

**LONDON BOROUGH OF BROMLEY  
IE&E SUB-COMMITTEE: 20 APRIL 2011**

**ENERGY REDUCTION & RENEWABLE ENERGY GENERATION: REPORT ES11052  
APPENDIX 1: COUNCIL RENEWABLE ENERGY PROJECTS (BY SECTOR)**

**SOLAR PHOTO-VOLTAICS & SOLAR THERMAL**

**Cornwall County Hall: Solar Panels**

Cornwall Council is paving the way for a revolution in renewable energy with the installation of banks of solar panels on the roof of New County Hall. The 130 photo-voltaic panels will convert the above average levels of Cornish light into electricity that will power lights and computers in the Council building.

<http://www.cornwall.gov.uk/default.aspx?page=24157>

**Cornwall County Council: Solar Farm**

Cornwall Council is likely to become the first local authority in the UK to develop a large scale solar farm. The Cabinet of Cornwall Council approved the final business case for the solar farm at the Cabinet meeting 13 October 2010. Alec Robertson, Leader of Cornwall Council, said: "This is a huge opportunity for the Council, not just financially in terms of generating income that can be spent on frontline services, but also in terms of our green ambitions. This is an excellent example of Cornwall leading the way."

<http://www.cornwall.gov.uk/Default.aspx?page=25943>

**Cherwell District Council: Solar Panels**

Cherwell District Council intends to install solar panels on five of its buildings, which it hopes would generate enough electricity to run them. So far the technology is being used on one building, Thorpe Lane depot, in Banbury. Now councillors are looking to expand the energy system to more of its buildings, including its Bodicote headquarters and Banbury Museum, in Castle Quay shopping centre, its sports centres and other buildings at Thorpe Lane.

[http://www.thisisoxfordshire.co.uk/news/8866941.Council\\_looks\\_to\\_install\\_solar\\_power/](http://www.thisisoxfordshire.co.uk/news/8866941.Council_looks_to_install_solar_power/)

**Wrexham Council: Council Housing Solar Panel Scheme**

Solar panels will be installed on the roofs of 3,000 council houses in Wrexham. Wrexham council gave the go-ahead for the project, which it is hoped will reduce carbon dioxide levels. The council will receive an income through a UK government scheme which allows surplus energy to be sold. The local authority has estimated the panels will generate a net income of £25.7m over 25 years. It is hoped installation will be completed by early 2013.

[http://news.bbc.co.uk/local/northeastwales/hi/people\\_and\\_places/newsid\\_9400000/9400794.stm](http://news.bbc.co.uk/local/northeastwales/hi/people_and_places/newsid_9400000/9400794.stm)

**Northampton Borough Council: Solar Panels on Council Housing**

Some council houses in Northampton could have solar panels fitted to their roofs as part of a £300k carbon reduction project planned by Northampton Borough Council. The council is currently discussing the feasibility of putting solar panels on all south-facing council houses.

[http://www.northamptonchron.co.uk/news/local/some\\_council\\_homes\\_to\\_get\\_solar\\_panels\\_1\\_2432242?commentspage=2](http://www.northamptonchron.co.uk/news/local/some_council_homes_to_get_solar_panels_1_2432242?commentspage=2)

**Taunton County Hall: Solar Panels**

In May 2004, a Photovoltaic array was installed on the roof at County Hall, Taunton. The 142 m<sup>2</sup> PV system contains 120 cells should generate up to 19,000 kilowatt hours electricity each year, which will in turn save 8 tonnes of carbon dioxide emissions.

<http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/wpccontent/Sites/SCC/Web%20Pages/Services/Services/Environment/County%20Hall%20solar%20panels>

**Wokingham Borough Council: Solar Panels for Schools**

Wokingham Borough Council plans to install solar panels at two schools: The Forest School in Robin Hood Lane, Winnersh, and Waingels College in Chequers Way, Woodley.

[http://www.getreading.co.uk/news/s/2087578\\_solar\\_panels\\_to\\_cut\\_councils\\_carbon\\_emissions](http://www.getreading.co.uk/news/s/2087578_solar_panels_to_cut_councils_carbon_emissions)

### **Waverly Borough Council: Solar Panels Installation**

Waverly Borough Council has announced plans to install solar panels on the roofs of some of its council housing in Godalming, Cranleigh, Haslemere and Farncombe. It estimates tenants will save between £80 and £125 p.a. on their electricity bills. The authority said surplus power created by the panels would also be fed back into the national grid.

<http://www.bbc.co.uk/news/uk-england-surrey-12086079>

### **London Borough of Merton: Solar Panels at three Schools**

The borough announced it will become a local power provider; installing solar power from Solarcentury on three of its schools. This will not only provide clean renewable energy but also generate an income of ~£8,000 p.a. for 25 years. Merton's Low Carbon Zone pilot will own two of the systems, on Haslemere and Lonesome Primary Schools, and will host solar on the third school roof, Benedict Primary.

<http://www.solar4schools.co.uk/news/News/Councils-urged-to-create-income-from-solar-power>

### **Dorset County Council: Rainscreens incorporating Photovoltaic Panels**

Rainscreens incorporating solar photovoltaic panels have recently been installed in the redevelopment of The Blandford School in Dorset. The rainscreens form part of the façade on the new extension.

<http://www.buildingdesign-news.co.uk/2010/45-Telling-Rainscreen-facades-Photovoltaic-solar-panels-cladding-News-091110.asp>

## **WIND TURBINES**

### **Bristol City Council: Avonmouth Wind Turbine Project**

In January 2009, the Energy Management Unit gained planning approval to build two wind turbines in Avonmouth. The development is a flagship development for the council and is a meaningful contribution to Bristol City council's target for installed capacity and active promotion of sustainable energy future.

<http://www.bristol.gov.uk/ccm/content/Business/avonmouth-wind-turbines-proposal.en.jsessionid=E8D404DEC3EA311DC54EFB43DA115BAF.tcwwwaplaws2>

### **Ipswich Borough Council: Wind Turbine Plans**

Ipswich Borough Council has announced it is working with renewable energy developer Partnerships for Renewals to test land adjacent to the A14 at Thorington Barn, Belstead. The council will be consulting local residents in March 2011. Initial studies into building the trio of turbines found this could generate enough electricity to power 3,600 homes.

[http://www.eadt.co.uk/news/ipswich\\_council\\_to\\_test\\_a14\\_site\\_for\\_three\\_wind\\_turbines\\_1\\_811185](http://www.eadt.co.uk/news/ipswich_council_to_test_a14_site_for_three_wind_turbines_1_811185)

### **Cambridgeshire County Council: Wind Turbines on Farm Estates**

Cambridgeshire County Council is looking to use its Farm Estate land for wind turbines. It is in talks with farmers and local planners about potential developments in Crowtree Farm, Farcet, and Morleys Farm, Warboys, as well as two other sites in the county. If all four sites are given the go-ahead the council believes it could generate £700,000 p.a.

[http://www.peterboroughtoday.co.uk/news/environment/wind\\_farm\\_sites\\_identified\\_by\\_council\\_1\\_2419976](http://www.peterboroughtoday.co.uk/news/environment/wind_farm_sites_identified_by_council_1_2419976)

### **Skeffling Village Hall and Community Centre: Wind Turbine**

The wind turbine has been operating since March 2007 and the performance has, on average, exceeded the forecast of 8MWh p.a. The energy produced powers the hall and surplus is exported to the grid. The income is retained for maintenance and eventual future replacement of the turbine, making the installation completely sustainable.

<http://www.lowcarbonbuildings.org.uk/Case-Studies-and-Statistics/Stream-1-communities/Wind-turbine>

## **HYDRO-ELECTRICITY**

### **Stockport Council: Hydro-Electric Power**

The weirs at Otterspool and Stringer near Vernon Park were identified in the feasibility study as viable for hydro-electric power. Together these two schemes have the potential to generate approximately 500,000 units (kWh) of electricity p.a. - enough to power the average needs of about 125 houses.

<http://www.stockport.gov.uk/newsroom/hydroelectricpower>

### **Guildford Tollhouse: Hydro Project**

In 2006 a new turbine was installed in the Toll House which generates electricity by utilising the flow of water in the river Wey. This renewable energy microgeneration scheme produces enough electricity to power 50 households every year. The electricity produced by the turbine goes into the local network. On average the turbine should generate 260,000 kilowatt hours p.a. , the investment pay back period is approximately 10 years.

<http://www.guildford.gov.uk/hydroproject>

### **Dumfries and Galloway Council: Hydro Plan at River Nith**

Dumfries and Galloway Council is set to explore proposals for a hydro-electric power plant on the River Nith. The local authority has been approached by an unnamed energy firm about harnessing water flow over a weir known locally as the "Caul". The proposals involve a small-scale 100kw scheme opposite the Whitesands in Dumfries.

<http://www.bbc.co.uk/news/uk-scotland-south-scotland-12615034>

### **Cardiff Council: Hydropower at River Taff**

Plans for two new hydropower systems to be install in the River Taff in Cardiff are set to be unveiled as Cardiff Council awaits planning permission. It hopes to install the "fish-friendly" devices and yield 1.82 MWh of energy every year, as well as save up to 783 tonnes of CO2 emissions.

<http://www.energysavingtrust.org.uk/Resources/Energy-saving-news/Renewable-energy2/Plans-for-hydropower-at-Cardiff-s-River-Taff>

## **COMBINED HEAT & POWER**

### **Greenwich Tower Blocks: Combined Heat and Power Systems**

At two tower blocks in Glyndon Road and Raglan Road, Combined Heat and Power (CHP) systems have been installed. The systems generate heat to supply hot water to, the two tower blocks, Elmley Street tower block and flats/marionettes at The Firs, The Limes, The Willow and The Redwoods

<http://www.greenwich.gov.uk/Greenwich/YourEnvironment/GreenerGreenwich/GreenProjectsAroundTheBorough/>

### **City of London: Combined Heat and Power**

The City of London pipes heat from a natural gas-fuelled combined heat and power station to major public buildings, saving approximately 3,000 tonnes of CO2 each year.

<http://www.idea.gov.uk/idk/core/page.do?pagelD=24413410>

### **Tower Hamlets: Combined Heat and Power Heating Scheme**

The Barkantine combined heat and power (CHP) district heating scheme replaced the original heating network that ran from the turn of the century to the end of the 60s. The new system supplies heating and hot water to around 500 homes. The Tower Hamlets council scheme was the first of its type in London when it started running in 2001.

<http://www.idea.gov.uk/idk/core/page.do?pagelD=24412416>

### **Aberdeen City Council: Combined Heat and Power**

Hundreds more homes in Aberdeen are switched on to improved heating and cheaper power. Hazlehead's £1.6 million Combined Heat and Power system was switched on 28<sup>th</sup> April 2006 - delivered by council-backed not-for-profit company Aberdeen Heat & Power Ltd.

[http://www.aberdeencity.gov.uk/CouncilNews/ci\\_cns/pr\\_city\\_turned\\_on.asp](http://www.aberdeencity.gov.uk/CouncilNews/ci_cns/pr_city_turned_on.asp)

## **BIOMASS HEATING**

### **Lincolnshire County Council: Biomass Scheme**

Since its launch in autumn 2005 the Lincolnshire Green Heat (LiGHT) scheme has played a significant role in establishing biomass in Lincolnshire. By the end of the financial year it is expected that there will be 25 biomass projects completed in Lincolnshire. These range from small schemes heating a few buildings to large schemes providing heat to hospitals, greenhouses and historic buildings. The LiGHT programme is provided by Lincolnshire County Council and Lincolnshire Enterprise and is project managed by Rural Energy Trust Ltd.

<http://www.lincolnshire.gov.uk/residents/environment-and-planning/sustainability/current-sustainability-practice/lincolnshire-becomes-a-leading-biomass-light/43306.article>

### **Barnsley Metropolitan Council: Biomass Boilers**

In 2004, Barnsley Metropolitan Council made a commitment to consider biomass heating systems for all new and refurbished buildings. Work done since has enabled a small wood-chip supply business to start up. Barnsley is also powering their main depot with wood-chip supply from tree waste in their parks.

<http://www.idea.gov.uk/idk/core/page.do?pagelid=24065124>

### **Bournemouth Borough Council: Biomass Boiler**

The council biomass boiler will supply heat to Kingspark Nursery greenhouses and poly tunnels. The fuel will be local authority derived fuel. This is the first biomass boiler installation for Bournemouth Borough Council. The system will be fully operational by Q1 2011.

<http://www.imperativeenergy.com/index.php/news/news-article/bournemouth-county-council-choose-for-first-ever-biomass-boiler-installatio/>

### **Bristol City Council: Biomass Boilers**

The city council has installed three biomass boilers and is looking to install more. The first biomass boiler installation, at Blaise Nursery, won the RegenSW Green Energy Award for 'Best Renewable Energy Project in the South West'. It is also the South West's first wood fuel station, processing wood chip for other biomass boilers installed by the council.

<http://www.bristol.gov.uk/ccm/content/Environment-Planning/sustainability/energy-renewable.en?page=4>

### **Worcestershire County Council: Biomass Installations**

Worcestershire County Council has installed 10 biomass boilers since 1996, saving about 1,300kW and 800 tonnes of carbon p.a. It has now developed its own internal funding mechanism to allow schools to take advantage of the Renewable Heat Initiative.

<http://www.idea.gov.uk/idk/core/page.do?pagelid=24068743>

## **OTHER INITIATIVES**

### **London Borough of Islington: District Heating Network**

Islington Council plans to create a borough-wide district heating network, initially to supply cheaper and greener heating to more than 700 homes and two leisure centres using a gas-powered combined heat and power energy centre. The council will procure and own the heat network, giving Islington the option for expansion in the future. A contract for the work is expected to be awarded in Spring 2011.

<http://www.idea.gov.uk/idk/core/page.do?pagelid=24988282>

### **Cornwall Council Ground: Source Heat Pumps**

In 2006 Carrick Housing began an ongoing programme to install ground source heating in rural properties that cannot get gas heating. Since then 311 properties in Cornwall have been retrofitted and seven council properties built with ground source heat pumps.

<http://www.idea.gov.uk/idk/core/page.do?pagelid=25213710>

### **Somerset Council / West Somerset Community College: Ground Source Heat Pumps**

Heat pumps from Danfoss UK were specified by Somerset County Council for the Skills and Enterprise Centre, which is situated at the centre of The West Somerset Community College. Installing the heat pumps is part of a £5.4m investment and will provide a renewable source of heating and hot water for the new building.

[http://www.plumbingpark.co.uk/plumbing\\_hvac\\_article12835.html](http://www.plumbingpark.co.uk/plumbing_hvac_article12835.html)

### **Newcastle City Council: Newburn Recycling Site Office**

The office building at the green waste recycling site in Newburn is a sustainable building of timber construction, and incorporates an under floor heating system fed by solar thermal panels and a ground source heat pump.

<http://www.newcastle.gov.uk/core.nsf/a/energykeyaimf?opendocument>

### **Nottingham City Council: Energy Park**

Nottingham City Council aims to build an energy park by 2013 to supply heat and power to local businesses using a variety of renewable technologies. It hopes to also attract sustainable businesses to locate at the site. <http://www.nottinghamcity.gov.uk/index.aspx?articleid=12940>

### **South Gloucestershire Council: New Council Offices**

The new Badminton Road offices include solar panels, natural ventilation, rainwater harvesting and a biomass boiler amongst many other eco-friendly features and facilities. Whilst the building is expected to save the council up to £1.3 million p.a. , the use of a biomass boiler is just one of numerous energy saving initiatives that are expected to cut carbon emissions.

<http://www.homeheatingguide.co.uk/blog/south-gloucestershire-council-building-wins-environmental-award.html>

### **London Borough of Barking and Dagenham: Millennium Centre**

Barking and Dagenham Council has been awarded a National Green Apple Award in recognition for its work around tackling the causes and impacts of climate change. The Council was commended for the environmental design and development of the new Leys Children Centre, Dagenham. The centre won the award for its innovative and effective design and the way it reduces its impact on the environment, cuts carbon emissions and slashes energy bills.

<http://www.lbbd.gov.uk/LeisureArtsAndLibraries/Parksandcountryside/Pages/MillenniumCentre.aspx>

### **London Borough of Brent: Sustainable Civic Centre**

Opening June 2013, Brent's new Civic Centre aims to be the greenest public building in the UK with an outstanding standard against the British Standard BREEAM (Building Research Establishment Environmental Assessment Method). Including rainwater harvesting, solar shading, façade performance and combined cooling, heating and power utilising waste vegetable oil.

<http://www.brent.gov.uk/brentciviccentre.nsf/Pages/LBB-1>

### **Hackney Wick Area Action Plan**

Hackney Wick could benefit from a 3MW biomass boiler, a 2MW wind turbine, and a variety of smaller scale renewable energy technologies integrated into the Olympic Park. The Combined (Cooling) Heat and Power (C(C)HP) engines located in the energy centre in Tower Hamlets, just south of the AAP area, will initially operate on natural gas but have the potential to be converted to run on syngas derived from biomass or from the non-recyclable biomass component of municipal or commercial waste.

<http://www.hackney.gov.uk/Assets/Documents/Hackney-Wick-Phase-1-AAP.pdf>

### **Newcastle: Geothermal Plans**

Newcastle and Durham Universities plan to sink a borehole 6,562ft (2,000m) below the planned Science Central site, in the city centre. Scientists hope the £900,000 project will result in water at a temperature of about 80°C being available. The water could be used to heat the site and surrounding city centre buildings. The project team is hoping to pump the first hot water in June 2011.

<http://www.bbc.co.uk/news/uk-england-tyne-12547313>

### **New North Kesteven Council: Homes**

North Kesteven District Council has opened five of 19 new homes after successfully bidding for House and Communities Agency funding. The five homes, which cost a total of £513,000 to build, were unveiled in Wellingore near Lincoln. A council spokesman said renewable technologies including air source heat pumps and solar thermal heating were used in the houses with a projected 44% saving in running costs for tenants.

<http://www.bbc.co.uk/news/uk-england-leicestershire-12416949>

### **Bradford Council: Europe's Largest Straw Bale Building**

Work has started on Europe's largest straw bale building, near Eccleshill, above the river Aire valley in Bradford. The £4m project will house a new community centre for a socially deprived area of east Bradford as well as 14 workspaces for small enterprise "incubators" for fledgling businesses. The complex includes a ground-source heat pump and a rainwater catchment reservoir which will supply lavatories, showers and water for plants within the building. Extra energy will be generated by a solar PV array on the roof.

<http://www.guardian.co.uk/environment/2010/nov/02/europe-largest-straw-building?INTCMP=SRCH>