

OVERVIEW AND SCRUTINY (ENVIRONMENT AND WELLBEING): 8 DEC

GREENHOUSE PROJECT UPDATE

For information

Dr Paul Jose

Head of Environmental Management

1. INTRODUCTION

- 1.1 Carbon reduction on a per capita basis is a national priority (National Indicator 186) and the Council has identified tackling climate change as a key priority within the Environment Strategy (April 2008).
- 1.2 Nationally the **existing building stock**, two thirds of which will still be standing in 2050 (the government's target date for reducing emissions by 80%) **is responsible for 40% of the UK's total carbon emissions**. The current focus on energy efficient 'new build' has deflected attention from this area. It is critical to address emissions from the existing building stock in order to significantly reduce emissions and save energy.

In **Cambridgeshire 26% of all emissions are from domestic sources**. It is therefore **critical to decrease emissions in this area if we are to significantly reduce the District's carbon footprint**. Add to this that 75% of UK homes are in private ownership (actual figure circa 60k out of a housing stock of 67k in Huntingdonshire), one can see the potential contribution addressing energy efficiency in our existing private housing stock could make to reducing emissions at a District level.

Achieving tough emission reduction targets will depend on influencing communities, local householders, private landlords, estate agents and mortgage providers. It is **our role as a Council to provide that visionary leadership to encourage private energy efficient refurbishment and retrofitting** of suitable technologies **on a District wide scale**.

This paper aims to provide a progress update for COMT and further background for Overview and Scrutiny on the District Council led 'retrofitting demonstration project' for private housing in the District.

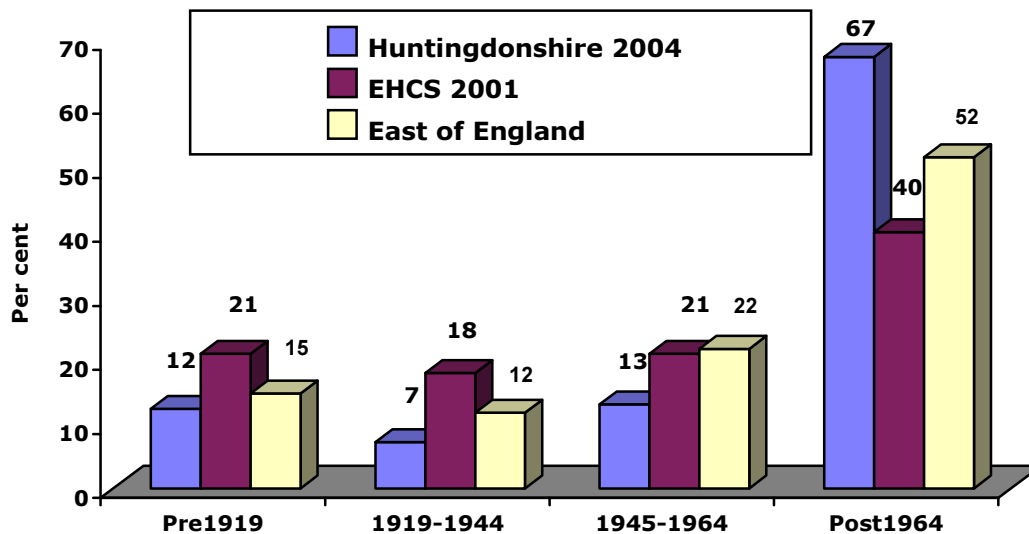
2. SUPPORTING/BACKGROUND INFORMATION

- 2.1 According to the Building Research Establishment refurbishment is the "Cinderella of the Housing Industry" (Ursula Garner, BRE, 2008). The role of refurbishment projects is to show the important role they play in reducing carbon emissions, saving energy and money!
- 2.2 To maximise influence it was suggested that we acquire appropriate property types which reflect the local housing stock and issues faced in the District and retrofit them with carbon saving technologies for demonstration purposes. Location and property type were considered critical and careful examination of local demographics was necessary to ensure not only the right types of property were selected but they are also in the best locations to influence private owners. As key objectives of the project are to maximise the reduction in carbon emissions and encourage water

efficiency it was recommended that we target the most energy and water inefficient homes.

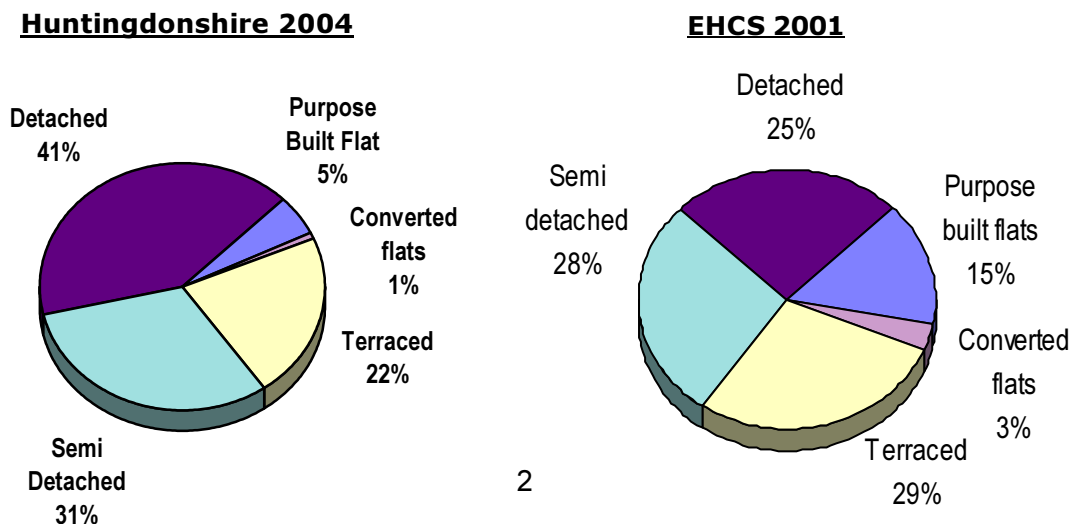
2.3 The age profile of the total stock of 67,000 dwellings in Huntingdonshire is considerably more modern than the average for either England or the East of England. A total of 12% of the stock was constructed before 1919, which is substantially lower than the position for England (21%), and there are fewer 1919 to 1944 (7%) and 1945 to 1964 (13%) dwellings. As a consequence the vast majority (67%) of dwellings were built after 1964. The stock profiles are illustrated in Figure 1.

Figure 1: Dwelling age profile England and Huntingdonshire



The building type profile in the District is different to that found across England as a whole. Detached houses are found at a much higher rate, 41% compared to 25% for England, as are semi-detached houses at 31% compared to 28% for England. All other house types occur at a lower rate than for England as a whole (Figure 2).

Figure 2: Dwelling type profile England and Huntingdonshire



Two properties were acquired in summer 2009 which reflect the local housing stock and issues faced in the District.

The first a modest detached mid 1960's property in a prominent position for demonstration purposes at the junction of Ramsey Road and St Audrey's Lane in St Ives. This property (close to a bus stop) will be used as the main exemplar for a wide range of retrofit energy efficiency and renewable measures to show how to reduce emissions and save energy.



The second, an early 1970's semi detached in Manor Farm Road St Neots. This property is being used to demonstrate how a house typical of the District from this era can have its emissions reduced through a more limited number of cost effective improvements.



Specifications to retrofit the properties with carbon saving technologies for demonstration purposes have been drawn up in partnership with the Building Research Establishment.

The specification for the demonstration properties are detailed in: Annex 1

These show the so called SAP ratings for CO2 emissions and environmental impact (energy efficiency) before and theoretically after the improvements.

They include water efficiency measures (e.g. taps, water harvesting etc) energy efficiency (e.g. insulation for walls, floor and roof), space heating measures (the boiler or air source heat pump) and renewables measures (e.g. solar panels, photovoltaics etc) proposed for the properties and details

As an implicit objective of the project is to **deliver cost effective retrofit at an affordable level for local people** attention has been given to balancing affordability with opportunity to maximise carbon reduction costs. I.e. costs and retrofit measures should not be disproportionate to the nature of the properties identified. For example whilst it may be appropriate to showcase a range of other renewable technologies e.g. photovoltaic panels for electricity generation in the detached property, more straight forward energy efficiency measures and limited renewables i.e. solar hot water are being demonstrated in the semi-detached property.

These and other issues of how far we go on each property have been decided by a project team and partners.

3. PROJECT TEAM, FINANCE, PROMOTION AND PARTNERSHIP

3.1 This section sets out all those people:

- who are engaged the retrofit project (The Project Team),
- who have management oversight or make decisions relating to the project and
- their roles
- the key partners

The Greenhouse Project Management Team

Role	Name	Position/role
Project Leader (2)	Paul José	Head of Environmental Management Division
Project Leader (1)	Graham Shipley	Building Control Manager
Project Sponsor	Malcolm Sharp	Director of Environmental & Community Services
	Richard Haynes	Building Control
	Jenny Thackray and Julia Blackwell	Energy Efficiency Officers
	Frank Mastrandrea	Housing

Retrofit Team and wider Partnership group members	Barry LeBailly and Mark Houston	Architect and Architectural technician
	Chris Jablonski	Environment team leader
	Terry Day	Finance Officer
	Nigel Arkle	Procurement Manager
	Suzanne Englebert	Communications & Marketing
	Planning staff	Various as appropriate
	John O'Brien and Alan Ferguson	BRE (Watford)
	Huntingdonshire LSP Environment Forum	All Forum partners: including: NHS Police Fire Authority County Biodiversity Partnership Wildlife Trust
	Anglian Water and Cambridge Water Company	Various
	The Environment Agency	Various
Waterwise East	Claire Watters	

The Head of Environmental Management meets monthly with the Project Sponsor and Environment Executive Councillor, Jonathan Gray to discuss progress as part of routine 1:1 meetings.

3.2 Finance

The concept of the project is to buy the properties, retrofit, demonstrate and subsequently sell them.

550k was initially allocated for the project on the understanding that this would be fully recovered when the properties were sold on at the end of the project. However efficiencies were made and 2 properties (not 3 as originally envisaged) were purchased at the bottom of the falling market for 195k and 135k (total 325k)

In effect apart from the 100k spend approved in the MTP the project is essentially expected to be self financing over the project life. The possibility of further external funding to contribute to project costs such as publicity and future roll out to the public and building industry has been ongoing. An additional 75k has been transferred from the Decent Homes Housing pot to contribute to specification, monitoring and marketing work for the project to make the project viable.

It was envisaged that in a future potentially rising market and with eco measures in place that the properties would be sold at a premium over the purchase costs (a 3rd bedroom and extension being added to the St Ives property as well as the range of energy efficiency and renewables measures to the 2 sites). This should provide additional budget for the whole programme particularly for roll out and promotional activities.

3.3 Site Work and Tender Progress

An extensive procurement process has been undertaken to select suitable project managers/ contractors to deliver the retrofit work at the properties. Around 20 companies expressed interest in the work and 6 have been selected to tender for the work. This is expected to be completed in January with work ongoing in early Spring 2010. In addition preparatory work has begun at both properties e.g.

the installation of gas at the St Neots property together with ground clearance for the gardens. Extensive pre-project monitoring work as well as thermal imaging has been undertaken at the properties.

3.4 Media and Press related activities

A media plan has been developed with the PR team. Several articles on the project have been published in the local media. Promotion of the project is critical to the roll out of new technologies in the District. Gas Street Works a nationally acknowledged provider of web and film services for local government have been engaged to produce a short series of web based films of the project. The project is establishing its own micro website in conjunction with IMD and Gas Street Works. A project logo has been designed internally and adopted for the project which parallels the Grand Designs 'Great British Refurb' Campaign and logo launched recently through the 10:10 Campaign.



3.5 Partnership Progress

It has been essential to incorporate best practice in Retrofit expertise to maximise the impact of the project. A contract was therefore entered into with The Building Research Establishment, who already have extensive expertise and are the market leaders in this area. ***The 2 Huntingdonshire properties are the 2 East Anglian exemplars in the BRE nationally led 'Rethinking Refurbishment' programme.***

Consideration is being given to working with other key players. These include a range of external organisations and individuals, e.g. Anglian Water, the Environment Agency, Cambridge Water Company and Waterwise East (in relation for example to water efficiency).

Waterwise East have provided guidance on the water efficiency measures for both properties including advice on taps, baths, showers and water harvesting measures.

The Wildlife Trust, County Biodiversity Partnership and HDC operational staff are involved in the design of Wildlife/allotment and drought gardens for the 2 properties.

Two 'meet the neighbour events' for members of the local communities, faith groups and local/District Councillors have been held in late summer to showcase general project proposals and engage them in the project,

Engagement with key partners in the Huntingdonshire Strategic Partnership Environment Forum is ongoing. The Fire Service is exploring the installation of domestic sprinklers in the St Ives property whilst security measures for the properties are being developed with the Police. Health measures are being explored with the NHS whilst the HDC Housing Division is considering using the properties for remote working and grant promotion activities.

Additionally EEDA, EERA, The Sustainable Energy Academy, Renewables East and Cambridgeshire Horizons are in principle supportive of the programme and opportunities are being sought to obtain an external contributions to this exemplar project which is now being considered to be not only of local but now regional and national significance. Sponsorship by commercial companies is also under investigation.

The project will build on existing good relationships with building material suppliers, plumbers and professionals in the energy efficiency and renewables sectors to maximise influence and delivery in order to meet challenging carbon reduction targets in the District. Opportunities for upskilling in key areas of the building industry are being explored as this is a major current blockage to the delivery of the retrofit agenda both locally and nationally.

4. CONCLUSION

The Greenhouse project is a key method of influencing carbon reduction measures in an important area, the private housing sector which contributes circa 20% of the carbon emissions in the District. This being the largest single component of emissions that the Council can influence.

The 2 houses were purchased as specified by the project team to demonstrate practical and appropriate cost effective retrofit energy efficiency, renewable energy and water efficiency measures at appropriate locations in the District.

Purchase of the properties was completed in summer 2009, specification and pre-monitoring work has been completed, planning permissions obtained, tenders drawn up. Some on-site work preparatory works have begun. Actual work on retrofit and the gardens is expected to be complete in May 2010.

A launch event is proposed for early June and will coincide with World Environment week. The properties will then be used for 3 years for local and wider demonstration purposes linking with the BRE's National Rethinking refurbishment programme.

BACKGROUND INFORMATION

www.existinghomesalliance.org

www.bre.co.uk

www.sustainable-energyacademy.org.uk

www.greenbuildingmagazine.co.uk

www.lacors.gov.uk

www.lowcarbonbuildings.org/micro/

www.warmzones.co.uk/c_welcome.html

www.warmfront.co.uk/

www.energysavingtrust.org.uk

www.forumforthefuture.org.uk

www.ukgbc.org

www.renewableseast.org.uk

www.greenfutures.org.uk/thefutureisretrofit

1010uk.org/future-home

www.greatbritishrefurb.co.uk

**Contact
Officers:**

**Dr Paul Jose, Head of Environmental
Management Division (1)**

**Mr Graham Shipley
Building Control Manager (2)**

☎ (1) 01480 388332

(2) 01480 388446