

## **Response to Bright Blue inquiry on home energy efficiency**

Written evidence submitted by: Durham Energy Institute (DEI)

**Durham Energy Institute** forms part of Durham University. We nurture research on a wide-range of energy technologies such as renewables generation ([wind](#), [solar](#), [geothermal](#), [bio-fuels](#)) and [integration, transmission and distribution](#), [smart energy systems](#), [carbon capture and storage](#), [unconventional hydrocarbons](#), and [nuclear fusion](#). Building on this expertise we emphasize a 'Science and Society' approach to energy which tackles the societal aspects of energy technology and explores the social, political and economic implications of technological developments.

Our researchers have recently completed 2 research projects within the London Borough of Haringey on:

- Examining domestic retrofit systems and governance in Haringey, London. This included an analysis of the impact of Green Deal and ECO; and
- Community-based initiatives to ameliorate energy vulnerability and assessing their contribution to wider social, economic and health objective

Durham Energy Institute was also a key partner in the UK's largest smart grid project: The Customer Led Network Revolution. Led by Northern Powergrid, the electricity distribution network operator for the North East and Yorkshire, the project is part-funded by the Office of the Gas and Electricity Markets' (OFGEM) Low Carbon Networks Fund (LCNF). DEI provided academic rigour, the smart grid laboratory in Engineering for analysing data received and the social science expertise for analysing customer-level decision-making and energy-related social practices. <http://www.networkrevolution.co.uk>

These projects have generated a number of insights which are of relevance to the current enquiry. Summaries of which are outlined below.

We would be pleased to discuss issues raised in this response with the committee if that would further aid the inquiry.

### **1. 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?**

- a. The interest rate on Green Deal loans was too high. This was a result of designing the loan so it could be accessed by people with poor credit ratings, but designing it in this way ignored the fact that people with poor credit ratings, other debts and a lack of capital available for retrofit would be highly unlikely to prioritise energy efficient retrofit over other areas of their lives for which they might require loan finance. This demonstrated a significant misunderstanding of who and what kinds of households the emerging market for retrofit comprise, and the complex motivations people have for investing in retrofit, or not.
- b. The inclusion of the golden rule, also designed to protect those in fuel poverty from being worse off financially as a result of taking a Green Deal loan for energy efficiency improvements, was both extremely confusing and, as in b. above, represented a mis-targeting of Green Deal to the fuel poor - these households tend to experience multiple debts and are very unlikely to take on further debt even if it is available, to tackle energy efficiency. Although the golden rule was later removed, it caused enormous problems in understanding and communicating the scheme early on - the initial message about Green Deal having 'no upfront cost' was also very misleading.

- c. A market mechanism in the form of loan finance combined with accreditation scheme and a customer process for Green Deal tried to rapidly force the development of a separate market for retrofit which was both unnecessary and misplaced. Energy efficiency as a separate market instead floated between energy supply services and home improvements, creating a disconnect between the structure of Green Deal and the existing industries it connected with. It should have been building on and much more closely entwined with the existing home improvements market from designers (e.g. architects and building services) to contractors and installers.
- d. PAS 2030 accreditation for each separate energy efficiency measure e.g. multiple types of insulation, was extremely onerous and did not guarantee any technical standards or skill level of installers. Existing accreditations e.g. CORGI and the skills required for plastering etc are of at least an equal skill level but were not valued, therefore existing skilled tradespeople were unnecessarily burdened with costs and hassle making it difficult for them to get involved with the Green Deal supply chain.
- e. Exacerbating this, Green Deal focussed on owner occupied housing and measures such as solid wall insulation that required a far more detailed level of technical input and a longer and more patient customer engagement process than previous government energy efficiency schemes such as CERT and CESP, which often focussed on cavity wall insulation or homogenous housing types and therefore required a lesser level of design and technical input. These schemes were often delivered by energy companies and related partners, and Green Deal was seen as a continuation of these, thus positioning the same industry actors to deliver it. However, the capacity of these actors to deliver the level of householder engagement, design detail and project management needed for Green Deal was limited.
- f. As a result of this, the Green Deal was directly communicated to and was widely anticipated among energy and environmental sector professionals but not amongst design professionals and small works (domestic type) contractors, who would have had the appropriate skill levels to deliver it. It was also barely communicated at all to the general public, relying on community groups to market the scheme. (See 5. below for why this was inappropriate)
- g. Evidence from Haringey/North London showed that the combination of Green Deal Communities funding, Green Deal loans and ECO subsidies, tended to exclude most households or make it very difficult for them to engage with the Green Deal, especially the fuel poor or most vulnerable households. This was because each of these funding sources was conditional in various ways: firstly upon certain measures such as solid wall insulation, which precluded other housing types or households who wanted other measures, secondly upon a partial cash contribution from the household which excluded any households who were not in this financial position, and thirdly because it was unavailable to households who lived in social housing (it was assumed they would be dealt with by ECO but they often weren't). It also excluded many tenants who were too reticent to contact their landlords about energy efficiency measures because they worry about raised rents and terminations of contract. Landlords are extremely reluctant to engage with improvements even and (in some cases especially) through partnerships with legally constituted organisations such as local councils or NGOs in receipt of grant funding. Of course inadequately insulated and energy efficient housing is most often found in the poorer end of the rented sector where tenancies tend to change hands frequently. But even where tenants stay long term there is reluctance to engage with landlords over improvements to make homes more energy efficient. Finally, the short

term nature of many Green Deal subsidies meant that people who may have been interested but were not practically able to install certain measures missed out on their opportunity.

- h. The customer journey from having an assessment and/or and EPC, to selecting measures, selecting installers, piecing together finance and subsidies from multiple sources, before even having the installation done, was too long and complex.
- i. Due to poor planning and a rushed implementation of the scheme, changes were required all through which were not properly communicated to customers and small scale energy efficiency companies leading to confusion. Hence it would have been more successful if it maintained a consistent message all through.
- j. Since a one-size approach does not fit all, the Green Deal failed because it was not incorporated into existing local council schemes which were already tailored to meet local needs.

## **2. What aspects of the Green Deal scheme should be retained in a future policy?**

- a. Funding for local consortia to develop a collaborative network, skills and market in their own specific contexts which they understand. (Similar to Green Deal Communities but much longer term e.g. three years).
- b. A detailed survey and advice about energy efficiency measures, risks and costs – similar to the Green Deal Assessment but this should be developed into a much more technically robust set of principles and guidelines based on architects, installers and designers' experience, and should be the start of an effective project management process. In North London/Haringey the presence of the Smart Adviser (technical and costing advisors) was very successful in translating technical knowledge to householders, reassuring them they would not be ripped off by installers, and by working with local installers to improve their specifications and designs, protecting householders from some of the risks of poorly installed retrofit measures e.g. damp, mould.

## **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?**

- a. Loans are generally unappealing to people unless they are combined with other home improvements
- b. Subsidy is absolutely necessary in order to move energy efficiency up the priority list for householders who have multiple financial pressures. Many recipients of Smart Homes (Green Deal Communities) in Haringey/North London reported that they would not have considered insulating their homes without the subsidies available. However, it needs to be ONE source of subsidy - multiple subsidies at once created competition between government schemes which was not helpful – in North London the Green Deal Home Improvement Fund coincided with Green Deal Communities and this resulted in enormous confusion and difficulties getting the scheme started.
- c. Subsidies should be consistent instead of sporadic (even if this means being at a lower level), creating a more consistent demand for industry, and the ability for householders to take a sensible step by step approach to retrofit instead of rushing it.
- d. Introduction of specific incentives such as a *proportionally adjusted* (reduced) council tax rate for properties signed-up, to mitigate concerns about potential property buyers being discouraged due to the extra financial commitment undertaken by a previous owner occupier.

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?**
  - a. The necessity for a technical standard to be applied e.g. heat loss value for the newly insulated surface, rather than just a QA process.
  - b. Evidence of particular skills acquired by the actual installer through undertaking accreditation, not the company itself, so that business managers are not attending but the installers themselves – thus upskilling the supply chain.
  - c. Using existing accreditation in the construction industry as a benchmark and integrating with this much better.
5. **How can a Green Deal successor scheme be successfully communicated to consumers?**
  - a. Simple, uniform message on tv, radio etc, about what financial support you can access if you are in different economic situations.
  - b. Rigorous marketing campaign with promotions or rewards for pre-specified groups, for instance early adopters, referrals etc. A general National message and a more tailored message at the Local Council level.
  - c. Comprehensive database of approved (or recommended) small and medium-scale local service providers, who along with the public are able to provide continuous feedback in order to maintain standards. Closer coordination with these providers and training organisations, and tax incentives for businesses to ensure personnel development.
  - d. Having a national advice line about energy efficiency which is more technically robust than the generic advice currently available, that provides a link directly to localised advisors (architects, retrofit co-ordinators and qualified surveyors) who can complete a bespoke survey and networks of installers who can deliver the work, such as a one stop high street "energy shops" where people can get immediate advice and referrals to find assistance. Plumbers, heating engineers etc could be harnessed to help roll out energy efficient and retrofit schemes and become "energy doctors" and also be given incentives to work with local groups.
  - e. Our Haringey research has shown that people seriously mistrust energy suppliers - support with addressing energy efficiency is better sourced from community groups, local authorities and third sector energy efficiency organisations that are more trusted and closer to the householders. However, assumptions that community groups can deliver energy efficiency programmes through voluntary capacity are false and place unnecessary pressure on community groups who often struggle for funding resources and capacity. Instead, co-ordinated local networks of mutually supportive organisations are a more sensible means to improve engagement with and uptake of energy efficient retrofitting of households.
  - f. Given that Local Council already has functional delivery mechanisms, communicating the new scheme through these already existing channels would be most efficient. It would also allow for incorporation into Council's existing home energy efficiency measures.
6. **What are the best options for decarbonising the domestic heat sector?**
  - a. Biomass district heating schemes.
7. **How can the Government incentivise the take-up of renewable heat technologies within a Green Deal successor scheme?**

- a. Provide consistent subsidy, robust advice tailored to different households, and regulate the energy efficiency of existing buildings.

**Key researchers:**

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If you would like to discuss issues raised in this response or would like to view research reports please contact Evelyn Tehrani, DEI Research Information Officer,  
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