

Cutting Red Tape review will give construction industry the foundations to get Britain building¹

Cost and supply are inextricably linked in the current housing crisis. Steps to make it easier and quicker to build homes are to be welcomed providing these homes are more affordable, in both capex and opex terms. There is an opportunity in the review of existing regulations to make homes much more energy efficient at no extra cost and thus, because this brings down the operating costs, much more affordable. Zero bills are a very attractive offer to the consumer. The object is not more or less regulation but better regulation.

1. The objective: more ambitious carbon targets at no extra cost:

High energy performance for new homes does not cost more. The 'Fabric first' approach has also shown how high levels of insulation and high performance windows and thermal bridging, are not extra cost². The Passivhaus standard has also shown a way forward. There is much other untapped potential³. While there may be some innovation investment, in skills, technique and components, this is soon recovered⁴ through increased supply chain efficiency and economies of scale, as in any other industry.

2. Reduce regulatory burden by 75%:

A move to simply define the required in-use performance⁵, instead of a regulatory focus on demonstrating compliance within the construction process⁶, allows the industry to choose how it delivers, and then be judged on the results. Harnessing Smart Meters permits building performance to be judged and occupant influences factored out. This also means the Performance Gap becomes a thing of the past as industry is incentivised to ensure their product really works.

3. Use market to drive performance:

A common metric is needed so that consumers can understand the issues. These are commonplace in the car industry and should be no challenge to the housebuilder. Using the kWh⁷ metric means the consumer can understand how energy labelling has a direct bearing on the household energy bill bottom line. This transparency of what the performance should be, allows the end user to harness 'name and shame' when the industry fails to deliver.

4. Allows Industry to innovate:

With a regulation simply defining the required finished house performance, the industry is free to innovate and choose the method and the products to most economically deliver this. A simple compulsory insurance scheme backs this up which does not just compensate but ensures the builder fixes it, as in product recalls in other industries.

5. Harnesses Smart Meter rollout:

Smart Meters become an essential component, as the means to verify actual energy performance for a new house. This interfaces to a smart add-on⁸ that is able to measure and hence factor out occupant

lifestyle influences⁹, the residual energy performance is then down to the building and the responsibility of the builder.

The smart meter also assists the occupant to understand out-turn energy bills, much like mobile phone tariffs. The home would have an expected baseline consumption¹⁰, over and above which lifestyle energy choices attract a higher rate per kWh. This understanding brings an incentive for better management of the home

6. Use private sector finance instead of public subsidy

For improved higher energy performance the builder can offer renewables funded by increased mortgage advances. With lenders' recently introduced detailed consideration of occupant outgoings to establish the size of advance¹¹, reducing their energy bills down to zero increases their access to finance¹².

¹ <https://www.gov.uk/government/news/cutting-red-tape-review-will-give-construction-industry-the-foundations-to-get-britain-building>

² The AIM4C project has demonstrated the cost benefits of achieving higher carbon standards using 'fabric-first'. Industry needs to be motivated by future regulatory targets to be looking at the next fabric-first step.

³ Why, with more efficient homes, is a 32kW boiler the new norm when it was 12kW twenty years ago? In practice we should be down at about 2kW. Current code compliance is largely proscribed component based and misses the strategic focus. New-build boiler capacities have grown and not shrunk. Numbers given above relate to an average 80m² home & 4 occupants with heat and DHW averaged across 24/7.

⁴ The ZCH / Sweett report of Feb15 showed how the delivered costs of zero carbon had been reduced from about 35% down to 5% premium with every likelihood this trend would continue as industry identified cost effective improvements.

⁵ The Australian NABERS system is based on a requirement to achieve a measured in-use actual energy/carbon output. The mandate is to achieve this in-use performance and remove most of the process from regulations. This should be even simpler if applied to UK housing because there are fewer occupant influences – which can be factored out using Smart Meters.

⁶ Complying with SAP/Part L1A is not related to actually delivering a carbon emissions target. Instead the current construction process effort, and component development, is to satisfy an abstract process of compliance tick-boxing.

⁷ As Netherlands and other countries the target is set in a metric the end users and consumers understands, ie: kWh of grid electricity (carbon equivalent). So this is the number a consumer can see on their electricity meter. Gas and other fuels would be in kWh(e) carbon equivalent.

⁸ This Smart add-on could be a Hive or similar controller provided as a condition of compliance.

⁹ The Smart add-on monitors the temperatures set by occupant, external weather, occupancy hours and hot water volume used by occupant. This allows the 'regulated energy' use, for which the builder is responsible, to be separated from the occupant choices dependant factors.

¹⁰ There is also the potential to offer alternative energy tariffs, for example a tariff which incentivises the lower energy use of more efficient modest floor area dwellings.

¹¹ Study on graduated mortgages for lenders (by Nationwide, Arup, BRE, etc.) indicates (proper) EPCs at 'A-rating' will allow £30K higher loans than F or G ratings.

¹² Where renewables are added to achieve lower running costs and hence lower occupant out-goings, this allows mortgage funders to increase the mortgage size to over any associated additional capital cost. This specifically incentivises renewables with low or zero maintenance costs such as PV (and far less consumable renewables like biomass!).