

Which energy efficiency improvements qualify for Green Deal Finance?

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Introduction

Purpose of this document

- 1. This publication sets out which energy efficiency improvements will qualify for Green Deal finance and the Energy Company Obligation (ECO) when the Schemes launch in 2012, and other key elements of the “measures” framework. It follows DECC’s previous policy statement relating to the eligibility of measures published in June 2011 and supplements the sections on measures in the Government’s response to the Green Deal and ECO consultation.**
- 2. In addition to determining eligibility, the measures framework is designed to:**
 - ensure that products installed with Green Deal finance and ECO subsidy work as intended;**
 - promote the installation of packages of measures that will improve the overall energy efficiency of buildings and save carbon;**
 - drive innovation in new products and product performance;**
 - help companies with new products (or certain existing products) access the Green Deal.**

Intended audience

- 3. This document is aimed at organisations intending to supply into the Green Deal and ECO markets. It provides greater clarity on which sectors fall within scope and is intended to aid industry with their preparations for launch. Further technical detail will be provided in DECC’s Guidance on the statutory instruments on qualifying “improvements”. The statutory instruments are the official documents listing the eligible measures¹.**

¹ <http://www.legislation.gov.uk/>

Background

4. The Energy Act 2011 includes provisions for the 'Green Deal', which intends to reduce carbon emissions cost-effectively by transforming the energy efficiency of British properties. The Green Deal is an innovative financing mechanisms that lets people pay for energy efficiency improvements like insulation through savings on their energy bills.
5. A new Energy Company Obligation (ECO) will integrate with the Green Deal, allowing subsidy and Green Deal Finance to come together into one seamless offer to the consumer. In this way, the Green Deal and the ECO will work in combination to drive the installation of energy efficiency improvements, often referred to as “measures”.

Key messages on the Green Deal measures framework

6. **The Green Deal is inclusive** – A range of sectors can benefit from the new financing mechanism including the insulation, heating, lighting, glazing and Microgeneration sectors. The Green Deal is not just focused on insulation.

Definitions

Measure – A generic energy efficiency improvement which can be made to a property, for example, loft insulation, cavity wall insulation or a replacement boiler.

Improvement – The term used in the Green Deal legal framework to describe the installation of a measure in a property.

Product - The actual product installed with Green Deal finance (falling within a category of qualifying energy improvement).

System – A measure or product which is made up of component parts which is often constructed on or off-site, such as External Wall Insulation systems.

The Energy Act 2011 makes clear that the Green Deal may cover measures which generate renewable energy in a cost-effective way, as well as those termed “energy efficiency” measures. Energy efficiency will often be used as short-hand for the types of measures which can lower energy bills and therefore be eligible for the Green Deal, even if not all such measures technically reduce energy use or increase its efficiency in every case. For example, microgeneration will use renewable sources of energy (such as the air, sun and ground heat) to generate energy and this ultimately results in fuel bill savings.

7. ***New measures have been added to the list of qualifying improvements*** – Following the consultation we have expanded the list of eligible measures from 30 to 45. The new measures are particularly relevant to the non-domestic sector, and include HVAC systems, rooflights, radiant heating, and energy efficient taps and showers. This means these measures can now form part of Green Deal packages.

The full list of qualifying energy efficiency improvements is at page 11 (the new measures are in bold).

8. ***The measures list is “flexible”*** - Measures on the list can theoretically be installed in homes or businesses. This is because, in some circumstances the appropriate energy efficiency improvements for domestic and non-domestic properties will be similar, such as in the case of an accountant’s office which was once a home. To reflect this, we will have a single list of qualifying energy improvements for domestic and non-domestic buildings. To prescribe which measures can be used in a given sector could inadvertently stifle delivery. In practice only the measures appropriate for the building in question will be recommended during the Green Deal Assessment.
9. ***Safeguards are in place to ensure only “appropriate” measures are recommended to customers*** – The Green Deal Assessment will generate a “bespoke” assessment for the customer, recommending only the measures that will improve the energy performance of their building. The report produced will highlight the “package” of measures the customer could obtain with Green Deal finance. Ultimately the customer will choose the measures they want from the recommendations. For certain measures ECO subsidy may also be available (see page 11).

What determines eligibility?

10. ***Potentially any energy saving measure can be a Green Deal measure*** – If a measure saves energy, the potential saving can be quantified (and verified), and the performance is then “modelled” in our assessment tool(s) – it can be added to the list of Green Deal measures. Quantified energy savings are necessary in order to determine how much Green Deal finance can “attach” to the property. The measures list will be updated on a regular basis, at least annually.
11. ***Even measures that only “partially pay for themselves” in energy savings over their lifetime can be included*** – Certain measures such as loft and cavity wall insulation are very cost-effective and will pay for themselves in energy savings very quickly. However, not all 45 eligible measures will pay for themselves in this way. The extent to which a measure does, will vary from property to property and over time as costs, and other factors change.
12. Customers may choose packages of measures where the up-front cost is fully off-set by the savings. If they choose measures which do not pay for themselves, then they will need to contribute to the cost, or use other means of financing the installation (including the ECO).

Consumers are already used to paying upfront for improvements on their properties, so a chance to dramatically reduce the initial investment should be very attractive.

13. This “partial financing” means that where customers choose measures such as replacement windows, which can save energy and improve the appearance of the property, but are unlikely to pay for themselves in their lifetime, they can still get money towards the installation cost up to value of the estimated savings. Based on average assumptions, this could amount to £1000 towards the cost of replacing G rated windows to A rated in a 3-bed semi detached property.
14. **Customers are always protected by the “Golden Rule”** – The Golden Rule means the charge attached to the energy meter in a property cannot be higher than the estimated savings for the package of measures in that property. The Golden Rule is therefore calculated on an individual-property basis. It protects customers against energy bills rising as a result of the Green Deal installation. It does not determine the list of measures someone can choose from.
15. **The “bespoke” nature of the Golden Rule drives competition and innovation** – As Green Deal Providers and others create new and exciting customer offers, as production and installation costs reduce over time, and as even better performing products come onto the market – greater levels of Green Deal finance will become available for measures and packages. Put another way, a combination of higher savings and lower costs will mean more measures can be expected to pay for themselves as standard in the future.
16. **We have taken steps to ensure that the risk that energy savings will not be realised is minimised** – It is a reality of many energy efficiency installations that there is often a “gap” between how measures perform in theory (or even when tested), and how they perform in people’s properties. Retrofitting a property is complex and many factors affect the savings a customer actually realises.
17. To guard against this risk, the savings estimates used by Green Deal Providers to calculate the amount of finance they can offer a customer will be reduced by a set percentage (we call this an “in-use factor”). This approach was also taken in the CERT Scheme. The in-use factors have been recommended by a team of experts and are different for each measure. The levels are set out in an accompanying paper: *How the Green Deal will reflect the in situ performance of measures*².
18. We will review the in-use factors at least on an annual basis to reflect any new evidence on the in-situ performance of measures. The long-term objective is to improve our knowledge of in-situ performance, and to drive installation standards so that the in-use factors fall as low as possible.

Encouraging innovation

19. **There is a route to adding measures to the list** – The measures list will be updated at least once a year to include new measures. Companies can apply to the RdSAP and SBEM (the methodologies that underpin the Green Deal assessment) contractor to verify the energy

² http://www.decc.gov.uk/en/content/cms/tackling/green_deal/greendeal_guid/greendeal_guid.aspx

saving performance of the measure in question. Once this happens, the measure can be modelled in the software and recommended during a Green Deal Assessment. The measures can then be added to the list of eligible measures.

20. ***The process for adding new measures will be kept under review*** – The process for adding new measures to SAP (and as a result to the Green Deal) is called “Appendix Q”³. It enables the testing and verification of measures to ensure that measures recognised in the assessment tools are able to reduce energy consumption. Our ambition is to ensure this process is as efficient and transparent as possible to facilitate the introduction of effective, innovative technologies.
21. ***We will recognise the “enhanced” performance of products for Green Deal finance purposes*** - DECC consulted on proposals to enable (on a voluntary basis) suppliers to have the performance of their individual products verified so that product-specific data can be used in the Golden Rule calculation.
22. This means that if a product can create better fuel bill savings than those estimated for the “generic” measure, it can benefit from additional Green Deal finance. There is also the potential to link the “product differentiation” part of our framework to reductions in “in use factors” (see paragraph 17) if products can demonstrate strong in-situ performance.
23. This proposal was strongly supported during the consultation. It will drive innovation within existing measures categories and encourage the supply of the best products on the market. DECC will issue a tender to procure this “product differentiation” mechanism shortly, with a view to enabling companies to apply by January 2013. More details will follow.

Position on certain sectors/measures

24. ***Many Microgeneration and renewable heat technologies are eligible for Green Deal finance*** – If a customer wishes to install a heat pump, or solar PV, they will be able to off-set the cost with Green Deal finance up to the level of the estimated savings for those measures in their property.
25. ***Green Deal finance, the FITs and RHI can work together as a package*** - We envisage organisations marketing energy efficiency, renewable heat and energy generation products together as packages of improvements. However, customers will not be able to use the expected future revenue from, for example, FITs payments to count as savings for the purposes of meeting the Golden Rule.
- z
26. ***RHI payments will be conditional on making “Green-deable” thermal efficiency improvements to the property to ensure renewable heat is not wasted*** – This approach drives the energy efficiency and renewables markets in tandem - as well as securing the installation of the most cost-effective energy saving improvements.

³ <http://www.sap-appendixq.org.uk/page.jsp?id=1>

27. For similar reasons, receipt of the full rate of FITs payments for building-wired solar PV installations from 1 April 2012 is conditional on the building meeting EPC level D. Full details are set out in relevant FITs documentation.
28. **Green Deal finance for energy efficiency lighting will be available for the non-domestic sector** – Low energy lighting has the potential to make significant energy savings in larger non-domestic buildings. We are therefore including low energy lighting, systems and controls in the non-domestic Green Deal. For domestic properties it has proved difficult to date to model standard energy saving estimates for lighting *systems and controls* in domestic properties, and these measures are not therefore included in RdSAP at present. We also have concerns that energy efficient bulbs may be removed when people move house, meaning new occupants taking on the Green Deal may not benefit from the measure. DECC will work with the lighting industry on questions of scope.
29. **Whole-property Mechanical Ventilation and Heat Recovery (MVHR) systems in the non-domestic Green Deal only** – MVHR can only deliver cost-effective energy savings when the “air-tightness” of the building has reached a certain level, otherwise there is a risk the electricity used to run the system will be greater than the energy savings achieved. The minimum requirements for the domestic Green Deal Assessment do not currently include air-tightness testing due to the costs involved, but it is included in the non-domestic assessment. This means MVHR will only be recommended for non-domestic buildings at present. Other MVHR systems – such as “single-room” solutions are being explored for inclusion.
30. **District Heating is potentially “Green-dealable” in the future** - We recognise the importance of district heating systems, as acknowledged in the recent heating strategy, and this measure will be included in elements of the ECO. However, there are practical issues associated with including this measure in the Green Deal, for example, the need to carry out a “full SAP” assessment and to then divide the estimated energy savings between properties. We will continue to work with the District Heating sector to resolve these with a view to inclusion in future updates of SAP.
31. **Voltage optimisation and management is potentially “Green-dealable” in the future** - DECC is working with representatives from the voltage optimisation and management industry to explore in detail the practicalities of including this measure in the Green Deal through the Appendix Q route. Voltage optimisation has been supported by other Government schemes such as CERT.
32. **Water saving measures can be installed alongside Green Deal measures** – Certain hot water saving measures are included in the list measures, including water efficient taps and showers. Measures concerned with reducing the consumption of cold water are not eligible for Green Deal finance. However, there is the opportunity to use the Green Deal to trigger interest in other types of improvements which are not eligible for Green Deal finance. For example, water companies and Green Deal Providers could create partnerships to see a range of work being done in the property all at the same time.

Product assurance

33. **Products installed will Green Deal finance must be safe, durable and perform as intended** - All products installed with Green Deal finance must fall within a category of

eligible measure and meet the requirements of the Code of Practice relating to the products and systems.

34. ***The Code of Practice ensures existing industry standards and practices are maintained without creating new burdens*** - Most of the requirements in the code of practice cross-reference existing standards, frameworks and legislation, so there is little additional burden on industry. Certain practices which industry routinely carries out, such as “system-testing” for solid wall systems and “Conformité Européenne (European Conformity) CE marking”, will be a requirement of the Green Deal. By adopting this approach, and not requiring new testing for every product, we avoid additional costs to manufacturers estimated to be in the region of £24m.
35. ***Green Deal Providers and suppliers will work together to provide the “right” sort of products*** - We have included a new requirement in the Code of Practice to require that Green Deal Providers confirm with their suppliers that the products to be installed in a Green Deal property are a type capable of – or designed to - deliver the level of fuel bill savings estimated for the “measure” during the Green Deal Assessment. Whilst DECC cannot guarantee savings, this will help to increase confidence for consumers and promote the installation of fit for purpose products.
36. ***The provisions in the Code relating to certain risks associated with installations have been strengthened*** - For example, Green Deal Providers must ensure the ventilation requirements are taken into account during installations. We are continuing to work with organisations such as the Sustainable Traditional Buildings Alliance and the Older Properties Working Group to ensure Green Deal assessments and installations are carried out with sensitivity, and specialists are engaged where appropriate. We will provide further specific guidance on how the Green Deal will work for traditional and historic buildings.
37. ***Products installed under the Green Deal will be randomly “spot checked”*** in-situ for compliance with the Code and against manufacturer/GDP performance claims by the Green Deal Oversight Body to ensure that energy savings are being delivered. The Oversight Body will report its findings on an annual basis, including information on the reasons for any underperformance. Depending on the type of problem identified, the results of checks will be addressed by providers or installers (if the issue concerns poor installation). If a problem is particularly severe, the warranties framework may be triggered, or remedial action may be ordered.
38. In light of the above, ***we have removed the formal requirement for manufacturers to confirm compliance with the Code of Practice in writing and to register their products with the Oversight Body*** - We believe that compliance with the Code of Practice is sufficient for product assurance purposes, and will operate alongside other customer protections in the framework including the PAS 2030 and the warranties framework. There is also a significant risk that such a proposal would contravene European Union (EU) laws which set the rules for product testing and certification, and would add an unnecessary cost to entering the Green Deal market.

Links to the ECO

39. During the consultation we proposed that there should be a Carbon Saving Obligation within the ECO which should focus on supporting the installation of solid wall insulation, with other energy efficiency measures eligible to be installed in packages where solid wall was the main measure. We asked whether the Carbon Saving Obligation should include support for properties with Hard to Treat Cavity Walls.
40. We also proposed that any measure which results in a reduction in the notional heating costs to the household could be delivered to low income households under an Affordable Warmth Obligation. We expected that the bulk of measures installed under the Affordable Warmth Obligation will be loft insulation, cavity wall insulation, and heating systems.
41. Many agreed that solid wall insulation (SWI) should take priority under the ECO Carbon Saving obligation, but the overwhelming majority of respondents were also in favour of including other measures. Approximately two thirds of respondents supported the proposal to include hard-to-treat (HTT) cavities under ECO. The majority of respondents were also in favour of the proposal to allow any measure to be installed as part of the Affordable Warmth obligation including boiler repairs. Some respondents, such as consumer groups and local authorities, suggested that more ECO subsidy should be targeted at low income households than was proposed in the consultation.
42. Following views and evidence received in the consultation, Government has decided to introduce a third element of ECO, the Carbon Saving Communities Obligation. This is designed to target insulation measures in low-income communities defined using the bottom 15% of Lower Super Output Areas from the Index of Multiple Deprivation, or equivalent indexes in Scotland and Wales and will require suppliers to deliver 15% of their obligation to low income households in rural areas.
43. To reflect the opinions expressed in response to the consultation, both SWI and hard-to-treat (HTT) cavity wall insulation will be eligible measures under the ECO Carbon Saving obligation.
44. The new Carbon Saving Communities Obligation will target the installation of all insulation measures, including loft and cavity wall insulation to more deprived communities.
45. Where an energy supplier is delivering SWI or HTT cavity insulation under the carbon saving obligation, suppliers will also be able to score further accompanying measures which reduce heat loss from a property, such as loft insulation, glazing and draught proofing.
46. Under the Affordable Warmth Obligation, Government will include boiler repairs as an eligible measure, provided that the obligated supplier making the repair provides a level of aftercare for the household. Suppliers will not be able to score more than 5% of their AW obligation on boiler repairs.

Measures qualifying for the Green Deal and ECO

Green Deal Measures	In ECO (Affordable Warmth)?	In ECO (Carbon Reduction)?	In ECO (Carbon Saving Communities)?
Measures/text in bold were added after the consultation	Low income and vulnerable households identified individually through benefits data (measures which reduce the cost of heating the home)	All households	Homes in defined low income areas.
Green Cells	Always eligible		
Blue Cells	Eligible when delivered as part of a package with solid wall insulation or hard to treat cavity wall insulation		
Red Cells	Never eligible		
Air source heat pumps	Y	N	N
Biomass boilers	Y	N	N
Biomass room heaters (including with radiators)	Y	N	N
Cavity wall insulation	Y	P	Y
Cavity wall insulation (HTT)	Y	Y	Y
Cylinder thermostats	Y	N	N
District heating (not GD)	Y	P	Y (if has LI or CWI)
Draught proofing	Y	P	Y
Duct insulation	N	N	N
Hot water showers (efficient)	Y	N	N
Hot water systems (efficient)	Y	N	N
Hot water taps (efficient)	Y	N	N
External wall insulation systems	Y	Y	Y
Fan-assisted replacement storage heaters	Y	N	N
Flue gas heat recovery devices	Y	N	N
Ground source heat pumps	Y	N	N
Heating controls (for wet central heating system and warm air system)	Y	N	N
Heating ventilation and air-conditioning controls (including zoning controls)	Y	N	N
High performance external doors	Y	P	Y
Hot water controls (including timers and temperature control)	Y	N	N
Hot water cylinder insulation	Y	N	N
Internal wall insulation (of external walls) systems	Y	Y	Y
Lighting systems, fittings and controls (including rooflights, lamps and luminaires)	N	N	N
Loft or rafter insulation (including loft hatch insulation)	Y	P	Y

Mechanical ventilation with heat recovery	N	N	N
Micro combined heat and power	Y	N	N
Micro wind generation	Y	N	N
Pipe-work insulation	Y	(external pipework only)	(external pipework only)
Photovoltaics	N	N	N
Chillers	N	N	N
Gas-fired condensing boilers	Y	N	N
Replacement glazing	Y	P	Y
Oil-fired condensing boilers	Y	N	N
Warm-air units	Y	N	N
Radiant heating	Y	N	N
Roof insulation	Y	P	Y
Room in roof insulation	Y	P	Y
Sealing improvements (including duct sealing)	N	N	N
Secondary glazing	Y	P	Y
Solar water heating	Y	N	N
Solar blinds, shutters and shading devices	N	N	N
Transpired solar collectors	N	N	N
Under-floor heating	Y	N	N
Under-floor insulation	Y	P	Y
Variable speed drives for fans and pumps	N	N	N
Waste water heat recovery devices attached to showers	N	N	N
Water source heat pumps	Y	N	N

Glossary

Code of Practice: Document setting out the criteria that advisors, installers, providers and products and systems must adhere to in order to be allowed to operate under the Green Deal.

Energy Performance Certificate (EPC): Energy Performance Certificates (EPCs) give information on how to make your home more energy efficient and reduce your energy costs. All homes bought, sold or rented require an EPC and they will contain key financial information about the Green Deal.

Golden Rule: The Golden Rule refers to the estimated savings on a customer's energy bill due to the energy efficiency improvements made to the property. In most cases repayment levels will be based on heating bills for the property or the typical energy bills of a similar property. The Green Deal is designed to try to save the customer at least as much money as they will have to repay. However, the actual level of savings will depend on how much energy is used (e.g. to heat your home) and the future cost of energy.

Green Deal Advice Report: Is produced by a Green Deal Advisor and consists of an EPC and occupancy assessment in the domestic sector and a SBEM (or an approved equivalent) Green Deal assessment in the non-domestic sector.

Green Deal Advisor: Only a Green Deal Advisor is authorised to carry out and produce a Green Deal Advice Report, recommendations and provide related advice on the Green Deal to the consumer. A Green Deal Advisor must hold a qualification that meets the standard required by the relevant National Occupational Standards and syllabus and be a registered member of a certification body.

Green Deal Installer: Only an authorised Green Deal Installer can install energy efficiency improvements under the Green Deal finance mechanism and use the Green Deal Mark.

Green Deal Plan: This is the contract that sits between the Green Deal Provider, the improver and the Bill payer (if different at the property). It sets out the financial terms of the agreement (e.g. amount and duration of instalments).

Green Deal Provider: A Green Deal provider provides the finance, arrange for the Green Deal measures to be installed and the point of contact for customer service enquiries after the Green Deal is complete.

Improver: The occupier or owner of a property who makes the arrangement for energy efficiency improvements to be made to the property.

Measures/Improvements: A type of Green Deal eligible energy efficiency improvement made to a property.

Occupancy Assessment: the second part of the Green Deal assessment in the domestic sector. The occupancy assessment considers the energy use of the household and the impact this is likely to have on the standard energy savings predicted by the EPC. It also contains a tailored package of measures based on householders preferences and behavioural information to help households reduce their energy use at no cost.

Product: This is the actual product installed, which must fall within a category of measures.

Property Assessment: An assessment of the property to determine the correct measures that can be installed in the property to improve the energy and thermal performance of the building and ensure eligibility for Green Deal finance. An assessment is carried out by an authorised Green Deal assessor.

System: A measure or product which is made up of component parts which is often constructed or put together on or off-site, such as External Wall Insulation systems.

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