

## A14 Improvements

7:30pm Thursday  
26<sup>th</sup> February 2009

Lecture Room  
Cottenham Village College



Work starts  
late 2010  
until 2015

Delays  
possible



## AGM 2009

The A14 improvements talk will be followed by the Design Group's Annual General Meeting.

This year all six officer positions are up for election. Three of the current officers are offering themselves for re-election, but new candidates are required for the other three positions. Additionally, two of the non-officer positions are up for re-election and there is a vacancy for a new committee member.

Please contact our membership secretary Alan Leeks at [membership@cvdg.org](mailto:membership@cvdg.org) or on 250061 to find out more about the AGM or joining the committee.

## A14 Improvements Talk

The A14 between Cambridge and Huntingdon carries between 65,000 and 85,000 vehicles per day. This is 95% of the road's design capacity. Much needed improvements moved a step closer last year when a contract was awarded to a joint venture between Costain and Skanska to complete the outline design.

They will also construct the Fen Drayton to Histon section.

**Geoff Chatfield** from the Highways Agency and **John Clarke** from Costain-Skanska will present details of the planned improvements.

The event is free and open to all, although a donation towards refreshments would be appreciated.



Photo by Crispin Semmens; used under Creative Commons licence

## Current Committee

Alan Leeks	Cottenham Parish Council nominee <b>Membership Secretary</b> (elected 2007)
Alex Darby	(elected 2008) <b>Information Officer</b> (acting)
Alexander Thoukydides	<b>Chair</b> (elected 2006, 2008)
Bill Miller	<b>Treasurer</b> (elected 2007) <b>Secretary</b> (acting)
John Williams	(elected 2008)
Matthew Bradney	Cambridgeshire County Council nominee
Mike Smith	Fen Edge Community Association nominee
Nigel Bolitho	(elected 2007)
Patrick Clark	(elected 2008)
Robin Heydon	(elected 2008)
Steven Poole	<b>Planning Comments Coordinator</b> (elected 2007)
Timothy Wotherspoon	(elected 2007)



## Design Group Visit to The BRE Innovation Park

(on 17<sup>th</sup> September 2008)

### About BRE

The Building Research Establishment (BRE) was originally a government organisation which is now privatised. It carries out research for the construction industry. The six eco houses built at the Park have been sponsored by companies in construction or housebuilding and are a showcase of house design, products and materials.

### About Eco Homes Ratings

The Government has published a Code for Sustainable Homes, and this sets levels for reducing energy use. The Code Levels are 1-6 and relate to the percentage reduction of CO<sub>2</sub> emissions in comparison with current regulations, e.g. Code 4 is a 44% reduction. Code 6, by definition, is a zero carbon home, which stamp duty will not be levied on when sold.

### Energy Saving in Homes

Two approaches combine to achieve savings. Passive houses harvest the sun by facing south and rely on air tightness, mechanical ventilation and insulation. Active methods are solar PV (photo voltaic), solar thermal (water heating), heat pumps etc.

### The Park

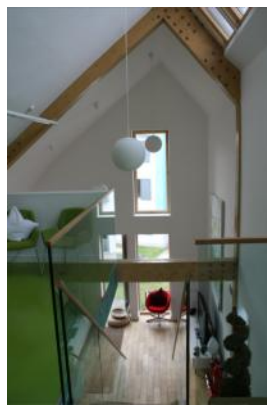
BRE offers guided tours of the six houses and we visited each house in turn with a detailed explanation being given by our guide.

### 1. Kingspan Lighthouse

Kingspan is a building materials group and they have created the most striking house both internally and externally. It achieves Code 6 (zero carbon home) and has a curving timber frame which the floor and walls fit on to. The curve faces south and is clad in PV panels.



The floors slot into the frame and this allows vertical views inside the building. Ventilation is by the stack effect, with warm air rising to the top of the house. Here it has the heat removed and is discharged. Replacement cold air arrives into the ground floor. As a result bedrooms are sited on the ground floor with the warmer living rooms above.



You can buy one of these houses from Kingspan if you wish.

The electricity over a season is entirely by the PV's and heating is by a wood pellet

boiler. (Zero carbon source). They maintain that it has achieved annual fuel costs of just £30.00, and also achieved targets of water use down to 80 litres per day per person. On the roof is a wind catcher system to provide natural summer cooling.

### 2. Hanson Eco House

Hanson makes bricks and concrete products so it is not surprising that this is a brick and concrete house. This heavyweight structure has advantages in that it can absorb and give up heat depending on the temperature in the house, and this will stabilise internal temperatures in a hot or cold snap. This house came to site prefabricated, with erections of panels and floors by crane. Even the brick facings are bonded on to pre-made panels, leading to short build times.

I liked this house as it has a very solid feel and also for its spacious interior, likened to the inside of a brick kiln.

It can't have been economical to build due to the large interior void. It has an interesting thermal strategy with an automatic ventilation system and allows the warm air to rise and be vented out of the top. Again bedrooms are sited in the lower temperature ground floors, with warm air rising to the open living spaces above. The house has rainwater storage and a drainage system that also contributes heat to a ground source heat pump. The house reaches Code 4.



*(continues on next page)*





### 3. Stuart Milne Sigma House

Its easy to understand how this house can be strung together to make long terraces with a variety of accommodation within the flank walls. The

concept of this is that it is a compact house which can be used to create higher densities required for city centres. It's a development of the Victorian terrace and offers flexibility of accommodation. The Stuart Milne Group is a Scottish house builder. Two semidetached houses have been built. One has three or four bedrooms over three storeys and its neighbour shows how the ground floor can be tuned into a work unit with a one bed flat in the top.



They have solar chimneys and central staircases. The split levels supposedly save circulation space as well as creating two 1½ height spaces facing south to catch the sun. The houses achieve Code 5. They have solar thermal panels, PV's and wind generators. Our guide noted that wind speeds in Watford were not enough for the wind generators to make much of a contribution. Very windy sites are required for these.

### 4. Barrat Green House

Barrat are house builders. Their three storey home can be adapted for terraces and achieves Code 5 by being well insulated and having an automatic computerised heating ventilation and shutter system. It is built of dense construction materials (high thermal mass) so that it retains heat in cold weather and vice versa. The design still achieves this level with up to 25% of the floor area as window area. This therefore is a light and airy house.



### 5. Osborne's Affordable House

Osborne makes prefabricated homes. This was an early house built at the park. Its claim is that it is economical to build. It achieves Code 3+, which translates to its using 1/3 of the energy of a house built to the current building regulations. Bear in mind that new houses built to the current regulations are immeasurably better insulated than housing built pre 1980. One can see the advances being made with new homes in relation to the older housing stock. A Code 5 home uses 10% of the energy of a house built to the current regulations. The house is



prefabricated and built with structurally insulated panels. The build time for the shell was less than two weeks.

### 6. Eco Tech Organics House

Eco Tech is a Swedish company making panels and frames for housing in the UK.

This house is built with an apartment on the ground floor and a two storey home above. It is a Code 4 house. The panel and frame construction makes for fast built times.

The two storey home had a neat plan with a single spacious ensuite serving a pair of bedrooms. I didn't remember to check out if the two doors had electric locks.

### Thoughts

The park is excellently laid out and presented, although visiting is expensive. It's clear that the days have gone when a few committed devotees could build eco homes to suit their own needs and show what could be done. These houses have been built by housebuilders or product manufacturers in the construction industry, and they display their wares to other housebuilders who will need to get tooled up as a matter of urgency if they are to build the number of new generation low energy homes that the Government say they require. The exhibits are exciting and thought provoking.

*Bill Miller  
Treasurer & Secretary (acting)*



## Cottenham Village Design Statement goes Worldwide



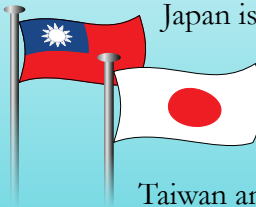
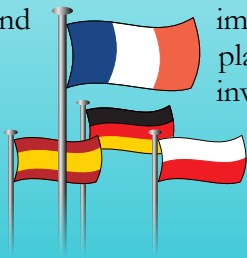
In the UK Cottenham was one of the first villages to write a design statement in 1993/4.

It was used by the Countryside Commission as its training example for others. Hundreds of other parishes have subsequently written statements for their own villages. Last year Cottenham updated and re-wrote its statement as a Supplementary Planning Document and one or two other villages have done so as well (not yet very many).

Further away, the Fen Edge villages (Cottenham, Waterbeach, Willingham, Rampton and Landbeach) are twinned with Avrillé ([www.ville-avrille.fr](http://www.ville-avrille.fr)) in the Loire valley of France and the French now have copies of Cottenham's statement. This has been discussed with

Avrillé's twinned who are impressed that non-planners have been so involved and with the quality of the publication.

Avrillé is also twinned with a Spanish town, a



German town and linked with a Polish town that have also had access to our statement so knowledge is spreading across Europe.

Beyond Europe, a Taiwanese student conducting research in Japan is writing a thesis that will include her research about people's approaches to buildings and design in Japan, Taiwan and Britain. She visited Cottenham and met members of the Design Group. It is expected that the British part of her thesis will focus on Cottenham and its Design Statement.

If you have had an opportunity to pass copies to friends in other places and received a response please do let us know.

*Mike Smith*

*Fen Edge Community Association nominee*

## What Makes a House 'Eco'?

This was an interesting and thought provoking talk by Meredith Bowles who is a lecturer at the University of Cambridge as well as being a local architect specializing in conservation and passive solar design. He introduced us to a number of energy saving and ecologically friendly strategies that can be used in house design ranging from inexpensive, low tech options such as excellent draught proofing and insulation and passive solar gain, where the house is oriented so that a maximum number of windows are south facing; to the more high tech options that have a much longer payback period such as heat pumps, solar heating, or photovoltaic cells with export of power to the national grid when excess is generated.

The talk was illustrated with examples ranging from the archetypal energy saving house built by Robert and Brenda Vale in the 1970s, which was designed to be 'zero-heat' i.e. to be so well insulated that the heat generated by solar gain through south facing windows, plus the heat output from the

occupants and their activities would keep the house at a comfortable temperature even in the depths of winter, to his own award winning home The Black House in Prickwillow, which features a heat pump in addition to passive solar heating.

The talk was followed by a lively discussion with interesting questions from the audience including:

1. 'Would it be possible to design a house based on a polytunnel?' to which Meredith replied that this was not very realistic as plants tolerate a much wider range of temperatures than people, though a similar principle is being used at the Eden project, with highly insulated plastic roof sections
2. 'Did Meredith think that the government's targets for sustainable housing were achievable?' to which he replied that in his opinion they were probably not achievable as they would be very challenging for the national house building companies.

*Nancy Miller*  
*Member*

## Date For Your Diary

A14 Talk and AGM

7:30pm Thursday 26<sup>th</sup> February  
Lecture Room, CVC

### February 2009

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

Email [membership@cvdg.org](mailto:membership@cvdg.org)  
Web [www.cvdg.org](http://www.cvdg.org)

