

## **BLOG: What now for energy efficiency policy in UK homes?**

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UK homes account for just under a quarter of national greenhouse gas emissions. Improving their efficiency not only reduces emissions, but also improves health and wellbeing, and creates jobs.

The Department of Business, Energy and Industrial Strategy (BEIS) recently retweeted the headline findings of [UKERC-CIED research](#) published last year: up to 50% of energy used in homes can be saved through energy efficient renovations and other measures, contingent on supporting policies.

### **The energy efficiency policy vacuum**

Are these supporting policies in place?

The Green Deal was introduced with fanfare in 2013, replacing obligations on utilities with a market-based approach for informing homeowners about cost-effective efficiency measures and providing 'pay-as-you-save' loan financing. Our research found that although the Green Deal did effectively raise the salience of energy efficient renovations, it failed in other important ways.

First, it treated energy efficiency as special rather than as a 'mundane' feature of broader home improvements. Second, it emphasised financial aspects of renovation decisions rather than tap into the underlying tensions in domestic life which renovations could help resolve. And it was attractive to homeowners only once they had already decided to renovate, so didn't help boost renovation rates.

Uptake rates of Green Deal finance were extremely low, and confidence in the scheme plummeted. Less than 2 years after its introduction, it was largely shelved.

The Clean Growth Strategy published last October includes measures for improving the efficiency of fuel-poor and low-income homes, but offers little to the two thirds of owner-occupied homes in the UK, nor the private rental sector (beyond an aspiration to "develop a long-term trajectory" to improve energy performance).

The post-Green Deal policy vacuum persists.

### **Location, location, location**

One useful legacy of the Green Deal's brief, two year existence was the data collected on the energy audits carried out as a necessary precondition for homeowners interested in taking out finance. This proved a treasure trove. In newly published research led by Craig Morton at Leeds, we analysed this data to answer an important yet often ignored question: how does the implementation of national policies vary locally?

The dataset of Green Deal assessments allowed us to track local variation both spatially and over time. We could then link higher or lower than expected uptake to specific characteristics of local areas. Using spatial regression modelling, we found 'hotspots' of activity were concentrated in areas with younger, larger, and more educated

households. We also found 'coldspots' with lower than expected uptake of Green Deal assessments in areas with more turnover in property markets, and more households with incomes from self-employment.

So far, so socio-demographically intuitive. But as the data were spatially explicit, we could also test whether uptake rates in one area were linked to those in neighbouring areas. Sure enough, our analysis found that they were. There are various possible explanations. Households may be observing or hearing about what's going on in neighbouring areas which then influences their own interest in Green Deal assessments. This is the classic 'neighbourhood effect'. Service providers may be expanding out of their core bases of operation into nearby areas, raising the profile of Green Deal assessments through marketing or other offers.

### **Fairness or effectiveness: a policy dilemma**

If the local response to a national policy framework varies so widely, should efforts be targeted at underperforming areas to ensure benefits are distributed more evenly? Or should efforts be targeted at the high uptake areas to maximise the response, with the extra bonus of positively influencing neighbouring areas?

When the Green Deal launched, the UK government provided over a £100 million of financial incentives to a small number of cities and other local areas to help seed interest and build the market. We used our spatial models to test whether these additional incentives worked to stimulate higher than expected interest in Green Deal assessments. By and large they did.

So the successor energy-efficiency policy to the Green Deal faces a tough choice for the incentives it offers to homeowners: aim for the 'coldspots', and help even out the benefits across all areas nationally; or reward the 'hotspots' and reduce emissions as fast as possible. Or put differently, should the government prioritise fairness or effectiveness?

For more details:

on homeowners' renovation decisions  
[<https://doi.org/10.1016/j.apenergy.2017.11.099>]

on the Green Deal's effectiveness  
[<http://dx.doi.org/10.1016/j.enpol.2015.01.015>]

on spatial variation in the Green Deal  
[<https://doi.org/10.1016/j.enpol.2017.11.057>]