

AECB the sustainable building association
2009 Annual Conference

Building for a Sustainable Future
Policy | Research | Practice

Oxford Brookes University | 11-12 June 2009
Optional tours of local renovations: 13 June 2009

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15 Holyoake Road, OX3

A small terraced house gets a 100-year service ...



The house as we bought it

- Structurally sound
- Electric storage heaters
- uPVC double-glazing and front door
- Needed re-wiring
- Needed re-decorating
- Needed re-plastering
- A bigger opportunity for eco-refurbishment than we first thought!

2004 refurbishment

- Internal wall insulation – 60 mm wood-fibre board, lime plaster
- Floor & loft insulation – Warmcel, BSK building papers
- Timber repairs and remedial ventilation
- Greywater/rainwater harvesting using 3 x 100 litre butts
- 6/3-litre flush WCs, flow regulators
- Re-used and reclaimed timber
- Paints, waxes, oils from Auro, Ecos, Osmo







Energy systems & appliances

- Gas condensing boiler
- Programmable thermostat
- Thermostatic radiator valves
- Solar-ready hot water tank; no solar panel
- A rated fridge-freezer
- AAA washing machine
- Mostly low-energy lighting
- Conserving behaviour



Costs

	<i>£ total inc. VAT</i>	<i>£ 'Eco' elements</i>	<i>£ VAT content</i>
<i>2004 renovation</i>	25,000	5,000	~4,000
<i>2007 loft conversion</i>	30,000	2,000	5,250
<i>total</i>	55,000	7,000	~9,250

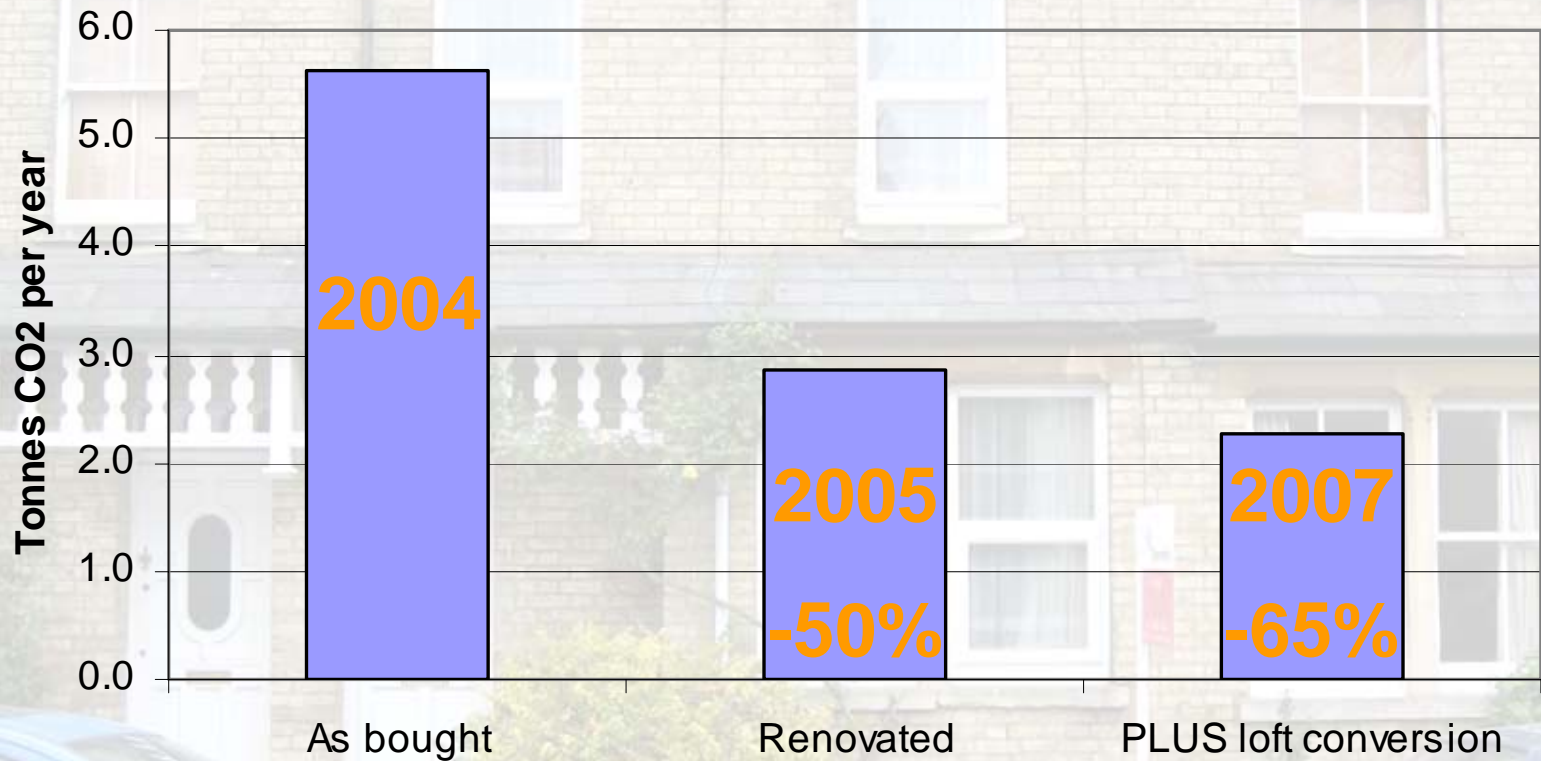
Payback

- Capital cost = £7,000
- Annual savings ~ £500 (2004 prices)
- Annual savings ~ £740 (2006 prices)

- Payback ~ 14 years (2004)
- Payback ~ 9.5 years (2006)

- Other reasons for doing it: comfort, ethics

Results - CO₂ emissions



Conclusions

- This is still a niche for enthusiasts but demand for it is growing
- Need to be determined
- Compromises = long-term regrets
- Expect to make some mistakes – keep a sense of perspective
- Choose designers and tradespeople carefully – trust your instincts
- Anticipate (and seize) every opportunity

Resources

Not an exhaustive list ...

- AECB technical forum at www.aecb.net
- Case studies and 'open house' events:
 - www.s-ea.org.uk
 - www.ecovation.org.uk
- Policy/lobbying for change:
 - www.existinghomesalliance.org.uk
 - www.ukgbc.org



Thank you.

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