









































































Your answer:

We believe ECO should include loft and cavity wall insulation as part of a phased transition while data from existing EPCs for straightforward properties, where basic insulation or heating measures are proposed, should be permitted.

This approach would drive early demand in the private rented sector rather than load unnecessarily high assessment costs on to the final Green Deal charge or ECO subsidy.

**Q60: Should targets and scores for the Carbon Obligation and/or the Affordable Warmth Obligation be expressed on the basis of the annualised savings of measures or the lifetime savings?**

YOUR ANSWER:

Targets should be an expression of lifetime savings reflecting the longevity of individual measures. Savings should also be calculated in RdSAP on the 'Fabric First' principle.

Looking at figures used under CERT, annual carbon saving for a 3 bed semi is;

- 634kg CO<sub>2</sub> p.a. for cavity wall insulation
- 376kg CO<sub>2</sub> p.a. for replacement boiler

Therefore on an annual basis, CWI saves 68.6% more CO<sub>2</sub> than a boiler replacement. However, the lifetime of cavity wall insulation is shown in the CERT calculation as 40 years (in reality it is much longer), whereas the lifetime of the boiler is 12 years.

Taking measure lifetime into account, CWI saves 462% more CO<sub>2</sub> than a replacement boiler. Lifetime savings are a more accurate assessment of the genuine carbon savings of the measures.

To consider annual CO<sub>2</sub> saving targets disproportionately favours measures that deliver high carbon savings in the short term over measures that deliver genuine long-term carbon savings.

**Chapter 12: Green Deal monitoring and evaluation and ECO administration**

**Q61: Is there other information the Government should collect in order to enable effective monitoring, evaluation and reporting on the performance of the Green Deal and ECO?**

Your answer:

Data should be collected on the measure, the specific system and the installer of each measure. This might bring to light trends which may not be evident in a process that will ultimately be a one off visit rather than a repeat customer experience.

**Q62: Should DECC be responsible for administering the ECO, with technical functions outsourced to the private sector, or should Ofgem administer the scheme? Please provide evidence to support your views**

Your answer:

No response

**General comments**

**Q63: In addition to the specific questions asked throughout this consultation document, do you have any other comments on any aspect of our proposals?**

No response

# APPENDIX A

‘Scenario Modelling’

Europe Economics

**The Green Deal and Energy Company  
Obligation**

**Scenario Modelling of Insulation  
Installation**

**A report for Knauf Insulation**

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**9 January 2012**

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## EXECUTIVE SUMMARY

- 1 This report examines the immediate impact that the introduction of the Green Deal will have on the take up of loft insulation (LI) and cavity wall insulation (CWI) and the effect on installers of insulation. We compare the impact of government's preferred option, set out in the recent DECC Consultation Document (DECC Option 2), with alternative scenarios. We show that encouraging the take-up of LI and CWI will produce greater benefits in terms of lower energy bills, further reductions in CO<sub>2</sub> emissions and inclusion of more homes than the government's preferred option. We also show how this can be achieved without adding to the costs (already assumed by DECC) that would need to be recovered from customers through energy bills.
- 2 Under the government's preferred option, rates of take-up of LI and CWI would fall rapidly from the levels of recent years. This reduction would leave a substantial volume of cost effective energy efficiency measures unexploited and thereby slow down the reduction in CO<sub>2</sub> emissions from housing.
- 3 Government has also assumed a rapid take-up of solid wall insulation (SWI). Industry considers that this is unrealistically high and would, if DECC's anticipated demand were realised, be likely to lead to price increases because of shortage of suppliers and/or to inferior quality work from installers who were not fully trained. Either of these outcomes would discredit SWI and, by association the Green Deal, in the eyes of householders. For our alternative scenarios we have assumed lower rates of take-up of SWI.
- 4 We have analysed a number of alternative scenarios based on different rates of installation of the three types of insulation, details are given in the full report. The two most attractive options, taking into account costs, benefits and funding issues assume higher take-up of both LI and CWI over the ten year period. The first scenario, (ECO Plus), with higher take-up of insulation measures, would require additional funding through ECO. This scenario assumes the same total number of SWI installations as DECC Option 2 by 2022 but with a slower year by year build up. The second scenario, (ECO Neutral), models a lower take-up of SWI and would have the same ECO cost as the government's preferred option. The ECO Neutral scenario is more cost effective than either DECC Option 2 or the ECO Plus scenario.

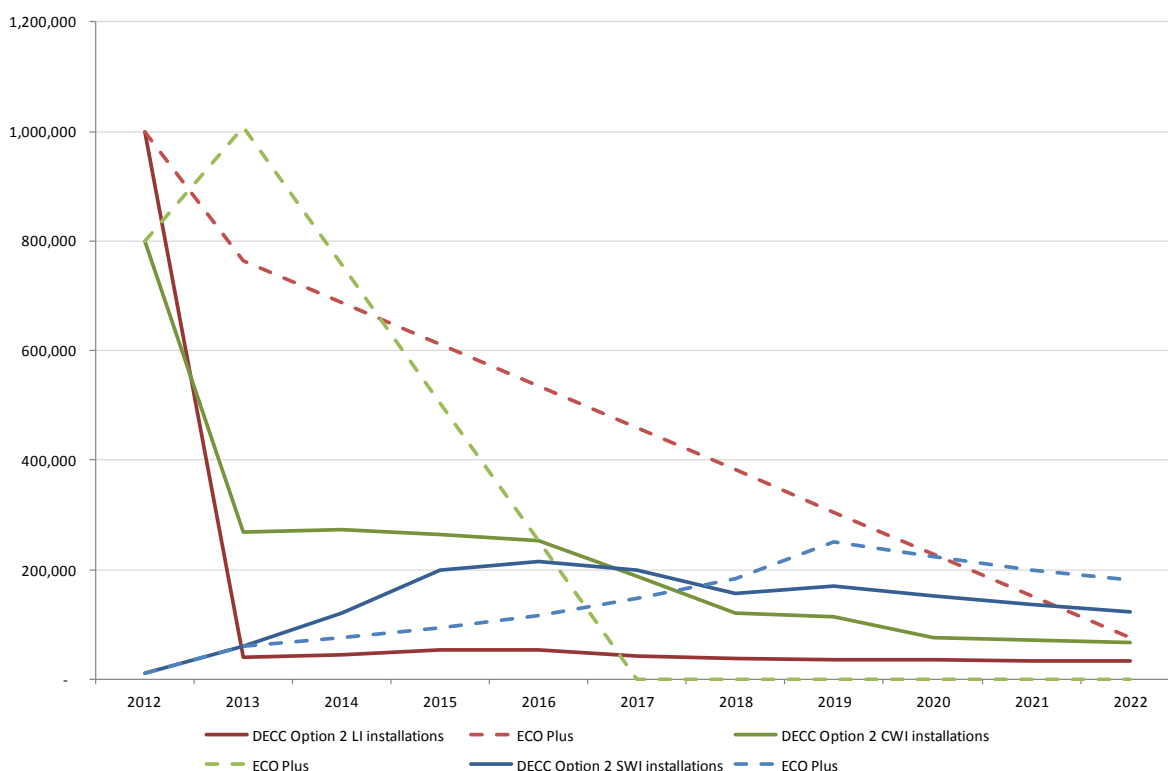
### ECO Plus

- 5 In the ECO Plus scenario a target of over 4 million LI installations is achieved over the ten years to 2022, with higher rates in the earlier years tapering off to avoid a cliff edge at the end of the period. A target of 2.5 million CWI installations is achieved by 2017. This is shown in Figure 1 in comparison with DECC Option 2.
- 6 In order to achieve the higher rates of take-up of LI and CWI assumed in ECO Plus, it would be necessary to offer additional financial incentives under ECO. For illustration we have assumed that 50 per cent of the cost of LI and CWI is met by energy companies under ECO and the cost recovered by a surcharge on all domestic energy bills. The



costs of support for LI and CWI on this basis would add about £13 to the average household bill in 2013 on top of the SWI support already assumed under DECC Option 2. These additional costs would vary from year to year as the rate of installation changes. In some years this scenario would impose less cost than DECC Option 2. Over 10 years the annual average addition to household energy bills under ECO Plus would be about £4.50.

**Figure 1: ECO Plus**

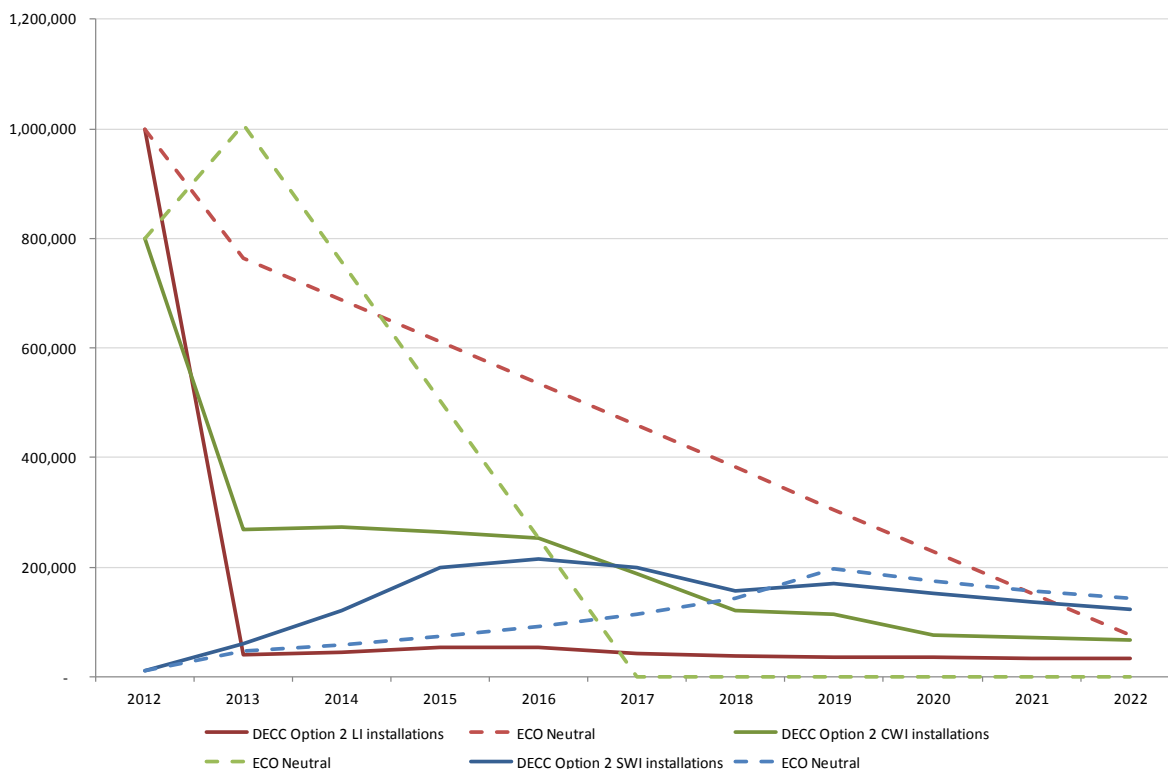


**ECO - Neutral**

7 This addition to energy bills could be avoided if the take-up of the measures supported under ECO was reduced. We have modelled the ECO Neutral scenario so that over the life of the policy the ECO costs of the measures included are the same as the cost assumed in DECC Option 2. Since SWI is the most costly of the measures considered here, the ECO Neutral outcome can most easily be achieved by a reduction in the numbers of SWI installations over the period to 2022. This may be realistic, taking into account industry expectations on capacity and demand over the period. The total number of houses being treated with SWI would be about 330,000 lower over the ten year period. This is 20 per cent below the level assumed in DECC Option 2 and the ECO Plus scenario. The levels of LI and CWI installations are the same as in the ECO Plus scenario. This is shown in Figure 2.



**Figure 2: ECO Neutral**



**Costs and benefits**

- 8 The analysis of costs and benefits for these scenarios takes into account the cost of installing insulation and the benefits in terms of lower energy consumption and reductions in CO<sub>2</sub> emissions. For both scenarios, (even with lower levels of SWI), the net economic benefit and the reduction in the volume of CO<sub>2</sub> is greater than under DECC Option 2. For the ECO Plus scenario net benefits are £6 billion greater than DECC Option 2. For the ECO Neutral scenario the additional net benefits are £5 billion. The net benefits per tonne of CO<sub>2</sub> are higher and target reductions in CO<sub>2</sub> can be met earlier. These represent net benefits to the economy as a whole. Under our scenarios up to 1.6 million more homes could benefit from additional insulation over the period to 2022 than has been assumed by DECC.
  
- 9 Under the ECO Plus scenario additional costs, (compared to DECC Option 2), to be passed on to consumers would be in the region of £1.2 billion over ten years. Under – ECO Neutral there would be no additional costs to be passed to consumers. The net benefit per tonne of CO<sub>2</sub> abated provides a measure of the cost effectiveness of each option. With a net benefit of £138 per tonne of CO<sub>2</sub> the ECO Neutral scenario is the most cost effective of the three considered here. A summary of costs and benefits is shown in Table 1.

**Table 1: Costs and benefits of alternative scenarios**

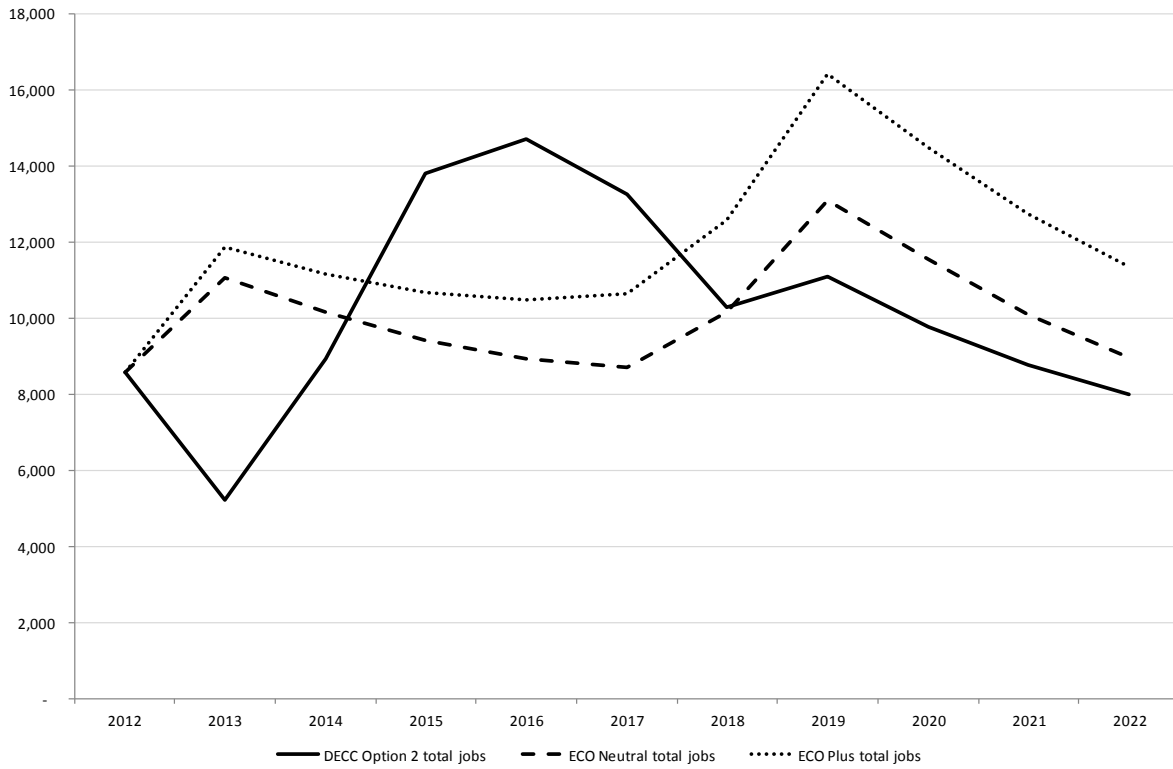
	<b>DECC Option 2</b>	<b>ECO Plus</b>	<b>ECO Neutral</b>
	DECC LI 2013-2022	High LI 2013-2022	High LI 2013-2022
	DECC CWI 2013-2022	High CWI 2013-2017	High CWI 2013-2017
	Revised DECC SWI 2013-2022	Smaller initial SWI 2013-2022	Reduced SWI 2013 - 2022
Net benefits (£ million)	£9,301	£15,284	£14,335
Net benefits relative to DECC Option 2 (£ million)	-	£5,983	£5,034
CO <sub>2</sub> savings (million tonnes)	90.2	117.0	104.2
CO <sub>2</sub> savings relative to DECC Option 2 (million tonnes)	-	26.7	13.9
£benefit/tonne CO <sub>2</sub> saved	£103	£131	£138
ECO costs (£million)	£6,513	£7,773	£6,513
Year in which 1.95 MtCO <sub>2</sub> target reached	2020	2018	2019

## Employment impact

- 10 We have also looked at the possible impact of these alternative scenarios on employment. The principal impact would be on the insulation installation sector. Under the government's option there could be an initial loss of about 3,000 jobs in LI and CWI installation in the first year followed by an increase in SWI employment. However it cannot be assumed that there is a smooth transition in employment from one type of installation to another. Under our alternative scenarios a smoother transition could be achieved. Under ECO Plus there could be around 1,800 additional jobs on average over the life of the policy although this would vary from year to year. The ECO Neutral scenario would be broadly job neutral over the period. The pattern of employment under each scenario is shown in Figure 3.



**Figure 3: Employment under ECO Plus and, ECO Neutral and DECC Option 2**





## 1 INSULATION IN DOMESTIC BUILDINGS UNDER THE GREEN DEAL

- 1.1 This report examines the immediate impact that the introduction of the Green Deal will have on the take-up of loft insulation (LI) and cavity wall insulation (CWI) and the effect on installers of insulation. It goes on to assess the costs and benefits of alternative scenarios in which incentives are given to encourage higher take-up of these insulation measures in an enhanced combination of the Green Deal and the Energy Company Obligation (ECO) carbon target. These scenarios are compared with the government's preferred option for the Green Deal and ECO as set out in the Consultation Document and Impact Assessment.<sup>1</sup> We show that encouraging the take-up of LI and CWI would produce greater benefits in terms of lower energy bills, further reductions in CO<sub>2</sub> emissions and inclusion of more homes. We also show how this can be achieved without adding to the costs (already assumed by DECC) that would need to be recovered from customers through energy bills.
- 1.2 The Consultation Document sets out three options for the Green Deal and ECO. The preferred option, referred to here as DECC Option 2, combines Green Deal finance for energy efficiency measures meeting the Golden Rule (i.e. the savings to householders from reduced energy consumption will be greater than the cost of installing the measures) with some funding from energy companies under ECO for solid wall insulation (which is not expected to meet the Golden Rule). No separate funding is proposed for LI or CWI under the ECO carbon target. These measures are expected to meet the Golden Rule and form part of Green Deal packages. In the past LI and CWI installation has been funded by energy companies most recently under CERT.

### The Impact of the Green Deal on LI and CWI

- 1.3 In the year to April 2011 around 1 million homes benefited from installation of LI. It is estimated that there are still 6 million to 9 million houses which are yet to benefit from full loft insulation.<sup>2</sup> Around 800,000 CWI installations are expected to be completed in 2012.<sup>3</sup> It is estimated that there are still between 1.4 million and 3.6 million untreated homes with easy to fill cavity walls. The costs of LI and CWI and the potential energy savings are set out in the Consultation Document and these measures are recognised as being amongst the most cost effective ways of saving energy in homes.<sup>4</sup>
- 1.4 Under DECC Option 2, the annual rate of CWI would fall to around 270,000 in the early years and fall further over the life of the scheme made up of a mix of easy to fill and more

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<sup>1</sup> The Green Deal and Energy Company Obligation. Consultation Document. DECC November 2011.

The Green Deal and Energy Company Obligation. Impact Assessment. DECC November 2011. (hereafter DECC IA)

<sup>2</sup> The DECC IA gives an estimate of 6 million (Table 5). Industry estimates suggest a higher value of 9 million (*Association for the Conservation of Energy*)

<sup>3</sup> DECC IA, Figure 16.

<sup>4</sup> DECC IA, Figures 12 and 13.



























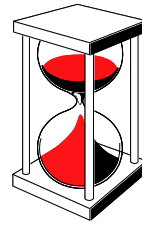




# APPENDIX B

‘Dead CERT’

UK Association for  
the Conservation of  
Energy (UKACE)



## Association for the Conservation of Energy

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## Dead CERT

*Framing a sustainable transition to the Green Deal and the Energy Company Obligation*

Supported by:



## Executive Summary

### Remaining uninsulated lofts and cavity walls

At the end of 2012, when the Carbon Emissions Reduction Target (CERT) ends and the new Energy Company Obligation (ECO) commences, there will remain approximately 6.2 million cavity walls and 8.5 million lofts suitable for insulation in British homes. Approximately 3.7 million of these cavities don't face any cost-incurring technical barriers and are considered 'conventionally easy' and low cost to insulate.

This remaining insulation potential is very large, indicating that the high rates of cavity wall and loft insulation that will be seen throughout 2012 to meet the CERT obligation need not collapse for a lack of fillable lofts and cavities in 2013. Because under current proposals the ECO will target only a small fraction of this remaining potential (in low income and vulnerable households), the insulation of all remaining cavities and lofts by 2020 – as is deemed necessary by the Committee on Climate Change and the Government's Carbon Plan – will be entirely reliant the Government's flagship Green Deal programme.

### Expected delivery 2013-2022

Figures within the Impact Assessment accompanying the Green Deal / ECO proposals confirm that the Green Deal is not expected to deliver more than a small proportion of these lofts and cavities. Just 1.7 million cavity walls, and far fewer lofts, are expected to be insulated through to 2022. At such a rate, even the low cost cavities would not be insulated until almost 2040, with the more expensive cavities not filled until 2050.

Figure 2 and Figure 2 present the change in delivery rates through CERT to date, expectations to the end of CERT, and what is likely to follow through to 2022. Conversely, the dashed black line presents the smooth achievement of the ambition within the Government's Carbon Plan: that all practicable cavities and lofts are filled by 2020. Clearly the expected delivery under the Green Deal and ECO is incompatible with the UK's carbon reduction targets and energy security objectives.

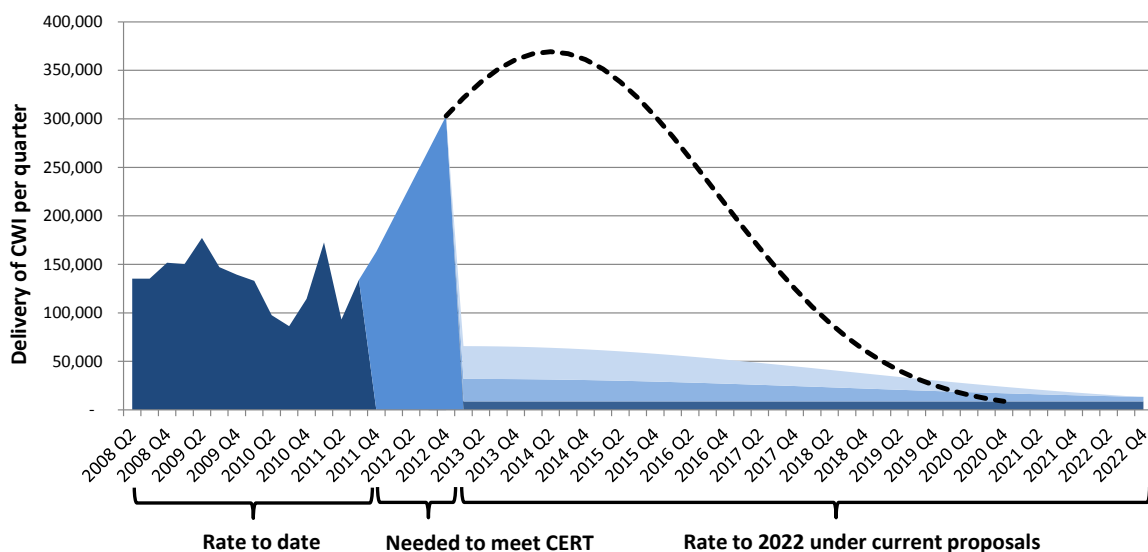


Figure 1: Quarterly rates of cavity wall insulation to date and projected to 2022

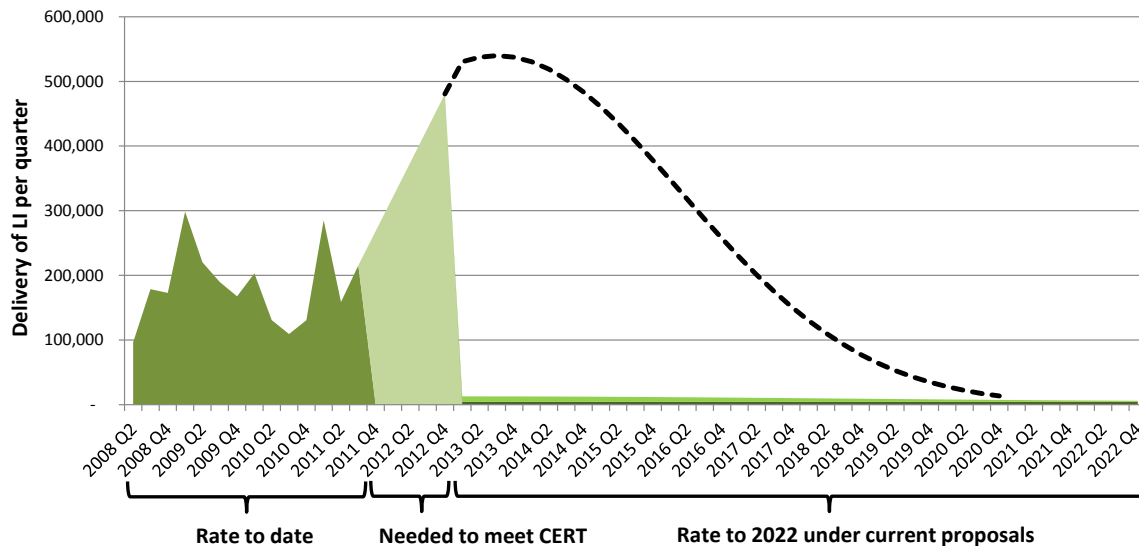


Figure 2: Quarterly rates of loft insulation to date and projected to 2022

### Impact of existing Green Deal and ECO proposals

The radical and imminent collapse in the delivery of loft and cavity wall insulation in 2013 creates serious risks to Government policy and the insulation industry itself:

#### Government Policy

- Carbon budgets: the evidence within the consultation demonstrates that existing plans are inadequate to meet the ambition of the Carbon Plan, could make meeting them more costly to consumers, and have been publicly criticised by the Committee on Climate Change (CCC, 2011).
- Fuel poverty: Existing proposals would see just 25% of ECO support directed to those within the Affordable Warmth group, most likely to be in fuel poverty. By redirecting remaining funds to supporting SWI, it is only after the obligation is finished and no longer being supported by bill payers that the programme reduces the number of households in fuel poverty; but by only 350,000-500,000 – far fewer than the 4.1m currently fuel poor (DECC, 2011e).
- Green Deal: the policy requires confidence from households, the industry and from investors. Designing policies that harness the benefits of mass delivery of tried, tested and well-understood energy efficiency measures is key to maximising early uptake of Green Deal. Confidence that sufficient loan volume will be generated is also essential for the institutional providers of Green Deal finance to have a viable business case in the first place.

#### Insulation industry

- The absence of any planned transition between the delivery of cavity wall insulation and solid wall insulation poses particular challenges to businesses being asked to make the short-term investments needed to the end of 2012 in order to ramp up to ensure the Insulation Obligation under CERT is met.
- The expected collapse of activity post-2012 under current proposals would severely restrict the breathing room needed for the industry to continue to develop hard-to-treat solutions (for both cavity and solid walls), training programmes and the capacity necessary to deliver carbon budgets and the ambitions for solid wall market transformation.

## Enabling a sustainable transition

The policies we recommend are aimed at mitigating the risks that current proposals pose to the aims of Government within the Energy Act, namely carbon savings, fuel poverty eradication and the successful roll-out of the Green Deal. They are also intended to address the negative impact that DECC's plans will have on the delivery of cavity and loft insulation that could impede transformation of the solid wall insulation market. We do *not* wish to overcome these problems by proposing to continue in the same policy vein, such as could be achieved by a 'Son of CERT' approach. Rather, the guiding principle behind these recommendations is to underpin the new Green Deal and ECO framework and enable a sustainable transition which builds confidence in the industry and leads to a successful outcome for Britain's policy objectives.

## Aligning Green Deal and the ECO

- **Allow cavities and lofts delivered through Green Deal finance to contribute to the ECO Carbon Saving obligation – including those cavities and lofts delivered by non-obligated Green Deal providers.** At little to no cost to bill-payers, this would encourage suppliers to offer Green Deal packages that included familiar measures, and improve confidence regarding likely Green Deal take-up rates.
- Ensure the inclusion of loft and cavity wall insulation doesn't affect other ECO objectives by **placing a solid wall minimum upon suppliers.**

## Fiscal Incentives

- **Use the £200m allocated by Treasury** to incentivise the take-up of Green Deal packages and to increase the reward in line with the size of the package financed.
- **Allow all Green Deal measures installed by Green Deal accredited installers to be installed at 5% VAT.**
- **Link Stamp Duty and council tax to home energy ratings** to create incentives for households to improve the energy efficiency of their homes.

## Regulations

- **Ensure minimum standards for FIT and RHI** eligibility as has now been proposed for both schemes. All Green Deal-able measures should be installed.
- **Consequential Improvements** through the Building Regulations to ensure that Green Deal-able measures are installed prior to extensions and conversions.
- **Mandatory minimum standards** to require homes to have all Green Deal-able measures installed before they can be sold.

## Helping low income and vulnerable households

- **Increasing the amount of the ECO targeted at low income and vulnerable households,** and concurrently **widening the eligibility** group beyond the very narrow eligibility criteria currently proposed. Both can be achieved by introducing a distributional safeguard within the Carbon Saving obligation.

## Fully addressing hard to treat homes

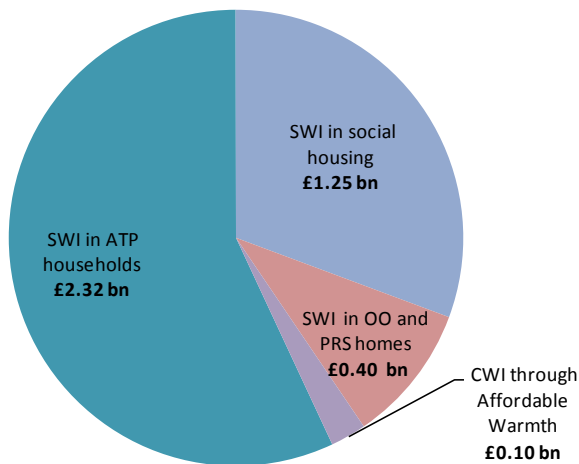
- **Include more costly cavity wall insulation** (i.e. hard to treat) as an eligible treatment contributing to ECO's Carbon Saving obligation, **treated according to the same principles as solid wall insulation,** to enable the blending of Green Deal finance and ECO support.

### An alternative outcome

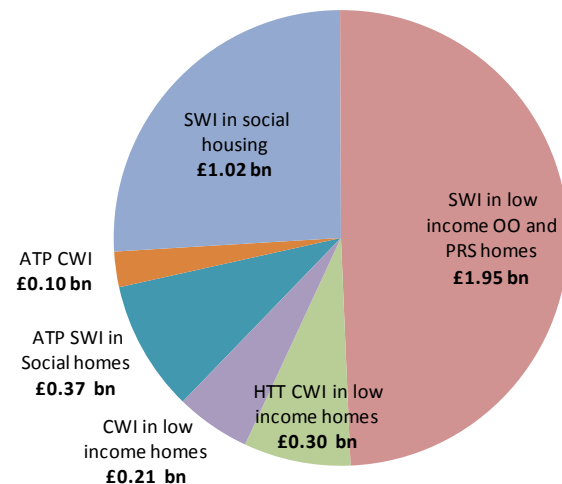
Looking at DECC's approach to the ECO in detail sees that the bulk of energy supplier support will be directed at solid wall insulation (SWI) within the homes of able-to-pay (ATP) households. Our alternative for the first four years of the ECO (to the end of 2016), illustrated on the right-hand side of Figure 3, is just one of many permutations that can be constructed and made possible by our policy recommendations. It seeks to:

- Create a sensible transition from low cost to high cost insulation measures, delivering a volume of both that will see Government meet its aims within the Carbon Plan;
- Enable the insulation industry to achieve the market transformation for solid wall insulation systems;
- Save more carbon across the ECO period;
- Increase the equity of the ECO by seeing more support directed to low income households, particularly for solid wall insulation and for in low income owner-occupied (OO) and private-rented sector (PRS) homes;
- Achieve these objectives without increasing costs for bill payers.

#### DECC proposals



#### ACE alternative scenario



**Figure 3: DECC proposals and ACE alternative for ECO spending; cumulative over first four years to 2016**

Our scenario meets these objectives by allowing cavity wall insulation delivered through Green Deal to contribute to the ECO, with 500,000 insulated each year, along with a proportionate number of lofts topped up. This generates a large volume of very low cost carbon savings, allowing the remainder of the ECO budget to focus on low income and hard-to-treat properties:

- An additional 75,000 harder to treat cavities and 175,000 conventional cavities can be insulated each year within a broader low income and vulnerable household group.
- Over 140,000 solid wall insulations each year, the bulk of which occur in the homes of the most vulnerable: low income owner-occupiers and private renters.

In all, such an approach sees more than twice the proportion of ECO monies spent in the homes that need it most, saves 55% more carbon over the period, and manages to see 80% of the solid wall insulation numbers delivered under the DECC scenario, installed at a rate that remains ambitious: 140,000 a year. It does this at a lower cost to bill payers than the DECC scenario.