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National accreditation scheme on launchpad

The Department of Trade and Industry has fired the starting gun on a new UK-wide accreditation scheme for small-scale green technologies.

Officials have invited suitably qualified companies and organisations to express interest in the wide-ranging portfolio by 30 January with a winner due in place "to support the new Low Carbon Building Programme, which is due to start in April 2006".

The new measures will replace existing accreditation schemes run by bodies such as the Energy Savings Trust as well as those governed by the Clear Skies programme.

It is unclear how the measure will affect existing arrangements for the Scottish Community and Household Renewables Initiative, which runs to 2008.

One source North of the Border said: "We all expect the LCBP measures to dovetail with SCHRI."

Industry sources have broadly welcomed the pending establishment of a new, pre-eminent scheme.

The proposal was highlighted as a step forward for the sector during the public consultation phase of the



Princely designs on green housing

The Prince of Wales (centre) earlier this month visited the pioneering Upton development in Northampton, where Cornhill Estates and Fairclough Homes are building around 200 homes on Site B. The project will be given a BREEAM EcoHomes Excellent rating because of its exceptional green credentials.

The Prince's Foundation for the Built Environment brought together different opinions on possible designs in a collaborative planning process called Enquiry by Design.

Photo: Northampton Borough Council

Microgeneration Strategy and LCBP. According to the tender document, the new scheme will include a code of practice for sellers and suppliers of systems in "the UK microgeneration industry".

Also on the menu are consumer protection, installer certification based on internationally recognised standards such as those used by UKAS, and product certification that takes account of in-house testing and international/

national standards. A shortlist of participants will be invited to submit full tenders to the DTI by 6 February with the successful bidder likely to emerge in late March.

Bids will be judged on value for money as an "overriding criteria", followed by technical merit, relevant experience and track record, understanding of the industry and its challenges, and after-care service.

Hospital call for clean heat

Royal Cornwall NHS Trust is looking for a company to supply a wood heating system for Treliske hospital.

An official notice offers a three-year contract covering "the supply of around 5 million kWh per annum of heat energy (only) from a carbon neutral, renewable biomass resource" via a supply arrangement charged through a heat meter.

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Paradise cleans up with XCO2

Low-carbon engineer XCO2 has signed a deal to help a major new resort development in the Caribbean go carbon-neutral by applying energy efficiency measures and onsite renewables.

Managing director Robert Webb said the project, to be completed next year, would build on work XCO2 is doing for Asian hotel chain Six Senses, which recruited the London company to wean its flagship luxury hotel in the Maldives off diesel generators.

A feasibility study last year for Six Senses identified wind, tidal, seawater cooling and biodiesel as key options for taking the resort to zero carbon by 2010.

Although the surface sea temperature is 28 degrees Celsius, "site investigations have so far shown seawater temperatures to be 15C at 150m deep, perfect for comfort cooling with minimal energy use", said Webb.

XCO2 has been recruited to help with another Six Senses project, a newbuild complex in Thailand. It has also signed a deal with a larger newbuild project with a different client in Malaysia.



Green heart: how the architects envisage the project's Hub

Illustration: NMSI

Planning D-day nears for 'sustainability theme park'

Plans to turn a derelict former airfield in Wiltshire into a beacon of sustainable living and technology for the 21st century could be determined by Swindon council in the next couple of months.

William McDonough, the US architects behind the Dongtan eco-city in China, worked on the master plan for the £81 million Wroughton project, which will generate all its own energy and feature the largest grass roof in Europe.

The main function of the sprawling 222-hectare site will be to house the collections of the Science Museum and other divisions of the National

Museum of Science and Industry, 90% of which are locked away because of lack of space.

NMSI head of planning Steve Briggs said the project's Sustainable Heritage Centre would be an "exemplar" of sustainable design and development practices, housed under a 3.2-hectare chalk meadow roof that will blend into the Wiltshire landscape.

There will be a 300m passive solar wall along the entire south face of the building, providing up to 20% of the centre's heating requirements, and 30m of PV on the roof powering a workshop where children will learn about renewable

technologies. Ground source heat pumps, wind power and biomass technologies will also be incorporated. "We want to demonstrate different renewable technologies at different scales in different combinations," said Briggs.

Other parts of the project include accommodation for visitors that will "push the parameters" for sustainable building materials, including a 200-bed hotel and 100-bed hostel.

There will be 4500 square metres of exposition and light industrial workshop space to encourage companies to conduct R&D and showcase sustainable technologies, and a farm zone featuring sustainable farming methods.

The promoters are planning a sustainable transport system using vehicles such as solar-powered buses and light railway to move an expected 600,000 visitors a year around the site.

The first phase of the project, featuring the Sustainable Heritage Centre, is expected to open in 2009-10.

Briggs said he hoped to hear from Swindon council by the end of February or March.

Earthship lands in Brighton

Europe's first Earthship, a completely self-sustaining home, will open its doors on the outskirts of Brighton in the next few months.

Low Carbon Network project manager Mischa Hewitt said he is looking to raise the last £20,000 needed to complete the interior of the 133 square-metre, three-bedroom dwelling, which has taken four years and £250,000 to get off the ground.

The Brighton Earthship, in Stanmer Park, was built using waste car tyres and other reclaimed materials.

It incorporates a 20kW portfolio of renewable energy technologies designed and installed by Lewes-based Southern Solar.

These include a 1.116kW PV array, 900 W Whisper wind turbine, 15kW pellet boiler and 3kW in solar thermal.

Southern Solar also designed the Earthship's rainwater harvesting and purification system, which allows the building to be independent of mains water.

Funding for the power system came from the DTI's Clear Skies programme, the Energy Savings Trust, and EDF Energy.

The Low Carbon Network, a not-for-profit organisation, worked with Mike Reynolds, the originator of the Earthship concept in the US, to deliver the project.

Southern Solar managing director Howard Johns said: "It's a great showcase for renewable technologies. We hope people will look at the Earthship and be inspired to make their own homes more sustainable."

Ancient and modern marvel in Kent

The Pines Calyx low carbon project near Dover, being developed by the St Margaret's Bay Trust using an innovative mix of ancient and modern building techniques, is nearing completion.

The "healthy and sustainable venue" is due to open in May.

The main walls are constructed out of rammed chalk recycled from the excavation needed to set the building back into a hillside.

The roofs use timbral or

"Guastavino" vaulted domes constructed from locally made tiles that support a covering of turf.

The concept embraces solar-based energy beyond its needs, the re-use of wastes and the aim that the building "will return naturally to the landscape at the end of its life".

The Bay Trust said: "The aspirations of the design are that it combines a benign environmental footprint with a sound commercial return and that it is unobtrusive,

blending in within the landscape. Energy consumption will be of the order of 15% to 20% of conventional, resulting in Pines Calyx being one of the most energy efficient buildings in the country."

Overall building costs are said to be in line with a traditional structure but the trust expects running costs to be reduced by 85%. CO₂ emissions will be more than 90% lower than traditional buildings.

www.pinescalyx.com

www.lowcarbon.co.uk

Dutch tie-up has Microgen boilers on road to home

Household microCHP boilers could be a reality for a small group of UK gas customers by the end of the year after BG Group subsidiary Microgen Energy and Dutch boiler maker Remeha teamed up to commercialise the technology.

Both companies are investing in an appliance that will incorporate Microgen's free-piston Stirling generator within a condensing gas-fired boiler, producing electricity and hot water.

Prototypes will be tested extensively in laboratories and in the field, followed by consumer trials in winter 2006/2007.

Microgen head of marketing Adrian Richardson said he expected to run around three sets of customer trials in the UK. The first

would be centred around Peterborough where the company is based. Another trial cluster is likely in the South East around the M4 corridor. "We expect to have 50 to 100 units in the field by the end of this year," he added.

In March 2007, the new microCHP appliance will be unveiled at the ISH Exhibition in Frankfurt. By this point, Richardson expects around 200 units to be under consumer test.

The appliance is slated to be commercially available later that year.

Microgen is initially concentrating on northern European markets such as the UK, Germany and the Netherlands. A small number of prototype units are already under field test in these locations. Each of these countries has a cooler climate with

heat-driven boiler requirements and well-established gas distribution networks.

In addition, Richardson said governments in these countries have shown a willingness to embrace microCHP, for example the recent VAT concession in the UK and Germany's adoption of a system for exporting electricity back to the grid.

Microgen said its microCHP unit is designed to be low maintenance, compact, easy to install and as quiet as a condensing boiler. The unit produces more than 1 kW of electricity while heating the home.

An optional module allows the appliance to generate heat and electricity during a power cut.

Microgen estimates the



Field tests on Microgen's gas-fired microCHP boiler installed in the Netherlands are going well, according to the company's Adrian Richardson.

The boiler was installed in the home of a Gasunie employee (pictured) in Groningen last October.

Tests include measurement of power generated by the unit and the efficiency of both electrical and heat output. Reliability and ease of use are also being monitored.

Photo: Gasunie

unit could save consumers up to 25% on annual energy bills and reduce CO₂ emissions by around 1.5 tonnes per year in a typical home.

Remeha is part of De Dietrich-Remeha Group, a well-established player on the European heating market. The company will

act as distributor for the new CHP boilers in mainland Europe while British Gas has already been lined up to act as distributor in the UK.

Microgen is holding discussions with other manufacturers and distributors over a future roll-out in other countries.

Ceres wins contract to take fuel cell to the masses

Sussex-based fuel cell company Ceres Power has been awarded a £500,000 contract by The Carbon Trust to develop mass manufacturing capability.

Ceres, recently floated on the AIM section of the London Stock Exchange, is targeting a range of global market applications for its fuel cells, including a microCHP boiler for use in homes.

The company is already running a test-bed production facility at its headquarters in Crawley.

Chief executive Peter Bance said: "This new contract will help move our volume manufacturing strategy forward so that we can meet predicted market demand to the highest quality and reliability standards at the lowest possible cost."

The Carbon Trust has been involved previously in

funding and sponsorship work with Ceres.

The company's fuel cell can run on a variety of fuels such as natural gas, LPG and propane, as well as hydrogen.

Last summer, Ceres set up a partnership with British Gas to share expertise and incorporate its fuel cells into domestic gas boilers producing both heat and electricity.

A similar programme is

under way with BOC to develop fuel cell products using bottled gas for remote applications where connection to the gas grid is not possible.

Combined heat and power boilers using fuel cells, which can generate as much electricity as heat, are especially well suited to smaller homes.

Bob Flint, Ceres' commercial director, believes there are "14 to

15 million dwellings in the UK suitable for application of fuel cell combined heat and power technology".

He claims the patented Ceres system has several technical and commercial advantages over alternative fuel cells.

Polymer electrolyte membrane fuel cells operate at moderate temperatures, are easy to start up and are suitable for fluctuating loads.

However, the lifetime of the membrane is limited, requiring expensive replacements.

Traditional solid oxide units are fuel flexible and can run on hydrocarbons as well as hydrogen but very high operating temperatures limit the range of materials that can be used in their construction.

Ceres has developed an intermediate temperature solid oxide fuel cell (ITSOFC) that is said to operate at lower temperatures, using a variety of fuels.

Flint said: "The Ceres fuel cell offers a low maintenance, cost-effective and efficient option for small-scale CHP applications."

Electrical efficiency is put at between 40% and 50% while overall heat efficiency is 80% to 90%.

The Ceres fuel cell has been more than 15 years in development and performance tests are continuing to improve power output, integration and the durability of prototypes. Attention is now being focused on incorporating fuel cell stacks into boilers.

Initial estimates show a six-inch fuel cell stack, replacing the conventional

Olympian ambition

burner unit in a CHP boiler, could generate around 1kW of electricity.

Partner British Gas is providing expertise on the specifications, design and components of the new boiler, and hopes to have a commercial product available in the next four

years. Flint said: "By the time the Olympics reach London in 2012 we expect to have hundreds of thousands of Ceres fuel cell CHP boilers in British homes."

Ceres is looking to market its product worldwide and is discussing possible future link-ups with distributors in other countries including Japan, Canada and Germany.

London Plan to put climate change in the crosshairs

Radical new policies to cut carbon dioxide emissions, including greater use of renewable energy, will be introduced to the London Plan when it is revised in 2008.

Mayor of London Ken Livingstone published a document just before Christmas stating his intent to review the plan, the Greater London Authority's statutory planning guidance, and signalled that climate change would be an over-arching priority.

"I am determined to bring forward radical changes to policy to combat climate change," he said, adding he wanted London to become an exemplary world city in confronting the issue.

The mayor proposes to set challenging energy targets, including the use of renewable and sustainable energy; to clarify the basis upon which energy assessments will be made; and to require electricity,

heating and cooling systems to demonstrate that they minimise emissions of greenhouse gases.

He also wants measures to encourage development of the hydrogen economy, support the potential for appropriate renewables development and decentralised community energy provision, reduce the need for active cooling systems, and promote security of energy supply.

Adding to the list will be measures to strengthen existing policy on climate change with targets from the supplementary planning guidance on sustainable design and construction, and the introduction of water efficiency and consumption targets.

The mayor wants to see the promotion of heat tolerant building construction and design, including the role of green infrastructure for flood mitigation and respite

from higher temperature, and support for green roofs.

Consultation on the review will begin in the spring.

Chris Twinn, associate director of engineering consultants Arup, said he would welcome specific targets for energy efficiency measures and building-integrated renewables.

At the moment the London Plan only refers to the mayor's non-statutory energy strategy, which calls for 10% of predicted energy usage to be provided by renewables in major developments.

"There's been a bun-fight over 10% renewables because a lot of the terminology to date in the London Plan has been too woolly.

"The developers we are working with would welcome a prescriptive stand and the creation of a level playing field. We'd much prefer to have transparency than wishy-washy words," Twinn said.

Capital code off ODPM radar

Mayor of London Ken Livingstone's request for capital-specific building regulations has been dropped.

In his submission to the Office of the Deputy Prime Minister's (ODPM) consultation on devolving more power over London to the mayor and the London Assembly, Livingstone suggested the capital set its own building regulations, as Scotland does.

He said that changes to Part L of the UK building regulations and the ODPM's Sustainable Homes Code were not up to the job of helping London achieve its goal of cutting CO₂ emissions by 60% by

2050 and would not back up the London Plan.

But the request was not included in the ODPM's consultation document, beyond asking the open question of whether there was "a case for strengthening (the mayor's) existing powers to take account of climate change".

The consultation did include the mayor's argument that he should have more power over planning in the city's 33 boroughs to ensure they conform to the London Plan.

He wants the threshold to be lowered for developments that are referred to his office and

to be able to direct councils to grant approval.

The ODPM did not respond to a query about why the London-specific building regulations were dropped from the consultation.

Industry sources said this should not deter the GLA from raising the bar for sustainable construction in London.

One commented: "The planning system could be made to serve that purpose anyway.

"There's nothing to prevent the Mayor of London from saying 'in London we want a 10% improvement on building regulations'."

Croydon ups ante on CHP and looks to create esco

Croydon is looking to create an energy services company to complement a requirement for developers of large mixed-use building projects to install private wire and community heating systems.

Eddy Taylor, the London borough's environment and sustainability manager, said the principle of requiring private wires and CHP in such developments is already supported by council members.

All that remains is to get approval from the council's finance department to set up an esco.

He said the borough wanted to overcome the resistance of some developers to installing CHP systems. He expected one large developer to be refused planning

permission for a housing project because it refuses to install CHP.

Croydon is the first council to require residential, not just commercial, developments to incorporate onsite renewable energy equal to at least 10% of their power needs.

It also expects EcoHomes Excellent standards for housing developments greater than 10 units and BREEAM Excellent standards for buildings larger than 1000 square metres.

To date, 51 developments have had to comply with the policy.

Taylor said the council has held discussions with EcoCentroGen, a London-based project finance company that provides funding for CHP systems, to become a partner in the esco.

Briefs

• **Ludlow Town Council is investigating the possibility of generating electricity from the River Teme using a micro hydroelectric plant.**

Power from the scheme could be used for local amenities and officials are looking into how the project would fit into planning regulations.

• **The Building Research Establishment (BRE) is looking for a housing energy and environment consultant and a senior consultant in sustainable communities. The closing date for applications is 20 January. E-mail Sarah Dolan:**

dolans@bre.co.uk

Classroom water turbine

A Nottinghamshire primary school has received a £10,000 grant from Powergen's GreenPlan Fund to install a water turbine that will help reduce carbon dioxide emissions and educate pupils about renewable energy.

Les Beldham, head teacher of the Cuckney Primary School in Bassetlaw, said: "The

school is located in an old mill building by the River Poulter.

"The original mill still draws the majority of the flow out of the river and takes it to an extensive mill-pond immediately above the school.

"Therefore the school site is ideal to give maximum performance and efficiency for a water turbine."

Renewables bring light to streets of province

Northern Ireland Electricity has completed an innovative project to power street lighting by a wind turbine and solar panels as the first phase of its Micro Wind Initiative.

The overall scheme, in partnership with Action Renewables and supported by the Energy Saving Trust, will test a range of small-scale wind turbines to "develop the uptake of renewable energy in homes and other locations".

The Marlec Green Column lighting used in an area of New Forge Business Park near Shaw's Bridge generates its own power from a discreet wind turbine and solar panel.

The energy is then stored in a battery for use in the hours of darkness. The system is the first of its kind to be installed in Northern Ireland, according to Wilma Stewart from NIE Energy Services.

"This is an extremely efficient system, using natural resources to power the street light. There is no waste as the light is automatically switched on and off by in-built sensors and energy generated is maximised by the use of a low energy, compact fluorescent tube."

Jonathan Buick from Action Renewables said: "Innovative renewable energy projects are encouraged by Action Renewables as they have the potential to substantially reduce the amounts of carbon dioxide emitted into the atmosphere and offer the opportunity to reduce our dependence on fossil fuels such as oil and gas."

www.niesmart.co.uk
www.actionrenewables.org

Atkins offering 'smart bomb' to wipe out council energy wastage

Don Lack, who chopped millions of pounds from Leicester council's utility bills by instituting half-hourly metering of council buildings, is aiming to repeat the success across the county.

Lack, now an associate at engineering and consultancy firm Atkins, heads a team developing a real-time intelligent metering package that will be offered to local councils on a "no win, no fee" basis.

Intelligent metering in Leicester cost £500,000 to install but saved the council £1.5 million in energy costs over five years, according to Lack.

The Local Government Association recently forecast that local authorities face £1.45 billion in energy costs this year, a 20% increase on 2005, due to spiralling gas prices and Met Office forecasts of the coldest winter in decades.

During his four years as head of services for Leicester City Council, Lack changed over the gas, electricity and water meters in all 550 council buildings so that they transmitted data in half-hourly pulses to the Leicester energy centre.

This enabled the council

BEAMA Energy, the UK trade group for the controls, metering, electric heating and related industries, has welcomed the adoption of the Energy End-Use Efficiency and Energy Services Directive by the European Parliament last month.

The association's director Howard Porter said: "This means there is now a European law mandating better standards of metering throughout the EU."

He said that smart metering solutions are ideal to help EU Member States meet energy savings targets.

The directive imposes a general energy end-use savings target of 1% per year for nine years (2008-2017).

The overall target of 9% is to be met by the

to develop a profile of each building, pinpoint where energy was being wasted, and to take immediate action, leading to huge cost savings.

Lack said: "We were ringing up leisure centres and asking what they were doing with the water overnight.

"It's almost Big Brother

EU makes metering central to efficiency

ninth year. It includes an intermediate target covering the third year of the directive's application.

This saving is calculated as 1% of the average amount of energy consumed during the previous five years and can be realised from households, agriculture, commercial and public sectors, and transport and industry, with a few exemptions.

All types of energy will be considered from electricity and natural

gas to district heating and cooling, heating fuel, transport fuels, coal/lignite, and biomass.

Porter said: "Energy distributors and retail energy sales companies will have to ensure their customers are offered competitively priced metering and billing systems to help customers better manage their energy usage.

"Cost-efficient smart metering and controls systems in the home are now becoming known as the 'next energy conservation measure'.

"The directive's passing, and its effective implementation in the UK, will provide the impetus for industry investments in this area."

but you need to have that level of awareness. If there's something wrong with a building's control system it will show up with intelligent metering."

Lack said a conservative estimate of energy wastage in the public sector is £55 million a year. "For us to put in the meters and capture

that entire market would only cost £7 million," he said.

The Atkins service will involve both identifying and rectifying energy problems. It will not charge an upfront fee but a percentage of the net energy savings, after the cost of installing the meters.

Euro cash helps remote island fulfil the dream

A remote Shetland island community will be energy self-sufficient using renewable production by the end of this year thanks in part to a new round of European funding.

Foula, one of the most far-flung parts of the UK, was awarded £355,000 by the European Regional Development Fund to complete a near-£1 million programme of wind, hydro and solar generation. By

the year-end the island expects to have completed hydro works on the waters of lochs Oufrafandal and Fleck as well as solar panels on the local primary school. Also on the menu is a pair of 15kW turbines.

The entire system will produce around 50kW and is planned to replace a 25kW diesel generator that currently provides power outside the hours of midnight to 7 am.

Welcoming the move as part of a full European package of around £7 million - of which £6 million is dedicated to renewables, renewable training and community halls (often involving renewables) - Deputy Minister for Enterprise Allan Wilson said: "This is excellent news for the Highlands and Islands.

"I am pleased to see that such a wide range of

projects have been successful in securing a share of a very large sum of money."

He added: "One of the largest recipients of ERDF is the Foula Community Electricity Scheme, which will help ensure the community has a steady supply of electricity for the future." Foula lies 32km to the west of the Shetland mainland and has no grid connection.

ODPM low carbon building report savages micro cost-effectiveness

The Office of the Deputy Prime Minister has published its final report on Low and Zero Carbon Energy Sources for Buildings, which aims to develop performance standards and installation guidance for microgeneration technologies.

The report, which assessed the cost effectiveness of each technology, found that few achieved a positive net present value and recommended that none be considered for mandatory inclusion in Part L of the Building Regulations.

Absorption cooling was

found to have a positive NPV for newbuild and retrofit applications in large office buildings and payback periods of two to six years.

For microCHP, small Stirling engines were found to be cost-effective for existing single and larger newbuild dwellings.

Only façade-mounted photovoltaic applications in offices were shown to be cost-effective and only when the value of carbon, at £95 per tonne, is included in the saving.

For solar water heating, only roof-mounted applications in electrically heated dwellings were

shown to be cost-effective and again only when the value of carbon is included in the savings.

The ODPM was not very encouraging about micro wind turbines either, concluding that neither single dwelling applications nor on 3000 square-metre offices were cost effective.

Industry sources said they were disappointed by the report's conclusions and said it was a "wasted opportunity".

Renewable Energy Association micro expert Seb Berry said:

"Determining the cost-effectiveness of micro

technologies depends firstly on how you define 'cost-effectiveness'.

"You also have to look at the baseline assumptions used by the ODPM." He said it was his understanding that the ODPM used only the capital cost and a small allowance for the social cost of carbon to define cost-effectiveness.

• The DTI is recruiting independent assessors for R&D and demonstration projects in renewable energy such as the Low Carbon Buildings Demonstration Programme. Applications must be in by 30 January.

Briefs

• Construct Wales and BRE Wales are holding two free half-day events titled 'Construction Sustainability - BREEAM and EcoHomes' to explain the standards system to planning officers. The events will be held on 26 and 27 January at St Asaph and Port Talbot respectively.

From 1 May, the Welsh Assembly will specify that all social housing in the province must achieve the BRE EcoHomes 'good' standard. In addition, the Welsh Development Agency is requesting that all developments it supports conform to the BREEAM 'very good' standard for commercial buildings, or BRE EcoHomes 'very good' standard for residential developments.

• Friends of the Earth has called on the government to make reduced electricity consumption and more energy efficient homes and offices a major element of its response to concerns over the security of the UK's future gas supplies. FoE said housing could be made "at least 60% more efficient", reducing domestic energy bills and cutting emissions.

Council toolkit on way to tackle emissions

Nottingham City Council is developing a toolkit to help local authorities across the UK cut CO₂ emissions.

Sustainability policy officer Mike Peverill said the toolkit, to be launched in the spring, would help the 100 councils that have signed the Nottingham Declaration fulfil a pledge to combat climate change.

Peverill said the 200 delegates to a Nottingham

summit in December called for a doubling of the number of signatories to the declaration within a year, and another doubling to include all councils by 2008.

He added there had been a great deal of progress since the first summit in 2000, with support from Defra, the ODPM and agencies such as the Energy Saving Trust, Carbon Trust,

Government Office for the East Midlands, and the UK Climate Impacts Programme.

In his speech to the December meeting, Environment Minister Elliot Morley did not rule out taking action against councils who fell behind on tackling emissions, Peverill said.

"Climate change is a big issue. It's not always easy to identify where best to

put your efforts. We're trying to forge a one-stop shop for councils that want to make progress."

Milestones for mitigation and adaptation will be established, and monitoring arrangements put in place to allow councils to report annually on their achievements.

There will also be study visits arranged to see examples of best practice.

leader Cameron shows true leadership

Reports that Conservative leader David Cameron is investigating microgeneration technologies and cutting-edge energy efficiency measures for his new house in London are very encouraging. This man surely is too good to be true for the sector!

Many in the renewables business have good reason to be sceptical about the Tory Party's stomach for radical strategies to make a real difference to carbon emissions, even if it has paid lip-service to the need to tackle climate change. The party's recent, often vehement, opposition to onshore wind, for example, has done it no credit.

It does appear, however, that Cameron may indeed be different and possess a deeper conviction than many of his predecessors that each and every one of us can make a difference. According to the

Times he is looking at putting a small wind turbine on his roof, as well as investing in solar thermal and solar PV. This sets exactly the right example and can only exert a positive influence on the government's course in the microgeneration sector.

Should Labour fail to deliver genuine momentum, the kind now being seen in onshore wind, then Cameron's Tories will be able to say they would offer better stewardship of this important means of tackling climate change. By this time the opposition leader should know quite a lot about the subject through personal experience.

Best in class...

The fact that half of the DTI's top 10 green energy projects for 2005 are microgeneration schemes of one kind or another hopefully indicates that a positive consensus for the sector is building in Westminster. The department listed the CIS

Building, Manchester; Spen Valley Sports Centre, near Leeds, West Yorkshire; Eden Centre, St Austell, Cornwall; East Hall, the Science Museum, London; and Nissan Motor Plant, Sunderland. All but the Nissan six-wind turbine scheme, itself on the border between large-scale renewables and micro, were supported directly by the DTI.

The schemes are proof that the Clear Skies and Solar Demonstration programmes have delivered.

• Smart metering, while clearly not a microgeneration technology, is a complementary tool. Keeping a close and detailed look at energy consumption can help reduce emissions not only through cutting waste but also by enabling active energy management. Smart metering can add value to micro-power technologies and help change attitudes and habits among energy consumers.

Briefs

• Sheffield Hallam

University has come into the market for new accommodation in 2007 to house facilities for the Faculty of Arts, Computing, Engineering and Science.

The building needs to "minimise negative environmental impact in terms of construction materials and methods, energy use, CO₂ emissions, visual and noise intrusion, and traffic generation...

(and) achieve a 'very good' or 'excellent' rating on the BREEAM method".

• Business Link York and North Yorkshire Development Team have awarded a contract valued at around £200,000 to Ryedale Energy Conservation Group Ltd for business and management consultancy services to exploit "the advantages of environmental technologies".

An official notice of the contract award stated: "The purpose is to reduce

the consumption of natural resources... by installing renewable technologies in businesses.

The project will also help Yorkshire Forward (the Regional Development Agency for Yorkshire and Humber) in its requirement to reduce CO₂ emissions."

• Oxfordshire County Council is installing solar powered lighting at bus stops on the Dorchester bypass. The bus shelters absorb solar energy during daylight and use what has

been accumulated to power lights in the shelter during the night.

Councillor David Robertson said: "We are keen to use new ideas whenever we can and this is one that will potentially save on energy costs. It is a very well thought-out concept and I am looking forward to the trial to see how things go."

• A £220,000 plan to fit 110 of Edinburgh's city-centre bus shelters with solar panels to provide light at

night is under way. Edinburgh City Council last year placed a large order with Canadian supplier Carmanah for its proprietary i-SHELTER solar LED bus shelter lighting systems.

Carmanah is one of the largest suppliers of solar-powered LED transit lighting systems to the City of London.

Edinburgh City Council said it hoped eventually to install solar panels on most of the authority's 1100 bus shelters.

Bid for lottery funding to support large-scale CHP

Donald Lack, who quit as head of energy services at Leicester Council last summer after his plans for a city-wide CHP project were shelved, is looking for lottery funding to help local authorities invest in large-scale green power.

Lack, now an associate at architectural and engineering consultancy Atkins, said Leicester had to abandon an £80 million CHP and private wire system because it could not raise the necessary funds and underwrite the risk in the three years it was allocated.

The council was also obliged to return a £5 million grant from Defra's community energy programme.

Such large investments are prohibitively difficult from a financial and political perspective for local authorities, Lack said, even though CHP on

a large scale is critical to cutting carbon emissions.

"If a city like Leicester is going to achieve its CO₂ targets it has to do it on a city-wide basis. The key is how to finance it," he said.

A feasibility study conducted while at Leicester, with funding from the Energy Saving Trust, found the city was happy to back infrastructure projects such as CHP, which would provide a fixed rate of return over a 30-year period. It was not, however, prepared to assume all the risk.

Lack, with Michael King of the Combined Heat and Power Association and environmental consultant Colin Hines, have come up with a proposal to convert grants, like those offered to Leicester by Defra, into an injection of equity capital that could bear the risk within CHP schemes.

The instrument would be a Guaranteed Energy Trust, which would lever in funds from the bond markets, and provide the expertise to help local authorities develop CHP schemes and set up their own energy services companies.

The group last year made a bid for funding to Defra under its Invest to Save programme but were turned down. They have now applied to the lottery for £250,000 in start-up costs and £2 million in annual funding to get the project off the ground.

Leicester, Birmingham and Southampton councils are lined up to go ahead with CHP projects if the funding comes through.

"These large-scale CHP schemes aren't happening and they should be," said Lack. "You have just got to get someone to make the investment to get it off the ground."

EcoCentroGen squares costs circle for developers

Peter Walker has built up a thriving business around solving the CHP financing conundrum over the past four years.

His company, EcoCentroGen, describes itself as an 'edsco' or energy and data services supply company.

It will finance the CHP system in Urban Splash's pioneering New Islington Millennium Community in Manchester.

The company financed the CHP system in another Urban Splash project, the Norman Foster designed 290-home Budenberg Haus scheme in Altrincham, which will open this spring.

EcoCentroGen has a pot of £35 million to invest in what Walker describes as a "fat pipeline" of other late-stage projects, mainly in the private sector.

He said the reason developers are reluctant to invest in energy efficiency and CHP is that they can never earn a

suitable return. The benefits of lower utility bills accrue to occupants.

EcoCentroGen creates a model for prospective clients based on what a development would cost on a "business as usual" basis, then one where energy efficiency and CHP are incorporated.

The cost difference is bridged by EcoCentroGen with its own capital, a combination of equity and external debt, which it will recoup through signing long-term contracts to provide energy and data services to residents.

"We came up with a model that delivers cost neutrality to the developer," said Walker.

In the pioneering New Islington project, which is still in the design stage, Urban Design will charge residents of the 1400-1600 units a flat-rate service charge for all utilities, including broadband telephony.

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