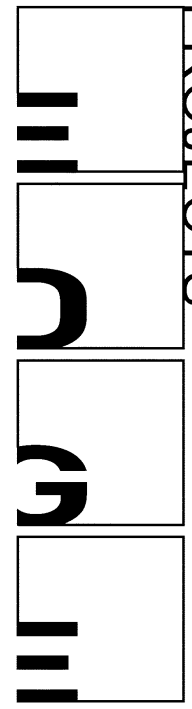


PROJECTS



# Fixing the Housing Stock UK's Big Challenge

July 2009

## **ABOUT THE EDGE**

The Edge is a campaigning built-environment think tank and is multi-disciplinary in a landscape that is remarkable for the high number of single-discipline institutions it contains.

We have been described as a virtual institution. Started as a means of creating a shared space between the architectural and engineering institutions, the Edge was never going to fulfil this mission if it turned itself into yet another institution and squeezed into any space that is left. Instead we have existed as a voluntary group in temporary space with no staff and lots of stakeholders.

# FIXING THE HOUSE STOCK - UK'S BIG CHALLENGE

Fixing the Housing Stock - UK Construction's Big Challenge.

A Brainstorm by Edge Committee Members.

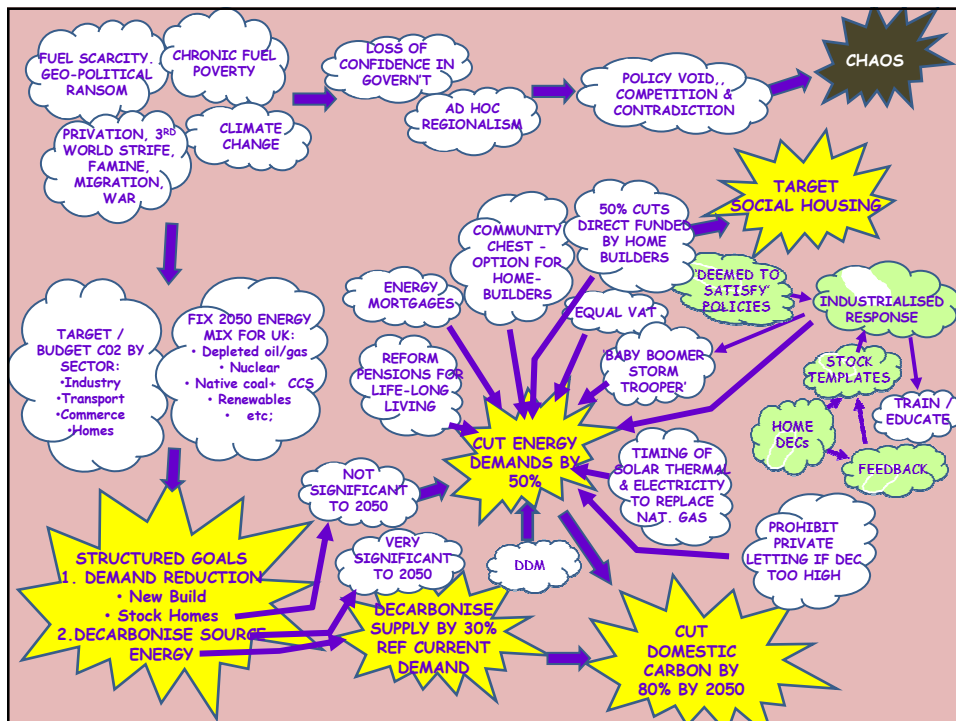
This paper's roots lie in a presentation to DCLG in support of its Homes-for-Life initiative (focusing on the needs of the elderly).

It centred on dealing with the mounting challenges of fuel poverty.

However, in brainstorming the issues, it became clear to the Edge participants that systemic barriers to 'fixing' energy problems with stock housing were so deep-seated that it was impractical to progress the needs of only one part of the community.

So the Edge turned its attention to all UK housing stock and considered measures that might enable a national retrofit programme to establish.

This paper summarises Edge's thoughts. It originally took the form of an animated story-board building into the diagram on the following page. Here the story-board is converted into a comic strip to include a brief commentary.

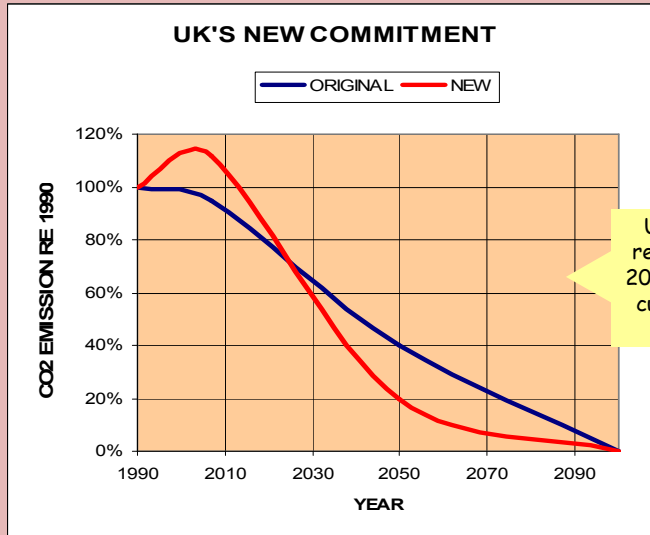


# FIXING THE HOUSE STOCK - UK'S BIG CHALLENGE

The prospects of not meeting UK's energy & emissions targets are potentially dire.  
 (The above scenarios come from Gov's Sustainable Energy Management and the Built Environment think tank.)

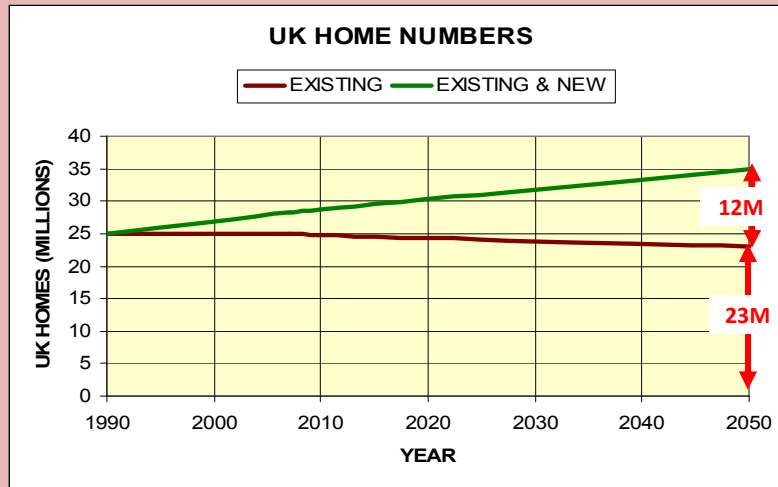
DECC's Low Carbon Transition Plan addresses the way forward for the next 10 years.  
 It's assumed to align with 2050 targets.  
 But what are the most vital steps now to deliver the 2050 carbon agenda?

# FIXING THE HOUSE STOCK - UK'S BIG CHALLENGE



UK changed its carbon reduction commitment in 2008 to increase emission cuts from 60 to 80% by 2050 (ref 1990).

The following slides assume each energy-using sector takes the same proportion of the energy demand reduction commitment needed to meet the trajectory...

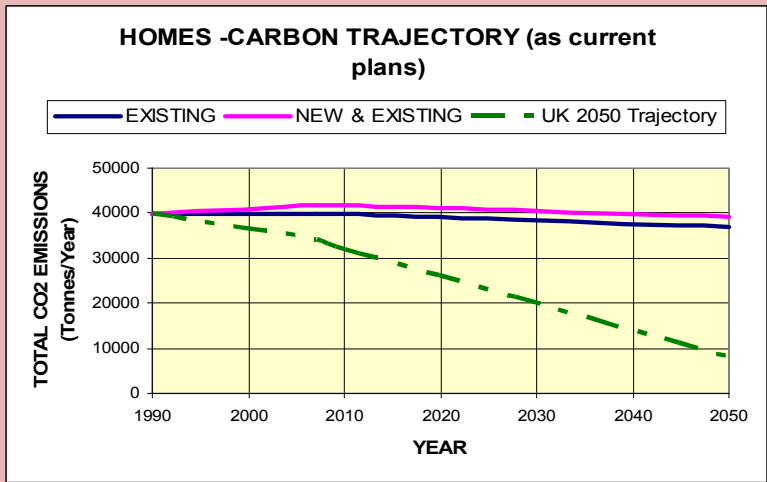
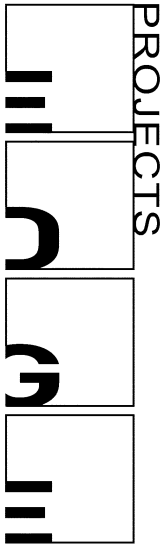


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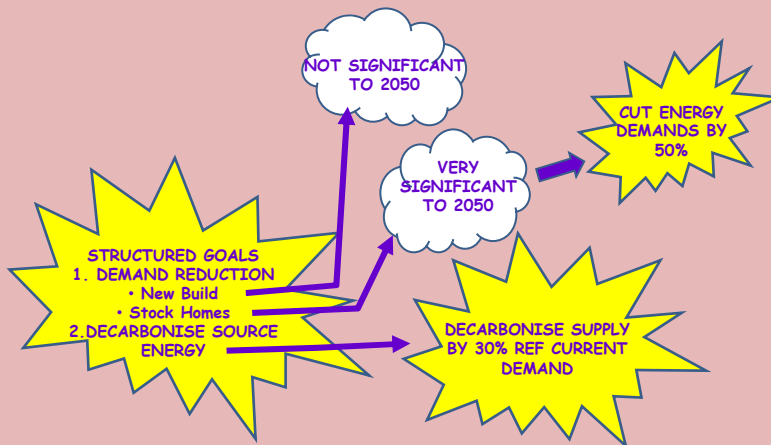
Consider homes - the main element of UK's building emissions. Even a massive surge in new home building to 300,000/yr from 2010 to 2050 would leave 2/3s of all homes (23Million) in 2050 as the current stock.

# FIXING THE HOUSE STOCK - UK'S BIG CHALLENGE



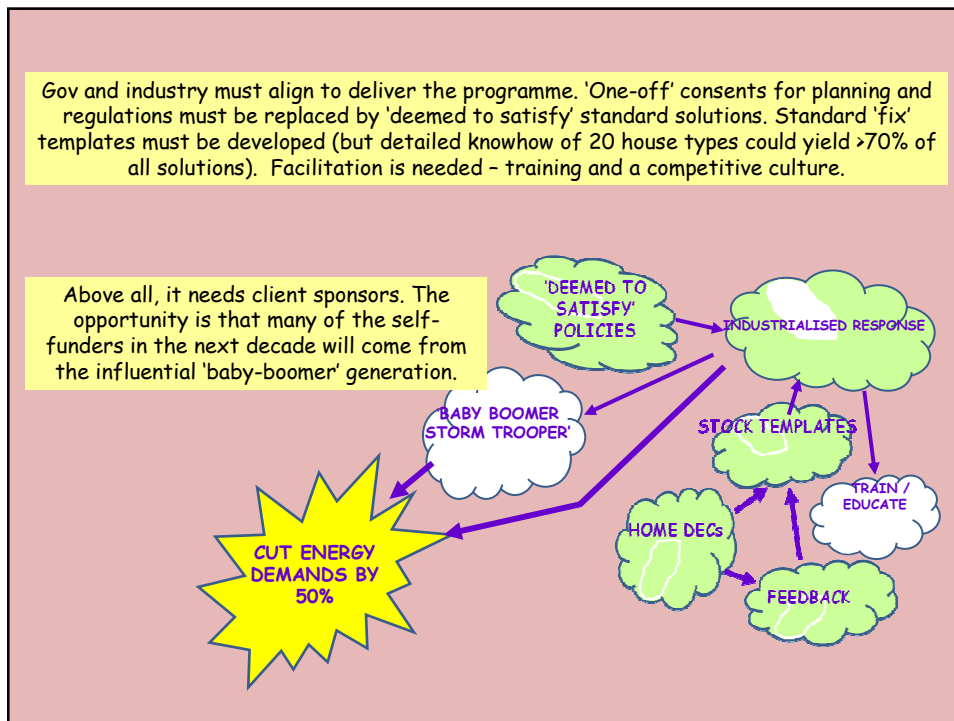
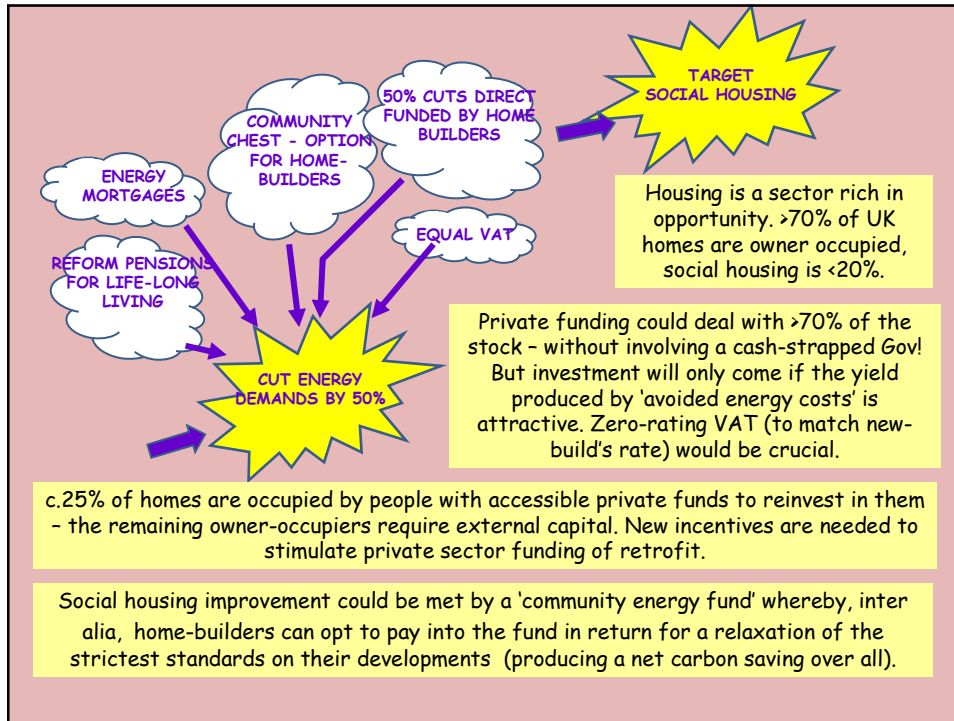
Even if new homes are built to the strictest 'Code for Sustainable Homes' standards, unless there is improvement to the remaining stock, UK housing's emissions won't decrease at all by 2050 - despite investing c.£150B in added costs to meet 'zero-carbon' new-build standards. New build's embodied carbon (not reckoned here) will likely see the sector's emissions increase!

Consider then the 23M stock dwellings that will still be used in 2050. To achieve Gov's carbon goals their energy demands must be cut by 50% - a realistic but critical energy demand target - AND there would need to be significant decarbonisation of UK's energy supply networks.

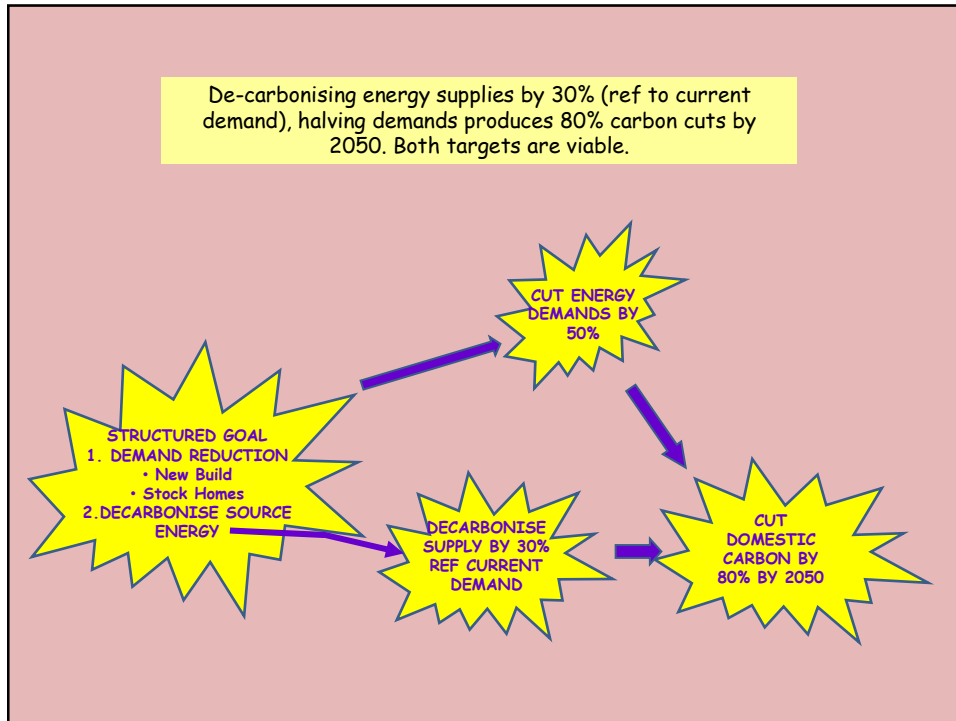
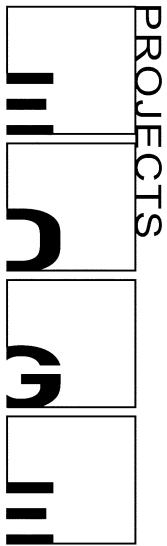


# FIXING THE HOUSE STOCK - UK'S BIG CHALLENGE

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# FIXING THE HOUSE STOCK - UK'S BIG CHALLENGE



## THE CHALLENGES

Halving CO<sub>2</sub> demand from 20(+) million homes by 2050 = 500,000 homes/year

A distressed economy - no public purse!

## THE RISKS OF NOT GOING FORWARD

Rapidly rising fuel poverty

Fuel/energy scarcity, brown-outs

## THE OPPORTUNITIES

Baby Boomers 'first footer' funders - provide initial stimulus.

£5-10billion/year new UK industry - privately funded.

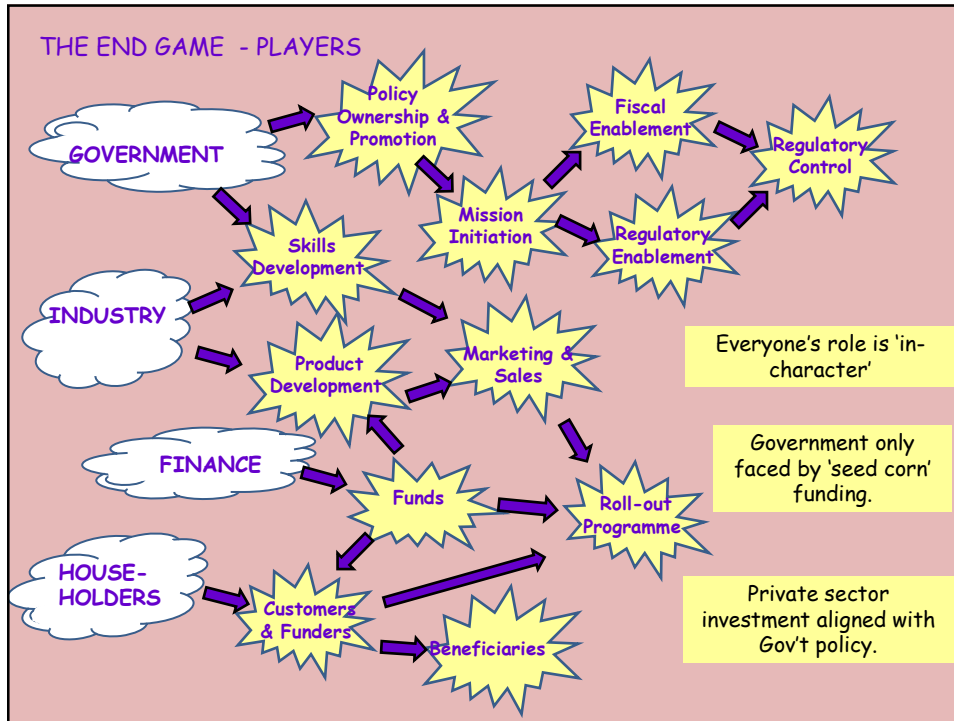
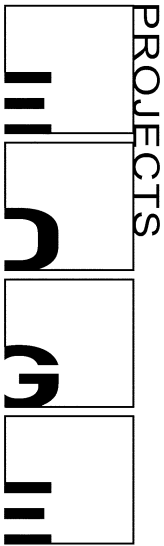
Central Gov eliminates /mitigates risks.

Important UK example on climate change mitigation. International standing

Commercial opportunity for UK internationally.



# FIXING THE HOUSE STOCK - UK'S BIG CHALLENGE



Fixing the Housing Stock - UK Construction's Big Challenge.

A Comic Strip of a Brainstorm by Edge Committee Members.

## FOOTNOTES

This thumbnail outlines a string of measures that could bring about a vital national retrofit programme for UK's housing stock.

It makes many assumptions - mostly untested and in need of following up.

Edge members aim to carry out further studies.

Edge welcomes suggestions and comments. For further information, please contact the Editor of this paper - Paddy Conaghan at:

[paddyconaghan@hoarelea.com](mailto:paddyconaghan@hoarelea.com)

Or feedback on:

[www.edgedebate.com](http://www.edgedebate.com)