

**BRIGHTON & HOVE CITY COUNCIL**  
**SCRUTINY PANEL ON RENEWABLE ENERGY POTENTIAL**

**10.00am 18 JANUARY 2011**

**COMMITTEE ROOM 2, HOVE TOWN HALL**

**DRAFT MINUTES**

**Present:** Dr Adrian Smith, Councillors Morgan, Watkins and West

**Also in attendance:** Glynnan Barham (Energy and Water Manager), Karen Amsden (Scrutiny Officer), Giles Rossington (Senior Scrutiny Officer) and Jonathan Barton (Scrutiny Intern)

**PART ONE**

**6. PROCEDURAL BUSINESS**

There were no declarations of interest.

No party whip.

**7. MINUTES OF THE PREVIOUS MEETING**

The minutes of the previous meeting were agreed.

**8. CHAIRMAN'S COMMUNICATIONS**

The Chair opened the meeting by thanking everyone for coming to the second meeting of the scrutiny panel. The focus of the first meeting had been on national and regional issues. The focus of this second meeting was to look at good practice in other authorities and organisations.

**9. WITNESSES**

**Judith Beard** introduced herself as the Sustainability Policy Co-ordinator for Eastleigh Borough Council. Her role was to ensure that council operations delivered sustainable economic, social and environmental policy.

There was a strong commitment by Eastleigh Borough members to deliver sustainability. The Council's climate change strategy aimed to make the borough carbon neutral by 2012 and they were a signatory to the 10:10 campaign.

Eastleigh had no housing stock so were showing strong leadership in developing renewables on council owned property and in partnership with privately owned properties

The Get Set Trail aimed to get renewable energy (RE) in public places. So far plans included installing solar Photovoltaic (PV), solar thermal, wind turbine and ground source heat pumps in two country parks. In 2007 a Combined Heat and Power (CHP) system was installed at a leisure centre providing heat and electricity for the leisure centre and heat to the Civic Offices. They were also looking at for micro-hydro and micro-CHP to add to this scheme. However, research conducted into micro wind turbines concluded that they are not worth pursuing in the district of Eastleigh. This highlighted the importance of conducting good research. They were currently piloting a micro-CHP scheme to assess its usefulness.

Currently the Council had a commitment to RE but had not set targets. They offered low cost loans which were originally designed to help low income homes carry out home improvements and energy efficiency work, but the scheme had been expanded to include funding for RE projects. The loans were designed to help residents with the initial costs of installing RE, because initial costs often discouraged residents from installing their own projects. The Council provided information for residents on their website and through their local paper Borough News.

Their Green Energy Reserve Fund was set up in 2001/2, because the Leader wanted to have money to put towards energy efficiency works and RE in community buildings and settings. This had resulted in energy audits of a range of community buildings being carried out to assess which form of RE would be suitable. The Fund could also be used pay for planning application fees for any RE retrofits, but in most cases this was now only needed in conservation areas or for particular technologies.

#### Solar PV and the Feed in Tariff (FIT)

Their focus was on council owned buildings as they did not have any housing stock. At the same time they are working with Registered Social Landlords (RSLs) to encourage them to put RE on their housing stock. They have identified which council buildings were suitable and were looking at either doing the work themselves or renting roofspace to another organisation. One consideration is whether we look to put any profits from installing PV on our own buildings into a community fund to pay for additional RE projects in community settings.. A cabinet decision on this would be made in a few months.

An on-shore wind assessment confirmed that the area was not really suitable, so the Council is not considering this.

The most time consuming part had been the tendering process, in particular the legal and finance issues. For example they installed a large wind turbine in a country park which has not performed as expected. They had a good working relationship with the company, but think that the Council should have included something in the contract about expected performance.

The Council was considering setting RE targets for its own buildings, but think it would be too difficult to set targets RE for the wider community although will continue to show leadership, work in partnership and influence where possible.

They have a combined heat and power installation which links the leisure centre and the Civic Offices. Would like to try and extend it to other buildings such as local hotels.

They were planning to carry out a heat mapping exercise e.g. to assess the potential for CHP in town centre linking a proposed new hotel and council buildings. The Council was having regular meetings with Cofely .

To date the Council had not experienced any capacity issues with RE, but with PV there would be a time lag both with the provision and maybe the installation due to demand starting to outstrip supply. They felt that FIT had given the impetus and led to setting targets for increasing renewable energy.

The Council split its time equally between energy efficiency, which was especially important for those in fuel poverty, and RE. One of the Council priorities was to be carbon neutral in key business activities. The Council had set up CarbonFREE (Carbon Fund for Reducing Eastleigh's Emissions. More information can be found here:

<http://www.eastleigh.gov.uk/waste-recycling-environment/sustainability/carbonfree-fund.aspx>

As part of the Environmentally Sensitive Development Supplementary Planning Document (SPD), developers are expected to source a certain % of the required energy for the site from renewables. If this was not feasible, then the developer had to contribute to CarbonFREE. This was just starting and has not been tested yet.

*Q: This is fantastic work, how is CarbonFREE being funded?*

JB: CarbonFREE is a fund where the Council and others can compensate for their carbon emissions. Money from the fund currently pays for loft and cavity wall insulation in private homes for those who are not eligible to receive free insulation via other schemes. The fund was established as part of the Council's commitment to be carbon neutral in its key business activities by 2012. The Council must compensate, at a rate of £20 per tonne, for any carbon emissions that it cannot avoid. Local people and businesses are also invited to compensate their own emissions through this fund. More information can be found at the link detailed above.

*Q: How have you overcome difficulties with the planning process?*

JB: There have not been many difficulties as all of the applications have been able to provide sufficient renewable energy on site. The SPD will be used if the developer cannot provide the required renewables on site. In this instance the developer will be expected to make a suitable contribution (achieved through a Section 106) into CarbonFREE. This money will be spent on either energy efficiency or RE on community buildings local to the development.

*Q: Were there any organisations/resources that were helpful to you when setting this up?*

JB: As an early adopter, they have had to learn as they went along, although have also learnt from the experiences of Southampton. They have been more in control of the CHP installation, but when putting up a wind turbine in 2001/2 they thought it would be easy and may have missed some things in the process. They are part of a large scale insulation programme with other District Councils and Hampshire County Council. Regular meetings with other District

and Hampshire County Council, as part of a Climate Change Officers group, have also proved extremely helpful.

**Chris Rowlands** introduced himself as a Director of OUVESCo (Ouse Valley Energy Services Company Ltd) and an active member of Lewes Transition Towns. He gave a shortened version of the presentation which can be made available on request from [scrutiny@brighton-hove.gov.uk](mailto:scrutiny@brighton-hove.gov.uk)

OUVESCo was set up in 2007 by Transition Town Lewes and became an Industrial & Provident Society (IPS) for community benefit in 2010. It runs a renewable energy grant scheme, participates in the **Isn't it Bonkers** campaign and has held eco open homes. They were currently doing a lot of networking and energy efficiency consultancy. Their aim was to increase local empowerment and local ownership.

The benefits of being an IPS included:

- The ability to issue shares, which local authorities can invest in
- Public tax benefits
- Could also look to bring in extra money e.g. through an ethical bank

There was a lot of interest in Lewes in investment.

He outlined the stages that Brighton & Hove would need to go through, which included:

- Finding feasible sites
- Working with partners e.g. schools and local businesses
- Engaging the community
- Installing appropriate technology

The key sources of funding included:

- FIT
- Renewable Heat Incentive (RHI)
- Selling energy

For OUVESCo, the aim was that the community gained the return rather than big banks. A % goes back into other projects and enabled them to continue to provide energy advice. They wanted to build up a portfolio of projects and become financially sound as the grants come to an end.

An example of a project OUVESCo was working on at the moment was to install 550 Solar PV panels on an industrial estate. This would represent 980KWh and the total worth of the project was £360,000.

Their key focus was on Solar PV. In the past had carried out a study on hydro power, but because of FIT – Solar PV was easier and they were seeking further partners. They were already working with a range of partners including the Brighton Energy Co-op. This year they would be undertaking their first share issue and getting their first project off the ground.

*Q: How do you think that BHCC can help community energy?*

CR: The Council could help in the following ways:

- with expressions of interest
- investment – councils are able to borrow at relatively low rates, this could finance 50% and then other 50% from the share issue. This can be profitable for Councils
- pilot projects to show how RE can work
- help at the early stages – they were helped by Energy for All

*Q: Did any conservation issues arise when you tried to set up a hydro project at Barkham Mills?*

CR: The chief concerns were raised by anglers, even though they were looking at fish-friendly installations. This project is on hold, but would like to look at the site again. But FIT had now made PV and other technologies more attractive.

*Q: Do you think you will be able to attract sufficient community investors?*

CR: Do not anticipate any problems. For example, Energy for All were oversubscribed. They will be offering a 4% rate of return and tax incentives, which was so much better than banks.

*Q: What is the structure of OUVESCO?*

CR: It will be able to take on employed staff, if the funding comes through for a grants funding person (this bid for ERDF funds via the BER has now failed, but OUVESCO is seeking alternatives). The partnership between Lewes and Acorn has produced a list of most suitable sites for RE and a list of potential council buildings. Currently the most viable projects are to install solar panels on industrial estates. My post was funded by GOSE to deliver the grants scheme, and have given out £500,000 in grants.

*Q: There are different models for how to install and run RE projects, what is your USP?*

CR: The investment from the community in RE. This will come either because they believe that RE is a good idea, or they are attracted by the rate of the return. This will include people who cannot personally have PV installed. The PV for free schemes on offer now may seem less attractive or reduce in number if FIT rates go down. Investing in community RE can also be good PR for commercial partners.

*Q: Although your current focus is on industrial units, would you consider installing PV in fields?*

We would only consider this as a suitable scheme for an IPS if it was in an area where there were too many fields, as really want to focus on the tops of buildings.

**Michael King** introduced himself as working for the Combined Heat and Power Association (CHPA), a co-founder of Aberdeen Heat & Power (a not-for-profit ESCo) and retained by organisations including the Homes & Communities Agency, Energy Saving Trust and local authorities such as Islington Council and Huntingdon Council.

He explained that District Heating (DH) had the following advantages:

- Scale - so could use technologies which would not be available to single buildings

- Different users use power and different times of day, so you could aggregate the power. This meant a smoother load curve and a more efficient use of energy
- Better fuel utilisation and longevity of installation

Combined Heat and Power (CHP) was a process to capture waste heat from electricity generation to use it for heating purposes. CHP could be offered at different scales ranging from power station level to individual buildings. The advantages of CHP included:

- Carbon savings
- Improved energy security as the power is coming from a range of sources
- Greater affordability - 80% of the country is reliant on gas for thermal needs and CHP enables it to be reused more efficiently.
- Enabled local heat distribution which can increase local control and accountability.

He believed that the RHI would not currently benefit CHP at all, as it was gas fired. However the RHI rules may be changed in the future. Electricity was a higher value energy and the RHI would incentivise providers and suppliers to collect waste heat and supply heat. This could lead to renewably fired DH systems.

He felt that it could be difficult to look for funding for renewable energy to finance CHP as gas is understood and banks willing to loan money for such projects. With green technologies it was important to use the advantages of scale e.g. if you halve the diameter of a wind turbine then you reduce the energy produced by eight fold.

DH projects could not be done everywhere because they were:

- Location specific, requiring a density and diversity of buildings
- Dependent on an anchor load (single large consumer) e.g. hospitals, leisure centres or universities

In dense urban areas one could have both DH and biomass.

The key ways that a local authority such as BHCC could enable a DH scheme would be to:

- Incorporate it into the planning framework, this reduces the project risk and capital costs
- Assist with the financial modelling
- Enable the project by offering its own buildings as an anchor load. In Aberdeen this was high rise social housing estates, these were done in clusters and then joined into a ring main to give them resilience and energy security.

He felt that the local authorities are key to making DH projects happen. The planning process was essential in seeking innovative ways to fund DH projects. Firstly, in committing own buildings as loads, which could greatly reduce costs through prudential borrowing.

With new buildings, developers could be expected to pay into a renewable fund if they cannot achieve zero carbon in their buildings and then this could be used to fund schemes such as DH.

Examples included Huntingdonshire where developers who could not achieve 70% carbon free, then pay into a local fund – Allowable Solutions. In St Neots this could bring in £17m to

spend on a district heating network for an eco-extension to the town. This could bring a lot of opportunities for innovative funding solutions.

It was possible to involve communities because they want heat which is:

- Affordable
- Reliable
- Controllable

Heat which was clean and green is an added benefit to them. At first it was difficult to get such high level skills as these projects are very big and complex. But now the community was ready and it was all local people on the Board and this was a community owned co-op. However one needed a focussed board, because the project can be compromised if the accountability was made too wide.

*Q: Is it more expensive to put DH in existing cities?*

MK: New build is cheaper because it is a soft dig and other utilities can be installed at the same time. However, new buildings require less heating and there are risks associated with the build-out – if the infrastructure is installed but the houses don't get built because of a dip in the housing market then there are no revenues to support the capital investment. It can be less risky to use existing stock as the loads are high and established. For example in Aberdeen it had been installed in flats which were system built and the infrastructure can be put in the same place. In terraced housing, each home has to be bespoke e.g. the boilers are in different places making the project more complicated and raising costs. If the property has a preservation order on it, this can be very expensive. However, it may be the simplest and cheapest way of making such a building zero or low carbon.

*Q: Who benefits from shared heating?*

MK: DECC have agreed that it is a cost effective way of reducing carbon but can cost between £4,000 to £6,000 to install. Major social landlords can plan long term to cover the upfront costs, knowing that they will save money in the future e.g. not having to replace condenser boilers. But this is harder for individuals and smaller landlords. Private landlords are less likely to put the money up front.

Using a not-for-profit model when you reach the limit of where you can ship the energy you have produced into higher density areas, then you invest the revenue raised back into extending the network into lower density areas and build out organically.

In a city such as Brighton, the key was mapping possible cluster areas such as the Brighton Centre and hotels that are in a close enough proximity to serve as anchor loads.

**Sayed Ahmed** introduced himself as a Consultant with Arup and told the panel that the RE market changes over the last 10-15 years have been largely driven by the introduction of policy mechanisms to help support the funding of renewable technologies. He believed that local authorities were critical to delivering the national and European RE carbon reduction targets. He felt that it was vital if local authorities were to set out carbon reduction plans and targets for their areas that they look at all areas of mitigation, weighing up the best - most cost effective - opportunities for reducing emissions (carbon abatement costs). In general their first focus

should be on energy efficiency solutions followed by consideration of RE and other decentralised energy systems.

He believed that gas CHP had a future in urban areas of high heat density as a transitional carbon reduction technology. The use of gas CHP could help deliver heat networks which in turn could then be used for renewable energy options as they became more widely available.

When he worked in the GLA, their hierarchy was to:

- Reduce energy
- Use low carbon technology – consumers need to understand how much CO<sub>2</sub> is used by different technologies
- Increase use of RE

This approach was known as ‘be lean, be clean, be green’.

He believed that a council should become involved in RE to:

- Reduce CO<sub>2</sub>
- Increase energy security
- Become a player in the energy market as Ofgem have predicted that energy prices are expected to increase by 20% or more over the next decade

#### Ways of funding RE

These included:

- Sophisticated energy procurement processes would be able to deliver energy savings to Councils. With political support, these savings could be put into a pot to fund energy efficiency and renewable energy measures.
- Working with Salix to install energy efficiency measures and similarly use the savings to set up funds for RE.
- Allowable Solutions which would lead to zero carbon developments – allows for planning authorities to accept funds from developers to support the development of carbon mitigation measures elsewhere in the local authority area. Similar revenue raising powers for district heating are allowed in the new Community Infrastructure Levy (CIL) programme
- Local authorities could also work with Partnership for Renewables (PfR) to help unlock renewable energy opportunities in buildings and land they own

Local authorities also needed to be considering carbon reduction opportunities in the longer term. For example, undertaking heat mapping to determine how an area wide DH scheme could be gradually built up over a period of say, 10 years rather than just a series of smaller building based heat networks.

The range of technology options can be confusing and additionally the cost-effectiveness of these options are heavily dependent on the subsidies available. The majority of RE schemes which have come forward are as a result of funding schemes introduced either at the national or local level. 2010 has seen the most dramatic growth of smaller scale RE systems as result



of the introduction of the Feed in Tariffs (FITs). Since April 2010 there has been a 10 fold increase in PV installations when compared to the previous year.

As a result of the FITs – and also the soon to be introduced RHI - other technology options should be increasingly available to local authorities. The use of anaerobic digestion and biomass heating technologies has significantly expanded in a number of other EU countries. However, there are likely to be limitations in their use in urban areas, especially in relation to the use of large numbers of individual biomass boilers in cities due to air pollution concerns. However biomass use could be enhanced through the use of heat networks and larger heat/CHP generation plants which could utilise the state of the art abatement equipment. To achieve a significant reduction in emissions. Brighton and Hove will need a range of technologies across the city. Investment in such options could be kick started by a number of available funding programmes. These could include:

- The Carbon Emissions target - that will present opportunities for funding. Allowable solutions- that would lead to zero carbon developments.
- The Community Infrastructure Levy (CIL)  
<http://www.pas.gov.uk/pas/core/page.do?pageId=122677> – a requirement similar to s106 - could be put on developers and used for connecting to DH schemes
- Energy from waste was likely to become a key opportunity, but there are likely to be significant planning difficulties.

He felt that the barriers to RE had shifted over time. FIT was now a game changer and would increase microgeneration. There were big opportunities for schemes up to 5Mwe under FIT rules, but despite the significant funding available, these larger schemes would still be difficult to develop.

It was essential for local authorities to build up good relationships with distribution network operators (DNOs), as they could see CHP or RE systems as a potential difficulty in relation to their duty to manage the local electricity supply network and hence may not help to get such schemes on the system. The Low Carbon Network Fund (LCNF) had been established to enhance innovation. This pot of £500m, over the period 2010-2015 was to look at innovative ways of supporting investment in local networks. The council should explore opportunities with their local DNO under the LCNF.

*Q: I am struck by your emphasis on opportunities, how important is leadership?*

SA: There is a need for local authorities to become nimble in this field and look at the skills they need, including the ability to work with developers.

Local authorities who lead in this area have all had strong political leadership which has:

- Allowed a period of time for opportunities to grow and for projects to succeed e.g. planning process
- Given clear leadership and confidence to developers
- Used the learning from early projects to roll out further ones

*Q: This is an important area, but not a traditional one for the council. How can the staff and leaders be upskilled to understand how to deal with what is a big business?*

SA: Some authorities such as Southampton, Sheffield and Aberdeen have those skills now and are sharing best practice. Local authorities can now get 3 days of free consultancy from the Energy Savings Trust (EST), from Michael King. This area may seem new to councils, but 100 years ago energy supply was an area of their responsibility - before the National Grid. Now central government want to see Councils taking a role in both local and low carbon grids.

ARUP was working with EST on a low carbon strategy – which aimed to help authorities understand where these opportunities are.

*Q: There is not much industry in B&H, would this make it harder?*

It is likely to be more piecemeal, but communal heating can be introduced to high density areas. Other technologies would include ground source heat pumps and biomass heating systems.

**Jae Mather** introduced himself as the Director of Sustainability at the Carbon Free Group (CFG), which was a private company specialising in low carbon solutions.

He showed the Panel some slides on the developing technology of renewable energy. Then he described an example of St Margaret's at Cliffe who had looked at what it would take to power their village. The technology that seemed to make sense was large scale wind which would provide a reasonable return using Renewables Obligation Certificates (ROCs) see <http://www.ofgem.gov.uk/Sustainability/Environment/RenewablObl/Pages/RenewablObl.aspx>. However the community chose electric biomass because it did not like large scale wind. CHP did not make sense either in this community.

This had been assessed by the Building Research Establishment (BRE) and DECC as one of the best examples of a community energy project, but they have needed to seek private finance. Now have 3 financiers lined up, but need the first £0.5m. They would also like to burn waste wood, as at the moment 35,000 tonnes of wood was being incinerated by Kent County Council. This scheme could make a lot of money. The aim would be to then return a % of the profits to people who live in the community and set up a Community Interest Company. Another scheme they were considering was the anaerobic digestion of food waste which was currently being landfilled and using a biogas vehicle to collect the food waste. They were also looking at voltage optimisation in the village and want to work to a 10-12% fuel reduction in every building. This is not being done with OFGEM and EDF were not interested, because of the 10% reduction in their income.

His key point would be that if you do a project right it does not cost anything and makes money.

Jae had worked with all forms of RE technologies because of the focus on finding the best for each place. However Photovoltaic Thermal (PVT) was growing like wildfire because of the 9 year return. This form of technology was very new and only supplied by CFG and Newform Energy (the sister company). It was Microgeneration Certification Scheme (MCS) certified and as such qualifies for both Fit and RHI income. When it was combined with a special water sourced heat pump (WSHP), could offer a complete off gas grid year round heating solution that was zero carbon with the addition of renewable electricity.

He felt that the business case was always the best way to kickstart RE projects, including:

- Income stream
- Carbon offsets

He felt that the biggest barrier to RE was lack of vision. The UK was one of the most risk averse nations in the world. But this had to be done to meet European targets and respond to out of control oil prices and peak oil.

*Q: Despite the aversion to risks, there does seem to be significant paybacks for such projects. How can you enthuse people about such projects?*

JM: Based on my local authority background, I would recommend aiming high which could then see the project get marginalised to a medium size. He felt that the UK was ignoring the RE work being done in Europe. Kirklees was a great example of carrying out a large scale project. They were able to retrofit 10,000 homes after putting £3 on the Council Tax.

*Q: What does voltage optimisation mean?*

In the UK electricity is transmitted down power lines at 240v, in reality this figure fluctuates between 240v – 250v. Up to 12.5% of energy is lost through heat, vibration and harmonics. This figure is lower in Europe. By stepping down the voltage to 209v residents can expect to save up to 10% on their energy bills as a result of greater energy efficiency.

Energy companies have been reluctant to step down the voltage themselves. To combat this problem voltage optimisers can be fitted within the local authority boundaries. These can be installed near transformer stations and result in greater energy savings.

*Q: Given your local authority experience, do you think we should employ a specific officer on this issue. Do you think we will be getting the right advice or will we need to buy this in?*

JM: This kind of knowledge usually has to be bought in, due to the ever changing knowledge needed. If someone is good they will leave and go and work in a private organisation e.g. Arup. However I do know that you have some very skilled people in B&H

## 10. DATES OF FUTURE MEETINGS

## 11. A.O.B

The meeting concluded at 12.00 noon

Signed

Chair

Dated this

day of