, something we absolutely cannot afford to do.

“You never want a serious crisis to go to waste.”
Rahm Emmanuel, President Obama’s White House Chief of Staff

No going back

The most striking thing about the present crisis is that economists have little idea how to manage it or how bad it is.

Policy makers have reacted in two ways. First, they have (commendably) tried their utmost to do the opposite of what their counterparts did in 1929: they have recapitalised banks and used public funds as a consumer of last resort. Second, however, they clearly think that ‘business as usual’ can be restored, and hope for the resumption of lending by the stricken banks and of spending by consumers.

But it seems clear that the big banks are insolvent and aren’t lending because they know it. And consumers are rational to reduce their own debt and give up spending beyond their means. We can’t go back to the old ways.

Perfect warning

This is not the only factor that makes business as usual circa 2006 impossible to restore.

Already we have almost forgotten the events of summer 2008. The price of oil reached unprecedented heights, contributing to a spike in food prices – even though oil prices have fallen as a result of the downturn, no one believes they will stay low.

Also in 2008 the news about climate change became steadily more alarming. What we had was a ‘perfect storm warning’ – a red signal from a future mired in resource scarcity and climate disruption. The ‘credit crunch’ is bad, but a ‘climate crunch’ would be far more deadly to our economy and society, as well as to the environment.

Green New Deal

Any recovery plan that simply aims to restore pre-Crunch normality is doomed to failure, overwhelmed by the combination of economic breakdown and ecological disruption.

Many campaigners and environmental economists have been arguing since 2008 for a ‘Green New Deal’ that would invest for an economic recovery that promotes sustainable development.

Such a strategy would focus on building a new low carbon infrastructure for energy and transport, on energy efficiency and micropower for existing homes, and on ecological restoration and investments for climate adaptation. Such a plan would generate many jobs, and add real value to millions of households by cutting energy and water bills.

It would also bring into play regional and local actors – businesses, development agencies, voluntary and community groups – instead of focusing policy mainly on flawed banks. There are signs that policymakers in the new US administration and elsewhere are heeding this message, but it needs to be reinforced loudly by local and regional players in the UK.

The crash was brought to us by globalised interests disconnected from the real economy and from the environment. A sustainable recovery needs the help and insights of regional and local actors who know how to bring economic, social and environmental investments together.

Lôve

Why I Love... my Whizzgo. By Jan Rowley.

When she got her new job as assistant executive director for the environment at Liverpool City Council, Jan Rowley knew that despite her personal decision not to run a car, there would be times when she needed the flexibility that comes with being able to zip along on your own four wheels.

With a packed diary of meetings and appointments in and around the city, she says that public transport, "which is already good in Liverpool," was an option that she could use as part of the mix. But sometimes it wouldn't be the best solution in terms of maximising her work time and getting to the places she needed to be.

Vroom up the latest concept in sustainable transport, the Whizzgo car.

It's not an electric motor, and although it is a low emission vehicle, it runs on petrol. It is, however, that magic concept, a car that you don't have to insure, tax, service or repair – and in Liverpool, you don't even pay to park it in its allotted parking bay. Along with the convenience, using public transport most of the time and a Whizzgo the rest helps to seriously cut Rowley's transport carbon emissions.

Whizzgo, if you've not heard of it before, is a car club, and members pay by the hour for their usage, rather than through the nose to have their vehicle standing idle the majority of the time. Liverpool is one of six northern cities where Whizzgo has set up, and Rowley felt it was the ideal green solution to her car dilemma.

"The system is very easy to use, and that's why it works for me," she says. Clearly there need to be enough cars available for members to know they can get one when they need one, and Whizzgo has dotted vehicles at strategic points around the city.

"There's a bay with five of them just by my office, so I just book it, walk outside, use it for the couple of hours or afternoon I need it for, then drop it back," says Rowley. "It's ideal for my circumstances, and will I hope be part of an increasingly sustainable transport mix for more people in Liverpool over coming years."

www.whizzgo.co.uk

Jan Rowley is heading Liverpool City Council's work on the city's Year of Environment 2009.

WORDS + NUMBERS

14
Years the Bradwell-on-Sea nuclear reactor had been leaking radioactive material from a faulty pump before it was detected. "It is not possible...to inspect or check every feature of a complex plant," said Mike Weightman, chief inspector at the Nuclear Installations Inspectorate.

110 million
Tonnes of waste per year produced by the construction industry in the UK – it's also the country's largest consumer of natural resources.

10,000
Jobs in the NW for people providing energy efficiency products and services, according to green technology experts Envirolink.

"Climate is what you expect – weather is what you get." R.A Heinlen

★★★
For Wirral council for being the "most improved metropolitan borough" for recycling last year. The star rating from Defra comes after recycling soared from 14% to 35% in a year.

4.2
The amount of carbon given off by the average new car fell by an impressive 4.2 per cent to an average of 158.0 g/km in 2008. When added to the figures of previous years, this accounts for a total reduction of 16.8 per cent since 1997. Meanwhile, Lotus is believed to be working on producing an electric high-performance sports car which could be unveiled at the Geneva Motor Show in March 2009.

How to... change a light bulb

The fate of the humble 100watt light bulb has in recent months sparked an unlikely outpouring of moral indignation in certain quarters of the media. The news that the bulbs – the type most commonly found in British homes – were being 'banned' led to outrage and panic buying. Critics warned that the eco-friendly replacement bulbs can cause health problems for some people, have an unpleasant colour, can't be used with dimmer switches and contain mercury. Worse, said some newspapers, behind the ban was an unholy alliance of meddling EU officials, loony 'greenies' and the Labour government.

Let's start by getting the facts straight. Old-fashioned incandescent light bulbs have not been banned – not yet. They are still available in shops and on the web. The government has struck a voluntary agreement with major retailers to stop restocking the bulbs in a phased withdrawal. In fact, 150watt bulbs quietly disappeared from most shelves last year. As of January this year, it was the turn of the 100watt variety. And so on, each year until 2011.

The government is simply getting an early start. A forthcoming EU regulation is expected to mandate a phase out in all EU countries over four years, starting in September 2009.

So why are they doing it? The answer is carbon emissions. Modern low energy 'compact fluorescent' bulbs use about 70 per cent less electricity than old-fashioned bulbs. Switching to them will save between two and five million tonnes of carbon dioxide emissions per year in the UK. They also save you money – around £7 per year per bulb. While they are more expensive to buy (although Tesco sells an 81p version), the bulbs last longer (about eight years). You can also buy energy saving versions of halogen bulbs, like the ones often used in spotlights. Low energy bulbs are already available that can be used with dimmer switches. Better still, a new generation of LED bulbs is on the way that lasts even longer and cuts energy use by a massive 90 per cent compared to incandescents.

But quality is important – stick with trusted brands and for a more pleasing colour, try an encapsulated bulb – website banthebulb.org recommends the Philips 20watt Softone. It also recommends sticking to the higher wattage low energy bulbs.

The government has struck a voluntary agreement with major retailers to stop restocking old-fashioned incandescent bulbs.

The 'ban' contains many exceptions and incoming regulations are likely to make provisions for people with medical problems, such as migraine sufferers. In reality, low energy bulbs contain only tiny amounts of mercury that present virtually no danger, even if they are broken. Recycle dead bulbs at your local facility.

How to change a light bulb? Remove the old-fashioned, inefficient bulb. Insert the shiny new low energy bulb. Turn on.

WINDS OF FORTUNE

The Northwest's offshore wind farms generate more than just electricity – jobs and carbon cutting are also part of the deal.

Words Mark Hillsdon

Photographs Dan Towers/British Wind Energy Association

"We've got the skills base, the ports, the seabed conditions, the wind. We have everything in place to be able to do this."

Late last year the UK eased past Denmark to become the world's largest producer of offshore wind energy. On the face of it, an impressive claim, but advocates of renewable energy certainly aren't getting carried away.

There are currently just six active wind farms off the British coast, which together can muster less than 150 turbines between them, some way short of the 7,000 that experts believe are needed to meet the government's 2020 target of 33 gigawatts of offshore wind energy.

However, with bids to develop a whole new generation of wind farms now lodged with the Crown Estate, and the recent introduction of a series of government initiatives aimed at easing the planning process and making wind energy more attractive to utility companies, the UK is on the verge of a massive expansion of its offshore wind farms.

Britain is perfectly positioned to take advantage of wind power. "When you look at the resources of this country, one thing we're blessed with is ample quantities of wind, particularly offshore," says Nick Medic, communications manager at the British Wind Energy Association (BWEA).

"It makes sense for us to invest in developing wind... If we try and go down different routes, such as biofuels, we might be limited by our geographical and natural resources."

The shallow waters around Britain's coast make it cheaper and easier to install the 100m high turbines needed to take advantage of winds that can gust at over 200mph.

Offshore wind farms are also able to harness 'clean wind' that hasn't had to negotiate trees, mountains and buildings, making them more efficient than their land-based cousins. And the fact that Europe is so densely populated, with land at such a premium, also gives offshore wind farms an edge.

The decision about where at sea to site them is based on factors such as shipping lanes, fishing grounds and raw materials extraction. The MOD and environmental groups also have their say.

"It's a busy, busy sea out there," says Mike Hay, the Carbon Trust's technology accelerator manager. "The first thing you should do as a developer is engage with these people and make sure you're working with them, that's the only way you can get things done. The last thing you want to do is go out there and think it's going to be easier through the planning system because there are less people; it just doesn't work that way."

[CONTINUED OVER]

The government first began exploring the possibilities of our windy coastal waters in 2000 when the Crown Estate, which manages the seabed in British coastal waters, announced the result of the first of three phases of building. Ten wind farms, with between 20–30 turbines each, were given the go-ahead, four of which were off the northwest coast. They included the UK's first major offshore installation at North Hoyle, as well as Burbo Bank, Barrow and Rhyl Flats, which is still under construction.

By 2020, 15 per cent of UK energy must come from renewables, and with tidal and wave power still some ten years behind wind technology, it looks as if turbines hold the key to cutting carbon emissions.

Currently, electricity from wind is fed into the grid and used along with other sources, but as its contribution grows and reaches 20–30 per cent, it will have to be balanced in relation to these other sources. Put simply, the proposal is that when the wind blows, the UK's fossil-fuelled generators will be turned down and their output replaced by green energy. This will require a more flexible electricity generating network, but will, as Medic puts it: "take fossils fuels out of the economy."

For this to be truly effective, he continues: "you will also need to have lots of them [wind farms] all over the country, and when the wind isn't blowing somewhere it will be compensated for by energy coming onto the grid from somewhere else. There are also proposals for trans-European renewable energy 'super-grids' which would balance supply and demand across the continent. The Northwest coast could become an important hub of this network."

Phase two of the UK's wind farm building programme will go some way to making this happen and the Crown Estate has recently announced the location of 14 new sites. The majority are set to harness the Artic winds that howl down England's east coast, but three are also planned for the Irish Sea, including the biggest ever built.

Two will be located off the Cumbrian coast. The first, eight miles out to sea near Walney Island, will boast 139 turbines up to 180m high, and will be capable of generating enough power for 370,000 homes. A second smaller array of 30 turbines is planned closer to the Walney coast.

But both will be dwarfed by Gwynt-y-Mor, eight miles off the North Wales coast, where up to 250 turbines are set to provide enough green electricity to power the equivalent of 680,000 homes. Work starts in 2011.

The unlikely epicentre for much of this construction work is Mostyn Docks, on the Dee Estuary. This ancient port dates back to the early 1600s when, ironically, its main cargo was coal. Now its wide open spaces are perfect for assembling the turbines before they're loaded on to the huge crane barges, some the size of football pitches, and taken out to sea.

The work has given the docks a new lease of life, as well as creating local jobs, explains Jim O'Toole, the dock's managing director.

"These crane barges that they use are big, ungainly beasts," he says. "They need an open quay with plenty of space behind it, and we've got 40 acres."

O'Toole saw the potential for the docks to play a key role in wind farm development at an early stage, and deliberately resisted the urge to build warehouses on the quayside.

Much of the assembly work has been carried out by local people who have been trained up and re-skilled, says O'Toole. The docks are also the base for a permanent maintenance team of 15 people who remotely monitor the North Hoyle wind farm. "They can literally sit in the office and monitor the temperature of a bearing on any given machine," he adds.

The docks will soon be gearing up to help in the construction of Gwynt-y-Mor, a wind farm that, like so many others, has its detractors.

A vociferous Save our Scenery campaign has now sprung up in Llandudno, amid claims that the view from the promenade will be ruined, along with the town's tourist trade. But even putting aside the obvious environmental benefits of reducing carbon emissions, O'Toole believes the economic payback of wind farms alone makes them worthwhile.

"The amount of activity they bring to the local economy is very significant, certainly on the construction side. Most of the equipment and the manpower that they've used has been local," he says. "I'm not so sure that people take that into account."

> Gwynt-y-Mor's 250 turbines will provide enough green electricity to power 680,000 homes.

The Carbon Trust has estimated that by 2020, offshore wind could have created 70,000 jobs and generated as much as £8 billion for the economy each year.

In fact Hay believes that the scale of these new developments could kick-start an industry to rival the economic benefits brought by North Sea oil and gas in the 1970s.

Medic talks of an 'energising jolt' throughout the economy that will provide work for all sorts of different companies in the supply chain. "It's a win, win, win scenario," he says.

However to achieve these figures the UK needs to develop a base for manufacturing the turbines, not simply assembling them – a fact that's not lost on Joe Flanagan, head of energy at the Northwest Regional Development Agency.

"We are working to try to improve the financial benefits [of wind farms] but the bottom line is that all those wind turbines are made in Germany or Denmark," he says. "We want to try and attract one of these Danish or German companies to do more of their work in the UK, so we're in discussions with some of them about setting up a base in Barrow or possibly on Merseyside."

To do this, says Hay, we need to create the conditions that are going to attract foreign investment. "There's not enough confidence in [the market] for those companies to come over and put in the millions of pounds that are required to build new factories," he says. "But it's getting there – everything is lining up quite nicely, and I think you'll see, over the next year, things falling into place."

Crucial to this is the third round of building work. By the end of the year, the Crown Estate will have awarded contracts for wind farms in nine huge new zones, including the Irish Sea. The size and complexity of wind farms have increased with each phase of building and this final round offers developers the chance to draw on all their past experience to develop a new generation of more efficient, more powerful wind farms.

"It's a very positive move," says Hay. "The idea is that by providing such scale, developers will be able to take more risks, build bigger projects, cut costs further and drive forward innovation."

The Carbon Trust has also created a consortium with five international energy companies to help share the costs and risks of developing the new technology that developers of these new mega-projects will need. And this may also encourage more of them to take up the challenge of building wind farms out at sea rather than concentrating all their efforts onshore.

The government is also boosting demand for green energy with a new 50 per cent subsidy on power produced by offshore wind. Part of the Renewables Obligations Initiative, it is designed to encourage a greater take up by the utilities. "It makes utilities and power providers more incentivised to look for offshore wind, and that helps the market develop," says Hay.

More controversially, the government's new planning bill will create the Infrastructure Planning Committee, a body that will take decisions on large infrastructure projects, such as airports, nuclear power stations and wind farms.

Some green campaigners are up in arms that the new quango will simply by-pass future public enquiries. But Hay believes that with many of our existing power plants, whether gas, coal or nuclear, due to be decommissioned over the next decade, this is an important way of ensuring that what comes through the pipeline next is carbon-free power.

"It will take decisions that are pretty tough and controversial but take them quickly in order to give security to developers. Whether they get a positive answer or not, at least they know quickly rather than spending money and letting things drag on," says Hay.

So far the capital costs of building wind farms have been met by the industry itself, with no government subsidies. "It's an industry that stands entirely on its own two feet," says Medic.

"We're now in a situation where we are rushing to meet these 2020 targets [for carbon reductions] and we can see that the credit crunch is really biting," he continues, adding that he hopes the government will now do all it can to support the nascent industry and ensure that funds are available to finish all the current projects.

And there's one final, often over-looked factor, which could make sure the government does just that – wind is free.

"Once you've built the installation you're tapping into a free source of energy," he says. "With renewable energy you know where your price of fuel is going to be in ten years time – it's going to be zero, just like today. So you can build an energy supply that you can predict."

Hay agrees: "We've got the skills base, the ports, the seabed conditions, the wind. We have everything in place to be able to do this."

THE IMPRESSIVE ARRAY OF THE 60MW NORTH HOYLE OFFSHORE WIND FARM, THE UK'S FIRST EVER OFFSHORE WIND FARM, NOW OPERATED BY NPOWER RENEWABLES.

GREEN ROOMS

Conference season is on its way, but not all venues are created equal. Source NW presents its guide to some of the Northwest's greenest venues.

Words Ciara Leeming

Rheged, Penrith
01768 868 000

It's named after a legendary kingdom from the Dark Ages, but Rheged's green credentials are bang up to date. The visitor centre – an unorthodox venue for conferences – has the distinction of being Britain's largest grass-covered building. Disguised as a Lakeland hill, it is built on the site of a disused quarry – a natural hollow that minimises its impact on the environment by blending into the surrounding landscape.

Since opening in 2000, Rheged – which was built by Cumbrian contractors using local materials – has won a sustainable tourism award from British Airways and was last year short-listed for a Northwest Regional Development Agency business tourism prize.

It offers a choice of meeting rooms, a theatre, auditorium and exhibition space, and a green conference package. Conference areas are lit by natural light and low energy artificial lighting.

Food is sourced locally, much of it coming from a farm 18 miles away. Printed handouts can be sourced on site to minimise carbon emissions of deliveries. Rheged is just off the M6 but delegates are encouraged to use public transport. The centre is two miles from Penrith station on the West Coast Mainline and the bus link stops outside its front door.

ACC Liverpool
0151 475 8888

One of the greenest venues in Europe, the £164 million Echo Arena and BT Convention Centre (ACC Liverpool) has only been open for just over a year, but its outstanding facilities and green credentials have already earned a clutch of awards, including UK venue of the year.

The centre produces half the carbon dioxide emissions it would without any energy saving measures, and uses a fifth less energy.

Five riverside wind turbines generate about a tenth of the electricity used at the venue, which boasts an auditorium, 18 breakout rooms, an exhibition space and a concert arena.

The building's design, insulation and a cutting edge air control system maximise efficiency. Sensors control low energy lighting.

Almost half of the water used to flush the toilets is collected as rainwater on the roof. Partner catering firm, Heathcoates, prepares local, seasonal food.

The Palace Hotel, Manchester
0161 288 1111

Winner of the sustainable tourism gong at last year's Northwest tourism awards, The Palace is through to the national finals, to be judged in April.

Water saving devices are fitted in bedrooms and toilets, lights work on sensors and plastic cups and cutlery are banned.

For conferences, use of printed literature is discouraged and provision is made for electronic presentations. Waste recycling facilities are provided in conference rooms and meter readings are done weekly.

Menus feature locally sourced, seasonal, organic produce and tap water is always offered. Hotel staff are trained to provide public transport information to visitors.

The Barn, Cuerden Valley Park (near Preston)
01772 628 849

Built using reclaimed bricks and slates and kitted out with recycled wood flooring, carpet tiles and office equipment, The Barn – headquarters of the Wildlife Trust for Lancashire, Manchester and Merseyside – was granted eco-status by ENCAMS in 2006.

The building, which can accommodate groups of up to 40 delegates, features a range of efficiency measures. A wind-catchment system provides natural ventilation and rainwater is used in washrooms. Solar water heaters provide hot water in the summer months, while in winter a biomass boiler heats the building using woodland waste from the surrounding 600-acre park.

Trafford Hall, Cheshire
01244 300 246

A grade two listed Georgian manor house near Chester, Trafford Hall has pledged to be carbon-neutral by 2012.

It's a goal already achieved by The Stable – its modern training centre with en-suite accommodation. It was built using timber from managed sources and stone and bricks recycled from the original Victorian stable building. All walls, roofs and floors are kept cosy using insulation made from recycled newspaper.

Solar power and biofuels provide heat and hot water, lighting is efficient and low-water systems are fitted in showers, basins and toilets.

Work will soon begin on the main hall to improve insulation and install a biomass boiler and alternative heating technologies.

Sky blue thinking

Source talks to **Pete Bradshaw**, corporate social responsibility manager at Manchester City Football Club.

Interview by Kate Fox

Q What's your role at Manchester City?
My job covers several areas that come under the umbrella of corporate social responsibility (CSR). The largest of those is developing our community work – everything from sports development to outreach work on the streets, to literacy programmes, to environmental and health projects in schools – all of which engages about half a million people a year across the Northwest.

Q How did you find yourself in this job?
I started out in local government, working in sports development and facilities management. I became a bit of an expert in facilities development, providing good quality, sustainable buildings for sports and leisure. Later on, I got involved with social engagement in sports as well – quite an unusual dual area of expertise.

I'd worked on Manchester's Olympic bids, and the Commonwealth Games bid, and was seconded full-time to the Commonwealth Games as the manager for road events. That's how I came to the City of Manchester stadium. Later I project-managed the transition from the games to the football club, which, in turn, led to my CSR role with City – a unique role in football at the time.

Q So what prompted Manchester City to put such emphasis on CSR?
We realised there had to be a strong link between providing buildings and physical infrastructure, and developing social and community infrastructure alongside them. This club has a long tradition of engaging with local people, and we wanted to build on that.

These days it's not only about football coaching in the street; we do a whole range of environmental awareness projects, for example. We plant trees and wildflower meadows with local schools, and run programmes about energy efficiency for businesses, schools and community groups. We've created gardens for honeybees, a dormouse project – we've got someone employed full-time on environmental education.

The new stadium was a catalyst for change too. It was very clear that being a responsible business in the city made good commercial sense. There's no reason why any organisation, large or small, can't think about its responsibility to the people that live and work and play around it. Our board felt it would be improper not to think about waste management, about how we use energy, about local purchasing and employment, or about sustainable transport.

Q What's an example of how you've made the club more environmentally sound?
When we moved here in 2003, there were 46 huge waste truck movements on and off site every week. Aside from the landfill issue, the sheer number of journeys was ridiculous.

We looked at what we were throwing away, and realised that about half of it shouldn't be sent to waste, in fact we shouldn't have sourced it in the first place.

So we got everybody thinking about what we were buying, using and throwing away. We looked at what we could re-use on site, ways of reducing our waste, and sought out opportunities for recycling. Working with Greater Manchester Waste, we found that recycled newspapers were being used for local roof insulation, and that glass could be crushed and used for footpaths in Greater Manchester. Our grass cuttings go to Bolton for composting – Manchester City compost, I suppose. Within 12 months, those 40-odd trucks were down to six. We aim to reduce that year on year – it's constantly reviewed.

Q Does the football connection generate enthusiasm for the environmental message?
It certainly gives it credibility. We're not sending the stereotypical tree-hugger into school. Our captain Richard Dunne and other players have really embraced it – they'll go into schools and talk about why these things are important, the trees, the wildflower meadows and so on. It has a different impact than a grey suit from the town hall turning up. It makes it real. If we can work with communities and schools and say, look, here's a practical example of what this is all about, people engage better. Stories about the ice caps melting – people living in Beswick or Burnage can't directly affect that, but they can affect what happens locally. We can demonstrate how that makes a real difference. We all have to do our bit, and we're concentrating on the bit that's right here.

Q Are City ahead of the game?
I think we've just taken a very clear stance on it. We're the only club with mainstream CSR in its structure, in that sense we're unique. But everybody's thinking about it. The Premier League has taken a lead now, pushing clubs to look at what they do and to work together to become more efficient. Some of our neighbours in the Northwest are doing really good stuff. I think we are doing better than others, but the real success of what we've done comes when our approach is mirrored elsewhere.

PHOTOGRAPH Davison/Greenpeace

Every little helps

Tesco claims its new eco-store in Manchester sets new environmental standards. What do a member of staff and our expert have to say?

Interviews by Ciara Leeming

Photograph by Rebecca Lupton

Shop floor view

Bill Moss radiates enthusiasm as he reels off the green credentials of Tesco's "store of the future", in Cheetham Hill, Manchester.

"Our carbon footprint is 70 per cent lower than it would be in an similar store built in 2006. It's got a timber frame, which is more eco-friendly than metal, and is clad in wood.

"And we've got huge skylights that let in natural light. When it's sunny outside the lights dim automatically, saving energy," he says, gesturing towards the ceiling.

Other features at the superstore include doors on all fridges and freezers, rainwater harvesting – for use in the toilets – and electricity produced from vegetable oil. "And there are wind-catchers on the roof, which open when it's warm and let fresh air in – reducing the need for air conditioning," adds Bill.

The branch, which opened in January, is part of the retail giant's pledge to halve emissions from its worldwide stores by 2020. Earlier eco-stores in Diss, Swansea, Wick and Shrewsbury made progressive improvements but Manchester is the greenest yet. A Scottish distribution centre and premises in Thailand and California are among other sites now using energy saving technologies.

Bill, 45, was one of 118 long-term unemployed people given jobs under Tesco's Regeneration Partnership programme. He combines his role as 'community champion' – liaising with schools, police and other local organisations on in-store events – with regular stints on the tills.

About a third of staff live within walking distance of work, and all learned about its credentials as part of their training. Designated 'energy champions' among the team help identify areas for improvement.

Expert opinion

Ros Howell, a senior lecturer in environmental management at Manchester Metropolitan University, welcomes the store's improvements but would like to see sustainability at the heart of the planning process.

"These are the kinds of things we should expect from our flagship stores today, rather than them being added extras," she says.

"Cheetham Hill Tesco has taken some very positive steps, and its staff seem extremely committed, but some wider questions remain.

"We need to be looking at the damaging way our food is moved around the country by road and air. The general public needs to understand that a few eco-stores aren't going to save the planet.

"But we should be putting pressure on our planning officials so that this kind of quality is built into all new retail developments, because these things certainly help to make a difference."

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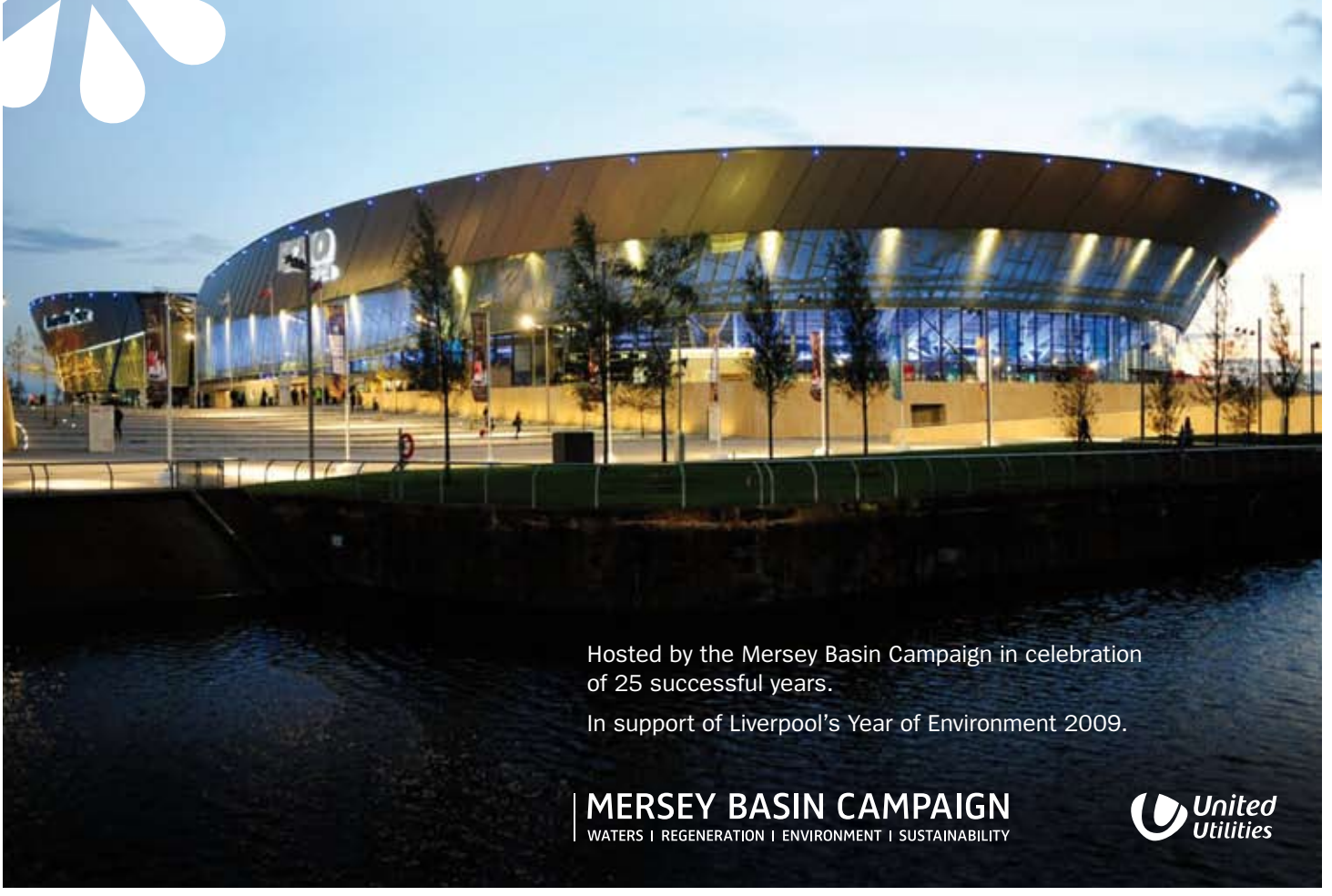

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