Title: Consultation Stage Impact Assessment for the Energy Company Obligation brokerage platform	Impact Assessment (IA)
	Date: 12/12/2012
IA No: DECC0096	**Stage:** Consultation
	Source of intervention: Domestic
Lead department or agency: DECC	**Type of measure:** Secondary legislation
Other departments or agencies:	**Contact for enquiries:** Chris Nicholls (0300 068 6017)

Summary: Intervention and Options

RPC: AMBER

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB in 2009 prices)	**In scope of One-In, One-Out?**	**Measure qualifies as**
£m	£m	£m	Yes/No	N/A

What is the problem under consideration? Why is government intervention necessary?

The Government believes that the Energy Company Obligation (ECO) targets could be fulfilled most cost effectively if there is a transparent price signal in the market for measures' subsidy rates ("ECO points") and potential barriers to Green Deal Providers' access to ECO spending are minimised. There is a *risk* that a voluntary approach to brokered contracting for delivery of ECO eligible measures will not result in a contestable and transparent market for ECO points, and increases the probability that some cost-effective suppliers of ECO points may not enter the market. Given that a large number of eligible measures are expected to be delivered with ECO subsidy and Green Deal finance, the small number of energy suppliers who will have legal targets under the ECO have the potential to have a large influence on the Green Deal and ECO market.

What are the policy objectives and the intended effects?

The two key objectives are to provide a transparent platform for revealing the marginal cost of delivering the ECO targets (the market price for ECO points), and to contribute to the efficient working of the Green Deal market by ensuring open access to energy suppliers' ECO spending for all Green Deal Providers. The intended effects are to facilitate competition in Green Deal Provider market by providing a transparent price signal and reduce the risk of potential barriers to entry to this market, and thereby reduce the cost of delivering the ECO. This, in turn, should benefit consumers.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

This assessment considers the option of mandating the use of a brokerage platform, against the alternative of a voluntary approach. The latter option presents the "do nothing" scenario, following the Government's announcement in June 2012 on its intention to introduce a brokerage platform for parties to contract ECO point delivery.

Due to the limited evidence available at this stage, this assessment does not have a preferred option. The assessment considers the impacts of brokering different volumes of each ECO target, but does not attribute these to a mandatory or voluntary approach to brokerage.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 10 / 2015

Does implementation go beyond minimum EU requirements?			**N/A**		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro Yes**	**< 20 Yes**	**Small Yes**	**Medium Yes**	**Large Yes**
What is the CO2 equivalent change in greenhouse gas emissions? (Million tonnes CO2 equivalent)			**Traded: N/A**	**Non-traded: N/A**	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister: ---------- Date: ----------

Summary: Analysis & Evidence Policy Option 1

Description: Do nothing – Voluntary brokerage platform

FULL ECONOMIC ASSESSMENT

Price Base Year 2012	PV Base Year 2012	Time Period 10 years	Net Benefit (Present Value (PV)) (£m)		
			Low: -	High: -	Best Estimate: -£0.98

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		1		
High				
Best Estimate	£0.5m		£0.50m	£0.98m

Description and scale of key monetised costs by 'main affected groups'

The Government will incur an estimated one-off cost of £0.5million in **setting up** the brokerage. It is estimated that there will be an annual **operating** cost of £0.5million in subsequent years, which will be funded by Government in the first year. For the purpose of this assessment, this cost has been assumed to be funded by businesses choosing to use the brokerage in subsequent years. As entry to the Green Deal market remains voluntary, and energy suppliers would choose to use the platform voluntarily, there are no additional costs for business associated with this option.

Other key non-monetised costs by 'main affected groups'

N/A

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				-
High				-
Best Estimate	-		-	-

Description and scale of key monetised benefits by 'main affected groups'

N/A

Other key non-monetised benefits by 'main affected groups'

With a voluntary brokerage platform, there is the potential for cost savings for energy suppliers in fulfilling their obligations to deliver energy efficiency measures. This will depend on the level of participation with the brokerage and the extent to which this attracts additional competition in the Green Deal Provider market (see also Policy Option 2's non-monetised benefits). These benefits have not been monetised.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

As the Green Deal Provider market is currently developing, there is uncertainty both about the outcome of the "do nothing" option and that of mandatory brokerage. The assessment of potential cost and benefits rests on the assumption that the design of a brokerage platform is adequate in achieving the aims set out above. The impact of an inefficiently designed brokerage framework (platform and detailed contract design, risk allocation and penalty regime) could be significant if large volumes of ECO points are traded on the platform. Our initial assumptions on the costs to business of using the brokerage rests on the assumption of the establishment of an effective brokerage framework.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m: 0			In scope of IOO?	Measure qualifies as
Costs: 0	Benefits: 0	Net: 0	No	N/A

Summary: Analysis & Evidence Policy Option 2

Description: Mandated use of brokerage platform for ECO compliance

FULL ECONOMIC ASSESSMENT

Price Base Year 2012	PV Base Year 2012	Time Period 10 years	Net Benefit (Present Value (PV)) (£m)		
			Low: -	High: -	Best Estimate: -£5.9m

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low		1		
High				
Best Estimate	£1.06m		£0.59m	£5.90m

Description and scale of key monetised costs by 'main affected groups'

Government will incur an estimated £0.5million **set-up** cost. There will be annual **operating** cost of £0.5million in subsequent years, which will be funded by Government in the first year. For the purpose of this assessment, this cost has been assumed to be recovered from businesses in subsequent years. It is assumed that suppliers of ECO points must be authorised Green Deal Providers, and that the cost of **authorisation** could be £441,000 every five years. This cost will be borne by Government in year zero, and has been assumed to be borne by Green Deal Providers in subsequent years. Energy suppliers' and Providers' one-off **familiarisation** cost is estimated at £120k.

Other key non-monetised costs by 'main affected groups'

Increased transparency of the value of ECO points could lead to a transfer of economic rents in the market for ECO points from the obligated suppliers to installers/consumers.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				-
High				-
Best Estimate	-		-	-

Description and scale of key monetised benefits by 'main affected groups'

N/A

Other key non-monetised benefits by 'main affected groups'

Increased transparency of the marginal cost of delivering the ECO target would provide Government with better information on which to base decisions of target setting for future ECO periods. The possible positive impact of increased competition of reducing the cost of delivering the ECO targets have not been quantified. Increased transparency of the value of ECO points could lead to a transfer of economic rents in the market for ECO points from the obligated suppliers to installers/consumers.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

As the Green Deal Provider market is currently developing, there is uncertainty both about the outcome of the "do nothing" option and that of mandatory brokerage. The assessment of potential cost and benefits rests on the assumption that the design of a brokerage platform is adequate in achieving the aims set out above. The impact of an inefficiently designed brokerage framework (platform and detailed contract design, risk allocation and penalty regime) could be significant if large volumes of ECO points are traded on the platform.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m: £0.00m			In scope of IOO?	Measure qualifies as
Costs: 0	Benefits: -	Net: 0	Yes	IN

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1 Introduction

In November 2011, Government consulted on the Green Deal and Energy Company Obligation (ECO) and proposed the introduction of a brokerage solution to ensure a fair access for all Green Deal Providers to obligated suppliers' ECO spending[1]. Based on the consultation responses, Government committed in its response, published in June 2012, to introducing a brokerage platform on a voluntary basis with the option of regulating energy suppliers to partner with third party delivery agents.

There was strong support from consultees for seeking a commitment from energy suppliers to fulfil a significant percentage of their ECO targets through brokerage, as it would give Green Deal Providers a route to market and provide a clear price signal of the value of an ECO 'point' under each of the ECO targets. The Government wishes to see a competitive ECO market to ensure that the costs of delivering the ECO obligations are minimised. We also need to have a clear understanding of the costs to energy companies of meeting their obligations in order to shape future obligation periods and monitor the current ECO period.

The ECO brokerage consultation therefore considers:

- Whether energy suppliers' use of brokerage should be **regulated or rest on a voluntary approach**; and
- What **volumes, for each ECO obligation**[2], would ideally be put through brokerage.

The consultation seeks views and evidence on a range of options for ECO brokerage. This assessment considers arguments for and against a regulated approach to brokerage, and assesses the costs and benefits of different volumes of each ECO currency to be put through a brokerage platform. This assessment does not capture the potential effect of other measures Government might put in place to incentivise voluntary use of brokerage. Should such incentives be introduced and prove successful at driving voluntary usage, then the need for regulation would be reduced.

The establishment of a brokerage platform *per se*, is not consulted on. Government consulted on whether a brokerage should be introduced in its November 2011 Green Deal and ECO consultation. Support for brokerage in the responses was marked, and Government confirmed its intention to introduce brokerage in its June 2012 response. Government continues to be committed to realising the potential benefits of a brokerage platform. The analytical counterfactual scenario for this Impact Assessment (IA), however, is one of no brokerage. This enables us to provide an initial assessment of the costs and benefits associated with setting up a brokerage, voluntary or mandatory, as these were not estimated in the June 2012 Green Deal and ECO Final IA[3].

Government recognises that there are great uncertainties associated with how the Green Deal and ECO market will operate, and therefore about both the "business as usual" scenario and the various scenarios for volumes to be brokered. We are therefore seeking evidence on the likely characteristics of this market, and the extent to which the risks of market failures outlined in this IA are likely to be material. The IA therefore does not present a preferred option. We welcome evidence from consultees to inform our Final Assessment; see Box 1 below for a summary of our main calls for evidence.

Box 1 Call for evidence for the Final IA

[1] http://www.decc.gov.uk/en/content/cms/consultations/green_deal/green_deal.aspx

[2] The ECO targets compromise two carbon reduction targets – a Carbon Saving Obligation and a Carbon Saving Community (compromising a Rural Safeguard)- and an Affordable Warmth target.

[3] In particular, the June IA did not assess the cost to Government of establishing a brokerage platform. This cost would therefore have been omitted if we were to use a "voluntary approach" counterfactual in this IA.

There are uncertainties associated with assessing a brokerage platform at this stage. The Green Deal market is immature and although energy companies have been able to deliver against their ECO commitments from 1 October 2012, we do not expect delivery to start ramping up until in 2013 (when the 31 December CERT/CESP deadline has passed). The sources of evidence used in this assessment include responses from the Green Deal and ECO consultation and stakeholder engagement, as well as current market studies of the insulation market and evidence from existing supplier obligations and other trading platforms. We welcome further evidence from consultees for use in the final assessment.

Costs and benefits to business

- What are the likely **costs and benefits to businesses** operating in the Green Deal market from the introduction of a brokerage platform? (Section 7)
- What are the likely administrative costs to business, including familiarisation costs, of delivering the obligations through trading on the brokerage and/or through partnerships and other routes, across the different ECO targets? Will these costs differ under a mandatory or voluntary approach?

Risk of market failures

- Are there **barriers to entry** in the Green Deal provider market, and
    - if so, what are they? (Section 4)
    - If so, what are the relative significance of these barriers, and could a mandatory brokerage platform help address them?
    - Are there any barriers particular to Small and Medium Enterprises (defined as businesses with less than 250 employees) that could prevent them access to ECO funding?
- Would a mandatory brokerage platform present barriers to the capacity of some delivery organisations from participating in the market? Would the extent of these barriers vary at different levels of mandated trading? (Section 6.2)
- Could there be a **transparent and robust price signal** in the market for ECO points without a mandated brokerage? (section 4.1)

Volumes traded

- What **level of volume** traded on the brokerage of each ECO target would:
    - Sufficiently reduce any potential barriers to entry to facilitate a competitive Green Deal provider market? (Section 6.2)
    - Provide a transparent and robust price signal? (Section 4.3 and 6.2)
    - Ensure sufficient liquidity of brokered ECO targets over the whole compliance period? (Section 6.2)
- Is there a minimum or maximum efficient trading level to achieve the objectives of brokerage?
- What are the risks of **unsuccessful or delayed delivery** of measures with different volumes traded? (Section 6.2)
- What would be the impact on **demand for measures from households** with different volumes traded? (Section 4.1)

General questions

- What evidence is available to support the quantification of the potential impact of increased competition in the Green Deal provider market from trading on a brokerage platform? (Section 4)
- Is a voluntary or mandatory approach to a brokerage likely to be most efficient in addressing potential market failures and ensuring the objectives of brokerage are materialised? (Section 3 and Section 6.1)
- What is the likely scope for driving down the cost of meeting the ECO targets across different types of measures?
- Do you have any evidence on the significance of the economies of scale achieved in delivering ECO measures? If so, what kind of savings are typical?
- As a Green Deal Provider, how important to you would a transparent price determined through a brokerage be?
- Please provide any other information you hold that you think will be important for Government to in order to assess whether or not brokerage should be mandatory, and what volumes of each target should be traded on brokerage.

2 Background on the Green Deal and ECO

The Green Deal and ECO are two complementary policy mechanisms which will address market failures and distributional objectives in the energy efficiency market and hence drive demand for measures, as set out in the June 2012 Final Green Deal and ECO IA[4].

The **Green Deal** is a novel financing mechanism and a framework of advice, assurance and accreditation for the energy efficiency supply chain for homes and businesses. It allows the cost of installing energy efficiency measures to be financed through a charge attached to a property's electricity meter, where expected financial savings must be equal to, or greater than, the repayment cost attached to the energy bill[5]. The Green Deal aims to overcome barriers to access to capital, mismatched incentive problems and provide a trustworthy framework of advice, assurance and accreditation for the energy efficiency supply chain.

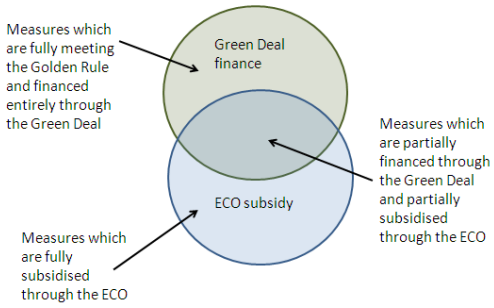
The **ECO** places obligations on suppliers to meet two carbon targets – the Carbon Saving Obligation (CSO) and the Carbon Saving Communities (CSC) (which includes a Rural Safeguard component), and an Affordable Warmth (AW) target, all in the domestic housing sector. The policy aims to provide additional support to deliver energy efficiency measures that are part of a cost-effective strategy for achieving the UK's carbon targets but which may not be fully financeable through the Green Deal, and to provide subsidised measures to low income and vulnerable households to help alleviate fuel poverty.

The CSO target and the CSC target require the delivery of lifetime savings of 20.9MtCO_2 and 6.8MtCO_2 respectively by March 2015[6]. The AW target will require energy suppliers to achieve a total reduction in lifetime notional space and water heating costs of £4.2bn by March 2015. The routes available to suppliers to generate their required ECO compliance, in the form of 'ECO points' are outlined in section 3 (we use the term 'ECO points' as an umbrella term for the different compliance units for the CSO, CSC and AW targets of the ECO[7]),

2.1 How the policies would work together

The Green Deal and the ECO are two distinct policies and in some instances they would operate independently. However, in the case of hard to treat homes (requiring expensive Solid Wall or hard-to-treat Cavity Wall insulation), it is expected the Green Deal and the ECO would work together, with measures receiving partial subsidy through the ECO – from energy suppliers discharging their obligation to provide carbon savings- with the remaining cost financed through the Green Deal.

Figure 1 Overlap between Green Deal and ECO



[4] DECC (2012) "Final Stage Impact Assessment for the Green Deal and Energy Company Obligation" http://www.decc.gov.uk/assets/decc/11/consultation/green-deal/5533-final-stage-impact-assessment-for-the-green-deal-a.pdf

[5] This is known as the "golden rule", and is a prerequisite for all Green Deal plans.

[6] For further details on the policies and targets , see the Final Stage Green Deal and ECO IA.

[7] The CSO and CSC targets are specified in terms of tonnes of carbon emissions (i.e. 1 credit = 1 tonne), and the AW target is specified in terms of notional space and water heating costs (i.e. 1 credit = £1 heating cost). No conversion is made between different types of ECO credit.

Green Deal Providers will be able to access ECO subsidy by committing to install ECO-eligible measures into people's homes. This will enable them to bring the cost of some measures within the Golden Rule, thereby allowing them to put an attractive offer to their customers that comprises the optimum mix of support between Green Deal finance and ECO subsidy. Everything else being equal, consumers will prefer to take up a Green Deal plan (where appropriate) that is part-subsidised. This will minimise the amount of Green Deal finance or self-funding required.

Energy suppliers will be incentivised to leverage in as many types of funding as possible, including Green Deal finance, and combine these with ECO subsidies in promoting measures to deliver their ECO targets. This is because energy companies would get ECO points towards their obligations for packages of eligible measures[8], irrespective of the amount of ECO subsidy they provide[9].

It is likely that most AW measures, and some CSO and CSC measures, will be fully subsidised by ECO. However, the structure of the obligation does not place any restrictions on levering in Green Deal or other sources of co-financing upfront. This is true for all the ECO targets. For energy efficiency measures that meet the Golden Rule and where households are willing to face their full cost, there will be no need for ECO support. There may, however, be instances where households are willing to do this and can still receive some ECO subsidy. Instances of this economic rent[10], and its distribution, are discussed in section 4.

2.2 The ECO brokerage mechanism

The role of the brokerage mechanism is to match demand for ECO points from obligated energy suppliers with the supply of these from Green Deal Providers.

There are two key aims of the brokerage platform. Firstly, to provide a transparent platform for revealing the marginal cost of delivering the ECO targets and therefore the price faced by energy companies. Secondly, to contribute to an efficient working of the market by allowing fair access to ECO subsidy for all Green Deal Providers and reducing potential barriers to entry. An assessment of the extent to which different volumes of the ECO currencies traded on the brokerage platform might meet these, and other success criteria, is provided in section 6.2.

2.2.1 Scenarios of structure of the ECO subsidy market

The introduction of a brokerage platform is likely to affect the structure of the market in which the obligated energy suppliers and their delivery partners may operate.

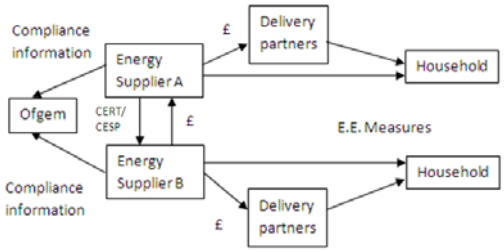
Current market structure in delivery of energy efficiency obligations

Energy efficiency measures promoted by the eligible companies under existing supplier obligations (CERT and CESP[11]) are delivered through a number of routes. There is no dedicated platform in the market on which units of compliance towards these targets are contracted or traded. Obligated companies[12] can deliver their obligations by contracting bilaterally with a number of delivery partners, or deliver measures directly via their own delivery arms. Contracting under this market structure is done predominantly bilaterally, so there is limited transparency on prices to provide signals to the wider market[13]. The obligated

[8] See the Final Green Deal and ECO IA for details on the ECO eligibility criteria.
[9] As long as they can show the given measure or package of measures would not have been installed otherwise at that time.
[10] It is anticipated that the cost of delivering a unit of compliance will be set by the marginal cost of the last unit of compliance. Therefore, some intra-marginal economic rent will be generated on the lower cost units of compliance.
[11] Carbon Emissions Reduction Target (CERT) and Community Energy Saving Target (CESP) are obligations on energy companies to install eligible measures to meet specific carbon saving targets.
[12] In the case of CESP this includes some electricity generators, in addition to energy suppliers.
[13] In the interim evaluation of CERT, a number of stakeholders reported that the design of CERT (a market based mechanism where energy suppliers and delivery partners have been reluctant to share commercially sensitive information, including costs), has created a lack of transparency in partnerships and negotiations with suppliers and

companies can trade over and under-compliance subject to Ofgem approval[14]. A simplistic representation of this situation is shown in Figure 2, below[15].

Figure 2 Current market structure



Market structure under ECO/Green Deal: No trading on brokerage

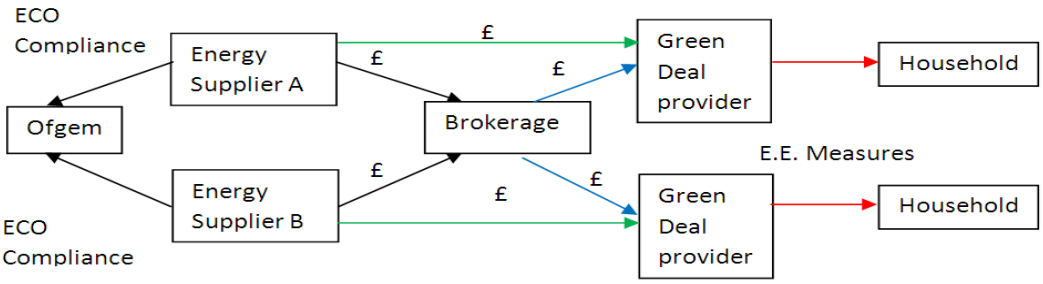
From when the Green Deal and ECO market is established, if there was no trading on a brokerage platform, the delivery options would be the same as illustrated in Figure 2 above, with money transactions being nominated in ECO points and delivery partners now including Green Deal Providers. As under CERT and CESP, energy companies can trade over-compliance between them within the separate ECO targets at any time, subject to Ofgem's approval.

It should be noted that organisations delivering fully ECO subsidised measures do not need to be Green Deal Providers. This delivery route is not captured in the simple diagrams in this section.

Market structure under ECO/Green Deal: Some trading on brokerage

Introducing a brokerage platform allows for the trading of energy companies' ECO obligations via a third party. Without mandatory volumes to be traded on this platform, it will enable suppliers to choose whether to self-deliver, contract directly with Green Deal Providers and other delivery partners as described above, or buy ECO points from Green Deal Providers indirectly via the brokerage platform.

Figure 3 Some volumes traded on brokerage



Market structure under ECO/Green Deal: All volumes traded on brokerage

If energy suppliers were mandated to trade all of their obligations through brokerage, they would not be able to supply ECO funding (buy ECO points) directly to any preferred delivery partners through bilateral agreements, or to their integrated Green Deal Provider arms, as this funding would have to go via the brokerage platform. As contracting on the brokerage is due to be blind, energy suppliers will not know *a priori* which Provider of ECO points they are buying from. The blind trading of ECO points, does not, however, preclude energy suppliers from forming partnerships to deliver measures. Delivery of measures

other partners. See http://www.decc.gov.uk/assets/decc/11/funding-support/3340-evaluation-synthesis-of-energy-supplier-obligation.pdf

[14]This is known as "transfers" under CERT and CESP. Under a transfer arrangement, one company can transfer over-achievement to another company. Every case must be submitted and approved by Ofgem. Ofgem will only approve the transfer if they are confident that companies will comply.

[15] The simple illustration is not an accurate description of delivery routes but is meant to illustrate the comparison to the market under ECO/Green Deal.

that are partially or fully financed by ECO would be restricted to the routes indicated by the black and blue arrows in Figure 3 above.

3 Problem under consideration and rationale for intervention

The Government believes that the ECO targets could be fulfilled most cost effectively if Green Deal Providers have fair access to energy suppliers' ECO spending and there is a transparent price signal in the market for ECO points. A transparent price and brokerage could lead to a shift in market power from energy suppliers to the rest of the supply chain, which could increase the routes to market for delivering energy efficiency measures, increase competition and lower the cost of delivering carbon and heating cost savings (see section 4.1). A brokerage platform in the market for ECO spending could:

- Provide a robust price signal that
    - provides information about the cost of ECO to enable the Government to make informed decisions on future target setting and monitor the impact of existing ECO targets, and
    - enables potential Green Deal Providers to make more informed decisions about whether to enter the market; and
- Correct potential barriers preventing open access to ECO spending;

The Government believes that a competitive market for Green Deal Providers could potentially reduce the marginal cost (and therefore total cost passed through to consumers' energy bills) of meeting the ECO obligations (see section 4).

A **transparent price** in the market for ECO points will benefit potential entrants and existing players in the market in deciding if and how they bring Green Deal offers to the market, and could therefore have a positive impact on competition. It would also benefit the Government in potential future ECO target setting. The Government is concerned that without intervention to ensure sufficient volumes of ECO points are transparently traded, a robust market price for ECO compliance may not emerge (see section 4).

There could be policy-induced barriers to access to the Green Deal Provider market if the ECO policy prevents open access to ECO subsidy amongst Green Deal Providers. Some respondents to the consultation were concerned that the energy suppliers' route to compliance of their obligations through vertical integration could create **barriers to entry for non-vertically integrated Green Deal Providers** outside a direct relationship with an energy supplier (see section 4). Reducing potential barriers to entry should ensure that Green Deal Providers that can deliver ECO points cost-effectively are able to access ECO subsidy. Improved contestability in the market could also deter players from pricing above marginal cost[16].

The lack of a transparent market price signal and other potential barriers to access could dissuade new firms from entering the Green Deal Provider market, and lead to **reduced levels of liquidity** in the market for ECO points[17]. Liquidity is an important feature of a well functioning market, and is in turn a key driver of effective competition and market entry (see section 4.3). Low levels of liquidity may prevent entry and lead companies to find alternative ways of trading, such as "vertical integration" which in turn may lead to further reductions in liquidity[18]. This "**reciprocal externality**" will be tested at consultation.

[16] DTI (2004), " DTI Economics Paper No.9, The Benefits from Competition; some illustrative UK cases" http://www.bis.gov.uk/files/file13299.pdf

[17] A potential barrier to access could emerge if energy suppliers bundle their obligations into a small number of large contracts with favoured, established, delivery partners.

[18] Vertical integration is a situation when a company integrates part or all of a supply chain within a single company rather than buying inputs in the market. In the case of the Green Deal and ECO market, an energy supplier can choose to vertically integrate and develop or acquire the capacity to provide Green Deals. In the electricity market, a vertically integrated company has electricity generation and supply assets. Vertical integration is not necessarily a bad thing, and may be the most efficient way for energy companies to deliver their obligations.

Through this consultation, the Government is gathering evidence on whether a voluntary approach is sufficient to address the potential issues, set out above, or whether a regulatory approach will be needed. While we recognise the benefits of flexibility in delivery routes, particularly the potential for cost savings associated with vertical integration or competitive partnership contracting (which can still co-exist with 100% mandated brokerage), we want to balance these carefully with ensuring that liquidity in the brokerage market is sufficient to realise its benefits of price transparency and limiting the risk of potential barriers to entry in this market. A liquid brokerage could facilitate the emergence of the least cost way of delivering the ECO obligations, whether through atomistic competition, vertical integration or a mixture of approaches across the whole spectrum.

4 Energy suppliers' compliance costs and the impact of brokerage

4.1 Cost and price signal information asymmetry and new entry

Energy suppliers' compliance costs

Under their existing obligations, there are a number of different delivery routes used by suppliers and generators to comply. The interim evaluation of CERT identified the following main routes for delivering professionally installed insulation to private tenure households[19]:

- Offers in conjunction with or endorsed by a local authority
- Offers made directly by installers and managing agents
- Direct offers by energy suppliers
- Offers marketed through major retail stores

There is very limited evidence on the relative importance of the delivery routes owing to confidentiality concerns. The routes above were ordered in "approximate scale of delivery, based on anecdotal evidence from energy suppliers, managing agents and energy advice centres"[20].

Under any of these arrangements, energy suppliers have a strong incentive to minimise their costs in order to compete with other energy suppliers on energy tariffs, however, this incentive depends on the level of competition in the energy market. For instance, suppliers have reduced the cost of compliance with existing energy saving obligations by working with local authorities to attract homeowners to offers, and contracting competitively with third parties to deliver measures. The Office of Fair Trading's (OFT) recent call for evidence into home insulation did not find clear evidence that installers have behaved anti-competitively in driving up prices in relation to home insulation[21].

However, the OFT found that price transparency in this market is limited. Without brokerage of ECO compliance, the marginal costs of meeting the ECO target are unlikely to be revealed to the market. As noted previously, the interim evaluation of CERT found that a number of stakeholders had concerns about a lack of transparency in the CERT market due to the energy suppliers and delivery partners being reluctant to share (commercially sensitive) information, including costs.

This information asymmetry is likely to remain an issue even when, under ECO, Government has powers to ask suppliers or cost information that the administrator of the scheme may require[22]. This is because there

[19] DECC (2011), Research Report, Evaluation synthesis of energy supplier obligation policies http://www.decc.gov.uk/assets/decc/11/funding-support/3340-evaluation-synthesis-of-energy-supplier-obligation.pdf

[20] DECC (2011) Research Report, Evaluation of the deliver and uptake of the Carbon Emissions Reduction target http://www.decc.gov.uk/assets/decc/11/funding-support/3339-evaluation-of-the-delivery-and-uptake-of-the-carbo.pdf

[21] Office of Fair Trading (2012), Home insulation, A report on the Call for Evidence carried out by the OFT http://www.oft.gov.uk/shared_oft/markets-work/energy-efficiency/oft1433.pdf See Annex 1 for key findings.

[22] The ECO Order gives the Government powers to mandate suppliers to " (…)*provide to the Administrator such information as the Administrator may require relating to the cost to the supplier of achieving its obligations under this*

is likely to be a distinction between market data (which reveals actual costs) and stated data, which may be inconsistent between energy suppliers, and difficult to verify and distinguish between fixed and variable costs, such as marketing and advertising. Also, it is unlikely that energy suppliers' costs information will reveal the economic rent available to be collected.

Price signalling to new entrants and benefits of competition

There is a body of evidence that has examined a variety of markets, from those where the advertising of prices has been banned, to the impact of the internet where price information is much easier to obtain. A report to the US Congress outlines the empirical evidence and concludes by saying "the majority of the empirical studies tend to find that greater price transparency, including advertising and reduction in costs of finding information through the Internet, leads to lower and more uniform prices" [23]. This is because transmitting the same price to more participants in the market will prevent suppliers price discriminating between consumers and attract more suppliers into the market where super-normal profits might be evident. The regulator of the GB energy markets, Ofgem, has noted that "robust reference prices" is one of three objectives for the wholesale electricity market "in order to effectively support competition"[24].

Applying this to the ECO market suggests that a price revealed by a brokerage may be more likely to deliver a lower cost of meeting energy providers' targets, including through increased market entry, although price discrimination between households may continue to be available. No one company has an incentive to create a transparent market for energy efficiency measures. Providers of these measures have a commercial incentive not to reveal their cost structure through transparent prices, while energy suppliers can benefit from a non-transparent market and capture some of the rent in providing measures either through their contracting strategy or vertical integration[25].

The CERT evaluation identified that in some cases energy suppliers tendered their CERT compliance at a set price. Therefore, under previous obligations, price information has been present. However, it has not been broadcast to the wider market and therefore has not been widely available for use in market entry decisions. The Warm Front scheme, the closest Government sponsored scheme to Affordable Warmth, has provided sources of information to Government on the cost of measures. However, no historic price information is published.

The ECO is likely to be characterised by a wide range of costs of delivering ECO points. The supply curve included in the Green Deal and ECO IA for the carbon reduction targets is shown in Figure 4. In this assessment, the marginal price of delivering an ECO CSO point rises to £77/tCO_2. This, if replicated in the market, would be the market price of each ECO CSO point. A producer surplus (or infra-marginal rent) is generated by the heterogeneity of the different measures, properties and householder preferences delivering the same amount of CO_2 abatement. The price in the ECO market may be quite sensitive to changes in the costs of delivery, given the steepness of the modelled supply at the margin.

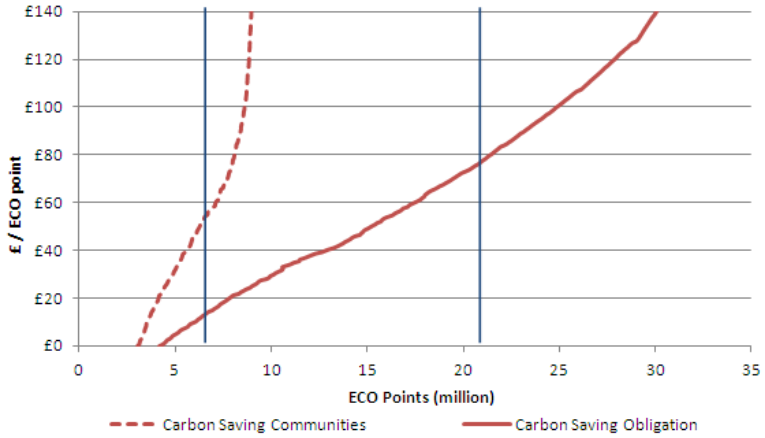
Order". Government has yet to decide what exact information the suppliers will be required to provide, and is mindful of limiting the administrative burden placed upon suppliers from the requirements.

[23] *Does Price Transparency Improve Market Efficiency? Implications of Empirical Evidence in Other Markets for the Health Sector*, Congressional Research Service, 2008

[24] Letter from Ofgem (2012),Retail Market Review; GB wholesale market liquidity update http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/July%202012%20liquidity%20open%20letter.pdf

[25] For example, Ofgem's review of the wholesale electricity market suggests that trading fragmented on different platforms, and the dominance of bilateral trading, has reduced price transparency in the market (see Ofgem, 2010, "GB Wholesale electricity market liquidity: summer 2010 assessment" http://www.ofgem.gov.uk/Markets/WhlMkts/CompandEff/Documents1/GB%20wholesale%20electricity%20market%20liquidity%20-%20summer%202010%20assessment.pdf

Figure 4 ECO point supply curves for the CSO and CSC, 2013-2015[26]



A brokerage and a transparent price for ECO points could imply a shift in power in the market from energy suppliers to the rest of the energy efficiency supply chain. This shift in power to the supply chain, and its potential access to economic rent, could increase the routes to market for delivering energy efficiency measures, increase competition and lower the cost per ECO point. Therefore, a well-functioning brokerage system could reduce the marginal cost of meeting a given ECO target by attracting more and potentially lower cost providers of ECO points into the market. The mechanism through which this may occur is detailed below.

It is difficult to estimate the likely potential for cost reduction in the energy efficiency market from transparent trading. A report by NERA on options for trading under an earlier supplier obligation (the Energy Efficiency Commitment) concluded that it was possible that more low cost projects would be forthcoming, but that it was difficult to assess the likely net impact[27]. Given the novelty of the Green Deal framework and current uncertainties about the ECO points market, we do not believe that a robust assessment of the potential impact of brokerage could be done for this assessment.

For companies who simply want to act as a sub-contractor and install energy efficiency measures, basic cost information released by energy suppliers in relation to their delivery of measures may be sufficient for these businesses to determine whether they are cost competitive in the market. However, for potential new entrants who want to compete in marketing energy efficiency measures to households and seek out infra-marginal rents, e.g. Green Deal Providers, information on the marginal cost to energy suppliers of meeting their obligations could be key to their entry decision.

New entrants can under-cut costs by either identifying low cost measure households that energy companies have not been able to encourage to take-up measures, or by innovating and lowering the cost of delivering energy efficiency measures in the market, or a combination of the two. If potential Green Deal Providers cannot observe this price or access other information on costs of measures, they may be unwilling to enter the market. A brokerage for ECO points with sufficient trading would be able to reveal the marginal cost of meeting the energy companies' ECO targets. The eBay platform provides an example of this effect. An economics study of eBay found that the platform has attracted smaller suppliers into the markets, which has lowered costs, and led to an estimated price saving of around 25% in the UK[28].

Importance of price signalling to other market participants

An ECO price that **households** can see would also make them more aware of the value to them in the ECO market from undertaking energy efficiency measures, particularly if there are rents available to them.

[26] Source: Green Deal and ECO Final Impact Assessment
[27] NERA (2006), "Energy Efficiency and Trading, Part 1: Options for Increased Trading in the Energy Efficiency Commitment".
[28] Frontier Economics (2008), "Economics study of the consumer benefits of eBay"

Naturally, there are uncertainties around the extent to which consumers will engage in this market. However, an awareness of the value of ECO subsidised measures (the price of an ECO point) is likely to be an important success factor in ensuring consumer engagement with Green Deal Providers, which in turn is important to the success of the Green Deal market[29]. Evidence from the interim evaluation of supplier obligations[30] suggests that there is little self-generated consumer demand for energy efficiency measures Further, the OFT's study of the insulation market[31] suggests that consumers lack knowledge of products and services and have little interest in gaining it when offered free or discounted insulation installations. This has negative impacts by lowering the incentives for innovation in the supply chain (see Annex 8 for details on policy induced demand for measures).

Increased transparency in the market would also be beneficial for **Green Deal Providers already in the market**, as there would be a clearer signal of marginal cost. This transparency should encourage more efficient delivery of the obligation, with installers reacting to a clearer signal of demand for the different types of ECO points. A transparent price signal should also enable companies to better make projections of future revenue streams, on the assumption that the market is also liquid and that the prices are robust. Further, it could provide a benchmark price index for all ECO volumes delivered, not just for those brokered. This is believed to have been the case on the t2e platform for trading Packaging Recovery Notes (PRNs).

Box 2 Impact on market from t2E platform

The t2e platform for PRNs

The t2e platform allows companies obligated under the Producer Responsibility (Packaging Waste) Regulations 1997 to buy PRNs, being credits for recycled material, from reproccessors. Use of the platform is voluntary, and has grown from a low base in 1998, but now around 15% of the total number of PRNs are traded on the t2e platform.

There has not been an evaluation of this platform to establish what impact it has had on the market. Anecdotal evidence from the platform provider, however, suggests that market participants have benefited from accessing this platform, that it is perceived to be liquid, and that the published prices from trades on it is used as a benchmark for PRN contracts not traded on the platform.

Price transparency will also be important for **Government** in monitoring and evaluation of the policy, even though it, by itself, is unlikely to reveal information on the amount of rent generated in the market and how this rent is shared between energy suppliers and Green Deal Providers/installers/households. It will enable Government to make better informed decisions on the size of the obligation for future periods[32].

The possible net effect of Green Deal Providers identifying more low cost households, coupled with those households coming forwards more readily, would be to lower the cost to energy suppliers at the margin of meeting their ECO targets.

This assessment does not quantify the possible benefits from increased competition associated with different volumes of ECO brokered. This is owing to the limited evidence available to government at this

[29] Consumers organisations, rather than individual households, are most likely to have in interest in this information, as the information of ECO price could be difficult to understand and evaluate for people outside the industry. Effective communication of the value of ECO subsidies by consumer organisations would ultimately benefitt households. Inefficient communication of information could imply no impact on consumer behaviour.

[30] DECC (2011), "Research report – Evaluation synthesis of energy supplier obligation policies" http://www.decc.gov.uk/assets/decc/11/funding-support/3340-evaluation-synthesis-of-energy-supplier-obligation.pdf

[31] OFT (2012), Home Insulation, A report on the Call for Evidence carried out by the OFT

[32] This is important given the uncertainties associated with the new and innovative Green Deal market framework and the low historical deployment of hard to treat measures such as SWI and HTT CWI that will be promoted under the ECO. Sensitivity analysis in the Green Deal and ECO assessment highlighted the risk of annual ECO spend being considerably different from what is assumed under the central scenario used to set the ECO targets.

stage about the likely impact of brokerage on the Green Deal Provider market. Quantification of this impact is particularly challenging as the Green Deal market is currently developing. Government is seeking evidence from consultees to inform our final assessment (see section 1) and recognises that effective monitoring of the brokerage will be important in assessing its impact.

4.2 Energy suppliers' incentive to broker ECO points

Full brokerage versus no brokerage

Under ECO, a brokerage will be set up and, under a voluntary agreement, energy companies will be able to meet part or all of their ECO obligation through it. There is, however, a question of whether energy companies are likely to see value in voluntarily brokering their compliance, meaning that the potential competition benefits associated with a clear price signal may not emerge.

Figure 5 helps illustrate the costs and benefits to energy suppliers of meeting their obligation through either vertical integration or from using a brokerage, to determine whether voluntary brokerage is likely.

Box 3 Incentives for energy suppliers to integrate vertically or form partnerships with incumbent Providers

Most of the large energy suppliers have indicated that they are likely to become Green Deal providers. Energy suppliers could have the incentive to integrate vertically for the following reasons:

- **Certainty of price -** Reduced exposure to the risk of potentially volatile prices in the market for ECO points. (Under CERT, there was limited long-term contracting between suppliers and installers at fixed prices which suggests a limited appetite for suppliers to limit this risk exposure);
- **Exploit Green Deal business opportunities -** Incentive to establish a Green Deal provider business in order to benefit from access to revenue streams and capture rent in the market. Brokerage does not, however, preclude this; and
- **Reduce transaction and search costs -** Avoided cost of trading in the ECO point market.

Energy suppliers that do not develop a Green Deal provider business, or who are unable/ unwilling to meet all of their obligation through their own provider business, could be incentivised to partner with a few incumbent Green Deal providers in order to reduce delivery and credit risk (possibly associated with incumbent providers proven track record), in addition to the incentive reduce transaction and search costs (as above).

Everything else being equal, a supplier that cost-minimises its ECO compliance should seek to source ECO credits at the lowest price per ECO point, whether this is through brokered contracting, partnering with a few providers only or self-supplying within their integrated business. If vertically integrated suppliers chose to self-supply to fulfil their obligations there is a risk that the market for ECO point could be illiquid.

The GB wholesale electricity market provides an example of a market where concerns have been raised around vertical integration and liquidity. The industry regulator, Ofgem, has stated that "the key concern relating to [the electricity market] industry structure is that the increase in vertical integration in the GB electricity market has had a detrimental impact on wholesale market liquidity."* See section 4.3 for potential concerns raised by consultees associated with vertical integration, liquidity and access to ECO subsidy.

**Ofgem (2009), "Liquidity in the GB wholesale energy markets"http://www.ofgem.gov.uk/Markets/WhlMkts/CompandEff/Documents1/Liquidity%20in%20the%20GB%20wholesale%20energy%20markets.pdf*

For energy suppliers, the cost of undertaking their abatement will be determined by their initial ECO point supply curve (EPSC), which reaches price P at the sector's obligation quantity Q[33]. In this example, the cost of delivering the measures to households will be the area ACE for each vertically integrated energy supplier (assuming its costs are representative of the sector's compliance costs and not skewed towards cheap or expensive measures). The area BD is the amount of economic rent available to either the energy suppliers (the difference between the value of the abatement to the energy suppliers and the cost of the measures) or households/installers (the amount of additional subsidy they could gain to take-up the measure), or a combination of the two.

[33] This is on the assumption that the company's supply curve is at the margin, or if all energy suppliers are vertically integrated.

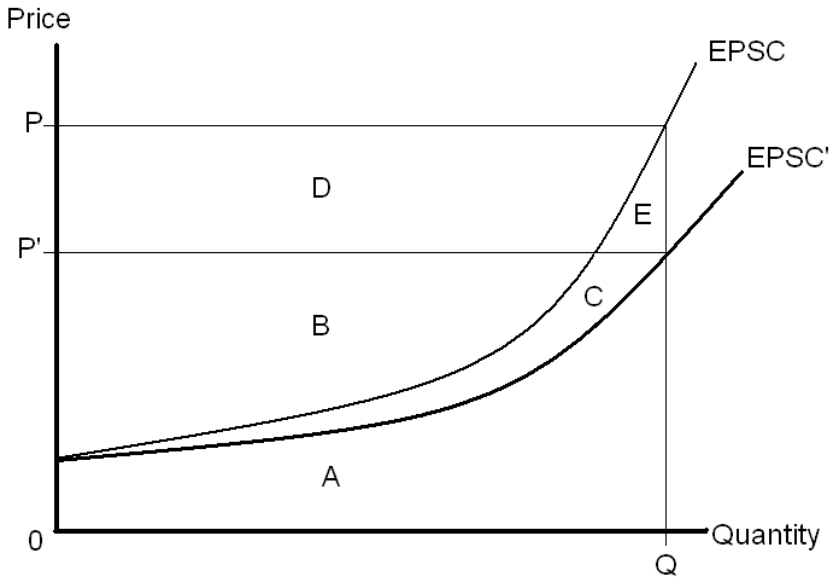
If, by introducing a brokerage with sufficient trading, additional supply of low cost abatement is made available, the cost of complying with the energy suppliers' obligation falls. This assumes that benefits from increased competition, in particular from new entry into the market, are greater than any potential cost savings from vertical integration. In this example, EPSC' represents the new cost curve determining abatement costs. This leads to the marginal cost falling from P to P', while the quantity of the obligation remains at Q. The cost of supplying the measures has fallen to area A.

The impact on the sum of infra-marginal rents is ambiguous, as it will depend on where cost savings are generated. In Figure 4, below, the shift in the supply curve is more pronounced at the margin and has reduced the available rent by D-C, to area BC. However, from the energy suppliers' perspective, the distribution of rents is important. Vertically integrated suppliers facing cost curve EPSC would reduce their operations and their share of the rents (D) associated with the change in the marginal cost, while the rents now available (B+C) would, in part, accrue to the new entrants.

In addition, the more transparent price could mean that homeowners could be more likely to demand a greater share of the available rents (B+C) (as discussed in section 4.1).

For the energy supplier, if their estimated loss of rent revenue is greater than the advantage they would gain from a reduction in costs, then they are likely to prefer not to contract through the brokerage for their ECO compliance. As energy suppliers are likely to pass on their costs of compliance to customers, the reduction in costs (C+E) is less likely to impact on their profitability, so they are likely to be more concerned about the potential loss in revenue from the economic rents.

Figure 5 Marginal Abatement Cost and Economic Rents



For vertically integrated energy suppliers, therefore, there is little incentive to undertake brokerage if area D exceeds C because they are likely to lose more in rent than they can gain. The potential for a redistribution of rents from companies to households would reinforce this preference. However, it would be in the interest of any one vertically integrated supplier to use the brokerage if it expected to be able to reduce its marginal cost and expected other energy companies to do so if they did not. If a vertically integrated supplier chose not to purchase ECO points from new entrant, lower cost, Green Deal Providers, the suppliers' EPSC would be higher than those of its competitors. The supplier would therefore be at a competitive disadvantage in the energy market.

At the other end of the spectrum, an energy supplier who simply contract out their compliance to a single third-party provider is less likely to access the infra-marginal rents and would be more likely to use a brokerage system, if it were expected to drive down the marginal cost in the system. The intermediate case

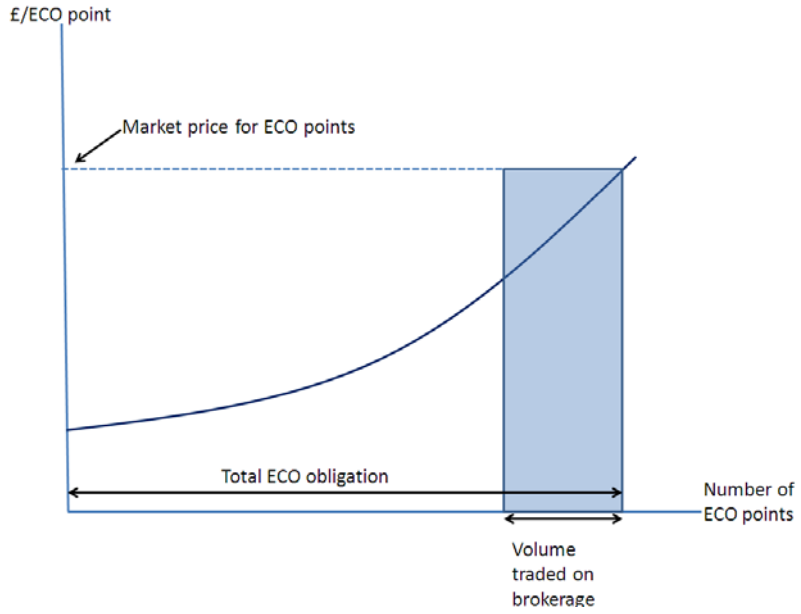
is where an energy supplier contracts with many third party providers. In which case, the allocation of rents between the energy supplier and third party supplies is will depend on variation in the costs of these suppliers and on how transparent the market is for their services. However, the incentive to use brokerage is likely to be less strong than in the case in which compliance is through a single third party provider.

The above arguments suggest that there is a weak incentive for a vertically integrated energy supplier to undertake brokerage if there is insufficient voluntary trading activity through the platform. The incentive to trade is strengthened if the brokerage is successful in reducing the overall cost of compliance to all energy suppliers.

Partial brokerage

From the above examples, there is a potential social welfare gain from introducing brokerage that reveals the marginal cost of providing energy efficiency measures to new entrants if brokerage reduces the total costs of meeting a given level of energy suppliers' obligations through increased competition. However, energy suppliers' whole compliance need not be wholly brokered for a marginal cost of compliance price to be revealed, as the brokered market price should represent the marginal cost of delivering the ECO obligations[34]. This is illustrated in Figure 6 below.

Figure 6 Volumes brokered and transparency of marginal cost



There are questions of whether there is an optimal split between brokered and non-brokered compliance, and whether this will occur voluntarily or needs to be mandated.

A key driver of the *minimum* amount of brokerage is whether the ECO price being transmitted in the market is an accurate reflection of the current marginal cost of meeting ECO targets, and whether there is sufficient liquidity in the ECO market, in terms of both the volume of the number of contracts traded and the contracted volume in each transaction[35], to enable a wide enough variety of trades to take place throughout the ECO compliance period.

Whether there is an *upper limit* to the optimal amount of ECO brokerage depends on the value to the market of enabling energy suppliers to integrate vertically or establish partnering arrangements without buying and selling compliance through the brokerage. Although, even with 100% brokerage, there is

[34] A cost-minimising firm will choose to source ECO points from the lowest cost option available to them. The price revealed on the brokerage mechanism could therefore be similar to or higher than, but not lower than, the price of delivering ECO points through other routes

[35] Trading could be illiquid if all ECO volumes are traded (the market is deep), but only in a few large contracts.

nothing to prevent vertical integration or partnering so long as ECO compliance is undertaken anonymously via the brokerage, rather than directly between the delivery agent and energy supplier. These questions are developed in the following sections.

4.3 Brokerage liquidity and robustness of the price signal

The regulator of GB energy markets (Ofgem) defines liquidity as "the ability to quickly buy or sell a desired commodity or financial instrument without causing a significant change in its price and without including significant transaction costs" and that "a key feature of a liquid market is that it has a large number of buyers and sellers willing to transact at all times"[36]. The final design of the standard contract to be traded on brokerage is likely to be a key determinant on the level of liquidity on the brokerage platform. For the market for ECO points to be sufficiently liquid and to send a *reliable*[37] price signal to participants, we believe that some of the necessary conditions are that:

- Trades should be available throughout the entire compliance period[38];
- Trades should be accessible to Green Deal Providers of all sizes;
- Transaction costs should not be prohibitive; and
- Large volumes of ECO points are traded.

Ofgem's assessment of liquidity in the wholesale electricity market highlights that there are multiple aspects of liquidity, including; volumes traded, volumes available, product range, price spreads, liquidity at different points along the forward curve[39] and price transparency[40]. Greater volumes traded on the brokerage could lead to less volatile prices. Higher volumes traded on brokerage would improve liquidity and no one particular trade would therefore be likely to have a large impact on the traded price. In an illiquid market, however, a single trade could lead to a large swing in price.

Price spikes in a market characterised by illiquid trading could provide an incentive to integrate vertically as energy suppliers seek to hedge their exposure to volatile market prices[41]. Potential Green Deal Providers have noted that vertical integration without brokerage, in turn, can create barriers to entry for non-integrated Green Deal Providers (see Box 3). Some respondents to the consultation were concerned about the ability of small and medium sized companies to access the ECO in the absence of sufficient volumes of the ECO traded on brokerage. Concerns were raised about the energy suppliers' ability to ring-fence the ECO for their own use, which would give the suppliers an 'unfair advantage' in the Green Deal Provider market. They noted that access to the ECO should be as broad as possible , in order 'to drive down costs and allow multiple entrants to the market'. Non-integrated potential Providers indicated that they would find it difficult to compete for business against energy companies' Green Deal arms, who will have greater certainty of access to the ECO when pricing jobs.

5 Counterfactual for assessment of brokerage scenarios

As discussed in section 1, Government is consulting on the option of regulating the use of ECO brokerage. This assessment considers the costs and benefits of different volumes of ECO target points to be traded on a brokerage, and assesses the likely usage of a the brokerage platform assuming it was voluntary (see section 4.2).

[36] Ofgem (2009), "Liquidity in the GB wholesale energy markets" http://www.ofgem.gov.uk/Markets/WhlMkts/CompandEff/Documents1/Liquidity%20in%20the%20GB%20wholesale%20energy%20markets.pdf

[37] A reliable price signal is one based on the accurate reflection of the marginal cost of achieving the obligations.

[38] Non-integrated Green Deal providers might be squeezed out of the market if, during a period of low volumes, energy suppliers should decide to retain their ECO subsidy for their own supplier arms/limited partnerships. Energy suppliers would still be able to meet requirements to trade by increasing supply of ECO later in the period.

[39] In electricity markets, the forward curve is the price of electricity traded for delivery in future time periods.

[40] Ofgem (2010), "GB wholesale electricity liquidity: summer 2010 assessment"

[41] The emergence of a future market could provide a hedge to suppliers for this risk.

There is uncertainty about what the Green Deal Provider market without an ECO brokerage platform would look like, as the Green Deal is a market driven mechanism and currently developing. The Government therefore has limited evidence to rely on when specifying a counterfactual of no brokerage mechanism. As discussed in previous sections, the analysis focuses on the *risk* that there could be barriers to entry to the Green Deal Provider market and that in the absence of a platform, contracting in this market could be limited and with non-transparent prices. The available evidence and economic theory supporting the incentives for energy suppliers to deliver their obligations through the different delivery routes are set out in section 4 and annexes.

The analytical counterfactual in the estimation of costs associated with brokerage in Section 8 does, however, use an analytical counterfactual of no brokerage. Whilst this does not represent the policy consultation counterfactual, having this analytical counterfactual for the purpose of this IA is necessary as the Final Green Deal and ECO IA did not capture costs to Government and business associated with a voluntary platform. In particular, it did not assess the cost to Government of setting up the brokerage, or the cost to business of familiarising themselves with the brokerage.

6 Qualitative assessment of costs and benefits of volumes of the different ECO targets to be traded on brokerage

It is difficult to quantify all of the costs and benefits associated with the introduction of a brokerage at this stage, as the Green Deal and ECO markets are currently developing. For this assessment, we have provided an initial quantification only of the administrative costs associated with the brokerage (see section 7). The following section assesses the other possible impacts of a brokerage platform associated with different volumes traded for each ECO target using a multi-criteria approach, and compares the costs and benefits associated with a mandatory versus voluntary brokerage platform

6.1 Voluntary versus mandatory brokerage

The actual volumes which energy suppliers would choose to trade on a brokerage platform, if voluntary, is uncertain (see section 4.2). A regulatory approach would be needed if Government believes that the "optimal" volume to be traded is greater than what it believes suppliers are likely to trade under a voluntary approach, and that the benefits of reaching the optimal volume outweigh the potential downsides of regulating. The optimal level of brokerage is not recommended at this consultation stage IA.

Option 1: Regulation

A firm commitment could be achieved through a regulatory approach which would involve specifying in legislation a proportion of each of the ECO targets that each supplier must meet by buying ECO points through the brokerage platform. Each supplier would be bound to the same percentage, but the absolute amount they would be required to buy on the brokerage would differ depending on the size of their obligation[42]. Failure to comply would result in a penalty.

A regulatory approach would give Government certainty that the volumes of ECO points to be traded on a brokerage platform would be at the levels it believed to be efficient in achieving the aim of an open and transparent Green Deal Provider market and would give certainty to Green Deal Providers on the access to ECO. A regulation of 100% of volumes to be traded could increase the risk of non-compliance of ECO if there was insufficient liquidity on the brokerage platform. This risk would be lower with regulation for lower volumes or a voluntary approach.

In some instances, regulation is viewed as a burden on growth, driven by the belief that it diverts resources away from productive means. However, in the case of the brokerage, regulation could have a positive

[42] Determined by their relative gas and electricity sales. See the final Green Deal and ECO Impact Assessment Annex H for details.

impact if the potential added administrative costs are outweighed by the possible productive and dynamic efficiency gains from greater competition[43].

Option 2: Voluntary approach

An alternative to regulation would be to encourage energy companies to use the brokerage on a voluntary basis.

A voluntary approach could have several advantages over regulatory approaches. For example, it generally allows greater flexibility and could decrease the risk for suppliers in their ability to meet ECO targets as they have greater control of delivery options. It can also be more responsive to developments in the market as they do not require changes to legislation. However, as it relies on energy companies to decide what volumes of ECO they channel through brokerage, it implies reduced certainty about volumes traded and therefore gives Green Deal Providers less certainty that they will have access to ECO (as discussed in section 4.2).

A voluntary approach would involve negotiations which would involve a cost to suppliers and Government. However, the costs of engagement in developing Government regulations would also incur a cost, and it is not clear which cost is greatest.

There is uncertainty around whether voluntary approaches result in additional activity. However, recent observations of voluntary agreements between Government and energy suppliers have previously achieved objectives of greater activity. For example, under the Warm Home Discount scheme, the introduction of a voluntary agreement contributed to increased activity in the scheme beyond the business as usual[44].

6.2 Multi-criteria scoring assessment of options for volumes of ECO credits

Multi-criteria scoring involves identifying a set of criteria against which each option is assessed and scored, allowing options to be ranked based on their relative scores. The proposed criteria have not been given weights at this consultation stage. We are seeking evidence from the consultees on the relative importance and impacts of these criteria (see Box 1).

The level of volumes of each ECO target assessed in the below (0%, 50% and 100%) are used to only to demonstrate the order of magnitude of volumes traded, and the impact of relatively low or high volumes traded. They do not present discrete options as usually assessed IAs.

The following set of criteria have been shortlisted by DECC for the analysis of trading different volumes of each target on the brokerage. In arriving at this list of criteria, careful consideration was given to possible overlaps which may result in double counting. Table 1 below describes each criterion and the reason for including them in the assessment.

Table 1 Assessment criteria for qualitative assessment of volumes of each ECO target to be traded

Criteria	Description
Promotes competition in the market for ECO points	Extent to which the design promotes competition in the ECO points market, which in turn supports competition in the market for insulation and thermal efficiency measures, by: • Providing a route to market for new entrants, reducing potential barriers to entry into the market and providing sufficient volumes for companies that can deliver cost effectively • Providing a clear price signal to prospective ECO point suppliers (both intending to sell via a partnership or through the brokerage) to support them in making informed entry decisions and revealing to government the cost to suppliers of meeting the

[43] A recent literature review by Frontier Economics explains how regulation can have a positive or negative impact on growth depending on the context in which it is set http://www.bis.gov.uk/assets/biscore/economics-and-statistics/docs/i/12-821-impact-of-regulation-on-growth

[44] Prior to the Voluntary Agreement suppliers spent around £50m p.a. Post voluntary agreement they agreed to spend £100, £125m, and £150m over the next 3 years, but the actual spend was around £150m each year.

	ECO Increased competition in the market for ECO points could have longer term dynamic benefits, lowering the cost of delivering ECO and supporting innovation in the market for insulation and thermal efficiency measures.
Reduces risks associated with non-compliance	Extent to which the design of the brokerage represents what is judged to be an effective mix of delivery models, taking advantage of proven delivery models, to support suppliers to deliver their obligations. Verification and statutory fuel poverty targets is also considered here. This is relevant as an effective mix of delivery models should lead to low cost delivery routes being exploited, ultimately benefiting consumers
Supports the wider customer journey	Extent to which the design fits with the current policy framework and customer journey, allowing aspects of the GD and ECO policy to take effect alongside proposed and existing mechanisms, such as referrals and WHD data matching. Consideration of how design impacts on what the consumer experiences, particularly for vulnerable consumers.
Provides flexibility to respond to developments in the market	Extent to which the design of the brokerage allows some flexibility for policy to be responsive to market developments. This flexibility will be important as the GD and ECO is a new and untested market.
Minimises the administration cost of ECO	Extent to which design minimises the costs of administration for energy suppliers, Green Deal Providers and Government. This is relevant as admin burdens may disproportionately impact on small businesses and therefore prohibit their entry to the market.

The text and indicative scoring table below explains how each option performs against these criteria.

Potential barriers to entry

Overall, trading higher volumes of ECO on the brokerage could reduce potential barriers to entry for non-vertically integrated new entrants into the ECO point market, thereby promoting competition (see sections 4). This is deemed to be true for all the ECO targets.

It is recognised that there may be some counteracting forces which could increase barriers, but these are expected to be small relative to the benefit described above. For example, in the case of the market for AW points, it is not necessary that a provider of thermal efficiency measures is a Green Deal Provider. However, if a requirement of the brokerage is that you have to be a Green Deal Provider to sell onto it[45], then these AW providers will need to become accredited Green Deal Providers. The cost of becoming an accredited Provider is low, however, and would only involve a small estimated one-off cost of £1,225 (see section 8 for details on the estimated cost to Green Deal Providers associated with the brokerage mechanism).

In terms of the impact on the wider insulation and thermal efficiency market, the impact of the brokerage on barriers would depend on the relative concentrations of the market i.e. how competitive they are currently. There is limited evidence on this at present.

Clear price signal

A detailed discussion of the importance of the provision of a transparent price signal, and its benefits to existing and potential new market participants, as well as government, is provided in section 4. Trading a small amount of volumes on the brokerage should reveal the marginal cost of meeting the ECO targets, and this is equally true for all the ECO targets. As the volumes increase, this would make the price signal more robust, although the marginal effect is likely to diminish with high levels of volumes traded. There is not assumed to be a difference between the ECO targets on this criterion.

Reduces risk associated with non-compliance

[45] This is a potential policy decision. Extending trading more widely is also possible, provided appropriate consumer and other protections are in place in an anonymous brokerage

The impact the brokerage could have on the risk of non-compliance is dependent on the policy framework in which it is set, and each target provides a slightly different framework. Generally, despite offering an alternative route of delivery, trading higher volumes on the brokerage could:

- lead to an increase in levels of non-compliance, requiring suppliers to contract additional compliance in order to fulfil their obligations, although an efficient allocation of risk in the standard contract and an efficient penalty structure could help to reduce this; and
- explicitly favour a brokerage-based delivery mechanism over existing delivery models developed through previous supplier schemes.

Non-delivery/delayed delivery issues

There is no installer of last resort under the ECO, and the risk of non-compliance for suppliers is part of the risk of having a supplier led delivery scheme. The risk of non-delivery is therefore also present under ECO without a brokerage platform. However, ECO volumes traded on the brokerage could alter the lines of responsibility in delivering measures to households.

Suppliers would be expected to fulfil any non-brokerage compliance through partnerships and bilateral contracts with installers or through self-delivery. While a risk of non-delivery by the suppliers' partner installers exists, it is anticipated that suppliers are well-placed to judge the risk of non-delivery, and contract additional compliance as appropriate. It is expected that suppliers will be particularly well placed to judge non-compliance risk for their AW obligations, where they are able to make use of referrals from the Warm Home Discount scheme and Energy Saving Advice Centre.

For compliance traded through a brokerage platform, it is anticipated that suppliers would purchase ECO compliance from Green Deal Providers, and after a trade has been made, would make bilateral partnerships with those Providers under a standard brokerage contract[46]. Should one or more of these Providers not deliver on part of the contract, suppliers will remain responsible for delivering the unfulfilled ECO compliance. This risk should be mitigated through:

- the requirement for sellers of ECO compliance to be Green Deal accredited, and therefore regulated by the Green Deal Oversight Body;
- Monitoring of delivery and compliance with brokered contracts and ability of DECC to remove access to the brokerage platform as a penalty;
- an efficient allocation of risk through appropriate penalties for non-compliance under the standard contract; and
- the option to buy additional compliance through the brokerage platform if required.

However, a risk of non-delivery or delayed delivery of compliance bought through a brokerage platform would remain. There is uncertainty about whether contracting on the brokerage would reduce the suppliers' ability to monitor the progress of delivery from providers, as delivery of both brokered and non-brokered deals are subject to a contract arrangement monitored and enforced by the parties to the contract.

If there was any delay in measures being installed in households, this would be of particular concern under the AW target where non-compliance, which in absolute terms could be greater at higher levels of trading through a brokerage platform, could mean delayed delivery of predominantly heating measures (including the replacement of non-working heating systems) to low income and vulnerable households, putting at risk

[46] Buyers and sellers will need to sign two standard contracts to trade on brokerage. One for the terms and conditions for trading, and the second a standard contract for delivery, setting out terms of payments and penalties. Once a lot has been sold on brokerage, a bilateral partnership agreement is formed between the buyer and the seller, to the terms of the contract. This is monitored by the parties to that contract, not the broker.

the fuel poverty objectives of the policy. Therefore, we have assessed that the risk associated with non-compliance could increase with greater volumes across all three ECO targets, but that the implication could be greatest for delivery of heating measures (which are only eligible under AW).

Balancing effective delivery models

Higher mandated volumes of ECO trading through brokerage could also decrease suppliers' control of delivery of their own targets and limit their ability to build on several years of existing and running schemes developed under previous targets, such as CERT, CESP or partnerships facilitated under Warm Home Discount Industry Initiatives.[47]

For CSC, partnerships are likely to be more important than CSO due to the area based delivery nature. Experience from CESP suggests that risk of non-delivery is high– suppliers have indicated that they contracted more work than needed to ensure that sufficient measures will actually be delivered, and an anonymous brokerage platform may increase these risks to suppliers.

Lower volumes traded through a brokerage platform, particularly in the early stages of the ECO, will likely enable a combination of established delivery models alongside a new approach through brokerage and potentially mitigate the risks of non-delivery further.

Supports the wider customer journey

The customer journey is expected to be clearer where lines of responsibility are clear and where a coherent package of support can be provided to households. The brokerage may alter some of the lines of responsibility, and higher volumes of ECO traded could therefore impact negatively on the customer journey criterion.

There is a particular concern in relation to consumers either referred through the Energy Saving Advice Centre (ESAS) or the Warm Home Discount Core Group data-matching process and other customers identified through the Warm Home Discount scheme. These mechanisms ensure that vulnerable households will receive a coherent package of support to help them manage their energy costs, through linking the support provided on energy efficiency measures and energy prices (see Annex 6 for details). We have therefore scored higher volumes traded of the obligations specifically targeted at vulnerable households and areas (the AW and CSC obligations) slightly lower on this criterion. Whilst there is an overlap in eligibility criteria between AW and CSC (where rural households claiming Affordable Warmth eligible benefits are eligible for the 'Rural Safeguard' element of the CSC), it is anticipated that ESAS referrals and WHD data-matching will be relevant in indentifying a small proportion (up to a maximum of 15%) of CSC eligible households, and therefore that the impact on the customer journey is anticipated to be lower than that associated with AW.

Provides flexibility to respond to developments in the market

In general, the most flexible approach across all ECO targets would be to set up a brokerage but not to commit to trading 100% of all obligations on the brokerage in the early stages. Views expressed in the consultation, generally favoured ramping up volumes once the brokerage had been proven as a viable route to compliance. Therefore, the extremes of trading 0% and 100% have been ranked lower in the case of all the ECO targets.

[47] Under the Warm Home Discount scheme participating suppliers are permitted to spend up to £30m per year funding a range of 'industry initiatives' – activities aimed at tackling fuel poverty beyond direct bill rebates and discounted tariffs. Working in partnership with 3rd parties to identify households for support is expected to be a significant part of industry initiatives.

Proposing percentages as minimum requirements would allow flexibility to suppliers to trade more if that fits with their corporate strategy.

Limits administrative burdens

It is expected that higher percentages traded on the brokerage could lead to some administrative burdens, although these may be partially/fully offset by the reduced administration costs from reduced non-brokered delivery. In particular, the standard contract could have a key role to play in minimising any negative administration cost impacts of trading on the brokerage. It is envisaged that this effect would be the same proportionally across the ECO targets. However, the administrative costs to companies associated with mandatory trading are expected to be higher under AW (see section 7.1.). There is a risk of increased administrative costs to companies if there are inefficiencies in the design of the brokerage platform. This risk would be exacerbated with higher volumes traded.

Table 2 summarises the assessment above, assigning the three illustrative levels of volumes traded for each of the ECO targets a Red (R), Amber (A) or Green (G) rating against the six criteria.

Table 2 Results of multi-criteria assessment of options for each ECO volume to be traded

	Promotes competition in the market for ECO points		Reduces risks associated with non-compliance	Supports the wider customer journey	Provides flexibility to respond to developments in the market	Limits administrative burdens
	Barriers to entry	Clear price signal				
Carbon Saving Obligation volumes traded						
0%	R	R	AG	G	A	G
50%	AG	G	A	G	G	AG
100%	G	G	A	G	A	AG
Carbon Saving Communities volumes traded						
0%	R	R	AG	G	A	G
50%	AG	G	A	AG	G	AG
100%	G	G	A	AG	A	AG
Affordable Warmth volumes traded						
0%	R	R	AG	G	A	G
50%	AG	G	A	AG	G	AG
100%	G	G	AR	AR	A	AG

7 Costs of the brokerage mechanism

It is likely that a brokerage platform will lead to some administrative costs to energy suppliers, Green Deal Providers and Government. Some costs are associated with the establishment of a platform irrespective of whether brokerage is mandatory or voluntary, whilst other costs are additional associated only with a mandatory approach to brokerage. All costs estimated here are additional to those estimated in the Final Green Deal and ECO IA. The scale of these costs are uncertain, and will depend on the final design of the brokerage platform. As previously mentioned, an inefficiently designed brokerage framework or contract specification could impact the costs to business of using the brokerage, and this risk is exacerbated if brokerage is mandated, in particular at high levels volumes traded. We welcome advice from consultees on our assessment of these costs, and the difference in costs implied by a voluntary and regulatory brokerage. This evidence will be used to refine the estimates for the final brokerage IA. Our current best estimates are summarised in Table 3, with further details provided below.

Table 3 Set up and ongoing cost associated with the brokerage (PV, 2012 prices)

Cost description	Borne by	Present Value	Cost applicable under mandatory or voluntary?
Set up cost	Government	£0.50m	Both
Ongoing cost of brokerage	Government	£0.48m	Both
	Business	£3.68m	Mandatory
GDP authorisation costs	Government	£0.44m	Mandatory
	Business	£0.68m	Mandatory
Familiarisation costs	Business	£0.12m	Mandatory
Total cost of voluntary brokerage		**£0.98m**	
Total cost of mandatory brokerage		**£5.90m**	

7.1 Costs to Government

Brokerage set up and on-going costs

The cost in year zero of setting up brokerage and running the brokerage in the first year will be funded by the Government. This will reduce the burden on business associated with trading on the brokerage, to facilitate suppliers in meeting their obligations.

Based on discussions with industry experts, the cost of setting up the brokerage is provisionally estimated to be a one off cost of around £0.5m and the running costs are estimated to be around £0.5m per annum, which is provisionally based on market-testing of similar trading platforms. Actual costs will not be known until the Government appoints a broker. The present value of the costs to Government of setting up and operating brokerage is therefore estimated at £0.98m.

The cost of operating the brokerage platform from 2014 onwards has a present value of £3.68m. This cost is captured in Table 3 above. A final policy decision on the funding of the cost of running the brokerage in subsequent years has yet to be taken. Government is considering whether, from 2014 onwards, this cost could be recovered from the businesses benefiting from trading on the platform. For the purpose of this assessment, and pending final policy decisions, we assume that this cost will be borne by business. In the absence of details at this stage this cost has not been split between energy suppliers and Green Deal Providers in the following sections.

Green Deal Provider authorisation costs

Government will fund the authorisation cost of companies to become Green Deal Providers in year zero of the scheme, at an estimated cost of £0.44m (present value, see section 7.3 for details on the estimation of authorisation costs associated with the brokerage).

7.2 Costs to obligated energy suppliers

Familiarisation cost

There is likely to be a one-off cost to energy suppliers of familiarising themselves with brokerage, estimated at a total of £1,800, in addition to the estimated one-off cost of £16,000 associated with familiarisation of the ECO in general (without brokerage) accounted for in the final Green Deal and ECO IA [48]. This additional one-off cost is based on the assumption that it will take six obligated company 2 days[49]. We welcome evidence from consultees on the actual administrative costs associated with familiarisation and other administrative costs to inform our final assessment (see Box 1).

On-going administrative costs

[48] £16,000 (2011 prices) for general ECO familiarisation, assuming 8 days for each of the 6 obligated companies. See section 9 in the Final Green Deal and ECO IA

[49] ASHE 2011, wage code 11, median wage adjusted to 2012 prices. £20.2/h*7.5h*2days*6suppliers = £1,800. The actual number suppliers obligated, and the administrative costs to these, are only indicative at this stage.

Energy suppliers could face additional on-going administrative costs from trading on a brokerage platform to comply with their obligations. This could include time spent agreeing any amendments to the standard contract (although this is likely to be small once the contracts have been agreed), resources allocated to bidding on the brokerage platform and time spent managing bilateral contracts once delivered through brokerage. However, there are likely to be administrative benefits from suppliers trading on the platform which can outweigh these contracting costs. Specifically, the cost of negotiating and settling contracts in bilateral partnerships outside of the brokerage would be reduced, and companies could also benefit from having an easy access to sources of compliance from accredited Green Deal Providers on the brokerage. This benefit could be particularly true under the CSC obligation, as suppliers have reported difficulties of delivering their current CESP obligations which carry some similarities with the CSC obligation[50]. On balance, we have therefore assumed that there is no net increase in the administrative costs to energy suppliers of meeting their ECO targets from the use of a brokerage.

We are testing our assumption on the impact on administrative cost in the consultation, and welcome evidence from consultees to ensure that our estimates are robust for the final IA. Due to commercial sensitivities, Government has very limited evidence on the administrative cost to companies of meeting their existing obligations, and companies are not required to report on these costs. Under ECO, however, the Government has powers to mandate suppliers to provide information on costs (see footnote 22). This information, and any information received from the consultation, will inform our estimate of costs for the final assessment.

Cost of delivering the obligations

The cost to energy suppliers of promoting measures to deliver their obligations was estimated at £1.3bn p.a. in the Final Green Deal and ECO IA. The introduction of a brokerage platform could reduce the cost to suppliers of delivering of their obligations where the brokerage promotes increased competition in the Green Deal Provider market, and thereby provides companies with lower cost sources of ECO points (see section 4.2).As discussed in section 4, we have insufficient evidence at this stage to provide a robust quantification of the possible positive competition impacts.

However, energy suppliers as a whole could face a higher cost of compliance if the use of brokerage is mandated for 100% of volumes and non-Green Deal Provider sources of low cost ECO points (such as Local Authorities and social housing associations) will need authorisation to enter the market[51]. The net impact on the cost of compliance will therefore depend on a number of factors including:

- The flexibility for allowing non-brokered partnerships;
- The extent to which players in the market choose to become Green Deal Providers; and
- The possible positive impact on increased competition and increased transparency in the market.

The outcome is uncertain at this stage, and will depend on final brokerage design, and the final policy decision on whether trading on brokerage is restricted to Green Deal Providers, or opened more widely. For the purpose of this assessment, we have assumed that there is a zero net impact on the cost to suppliers of meeting their obligation.

7.3 Costs to Green Deal Providers

As the Green Deal market is developing, it is difficult to predict the likely size of this market. The estimations of costs below are based on taking a conservative approach on the best available estimates to

[50] Both the CESP and the CSC obligations are area-based schemes targeted at low income communities. Access to ECO points on the brokerage could provide energy suppliers with a source of compliance without the need for them to seek out and promote measures in eligible areas.

[51] Some Local Authorities have indicated that they are likely to become GDPs, others not.

Government at this stage. Government welcome evidence from consultees to inform cost estimates for the final ECO brokerage assessment.

Authorisation costs

In the Final Green Deal and ECO IA, it was assumed that around 30 companies would become Green Deal Providers, and the authorisation costs per company of around £1,225 per company (every 5 years) were accounted for in that assessment.

For the purpose of this assessment, we assume that the number of companies that seek Green Deal Provider authorisation to deliver ECO carbon targets remains unchanged at 30. There is therefore no additional cost of authorisation associated with the delivery of ECO carbon targets on a mandatory brokerage. Mandatory trading on the brokerage for AW could, however, imply that installers of AW measures that would not otherwise have entered the Green Deal market would need to become authorised Green Deal Providers. Based on installer numbers delivering to vulnerable households in previous government-sponsored thermal efficiency schemes, it is assumed that around 60 installers need to be accredited. However, installers can sub contract, and current data suggests that there may be 360 or more installers that may seek accreditation. We have taken a conservative approach to estimating the authorisation costs to business by using the upper end of this range. The £441,000 annual authorisation cost of mandatory brokerage to business from 2013 onwards (authorisation cost in 2012 will be borne by Government) is therefore estimated to have a present value of £0.68m[52].

Familiarisation cost

For the purpose of this assessment, it is assumed that it will take two FTE days for each Green Deal Provider trading on the brokerage to become familiar with the system, at a cost of £151 per day[53]. The present value of the familiarisation costs to AW installers is therefore in the range of £18,000 and £109,000. In light of uncertainty about the number of AW installers seeking authorisation, a conservative approach to estimating cost to business has been taken by using the upper estimate in the total cost to business estimation. This is in addition to an assumed familiarisation cost for the assumed 30 Green Deal Providers delivering the carbon targets of around £9,000[54].

On-going administrative costs

It is assumed that net operating costs associated with a brokerage is zero. This is because we believe that the administrative costs incurred by Green Deal Providers operating under brokerage will be similar to those administration costs incurred by allocating to installers outside of the brokerage system. There could be a saving in administrative costs for Providers using brokerage but there is currently no reliable information to quantify this. We are testing our assumption on the impact on administrative cost in the consultation, and welcome evidence from consultees to ensure that our estimates are robust for the final IA.

It is possible that trading through brokerage will mean that suppliers will see the volumes through their call centres, associated with their Affordable Warmth obligation, fall. However there is no robust evidence to quantify this. These costs are likely to be transfers from energy supplier call centres to calls to the individual installers and as a result it is assumed that there is no net decrease in the cost of calls. DECC will not have direct access to information on volumes to suppliers' cost centres, and will therefore not be able to monitor this directly. However, broad indications on costs can be inferred from dialogue with suppliers from before and after any brokerage platform was implemented.

[52] £1,225 every five years (in 2017 and 2022) for 360 companies. Accreditation costs in 2012 are assumed paid for by Government.
[53] Same hourly wage and hours spent assumption as for energy suppliers (detailed in footnote 49 above)
[54] £151.3 daily rate, 2 days, 30 Green Deal providers delivering the carbon targets

7.4 One-in, One-out (OIOO)

This is a new measure and classification under OIOO will depend on whether the Brokerage scheme is run on a mandatory or voluntary basis.

A mandatory approach to brokerage is expected to lead to some additional costs to business, as identified in Table 3. These may be outweighed by the possible wider benefits to business associated with enabling a fairer and more transparent access to the ECO points market. For the purpose of the OIOO calculation these non-monetised benefits have not been considered. The introduction of a mandatory brokerage is therefore classified as a regulatory IN.

The direct impacts on incumbents are in scope of OIOO. Costs incurred by new entrants, such as Green Deal Providers, who choose voluntarily to enter the market, are considered out of scope. This is because impacts accruing are based on new entrants opting into the market and are therefore considered indirect.

In addition, under OIOO fee and charges that do not amount to an increase in regulatory activity are out-of-scope. This means that were any of the costs of running the brokerage to be recovered from energy suppliers and Green Deal Providers from year 2014 onwards, these would not be counted in the OIOO calculation. This is the current assumption used for the purpose this IA.

The monetised costs included in the OIOO calculation are therefore only the familiarisation and on-going administration costs incurred by incumbent energy suppliers. This is expected to lead to small net IN of less than £1,000 EANCB. Table 4 provides a breakdown of the cost to business identified in Table 3 above, and specifies which of these costs are counted in the OIOO calculation.

Table 4 Costs to business of mandatory brokerage, cost classification for OIOO

	Cost to business (2012 PV)	**In/out of scope of OIOO**
Energy Suppliers		
Familiarisation cost	£1,800	*In* (Cost to incumbents)
Green Deal Providers		
Authorisation cost	£683,900	*Out* (Cost is not to incumbents)
Familiarisation cost	£118,000	Out (Cost is not to incumbents)
Users of brokerage (split between Green Deal Providers and energy suppliers to be confirmed)		
Recovered brokerage operating costs	£3,675,200	*Out* (Cost recovery is exempted)
Total cost in scope of OIOO	£1,800 (£200 EANCB)	

8 Risks and assumptions

The assessment of the potential costs and benefits of different levels of volumes traded on a brokerage rests on an assumption that its design is adequate in achieving the aims set out in this assessment.

Government is not able to guarantee that the brokerage mechanism is perfect in design in reality. The impact of an inefficiently designed brokerage would be greater the greater the volumes of ECO credits are traded on the brokerage platform. Further, should the design of the platform be deemed to be complicated and time consuming for market participants to familiarise themselves with and use, then the administrative costs of trading on a platform (if made mandatory) could be higher than assessed at this stage. Government will minimise this risk by continuing a close stakeholder engagement on brokerage and its implementation. Further, we are seeking evidence from consultees on the likely costs and benefits associated with different volumes traded on a brokerage, and we will reflect this in the final assessment.

The design of a new market mechanism also carries with it a risk that in inefficient design will lead to a risk of gaming in the market. Some stakeholders has argued that this risk is greater the greater the shift in power from obligated suppliers to Green Deal Providers through large volumes traded on the platform. Others suggest that a mandatory high percentage brokerage reduces the risk of energy company gaming. The Government will but in place monitoring arrangements, for brokerage, and will also draw on ECO delivery data gather by Ofgem, and compliance checks by the Green Deal Oversight Body, to monitor trading and delivery of deals on brokerage. There is also scope to amend the design parameters of brokerage (e.g. standardisation of lots sizes) on an ongoing basis, to help mitigate against gaming risks.

9 Specific impacts tests

Competition assessment

The Government believes that an ECO brokerage platform could have positive competition benefits in the Green Deal Provider market, which could lead to benefits also in the wider energy efficiency supply chain. As the Green Deal market is currently developing, there is uncertainty associated with the extent of competition in the market under a voluntary approach and the impact of a brokerage platform on competition. A conservative approach has therefore been taken not to attempt to quantify these potential benefits at this stage.

Small Firms Impact Test

High volumes of ECO traded on brokerage should enable a level playing field for Green Deal Providers to enter this market, and lowering potential barriers entry to the market by mandating ECO volumes to be traded on the brokerage could benefit small potential Green Deal Provider entrants. Entry to the Green Deal Provider market would remain voluntary. However, if Government mandates that sellers into the brokerage are to be authorised Green Deal Providers, then this would carry an authorisation costs, which could have a proportionally larger impact on small companies. The assessment of authorisation costs in section 7.3 provides details on this. We are seeking advice from consultees on whether there are any particular barriers faced by SMEs in accessing ECO subsidy (see Box 1).

Equality Impact Assessment

It is not envisaged that a mandatory brokerage platform will have disproportionate effects on any of the protected characteristics of age, disability, gender, gender-reassignment, marriage and civil partnerships, pregnancy and maternity, race, religion or belief and sexual orientation, as specified in the Equality Act 2010.

Other specific impact tests

It is not envisaged that a mandatory brokerage platform will have any significant impact on the environment, Greenhouse Gas emissions, sustainable development, human health, human rights, the justice system, or rural communities.

10 Post Implementation Review

The policy will be reviewed alongside the review of ECO and Green Deal (see the final ECO and Green Deal IA for details[55]). A detailed post implementation review plan for brokerage specifically will follow as part of the ECO / GD monitoring and evaluation plan.

[55] http://www.decc.gov.uk/assets/decc/11/consultation/green-deal/5533-final-stage-impact-assessment-for-the-green-deal-a.pdf

11 Annex

Annex 1 Evidence on the household insulation market

On 3 April 2012 the OFT launched a call for evidence into the household insulation market. Its final report was published in August 2012, and the headline summaries are summarised in the below.

11.1.1 Supply chain issues

The OFT's analysis of the Call for Evidence report said that the limited number of manufacturers of each specific insulation material suggests a high level of market concentration. However, different materials are, to a certain degree, substitutes. The OFT was told that it is often difficult for new manufacturers to enter the market.

Barriers to entry in the market are caused by a number of factors, including the large investment needed to open a new manufacturing plant; the expense of importing insulation; and the uncertainty over the future of the market once the CERT and CESP schemes end.

The OFT noted that prices paid to insulation manufacturers by distributors were typically individually negotiated and that actual prices paid are often heavily discounted from the list price.

Some concerns were expressed to the OFT that volume-based rebates by the largest manufacturers could exclude competitors by locking in distributors to purchasing a single supplier. The OFT is not currently minded to investigate these as the extent of the volume-based rebates appears small, and evidence did not suggest that rebates were having an anti-competitive effect on the market by driving out competitors.

The OFT also wrote to one party that it believed attempted (unsuccessfully) to impose an Resale Price Maintenance (RPM) agreement upon another body in the supply chain to warn the party so that it is aware of the risks of proposing such an agreement again. RPM agreements are generally considered to be anti-competitive, as they prevent the reseller from setting his own price for the product.

11.1.2 Impact of Government schemes

The demand for retrofit insulation in existing buildings is strongly driven by Government targets and schemes[56]. The existing energy efficiency targets on energy suppliers have been largely successful in increasing the rates of retrofit insulation, particularly of loft and cavity walls. However, the flipside is that there is currently very little self-generated consumer demand particularly for Cavity and Solid Wall Insulation. Most retrofit insulation is 'pushed' by energy suppliers and their contractors.

The OFT reported that under the existing CERT and CESP schemes obligated energy companies often provide insulation installation for free, or at a heavily subsidised price. This means that consumers may have less incentive to engage actively in the purchase than if they were paying the full market rate.

There are peaks and troughs in the volume of installations, driven in part by changes in Government targets over time. Prices will tend to increase during peaks and fall during troughs, but volumes will be concentrated in peaks. The uneven utilisation of installation capacity may lead to higher average installation prices over the life of scheme—which, to a certain degree, will be passed onto energy bills for all consumers.

It appears that consumers sometimes do not receive the best (most cost-effective) form of insulation for their house. In part this is because installers and energy suppliers have an incentive to get a certain number of measures installed to meet their targets, rather than necessarily to install insulation to meet individual consumers' needs.

[56] Demand for insulation in new buildings is driven by construction activity and changes in building regulations

11.1.3 Barriers to innovation

Several respondents argued that the lack of competition in the market for certifying new products may be acting as a constraint on entry and innovation. The British Board of Agréement (BBA), which certifies nearly all insulation products in the UK, appears to have a very strong position in insulation product certification in the UK, and some respondents claimed that its clearance process can be slow.

11.1.4 Installer market

Responses to the OFT's Call for Evidence did not provide clear evidence that installers have behaved anti-competitively in driving up prices. However, the behaviours of individual installers can be influenced by some of the factors mentioned above. Some installers explained that increased search costs, as a result of the easiest to find customers already being contacted, were a factor where prices had increased. A number of energy companies argued that the reason for price increase was that installers were raising prices in the knowledge that they had a guaranteed buyer because energy suppliers are required to meet their energy efficiency targets over the period of the CERT and CESP schemes. Those energy companies informed the OFT that they were not aware of any supply-side factors (such as cost increases) which would support such a price rise.

Annex 2 Design of the proposed ECO trading platform

Government has already consulted upon brokerage in principle and worked with key stakeholders to develop its detailed design. Therefore we will not be consulting further on the features of the brokerage platform. We will have a voluntary brokerage mechanism in place from the start of the ECO scheme, with a formal governance process to allow the brokerage to adapt should the need arise, this will be informed by the views of participants.

The brokerage model has been developed in conjunction with stakeholders, through a steering group whose members include representatives from Energy Companies, potential Green Deal Providers, Local Authorities and Housing Associations. Government also commissioned Deloitte and PricewaterhouseCoopers to provide commercial advice on potential models and to design the model and detailed trading design parameters and test them from a trading and energy services market perspective. The sections below lists some key features of this model for a brokerage platform.

Sellers (GDPs/ECOPs)

Before being allowed to participate in brokerage, sellers must meet minimum accreditation standards. This will give Energy Companies confidence that the ECO points they are buying will be delivered and ensure that they meet their ECO obligation. It will also ensure that appropriate installation and consumer protections are in place. In the first instance selling will be restricted to Green Deal providers, but we will work with key stakeholders to look at how we might open this up to others e.g. local authorities and social housing providers, over time.

The standard contract

All brokerage participants will sign up both to trading rules and to a standard bilateral contract before they sell or buy on the brokerage platform. The standard bilateral contract will be enacted whenever there is a successful trade on the brokerage platform and sets out the payment and delivery terms for all ECO units bought through the brokerage. This contract will be crucial to ensuring the confidence of participants in the brokerage platform and will incorporate payment penalties to incentives full contractual delivery.

Brokerage will be blind/anonymous to participants during trading

This will ensure that access to ECO funding is genuinely equitable and will prevent the deliberate channelling of ECO subsidy through vertically integrated energy companies' delivery arms or pre-determined partners. The broker will manage trading so the Energy Company with the highest bid at the end of trading wins the lot. After the auction, details of the buyer/ seller will be revealed to the other participant in the trade.

Publication

After the auction the details of lots (price, size, commodity, and delivery timeframe) that have been purchased will be published by the broker to trading participants and interested parties. The details of unsold lots –without the reserve price - will also be published. This information will be anonymised. It will be useful in ensuring transparency; allowing participants to gauge price movements and Government and potential market participants to assess the marginal cost of delivering measures.

Payment

Terms of payment will be determined by the standard contract, and will be based on the actual carbon delivered. Payment will be made direct from seller to buyer, i.e. the broker does not have a role in the transaction.

Annex 3 Experiences of obligated suppliers' behaviour in the wholesale electricity market

Energy companies with obligations under the ECO currently account for a significant share of the GB power market. Observations of energy supplier activities elsewhere in the energy market, particular in relation to vertical integration of companies, can provide insights potentially relevant to supplier activity under the ECO. The sections below discuss concerns around illiquidity and barriers to entry in this market. They also outlines actions taken by the independent regulator, Ofgem, to address perceived structural problems in the market.

11.1.5 Vertical integration in the electricity market

99% of the electricity market is made up of six vertically integrated energy companies, that have both electricity generation and supply assets. The key concern relating to industry structure is that the increase in vertical integration in the GB electricity market has had a detrimental impact on wholesale market liquidity. It is argued that vertically integrated companies do not need to access the wholesale market, as their own plant will "provide the necessary price and volume protection"[57] to supply their customer base (from supply business). Consequently they can have reduced exposure to volatile wholesale electricity markets.

There are several reasons for why vertical integration could have a negative impact on competition. These include:

- **Reduced liquidity**

"Self-supply" between vertically integrated companies' generation and supply arms is believed to be an important reason for the lack of liquidity in the wholesale electricity market[58]. Low levels of are a barrier to entry for new generators and suppliers in the market.

- **Limiting new entry**

Vertical integration also poses a barrier to entry because new independent entrants do not benefit from the economies of scale and lower transaction costs (avoided costs of trading in the wholesale market) that the vertically integrated companies enjoy.

11.1.6 Trading in the market

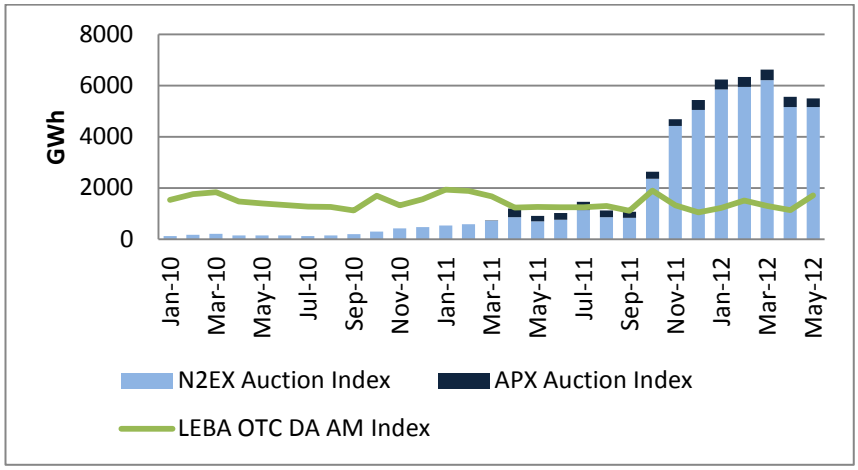
Power trading in Great Britain occurs on a wide range of platforms including on exchanges and Over The Counter (OTC[59]) platforms as well as bilateral trading. Ofgem has noted that the range of different platforms used for trading has a negative impact by splitting liquidity[60]. Further, as the vast majority of trading occurs on OTC platforms, price discovery in the market relies on a range of sources including price reports and informal market intelligence. The dominance of OTC trading also reduces information transparency, in particular price transparency.

Following announcements by SSE[61], E.ON[62] and Scottish Power[63] and RWE npower[64], trading on exchange-based day-ahead auctions has increased substantially since October 2011. More recently, During Q1 2012,

[57] Ofgem (2009), "Liquidity in the GB Wholesale Energy Markets"
[58] However, it should be noted that even large vertically-integrated utilities will still need to trade, for reasons including: their total generation not matching their total supply; the profile of generation not matching the "shape" of customer demand; and changing market conditions (e.g. the relative economics of a coal/gas plant).
[59] Over the counter (OTC) trading generally refers to a commodity traded not on a formal exchange.
[60] Ofgem (2010), "GB Wholesale electricity market liquidity: summer 2010 assessment" http://www.ofgem.gov.uk/Markets/WhlMkts/CompandEff/Documents1/GB%20wholesale%20electricity%20market%20liquidity%20-%20summer%202010%20assessment.pdf
[61] SSE committed to trading all of their electricity supply and demand in the day ahead market by the end of 2011 "(subject to market conditions and costs)" http://www.sse.com/PressReleases2011/WholesaleElectricityPriceTransparency

21% of GB power consumption was traded on exchange-based day-ahead auctions, over 10 times the volume traded during the same period last year.

Figure 7 Monthly volumes traded on exchange-based day-ahead auction platforms and OTC



N2EX has been chosen to develop and operate a 'virtual hub' to facilitate the full participation of the GB electricity market in the North West European (NWE) market coupling project, which seeks to integrate European day-ahead electricity markets. The virtual hub will facilitate the pooling of GB liquidity and the formation of a common reference price for electricity across all participating GB power exchanges (i.e. both N2EX and APX) by the end of 2012, in line with the objectives of the NWE project[65].

The virtual hub solution has the potential to allow competition between platforms (e.g. on services and on price), while avoiding splitting of day-ahead market liquidity.

11.1.7 Proposals to increase liquidity in the market

Following concerns about liquidity and its impact on competition, the regulator launched a consultation on options to address liquidity concerns in February 2010.

A further consultation of one of the original proposals, the introduction of a "Mandatory Auction" (MA) in the wholesale market, was launched earlier this year[66]. Under the MA proposal, the large vertically integrated companies would be required to sell a "sufficient volume" in each of the traded products to meet demands of market participants (the current indicative product list focuses mainly on forward products) and produce a robust price signal. It is envisaged that the obligated companies would be required to sell 25% of their annual generation on through the MA. The regulator believes that this intervention is needed "to ensure that liquidity in the wholesale market is sufficient to underpin effective competition". Its final proposal will be published in Summer 2012.

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[62] E.ON committed to trade in excess of 30% of their generation through the N2Ex day ahead market http://pressreleases.eon-uk.com/blogs/eonukpressreleases/archive/2012/01/04/1774.aspx

[63] Scottish Power committed to trade in excess of 30% of their generation through the N2Ex day ahead market by 1st March 2012 http://www.scottishpower.com/PressReleases_2271.htm

[64] RWE npower signed a deal to sell a third of annual generation on the N2EX day-ahead auction platform in May 2012 http://www.npowermediacentre.com/Press-Releases/RWE-to-sell-a-third-of-its-annual-UK-generation-volume-on-day-ahead-auctions-115a.aspx

[65] http://www.nordpoolspot.com/Message-center-container/Exchange-list/2012/04/No-152012---Nord-Pool-Spot-to-operate-Britains-first-virtual-electricity-hub/

[66] Ofgem (2012) http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Platform%20providers%20-%20information%20request.pdf

Box 4 Relevance of electricity market characteristics for energy efficiency market

The extent of **vertical integration** in the energy efficiency market – i.e. the extent to which energy suppliers will develop their own insulation and heating delivery arms under the Green Deal/ECO – is uncertain. Should suppliers choose to become Green Deal providers and deliver their obligations largely through their own provider business, the energy efficiency market could face similar negative impacts on liquidity and competition as those identified in section 11.1.6.

The proposed move to **mandate certain volumes** to be traded in one platform could be relevant for the rationale to introduce a brokerage platform if, without such a platform, contracting in the energy efficiency market is likely to occur bilaterally. Such trading would likely lead to reduced price transparency and create barriers to entry, as seen in the electricity market.

Annex 4: Design of different trading platforms

	Process Recovery Notes (PRN) t2e platform	**Renewable Obligation (RO) eROCs platform**	**Warm Front ebid platform**	**Proposed ECO brokerage platform**
Who trades on the platform	Obligated **packaging companies** buy PRNs from **reprocessors** of packaging waste directly or through compliance schemes (**market aggregators**)	Obligated **electricity suppliers** buy ROCs from **eligible generators** of renewable electricity	**Installers contracted to Warm Front** in the area where the work is to be completed.	Obligated **energy companies** and **Green Deal Providers (and potentially over time opening up to others e.g. Local Authorities)**
How is the price set	The lowest offers are matched to bids	Lots awarded to supplier that submits highest bid which is not bettered after 30 minute period. Sellers can set a reserve price	Lowest offer wins the bid. Maximum price is based on contracted normalised Warm Front prices.	Sellers post bids and reserve price. Energy companies bid on lots (reserve price hidden) on day of auction. Highest bid wins
What information is published	Detailed **price** and **volume** information	Detailed **price** and **volume** information	**No historic price information** is published. It is likely that contractors will have previous knowledge of prices.	Detailed lot information and selling price for sold lots. Detailed lot information for unsold lots (but not reserve price). All anonymous.
Is trading mandatory or voluntary	**Voluntary** - the t2e platform is one way of achieving compliance	**Voluntary**	**Mandatory**	To be determined following analysis of consultation responses
What information is displayed on the platform	The **price, lot size** and the **product type.** Participants are **anonymous**	**Price** and **lot size**. Participants are **anonymous**	Labour cost, area and referral ID, survey details, work required, any relevant photos (but none which would identify the property), whether scaffolding is required.	Price and lot details (type of ECO, delivery timeframe, size of lot)
Are delivered and accredited products traded, or are commitments to deliver traded	**Both** – the t2e platform allows both spot and forward contracts to be traded	**Delivered** – As part of the agreement, sellers must deposit ROCs with eROCs to be eligible to trade	**Commitments to install** measures in households	**Commitments to deliver** carbon savings and/or notional heating bill savings in homes will be traded
If commitments to deliver, who takes on the risk for non-delivery		N/A	Warm Front administrator	Sellers
How frequent is trading	**Ongoing**	**Monthly**	**Ongoing** Jobs are placed on the bid site twice a week for 48 hours a time (Midnight Sunday and Midnight Wednesday)	Fortnightly
Are there transaction fees	**Yes** - 50p per tonne for PRNs trading at less than £5, 25p per tonne for PRNs trading above £5	**Yes** – 50p+VAT per ROC, subject to a minimum fee of £50+VAT	**No**	**No** – initially, the brokerage will be funded by government. Costs may be recovered in the longer term
Are there membership fees	**Yes** – Free in the first year of registration, £100-200 in years 2 onwards		**No** – a security deposit of £100,000 is required for an installer to be a member of the scheme. This is refundable at the end of the term.	**No** – initially, the brokerage will be funded by government. Costs *may* be recovered in the longer term
How many products, or "currencies" are traded	**Multiple** – aluminium, glass, paper, plastic, steel and wood PRNs available	**One** - ROCs	**Multiple** – All Warm Front eligible insulation and heating measures are traded as separate jobs.	Multiple – initially all ECO targets – CO, AW and CSO although this will be kept under review.
How are bids and offers reconciled			**Matched** Lowest bid wins the work and the costs are amended down to the winning bid. If there are two identical low bids then the Customer Satisfaction score determines who wins. If no bids then the job is put back to	On day of auction, highest bidder on lot at close of auction wins

			the bid site for a second bid window. If no bids after second bid then it is passed to the installer of last resort at normalised price. If there is a contribution the lowest three bids are sent to the customer and they choose which installer gets the job.	
Is the operation of the platform automated or carried out by brokers	**Both** - The underlying platform is an **IT** based system which allows buyers to buy directly or buy through an account manager (**broker**)	**Automated**	**Both** Most of the jobs go through an automated system but some jobs manually placed on to the system (e.g. solid fuels) which the team put on and take off the bid site	Automated
What volumes are traded on the platform	In 2010 **£7.4m** worth of PRNs were traded on the t2e platform.	In 2010/11 **£29m** worth of ROCs were traded on eROCs. This is roughly equivalent to **2%** of the ROC market	From 2011/12 100% of Warm Front jobs are bid for by installers through the e-bid system. Platform can handle bids from Warm Front when the scheme was funded at £350m.	To be determined following analysis of consultation responses

Details on Warm Front E-Bid Platform

Warm Front provides energy efficiency measures to vulnerable households as part of the government's strategy to assist the fuel poor. As part of the Warm Front contract a portal tool was developed to allow multiple installers to bid for Warm Front jobs and drive down the costs to the government, thereby helping a greater number of vulnerable households. The portal was originally used across 65% of the jobs, since 2011 100% of the eligible jobs have gone through the system. The tool is a basic portal and not a sophisticated bidding platform, such as that which may be used for brokerage for ECO. Nevertheless provides some important lessons for a potential brokerage platform. The key lessons are:

1. Barriers, such as an upfront cost without guarantees of work, disincentive installers from participating in a bidding scheme;
2. There is potential for cost savings on installations, assuming that without the platform installers would charge closer to the 'normalised' Warm Front contracted prices;
3. There appears to be a possible friction between the non-vulnerable consumer boiler market and the vulnerable consumer boiler market. This means that equalisation of prices does not appear to occur perfectly, meaning some installers may leave the vulnerable consumer market for work in the non-vulnerable market if they can achieve a higher price per installation. This suggests that high levels of trading in the vulnerable consumer market may lead to supply chain constraints that could create potential issues for delivery.

Mechanism

E-bid is not a strict auction platform; There are no rounds of bidding, only a single blind[67] bid is made by an installer. The mechanism allows installers to access the survey results of Warm Front customers in their geographical area. The installer then places a single bid for the job[68] on the portal. The scheme

[67] Blind bidding in this context means that installers cannot see what other installers have bid. The administrator can see all bids. To avoid gaming or information leaking only one bid is allowed on each job.

[68] A 'job' is considered a major measure, e.g. cavity wall insulation, loft insulation or a new boiler or central heating system. All measures are packaged and bid on as separate entities. There is no direct way for the installers to see if the measures are for the same or different properties.

administrator then allocates the job. This allocation is normally done automatically by the system, in a small number of cases (e.g. solid fuel systems) the administrator will allocate the jobs manually. If two bids are tied on price, the installer with the highest customer satisfaction score will win the job.

Costs and Prices

The platform took 4 FTE staff approximately 9 months to build and setup. It was designed at a time when Warm Front was at peak funding of £350mpa. The scheme administrator has indicated that the system has in fact saved scheme running costs from efficiency gains associated with automation of the allocation of jobs.

Installers place a single bid on each job and the lowest bid is allocated the work[69]. The work is capped at contracted normalised prices, there is no minimum prices for any of the work. This makes average savings of approximately £300 per measure installed[70] against normalised prices. Most of this saving is associated with heating measures costing in the region of £2,000.

The scheme administrator requires that any installers carrying out Warm Front work pay a bond of £100,000. This acts as security for a poor installation, remedial work being required and allows the administrator to act as installer of last resort. The bond is refunded if, at the end of the term, the installer chooses not to continue as a contractor to Warm Front and the bond hasn't been fully utilised.

Supply Chain Impacts

The experience of moving the scheme to 100% e-bid has shown further reductions in the cost of measures. However this has been to the determent of suppliers with some suppliers installing at cost just to maintain work and others dropping out, either folding or finding work elsewhere at better value.

The current economic environment and low application rates to the scheme (leading to low numbers of measures installed) has resulted in a reduction of installers by one third.

[69] When the job is allocated by administrator, if the job requires some client contribution then the client is given the choice of the bids and installers. It is normal however for them to go for the lowest priced job as well.
[70] Based on 2011-12 data.

Annex 5: Details on the AW Referrals mechanism and links between WHD and ECO AW

When the Warm Front scheme closes to new applications, Government intends to put in place a referrals mechanism to enable customers who contact ESAS and are confirmed as eligible for the ECO AW (via a check with their consent by DWP) to be passed on to participating suppliers. Government is negotiating a voluntary approach with suppliers such that in return for these referrals energy suppliers will undertake to a provide a minimum level of assistance to these households. This arrangement is predicated on the ability of suppliers to self deliver measures to these households – it would not be acceptable for suppliers to pass their details on to a brokerage partner for delivery as less certainty and accountability would be provided over the treatment of these households (who are informed by ESAS that their supplier will arrange the installation). As a result, the responsibility in the mind of the vulnerable customer may no longer be clear – is it the energy company who is promoting the measures, the Green Deal Provider who is financing these or the installer. Adding complexity and uncertainty to markets where vulnerable consumers are the key target group could have a negative impact on the reputation of the scheme and/or take up of measures.

As a result, at higher levels of brokerage trading, situations could arise whereby a supplier is unable to trade ESAS referred compliance at or below the brokerage-determined price. In these circumstances suppliers will either need to provide a minimum level of assistance to referred households *without* it counting towards their Affordable Warmth target (therefore incurring additional costs), or referred households would need to go without assistance – putting at risk the fuel poverty objectives of the policy.

For households identified through the Warm Home Discount Core Group, their eligibility for Affordable Warmth is confirmed with their electricity supplier by default as they are eligible for a WHD rebate through the Core Group. Their electricity supplier is not permitted to share their information with a third party (for example, a Green Deal Provider looking to offer Affordable Warmth compliance through the brokerage platform), therefore unless their electricity supplier is both offering Affordable Warmth compliance through the brokerage and able to deliver measures to the data matched household below the brokerage-determined market price for compliance, there is a risk that at high levels of trading on brokerage the vulnerable household would not receive support despite having been identified as eligible (see Annex 6 for estimates of the level of WHD referrals that this could potentially apply to).

Annex 6: Estimated levels of potential Affordable Warmth compliance from Referrals and Warm Home Discount data-matching

The multi-criteria analysis of alternative levels of trading of Affordable Warmth compliance through a brokerage platform in Section 6.2 includes a criterion on "supporting the wider customer journey". The scoring of the illustrative 0%, 50% and 100% levels of Affordable Warmth compliance trading set out in Table 2 reflects concerns that trading high volumes could potentially be detrimental to a significant number of eligible households identified through the Energy Saving Advice Service (ESAS) or through the Warm Home Discount (WHD) Core Group.[71] This annex sets out estimates of the potential levels of referrals and resulting potential to deliver Affordable Warmth compliance through the ESAS and that could be found through the WHD Core Group. The ESAS referrals and WHD identified households are treated separately and not added together, as they greatly overlap and it is highly uncertain to extent to which those identified through the WHD might also be referred through the ESAS.

Referrals through the Energy Saving Advice Centre (ESAS)

Although we can learn from previous and existing Government-sponsored schemes, estimating the number of households with opportunities to install Affordable Warmth eligible measures that could call the ESAS and be referred to an energy supplier for support remains uncertain because:

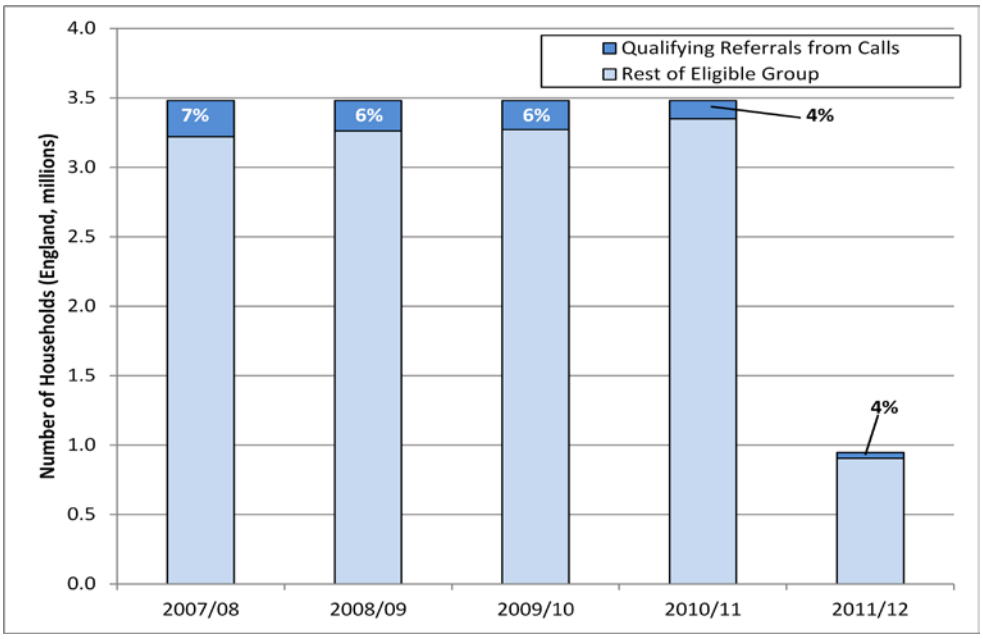
- Affordable Warmth eligibility criteria are different to all current and previous Government-sponsored thermal efficiency schemes targeted at low income and vulnerable households;
- Numbers of referrals are likely to vary depending on the level of promotion of Affordable Warmth that stakeholders undertake; and
- The nature of the Affordable Warmth-eligible measures that qualifying referrals could have installed is uncertain, which in turn adds uncertainty to the level of potential for Affordable Warmth compliance that could be generated through ESAS referrals.

The expected mix of measures to be delivered under the Affordable Warmth Target[72] is similar to that delivered in recent years under the Warm Front scheme, and Warm Front has historically also targeted low income and vulnerable households, with the scheme's eligibility criteria closely aligning with the Affordable Warmth criteria since April 2011. However the Warm Front scheme's eligibility criteria also included a SAP threshold which the property had to be below in order to qualify for assistance. This SAP threshold is not present for ECO Affordable Warmth. Figure 9 shows the size of the Warm Front eligible group since 2007/08 and the proportion of the group that resulted in qualifying referrals *from phone calls only* each year.

Figure 8 Historical levels of qualifying referrals from phone calls under Warm Front, as a proportion of the eligible group

[71] All households identified for the Warm Home Discount Core Group through the matching of DWP Pension Credit receipt data and energy supplier account data are eligible for support under Affordable Warmth, however energy suppliers are not permitted to share customer details with third parties.

[72] See Section 7.6 of the Green Deal and ECO Final Stage Impact Assessment, available at: http://www.decc.gov.uk/en/content/cms/consultations/green_deal/green_deal.aspx



Source: Numbers of qualifying referrals – DECC/Carillion Energy Services; Estimated size of the Warm Front eligible group – DECC Fuel Poverty Statistics 2012 Detailed Tables.

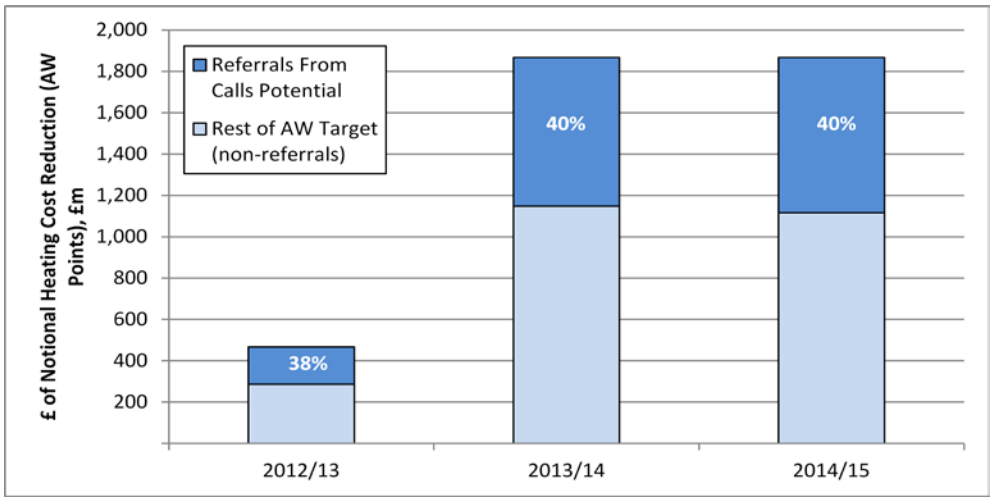
On average, across the last 5 years of the Warm Front scheme, around 5.6% of the eligible group have successfully applied to the scheme through self-referred phone calls. Given the overlaps between the Warm Front and Affordable Warmth eligible group and types of measures expected to be delivered, it is reasonable to assume that a similar proportion of the Affordable Warmth eligible group will self-refer through the ESAS.

The Green Deal and ECO Final Stage IA estimated the size of the Affordable Warmth eligible group at 2.7m households, which if 5.6% referred themselves each year through the ESAS would generate around 150,000 qualifying referrals each year. Assuming that in each year the potential to install Affordable Warmth eligible measures was in line with the general availability of easy to treat cavity wall insulation (CWI), loft insulation and new and replacement heating systems[73] among all households in the eligible group with scope for energy efficiency improvements, the Affordable Warmth compliance these referrals generate can be expressed as a proportion of the target to March 2015 (Figure 10). This indicates that **around 40%** of Affordable Warmth compliance could be generated through referrals through the ESAS.

Figure 9 Estimated Potential Affordable Warmth compliance from referrals, as a proportion of the Affordable Warmth Target to March 2015[74]

[73] These measures are those expected to be focused on by suppliers in meeting the Affordable Warmth target, therefore potential from more expensive interventions such as solid wall insulation have been excluded in these calculations.

[74] In this figure the Affordable Warmth target has spread across the 2.25 years of the first period of the ECO from October 2012 to March 2015 on a pro-rata basis. Suppliers could instead choose to deliver more compliance in one year than and less in another year depending on their own delivery strategies.



Referrals through the Warm Home Discount Core Group

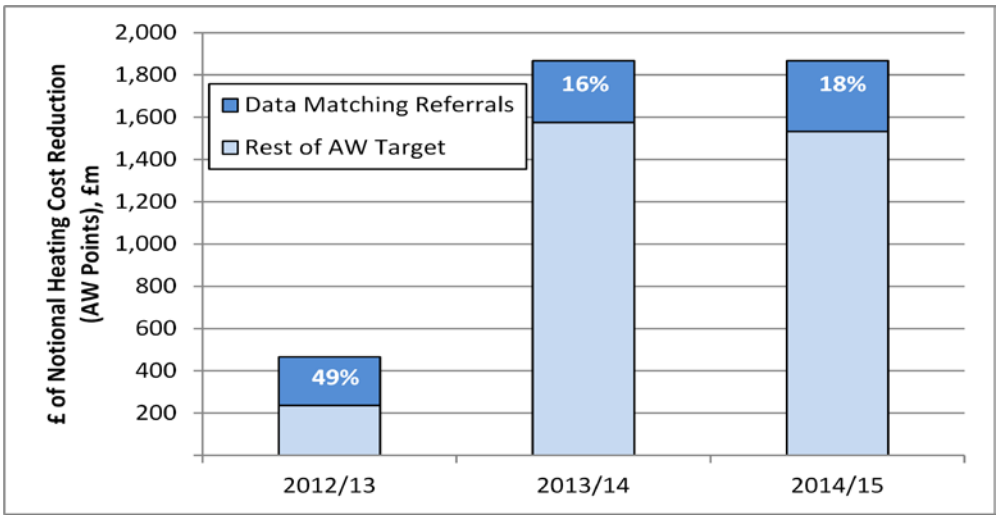
The Warm Home Discount (WHD) undertakes an annual data-matching process whereby energy suppliers will be provided with details on over 1 million Pension Credit recipients through data-matching in the second year of the Warm Homes Discount scheme (12/13), rising in the third and fourth scheme years. Suppliers are permitted to use this data to target ECO support, providing them with an engaged market to target their activity, but are not permitted to share this information with third parties – including those trading on any brokerage platform apart from internal delivery arms. This raises the risk under high volumes of trading on a brokerage platform of those identified as eligible for Affordable Warmth support through the Warm Home Discount *not* receiving support unless their electricity provider both offers compliance through the platform and can deliver compliance at or below the price generated by the platform.

Figure 11 sets out estimates of the potential level of Affordable Warmth compliance (restricted to those expected to be cost-effective in meeting the target: easy to treat cavity wall insulation, loft insulation and heating systems) that could be delivered to households identified through data-matching. These estimates assume that the prevalence of opportunities to install cost-effective measures is in line with those reported for households in receipt of Pension Credit; that suppliers will seek to deliver the Affordable Warmth target evenly across the 2.25 years from January 2012 and March 2015; and that the number of households data-matched in each year is line with the projected levels in the Warm Home Discount Final Stage IA.[75] It is also assumed that the previous full year's worth of data-matching results are available for the next year's ECO compliance (i.e. 2011/12 data-matching results can be used to identify households for support in 2012/13). This is why we see a higher proportion of the Affordable Warmth target being potentially met through data-matching referrals in 2012/13, where a full year's worth of matched data can be used to meet only 3 months of compliance Affordable Warmth compliance.

Figure 10 Potential Affordable Warmth compliance from Warm Home Discount Data Matching, as a proportion of the Affordable Warmth Target to March 2015[76]

[75] Available at: http://www.decc.gov.uk/assets/decc/Consultations/warm-home-discount/1308-warm-home-disc-impact-assessment.pdf

[76] Assumes that the previous year's data-matching results can then be used for the following year's Affordable Warmth compliance.


£ of Notional Heating Cost Reduction (AW Points), £m
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
Data Matching Referrals
Rest of AW Target
49%
16%
18%
2012/13
2013/14
2014/15

Annex 7 Energy suppliers' existing delivery routes

Experiences from energy companies' delivery routes under CERT and CESP provide some insights as to the likely delivery routes under the ECO, and therefore on risk of potential barriers to entry caused by energy companies' strategies. However, delivery of the ECO will differ in that these obligations will be delivered within the new Green Deal market mechanism.

The interim CERT and CESP evaluations published in October 2011 considered how these obligations have been delivered and the strength of different delivery routes[77]. This evaluation identified that there are a number of different delivery routes used by suppliers and generators to comply with the obligations, but did not quantify the share of targets delivered from each route. The CERT evaluation identified the following as the main routes for delivering professionally installed insulation in private tenure households:

- Offers in conjunction with or endorsed by a Local Authority
- Offers directly by installers and managing agents
- Direct offers by energy suppliers
- Offers marketed through major retail stores

There is very limited evidence on relative importance of the delivery routes of professional insulation delivered to private households under CERT due to confidentiality concerns. The routes above are ordered in "approximate scale of delivery, based on anecdotal evidence from energy suppliers, managing agents and energy advice centres"[78]. In terms of self supply, at the time of the CERT evaluation, five out of the six major suppliers promoted national offers for professionally installed insulation direct to households across GB. Four out of six suppliers ran major advertising campaigns on energy efficiency as part of their brand positioning in the energy market as a whole.

The evaluations also provide other lessons which could provide a picture of likely behaviour of suppliers under the Green Deal and ECO with no mandatory trading on a brokerage platform:

- The approach taken by different suppliers varied, depending on their corporate strategy. Some suppliers chose a higher public profile for their CERT work, seeing it as an opportunity to show their commitment to environmental issues, whilst others preferred to keep a lower profile, to avoid the risk of poor delivery by installers compromising their consumer satisfaction rankings
- Related to this, some suppliers reported that they only trade with preferred installers.
- Managing agents, which act as intermediaries, have acted on behalf of in particular smaller installer companies that do not have a direct relationship with a supplier as a form of aggregator. Not all energy companies reported contracting with managing agents in the CERT evaluation.
- There have been some instances of suppliers offering a price per lead in the case of CERT, but these prices have not been consistently broadcast to the wider market. Equally, in some cases energy suppliers have competed to fund energy efficiency opportunities, typically work tendered by Local Authorities.

[77] DECC (2011), Research Report, Evaluation synthesis of energy supplier obligation policies http://www.decc.gov.uk/assets/decc/11/funding-support/3340-evaluation-synthesis-of-energy-supplier-obligation.pdf

[78] *DECC (2011) Research Report, Evaluation of the deliver and uptake of the Carbon Emissions Reduction target http://www.decc.gov.uk/assets/decc/11/funding-support/3339-evaluation-of-the-delivery-and-uptake-of-the-carbo.pdf*

Annex 8 Evidence on consumer demand for energy efficiency measures

The ECO policy introduces a *policy induced demand* for energy efficiency measures by requiring energy suppliers to deliver carbon savings and notional heating cost reductions in legally binding targets.

Evaluation of existing supplier obligations suggest that there is a low level of actual consumer demand in the existing market for insulation measures, and that delivery of measures have been primarily driven by energy suppliers' need to meet obligations under CERT and CESP, rather than market demand from consumers. This finding is mirrored in the OFT's Call for Evidence into the market for household insulation. General demand for new and replacement heating systems amongst low income and vulnerable households has historically been high, although this is likely driven by the partial or full subsidy offered for these measures under Warm Front in England, Nest (and preceding schemes) in Wales, and the Energy Assistance Package in Scotland. Around 1.5 million new boilers are installed each year (Heating and Hot Water Council Market Reports). For low income households, particularly those living in private tenure, demand is largely driven by schemes offering partial or full subsidy for heating systems. It is likely that demand for new and replacement heating systems among this group would very low in the absence of such schemes, due to the limited ability to pay in this group.

There is an expectation that the new policy framework under the Green Deal could represent a positive development by encouraging active consumers, and removing some of these perverse incentives.