

Knauf Insulation: Written Evidence to the Bright Blue home energy efficiency project.

1. Introduction:

Knauf Insulation Northern Europe is the largest manufacturer of insulation in the UK. We have four UK factories manufacturing a range of insulation products. The headquarters for our Northern Europe operation is in St Helens, UK.

Context – Overview of energy efficiency challenges and the role of ‘able to pay’ schemes.

The context of the ‘Green Deal’ and previous energy efficiency schemes must be fully understood if improvements are to be made in a new scheme for ‘able to pay’ customers.

Energy efficiency is widely recognised, including by the International Energy Agency¹, as playing a key role in energy security, the wider energy system and the prosperity of countries.

“The traditional focus on energy savings as the main goal of energy efficiency policy has, at times, led to an underestimation of the full value of energy efficiency in both national and global economies. Energy efficiency can bring multiple benefits, such as enhancing the sustainability of the energy system, supporting strategic objectives for economic and social development, promoting environmental goals and increasing prosperity” – International Energy Agency, 2014

In the UK, previous schemes to improve energy efficiency, funded through supplier obligations, have contributed to a 30% drop in domestic median energy consumption between 2004 - 2013². But the correct balance between demand drivers such as incentives and regulation, and wider frameworks to support investment, has not yet been created. This means that, despite the recent efforts of successive governments, our housing infrastructure remains below the European average for energy efficiency resulting in some of the highest excess winter death figures in the EU. Because many homes remain under insulated, the energy bills of people living in these homes will be higher than they need to be, even if they switch energy supplier. Government rightly noted that energy efficiency has to fit in to the next stage of infrastructure in their 2016 National Infrastructure Delivery Plan released in February³.

Government has a role in ensuring that the right demand drivers are in place so that national energy and infrastructure priorities can be met effectively and at least cost to individuals and businesses. However, previous Government initiatives have not been designed in a way that helps to create a lasting market for energy efficiency. The Green Deal represented a first attempt to engage able to pay consumers in a non-subsidy based approach, however, red-tape, complexity and a lack of clarity and foresight over investment cycles each served to dampen already low demand and discourage any long term investment from those who might offer solutions. Indeed, the Green Deal was a complex finance mechanism attached to a product (home efficiency renovation) with minimal demand.

Creating a clear, long term policy framework for industry to invest against will help to ensure that skills and jobs associated with energy efficiency installation⁴ are retained, and can be improved so that harder to treat properties can be tackled effectively. The Government has already set out a further five year Energy Company Obligation period. New able to pay policy must work comfortably alongside these existing policy frameworks and broader infrastructure decisions that are being driven to improve our energy system.

¹ Capturing the Multiple Benefits of Energy Efficiency, IEA 2014

² DECC, National Energy Efficiency Database

³ National Infrastructure Delivery Plan 2016-2021, Infrastructure Projects Authority - February 2016

⁴ Frontier Economics recently published a paper detailing how noting energy efficiency as infrastructure benefits the UK economy: <http://www.energybillrevolution.org/wp-content/uploads/2015/09/Frontier-Economics-Energy-Efficiency-an-Infrastructure-Priority.pdf>

2. Why did the Green Deal fail? In particular, what mistakes were made in the design of the finance mechanism and the communication of the scheme?

The Green Deal faced a number of specific challenges due to policy design and the way that the scheme was communicated.

- No market drivers were created in support of the programme.
 - Zero-cost changes could have been made to wider government policies in support of the scheme, such as tweaking stamp duty to reflect the energy performance of a home. Such a change is revenue neutral to HM Treasury and would have supported the wider push towards a ‘home MOT’ at the heart of the Green Deal. MOTs are – of course – legally required and minimum standards for cars are strongly enforced. Signalling a shift towards energy efficient homes through tax policy would have made the wider economics of energy efficiency much more apparent to consumers at key decision points.
- The Green Deal was not well integrated with the choices that consumers make about their homes.
 - The consumer journey for long term finance should begin with banks at points when people are buying, selling or re-financing their properties. By reinforcing government policy aims through cost neutral tax policy, those looking to purchase or re-finance a property would have had a clear route to initiatives such as the Green Deal. This is how ‘Eco Pret’ (A French home energy efficiency loan scheme) operates. Although this initiative provides a 0% interest rate making it more competitive, it is worth noting that more than 200,000 loans were delivered between 2009-2011⁵ – the time at which Green Deal policy was being designed. Unfortunately the Green Deal was sold door to door by non-finance professionals and with an uncompetitive rate of interest.
- The Golden Rule was over-engineered preventing innovation and making the ultimate offering expensive and unimaginative.
 - It is important to provide customers with a clear offering. However, the Golden Rule was confusing and based upon an unrealistic ‘counterfactual’ assessment of the energy market. This limited the scheme from delivering anything other than very low cost measures without significant subsidy funding from Government. By truncating the finance available for specific technologies, interested customers were driven towards heavily subsidised measures – ultimately pushing costs up for bill payers⁶.
- The rates of interest were significantly too high for a publicly backed scheme.
 - Given the relatively small amounts of money being borrowed, the repayment route through companies, and the clear benefits to both the UK as a whole and individual consumers, money should have been underwritten by HM Treasury or the Green Investment Bank. The decision not to do this forced uncompetitive rates – when compared with on-mortgage lending – on those who were unable to finance their own improvements with up front capital and offered no benefit at all to those who were genuinely able to pay for improvements and were not keen to enter a long term finance arrangement for such a sum. This led to low up-take of the scheme overall and limited the ability of wider policy – such as ECO – to drive more innovative whole house solutions. Both France and Germany have successful 0% loan schemes to support home energy efficiency retrofit⁷. In short Green Deal became a ‘niche’ finance scheme for those who might struggle to access high street lending – not necessarily bad but certainly not the policy aim or justification for the policy set up costs.

There were, however, some elements of the Green Deal that could be considered successful – at least in theory:

- Up front finance is a significant issue and needs to be addressed if homes are to be improved. The Green Deal sought to address this and was ultimately correct to recognise that ‘able to pay’ focussed policy needs to be developed.

⁵ Mobilising Investment in Energy Efficiency, International Energy Agency - 2012

⁶ Green Deal and Energy Company Obligation, National Audit Office report – April 2016

⁷ Mobilising Investment in Energy Efficiency, International Energy Agency - 2012

- The need for a scheme that enables homeowners and landlords to improve the fabric of buildings will become ever more important as the next phase of ECO is re-focussed on to the fuel poor. Without a clear mechanism to help improve the UK building stock our national energy system will always be stuck with one foot in the past.
- The role of home assessment and creating a robust evidence base is an important stepping stone to creating a realistic market for energy efficiency.
 - The role of in home assessments in the Green Deal was undermined by the way that it was sold and the unappealing levels of finance rather than by the concept itself. Strong datasets will be needed. Future able to pay schemes should be designed to work with industry led initiatives such as the ‘LENDERS project’⁸ which looks at the strong correlation between energy efficient properties and low default rates. This means that Government must engage directly with banks, mortgage providers and mortgage advisors to ensure that the scheme is compatible with wider moves within industry, acting as a helping rather than a hindering, hand.

3. How should Green Deal-style loans for the able-to-pay sector be financed in the future? Is it necessary for the Government to provide any subsidy to the scheme?

Government has an existing presence in the market for energy efficiency. The recently announced five year Energy Company Obligation makes clear that it also has a stated interest in ensuring certain ends are met, specifically tackling fuel poverty, but also noting the role of energy efficiency in addressing concerns over the carbon intensity of our energy system.

Ensuring that different aspects of policy work well together will be a vital part of building a sustainable market for energy efficiency around an able to pay policy (In addition to addressing the challenges faced by the Green Deal outlined above in Section 2).

A first step would be to build on the early work of the Lenders project⁹. In essence Nationwide has set the project three challenges if it is to consider offering more favourable lending rates for energy efficient properties;

1. **Certainty**

Will the predicted energy costs for a particular family in a certain home be within reasonable accuracy levels?

2. **Magnitude**

a. Purchase: Will the savings of an energy efficient home, when set against the national average for home energy costs currently used in mortgage affordability calculations, be large enough to negatively impact mortgage payment default rates and justify mortgage providers offering a lower interest rate? If the answer is yes, this will add immediate value to more energy efficient homes in the first instance via reduced mortgage costs.

b. Re-mortgaging: Will the impact on running costs of improving energy inefficient homes, and therefore mortgage affordability, be large enough for additional funds to be lent at the lower interest rate so these can be used for renovation?

3. **Functionality**

Will any new affordability calculation around more accurate energy cost predictions be easy for mortgage advisors to carry out? If it is complex, it won't happen.

As demonstration of how the approach might work, an indicative mortgage below shows the same monthly repayments attached to two mortgages. However, the second offers an additional £10,000 to cover the cost of energy efficient renovation but at a 0.5% lower interest rate.

⁸ <http://www.ukgbc.org/event/lenders-project-launch>

⁹ ibid

Table 1 – Mortgage differences if energy efficient renovation attract a 0.5% lower interest rate

Mortgage	Int rate	Renovation cost	Total Mortgage	Cost of interest over lifetime	Monthly Repayments
£ 185,850	4.0%	£ -	£185,850	£ 108,445	£ 981
£ 185,850	3.5%	£ 10,000	£195,850	£ 98,291	£ 981

Effectively, the second mortgage uses avoided future energy bills to fund capital renovation works that then bring about those savings. A mortgage lender will, if their sums add up, lend an additional sum at a lower rate to reflect the greater affordability rating attached to the home. So while the monthly repayments are the same in the two mortgages, table two shows c£10,000 has been saved in the cost of a mortgage and c£11,000 in avoided energy bills.

The second table shows a discounted cash flow analysis to reflect the cost of ‘future money’ although a low discount rate has been applied. This is because there is no lost ‘opportunity cost’ as the homeowner would have no choice but to carry out the renovation if they wished to access the cheaper mortgage. Either box suggests more than enough money can be made available to cover the cost of most home energy efficiency renovations. Indeed, even considered over the seven or eight years people remain in a property, rather than the lifetime of the mortgage as modelled below, enough should still be made available to fund home renovation in most properties at no up-front cost.

Table 2 – Mortgage differences if energy efficient renovation attracts a 0.5% lower interest rate

	Mortgage Lifetime savings		Discounted @ 3.5%	Mortgage Lifetime savings
Mortgage cost savings	£ 10,154		Mortgage cost Savings	£ 6,638
Avoided energy cost	£ 11,958		Avoided energy cost	£ 7,403
Total	£ 22,112		Total	£ 14,041

From Knauf Insulation’s perspective, we believe the above approach could ultimately provide for a more appropriate distribution of risk between the key parties that wasn’t present in the Green Deal. It both offers affordable finance and creates a demand attached to accessing more competitive mortgage rates. In other words energy refurbishment becomes a means to a traditionally more popular end in affordable home ownership rather than an end in itself.

Accounting for risk

In any successor to the Green Deal, specific risks need to be well understood and accounted for as part of the policy development process if effective financing is to be produced.

Performance risk – the Green Deal’s Golden Rule that ‘the repayment will not exceed the energy savings’ was an assessment built from generic assumptions on savings attached to installing generic measures and assumed a standardised level of install quality and assessment approach. All aspects of this approach offered little confidence the Golden Rule was anything other than a rough guideline. It also required no ‘skin in the game’ from contractors in terms of performance against the golden rule and therefore failed to incentivise innovation or offer any rewards for ‘best in class’ solutions.

Indeed, the standardised software used to make the key calculations on savings was being stretched beyond its original purpose as a simple asset rating tool at the time of property sale or purchase. This meant that a guide initially intended as a basic information tool for renters or purchasers of homes was now being asked to form the backbone of a financial contract. This shifted all of the risk that the predictions it offered could prove inaccurate to the homeowner and the finance provider. This risk on the accuracy of predicted savings should sit with those carrying out the renovation and the providers of the chosen energy efficiency products. Where risk is allocated to the home owner, it should apply to the decisions they make in how they operate the property.

This approach would result in an appropriate proportioning of risk and should be set out in a contract between the two parties.

It has been argued that the challenge of attributing savings to home renovation is too large to be handled in the way described above. However, the opportunity for the energy efficiency industry to move toward offering a valued service that includes access to cheaper finance, as well as a more comfortable home, is huge and will drive the kind of innovation not seen in previous government schemes. But for this to be brought forward, policy has to be designed appropriately.

- **Credit Risk** – Once performance risk has been appropriately allocated, the mortgage provider can assess the same remaining risk elements attached to standard mortgage lending they carry out as part of their day job. However, in the early days the evidence base must be built on the magnitude, reliability and longevity of savings if either contractors are to ‘guarantee’ them or mortgage providers consider them de-risked and substantial enough to offer lower rates against.
- **Asset Risk** – This aspect considers the risk attached to the bricks and mortar and must be approached from two angles – the risk of carrying out energy efficiency renovation and the risk of not renovating.

The former is attached to any building project and that risk must be managed in a contractual relationship between the homeowner and contractor. However, if Government is serious about its climate change targets it must accept a role in driving, nudging or regulating action to ensure, where an asset / home can be improved, there are suitable incentives to do so. This may include underwriting aspects of this risk in some circumstances. It must also include active notification to property owners, and particularly landlords, of the risks that they are already exposing themselves or tenants to, such as poor-health caused by cold homes.

The on-mortgage mechanism we described above means, for the ‘able to buy’ at least – whether landlord or owner-occupier – there may be attractive finance packages available to those wishing to renovate but there must be some form of demand driver that encourages numbers choosing to renovate at the desired scale to meet carbon budgets. Our preference would be for the cost neutral Stamp Duty nudge described elsewhere in this paper. If no demand driver is put in place, the numbers choosing to renovate will be fixed at those persuaded by Nationwide, or other mortgage providers, marketing plans. This will drive some investment but not the kind of step change the Government requires.

Energy efficiency provides a very strong return on investment in its own right. Research has shown that an investment of infrastructure funds by Government, as part of a wider upgrade of our energy system, would help to meet government objectives and provide a net return to both HM Treasury and the wider economy¹⁰. A package of in-home infrastructure investment with Government support would speed up the creation of a more workable market structure. In turn, this would allow for new technology – such as smart meters and heat pumps – to work more effectively and on a larger scale as we upgrade our energy system.

Given the wider health benefits and positive effects upon the energy system that result from more efficient homes, the role of regulation should also be considered in meeting the policy ends that Government has already set out. The speed with which this market can be created will help to boost the ability of Companies delivering the Energy Company Obligation and also allow Government to meet wider goals.

4. What lessons do you anticipate from the Bonfield Review about quality assurance in the supply chain? How can these be incorporated into a Green Deal successor scheme?

We have participated fully in the Bonfield Review process. To ensure that there is a beneficial outcome for customers and the wider market, a clear, robust Quality Assurance framework needs to be adopted.

¹⁰ Building the Future: The Economic and Fiscal Impacts of making homes energy efficient, Cambridge Econometrics – Autumn 2014

We agree with wider stakeholders that outcomes from the Bonfield Review to deal effectively with quality must be implemented before the new ECO is operational and as part of a future 'able to pay' system.

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