

THE EDGE DEBATE

12 NOVEMBER 2008

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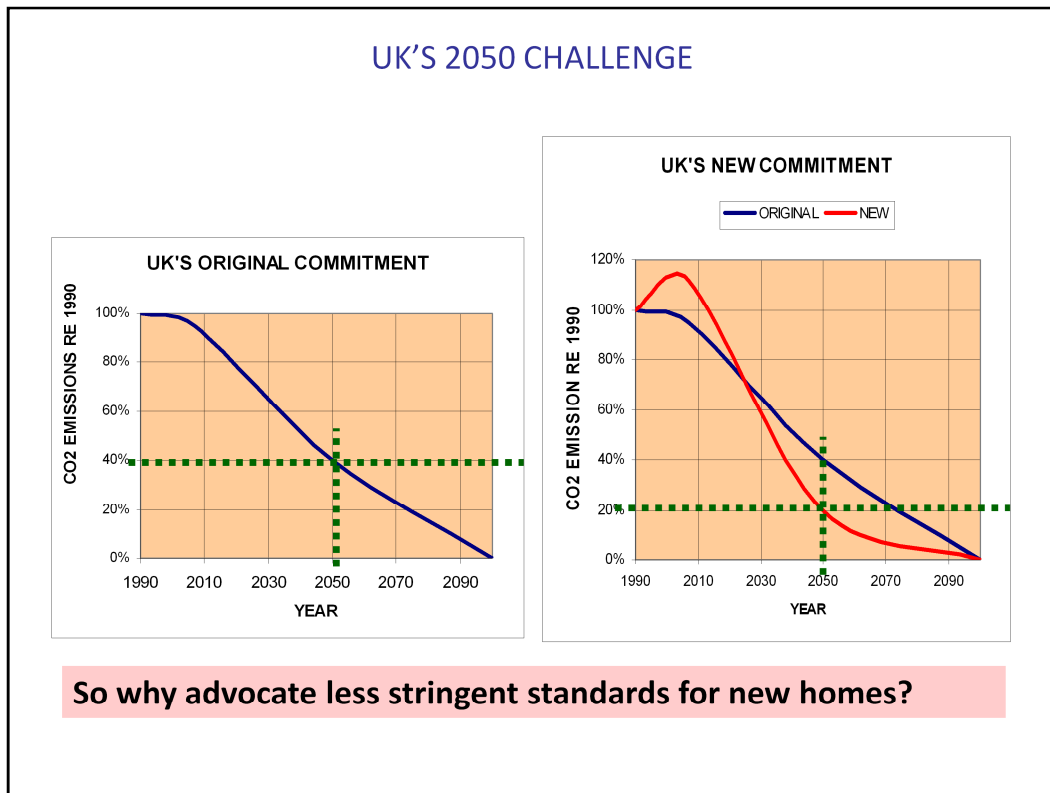
THE CANADIAN HIGH COMMISSION

TRAFALGAR SQUARE

LONDON

“This House proposes that
investment should be diverted
from achieving carbon neutral new
homes to the existing stock”.

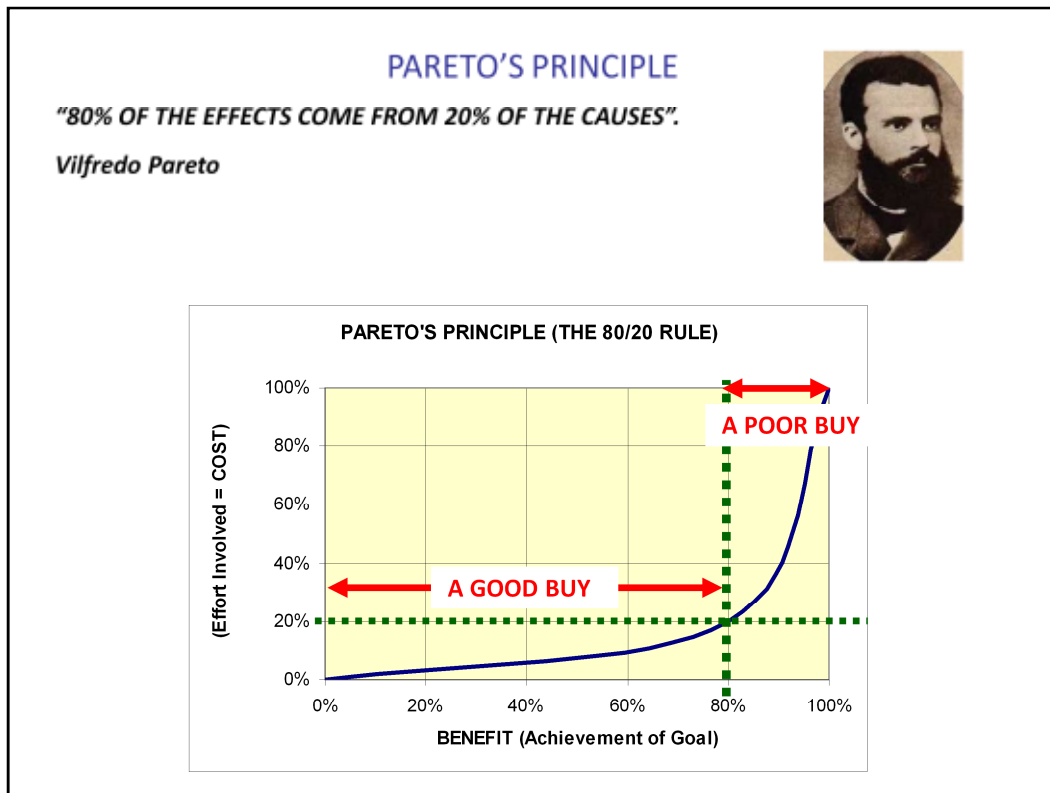
Proposer: Paddy Conaghan,
Edge Committee Member. Partner: Hoare Lea.



UK's Carbon policy now calls for 80% CO2 cuts by 2050 compared with the former target of 60%.

The need to impose a more rigorous target has much to do with the efforts so far being ineffectual – despite us being at the top of the curve where the scope to make a difference is greatest.

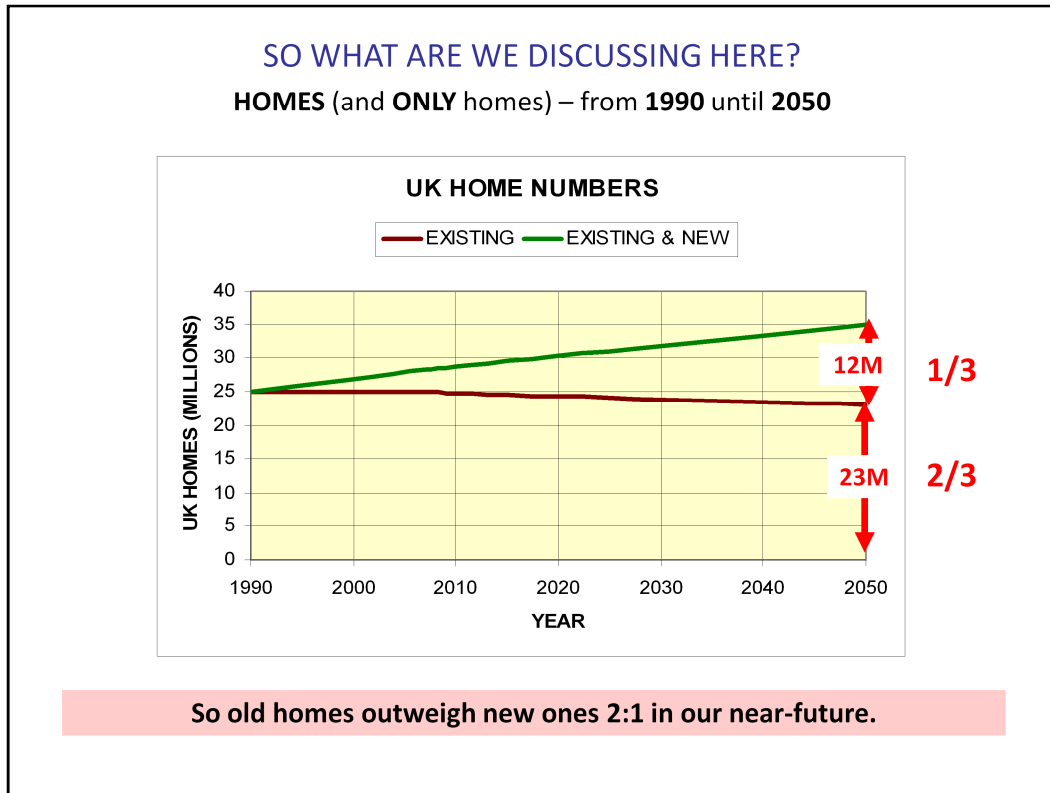
So why do I suggest that slackening off on future energy standards for new homes might aid us getting back on track with the CO2 trajectory needed?



My thesis is only about using money wisely – to get the best return on investment; the best bang for your buck.

Pareto's Principle gives some guidance as the outcomes of effort (investment) on outcomes. A lot can be achieved at modest effort (cost) but the final push to the goal usually involves disproportionately more effort (cost).

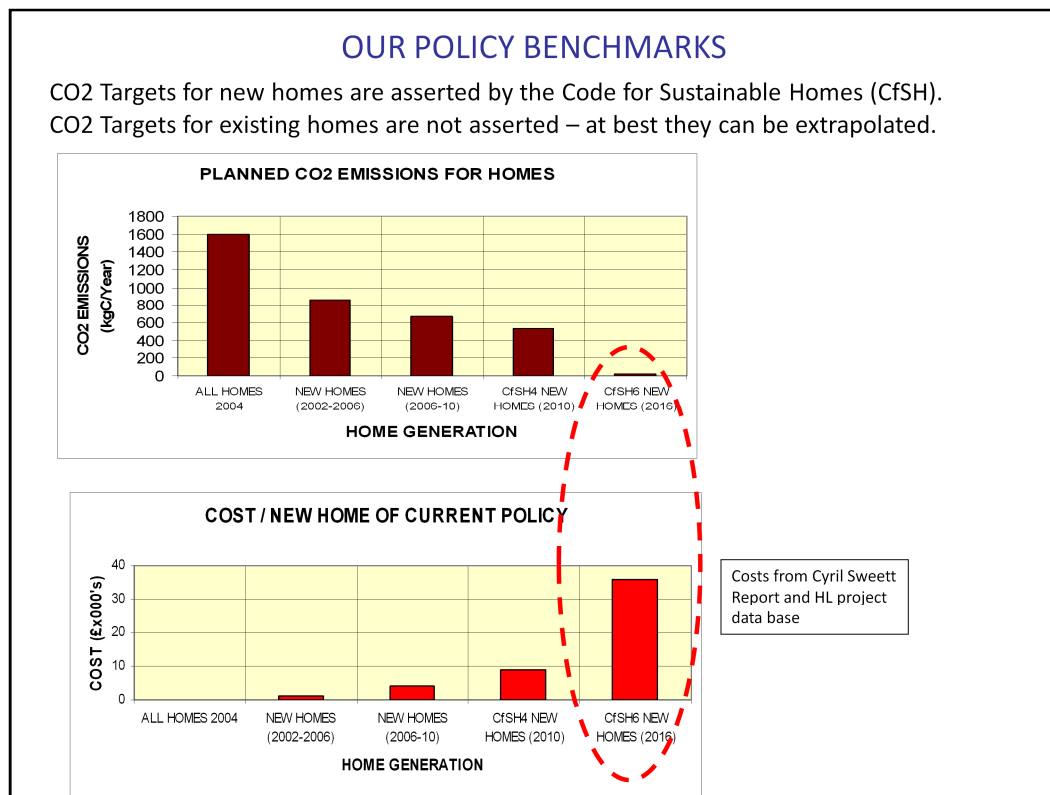
Pareto aligns with the Law of Diminishing Return; a common reality.



If we extrapolate the most optimistic forecasts of new home building and old home replacement, by 2050, 66% of all homes will still be the ones we see about us today.

Fixation with new housing misses the point that the existing stock will be numerically more significant for the next century and it should be our greater preoccupation for the next few decades.

Yet it has almost been ignored to date in UK – as a number of Government-funded papers freely acknowledge. (Germany 's approach is very different).



The average stock home emits nearly 1tC/yr more than one built to today's standards. From 2010 when housing is built to Code for Sustainable Homes Level 4 standards the difference will rise to about 1.1tC/year.

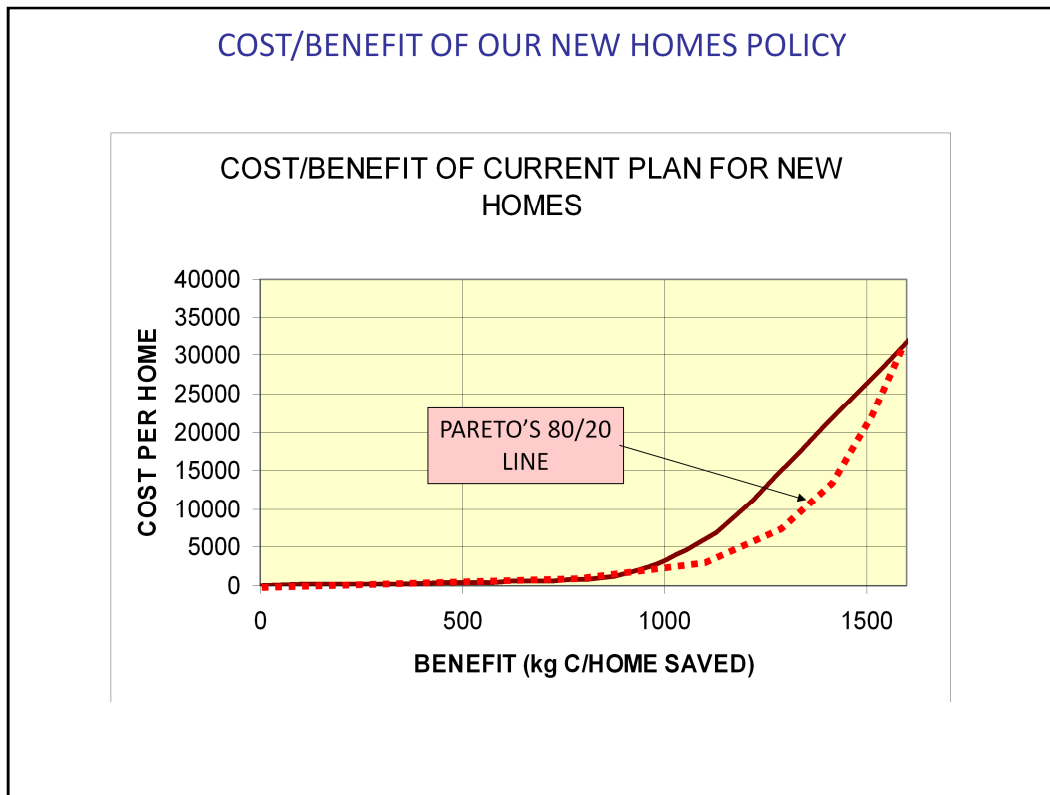
So by 2050, existing homes will not only be twice as numerous as new dwellings but, left untouched, each will produce three times the carbon emissions of a new home built from 2010. So unless emissions from existing homes are dealt with, they will be six times more significant in determining UK's domestic carbon emissions in 2050.

The means and cost of getting to the 2010 standard for new homes Code Level 4 is modest. It's a good buy!

But Government's goal to move to Code Level 6 (Carbon Neutral, however it's eventually defined) is forecast as far more costly – although the further carbon benefit more modest, saving less than half again of the emissions cut achieved by Code Level 4 ref current stock.

The step change in costs with Code Level 6 arises because it requires electricity generation by embedding renewable energy sources at the demand end.

Code level 4 simply involves good design, tight construction standards and basic thermal Low / Zero Carbon measures. Its technologies are more basic, which usually equates at domestic scale with being more reliable, and more likely to deliver the promise.



The cost/benefit line of moving far beyond Code Level 4 follows Pareto's Laws of diminishing returns – the 'Bad Buy' zone.

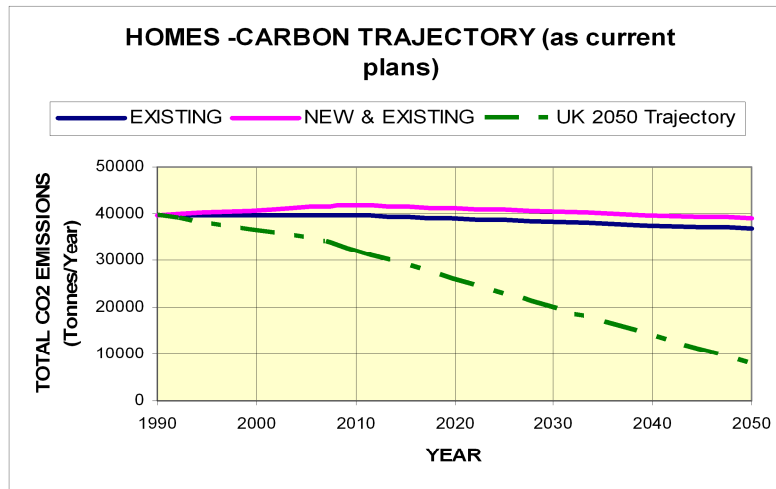
True, the more technology 'fixes' we buy in this zone, the lower will become their unit costs. But the same thesis applies to any bulk bought solution. So it applies equally to the neglected techniques and technologies that would remediate emissions from existing homes.

So to try to balance such cost conjectures, I have held to a generous allowance for 'fixing' the carbon footprint of existing homes (a sum three times higher than the maximum grant under the Warm Front programme.)

WHERE POLICY TAKES CARBON EMISSIONS FROM HOMES

Using predicted old/new housing numbers

Using asserted CO2 targets for new homes but existing CO2 emission levels for old homes.



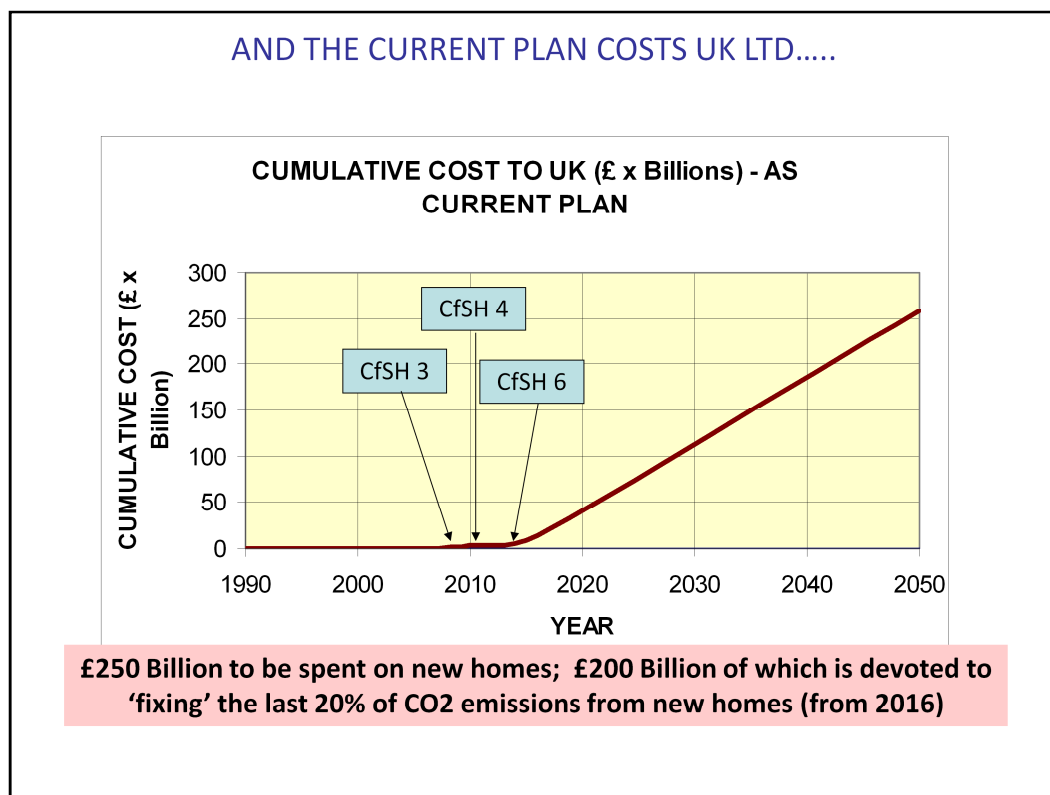
New homes have no effect on CO2 emissions from housing.

Old homes dominate CO2 emissions.

Nothing worthwhile happens.

If we proceed with the current planned roll out of CfSH standards to new homes but do nothing about existing ones:

- The good news is that new homes change nothing in the Nation's domestic sector emissions
- And the bad news is that nothing changes – we do not move one jot towards the carbon trajectory required.



CfSH Level 4 – which achieves about 2/3rd of the goal of zero carbon new homes costs £50 Billion over that period.

Raising the bar by moving from CfSH level 4 to level 6 adds a further £200 Billion to the bill - four times the cost but half the benefit of CfSH 4!

When house building didn't top 170,000/year in boom years (against Government's target of 250,000/year), surcharging tomorrow's building costs is something that needs to be thought about very carefully.

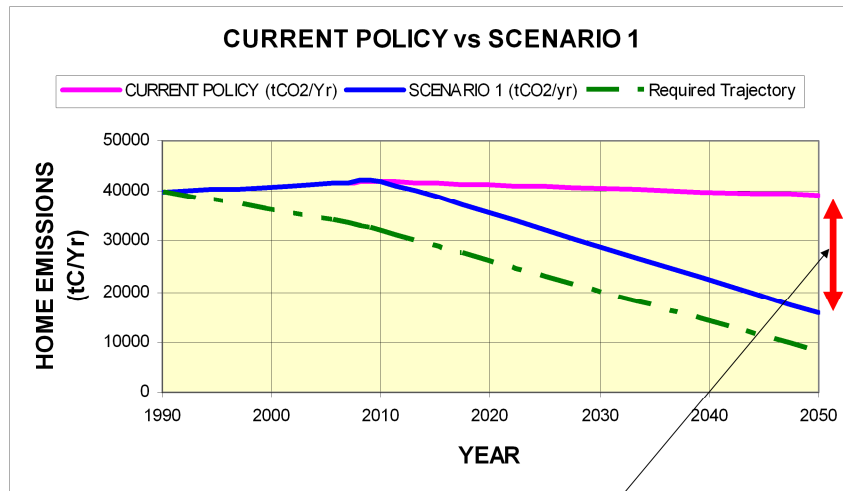
A test of this would be to answer the simple question "which is more likely to make the housing supply deficit worse:

- (a) Adding £50 Billion to the cost of construction?
- (b) Adding £250 Billion? "

SCENARIO 1 – REDIRECTING SOME OF THE CURRENT COST PLAN TOWARDS OLD HOMES

Pegging new homes at CfSH 4 to 2050

Using funds released from upgrade to CfSH6 from 2016 onwards to cut CO2 emissions from existing homes (based on 1tC/Yr saved by £8000 investment)



The difference is significant. The scenario 1 trajectory follows UK's required trajectory – displaced only by the period of inattention given to existing homes

As a simple scaling or sanity check, let's consider what would happen if the £200 Billion premium cost of CfSH level 6 was spent instead on remediating existing stock while new home standards were left at CfSH Level 4.

The difference in national CO2 footprint would become startlingly different – tracking the policy trajectory – only 10 years too late!! (Here £8000/existing home is allowed – the *Warm Front* programme, possibly the most successful of Government's programmes for existing dwellings, funded only £2700).

The redirection of funds would also move to solve the national disgrace of fuel-poverty. At the moment, despite good intentions, our national CO2 policy includes the blind spot of starting at current norms - a datum that involves appalling hardship for the most vulnerable in society .

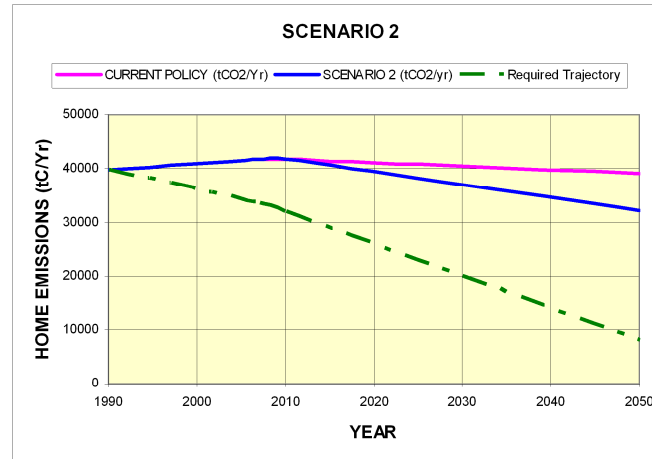
It also fails properly to address fuel security. The best way to cut overall energy use is to deal with those sectors that demand the most.

So the current approach, although a 'heroic' use of other people's money, is not the best way to deliver a fair, secure and effective national energy plan for the domestic sector.

SCENARIO 2 – A MORE REALISTIC PLAN TO REDIRECT FUNDS TOWARDS OLD HOMES

No Developer will give 100% of the cost of taking his development from CfSH4 to 6 to a third party to remediate emissions from existing homes.

But perhaps a deal could be struck at 25% of the CfSH6 premium – in exchange for licence to build to CfSH4 standards.



But crucially the scenario tips the scales – ‘all homes’ emissions begin to drop. Top up funds would be needed to achieve Scenario 1.

But in the real world no developer or house-builder will surrender the whole cost of reaching CfSH Level 6 to a third party (Government) stakeholder to spend on existing stock.

But all would consider ‘a deal’ – either accepting CfSH Level 6 or making a contribution of (say) 25% of the premium cost of Level 6 to a ‘Community Chest’ in return for a Level 4 consent. It may prove difficult politically but it wouldn’t be the first community-serving levy ever applied – although likely one of the most valuable.

The difference in aggregated emissions from new homes between level 4 and level 6 is pretty insignificant to 2050 compared to the gains achieved by applying the £50Billion ‘Community Chest’ fund to existing homes. It would achieve an almost immediate ‘tipping point’ in UK’s domestic carbon trajectory.

By itself it can’t fully restore the required carbon trajectory but it can stimulate the conditions where the trajectory can be achieved by:

1. ‘Fixing’ the carbon footprint of all public sector housing
2. Funding large scale demonstration projects for every major form of home to inform builders, manufacturers and home-owners on the ideal set of low carbon options for any particular type of dwelling.
3. Subsidising (eliminating VAT?) private investments in energy /carbon reduction to kick start effective action on the 80% of UK homes that are privately owned.
4. By reducing the stock’s thermal and electrical energy demands, making the impact of decarbonised network energy supplies more meaningful.

Also, it will:

- Keep new home prices down, better aligning supply with targets.
- Make key in-roads into fuel poverty.
- Reduce UK’s domestic dependence on foreign supplies of gas and oil.

DISCUSSION

- Government looks to commercial developers to provide most new homes
- Government wants 230- 270,000 new homes each year.
- Developers, even in recent boom years, have not delivered >170,000 homes each year.
- With each new home surcharged £25,000 for CfSH6, this delivery gap will not close.

And....

- Undue focus on new homes misses 'the elephant in the room' – inefficient existing homes.
- Unless existing homes are fixed, housing will not contribute to UK's carbon reduction goals.
- Unless existing homes are fixed, rising fuel poverty remains a national disgrace.
- Unless existing homes are fixed, UK will increasingly be hostage to offshore energy suppliers.

Pareto's Principle gives sensible guidance on deploying investment in housing.

We all know that dealing with existing homes is difficult for Government - but not impossible

How to deal with it must be the subject of another debate!

THE IMPORTANT (NEXT) DEBATE

Presupposes agreement that funding needs to be redirected from new to existing homes

- Funding of new homes needs public and private sector investment for worthwhile results
- Such funding needs targeting at the 'low hung fruits' - more abundant in existing housing
- Targeting needs metrics – fast, wide-scale, rollout of Energy Performance Certificates.
- Government relies heavily on vested interest groups in its policies for existing homes
- Single interest groups may give sound advice, but collectively not readily reconcilable.
- Government needs to take technical advice on getting best CO2 outcomes from homes.
- There is too little research and trialing on fixes for CO2 in existing homes.

Government's current programmes for existing homes are worthy but not very effective.

Effective programmes for existing homes are essential.

How to deal with this must be the subject of another debate!

Observations by others

“There is an uneven playing field between new build and refurbishment. The system has been geared in favour of new build; renovation grants have all but disappeared, incentives...are minimal and extremely restrictive. There is a high VAT rate imposed on repair and modernisation.” ***SDC Report for ODPM; July 2006***

“Are we right about the need for new housing to lead the way in delivering low-carbon and zero carbon housing?” ***DCLG; December 2006***

“Government has not responded at all to the recommendations we made. ..There is a really serious hiatus in their review of the existing stock.” ***Prof Anne Power SDC, 2008 (referencing the Report above).***

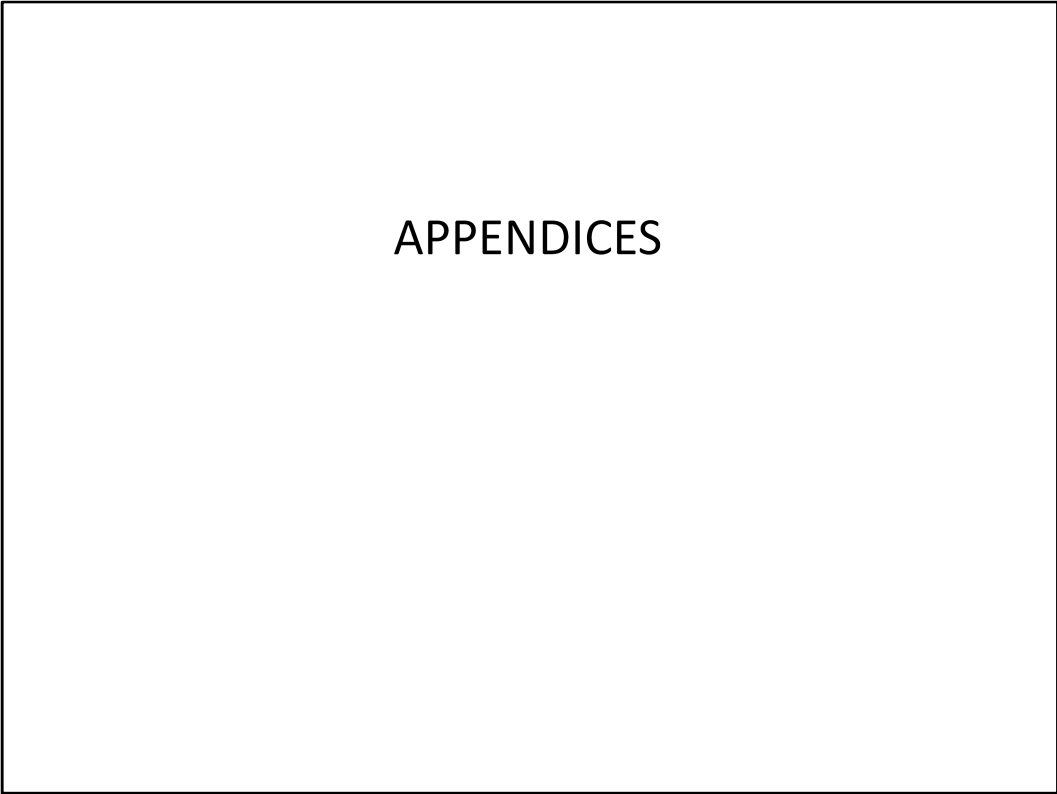
“The Government’s understandable desire to build improvements into future housing has led it to give insufficient priority to.... the vast bulk of existing housing stock. A much clearer focus to bring existing housing up to required energy efficiency standards is essential.” ***Existing Housing & Climate Change; DCLG Report; 2008***

THE CASE FOR DIVERTING INVESTMENT FROM CARBON
NEUTRAL NEW HOMES TO THE EXISTING STOCK

THE END..... THANKS

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Programmes for Existing Homes

Decent Homes – A missed opportunity. No overall CO2 improvement – but a gain in habitability of social housing. Specific energy performance standards (SAP 65) proposed in any future programme by DCLG 2008.

Warm Homes – Targeted at the more needy and generally effective - it has reached c.10% of England's housing, yielding cuts of 0.5MtCO₂/yr (10% of England's housing emissions) at a cost of <£1Billion. (A validation of Pareto?) Its shortcoming is that the £2.7K cap on the grant is blind to the actual circumstances of subject homes – some need higher grants.

Energy Efficiency Commitment (& Carbon Emissions Reduction Target) – A surcharge on energy suppliers to provide improved energy efficiency to all UK households but mainly low-income ones. Simple, targeted at 'low-hung-fruits' its outcomes are thwarted by the fuel poor (understandably) using saved energy costs better to heat their homes.

Landlords Energy Saving Allowances – A £1.5K/home tax allowance to improve energy efficiency in their buildings. Restricted take up – because of difficulties of accessing the vast preponderance of small landlords and subject to the problems of split incentives (i.e. Landlord pays, Tenant benefits).

VAT – A perverse anomaly and disincentive to use energy efficiency products in existing homes, which it taxes at 17.5% (against 0% for the same products applied to new homes).

