Institution:
University of Oxford

Unit of Assessment:
17B Geography

Title of case study:
Shaping energy Efficiency Policy - The Green Deal and Energy Saving Feed-in Tariffs

1. Summary of the impact

This research has demonstrated the shortcomings of recent changes to UK Government energy efficiency policy, and developed thinking about alternatives, in order to enable governments to provide an effective system of incentives for energy efficiency improvement. Such a system would allow energy sector decarbonisation at a lower cost than with supply side strategies alone. The analysis and concept have both had an impact. In the UK, the team of researchers have secured support from major environmental NGOs, have been included in a UK Government policy consultation, leading to the tabling of an amendment to the 2012 Energy Bill. Internationally, the team's research continues to influence leading policy analysts, including the Inter-Governmental Panel on Climate Change (IPCC).

2. Underpinning research

The research was carried out by researchers at Oxford in the Environmental Change Institute (ECI) led by Nick Eyre (team leader, 2007 onwards). Other Oxford researchers involved in this work are: Dr Sarah Darby (2003 onwards), Dr Katy Janda (2007 onwards) and Dr Yael Parag (2006-2011).

The research draws on work undertaken, and expertise developed, over the last decade in the School on energy and climate policy. The team has produced a number of research papers that are internationally excellent in terms of originality, significance and rigour. These include papers on the implications of governance change **[Section 3: R1]** new technology **[R2]** and climate policy design **[R3]**.

The specific research featured in this case study began in 2010, as part of the UK Energy Research Centre (UKERC) core research programme on energy demand. Essentially the work has two linked themes: one on the problems in current UK policy, specifically the 'Green Deal' the other on a potential policy solution that is consistent with currently ongoing energy market reforms – Energy Saving Feed-in Tariffs (ESFITs).

The Green Deal is essentially a permissive policy regime that seeks to encourage building energy efficiency improvement. Finance is provided commercially, allowing costs of finance to be recovered from building occupiers via their own electricity bill ("on bill financing"). This was designed to replace a policy that required energy suppliers to improve consumers' energy efficiency via subsidies to cost effective technologies. The team's research, in advance of policy implementation, indicated the likelihood of a major reduction in energy saving activity because of the policy change. Following an initial conference paper, the calculations of the Department of Energy and Climate Change (DECC) were used to refine the analysis, leading to the first peer-reviewed paper on the Green Deal **[R4]** and an international policy comparison **[R5]**.

The implication of these research findings on the Green Deal is that the UK and other countries are expected to need new policy instruments for delivering the goals of energy efficiency improvement that are critical to their greenhouse gas mitigation and energy affordability goals. The work on ESFITs was stimulated by the widespread success of Feed-In Tariffs (FITs) as a mechanism for promoting the adoption of renewable energy technologies. The research explored whether a

similar mechanism might be appropriate and viable for energy efficiency technologies. This had not previously been the subject of academic or policy debate. The research concluded that ESFITs offer a promising way of improving energy efficiency and reducing energy demand, thereby decreasing carbon emissions. Specifically in the context of plans for UK Electricity Market Reform (EMR), it was found that ESFITs could avoid a bias towards investment in new supply, offering a means of delivering decarbonisation with a lower impact on consumer bills. They would provide incentives for involvement of a wide range of actors, including householders, community groups, local authorities and small businesses.

Despite the fact that this research **[R5]** has only been published recently (early 2013), it was available online from September 2012. Furthermore, the ideas were developed in discussion with key policy stakeholders, including government officials, parliamentarians and environmental NGOs, thus accelerating their uptake by ensuring that stakeholder needs were taken on board, and optimizing the potential impact of the research. This was the first peer reviewed journal paper on the concept. The publication has already stimulated widespread interest, leading to further research, publications and advocacy in Europe and the USA.

3. References to the research

R1: Janda, K. B. and Y. Parag (2012). "A middle-out approach for improving energy performance in buildings." Building Research & Information **41**(1): 39-50.

R2: Darby, S. J. (2012). "Metering: EU policy and implications for fuel poor households." Energy Policy **49**(0): 98-106.

R3: Eyre, N. (2010). "Policing carbon: design and enforcement options for personal carbon trading." Climate Policy **10**(4): 432-446.

R4: Rosenow, J. and N. Eyre (2013) "The Green Deal and the Energy Company Obligation." Proceedings of the ICE - Energy **166**, 127-136.

R5: Rosenow, J., et al. (2013). "Overcoming the Upfront Investment Barrier - Comparing the German CO_2 Building Rehabilitation Programme and the British Green Deal." Energy & Environment **24**(1): 83-104.

4. Details of the impact

Based initially on a conference paper at the British Institute of Energy Economics, the research on Green Deal has been very widely publicised in the UK. The publication and its implications were summarised in a policy briefing by UKERC, in February 2013, in order to maximise its impact among the relevant communities **[Section 5: C1]**. It has attracted attention from business and Government stakeholders, and the media. The conference paper led to an invitation to meet analysts at the Department of Energy and Climate Change (DECC) to discuss the details of the Government's impact assessment for the Green Deal policy package. DECC officials provided the team with their own calculations in order to refine and check the team's own analysis. The research also led to invitations to give oral evidence to the House of Commons Energy and Climate Change Select Committee inquiries on 'The Green Deal' **[C2]** and 'Energy Prices, Profit and Poverty' **[C3]**.

Internationally, impact of this research has been high because of the global profile of UK energy efficiency policy and the widely recognised need for policy innovation. The Green Deal is the most substantial 'on bill' financing mechanism in the world and is being closely observed outside the UK. The research was featured in a plenary session presentation at the main European energy efficiency conference (with several hundred participants from industry, energy suppliers, governments, research, consulting, and the NGO sector) in June 2013 **[C4]**.

The team's research has been influential in setting the public agenda for discussion about the Green Deal, being quoted as expert opinion in daily newspapers (e.g. The Guardian **[C5]**) and in the specialist energy press (e.g. Utility Week **[C6]**). It has also been cited by influential business lobbies (e.g. National Home Improvement Council **[C7]**)

Early impact of the ESFIT concept as a way forward for energy efficiency policy has come about in the context of discussion on electricity market reform. The absence of substantial measures to promote energy efficiency has been widely identified as a problem, and, as a result of this research, ESFITs (also known as premium payments) have emerged as a strong candidate to address this problem. The idea has been widely discussed with those directly responsible for policy making in DECC. These include:

a. Minister of State responsible for energy efficiency policy at a private ministerial breakfast in DECC, 17th March 2011.
b. DECC Chief Scientist, at private meeting in Oxford. 8th June 2012.
c. Energy Minister, UKERC delegation to DECC, 11th March 2013.

These interactions resulted in a formal government consultation including the idea of a 'premium payment' by DECC. As a result of his research **[R3, R4]**, Eyre was the lead author of the UK Energy Research Centre response to this consultation, and was subsequently invited by DECC to undertake a rapid review of their analysis, resulting in an acknowledgement in DECC's final impact analysis **[C8]**.

The work attracted parliamentary attention in the context of the 2012 Energy Bill. Initially this was through an invited opening presentation by Nick Eyre at the Parliamentary Renewable and Sustainable Energy Group meeting on 21st November 2012. This was attended by the Chair of the DECC Energy Select Committee, and chaired by one of the Committee members (Alan Whitehead, MP). At this meeting DECC publically confirmed that the idea of a feed-in tariff would be considered in a forthcoming consultation. Following this meeting, written evidence was provided to the Energy Bill Committee on ESFITs **[C9]**. These interactions resulted in a cross-party amendment to Energy Bill to enable ESFITs (moved in the Standing Committee by Alan Whitehead MP, 29th January 2013), and a subsequent discussion leading to a cross-party amendment for Energy Bill Report Stage to require 'demand reduction regulations' that will allow energy saving feed-in tariffs **[C10]**.

There has been considerable support from policy stakeholders, particularly in the environmental community. For example, Eyre has been consulted by Green Alliance and the Association for the Conservation of Energy on legislation needed to enable ESFITs (24th January 2013) and Eyre then briefed major environmental NGOs on amendments to the Energy Bill to allow ESFITs (13th March 2013). Both NGO (e.g. UK Association for the Conservation of Energy) and parliamentary contributors to the debate regularly cite the team's research **[C11, C12]**.

The concept of ESFITs is also beginning to have wider impact amongst policy analysts. There are already two publications from organisations with significant policy influence (the European Commission and the Regulatory Assistance Project, respectively) which build on the evidence and ideas presented in **[C1]** for an international policy community. Both strands of research are also cited in the final draft of the forthcoming IPCC Working Group III Report.

5. Sources to corroborate the impact

C1: Eyre, N. (2013) "Energy Saving Feed-in tariffs". UKERC Policy briefing, February 2013. (Copy held on file.)

C2: House of Commons Select Committees. Energy and Climate Change - Minutes of Evidence HC 142, Examination of Witnesses. Dr Nick Eyre, University of Oxford, and Dr David Kennedy, Chief Executive, Committee on Climate Change, 5th March 2013. http://www.publications.parliament.uk/pa/cm201314/cmselect/cmenergy/142/130305.htm

C3: House of Commons Select Committees. Energy and Climate Change - Minutes of Evidence HC 108, Examination of Witnesses. Professor John Hills, London School of Economics, Dr Nick Eyre, University of Oxford, and Jan Rosenow, University of Oxford, 9th May 2013. http://www.publications.parliament.uk/pa/cm201314/cmselect/cmenergy/108/130509.htm

C4: European Council for an Energy Efficient Economy. Plenary presentation by N.Eyre, June 2013. http://www.eceee.org/summerstudy/programme/eyre-presentation

C5: The green deal still has big gaps to plug. Damian Carrington, the Guardian, 12th October 2012. http://www.theguardian.com/environment/damian-carrington-blog/2012/oct/01/green-deal-energy-efficiency

C6: Utility Week Eco-nomics? 14th June 2013 http://www.utilityweek.co.uk/news/news_story.asp?id=198731&title=Eco-nomics%3F

C7: National Home Improvement Council. UKERC raises concern over Green Deal rationale. 22nd January 2012. http://www.nhic.org.uk/2012/01/ukerc-raises-concern-over-green-deal-%E2%80%98rationale%E2%80%99/

C8: DECC. Final impact assessment: Electricity Demand Reduction. https://www.gov.uk/government/consultations/options-to-encourage-permanent-reductions-in-electricity-use-electricity-demand-reduction

C9: Memorandum submitted by Dr Nick Eyre, University of Oxford (EN 26). Energy Saving Feed-in Tariffs http://www.publications.parliament.uk/pa/cm201213/cmpublic/energy/memo/en26.htm

C10: http://assets.wwf.org.uk/downloads/energy_bill_report_demand_reduction_may2013.pdf

C11: Association for the Conservation of Energy Draft Energy Bill 2012: Electricity Market Reform and the Demand side. October 2012. http://www.ukace.org/wp-content/uploads/2012/10/ACE-briefing-2012-10-EMR-and-the-demand-side.pdf.

C12: Alan Whitehead MP. Demand-side measures and the case for decapacity payments.http://www.alan-whitehead.org.uk/pdf/decapacitypayments.pdf