

Manchester's Eco House Project



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The Task

- To create an Eco 'show house'



What Do We Want It to Do?

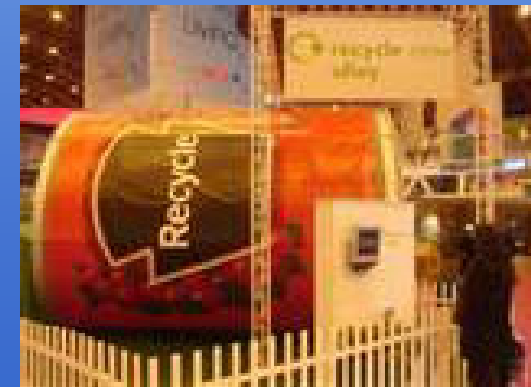
To be an educational resource for:

- climate change
- energy efficiency
- an introduction to alternative technologies



How are we going to raise awareness?

- Through practical examples
- Information / leaflets
- Inspire and motivate



Who will benefit?

- Home owners
- Schools
- Community groups
- Housing providers
- Professionals
- Agencies



Making it happen... (the ingredients)

- Two 1900's terraces
- Total refurbishment
- BRE Ecohomes criteria
- Products and Displays

Making it happen...

(the recipe)

- Working with the surveyor
- Working with the contractor
- Working with the BRE criteria
- Incorporating DDA /Planning/Building regs
- Incorporating donated products / displays

BRE Ecohomes

- Environmental rating for homes
- Pass, Good, Very Good and Excellent
- Specific Criteria
- Energy, Transport, Pollution, Materials, Water, Ecological and Health

Criteria Examples

Energy

- Minimise emissions of Co₂ from heating, hot water, lighting and appliances

Transport

- Cycle storage, local amenities, home office

Criteria examples continued...

Pollution

- Insulating materials that avoid the use of ozone depleting substances
- Reducing surface water run off

Materials

- Sourcing of timber from sustainable sources

Criteria examples...

Water

- Internal / external water usage

Ecological

- To encourage development on land with a limited value to wildlife

Health

- Daylight criteria
- Private space to sit outside

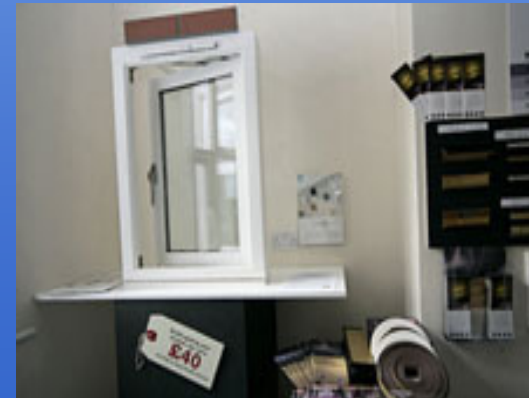
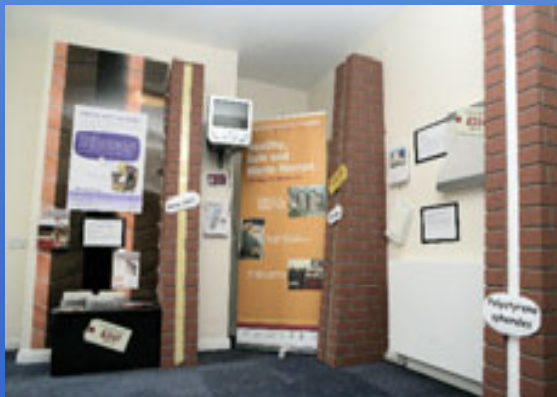
Evidence File

Evidence examples

- Confirmation of NO_x levels from boiler manufacturer
- Chain of Custody certification for all new wood.

Energy Efficient Measures

- External insulating render
- Two types of Internal insulation
- High performance wooden windows with argon filled sealed D/G units
- Low water content radiators



Renewable Energy

- Solar thermal hot water system
- Solar PV
- Sunpipe



Environmental aspects

- Recycling facilities
- Wormery
- Water butt
- Green roof



A breakdown of the difference before and after the refurbishment

Dwelling	Sap 1-120	Est fuel cost Std occ	Co2 emissions per annum
26 Existing	51	£583	4.6 tonnes
26 Refurbished	93	£377	3.9 tonnes
28 Existing	31	£730	5.2 tonnes
28 Refurbished	104	£332	2.2 tonnes

Comparison with a New House built to 2002 regulations

	Sap Rating 1-120	
	104	28 Penzance Street
New House built to 2002 regulations	100	
	93	26 Penzance Street

Things that could have gone better

- Ensure the Surveyor, Contractor and BRE assessor are all in on the first concept meetings.
- Ensured adequate support from the BRE assessors
- Ensured tight control of 'evidence' paperwork, required to attain the relevant credits

Things that were successful

- After a bumpy start a real enthusiasm developed amongst those involved
- The project has proved that 'hard to heat' pre 1930's properties can become well insulated and efficient homes
- Visitors have left many positive comments of empowerment and inspiration about what can be done to improve insulation, lower fuel bills and in turn make their contribution to lowering greenhouse gasses

Photos of the Eco house



Photos of the Eco house



Any Questions???

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