

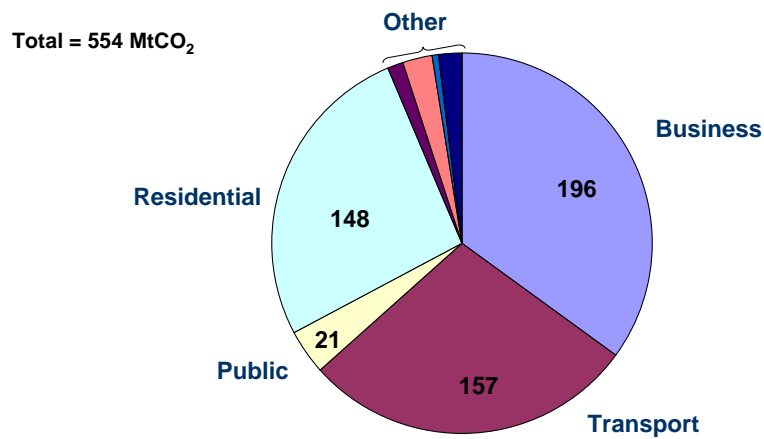
Can the UK meet its carbon emission reduction targets?  
- Focus on Buildings

Adair Turner – Chair of the UK Committee on Climate Change

4<sup>th</sup> June 2008

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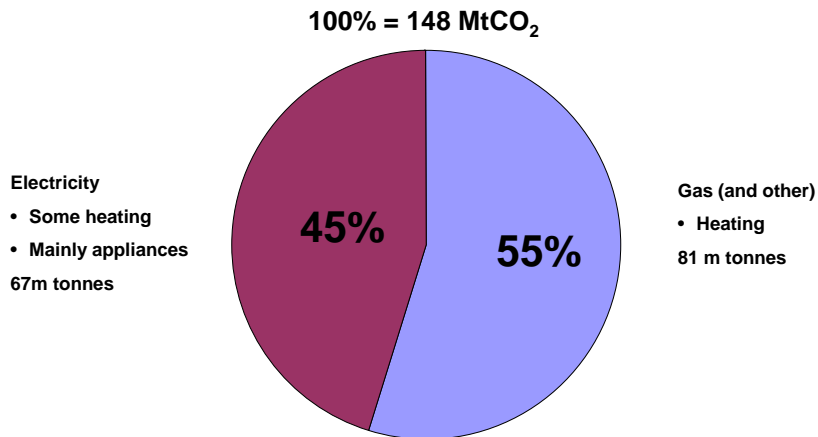
## UK CO<sub>2</sub> Emissions 2006 – by end-users of energy



Source: "Defra – UK Greenhouse Gas emissions inventory"

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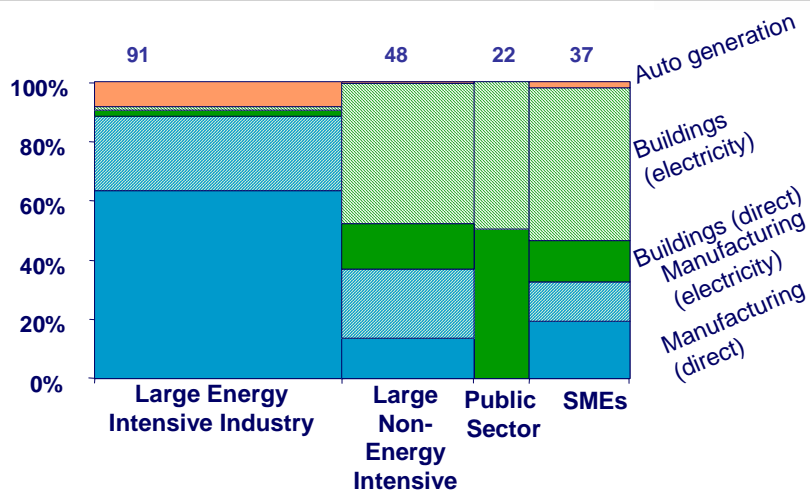
## Residential CO<sub>2</sub> Emissions : 2006



Source: "Defra – UK Greenhouse Gas emissions inventory"

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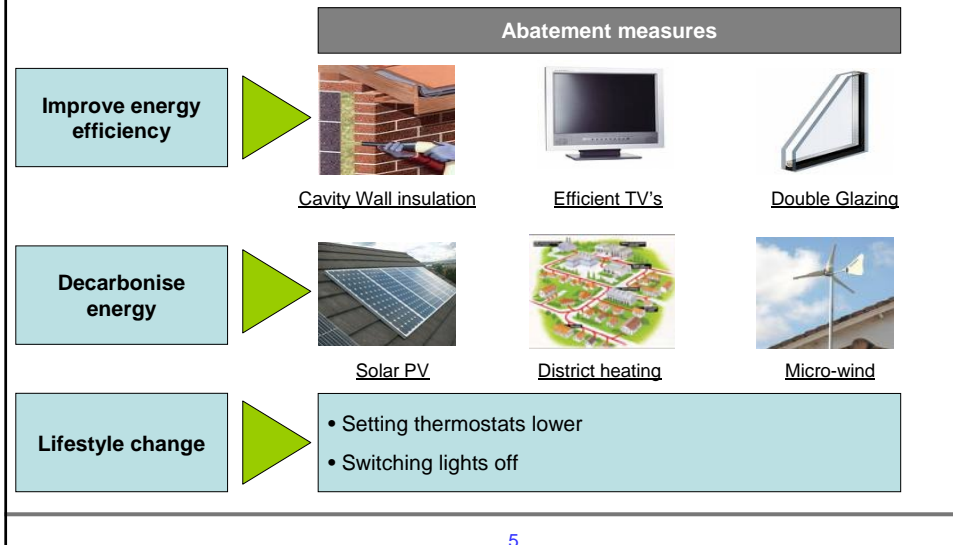
## Business and public sector emissions : MtCO<sub>2</sub> (excluding transport, distribution and supply industries)



Source: "The UK Climate Change Programme: Carbon Trust, 2005"

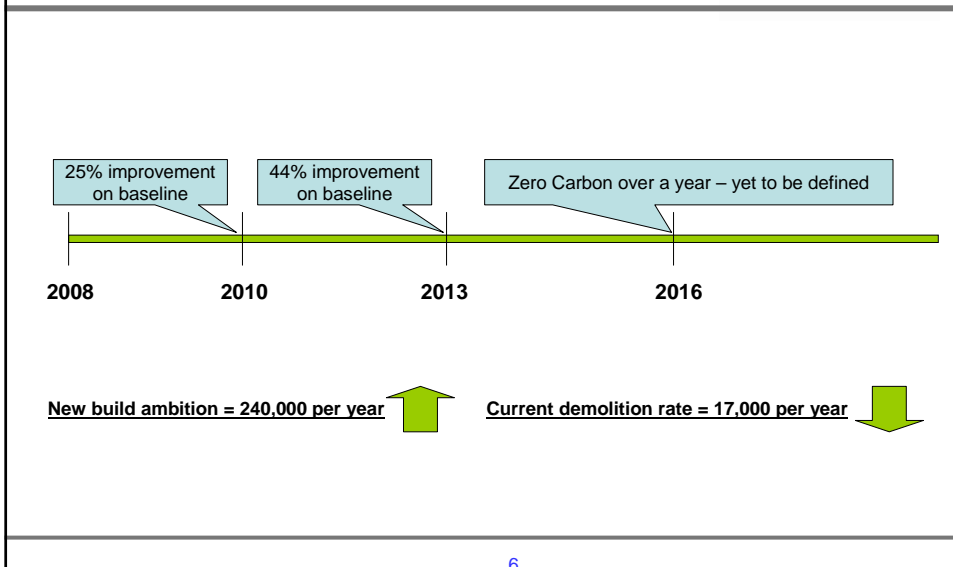
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# Improving efficiency, decarbonising energy and changing behaviour



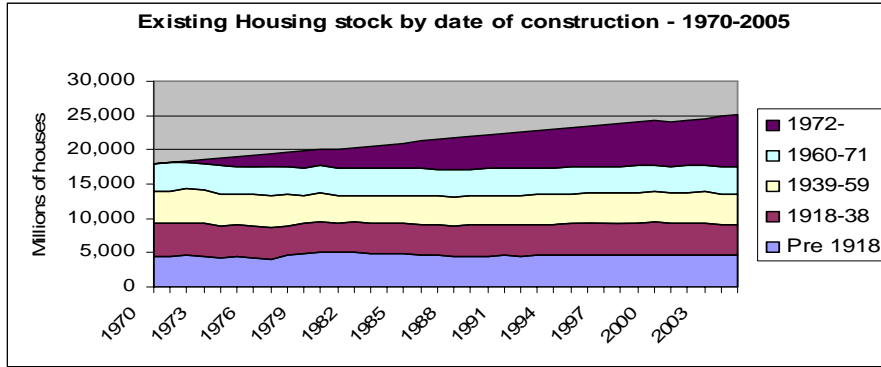
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# Zero Carbon Homes commitment



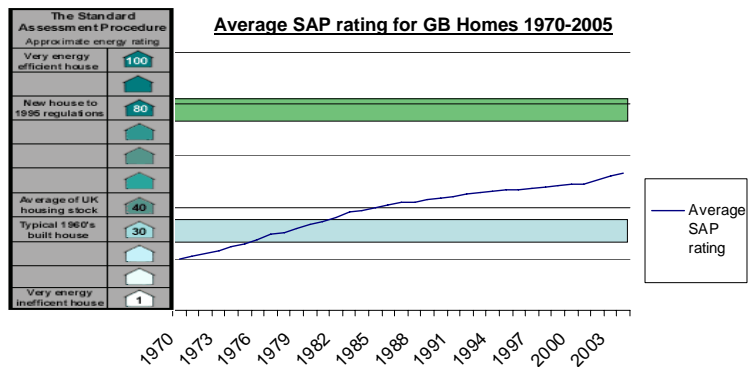
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## Existing housing stock by date of construction – 1970-2005



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## The average home is becoming more energy efficient



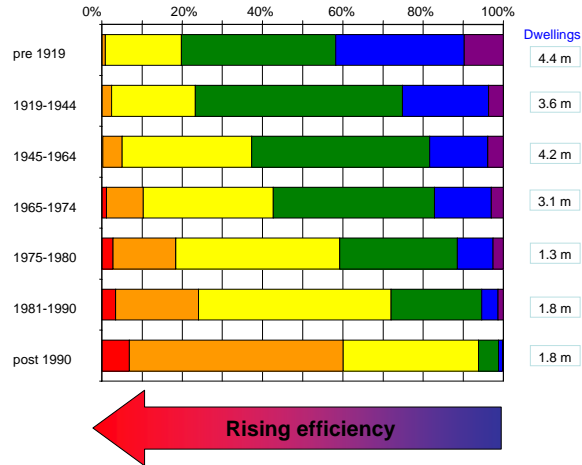
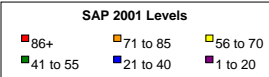
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# Profile of Energy Performance in Existing Dwelling Stock, 2004



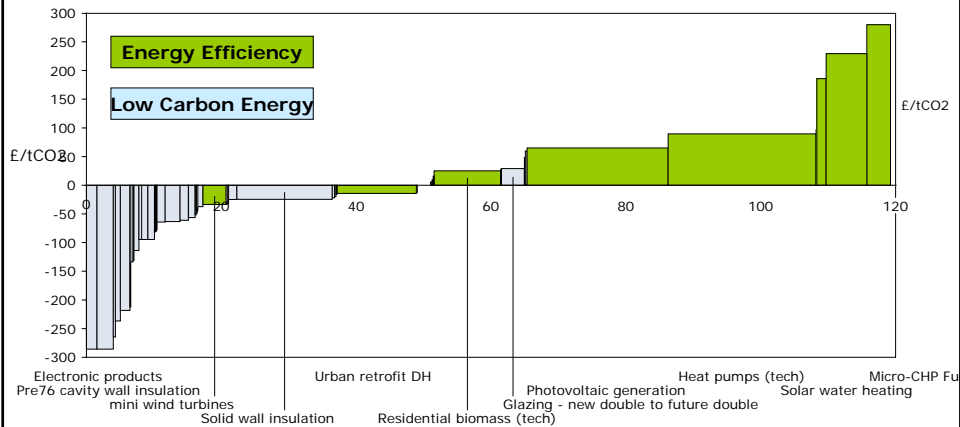
**The older a house – the more likely it is to be energy inefficient.**

Changes in construction methods/materials and updates to the Building regulations have led to a steady improvement in the SAP ratings of newer buildings.



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# Abatement opportunities in residential sector



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## Existing policies to address residential building emissions



<u>Policy</u>	<u>Estimated impact by 2020 in tonnes of CO2 abated</u>
• Zero carbon new homes	4.0 – 4.4
• Energy performance certificates	2.2 – 5.9 [commercial & residential]
• More energy efficient appliances and products	3.7 – 11.0 [commercial & residential]
• Better billing, smart metering, real time displays	0.4 – 2.6
• Supplier obligation	11.0 – 14.6

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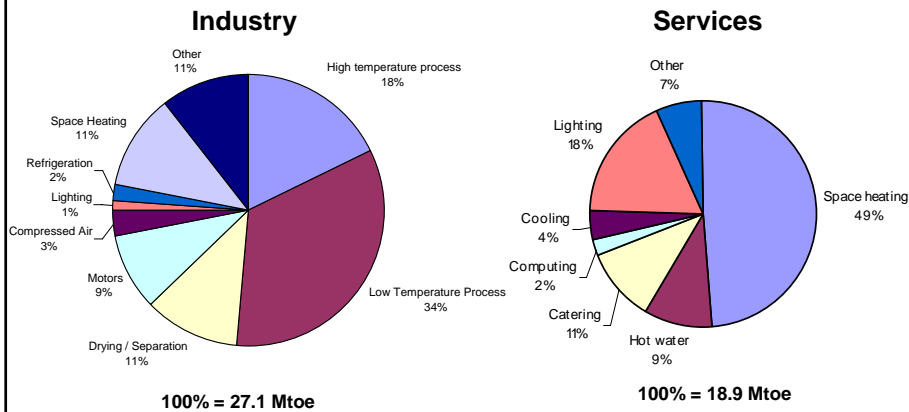
## More aggressive policies on existing residential buildings?



- Energy performance certificates linked to fiscal incentives?
  - Stamp Duty
  - Council Tax
- Extension of new building regulations to wider set of “refurbishments/renovations/extensions?”
- Reinforcement of “Supplier Obligation”
  - Stronger targets?
  - Government funding?
  - One-stop shops

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## Commercial and industrial energy end use



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## Policies for the commercial building sector



<u>Policy</u>	<u>Estimated impact by 2020 in tonnes of CO2 abated</u>
<ul style="list-style-type: none"> <li>• Zero carbon buildings                             <ul style="list-style-type: none"> <li>– Public sector 2018</li> <li>– Private sector 2019</li> </ul> </li> </ul>	Not yet estimated
• Energy performance certificates	2.2 – 5.9 [commercial & residential]
• More energy efficient appliances and products	3.7 – 11.0 [commercial & residential]
• Carbon reduction commitment	3.7

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## Carbon Reduction Commitment



### Cap and trade scheme expected to deliver 3.7 mt CO<sub>2</sub>

- Covers firms consuming more than 6000MWh (c. £1/2m energy bill)
- Excludes emissions in CCA and EU ETS
- Revenue neutral with revenue returned according to league table performance

