

Low Energy Victorian House? Can We Do It? Yes We Can !

Featuring:
Victorian House; Committed Council; Traditional Builders
& Surveyors; Conventional Techniques; Expert Advice;
Supporting Cast

18 May 2010 Chit Chong, Acting Energy & Sustainability Manager chit.chong@camden.gov.uk

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Featuring - 17 St Augustine's Road

- Built around 1850
- 60% of Camden is within Conservation Areas
- 56% of housing in London is of solid wall construction.



Cast of thousands

- Camden Council – funded and project managed construction including sustainability elements
- Urban Buzz – funded research elements
- UCL, Bartlett Graduate School – research and dissemination.
- Sustainable Energy Academy - dissemination & organisation.
- Lengard - Contractors
- Landers & Associate – Designers and Building Surveyors
- Kingspan – Insulation design and donation of insulation.
- Other partners - Camden FoE, Green Homes Concierge

Interesting Challenges



Thermal Bridges galore



Surreal and idiosyncratic decor

Conflict in production

- Emissions Reduction

Reduce energy use as much as possible

- Building Conservation

Preserve heritage

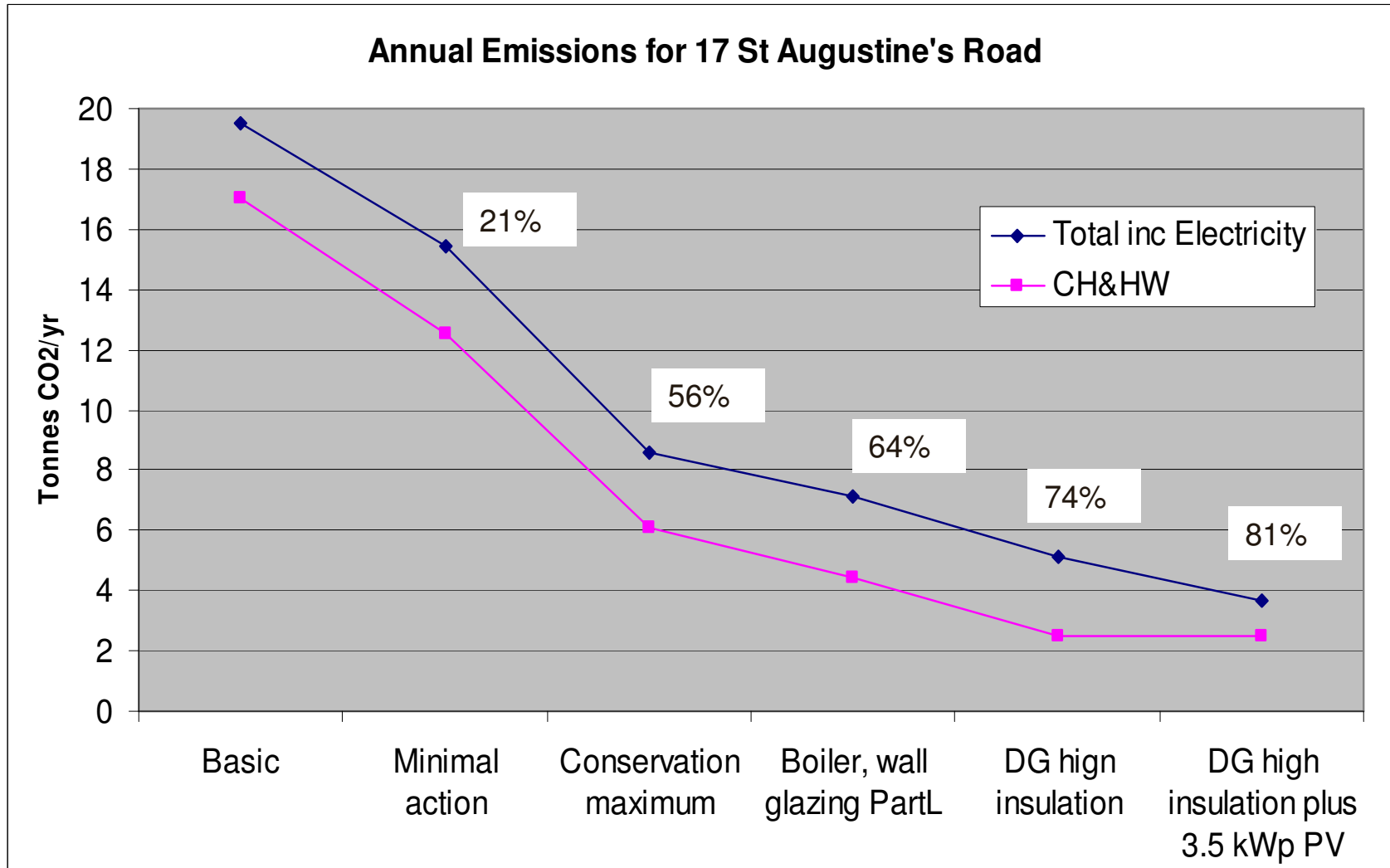
- Housing Management

Bring the house back into social housing as cost effectively as possible

Synthesis – energy reduction and housing management

- Double glazed windows 1.5W/m²K
- Floors 0.20 W/m²K
- Sloping Roof 0.11 W/m²K
- Flat roof 0.20 W/m²K
- Wall insulation to 0.20W/m²K
- 6m² Solar Thermal
- 3.5 KWp Solar PV
- Localised Heat Exchange Ventilation

Impact of energy efficiency measures



Costs

	cost	tonnes CO2
• Solar PV	£25,000	1.4
• Solar Thermal	£8,000	0.5
• Double glazing	£24,000	1.3
• Roof Insulation	£6,600	3.4
• Wall insulation	£11,000	3.3
• Leakage reduction	£2,666	1.0

On Location Jan 2008

Structural work was required



Insulation Insulation Insulation



House was extensively insulated with tool talks by UCL

Insulation what it looks like



Insulate the space between the floors and ceilings.



Air leakage is key.

July 2008 in the can.....



Just like new



With renewable additions

But not perfect



Wood work



Plaster work



What heritage do our grandchildren want?

- Untouched Victorian buildings?
- Replacement with zero-energy new build?
- Low energy refurbishment of all old dwellings?
- A heritage which balances energy and building conservation?
i.e. - A new Manifesto for Heritage

Where to now for 17 St Augustine's Rd?

- UCL monitoring of house in use
 - 65% CO₂ reduction in use but warmer than normal
- House Visits
 - Visits by appointment 2nd Thurs 5pm to 6pm and on contact chit.chong@camden.gov.uk
 - Eco-house weekend 10am Sat June 2010
 - to be confirmed - London Open House, Sat 18 Sept 2010

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