A post mortem of the Green Deal: Austerity, Energy Efficiency, and Failure in British Energy Policy

Jan Rosenow [1, 2] and Nick Eyre [2]

[1] Centre on Innovation and Energy Demand, SPRU, University of Sussex

[2] Environmental Change Institute, University of Oxford

Post-print version of article published in journal *Energy Research & Social Science*

Abstract

The Green Deal was a British flagship policy intended to deliver energy efficiency retrofits at scale. About 2.5 years after its launch the programme was effectively terminated and is now seen as a dramatic policy failure. In this paper we analyse the reasons for the failure and the politics that led to the rise and the fall of the Green Deal. We conclude that even though the risks were understood and voiced by critics well in advance of the launch of the Green Deal, the logic of a subsidy free energy efficiency scheme became the accepted wisdom at the highest levels of Government, through a combination of ideology and failure to listen.

Key words

energy efficiency, finance, on-bill finance, policy, buildings

Acknowledgements

The original research on which the paper is based was undertaken as part of the UK Energy Research Centre supported by the UK Natural Environment Research Council under Grant no. NE/ G007748/1. Nick Eyre also acknowledges generous support for his research fellowship from the Frank Jackson Foundation. Jan Rosenow's time was funded by the UK EPSRC through the Centre for Innovation and Energy Demand (CIED; http://cied.ac.uk/; grant number EP/KO11790/1).

1 Introduction

The Green Deal was created by the British Government as an innovative pay-as-you-save energy efficiency finance mechanism for the able-to-pay market to deliver retrofits at a large scale without the need for public subsidies in an age of austerity. It was supposed to become 'Europe's most innovative and transformational energy efficiency programme' (DECC 2010). In 2011, the Department for Energy and Climate Change (DECC) estimated that by 2020 the Green Deal would support the retrofit of 14 million homes i.e. almost 2 million homes per year (DECC 2011).

The reality is that the Green Deal has failed dramatically to deliver even a small proportion of this. In fact, only about 6,000 homes per year were retrofitted using Green Deal finance – a total of approximately 14,000 by the end of March 2016 since its launch in January 2013 (DECC 2016). Given the inability of the Green Deal to deliver retrofits to a large number of

homes, the new Conservative government announced in July 2015 that it would no longer fund the Green Deal as it was not providing value for money. Even though the Green Deal mechanism is officially still alive, albeit without any government support, it is withering away with a rolling average of currently a few hundred retrofits per year. Taking stock of the impact of the Green Deal as part of an inquiry into home energy efficiency, the House of Commons' Energy and Climate Change Committee (2016, p. 15) concluded that the 'Green Deal is widely regarded to have been a failure'. And the National Audit Office concluded that 'the Department's £240 million expenditure on the Green Deal has not generated additional energy savings […]. The Green Deal has therefore not been value for money' (NAO, 2016a, p12). In our view, the Green Deal is probably the biggest failure in the history of UK energy efficiency policy.

What went wrong? In this paper, we analyse both the reasons for the failure and the underlying politics that eventually led to the effective termination of the Green Deal.

2 Impact of the Green Deal on energy efficiency retrofits

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% (Rosenow and Eyre 2013). Whilst such projections are always uncertain, recent figures confirm that they were broadly correct. 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 (2014) and the Department of Energy and Climate Change (DECC) (2016) show a sharp drop in the number of energy efficiency measures installed in British homes. By mid-2015 the average delivery rate for loft insulation has dropped by 90%, cavity wall insulation was down by 62%, and solid wall insulation had declined by 57% compared to 2012 (Rosenow and Sagar 2015).

The failure of the Green Deal to achieve a 'revolution in British property' is also reflected in DECC's (2015a) recent official projections of additional energy savings from 2010 to 2020. The Green Deal is projected to deliver just 1% of the total energy savings in 2020, reflecting the current low take-up of the scheme. Compared to this, the Carbon Emissions Reduction Target - the policy in place prior to the Green Deal - is projected to deliver almost 25% of all savings in 2020 (ibid).

3 Pitfalls of the Green Deal

The underlying pay-as-you-save concept of the Green Deal is a compelling one, particularly taking into account the rising levels of investment needed and therefore the need for new sources of capital. It also potentially helps to solve the landlord-tenant dilemma where the landlord bears the costs of making energy efficiency improvements, but the tenant reaps the benefits in terms of energy cost savings. The Green Deal received a lot of attention and generated interest across Europe with governments commissioning research on whether a Green Deal could also work in their respective countries.

However, the design chosen for the Green Deal was marred with problems. The myriad of pitfalls associated with the Green Deal have been thoroughly analysed in previous research (Booth and Choudhary 2013; Dowson et al. 2012; Guertler et al. 2013; Killip 2012; Marchand et al. 2015; Pettifor et al. 2015; Rosenow and Eyre 2013, 2015), but there are three primary areas that we identify here, which the Green Deal did not adequately address: a) poor policy design, b) limited financial appeal, and c) narrow engagement with consumers.

3.1 Poor policy design

The Green Deal was intended to overcome the barriers of split incentives and high upfront costs by financing energy efficiency measures through loans that were tied to the building rather than the occupant and paid through installments on electricity bills. The implementation included a "Golden Rule" that required projected cost savings from the measures installed to exceed the loan repayments. Given the relatively high interest rates (see below), only investments with high rates of return were eligible for full funding. These measures (e.g. cavity wall insulation) were previously targeted by the supplier obligations - whose targets gave some confidence that particular levels of energy savings would be achieved. In contrast, the Green Deal did not require a specific level of delivery, with the result that the outcome was highly uncertain. More expensive measures, such as major refurbishments, that are arguably better suited to pay-as-you-save financing, were excluded.

3.2 Limited financial appeal

The interest rate of the Green Deal was not attractive and significantly above current mortgage rates and high street secured loans, which is a benchmark used by consumers when assessing the interest rate of such programmes. A low-interest mortgage or loan with interest rates of around 2-3% is an attractive proposition for investment in energy efficiency. Such a measure is likely to require government guarantee of the loans and/or subsidies to a financial organisation offering the loans. This approach has proved successful in Germany (Rosenow et al. 2013), but was not used in the Green Deal, because of the Government's policy of avoiding any public subsidy.

3.3 Narrow engagement with consumers

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, DECC's (2012) own survey evidence shows that a multitude of factors motivate people to improve the energy efficiency of their home. The proposition espoused by the Green Deal, solely based on financial savings, failed to take into account this broader narrative. Whilst financial aspects are important (and there are financial barriers to energy efficiency), the Green Deal 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 (Rosenow and Porter 2015). 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 (Fuller et al. 2010). The emerging evidence on why consumers decide to retrofit in the UK supports this wider narrative of home improvement, comfort and wellbeing (Wilson et al. 2015). Hence the Green Deal lacked real and effective engagement with the people it was supposed to offer a proposition to improve their homes. To use an analogy, people were sold the loan instead of the car.

In addition, Green Deal scams have been widely reported on and recorded by Citizens Advice (2014), a consumer advice charity. Households were being contacted through unsolicited telephone calls or by door-knocking. Victims of the scam typically agreed to pay a fee for a Green Deal assessment and provided their bank details expecting an assessment that never took place. Where assessments were carried out, the bogus companies never carried out the installation work.

4 The rise and the fall of the Green Deal

4.1 Initial optimism

All of the issues set out above were known in advance. The vast majority of people familiar with energy efficiency policy design were always very skeptical about the Green Deal. Despite criticism prior to the launch of the Green Deal, initially there were very optimistic statements from Government Ministers and officials. When the Green Deal was launched in January 2013 after a delay of several months Energy and Climate Change Minister Greg Barker announced that the Green Deal would 'transform the energy efficiency market', although the projections for Green Deal take-up in the Government's own impact analysis never justified this claim (Rosenow and Eyre, 2013).

4.2 Sustained defense

After a slow start for the Green Deal and critical media coverage Greg Barker said in March 2013 that he would not be able to sleep if less than 10,000 homes were retrofitted by the end of 2013. In reality, in 2013 only 626 home retrofits through the Green Deal were completed (DECC 2014a), just over 5% of the anticipated figure.

Still, the Government consistently argued that even though the number of Green Deal-funded retrofits was lower than expected, research by GfK NOP (2013) showed that more than 80% of households who had a Green Deal assessment went on to install energy efficiency measures, including by using their own funds. This was seen as 'a powerful endorsement of the Green Deal' (DECC 2013).

However, a later phase of the same research showed that the majority of those who received loft (76%), cavity wall (81%) or solid wall insulation (87%) received ECO funding (GfK NOP, 2014). Hence ECO, an Energy Efficiency Obligation, was the driving force rather than the Green Deal.

4.3 Admitting policy failure

Less than one year on from his 2013 claim, Greg Barker had to admit that his prediction had been 'spectacularly wrong' (Pitt 2014). The Energy and Climate Change secretary, Ed Davey, also admitted that take-up had been 'disappointing' (Vaughan 2014). After two inquiries into the Green Deal the House of Commons' Energy and Climate Change Committee (2014, p. 35) concluded that the Green Deal 'failed to live up to expectations'.

In a rather desperate attempt to rescue the Green Deal the Government launched the Green Deal Home Improvement Fund (GDHIF) in June 2014. This gave households in England and Wales the chance to claim a cash-back for installing energy-efficiency measures. GDHIF provided three rounds of funding (June 2014, December 2014 and March 2015) offering up to £7,600 in form of a non-repayable grant for households installing solid wall insulation and other measures. The cash-back scheme was very successful in the sense that demand for the grants far exceeded expectations. However, the scheme was capped at a maximum of £120 million over the course of one year (DECC 2014b). This meant that, although it stimulated demand in the short-term, it provided no long-term solution to financing energy efficiency retrofits. In fact, the first phase of the Green Deal Home Improvement Fund lasted for six weeks and funds provided during the second phase were spent in just one day. This stop/start funding regime was widely recognised to be inefficient.

4.4 Termination

After a change in Government following the general election in May 2015, DECC announced on 23 July 2015 that it would no longer fund the Green Deal in light of 'low take-up and concerns about industry standards' (DECC 2015b). Responding to a comment asking for more detail around industry standards DECC stated that as many as '11% of Green Deal assessors and 14% of Green Deal installers have been suspended or withdrawn from the scheme due to non-compliance with the Green Deal scheme requirements'.

Following the Government's announcement, the Green Deal Finance Company (2015) immediately issued a statement that it would no longer accept applications for Green Deal Plans, which effectively brought the scheme to an abrupt end.

5 Discussion

Why the events unfolded in this particular manner can be understood by the factors that are discussed below.

5.1 Political capital

The Green Deal was initially identified as a high-profile "flagship policy". The basic concept was in the manifestos of both of the two parties that joined to form the 2010-2015 Coalition Government, and in their Coalition Agreement. Even before its design was complete, the policy received a lot of publicity and was sold to the public as one of the policies that formed a key part to deliver the ambition of being the 'greenest government ever' (HMG 2013). As a result, a great deal of political capital was invested in the Green Deal and failure was not politically conceivable.

Critical voices were raised, but not heard (Guertler et al. 2013). The nuanced support of experienced energy efficiency practitioners for the broad concept of pay-as-you-save was wrongly interpreted as enthusiasm for the precise policy proposal. And criticisms of policy design were rejected as lack of commitment to the determination to deliver market based solutions. Decades of analysis about the range of barriers to energy efficiency were ignored, in favour of a simplistic notion that private lending was the solution, at a time when public confidence in financial institutions was (rightly) at an all-time low. No-one with experience in energy efficiency policy, inside or outside Government, would ever think that there exists a 'silver bullet' policy. Yet, through a combination of ideology and failure to listen, that became the accepted wisdom at the highest levels of Government.

5.2 Institutional problems

The design of the Green Deal was developed by a large, dedicated team within DECC. We have no access to the details of the policy formation process, except from the insights arising from the major disparity between the ambitious claims of the high level policy and the lack of nay support for them in the underlying analysis. The Green Deal policy team would have been recruited mainly from policy generalists without energy efficiency experience, whereas Government 'analysts' (technical and economic) tend to have greater experience and remain longer in post. This may explain the apparent conflict.

It seems that a particular lens on consumer behavior was applied that assumes households to respond rationally to economic incentives and that the major barrier to action was a lack of capital. The available evidence supports neither. The Government never tested whether those assumptions were realistic. Early pilots of a pay-as-you-save scheme had found that more generous financial arrangements, such as low interest loans, would be needed. But the pilots

were rejected as unreliable evidence, as they had been begun under the previous Government. This lack of testing certainly contributed to the failure to design an effective scheme (NAO 2016a).

Furthermore, following the introduction of the Green Deal, Government did not set clear success criteria that would have enabled DECC to monitor performance. As a result, DECC 'could not compare the scheme's progress against its expectations to identify early warning signs that performance was off-track' (ibid, p. 7).

5.3 The role of private finance

The political attraction of the Green Deal was the use of private finance without Government support. The Green Deal Finance Company was originally conceived of in this way, providing finance to Green Deal providers, which in turn would agree loans with consumers. However, in March 2013, DECC provided a £25 million stakeholder loan to the Green Deal Finance Company along with private investors. The expectation was that the Green Deal Finance Company would be self-financing once a Green Deal loan volume of £450-500 million was reached. However, the Green Deal Finance Company's loan book was worth just £17 million at the end of 2014, compared with the Department's prediction of £695 million (NAO 2016b).

The Green Investment Bank, a public bank then providing finance for green investment, provisionally agreed to provide a loan to the Green Deal Finance Company in early 2013. When it became clear that the loan would not be drawn down by the expiry date of the end of 2014, the Green Deal Finance Company asked for an extension of the loan. This was rejected, because the Green Deal Finance Company had increased the use of stakeholder loans to cover operational costs, which was not in line with the conditions set out by the Green Investment Bank (ibid).

It therefore became clear in late 2014 that, without additional finance, the Green Deal Finance Company would soon not be able to cover its operational costs. In this situation, DECC eventually stepped in and provided a senior loan facility worth £34 million to the Green Deal Finance Company in December 2014. This was sanctioned by Her Majesty Treasury (the UK Finance Ministry) and was intended solely to avoid the Green Deal collapsing before the Election in May 2015 (ibid). Ultimately, this failure of their preferred private financing model was the critical issue prompting the end of the policy.

6 Conclusions

Even though the Green Deal is officially still alive it is dying a slow and rather painful death with only a few dozen households using Green Deal finance every month. The introduction of the Green Deal, which was meant to revolutionise and transform energy efficiency, resulted in a collapse of the domestic energy efficiency market. This is perhaps ironic, but no was not unexpected to informed observers. The three main reasons for its failure were poor policy design largely resulting from the "Golden Rule", an unattractive financial proposition for most households, and a lack of engagement with consumers tapping into the issues people care about. The introduction of the Green Deal also led to Energy Efficiency Obligations being focused in areas in which they were less immediately effective, with the result that the energy-saving targets have now been substantially reduced. Without doubt the Green Deal has been a major setback for UK energy efficiency policy.

It can be hoped that future schemes will learn valuable lessons and fill the gaping policy hole that the Green Deal has created. Unfortunately, there is no evidence that this is yet the case.

The fact that the Green Deal was scrapped without a replacement for the able-to-pay sector appears to be an indication of the shift within the Conservative Party towards an increasingly fractured position on energy and climate change issues (Carter and Clements 2015).

7 Bibliography

Booth, A.T., Choudhary, R. (2013): Decision making under uncertainty in the retrofit analysis of the UK housing stock: Implications for the Green Deal. Energy and Buildings 64, pp. 292-308

Carter, N., Clements, B. (2015): From 'greenest government ever' to 'get rid of all the green crap': David Cameron, the Conservatives and the environment. British Politics 10(2), pp. 204–225

Citizens Advice (2014): Scammers cashing-in on Green Deal. Online: https://www.citizensadvice.org.uk/about-us/how-citizens-advice-works/media/press-releases/scammers-cashing-in-on-green-deal/ [accessed 19/04/2016]

Climate Change Committee, (2014): Meeting Carbon Budgets – 2014 Progress Report to Parliament. London, Climate Change Committee

DECC (2016): Household Energy Efficiency National Statistics, headline release June 2016. Online: https://www.gov.uk/government/statistics/household-energy-efficiency-national-statistics-headline-release-june-2016 [accessed 12/07/2016]

DECC (2015a): UK Annual Report against Article 24(1) of the Energy Efficiency Directive 2012: April 2015. Online: https://ec.europa.eu/energy/sites/ener/files/documents/UK_Annual%20Report%202015_en.pdf [accessed 20/04/2016]

DECC (2015b): Changes to green home improvement policies announced today. Online: https://decc.blog.gov.uk/2015/07/23/changes-to-green-home-improvement-policies-announced-today/ [accessed 19/04/2016]

DECC (2014a): Green Deal and Energy Company Obligation (ECO): monthly statistics (January 2014). Online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/273805/Statistical_Release_-_Green_Deal_and_Energy_Company_Obligation_in_Great_Britain_-_21_Jan_2014.pdf [accessed 19/04/2016]

DECC (2014b): Green Deal Home Improvement Fund reaches £50 million milestone in six weeks. Online: https://www.gov.uk/government/news/green-deal-home-improvement-fund-reaches-50-million-milestone-in-six-weeks [accessed 19/04/2016]

DECC (2013): Households continuing to make their homes more energy efficient. Online: https://www.gov.uk/government/news/households-continuing-to-make-their-homes-more-energy-efficient [accessed 20/04/2016]

DECC (2012) Green Deal Segmentation: Report of a Segmentation of Owner Occupiers and Private Rented Tenants in Great Britain. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49750/Green_Deal_segmentation_-_research_report.pdf

DECC (2011): Greg Barker speech: Green Deal and Big Society event. Online: https://www.gov.uk/government/speeches/greg-barker-speech-green-deal-and-big-society-event [accessed 20/04/2016]

DECC (2010): Greg Barker's speech to the Micropower Council. Online: https://www.gov.uk/government/speeches/greg-barkers-speech-to-the-micropower-council [accessed 20/04/2016]

Dowson, M., Poole, A., Harrison, D., Susman, G. (2012): Domestic UK retrofit challenge: drivers, barriers and incentives leading into the Green Deal. Energy Policy 50, pp. 294-305

Fuller, M., C. Kunkel, M. Zimring, I. Hoffman, K.L. Soroye, and C. Goldman (2010) Driving demand for home energy improvements. Berkeley: Lawrence Berkeley National Laboratory

GfK NOP (2013): Green Deal assessment survey wave 2: summary report. Online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239969/Green_Deal_assessment_research_wave_2_summary_report.pdf

GfK NOP (2014): Green Deal Assessment customer research. Summary report of further analysis and new findings from quantitative surveys. Retrieved 14/07/2014, from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/299499/green_deal_evaluation_additional_analysis_and_synthesis_report.pdf

Green Deal Finance Company (2015): Important Announcement from GDFC. Green Deal Finance Company closes to new Green Deal Plan applications - existing plans and approved applications unaffected. Online: http://www.tgdfc.org/media/important-announcement-from-the-gdfc/ [accessed 20/04.2016]

Guertler, P, Royston, S, Robson, D (2013): Somewhere between a 'Comedy of errors' and 'As you like it'? A brief history of Britain's Green Deal so far. Proceedings of European Council for an Energy Efficient Economy, Summer Study 2013, Belambra Les Criques, France

HMG (2013): The Coalition: together in the national interest. Online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/229486/HMG_MidTermReview.pdf [accessed 20/04/2016]

House of Commons Energy and Climate Change Committee (2016): Home energy efficiency and demand reduction. Fourth Report of Session 2015–16. HC 552. London, House of Commons

Killip, G. (2012): Beyond the Green Deal: Market Transformation for low-carbon housing refurbishment in the UK. Retrofit 2012 conference, University of Salford.

Marchand, R.D., Koh, S.C.L., Morris, J.C. (2015): Delivering energy efficiency and carbon reduction schemes in England: Lessons from Green Deal Pioneer Places. Energy Policy 84, pp. 96–106

NAO (2016a): Green Deal and Energy Company Obligation. Online: https://www.nao.org.uk/wp-content/uploads/2016/04/Green-Deal-and-Energy-Company-Obligation.pdf [accessed 20/04/2016]

NAO (2016b): Investigation into the Department of Energy & Climate Change's loans to the Green Deal Finance Company. Online: https://www.nao.org.uk/wp-content/uploads/2016/04/Investigation-into-the-Department-of-Energy-and-Climate-Changes-loans-to-the-Green-Deal-Finance-Company.pdf [accessed 20/04/2016]

Pettifor, H., Wilson, C., Chryssochoidis, G. (2015): The appeal of the Green Deal: Empirical evidence for the influence of energy efficiency policy on renovating homeowners. Energy Policy 79, pp. 161-176

Pitt, V. (2014): Barker admits Green Deal forecast was ‘spectacularly wrong’. Building 21 January 2014

Rosenow, J., Eyre, N. (2013): The Green Deal and the Energy Company Obligation. Proceedings of the ICE - Energy 166 (3), pp. 127-136

Rosenow, J., Eyre, N. (2015): Re-energising the UK's approach to domestic energy efficiency. In: Proceedings of ECEEE Summer Study 2015, pp. 281-289

Rosenow, J., Eyre, N., Bürger, V., Rohde, C., 2013. Overcoming the Upfront Investment Barrier - Comparing the German CO_2; Building Rehabilitation Programme and the British Green Deal. Energy & Environment 24, 83-104.

Rosenow, J., Porter, F. (2015): A comparative review of housing energy efficiency interventions. Report for ClimateXChange. Online: http://www.climatexchange.org.uk/files/8814/4594/0740/final_report_261015.pdf [accessed 20/04/2016]

Rosenow, J., Sagar, R. (2015): After the Green Deal: Empowering people and places to improve their homes. London: ResPublica Online: http://www.respublica.org.uk/wp-content/uploads/2015/09/After-the-Green-Deal.pdf [accessed 20/04/2016]

Vaughan, A. (2014): Green deal loan take-up is 'disappointing', Ed Davey concedes. Guardian 5 March 2014