

# Beyond the ECO

An exploration of options for  
the future of a domestic  
Energy Supplier Obligation

Written by Simon Roberts  
with Zoe Redgrove, Katharine Blacklaws and Ian Preston

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This is the policy-makers' summary of a report funded by SSE.  
The full report can be downloaded from  
[www.cse.org.uk/beyond-the-eco.pdf](http://www.cse.org.uk/beyond-the-eco.pdf)



# Beyond the ECO

## An exploration of options for the future of a domestic Energy Supplier Obligation

After 20 years of successfully imposing domestic energy saving obligations on energy suppliers, Government policy-makers face a series of discontinuities in the scale and nature of opportunities for saving energy in our homes. Over the next few years, these will include:

1. The significant constraints on the availability of further low cost housing insulation measures (i.e. cavity walls and under-insulated lofts) to fulfil any energy saving obligation.
2. The opportunities unleashed by the roll-out of smart meters to GB homes for: consumer engagement with their energy consumption; demand reduction; electricity demand response; and improvement of suppliers' understanding of their customers' energy use patterns, which enable tailored interventions.
3. The technological and energy efficiency improvements in appliances and other power-using equipment, in particular LED lighting, which create a range of significant, relatively low cost energy saving opportunities.

Arguably, the current incarnation of the supplier obligation – the Energy Company Obligation (ECO) – fails to respond appropriately to these discontinuities. However, following much criticism and policy changes in late 2013, the ECO is now firmly in place until 2017.

These discontinuities and this policy-making hiatus make this a good time to initiate a re-examination of the rationale for, and design of, the supplier obligation as a policy instrument. To do so, energy supplier SSE commissioned an independent study from the Centre for Sustainable Energy. **This is the policy-makers' summary of that study; the full report – which can be found at [www.cse.org.uk/beyond-the-eco.pdf](http://www.cse.org.uk/beyond-the-eco.pdf) – examines these issues in much more detail.**

### The policy drivers

All of the major UK and EU energy policy objectives and legally binding targets (on carbon emissions, energy efficiency, energy security and fuel poverty) establish an unambiguous need to (a) improve dramatically the energy

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performance of our housing stock and the energy using equipment in it and (b) change how and when we use energy in our homes. Combined with a drive to increase the use of intermittent renewable energy sources, these result in a significant reduction in domestic sector energy demand and a need for more responsive electricity demand.

These changes will, in turn, require significant changes in the business models and practices of the companies supplying energy to our homes. Given the central role of energy suppliers in our energy system, it is difficult to imagine a situation in which energy suppliers are not explicitly obligated through policy to be involved in achieving these policy goals. Indeed, because of energy suppliers' current lack of commercial alignment with these goals, it is hard to see how the goals could be achieved if energy suppliers were not somehow obligated to contribute.

This raises the question at the heart of our study: what is it best to obligate energy suppliers to do in order to:

- a. contribute effectively and appropriately to the desired changes in domestic energy demand, and;
- b. stimulate the re-alignment of their business strategies and commercial interests with the UK's long-term energy policy objectives?

### Current and past supplier obligations

First imposed on a modest basis in 1994, energy saving obligations placed on GB energy suppliers by successive governments have steadily grown in size, cost and complexity. Over the last decade, these obligations have been the main driver of improvements in the energy performance of the housing stock in GB. The positive result is that most homes now have adequate loft insulation, most homes with cavity walls have had them insulated and compact fluorescent light bulbs (CFLs) are ubiquitous. Key features of these obligations have included:

- A requirement on suppliers to secure the installation of a range of specific 'qualifying' energy saving measures,

with obligation targets set and achieved on the basis of predicted (rather than actual) savings for each measure.

- A shift in the list of qualifying measures over time, towards higher cost insulation and heating measures and away from very low cost measures like lighting and appliance efficiency upgrades.
- Suppliers bore whatever costs they incurred in meeting their obligations, an approach designed (generally successfully) to encourage them to find the lowest cost routes to meeting their obligations. Obligations were therefore effectively funded by consumers through their electricity and gas bills, leaving them largely outside political discussions about public spending priorities.
- At least up until the ECO, these costs were typically relatively low per customer and, more importantly, were dwarfed by the fuel bill saving benefits available to those households taking advantage of the subsidised installation of measures.
- To avoid significant regressive impacts, suppliers were required to target a sizeable proportion of each obligation at a defined target group of mainly low income or vulnerable households, principally to ensure that all households had an opportunity to benefit from the obligation, irrespective of their own means. Householders in this group were typically offered measures for free.
- Suppliers were not required to meet their obligations with their own customers and obligations were delivered through offers developed and marketed by their own in-house insulation teams or, more typically, by insulation contractors, local authorities and other agencies.

The latest supplier obligation, the ECO, shifted the obligation towards more complex, high cost insulation measures and added in an obligation (HHCRO) on energy suppliers to install new boilers and other heating improvements in the homes of low income households. This concentrated the benefits of ECO on fewer people than previous obligations, making the distributional impacts far more regressive. The additional HHCRO obligation replaced in England a tax-payer funded scheme (Warm Front) which had similar goals, though such schemes continue in Wales and Scotland.

### **The official rationale for a supplier obligation**

The rationale for imposing an energy saving obligation on energy suppliers is rooted in a market perspective. This holds that, in a competitive domestic energy market, the

market is failing if there are *unrealised* opportunities to save energy which are *cheaper* than the market cost of supplying energy. Given these opportunities existed (and continue to exist), corrective interventions are needed. With energy suppliers as the key market players, obligating them to realise these low cost opportunities to save energy is the obvious policy response.

To this early and enduring 'market failure' rationale, successive Government have added justifications based on a supplier-led model of delivery for domestic energy sector policies. In particular, these held that (a) suppliers operate in a competitive market and therefore will tend to pursue least cost routes to meeting their obligation, and that (b) their scale and brand value would drive supply chain improvements and cost reductions, thus removing risks and transaction costs for individual households.

At least until ECO, large volumes of relatively low cost energy saving measures (particularly loft and cavity insulation and CFLs) ensured the benefits of these obligations could be distributed widely and costs per customer were kept low relative to the average benefits. The explicit effort to reserve a proportion of benefits for a defined group of (principally) lower income consumers also helped to reduce the risk of regressive distributional impacts.

Our full report stress-tests these justifications, both in the context of ECO and in the context likely to face suppliers in 2017 and onwards.

### **The context for a supplier obligation in 2017**

Our report outlines our view, assisted by participants in a stakeholder workshop, of the context for a supplier obligation in 2017, exploring: policy pressures; remaining housing stock energy improvement opportunities; technological and behavioural opportunities; and the state of the energy retail market. As outlined in the introduction above, we identify three discontinuities of particular relevance to the design of a future supplier obligation:

1. Significant constraints on the availability of further low cost housing insulation measures.
2. Opportunities unleashed by the roll-out of smart meters to GB homes.
3. Technological and energy efficiency improvements in appliances and other power-using equipment which create a range of significant, relatively low cost energy saving opportunities.

Together with the necessity for energy suppliers to re-align their business strategies to meet UK's long-term energy

## Summary table of our evaluation of Supplier Obligations and associated policy options

	ECO CERO again	New ECO CERO low cost measures only (Own customers)
What is it?	A new ECO CERO, building on the current model, focusing on insulating the remaining hard to treat cavities and, particularly, solid wall homes.	A newly structured ECO CERO in which qualifying measures refocus on low cost simple measures, targeted on a supplier's own customers. Predicted savings (as in CERT/ECO).
Likely supplier responses (in summary)	Provide subsidies, via insulation and building contractors, to secure take up of measures in sufficient numbers and maintain good relationships with reliable installers.	Create or commission interventions to stimulate customer response to smart meter data, take up LED lighting and more efficient appliances, reward demand reduction (subject to adequate evidence for predicted savings).
Key Strengths	Stimulates domestic solid wall insulation market. Builds on existing practice and processes.	Works with the grain of changes needed in supplier business models. Helps ensure other policies (smart meters, product policy) are realised in full. Pushes suppliers to understand own customer base and energy using patterns. Should be relatively low cost (depending on evidence requirements).
Key Weaknesses	Fails to work with the grain of changes needed in supplier business models. Likely to be highly regressive (high costs & benefits concentrated on a few). Leaves suppliers to tackle market and supply chain barriers to complex insulation measures over which they have little control.	Requires significant evidence base (which doesn't currently exist) for most likely measures so options and innovation curtailed. Reduces likelihood of suppliers commissioning 'area-based' initiatives. Leaves suppliers uninterested in whether interventions achieve actual savings.
Possible remedies for main weaknesses	Government takes other steps to develop market for solid wall insulation.	Tackle evidence base requirements by using first 2 years of obligation to collect evidence from practice.
Fit with supplier obligation rationale		
'Energy saving cheaper than energy supply'		
'With the grain' of supplier business changes needed		
Business incentives to realise energy savings with customers		 Depends on qualifying process and license for innovation
Real rather than predicted savings		 Limited evidence base for savings from different interventions
Fit with policy success criteria		
Deliverability – household engagement	 Market resistance to measures unlikely to be overcome by suppliers	
Deliverability – supply chains		 Some gaps likely but market quick to develop
Verifiability		 Evidence gaps for savings & challenge to prove behavioural interventions
Cost effectiveness	 Others likely to be better placed to deliver with lower admin need	
'Fairness' / distributional impact	 High cost measures focus benefits on a few while all carry costs	 Low cost measures with potential to distribute benefits widely across customer base
Other comments		

Average Customer Consumption Reduction (Own customers)	Levy-raising obligation	Taxation-funded Fund
An obligation on energy suppliers to reduce existing average customer consumption by a set percentage per year (or over a 5 year period). Own customers and actual savings.	An obligation to raise a levy on fuel bills to provide funding for energy saving activity procured/ nominated by Government, with potential to support specific measures, target groups etc. No obligation on energy suppliers to deliver.	A fund raised from general taxation for energy saving activity procured/ nominated by Government, with potential to support specific measures, target groups etc. Not an obligation on energy suppliers.
Make most of smart meter data on behalf of customers, stimulating interventions to enable better home energy management, take up LED lighting and more efficient appliances, reward demand reduction, attract 'lower than average' consumption households.	Raise money from bills in required manner and pay to nominated party. Disband obligation delivery teams.	Some suppliers may decide to bid to use funds, developing specific businesses to do so. Others likely to disband obligation delivery teams.
<p>Works with the grain of changes needed in supplier business models.</p> <p>Achieves real savings (and focuses energy suppliers on helping customers achieve them).</p> <p>Helps ensure other policies (smart meters, product policy) are realised in full.</p> <p>Pushes suppliers to understand own customer base and energy using patterns.</p> <p>Improves attractiveness of lower than average consumption households.</p> <p>Low cost with plenty of opportunities across customer base.</p>	<p>Creates a funding pot not subject to public spending constraints.</p> <p>Allows probably better placed organisations to deliver complex insulation &amp; heating measures.</p> <p>Provides opportunity to determine which consumers pay levy.</p> <p>Enables Government to procure specific measures for specific groups of household (e.g. fuel poor).</p>	<p>Avoids regressive impacts associated with fuel bills as the source of funds.</p> <p>Enables Government to procure specific measures for specific groups of household (e.g. fuel poor).</p> <p>Allows probably better placed organisations to deliver complex insulation and heating measures.</p> <p>Creates clearer political accountability for priority given to funding for energy saving.</p>
<p>Transfers risk of achieving savings wholly to suppliers.</p> <p>Other policies and external factors (like winter temperature) influencing final demand would need to be taken into account.</p> <p>Reduces likelihood of suppliers commissioning 'area-based' initiatives.</p> <p>May lead to inappropriate offers to fuel poor households to reduce demand.</p>	<p>Transfers risk of achieving savings from suppliers to other parties who may be harder to hold to account.</p> <p>Does nothing to encourage suppliers to transform business models or help customers make the most of smart meter opportunities etc.</p> <p>Would be regressive unless protection from costs for low income households.</p>	<p>Requires energy saving funding to compete directly with other public spending priorities for its share of funding.</p> <p>Transfers risk of achieving savings from suppliers to other parties who may be harder to hold to account.</p> <p>Does nothing to encourage suppliers to transform business models or help customers make most of smart meter opportunities etc.</p> <p>May still be regressive if benefits of funded measures concentrate in better-off households.</p>
Ensure clear expectations of other policies integrated into target setting, with appropriate adjustments if needed.	Establish robust contracts and penalties for delivery partners and set clear rules for which customers have to pay the levy.	Make political case for societal benefits of taxation-funded energy saving programme.
	 Depends on measures which fund delivers	 Depends on measures which fund delivers
		
		
		
	 Depends on measures and delivery agent	 Depends on measures and delivery agent
 Some gaps likely but market quick to develop and space for innovation	 Depends on measures and delivery agent	 Depends on measures and delivery agent
 Potential challenge to disentangle external influences (e.g. weather or 'gadget market' developments')	 For supplier contribution but range of delivery agents may make verification hard	 Range of delivery agents may make verification hard
		 Depends on mechanism to use get funds used
 Low cost and could make lower than average demand households (mostly low income) attractive to acquire	  Depends on rules on levy raising. Could be: 	Positive but impact also depends on who gets benefits
		Could co-exist with other supplier obligation options, especially Average Customer Consumption Reduction Obligation.

policy objectives, these suggest a need for a similar discontinuity in the design and purpose of a future obligation. In particular, it shifts the focus to encouraging suppliers to realise the opportunities created by smart meters and these extensive low cost technological and behavioural interventions.

## **A rationale for a post-2017 supplier obligation**

Our analysis provides a revised rationale for placing an obligation on energy suppliers and to guide its design:

- a. An energy saving obligation should be placed on energy suppliers to deliver any available energy saving measures which are cheaper than energy supply and/or cheaper than other carbon reduction measures favoured by other policy instruments.
- b. The costs of such a market-correcting intervention can be justifiably recovered through fuel bills because it should result in lower overall costs to consumers than would be the case without such an intervention.
- c. Energy suppliers need to develop new business models and commercial practices to be aligned with societal energy policy objectives (and the lower but more responsive energy demand which they imply). Policy should assist with – and go ‘with the grain’ of – this transformation.
- d. Energy suppliers have direct relationships with their own customers and will increasingly have detailed ‘smart’ data about energy use in their homes, creating a host of new opportunities to develop new services to help their customers use this data to their own benefit.
- e. As carbon budgets tighten, it will be increasingly important that policy instruments are designed to achieve real reductions in energy use and carbon emissions, suggesting a shift to a need for a future

obligation to focus on actual savings achieved, rather than the ex ante predicted savings of past and current obligations.

In addition, we identified four success criteria which any policy instrument in this field should meet:

- Deliverability (including both the likelihood of successful householder engagement and supply chain readiness).
- Verifiability (i.e. how easy or hard it is to test whether the obligation has been met).
- Cost effectiveness (i.e. the costs of achieving the policy’s required impact compared with other ways of doing so).
- Fairness/distributional impacts (i.e. how the costs and benefits of policy distribute across the population).

## **Exploring and evaluating options for a new supplier obligation**

We identified five policy options for exploration and evaluation:

- an ECO CERO (as a ‘more of the same’ counterfactual).
- a new style ECO targeted on suppliers’ own customers with qualifying measures focused solely on low cost energy saving measures and interventions.
- an Average Customer Demand Reduction Obligation which focuses on achieving actual demand reduction across a supplier’s customer base (dispensing with the need for qualifying measures).
- a simple levy-raising obligation to provide funding for others to use to pursue policy objectives.
- a taxation-funded approach which leaves costs off fuel bills, as a counterweight to the fuel bill-funded models.

## **Where fuel poverty fits – or doesn’t fit – into an energy supplier obligation**

Until the introduction of the ECO HHCRO, supplier obligations were not designed specifically to tackle fuel poverty. While they had an impact (because measures were installed in homes of fuel poor households), addressing fuel poverty was explicitly not their primary objective. Higher cost measures, like heating upgrades and boiler installations, had been funded from general taxation (and still are in Scotland and Wales). Funding these high cost measures from fuel bills (as now occurs under the ECO HHCRO) tends to have the counter-productive effect of worsening fuel poverty, rather than improving it (because the extra costs carried by the many are not offset by the significant benefits for the few).

This suggests that fuel bills are an inappropriate mechanism for funding these sorts of high cost home improvements for fuel poor households. In addition, energy suppliers are not ‘well placed’ to deliver these measures, particularly when compared to local authorities and social and private landlords. These measures are urgently need to tackle fuel poverty, but we conclude that it is poor policy making to obligate energy suppliers to procure this work themselves or to use fuel bills to collect funding to enable others to do it.

The Summary Table on the centre pages of this Policy-makers' Summary combines our description of these policies, likely supplier responses to them, and their key strengths and weaknesses with our initial evaluation of them against the rationale and criteria outlined above. In our view, a clear winner emerges.

## Conclusions and recommendations: a new supplier obligation for 2017

Our high level evaluation of options for a future supplier obligation provides a strong case for an obligation on energy suppliers to reduce their average customer demand for gas and for electricity. Such an obligation:

- goes directly with the grain of the transformation of energy supplier business models towards the lower, more responsive domestic demand required by broader energy policy objectives;
- ensures energy suppliers have a direct business interest in helping their own customers achieve real energy savings in their homes;
- focuses energy suppliers on low cost energy saving measures and interventions to engage their customers with reducing their energy consumption, resulting in lower overall system cost.

Supplier responses to such an obligation are likely to have wider policy benefits, reducing the risks of policy failure or short-fall in associated areas like smart meter roll-out and efficiency improvements in the stock of energy-using equipment in our homes. In particular, we anticipate it would:

- increase significantly the probability that the consumer benefits of smart meters will be realised in full – and potentially further extended through obligation-driven innovation;
- accelerate the take-up of more efficient appliances, lighting, gadgets and heating controls (because suppliers would have a direct interest in their customers taking timely advantage of such opportunities);
- improve the market attractiveness of lower-than-average consumption households (which tend to be lower-than-average income), create a potentially progressive outcome in the retail energy market.

As importantly, this Average Customer Consumption Reduction Obligation (ACCRO) does not share the drawbacks of other options for an energy supplier obligation, particularly the ECO. Compared with ECO CERO, it: (a) removes the need for energy suppliers to put in place teams to procure complex, high cost building works which have no direct relationship with their core

business, and; (b) is likely to have far less regressive impacts through the distribution of costs on bills and energy saving benefits.

We believe these advantages, and the avoidance of the disadvantages of the current ECO policy, combine to make a powerful argument for this approach to be central to a future obligation.

The ACCRO is a clear break with past supplier obligations, and the ECO in particular. As such it reflects directly and appropriately the existing and anticipated discontinuities in the context in which it needs to take effect.

However, other policy interventions will be needed to address the gaps left by this focus on low cost demand reduction. These will need to focus particularly on stimulating the markets for solid wall insulation and other complex insulation measures, and on installing heating, insulation and ventilation improvements in fuel poor households. They will also need to rely on funding mechanisms which do not raise levies on electricity and gas bills. There is a raft of possibilities for achieving these outcomes, none of which is without precedent.

It is important to recall that the reason why other policies are needed is because there is no sound rationale for expecting energy suppliers to deliver these outcomes or to fund them via the regressive mechanism of electricity and gas bills.

Achieving this step change in policy direction for the supplier obligation now becomes a priority in our view. There is further detailed policy design work needed to resolve some of the questions we have raised in our full report. However, this does not appear arduous, at least at first hand and especially when compared with the challenge of addressing the weaknesses in other options. If we can succeed, we will have stimulated an active, innovative market in helping households to reduce their energy demand, and enabled energy suppliers to become the businesses we need them to be.

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3 St Peter's Court  
Bedminster Parade, Bristol BS3 4AQ

0117 934 1400

[info@cse.org.uk](mailto:info@cse.org.uk)

[www.cse.org.uk](http://www.cse.org.uk)

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