

URGENT POLICY ON HOUSING RETROFIT – A MOONSHOT

Dr Sue Roberts 14th July 2022

The UK should move wholesale to the retrofit of homes for energy efficiency. We need to:

- **Provide fuel security**
- **Reduce heating costs (number of fuel-poor households set to rise from 4m to 8.5m)**
- **Insulate homes from heat to avert 2003-style summer deaths (70,000 killed across Europe over a few days)**
- **Mitigate climate change**

Meanwhile there is a shortage of builders and materials, even for new-build; and a scarcely-existent supply-chain for the intricate work of retrofit.

The UK should move make a moonshot for fuel-security. Focus should be on street-by-street retrofit for our builders and materials. Government and Local Councils should create a world-beating systems-approach.

Sky-high domestic fuel prices are set to rise again in October 2022. Rises are due not only to the collateral damage of the Russia-Ukraine war¹, but also to factors that preceded the war, attributed by IEA to recovery from Covid-19². In October 2022, domestic fuel costs are likely to plunge *a third* of UK residents into poverty³. Depressed economic activity is anticipated by the International Monetary Fund (19 April 2022), which has downgraded predictions of UK growth from the fastest in the G7 of nations, to the slowest⁴.

The UK Government response to rising fuel prices is to increase supply: tax breaks on exploration are being extended to oil and gas companies⁵. But increasing supply is slow and should be focussed on renewables to keep us to our zero carbon targets. By far the best way to create fuel-security, permanently reducing dependence on oil companies and rogue states, would be to reduce demand.

Insulation, draught-control and renewables for homes, provide long-term security, self-sufficiency in energy, and protection from cold in the winter and overheating in the summer. This is 'retrofit'. It is also an essential component for reaching zero-carbon. Homes are responsible for over a fifth of our carbon emissions.⁶

The economy will be boosted by providing excellent skilled jobs and a ready market from all our homes (28.5 million). Britain could develop a world-class innovatory strategy for this complex roll out; such as was tried with the excellent ideas (in the unfortunately fatally flawed) Green Deal (2013-2015)⁷.

As a country that excels in service and managerial provision, the UK could sell this new expertise on, on the world stage. We could stand at the front of global development in retrofit.

Crucially, such a strategy should be developed and spun out at immense speed. This will be a challenge for a *laissez-faire* economy and yet speed and efficiency would be a major selling-point for global success and spin-out of the strategy.

A challenging and useful target should be set, such as the retrofit of 1,000,000 homes a year.

Is this impossible? Under normal circumstances, Yes. However, an ambitious plan like this could be achieved through mass-mobilisation; with a **moonshot approach**.

We face huge challenges: UK housing stock is amongst the worst in Western Europe⁸. In 2013, over 10m British families were living in homes with leaking roofs, damp walls or rotting window⁹. Over half of our homes were built before 1960¹⁰, when “constructional changes...mostly caused by amendments to building regulations for the conservation of fuel and power ...called for increasing levels of thermal insulation”. Prior to that time, most homes had uninsulated solid brick walls, single glazing, and draughts as a natural part of their makeup.

Building regulations have gradually improved new housing, but even now, with a change in building regulations that came into force in December 2021, homes are not required to be zero carbon in operation¹¹. They could have been.

Fuel price rises have brought the urgent need for retrofit into focus. To forestall the anticipated levels of fuel-poverty, to protect our people from ill-health and death, and to tackle climate change it would be justified for the country to go take a moonshot approach.

Four elements are required. Strategic managerial planning; skilled installers; plentiful materials; and a steady stream of funding from Government for this momentous investment.

Strategic managerial planning

An army of surveyors, energy-advisors and retrofit co-ordinators would sit below strategic planning from each Local Authority.

Skilled installers

We would need to harness skills and materials of tradespeople and construction workers. Many of these would need to be deployed from the new house-building sector; and retrained for the complex, intricate specialised work of retrofit.

Plentiful materials

The current drive for new-build homes is coming up against the constraint of insufficient materials. Retrofit is less greedy of materials, and re-use and circular economy concepts should make up part of the strategic push. Nevertheless, there would need to be a re-focussing away from new house-building to deploy materials to retrofit.

Funding

A brand new industry in mass-retrofit could produce an economic boom. It would need constant, reliable, long-term funding from Government. Whereas £900bn has been produced in quantitative easing since the financial crash of 2008¹², this has disproportionately benefitted the wealthy¹³. Targetted investment in our homes will reap secure benefits.

SWOT ANALYSIS: Turning Weaknesses and Threats to Strengths and Opportunities

Threat 1: *If resource is prioritised away from housebuilding there will be nowhere for people to live*

Strength 1: The housing crisis is one of affordability not of supply. Housing is not a normal demand-supply market because there is a near infinite global market for housing as a financial asset¹⁴. There are over a million more homes in our country than there are households¹⁵. Slowly, we need to ensure that housing is used for living in not for investment. This can be done by restricting all housing sales to UK residents (as in New Zealand) and for residential uses only (as done for new homes only, in St Ives).

Threat 2: *Diverting workers and materials from newbuild to retrofit would stall the economy as the supply of new homes for the global market would dry up.*

Opportunity 2: The boost to GDP from mass retrofit would be enormous. It would create a solid foundation of good, widely-distributed, skilled work and a huge market for those skills. Unlike newbuild, it would not encroach on greenfield land and would be far less resource-intensive. It would not rely on foreign investment tying us into obligations to other states. Analysis for the Local Government Association, by Ecuity¹⁶ found that there 694,000 low-carbon and renewable energy jobs could be created by 2030 across every part of England, rising to over 1.18 million by 2050.

Weakness 3: *We cannot afford to retrofit - there is not enough money in the UK*

Strength 3: Money is a tool which can be manipulated to make our country strong, if it is invested in the right way.

£900 billion has been produced by Quantitative Easing since the financial crash in 2008¹². This money itself caused house prices to go up but was not used to strengthen the underlying (non-housing) economy.

Of this £900bn, £320bn was created for Covid-19 action in the one year 2020-2021¹⁷. This money was set against debt, but money can of course be produced without incurring debt, as ours is a fiat currency¹⁸.

The Scottish government provides zero-interest loans to householders to install any of the suggested interventions on their Energy Performance Certificates. For poorer households, grants are provided. This is similar to the English Green Deal (2013-2015) but avoids its worst pitfalls: the high interest rate on loans and the complexity of the structure^{19,20}.

Weakness 4: *We do not have the skilled workers, there is a shortage of labour. Four out of five construction firms are struggling to find enough workers²¹*

Opportunity 4: A gaping hole in the market with a skills gap such as we have is an enormous investment opportunity for training in good work. It requires a moonshot approach to redirect work towards a massive improvement of our existing housing. There are sectors of the economy that are languishing post-Covid eg tourism, retail. We can continue high-quality economic activity by diverting workers to improving our homes.

Training of tradespeople and builders would provide an excellent highly-skilled workforce to rival the German 'passivhaus' builders, and the Scandinavian heat pump manufacturers.

Our current builders and tradespeople are very focussed on newbuild. For now, in response to War, they should be diverted to retrofit. Upskilling will be needed: our current building professionals are not well-versed in airtight building, insulation and installation of renewables²².

Weakness 5: *There is no plan as to how mass retrofit might be done*

Strength 5: In this we can really use our expertise in strategic thinking to produce a solid plan. It would require Government to set the scene and empower Local Councils to set up Retrofit Units.

Councils have planning and building-control expertise and also keep a register of the energy efficiency of homes in their districts, under the Home Energy Conservation Act. Local Councils are trusted. Any or all of several strategies might be employed, such as:

- a) Identify the worst performing homes and the most fuel poor areas and go house-to-house with whole-home retrofit
- b) Go technology by technology, for example applying insulation to solid wall homes in the area.
- c) Demolish and rebuild to passivhaus standard
- d) Provide a complete package for householders including alternative accommodation whilst works take place

With strong working strategies, we would have a world-beating systems approach that could be sold to other countries, leading the world.

Weakness 6: Householders are not interested in retrofit

Opportunity 6: Savills say that 71% of house-buyers consider the Energy Performance Certificate to be an important factor when buying; they pay more for an energy-efficient home²³. Barriers to retrofit include:

- a) A sea of unawareness in our populace - householders do not know how to improve their homes for energy efficiency - knowledge of this is a skilled and specialist area
- b) Disruption - a whole house retrofit is best done in an empty home
- c) Money - estimates of cost for a whole-house retrofit run at £27,000²⁴ or even £40,000²⁵ per home (at 2019 prices)
- d) Availability of advisors and installers (supply chain issues)

A planned systems approach from Government, a moonshot response, with delivery through trusted local Councils can help householders.

Threat 7: There are not enough homes in the UK - homelessness will worsen if we stall housebuilding

Opportunity 7: We face terrible consequences for at least a third of our households if we do not insulate against future summer heat, and work to prevent future devastating floods. During this period of arming ourselves against fossil-fuel-dependency we should restrict the market in our homes:

- a) Homes (old and new) should be sold only to those living, or intending to live, in this country, or even in the respective county
- b) All homes should be sold for residential purposes only
- c) Holiday businesses could be enabled by licensing premises for that purpose

These actions will damp down the almost infinite market in second-homes and investment-housing. Housing will become available for our people to live in²⁶.

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