ResPublica *Recommends...*

After the Green Deal:

Empowering people and places to improve their homes

by *Dr Jan Rosenow and Richard Sagar*

Britain's current energy efficiency policy has failed. The number of home-owners fitting energy saving measures in their homes has plummeted in recent years and the industries supplying them have suffered low demand and job losses. This needs to change. Energy efficiency is too important to be ignored or botched. In this report we outline the multiple benefits of domestic energy efficiency, the primary problems with the previous approach (the Green Deal), and we propose an ambitious and practical set of recommendations to engage consumers, drive demand and enable consumers to improve the energy efficiency of their homes.

The Benefits of Energy Efficiency

Improving the thermal efficiency of the UK's housing stock has multiple benefits. Alongside reducing energy demand, driving down carbon emissions and reducing consumers' energy bills, there are also demonstrable positive impacts to public health and wellbeing.[1] It is in this context that a recent International Energy Agency (IEA) report stated that the most important fuel for the future is energy efficiency.[2] Likewise, the IEA's 2050 mitigation scenarios indicate that energy efficiency is the most important carbon reduction measure. This is because the cheapest energy is energy we don't use. Energy efficiency and reducing energy demand are the most effective and cost efficient means to reduce carbon emissions. The most recent report from the Intergovernmental Panel on Climate Change (IPCC) also allocates a key role to energy efficiency in all of their mitigation pathways.[3]

(*Figure 1 see next page*)

Analysis by Ricardo-AEA for the UK Committee on Climate Change also demonstrated that energy efficiency plays a crucial role in UK climate change mitigation.[4] Our homes offer the significant potential for relatively cheap and substantial energy savings, particularly as Britain has one of the leakiest housing stocks in Western Europe.[5] In addition, evidence from Public Health England has shown that there are significant potential public health gains from a robust programme of energy efficiency.[6]

In the past few decades, substantial efforts were made to tap into the potential carbon savings offered by energy efficiency. Traditionally, policy focussed on reducing energy demand in the UK via incentivising energy efficiency improvements, consisted of a wide ranging portfolio of measures involving regulations (for new buildings and major alterations of existing buildings), taxpayer funded grant programmes (including Warm Front and similar programmes in devolved administrations), and, most importantly in terms of scale, energy or carbon savings obligations (the Carbon Emissions Reduction Target (CERT) and its predecessors).[7]

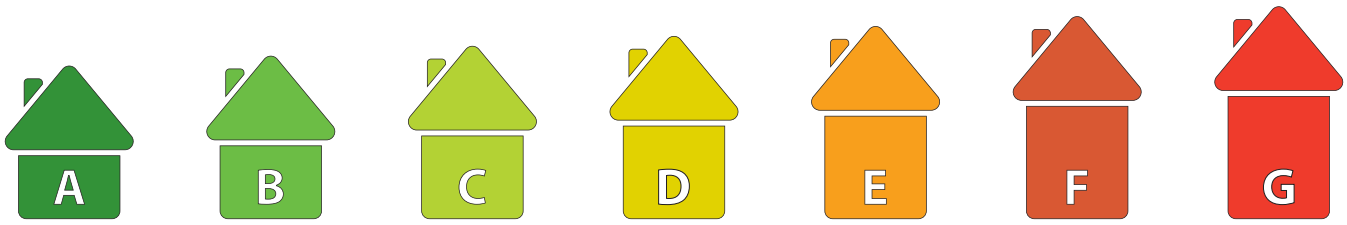
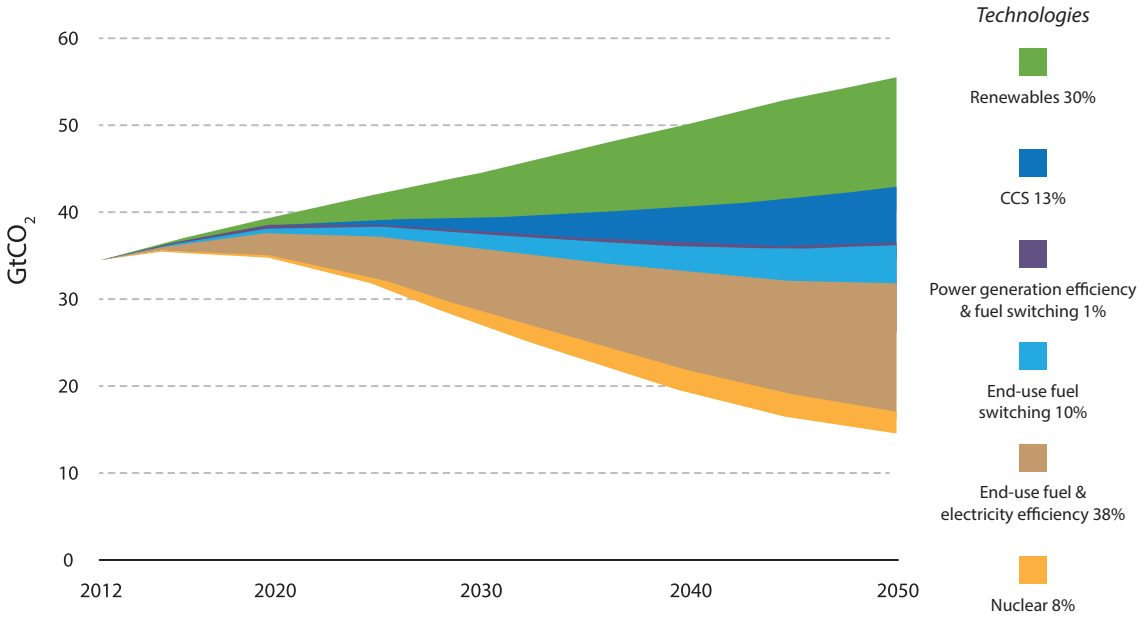


Figure 1: Contribution of technology area to global cumulative CO2 reductions



Source: IEA (2015)- Energy Technology Perspectives 2015- Mobilising Innovation to Accelerate Climate Action. Paris: IEA

In the initial stages, all of these schemes required a high degree of intervention – in the case of building regulations, the government defined the minimum energy performance standards; grant programmes were funded by public expenditure administered by government; and although energy savings obligations put the onus on energy companies, it was the government that set the targets and specifications of delivery. Most effort was directed towards take-up of low-cost energy efficiency measures, such as cavity and loft insulation and more efficient boilers.

The result was remarkable – from 2004 to 2011 domestic gas consumption decreased on average by 5% per year.[8] Most of this reduction relates to energy efficiency improvements largely triggered by the Energy Efficiency Commitment (EEC) 1, EEC 2, CERT and the Carbon Savings Community Programme (CESP).[9]

Despite the apparent success, the schemes were not without fault,[10] so in late 2012/early 2013 the government decided to radically overhaul the existing system at an unprecedented pace. Energy savings obligations were established to support high cost measures such as solid wall insulation, and almost all support for low cost measures was introduced through the Green Deal, the new flagship programme for building refurbishment.

Early assessments of the proposals predicted that the introduction of the Green Deal and the restructuring of the energy savings obligations would lead to a decline in energy savings of around 80%.[11] Whilst such predictions are always uncertain, recent figures confirm that they were broadly correct (*see Figure 2 next page*).[12] Energy efficiency improvements have drastically stalled since the introduction of the Green Deal and the Energy Company Obligation (ECO). Figures from the Committee on Climate Change[13] and the Department of Energy and Climate Change (DECC) show a sharp drop in the number of energy efficiency measures installed in British homes.[14] Compared to 2012, the average delivery rate for loft insulation has dropped by 90%, cavity wall insulation is down by 62%, and solid wall insulation has declined by 57%.

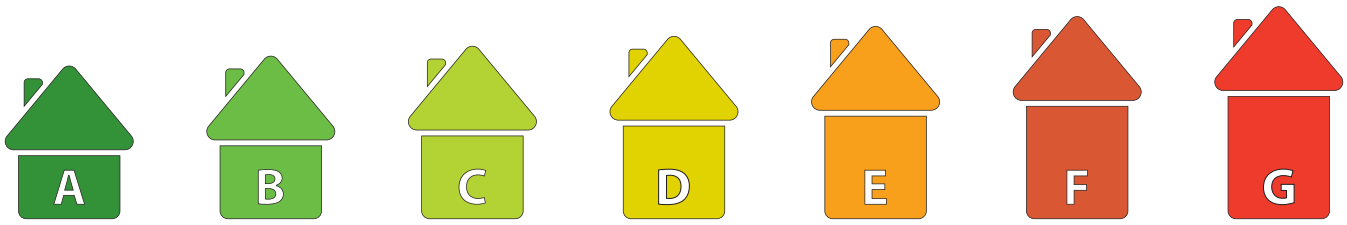
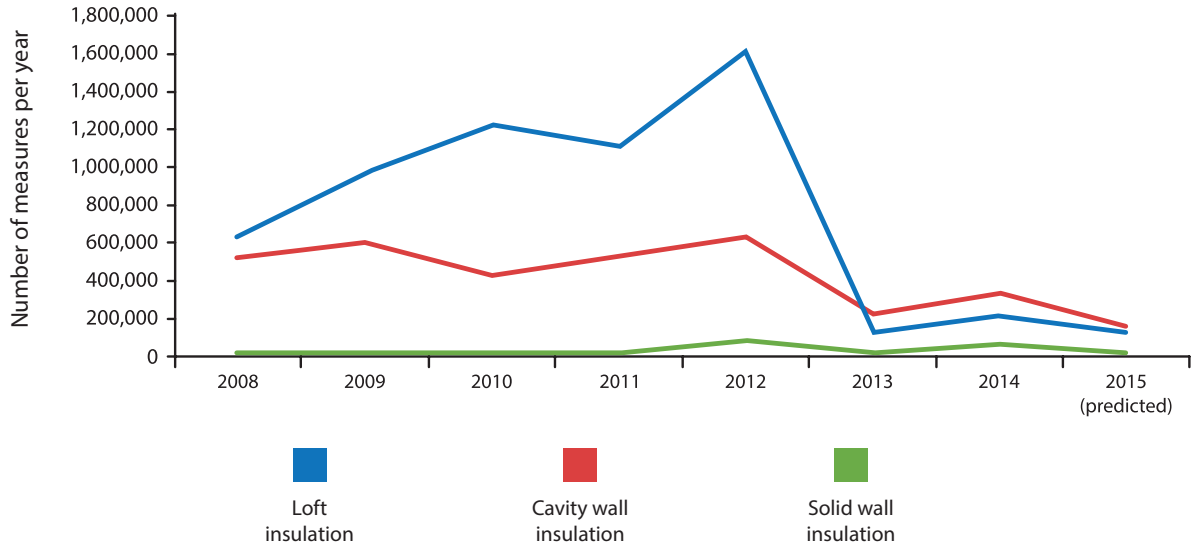


Figure 2: Delivery rates of key insulation measures



Source: Based on Committee on Climate Change[15] and DECC[16]

The myriad of problems associated with the Green Deal have been thoroughly analysed in previous research, but there are three primary areas which we identify here, which a successful energy efficiency programme for the able-to-pay market will need to address:

1. **Limited engagement:** Energy efficiency is not an easy sell. It can be perceived as boring and disruptive. The universal 'one size fits all' approach of the Green Deal did not address either of these concerns, and as a result, take-up was incredibly low.[17]

Can we change the approach from marketing energy efficiency as a financial proposition to one that recognises the multiple benefits of energy efficiency such as comfort, health, and quality of life?

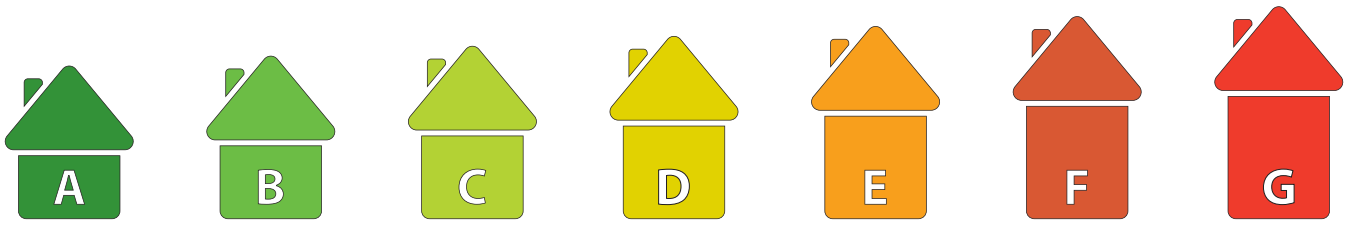
2. **Low demand:** People do not buy something that they do not want or need: without demand, there is no market for energy efficiency. The previous approach fundamentally failed to address this problem, instead only focussing on the means (the ability to take out a loan attached to the property) to enable consumers to retrofit their home.

Can we introduce strong, targeted incentives to encourage people to improve their homes?

3. **Lack of enablers:** For households without the necessary upfront capital needed to undertake energy efficiency improvements, a clear and appealing loans scheme can overcome this barrier. Green Deal finance failed in this regard.

Can a more financially attractive scheme that is both easy to understand and delivered by trusted intermediaries provide the incentive that people need?

Given the failure of the Green Deal to deliver retrofits to a large number of homes (c.15,000 by the end of June 2015 since its



launch in January 2013), the new government announced in July that it would no longer fund the Green Deal as it was not providing value for money. This raises the question: what will replace the Green Deal and provide support to the able-to-pay sector?

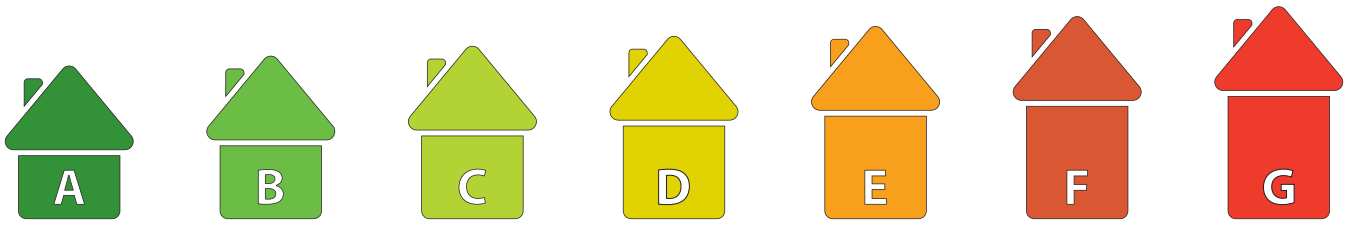
Many of the Core Cities have set up Green Deal Programmes and are in a good position to deliver such schemes. However, they highlight longer term strategic planning is required to deliver these schemes successfully. To Set up and build supply chains can take time. Therefore continuation of successful interventions, but with adaptation to take account the latest research and learning could be one way to support this.

After the Green Deal: Putting consumers and comfort first

To effectively engage consumers in improving the energy efficiency of their homes, we need to focus on what consumers actually want. Instead of a universal, top-down, marketing approach, we should learn from DECC's own survey evidence that a multitude of factors motivate people to improve the energy efficiency of their home.[18] The proposition espoused by the Green Deal, solely based on financial savings, failed to take into account this broader narrative. It ignored the much greater aspirations that people have for themselves in their home: comfort, well-being and health. When the state of Oregon tested different messages when marketing their energy efficiency programmes, they found that comfort was the most effective messaging. A comprehensive study from the US also stresses that focusing on issues such as comfort and health greatly enhances the attractiveness of energy efficiency from the consumers' perspective.[19] The emerging evidence on why consumers decide to retrofit in the UK which supports this wider narrative of comfort and wellbeing.[20]

We can discern two further insights from the successful Dutch *Energiesprong* ('Energy leap') scheme, a rapid-action housing retrofit programme that makes homes carbon-neutral by wrapping them with external insulation and capping them with better roofs and solar panels. First, disruption to homeowners needs to be as minimal as possible (in the case of *'Energiesprong'* the full refurbishment must be installed within ten days) and second, that considering the aesthetics of the property is important in influencing consumers to install energy efficiency measures, this is particularly true of external cladding where it is often the primary motivator.[21] A more effective marketing strategy needs to draw on those insights and speak a language that addresses consumers' desires and requirements, rather than what is convenient for the supply chain to deliver.

In this paper we make a number of bold and innovative policy recommendations which have the potential to reverse the current trend of low take-up, transform the energy efficiency market and help consumers flourish. A new programme is needed that engages people and taps into their needs and wants rather than selling them a financial proposition they are not interested in. Rather than repeat the mistakes of the Green Deal and introduce a universal programme, we should instead create effective demand drivers alongside a bespoke and local framework with devolved governance and delivery.[22] Developing such a programme requires an understanding of what went wrong, what works elsewhere, and what we know about consumers. Our recommendations have been informed by such an understanding.



Policy Recommendations

Driving Demand

1. **Government should set an overarching ambition and a long-term trajectory for energy efficiency improvements in the UK. This should take the form of minimum standards for all domestic properties being sold or let, and should gradually increase in-line with carbon reduction targets set out by the Committee on Climate Change carbon budgets. These standards should differ depending on the housing type.**

Alongside financial nudges for individuals, a long-term national trajectory across all housing types is needed to provide certainty for the market and security for consumers. With this in mind, we propose regulation in the form of minimum EPC bands across the housing stock segmented by property type,[23] which would apply at the point of sale and letting.[24] In the private rented sector, there are already some provisions but they are currently unambitious and only focus on the worst properties within EPC bands G and F.

Initially, the minimum requirement would need to be set at fairly low levels and then raised over time with a long-term stepped trajectory to bring all homes up to a sufficiently high energy efficiency standard. This information should be clearly communicated to home-owners, and made explicit on every EPC. For example, all EPC band F and G rated properties would need to be upgraded to at least EPC band E when sold or let. After a certain number of years, this could rise to EPC band D and so forth.

DECC should undertake modelling to ensure that the long-term trajectory is consistent with carbon budgets set out by the Committee on Climate Change and other targets, including the requirements in the Energy Efficiency Directive.[25] This gradual and predictable framework would provide businesses in the sector the long term certainty needed to make investments with confidence, and our proposed Help to Improve scheme (see recommendation 5) would allow home owners to invest in the required energy efficiency upgrades without incurring upfront costs. Minimum standards target the least efficient properties whereas other financial incentives, such as the Stamp Duty Land Tax differentiation proposed below, would incentivise those living in homes which already meet the required standards in order to implement further improvements and innovation.

There is a precedent for this approach: the Clean Air Act 1956 required households to stop using coal and replace their heating system within five years using grants provided by Local Authorities.[26] The UK would not be the first country to set minimum energy efficiency standard for homes - France has recently implemented such a system as part of its energy transition plan, '*Loi de transition énergétique pour la croissance verte*'. Under this system, all homes consuming more than 330 kWh per square metre must be retrofitted by 2025, from 2030 homes that have not been refurbished to a sufficient standard cannot be sold.[27] To ensure the regulation we propose does not unfairly penalise certain homeowners, we advocate that there should be a ceiling on the total costs that a consumer is expected to pay.[28]

For homeowners selling homes that do not comply with the requirements – for example, because of time constraints preventing retrofit measures to be carried out – a 'buy-out' mechanism should be introduced to provide flexibility. The 'buy-out' cost would exceed the capital cost of upgrading the house to the required standard, in order to incentivise home-owners to make the upgrades themselves before selling the property.[29] The receipts from this should form a personal budget for the new owners to help them to make improvements to the home, which could be linked to the new loan scheme we cite below.

We would not advocate the introduction of new regulation without due consideration to the impact it would have on Government spending and the housing market. As such, we propose that DECC undertake a review to ensure that any newly proposed regulation has 0% net costs to central government and was beneficial to business. In the long-term the national trajectory should refer to the newly determined metric in Recommendation two.

Policy Recommendations

2. **The Department for Energy and Climate Change should undertake a review of the metrics used to measure home energy performance, with particular consideration given to how these can be integrated with wider indicators of health and wellbeing.**

There are concerns that the current metrics used to assess the energy performance of a home – Energy Performance Certificates (EPC) and Standard Assessment Procedures (SAP) – do not accurately measure the performance of a property.
For instance, installing a low carbon heat source will improve a property's energy performance, but may actually lower its SAP rating. We call on DECC to undertake a review of existing metrics and to propose for a more accurate measurement of energy performance. This review should also assess the most effective way to communicate of such a metric to the consumer, in order to produce a more understandable and attractive alternative. As we argue above, energy efficiency is more than just carbon reduction. The new metric should also consider the opportunities to link to other indicators of health and wellbeing.

3. **Government should introduce a financial incentive for consumers at a key trigger point: when buying and selling their house. Stamp Duty Land Tax (SDLT) should be reduced in line with each Standard Assessment Procedure (SAP) point a property reaches above the mid-point of revenue. Conversely, SDLT should be increased for each SAP point a property is below this.**

As we have seen from the French zero percent loan scheme *éco-prêt à taux zero,* zero percent interest rates on a loan scheme, in and of themselves, are not sufficient to persuade consumers to improve the energy efficiency of their properties at the scale that is needed. Without demand for energy efficiency, any loan scheme put in place will be ineffectual. Additional incentives are needed to drive demand for energy efficiency amongst consumers to make improvements to their property.

The selling and purchasing of a home is a critical trigger point for making refurbishments to a property.[30] To exploit this, we recommend that SDLT be reduced by a percentage point in-line with each Standard Assessment Procedure (SAP) point above the mid-point of revenue.[31] This should then be re-adjusted automatically as the average SAP rating of the housing stock increases, and correspondingly increase Stamp Duty for each SAP point a property falls below the agreed standard.[32]

For example, a person purchasing a property for £275,000 would currently pay £3,750 SDLT. Under our proposal, if the property has a SAP rating of 69 (higher efficiency) compared to the agreed standard of 51 they would receive a reduction of 18% on their SDLT bill, and would therefore pay a total SDLT of £3,075.[33] Conversely, if the property had a SAP rating of 33 (lower efficiency), they would receive an increase of 18% on their SDLT bill and pay £4,425 SDLT in total.[34]

While we understand that SAP points are an imperfect means to determine the energy performance of a property,[35] they would suffice in the short term. Furthermore, this incentive would work equally well for alternate measurements, such as kWh per M^2, which is used in the French scheme. In the long term, we recommend that a new more accurate metric, as cited in recommendation two, is used.

The proposed standard would need to strike the appropriate balance between stimulating demand amongst consumers, while also ensuring the scheme is revenue neutral to the Treasury. As there are uncertainties around the scale of the response to the new SDLT incentives, we propose that Treasury gradually increases the financial differentiation until the desired response takes place.

4. In addition, Government should enable city regions to retain the revenue generated from Stamp Duty Land Tax,[36] and harness this new power to introduce more local and bespoke incentives for people to improve their homes.[37] This approach should be trialled within a leading city region, then rolled out to other cities and local authorities over time.

Alongside amending SDLT in line with a property's energy performance, we go one step further and propose that the revenue generated from SDLT should be retained within the city region. SDLT has been devolved in Scotland since April 2015 and in Wales, UK SDLT will be replaced from April 2018 onwards.[38] We recommend that this is devolved further as part of the Government's new and ongoing deals with cities in England and across the UK. Allowing cities to retain revenue from SDLT would allow cities a far greater degree of flexibility to introduce their own incentives to stimulate the market and create positive behaviour amongst consumers. One such incentive could be to allocate a portion of the revenue to be retained to support schemes and incentives to improve the thermal efficiency of homes within the city region; for example, low carbon measures could be installed in new build houses without additional costs for developers.[39]

Due to the significant amount of revenue raised by SDLT for Treasury, we propose that this approach is initially piloted in a leading city region, which has already demonstrated fiscal responsibility. This approach should be rolled out to the other city regions and local authorities once the appropriate checks and balances have been put in place and the demonstrable benefits have been determined. Given the variability of house prices in different areas, we propose that Treasury allocate the SDLT returns based on the number of properties in a given area rather than the property values.

Enabling

5. As part of ongoing city devolution deals, a portion of national infrastructure funds should be devolved to cities to invest in their own energy efficiency schemes via an open competition.

While the Government recognises the essential role played by infrastructure spending in boosting economic growth and productivity,[40] criticisms have been made that the current approach to infrastructure funding is too centralised and top-down.[41]

As the Energy Bill Revolution and others have proposed, we advocate that energy efficiency should be made a national infrastructure priority: included in the top 40 priority infrastructure investments. But in keeping with our support to devolve powers and fiscal responsibilities to the lowest appropriate level, we also argue that Government should devolve infrastructure spending, where appropriate, to city regions. Within these budgets, city regions should allocate a portion of these funds to invest in the ambitious programme of energy efficiency improvements we have recommended here and elsewhere.[42] In the long term, cities should have the power to integrate public spend and leverage private capital, in order to deliver more targeted and self-sustaining measures.

Devolving infrastructure spending in this way would not be unheard of. As part of their city deal, Preston, South Ribble and Lancashire established an infrastructure delivery programme and an investment fund worth £434 million, which will act as a catalyst for commercial and housing developments.[43] Given the economic benefits from investing in an ambitious energy efficiency programme[44] - with each pound spent creating a corresponding increase of £3 in GDP - the mechanism for an investment in energy efficiency to drive economic growth, and therefore 'earn back' from the initial investment, is well evidenced.

In line with the ongoing city deals, we recommend that Government should run a competition, open to all cities, on how they would demonstrate both cost effectiveness and innovation in improving the housing stock in their area.

Policy Recommendations

6.

Introduce a 'Help to Improve' scheme. Government should guarantee the cost of a homeowner's investment in energy efficiency retrofit and provides funding through an intermediary to reduce the interest rate of the loan.

There is increasing evidence that the efforts of the energy efficiency industry itself to sell energy efficiency measures to consumers have been limited in what they can achieve.[45] Using other intermediaries familiar to households can help correct this problem. Retail banks, financial mutuals and peer-to-peer lending and loan services have high visibility and on matters of finance are trusted by consumers with an ability to reach out. In Germany, retail banks have been responsible for providing low interest energy efficiency retrofit loans to households for 15 years with total loan volumes of several billion pounds per year.

A low-interest mortgage or loan with interest rates of around 2-3% is an attractive proposition for investment in energy efficiency, the interest rate should be reduced depending on the take up of the scheme. Consumer research in the UK[46] and experience from other countries supports this.[47] This could be achieved in two ways:

One option for this programme would be to establish a 'Help to Improve' scheme, similar to the Help to Buy mortgage guarantee scheme, whereby Government would provide a guarantee for an additional loan, which would form part of a mortgage to fund an energy efficiency retrofit. Under the Help to Buy scheme households can borrow a higher loan-to-value mortgage because the government offers mortgage lenders the option to purchase a guarantee on mortgages where a borrower has a deposit of between 5% and 20%. Under the Help to Improve scheme Government would guarantee the cost of a typical energy efficiency retrofit investment.

Alternatively, the Government could provide funding to the Green Investment Bank, which would then provide finance to a range of retail financial institutions to reduce the interest rate of the proportion of the mortgage used for energy efficiency retrofits.[48] Similar schemes are already in place in other countries. For example, In the Netherlands, banks can allow for a slightly higher loan to value and loan to Income on a mortgage for the purchase of an energy efficient house or the retrofit of an existing house that results in a better EPC rating.[49]

7.

Government should devolve revenue generated from low carbon taxes and levies to City Regions. This should initially be piloted with a percentage of the overall amount raised. A portion of these funds should be used to invest in energy efficiency.[50]

Alongside competitive personal loans, additional targeted enablers designed for the communities and the wider city region are needed. As ResPublica has previously argued, services are more effective when they are local, place based and bespoke.[51] Providing city regions with additional revenue to design and implement schemes to deliver low carbon energy solutions would help to achieve economies of scale by joining up procurement and area roll out, rather than the piecemeal approach which is currently the norm.

To Improve the energy efficiency of a city's domestic housing stock is one of the most cost effective means of reducing carbon emissions, while also having the additional benefit of improving the comfort of homeowners and ultimately enabling them to flourish. By devolving the environmental and social measures which are levied on householders' energy bills, alongside the Climate Change Levy and Carbon Reduction Commitment to city regions,[52] we would help enable cities to support businesses to improve energy and resource efficiency, introduce local generation and energy supply companies within the city and trial smart metering innovations. These retained funds would provide the city with the additional income to design bespoke energy efficiency schemes which were targeted with marketing

strategies which would work for the city. Furthermore, if they were integrated with other programmes there would be ample opportunity to leverage in funds from the EU and the private sector.[53]

To ensure that this programme is responsibly administered, the devolution of these funds should be introduced via a phased approach. Government should pilot this amongst a leading city region, then introduce it more broadly amongst other cities as part of their Devolution Deals. ResPublica's proposed Local Public Accounts Committees should be introduced to help ensure accountability for this additional spend.[54]

8.

Encourage Local Authorities (LAs) to designate 'Warm Home Zones' to help target areas where low EPCs and poor public health outcomes coincide. Within these areas, LAs should introduce additional incentives for home-owners and stricter regulations on landlords. The quantifiable benefits to health and social outcomes in each area should be re-invested locally.

We have argued previously that EPC data should be made available to all local authorities to help target areas most at risk of cold and uncomfortable homes. Access to this data will enable LAs to designate 'Warm Home Zones', but to ensure value for money and the most effective means of delivery, we propose an open local competition whereby a range of actors, including NGOs and community groups, would bid for funding to deliver in response to the specific needs of each zone. In the long term, Warm Home Zones could be funded by national infrastructure funds, the SDLT revenues allocated to Local Authorities and through the retention of low carbon levies we have outlined in this paper. In the short term, we recommend that Government run a national competition to pilot this model and other local innovations, to trial a range of potential methods and delivery partners.

Policy Recommendations

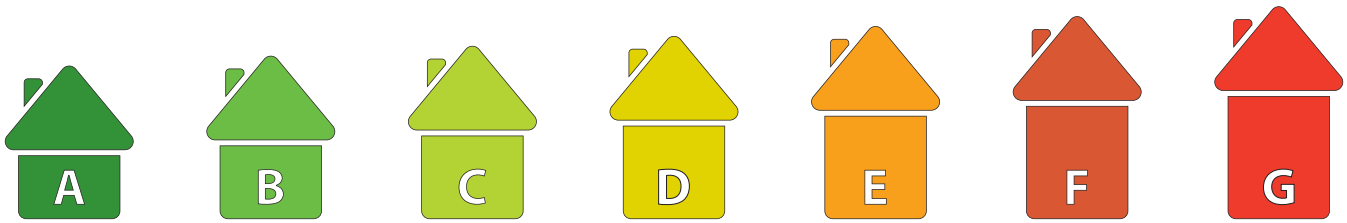
1. Government should set an overarching ambition and a long-term trajectory for energy efficiency improvements in the UK. This should take the form of minimum standards for all domestic properties being sold or let, and should gradually increase in-line with carbon reduction targets set out by the Committee on Climate Change carbon budgets. These standards should differ depending on the housing type.

2. The Department for Energy and Climate Change should undertake a review of the metrics used for home energy performance

3. Government should introduce a financial incentive for consumers at a key trigger point: when buying and selling their house. Stamp Duty Land Tax (SDLT) should be reduced in line with each Standard Assessment Procedure (SAP) point a property reaches above the mid-point of revenue. Conversely, SDLT should be increased for each SAP point a property is below this.

4. In addition, Government should enable city regions to retain the revenue generated from Stamp Duty Land Tax, and harness this new power to introduce more local and bespoke incentives for people to improve their homes. This approach should initially be trialled within a leading city region, then rolled out to other cities and local authorities over time.

5. As part of ongoing city devolution deals, a portion of national infrastructure funds should be devolved to cities to invest in energy efficiency schemes via an open competition.

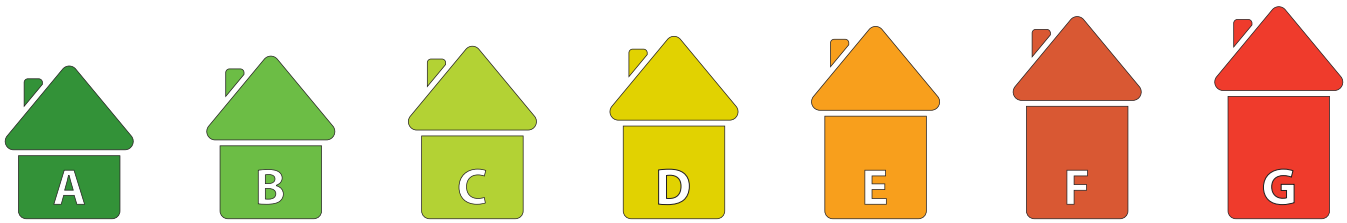


Policy Recommendations

6. Introduce a 'Help to Improve' scheme, where Government guarantees the cost of a property's investment in energy efficiency retrofit and provides funding through an intermediary to reduce the interest rate of the loan.

7. Government should devolve revenue from a range of low carbon taxes and levies to City Regions. This should initially be piloted with a percentage of the overall amount. A portion of these funds should be used to deliver home energy efficiency schemes.

8. Government should Encourage Local Authorities (LAs) to designate 'Warm Home Zones' to help target areas where low EPCs and poor public health outcomes coincide. Within these areas, LAs should introduce additional incentives for home owners and stricter regulations on landlords. The quantifiable benefits to health and social outcomes in each area should be re-invested locally.



Endnotes

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5 As analysis by the Buildings Performance Institute Europe confirms- http://www.bpie.eu/uploads/lib/document/attachment/21/LR_EU_B_under_microscope_study.pdf [Accessed 14 September 2015]

6 Public Health England (2014) Local action on health inequalities: Fuel poverty and cold home-related health problems Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/355790/Briefing7_Fuel_poverty_health_inequalities.pdf [Accessed 14 September 2015]

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20 Wilson, C., L. Crane and G. Chryssochoidis (2015) Why do homeowners renovate energy efficiently? Contrasting perspectives and implications for policy. Energy Research & Social Science 7, pp. 12-22

21 http://energiesprong.nl/transitionzero/ [Accessed 14 September 2015]

22 In other words, we would not recommend replacing the Green Deal with another top-down Government scheme.

23 This could also be introduce via other metrics for energy performance, such as SAP score or kWh per M^2.

24 Different building types have different potentials to be upgraded with significant variations in cost. Period buildings should not be required to achieve the same EPC band as more modern homes.

25 https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficiency-directive/national-energy-efficiency-action-plans [Accessed 14 September 2015]

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28 This would be determined in co-operation between DECC and DCLG.

29 We would ensure this requirement was not too onerous on people purchasing the property

30 Energy Saving Trust (2015) Trigger points: a convenient truth Promoting energy efficiency in the home. Available at: http://www.energysavingtrust.org.uk/sites/default/files/reports/EST_Trigger_Points_report.pdf [Accessed 14 September 2015]

31 The methodology used by the Government to assess and compare the energy and environmental performance of homes. We have chosen this metric because it offers a more fine-grained approach, rather than EPCs which are broader in scope.

32 UK-GBC (2013) Task Group Report: Retrofit Incentives. Available at http://www.ukgbc.org/sites/default/files/130705%2520Retrofit%2520Incentives%2520Task%2520Group%2520-%2520Report%2520FINAL_1.pdf [Accessed 14 September 2015]

33 For the purpose of this example we have set the standard SAP rating as 69, but this has been chosen for illustrative purposes only.

34 Which would be determined by the midpoint of revenue

35 Particularly in regard to low carbon heat. Where installing a low carbon heating technology may simultaneously lower the SAP rating and a properties carbon footprint.

Endnotes

36 As ResPublica has previously advocated- Blond, P and Morrin, M (2015) Restoring Britain's City States: Devolution, public service reform and local economic growth. Available at http://www.respublica.org.uk/our-work/publications/restoring-britains-city-states-devolution-public-service-reform-local-economic-growth/ [Accessed 14 September 2015] and Forthcoming: The Missing Multipliers: Devolution to Britain's Key Cities

37 This should form part of a wider range of flexibilities given to city regions with regard to SDLT to stimulate the market and foster positive behaviours.

38 Land and Buildings Transactions Tax (LBTT) replaced the UK SDLT

39 We have proposed a range of other local measures that could be deployed by city regions and local authorities in our previous paper, Duggan, C, Julian, C and Sagar, R (2015) 'Out of the Cold: An agenda for warm homes' Available at http://www.respublica.org.uk/wp-content/uploads/2015/03/Out-of-the-Cold.pdf [Accessed 14 September 2015]

40 HMT (2015) Spending Review 2015: A country that lives within its means. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/447101/a_country_that_lives_within_its_means.pdf [Accessed 14 September 2015]

41 http://www.ncl.ac.uk/press.office/press.release/item/experts-call-for-devolved-infrastructure-powers-and-funding-for-local-authorities [Accessed 14 September 2015]

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44 See, Rosenow, J., Platt, R., Demurtas, A. (2014) Fiscal impacts of energy efficiency programmes - the example of solid wall insulation investment in the UK. Energy Policy, pp. 610–620; and Cambridge Economics/Verco (2012) Jobs, Growth and Warmer Homes.

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46 Ipsos MORI (2011) Consumer Needs and Wants for the Green Deal. DECC: London

47 Rosenow, J., Eyre, N., Rohde, C., Buerger, V. (2013) Overcoming the upfront investment barrier - comparison of the German CO2 Building Rehabilitation Programme and the British Green Deal. Invited paper for special issue in Energy & Environment 24 (1&2), pp. 83-103

48 Financial institutions which are on the Financial Services Register

49 ING (2013) Saving Energy in the Netherlands. New EU Directive takes on Energy Efficiency. ING

50 As outlined in this paper and Duggan, C, Julian, C and Sagar, R (2015) 'Out of the Cold: An agenda for warm homes' Available at http://www.respublica.org.uk/wp-content/uploads/2015/03/Out-of-the-Cold.pdf [Accessed 14 September 2015]

51 See Blond, P and Morrin, M (2014) Devo Max – Devo Manc: Place-based public services. Available at http://www.respublica.org.uk/wp-content/uploads/2014/10/csv-Devo-Max-Report.pdf [Accessed 14 September 2015]

52 We recognise that changes to the CRC and CCL are expected at the upcoming spending review

53 Particularly the European Regional Development Fund

54 Blond, P and Morrin, M (2014) Devo Max – Devo Manc: Place-based public services. Available at http://www.respublica.org.uk/wp-content/uploads/2014/10/csv-Devo-Max-Report.pdf [Accessed 14 September 2015]

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