

# Community Owned Renewables and Retrofitting

Can community owned renewable energy and retrofitting existing buildings play a part in reducing carbon emissions? The answer is a resounding yes. Almost half of all delivered energy in the UK is used to heat space in buildings<sup>1</sup>, and over a quarter of the country's carbon emissions are due to energy used in our homes<sup>2</sup>.

## Retrofitting

It is worth remembering that however high standards of energy efficiency in new buildings may be set, the existing 90% plus of housing stock and commercial buildings are unlikely to meet them. Thus there is a need for refurbishment and retrofitting. It is estimated that the market for retrofitting housing stock in the UK will be worth between £3.5 and £6.5 billion a year alone<sup>3</sup> whilst reducing energy wasted in heating poorly insulated property. Not only will the public benefit from lower fuel bills, but also by their reduced carbon emissions.

So what is needed to kick off this potential bonanza for small building firms? There is of course a skills gap. However, *The Manchester College* in Openshaw runs construction skills courses, and there is certainly opportunity for social enterprises to offer "green" building services. Findhorn Ecovillage in Scotland runs workshops and training in retrofitting and refurbishment for low and zero carbon housing<sup>4</sup>.

A new research project at Loughborough University seeks to investigate which low energy technologies for building retrofits may best appeal to the consumer<sup>5</sup>. Retrofitting has also been taken seriously within the EU, with economic and social benefits being examined and concluding that continuous commissioning can make a significant contribution to achieving its energy efficiency objective by 2020.

Manchester City Council set aside £1m to fund energy saving measures as part of the launch of its Climate Change Principles. The ten Greater Manchester Authorities are establishing the Manchester Climate Change Agency, which will also have a fund for renewable energy and potentially for community led locally based retrofitting projects.

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<sup>1</sup> Private communication from David Miliband (then Secretary of State for the Environment), 2007

<sup>2</sup> DCLG consultation on Green Homes Service, June 2008, see <http://www.communities.gov.uk/publications/planningandbuilding/epcnextsteps>

<sup>3</sup> <http://www.newbuilder.co.uk/news/newsFullStory.asp?ID=2549>

<sup>4</sup> <http://www.cifalfindhorn.org/>

<sup>5</sup> <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/G000387/1>

## Community owned renewables

### Wind Power

Baywind<sup>6</sup> at Ulverston became the first community owned wind farm in the UK more than ten years ago. £2m was raised through share offers to the local community and through wider networks. With over 1300 members, Baywind now owns six turbines in Cumbria, and has established Energy4All<sup>7</sup> to extend its co-operative ownership model throughout the UK. They claim that “ownership of wind farms by the community is the most effective way to maintain profits in the local economy, provide a sense of involvement and thus increase the grass root level of support for renewable energy and additional climate change mitigation measures”.

In the Dyfi Valley<sup>8</sup>, near Machynlleth, local people used various technologies in small scale schemes within a community renewable energy project. Of the 65 proposals received, 28 were offered grants, funded by the EU, Welsh Development Agency and others. Schemes completed so far include a hydro-electric unit, a solar thermal array, PV installations in social housing, and a 75kW community wind turbine.

### Combined Heat and Power (CHP) and District Heating (DH)

Some pioneering Local Authorities like Woking have already reduced carbon emissions by over 70%. There, a network of mini power stations, community heating schemes and roof-top photovoltaic cells supplies the Civic Centre, an adjacent hotel, and other customers with electricity and heat.

### Small Scale Hydroelectric Power

Closer to home is the Torrs-Hydro<sup>9</sup> scheme in New Mills. Using an Archimedean Screw at Torr Weir on the River Goyt, the falling waters will regularly generate 70kW of electricity, some 260000 kilowatt hours annually. This is also owned by the community and will provide a social dividend for the benefit of the community and contribute to the environmental sustainability of the area. Other benefits of the scheme will be to offer grants locally from its revenues, to develop an environmental education programme, and to contribute to the local economy.

### Communities in Control

Closer still is Wythenshawe Forever! This innovative initiative celebrated a community led low carbon lifestyle. Dubbed a “party without pollution”, activities included energy audits for residents, local theatre productions, organic vegetables grown by school children, and pedal powered photocopiers.

DCLG (the Department for Communities and Local Government) published a white paper<sup>10</sup> in June (currently out for consultation with responses closing at the end of October 2008). Amongst its wide range of proposals are encouragements for Community Land Trusts, Social Enterprises and

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<sup>6</sup> <http://www.baywind.co.uk>

<sup>7</sup> <http://www.energy4all.co.uk>

<sup>8</sup> <http://www.energysavingtrust.org.uk/cafe/casestudies/index.cfm?mode=listing&casecat=93>

<sup>9</sup> <http://www.torrshydro.co.uk>

<sup>10</sup> <http://www.communities.gov.uk/communities/communityempowerment/communitiesincontrol/>

the transfer of assets into community ownership. This legislative framework should benefit community renewable energy projects and offer scope for social enterprises specialising in energy efficient retrofitting.

## A challenge

Could there be an opportunity for hydro schemes on the river Mersey as it meanders through South Manchester, or even within the extensive canal network in the city? And what chance is there for urban community owned wind turbines or small scale CHP and DH schemes?

## Other useful links

- EST/CAfE – the Energy Saving Trust (looks at Community Action for Energy)<sup>11</sup>
- Building a Low Carbon Economy – includes recommendations to enable action<sup>12</sup>
- Carbon Trust<sup>13</sup> – advice and funding for businesses
- CAT<sup>14</sup> – the Centre for Alternative Technology provides many online resources and runs a telephone helpline

MCFLy's moles at the City Council say that they're excited and optimistic about the potential in this EU programme-

The “**Partnership Energy Planning as a tool for realising European Sustainable Energy Communities**” (PEPESEC) project will support the emergence of European sustainable energy communities through increasing the use of local community planning for the efficient supply, distribution and use of RES (Renewable Energy Sources) and conventional energy, demand-side management and associated mobility.

Over the period January 2008 to June 2010 the PEPESEC project will work to achieve this through widening the use of existing best practice energy planning methodologies (from Sweden and wider EU) and further develop these through the addition of innovative techniques to facilitate the involvement of citizens, politicians, market actors and other stakeholders whose buy-in and actions are required for effective plan delivery

**[www.pepesecc.eu/about](http://www.pepesecc.eu/about)**

According to Manchester Climate Change Agency Bulletin 1,

“An EU programme, Partnership Energy Planning as a tool for realising European Sustainable Energy Communities (PEPESEC) is looking at specific models across Oldham and Manchester. Initial work is being developed with the Housing and Planning Commission in developing a city wide energy plan looking at the most appropriate energy mixes for securing low carbon futures across the city region.”  
[www.manchester-enterprises.com/news/ManCCAB.html](http://www.manchester-enterprises.com/news/ManCCAB.html)

<sup>11</sup> <http://www.energysavingtrust.org.uk/cafe/what/>

[http://www.energysavingtrust.org.uk/generate\\_your\\_own\\_energy/types\\_of\\_renewables/hydroelectricity](http://www.energysavingtrust.org.uk/generate_your_own_energy/types_of_renewables/hydroelectricity)

<sup>12</sup> <http://www.defra.gov.uk/environment/business/commission/pdf/cemep-response.pdf>

<sup>13</sup> <http://www.carbontrust.co.uk>

<sup>14</sup> <http://www.cat.org.uk>