

**Richard Lupo- Sustainable Homes
Training and consultancy**


**South East Housing Association Group
15 July 2008**




What we do


Today

- 1) Code for sustainable homes level 3 and above
- 2) Existing homes
- 3) Additional issue of adaptation
- 4) Comprehensive assessment - SHIFT




Today

- 1) **Code for sustainable homes**
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1) Code level 3 and above

1. Minimum standards at each level
 - Energy efficiency of the property
 - Internal water
2. Minimum standards at Code entry level
 - Materials
 - Surface water run off
 - Waste
3. No minimum standards (tradable)
 - Pollution
 - Health and well being
 - Management
 - Ecology



Code minimums

	1	2	3	4	5	6
Energy (Improvement on 2006)	10%	18%	25%	44%	100%	Zero
Water -litres/ person/day	120	120	105	105	80	80
Other credits needed	34	43	47	54	60	65



Level 3 energy

Use steps 1 to 3

- 1) Insulate to best practise on walls, roof, doors, windows
AND
- 2) Reduce air changes to three m3/m2/hr at 50 pascals with MVHR
AND
- 3) Reduce thermal bridging

AND

Use micro generation to reach the 25%

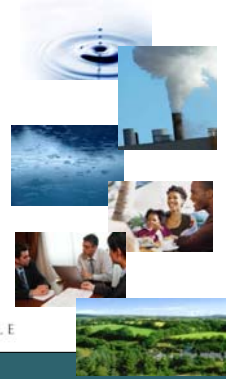
OR FOR LARGE SCHEMES

Use communal systems such as CHP or large scale wind



Code brings breadth & depth

- Energy / CO₂
- Water
- Materials
- Surface water run-off
- Waste
- Pollution
- Health & well-being
- Management
- Ecology



Assistance from Sustainable Homes

- In-house awareness course which gives you good knowledge of all aspects of the 300 page code
- Assessor training – you can do your own assessments with trained assessors
- We can offer you design advice to help you meet various code levels



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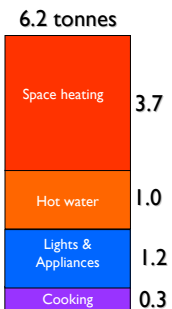


Two routes to improve existing

- Through maintenance – incremental – EcoHomes XB
- Significant change to house – refurbishment



Refurbishment




THREE STEPS

1) REDUCE HEAT LOSS

Where	Terminology	Solution
a) Thru fabric	u values	insulation
b) Air gaps	air tightness	seal up gaps
c) Thermal bridge	joists/junctions	detailed measures

2) VENTILATE WELL




THREE STEPS


1) REDUCE HEAT LOSS

- a) **Through fabric**
- b) Air gaps
- c) Thermal bridging

2) VENTILATE WELL



U Values	Pre	Improvement measures	Post
Cavity walls	1.5	Fill and add internal or external insul	0.6
Solid walls	2.1	80 -140mm internal or external	0.3
Floor	0.7	Insulate with 100- 200mm	0.25
Uninsulated Pitched roof	1.9	Install 250mm to 300mm mineral wool quilt	0.16
Flat roof	1.5	Add 100 -160mm above structural deck	0.25
Glazing	3.1	Replace with high performance windows with BFRC rating	Band C




THREE STEPS

1) REDUCE HEAT LOSS

- a) Through fabric
- b) **Air gaps**
- c) Thermal bridging

2) VENTILATE WELL



Measure of air lost in cubic metres per hour when at 50 pascals of pressure


Windows and doors – seal gaps to prevent air leakage via reveals and threshold

Walls – Make good damage to mortar joints and fill holes in external walls

Floor – Seal around edges of room and any gaps in service pipes

Roof – Ensure loft hatch fits snugly

Services – seal gaps around pipes




THREE STEPS

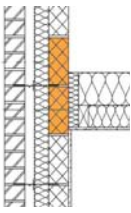
1) REDUCE HEAT LOSS

- a) Through fabric
- b) Air gaps
- c) **Thermal bridging**

2) VENTILATE WELL




c) Thermal bridging
Where heat moves through materials
Common, even after insulation



If concrete frame, floor slabs or edge beams are exposed bridging will be a large issue

Specific guidance available




THREE STEPS

1) REDUCE HEAT LOSS

- a) Through fabric
- b) Air gaps
- c) Thermal bridging

2) VENTILATE WELL




Needed for comfort and safety of occupants

- Passive stack, local extraction fans
- Single room heat recovery ventilators
- Mechanical ventilation and heat recovery

Can advise to ensure adequate system in place for needs

Means better air quality and less damp issues




Assistance from Sustainable Homes

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- Assessor training – you can do your own assessments with trained assessors
- We can assist in grant applications by evaluating sustainability of you stock before and after improvements





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4) Additional issue of adaptation

2050	Low Emission	High Emission
Summer rain	20 - 30% less	30 - 40% less
Temp	1.5-2.5°C	3-3.5°C
Winter rain	0-15% more	15-20% more
Rain intensity	10-20% more	+20% more





Innovative solutions

Overheating - shading
- roofs lighter colour

Flood resilience -putting furniture higher
-putting sockets higher

Flood resistance - non reversible pipes
- sealable house






Innovative products

Savings - reduce solar energy absorbed
increase life of roof

Need - Strength of structure (kg/m2)


Gravel	90-150
Paving slabs	160-220
Extensive	60-150
Intensive	200-500

Examples – Servite HA – Three roofs






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Our members so far.....Will you be next?



Benefits of SHIFT Membership

- Thorough assessment of your organisation
- Ongoing review and analysis
- Visibility in the media
- Use of the SHIFT logo
- Learning opportunity through best practice



Four Key Areas Assessed By SHIFT

- Strategy & Management
- Office Practices
- Existing Buildings
- New Builds



SHIFT Process

- Membership is renewed annually.

First Year

- Survey distributed to members – 7th July
- Can still join now !!
- Survey results & supporting evidence returned – 22nd August
- Members receive individual feedback
- Final ranking & SHIFT Executive Summary published



Second Year

- Members receive training on areas for improvement identified
- Option for new members to undertake the SHIFT exercise as a private assessment
 - Creates baseline assessment for future progress
- Full public assessment again in 2010
- Contact Sustainable Homes on 020 8973 0420



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Conclusion



- **This is just the start**
- **Get in-house code and BREEAM knowledge**
- **Champion sustainability as a mark of quality**
- **Look to obtaining a comprehensive assessment**



THANK YOU FOR YOUR TIME

Code Assessor Training

Code Awareness Training

In-house

Ecohomes for existing buildings

EPC non domestic

Designing for energy/SAP

Bespoke training

CPD CERTIFIED Construction CPD Accreditation

Sustainable Homes logo

Contact us – richard@sustainablehomes.co.uk