

Hampshire County
Council / PUSH

**Hampshire Energy
Strategy**

WORKSHOP NOTES

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July 2009

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1 Hampshire Energy Study Workshop

1.1 Introduction

A workshop was held on the 26th June 2009 in Fareham for the Hampshire Energy Study. This work looks to build on a piece of work previously undertaken for the Partnership for Urban South Hampshire, a 'feasibility of an energy and climate change strategy'.

This workshop looked to take participants through a step progression leading from evidence on the way Hampshire uses energy, through to the ways in which emissions can be stabilised and reduced. Two sessions were held at the workshop in which specific questions were put to the attendees.

The responses to each question put forward at the workshop have been analysed below.

1.2 Session 1

1.2.1 Question 1 - The concept of the wedges, and the key 8 opportunities for intervention that were identified, how useful do you find these?

There was general support seen from all attendees as to the way in which the wedges helped highlight key choices. However, this support was supplemented with both positive comments, concerns regarding the wedge concept and suggestions for the use of the wedges. These comments were both general and wedge specific.

Positive comments include:

- The wedges are useful for focusing on where civic leadership can be effective; and
- It is believed that the wedges will enable the consideration of potential impacts against the level of influence and that the concept allows for the identification and prioritisation of issues and opportunities;

General and wedge specific concerns identified regarding the wedge concept and the key eight opportunities for intervention include:

- Concerns were raised over the perception of the wedge concept, and the difficulty in seeing how individual behaviours fit into the process;
- There was the perception that the concept will be seen as not deliverable;
- It was questioned as to whether this subject should be looked at in terms of consumption, rather than the wedges;
- Comments included the need to consider the financial costs and benefits of achieving results associated with each measure;
- A comment was made relating to a possible assumed over reliance on enabling legislation associated with individual measure within each wedge; and
- It was believed that the wedges may be too strategic and high level thus may have limitations.
- A wedge specific concern was expressed in relation to the waste wedge regarding the accuracy of the data, as Hampshire is not recording energy from commercial waste. It was also felt that the potential importance of community waste was underestimated.

General and wedge specific suggestions made regarding the wedge concept include the following points:

- It was believed that the 'Greening of the Grid' wedge could be combined with the EU and National Policy wedge due to the overall lack of influence at this scale that Hampshire can exert;

- The wedges should be ordered so that the 'quick wins' should be first;
- It was suggested that the individual time frame for each wedge should be looked at;
- It was suggested that it may be better to highlight where local communities/local authorities can identify the greatest difference.

1.2.2 Question 2 – Are there any opportunities that should be excluded from further consideration?

There was a general split between responses to this question. On one hand it was identified that there is the need to prioritise rather than eliminate specific actions and on the other hand there was a broad recognition that opportunities may be limited to exercise influence over activities concerning the “greening of the grid” and “EU and National Policies”.

In addition to the overall response to this subject it was identified that there are limits on the ability to influence transport actions and that the Defra Waste Strategy was being implemented anyway irrespective of the energy agenda.

1.2.3 Question 3 - Are there any major opportunities that you think have been missed from this list?

A number of opportunities/actions were identified by respondents to be accommodated within the definition of the existing wedge and are set out below by the specific wedge which they relate to. In addition a number of non wedge specific opportunities or actions were also set out and can be seen below.

- In terms of the Greening of the Grid wedge opportunities identified include:
 - Recycling;
 - The facilitation and planning of tidal power;
 - Ground source heat pumps;
 - Combined Heat & Power (CHP) – in terms of the best return on commercial developments and critical mass
 - The heat mapping of public sector business;
 - The exploration of partitions; and
 - The contribution of micro-generation in greening the grid.
- In terms of the Code for Sustainable Businesses wedge opportunities identified include
 - Transport - not just the uptake of alternate fuel vehicles;
 - Changing behaviours and education;
 - The reuse of materials and the reduction in new manufacturing e.g. in construction.
- In terms of the Retrofit Domestic Properties wedge opportunities identified include:
 - Grants;
 - Education;
 - The need to work in partnership with other local authorities and energy companies/ housing associations;
 - Retrofit council owned stock;
 - Ring fence funds from council tax for retrofitting.

General opportunities identified by respondents not specifically relating to an individual wedge include:

- A public procurement wedge – looking at the local provision of supplies and services;
- The role of changing the behaviour and lifestyles of business and people in the use of transport, use of buildings (e.g. the higher per capita use of energy by single person households) – “wear more sweaters”;
- The contribution of waste management to greening the grid and other wedges has been significantly underplayed and can make a major contribution;
- Contribution of heat networking systems to existing buildings – CHP etc;
- Leadership and partnership working: The use of Local Area Agreements/ Sustainable Community Strategies / Local Strategic Partnerships;
- Two groups identified the role of the agricultural sector - encouraging farmers to grow “energy crops” impact of meat eating; and
- There was a recognition of the cross cutting impacts of certain actions: biomass contribution, behaviour change;

1.2.4 Question 4 - Which do you think are the most important of these opportunities, in terms of what we can do in Hampshire to maximize our impact and deliver a reduction in CO² emissions?

The consistent theme across all respondent groups was the prioritisation of measures relating to retrofitting both domestic and non domestic property. In prioritising the retrofitting of both domestic and non domestic properties it was believed that there is an opportunity for this to specifically take place on public sector buildings. However, it was identified that in order to undertake this task behavioural change would be required.

It was generally seen across groups that the waste and transport (including green transport and transport in the wider sense) wedges were next to be prioritised.

Generally the Greening of the Grid and the EU and National Policy Changes wedges scored lowest in the ranking of opportunities as it was believed that some of the biggest reductions have the least opportunities to exercise influence e.g. greening the grid but although some contribution could be made to this wedge.

It was believed by a group that in terms of the code for sustainable businesses these issues will be dealt with through national regulations and therefore there is little local opportunity to add additional requirements.

In addition to the prioritisation of opportunities for influence, cross cutting actions were also identified, for instance getting the Local Development Framework (including the Mineral and Waste Planning Framework) “right” will feed into a range of other actions.

It was identified by a group that ‘Behavioural Change’ is missing as a wedge.

1.3 Session 2

1.3.1 Question 1 - Thinking about your top priority, what is the scope for local government leadership to make this happen?

In answering this question, groups were generally seen to set out comments relating to their previously prioritised wedge opportunities. Six out of the seven of the groups commented on retrofitting domestic properties, two groups commented on waste management, with single groups additionally making comments relating to the code for sustainable businesses, the code for sustainable homes, greening the grid and the retrofitting non domestic properties. In addition, further general cross cutting comments were highlighted as set out below in section 1.3.1.6. The comments made as to the scope for local government leadership to make things happen have been set out below by wedge specific comments and general cross cutting themes.

1.3.1.1 Retrofit Domestic Properties

- Kirklees Council was cited as a good example by funding the full cost of insulation works;
- It is believed that an improved fuel poverty programme could make significant efforts;
- It was identified that heat maps can target efforts and understand opportunities – through proactive planning;
- Financial - The access to grants should be made easier. In addition, it was identified that levy's should be placed on energy companies to deliver local improvements. Funds from council tax for retrofitting properties should be ring fenced.
- Education should be used to change behaviour;
- Partnership working should take place with other Local Authorities / Housing Associations and Energy companies
- Retrofit council owned stock;
- Focus on and target particular areas, customers with the biggest impact – elderly; people on benefits;
- Outcome/project based partnership working should be the most effective as Hampshire's communities are quite diverse and one size does not fit all;
- Leadership and partnership arrangements based on stakeholder analysis i.e. who has the biggest influence, who holds or has access to resources etc; and.
- Communicate a clear message - be clear about what actions produce what e.g. double glazing, loft insulation, cavity wall insulation, condensing boilers.
- It is believed that it is difficult for Local Authorities to influence although it is believed that this is a serious issue that needs to be tackled.

1.3.1.2 Waste Management

- There is the ability to make decisions on waste management facilities, and to influence commercial waste companies could provide the best opportunities;
- It is believed that there is a need for Local Authorities to work together to understand the issues, opportunities and implementation around planning for waste infrastructure and in terms of this link to the Local Development Framework e.g. incorporate measures into new developments such as the SDA's combined with behavioural change / public attitude

- Influencing the developers – plan for construction waste regulating and disposal and easier licensing arrangements (i.e. waste, site license). Consider small local schemes to recycle waste and convert to energy to localise energy generation;

1.3.1.3 Code for Sustainable Businesses

In terms of the Code for Sustainable Businesses wedge, the following opportunities were identified for action by local government leadership:

- Use the leverage of the planning system;
- Encourage renewables such as GSHPs (especially on larger industrial sites);
- Develop energy networks to support public buildings, following which the private sector can piggy bank on the system;
- Investment by public authorities in renewable energy possibly on their own land – working in cooperation with other authorities to set an example.

1.3.1.4 Retrofitting Non Domestic Properties

- The following actions were identified in relation to what local government leadership should make happen in terms of retrofitting non domestic properties:
- Our own estate – “need to demonstrate we practice what we preach”;
- County leadership is required in terms of communicating and enabling requirements;
- It is believed that schools (particularly older Victorian schools and Sixties) are a serious issue to tackle, however, it is noted that this is difficult for Local Authorities to influence;
- The importance of local CHP networks built around council and civic buildings was noted; and
- Relevance of the HCC Climate Change Commission on ‘adaptation’ was identified.

1.3.1.5 Greening the Grid

Comments identified of relevance to the Greening of the Grid include:

- Changing the grid and pattern of fuel sourcing and usage; and
- It is believed that biomass may not be the solution; a balance of EFW heat generation against biomass opportunities (re location dependent) is required. In addition, it was identified that tidal power may not be the answer.

1.3.1.6 General Cross Cutting Themes

- The establishment of a partnership through Hampshire Senate was identified which would bring on board other major players. In addition, it was identified that there is a need to bring the committee along with this agenda;
- Common LAA targets on Energy & CO² emissions across the 3 LAA’s, however it was identified that MAA for PUSH is a ‘red herring’;
- It is believed that there is a need to identify a marketing approach to advising SMEs which would be linked to financial savings e.g. seminars. In addition the need to facilitate ‘mentoring’ schemes for large businesses to help SMEs was identified;
- Promote schemes and free expertise (package of information);
- It was suggested that experts in LAs engage with developers to encourage renewables / low carbon buildings (development control);
- It was suggested that information and routine communications would be given to businesses via Environment Health; and
- Instigate energy schemes such as CHP and sell to local businesses.

1.3.2 Question 2 - What are the key things which would need to happen for this opportunity to be delivered successfully in Hampshire?

The responses to this question can generally be split into three broad themes which cover financing or county level leadership to deliver opportunities successfully in Hampshire. In addition, substantive actions were set out to deliver opportunities successfully in Hampshire. As can be seen below we have detailed all responses to this question under the three main themes identified above.

Funding

- Evolve carbon fund or offsetting schemes to raise funds;
- Make it easier to facilitate access to grants for insulation, in particular in private sector;
- Public investment in infrastructure (European, central government, or local where possible);
- Coordinated and planned commercial investment eg CERT, Community Infrastructure Levy (CIL);
- Messages and actions should be recession proofed;
- Needs some form of financial stimulus to get businesses on board; and
- It was questioned if £200 a year could go towards paying for insulation.

County Level Leadership

- Use the SHECANE and procurement group to develop and deliver;
- Consider the role of members in prioritization;
- The role of PUSH in relation to the County as a lead on taking issues forward was questioned. It was suggested that a PUSH sustainability panel could become Hampshire wide and take the lead;
- Identify leadership – who does what and at what strategic level;
- Establish who is doing what already and the need for co-ordination – examples include understand what the waste streams are;
- Get people together – need to streamline licensing etc;
- Joint ventures with private sector necessary;
- More empowerment of local government by central Government; and
- Identify best vehicles for delivering different programmes.

Substantive Actions

- The opportunity for districts to collect commercial waste was identified;
- There is the need for a cohesive and consistent planning framework, with delivery across districts, county and unitary authorities;
- Needs to be collective across PUSH for safer homes;
- It was suggested that all Local Authorities need to be signed up to recycling of construction waste;
- A co-ordinated campaign into the wider community to help secure behavioural change;
- There is a need to understand the rural urban dimension;
- Consider the potential for the use of thermal imaging across the country;

- Pilot approaches across Hampshire;
- Understand the profile between public and private sector;
- Create a direct route/directory through to grants information;
- Links needed to developers as well as waste disposal and waste collection;
- SDA good opportunity 2016;
- Setting up a Local Authority run consultancy to offer retrofitting advice to clients on a deferral fee (when savings made); and
- Look at the wider agenda – i.e. health agenda.

1.3.3 Question 3 - Which Partners should be engaged in managing and steering the successful delivery of this objective?

From the comments given the following groupings have been used to describe potential partnership opportunities.

Waste

- Integration must be supportive of the strategy but waste disposal authorities need to develop infrastructures with contractors;
- Collection authorities and commercial waste collection companies need to work on the strategy;
- Opportunity for districts to collect commercial waste; and
- Work is needed on whether energy efficient houses need heat and energy from waste plants.

Housing

- PUSH is working with other partners targeting priority areas link between, carbon reduction, fuel poverty, etc;
- Use the LAA process to breaks down barriers;
- All local authorities;
- Questions were raised in relation to who actually will deliver and develop strategy; and
- Strategy owned by partnership of DC.

Business

- Chambers of Commerce ;
- Enterprise networks;
- 40 largest businesses in an area to share information and assist SMEs;
- Existing sustainable business partnerships;
- GOSE / SEEPA;
- RIEP;
- Carbon Trust (for local initiatives) + E.S.T;
- Sub regional structures – HIOWLA, PUSH, the SENATE, LAA structures;
- Outcome/project based partnerships, as appropriate;
- District heating companies;

- Utilities – power, gas, water etc;
- District Las/County Council/ Unitaries;
- Housing Associations;
- Other public sector (health, police, fire etc), asset managers;
- Voluntary/3rd Sector;
- Government – GOSE;
- Gov Agencies – SEEDA, Carbon Trust, Energy Savings Trust; and
- Waste companies.

1.4 Consolidated Summary

This section attempts to stream comments under four separate headings aligned to the wedges. The consolidated summary is interspersed with comments which help reinforce participant comments or highlight gap areas:

Wedge Alignment	Public Sector Leadership Roles/ Strategies/ Participants	Financing/ Funding Sources	Opportunities for cross links to other wedges/ activities	Priorities/ Targeting/ Exclusions
	Session 2 Q1	Session 1 Q1 Session 2 Q2	Session 1 Q4	Session 1 Q3 Session 2 Q3
Waste	<ul style="list-style-type: none"> • Integra must be supportive of the strategy but waste disposal authorities need to develop infrastructures with contractors; • Collection authorities and commercial waste collection companies need to work on strategy; • Need to do work on whether energy efficient houses need heat and energy from waste plant. • District heating companies • Public sector asset managers • Utilities • Development of heat planning • Environment Agency – better relationship between regulatory and advisory functions 	<p>No waste specific financing comments. General assumption that it should be happening anyway through existing waste financing. .</p> <p>Recession proofing may be an issue in relation to the attraction of capital (both public and private) to fund waste infrastructure.</p>	<ul style="list-style-type: none"> • Waste can generate power for supply to the grid and heat for distribution through heat infrastructure to both existing/ new housing and business premises. • Business is itself a generator of waste which the districts could deliver. • Recycling of construction waste – needs all LAs to be signed up. 	<ul style="list-style-type: none"> • Influencing the developers – plan for construction waste regulating and disposal; ease licensing (i.e. waste, site license). Consider small local schemes to recycle waste and convert to energy – localizes energy generation.
Retrofit Housing	• Use SHECANE and procurement	• Coordinated and planned commercial investment e.g.	• The heat requirements can be supplied by heat capture and	• Use the LAA process

Wedge Alignment	Public Sector Leadership Roles/ Strategies/ Participants	Financing/ Funding Sources	Opportunities for cross links to other wedges/ activities	Priorities/ Targeting/ Exclusions
	<p>Session 2 Q1</p> <p>group to develop and deliver;</p> <ul style="list-style-type: none"> • PUSH – working with other partners targeting priority areas link between, carbon reduction, fuel poverty, etc; • Strategy owned by partnership of DC. • LA rationale for setting up an advisory consultancy on retrofit advice? • Utilities; Housing Associations; Fuel poverty; Energy Savings Trust • Development of heat capture and distribution 	<p>Session 1 Q1 Session 2 Q2</p> <p>CERT, Community Infrastructure Levy (CIL);</p> <ul style="list-style-type: none"> • Make it easier to facilitate access to grants for insulation – particularly in private sector. • Ring fence funds from Council tax to retrofit • Recession proofing – credit crunch is likely to impede access to capital for the purposes of energy efficiency 	<p>Session 1 Q4</p> <p>distribution/ networking;</p> <ul style="list-style-type: none"> • Domestic energy demand can be reduced by changing the behaviour of residents in the use of energy. • Link to fuel poverty work in relation to targeting • Opportunities for joint venturing with the private sector (already happening at PUSH level) 	<p>Session 1 Q3 Session 2 Q3</p> <p>breaks down barriers;</p> <ul style="list-style-type: none"> • Common LAA targets on energy and carbon emissions • Targeting – elderly; specific geographically defined communities (role of members in prioritisation) • Target marketing around a set of clear message - being clear about what actions produce what results e.g. double glazing, loft insulation, cavity wall insulation, condensing boilers
<p>Retrofit Non Domestic</p>	<ul style="list-style-type: none"> • Public authorities should invest in renewable energy supply on their own land and buildings to set an example – e.g. schools ; • Use planning powers to promote renewables and low carbon buildings (development control • Use Environmental Health route to communicate key messages • Instigate energy schemes such 	<ul style="list-style-type: none"> • No evidence of specific comments on how this would be funded. Implicitly relies on selling the benefits of energy efficiency to business to induce investment in energy efficiency or low carbon supply. • Comments assume that business would connect to a cost competitive local energy 	<ul style="list-style-type: none"> • Changing the behaviour of business through marketing the benefits of energy efficiency – financial savings 	<ul style="list-style-type: none"> • Promote schemes and free expertise (package of information); • Facilitate ‘mentoring’ schemes for large businesses to help SMEs; • Common LAA targets on energy and carbon emissions

Wedge Alignment	Public Sector Leadership Roles/ Strategies/ Participants	Financing/ Funding Sources	Opportunities for cross links to other wedges/ activities	Priorities/ Targeting/ Exclusions
	<p>Session 2 Q1</p> <p>as CHP and sell to business</p> <ul style="list-style-type: none"> List of potential partners implies a need to engage a wider leadership role through Chambers of Commerce; Enterprise networks; larger businesses; Carbon Trust, SEEDA. 	<p>Session 1 Q1 Session 2 Q2</p> <p>network if one were available.</p> <ul style="list-style-type: none"> Some scope for improving business access to grant funds but these are likely to be limited by State Aid provisions and other subscription plus future budget constraints <p>Recession proofing – cost and access to development capital</p>	<p>Session 1 Q4</p>	<p>Session 1 Q3 Session 2 Q3</p>
Code for Sustainable Homes	<ul style="list-style-type: none"> Code specification is set nationally Use leverage through the planning process – through the LDFs; Partnerships with developers 	<ul style="list-style-type: none"> Recession proofing – a concern must be the deferral or reduction of planning obligations in relation to energy to facilitate development happening. 	<ul style="list-style-type: none"> Link to new house building in the SDAs (and other significant housing growth areas such as the urban extensions) Role of longer term changes in behaviour – such as the formation of smaller households (with higher per capita energy use than larger households) Link to the creation of a heat capture and distribution infrastructure. 	<ul style="list-style-type: none"> Common LAA targets on energy and carbon emissions
Code for Sustainable Business	<ul style="list-style-type: none"> Use leverage through the planning process through the LDFs; Encourage use of renewables 	<ul style="list-style-type: none"> Recession proofing – what is realistically achievable planning gain 	<ul style="list-style-type: none"> Transport; Re use of materials in construction; Heat infrastructure (plus 	<ul style="list-style-type: none"> Common LAA targets on energy and carbon emissions

Wedge Alignment	Public Sector Leadership Roles/ Strategies/ Participants	Financing/ Funding Sources	Opportunities for cross links to other wedges/ activities	Priorities/ Targeting/ Exclusions
	<p>such as GSHPs (especially on larger industrial sites)</p> <ul style="list-style-type: none"> Developing energy networks to support public buildings – private sector can piggy bank on system; and Public authorities should invest in renewable energy possibly on their own land – working in cooperation with other authorities to set an example. 	<p>Session 1 Q1 Session 2 Q2</p>	<p>Session 1 Q4</p> <p>cooling where load sufficiently large and stable)</p>	<p>Session 1 Q3 Session 2 Q3</p>
<p>Greening the Grid</p>	<p>Developing energy networks to support public buildings – private sector can piggy bank on system (if CHP there are opportunities to supply power to the grid)</p>	<p>No specific comments made probably due to implicit recognition that investment for greening the grid will come through capital investment from the utility operating companies based on price settlements reached with economic regulators. Implicit recognition that some local generating capacity might be attached to the distribution network for power supply and a residual contribution from microgeneration but these will be funded by operators based on the soundness of their business case.</p>	<ul style="list-style-type: none"> Links to Waste used for the production of power Transport – assuming more electric cars Microgeneration installations Connection of Biomass/ Energy from Waste generators to the distribution network Facilitating links to a future tidal power scheme off loW.(comment probably reflecting improvements in tidal power technology but still some way to go). Link to countryside land use 	<ul style="list-style-type: none"> Changing the grid – changing pattern of fuel sourcing and usage; Biomass may not be the solution – balance EFW heat generation against biomass opportunities (re location dependent); and Tidal power may not be the answer

Wedge Alignment	Public Sector Leadership Roles/ Strategies/ Participants	Financing/ Funding Sources	Opportunities for cross links to other wedges/ activities	Priorities/ Targeting/ Exclusions
	Session 2 Q1	Session 1 Q1 Session 2 Q2	Session 1 Q4	Session 1 Q3 Session 2 Q3
			planning in producing energy crops for biomass generators	
Transport	<ul style="list-style-type: none"> • Potential leadership role could be exercised through the management of the public estate to include the necessary infrastructure (initially as pilots); • Once the technology options have stabilised, the planning system could be used as a lever to ensure the right infrastructure is provided. • This agenda would require a partnership with the power utilities who would need to provide the necessary reinforcements 	<ul style="list-style-type: none"> • No specific comments on the financing of transport measures but the implication would be that new infrastructure would be met from development value. 	<ul style="list-style-type: none"> • Few comments identifiable from participants. However there are links to the use of waste streams to generate biogas for HGV and PSV use. • The carbon intensity of the grid is also a key assumption in making electric cars a valid contribution to a carbon reduction strategy. Uncertainties still exist over the replacement strategy for the retired nuclear fleet and the use of coal without carbon capture and storage. 	<ul style="list-style-type: none"> • No specific comments but transport should be included in assumptions concerning targeting.

1.5 Commentary

A number of common substantive actions emerge that help deliver the stabilisation and eventual reduction of emissions from across the County. These themes are:

- Development of heat/ cooling energy strategies (the “additional utility” service after gas, power) especially based on a continuing demand for energy supply from the existing building stock;
- Using the heat/ cooling loads of the public building stock (civic buildings; public offices, schools, etc) as anchors for network investment;
- Encourage smaller heating/ cooling loads to “plug in” into a shared infrastructure (physical means of capturing heat and distributing it to users);
- Using waste as a fuel with associated heat capture especially commercial and construction waste streams to supply future need;
- Undertake geographically targeted improvements in the energy efficiency of the housing stock especially those experiencing fuel poverty. Residual heating/ cooling loads could also be met from the energy networks.

Clearly the delivery of these five areas requires co-ordination across professional disciplines and Council departments. Whilst it remains for the Local Authority to set the framework replicated through Local Development Frameworks, Private Housing Stock Renewal Strategies and so forth, the delivery of solutions is going to require long partnerships with the private sector especially when public access to capital is constrained. Various models exist based on “service delivery” involving energy or combinations involving other utility operations such as water and telecommunications as well as more conventional procurement routes such as PFI contracts. Issues surround the existing capabilities to procure appropriate partners without promoting a long term “lock in” to a particular solution that may be financially rewarding currently (e.g. removing future liabilities in relation to landfill) but discount future changes in technology and energy prices.

Some concerns have been raised in other parts of the country, for example, concerning the way certain PFI contracts have been designed which lock out heat capture or discount opportunities to use waste as a feedstock for the production of biogas to supply heavy goods vehicles and public service vehicles (a gap which is unlikely to be filled by any move towards electrically powered private motor vehicles). Longer term concerns also exist over the management of energy prices provided through single source agreements predicated on infrastructure.

Some of the comments picked up on the issue of economic viability. Clearly “economic viability” is a critical matter for decision making, however, assessments of low carbon infrastructure projects are extremely sensitive to the prevailing price of carbon fuels which is why renewable suppliers are going out of business at this time. Prices are, however, likely to show extreme volatility over the next few decades against a back drop of a steadily deteriorating situation (i.e. higher priced fuels). Some commentators believe that future recovery in financial markets is likely to lead to a surge in commodity prices including oil which will then depress economic activity leading to a slump in commodity prices (David Strahan author of the “Last Oil Shock” expressed this view at a presentation on 1st July 2009). In addition, there are future uncertainties over the price paid for carbon in the carbon exchanges which have been depressed by an excess of permits issued by governments principally to protect their energy intensive industries – if this position were to be rectified then one might expect a greater financial incentive to invest in low carbon infrastructure. A study (Mckinsey, 2007) concluded that a range of abatement technologies became viable at 40 euros per tonne carbon dioxide equivalent (currently 15 euros). It is, therefore, the case that an investment decision made 12 months ago when the oil price topped \$140 a barrel may turn in a different direction when the oil price drops to \$35 as it did last year during the

height of the crash. Given this variability, some investment decisions must be made based on anticipating the long term trend in the market rather the short term – there is a strong incentive to make sure the business case developed for low carbon infrastructure includes robust sensitivity testing of the financial projections. This is principally a message for the finance and procurement people in local authorities rather than policy makers.

The analysis presented at the workshop does tend to demonstrate a policy and provider gap (an exception would be the Utilicom contract with Southampton) for managing heat. Whilst it is true that new development is likely to have historically low heat densities (based on greatly improved levels of insulation and air tightness), most of our current building stock will still be functional in 2050. Certainly, scope exists to improve thermal efficiency of the existing stock but there will be limitations to what a retrofit programme can achieve based on current technologies leaving a residual heat and cooling load to be met. Some might argue that the cost of retrofitting heat infrastructure in the existing urban fabric is prohibitive, however, this type of strategy is being pursued in other densely built up areas (e.g. London through the JESSICA programme) combined with the opportunities opened up through regeneration activities (involving land assembly, clearance and remediation).

A heat strategy is also wider than the installation of a heat main infrastructure (i.e. pipes for the distribution of hot water), such a strategy needs to consider how opportunities can be opened up for the deployment of heat pump technologies (ground and air source mainly) within those parts of the county that are not viable (e.g. using the public realm as space for laying out ground source heat pump pipes). This type of technology may be especially valuable in displacing carbon intensive heating sources (mainly heating oil) in rural areas in hard to treat houses (from the perspective of installing insulation).

1.5.1 Conclusion

There were four key principles from the workshop. These can now be used as a basis for the development of a common vision and action plan to tackle climate change across Hampshire, Southampton and Portsmouth.

- **Working in partnership.** A successful response to the climate change agenda will depend upon all local authorities acting in partnership, with common and complimentary strategic objectives.
- **Delivery needs to add value.** Efforts should be focussed on things which are achievable, and which add value over and above what is already happening.
- **Focus on things that will have the greatest impact.** The initial opportunities for intervention, where the impact will be the greatest and which aligns with areas where greatest leverage exists are likely to be in retrofitting of the existing stock (domestic and commercial), waste management, procurement, and CHP/ District heating.
- **Behavioural change is critical.** One of the major forces for achieving a reduction in carbon emissions will be educating and influencing individual and organisational behaviour.