



Research into quality assurance in energy efficiency and low carbon schemes in the domestic market

Final report

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Table of contents

Executive summary	8
1. Introduction	14
1.1 Background to the research.....	14
1.2 Research objectives	15
1.3 Methodology.....	15
1.4 Report structure.....	19
2. The current landscape of domestic energy efficiency and low carbon	20
2.1 Introduction	20
2.2 Relevant energy efficiency and low carbon schemes and initiatives and their quality assurance mechanisms	21
2.3 Other mechanisms underpinning quality assurance applicable for domestic energy efficiency and low carbon	59
2.4 How the quality assurance framework fits together	78
3. Issues with quality assurance in the domestic energy efficiency market	81
3.1 Introduction	81
3.2 A highly complex landscape.....	81
3.3 Lack of one central body with overarching responsibility and accountability	83
3.4 Gaps in consumer protection.....	87
3.5 Certification bodies.....	88
3.6 Accreditation process	90
3.7 Guarantees and warranties	92
3.8 Standards for installers	96
3.9 Lack of impartiality.....	98
3.10 Audit.....	101
3.11 Flaws in assessment tools and methodology	104
3.12 Training and competence	106
3.13 Risks and potential consequences for consumers.....	112
4. Conclusions and recommendations	115
4.1 Conclusions	115
4.2 Recommendations.....	124
Bibliography	127

List of figures

Figure 1: Summary of core actions required to improve quality assurance and therefore achieve better consumer protection	11
Figure 2: Respondents to the Call for Evidence, by type of response	17
Figure 3: Respondents to the Call for Evidence, by nation.....	17
Figure 4: Respondents to the Call for Evidence, by categories that best describe them	18
Figure 5: Green Deal process	22
Figure 6: Hierarchy of Green Deal organisations.....	23
Green Deal Home Improvement Fund.....	33
Figure 7: Hierarchy of Energy Company Obligation (ECO) organisations.....	36
Figure 8: Hierarchy of Microgeneration Certification Scheme organisations	39
.....	40
Figure 9: Delivery process for Arbed 2 and quality assurance for consumers	55
Figure 10: Respondent views on the fitness of purpose of guarantees and warranties	92
Figure 11: Respondent views on the fitness of purpose of manufacturer kite marks	94
Figure 12: Respondent views on the fitness of purpose of the Green Deal Home Improvement Fund	101
Figure 13: Customer journey showing potential consumer protections and risks within the quality assurance framework for Green Deal.....	118
Figure 14: Customer journey showing potential consumer protections and risks within the quality assurance framework for ECO	119
Figure 15: Customer journey showing potential consumer protections and risks within the quality assurance framework for MCS.....	120
Figure 16: Customer journey showing potential consumer protections and risks within the quality assurance framework for HEEPS.....	121
Figure 17: Customer journey showing potential consumer protections and risks within the quality assurance framework for Arbed 2	122
Figure 18: Customer journey showing potential consumer protections and risks within the quality assurance framework for Nest.....	123

List of tables

Table 1: Summary of key research findings.....	10
Table 2: Research recommendations	11
Table 3: Respondents to the in-depth telephone interviews	19
Table 4: Overview of the main Government domestic energy efficiency and low carbon schemes in England, Scotland and Wales.....	20
Table 5: Green Deal organisations, their functions and role in the quality assurance framework.....	24
Table 6: Green Deal Quality Assurance framework processes and procedures.....	28
Table 7: GDHIF organisations, their functions and role in the quality assurance framework.....	34
Table 8: Energy Company Obligation organisations and their roles in the quality assurance framework.....	36

Table 9: Energy Company Obligation quality assurance framework processes and procedures.....	38
Table 10: MCS organisations, their functions and role in the quality assurance framework.....	41
Table 11: Microgeneration Certification Scheme Quality Assurance framework processes and procedures	44
Table 12: HEEPS organisations, their functions and role in the quality assurance framework.....	54
Table 13: Arbed organisations, their functions and role in the quality assurance framework	56
Table 14: Nest organisations, their functions and role in the quality assurance framework.....	58
Table 15: UK Competent Person Schemes and the organisations involved	62
Table 16: Organisations involved in the quality, certification and kite marks.....	69
Table 17: Organisations involved in guarantees and warranties.....	75
Table 18: Main quality assurance framework mechanisms, Green Deal, ECO and MCS.....	79
Table 19: Main quality assurance framework mechanisms, HEEPS, Arbed 2 and Nest	80
Table 20: Reasons for ratings of usefulness for PAS 2030	97
Table 21: Reasons for ratings of usefulness of the Level 3 Diploma in Green Deal Advice based on National Occupational Standards (NOS)	107
Table 22: Reasons for ratings of usefulness for Common Minimum Technical Competencies (CMTCs)	108
Table 23: Reasons for ratings of usefulness for the Competent Persons Scheme	111

Glossary

ABS	Area Based Scheme
APHC	Association of Plumbing and Heating Contractors
BBA	British Board of Agrément
BESCA	Building Engineering Services Competence Association
BINDT	British Institute of Non-Destructive Testing
BRE	Building Research Establishment
BREEAM	Building Research Establishment Environmental Assessment Methodology
BSI	British Standards Institution
CCA	Consumer Credit Act
CCL	Climate Change Levy
CERT	Carbon Emission Reduction Target
CESP	Community Energy Savings Programme
CIGA	Cavity Insulation Guarantee Agency
CITB	Construction Industry Training Board
CMTC	Common Minimum Technical Competencies
CPD	Continuing Professional Development
CPS	Competent Persons Scheme
CRC	Carbon Reduction Commitment
CWIS	Cavity Wall Insulation Systems
CWISC	Cavity Wall Insulation Self Certification scheme
DAWWI	Deposit and Workmanship Warranty Insurance Scheme
DCLG	Department of Communities and Local Government
DECC	Department of Energy and Climate Change
ECA	Electrical Contractors Association

ECO	Energy Company Obligation (commenced in January 2013)
ECO 2	The second phase of the obligation period (1 st April 2015 – 31 st March 2017)
EIA	Environmental Impact Assessment
EPC	Energy Performance Certificate
ESO	European Standards Organisation
EST	Energy Saving Trust
FCA	Financial Conduct Authority
FENSA	Fenestration Self-Assessment scheme
FIT	Feed-In Tariff
GD ORB	Green Deal Oversight and Registration Body
GDA	Green Deal Advisor
GDAO	Green Deal Assessor Organisation
GDAR	Green Deal Advice Report
GDFC	Green Deal Finance Company
GDHIF	Green Deal Home Improvement Fund
GDP	Green Deal Provider
GGF	Glass and Glazing Federation
HEEPS	Home Energy Efficiency Programmes for Scotland
HIES	Home Insulation & Energy Systems Quality Assured Contractors Scheme
HETAS	Heating Equipment Assessment and Approval Scheme
IEMA	Institute of Environmental Management and Assessment
ISO	International Organisation for Standardisation
LABC	Local Authority Building Control
MCS	Microgeneration Certification Scheme
MIS	Microgeneration Installation Standard

NICEIC	National Inspection Council for Electrical Installation Contracting
NOS	National Occupational Standards
NVQ	National Vocational Qualification
OA	Occupancy Agreement
OFGEM	Office of Gas and Electricity Markets
OFTEC	Oil Firing Technical Association
PAS	Publicly Available Specification
PCN	Personnel Certification in Non-Destructive Testing
QANW	Quality Assured National Warranties
QCF	Qualifications and Credit Framework
QMS	Quality Management System
RdSAP	Reduced Data Standard Assessment Procedure
REAL	Renewable Energy Assurance Limited
RECC	Renewable Energy Consumer Code
REIGA	Renewable Energy Installation Guarantee Agency
REW	Resource Efficient Wales
RHI	Renewable Heat Incentive
RHPP	Renewable Heat Premium Payment
SAP	Standard Assessment Procedure
SQCF	Scottish Qualifications and Credit Framework
SWIGA	Solid Wall Insulation Guarantee Agency
SVQ	Scottish Vocational Qualification
UKAS	United Kingdom Accreditation Service
UK LPG	Trade association for the Liquefied Petroleum Gas industry in the UK

Executive summary

Overview of the research

The drive to improve energy efficiency in domestic homes has gained momentum in recent years, propelled by a mix of legislation and incentivised schemes to encourage consumers to reduce their energy consumption and become more energy efficient.

The main benefits include:

For consumers:

- ✓ Home is more comfortable
- ✓ Home is cheaper to run

For policy-makers:

- ✓ Helps to tackle climate change
- ✓ Contributes to reduction of fuel poverty
- ✓ Helps to achieve national energy efficiency and carbon reduction targets

A more energy efficient home is typically achieved through the installation of measures such as boilers and cavity or solid wall insulation. To deliver the energy savings for the consumer as well as contribute towards the high-level strategic policy goals, such measures must be:

- Appropriate for the property
- Installed correctly

If either of these criteria are not fully satisfied, not only are Government policy objectives compromised, but also the consumer is potentially at risk of suffering financial and/or emotional detriment as a result of problems in the home, something issues raised by Citizens Advice clients demonstrate, which may take a number of years to come to light.

The Citizens Advice Service therefore commissioned this research to assess the strengths and weaknesses of quality assurance in the domestic energy efficiency and low carbon market, identify the issues, and understand what needs to change in order to strengthen the quality assurance landscape for consumers.

This report is based on primary evidence gathered from a range of individuals and organisations currently operating in the market in England, Scotland and Wales, combined with secondary desk-based research to map the relevant organisations and their quality assurance functions. The main focus of the work was on the principal Government schemes and initiatives in the domestic energy efficiency and low carbon market, namely:

Name	Description	Geographical coverage
Green Deal	A financing mechanism enabling a range of energy efficiency measures to be installed in domestic homes and businesses at no upfront cost, following an energy assessment. Finance is paid back through anticipated savings on fuel bills resulting from their installation.	England, Scotland and Wales
Energy Company Obligation (ECO)	Government scheme which obligates larger energy suppliers to deliver energy efficiency measures to domestic premises in Great Britain.	England, Scotland and Wales
Microgeneration Certification Scheme (MCS)	Industry-led quality assurance scheme that certifies microgeneration products and installation companies against a set of installer standards and product scheme requirements.	England, Scotland and Wales
Home Energy Efficiency Programmes for Scotland (HEEPS)	A Scottish Government initiative with an objective to tackle fuel poverty and increase energy efficiency in homes. Local authorities fund the installation of energy efficiency technologies and measures for households in their local area.	Scotland
Arbed	A Welsh Government programme that undertakes retrofit area-based schemes across Wales, with an objective to improve energy efficiency in homes, reduce fuel bills and contribute to the alleviation of fuel poverty.	Wales
Nest	A Welsh Government demand-led fuel poverty scheme, aimed at helping to reduce the number of households in fuel poverty and make Welsh homes warmer and more energy-efficient.	Wales

Key findings and conclusions

Table 1 presents a summary of the main research findings, and the implications for the consumer, which indicate that there is no guarantee that work will be ‘right first time’, with the risk consumers potentially experience financial and emotional detriment as a result.

Table 1: Summary of key research findings

Complexity	Issues with assessment and certification	Issues with guarantees and warranties	Audit, standards and training	Devolved nations approach
Multiple schemes, particularly in England with plethora of quality assurance ‘badges’ e.g. Quality Mark, Code of Practice rather than one overarching standard that consumers easily recognise eg GasSafe	Assessments typically underpinned by Energy Performance Certificates (EPCs) not designed for energy efficiency schemes, thus may mislead about the potential for energy and costs savings	Existing range of guarantees and warranties do not offer universal coverage across all energy efficiency measures. Inconsistencies in requirement for guarantees and/or warranties between schemes	Audits do not always focus on quality of assessment and advice, but on carbon savings achieved (particularly for ECO). Installations for audit can be ‘cherry-picked’ rather than randomly sampled	Area-based approach (a component of some schemes) means fewer organisations involved in scheme delivery and easier for consumers to understand who to contact and how to seek redress
Range of organisations that ‘own’/manage schemes or have a role in the quality assurance landscape, particularly in England, which are not fully ‘joined up’	Inconsistent approach in certifying installers to PAS 2030, with no requirement for installers to demonstrate a previous track record, thus standard of quality can vary	Consumers not always made aware of exclusion clauses and caveats within guarantees and warranties which may undermine their value and, in some cases, render them void	Audits are not driven by risk, do not incorporate longer-term monitoring and do not share results between organisations to identify industry-wide failures	Clear responsibility allocated to a small number of organisations responsible for quality assurance. Impartial assessment not linked to recommendation of measures
No one overarching body with responsibility for quality assurance in energy efficiency eg energy efficiency/low carbon Ombudsman	Multiple certification bodies but little information sharing – scope for rogue traders to register with a new body to continue operating	No universal requirement for insurance-backed guarantees to protect consumers if companies undertaking their work go into administration	PAS 2030 not deemed sufficiently robust enough as the main technical standard for energy efficiency work,	More stages in the assessment process including multiple checks to ensure proposed measures are suitable for installation in properties
Lack of impartiality in Green Deal infrastructure creates scope for mis-selling measures that may be inappropriate	Limited powers available to certification bodies, able to remove certification but not enforce redress for consumers	Warranties typically underpinned by PAS 2030 but not considered sufficiently robust as a quality standard	Inconsistency in levels and quality of training for assessors and installers, risk they are not fully competent	Stronger audit and aftercare regime, particularly in Wales (100% of properties inspected plus longer-term monitoring)
Difficult for consumer to understand ‘what good looks like’ and make decisions based on impartial advice	Weak links allow for inconsistency in the quality of installations and scope for rogue traders to operate	Guarantees and warranties may not be fully fit for purpose, risk that consumers not adequately protected	Risk that quality issues arising from sub-standard work take a long time to be identified due to limitations of audit	A more streamlined approach which reduces risk for consumers who are better informed and protected

Research recommendations

Recommendations for the Citizens Advice Service are presented within the following categories summarised in Figure 1, explained in detail in Table 2:

Figure 1: Summary of core actions required to improve quality assurance and therefore achieve better consumer protection

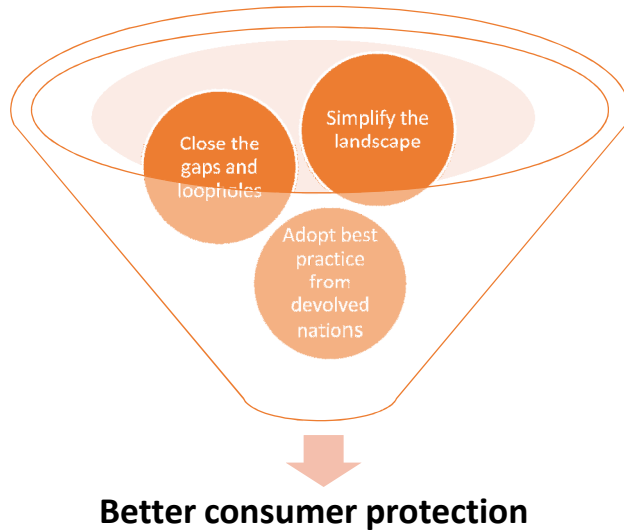


Table 2: Research recommendations

Simplify the quality assurance landscape	Close the gaps and loopholes in the quality assurance framework	Learn from best practice of devolved nation schemes
Advocate for the UK Government to explore transferring responsibility and accountability of all energy efficiency related schemes and mechanisms managed by multiple departments, into one	Advocate for the UK Government to put in place a risk-driven audit regime including information sharing of audit results, auditing of quality of advice/assessment as well as installations, and a	Consider how best practice in the Scottish and Welsh schemes might be incorporated into Great Britain-wide initiatives, notably Green Deal, ECO and MCS, with particular attention given to:

<p>department (likely to be DECC)</p>	<p>requirement for longer-term monitoring to identify problems that may emerge over time¹</p>	<ul style="list-style-type: none"> - decoupling advice and assessment from recommendation of measures - improving information given to consumers about guarantees and warranties - improving aftercare and incorporating longer-term monitoring (for example technical inspections take place a year after the work was completed for Arbed 2)
<p>Advocate for UK and national Governments the creation of one² energy efficiency and low carbon framework that integrates quality assurance with technical operating standards, and includes a process for customers to make complaints and seek redress. This could include guidance for certification bodies in setting and enforcing quality standards, dealing with non-compliance of assessors and installers, a requirement for insurance-backed guarantees³ and for consumers to receive independent financial advice for applicable schemes such as the Green Deal</p>	<p>Consider how the PAS 2030 could be strengthened as the main technical standard for energy efficiency work. This is likely to require clearer wording to reduce the scope for ambiguity and inconsistent interpretation, plus stronger consumer protection through reference to high quality product warranties and insurance-backed guarantees (see below)</p> <p>The Financial Conduct Authority (FCA) should set one core standard for robust high quality guarantees and warranties for energy efficiency and low carbon work</p>	<p>Increasing the sample size for audit/inspection to 100% as it is for the Welsh schemes, may be too cost prohibitive, and may require further research to identify potential funding streams</p>
<p>Advocate for The UK Government to create a single Ombudsman to cover energy efficiency and low carbon, considering how this would fit in with the wider redress landscape⁴</p>	<p>Advocate for the UK Government to incorporate stronger consumer protection into ECO, notably offering some form of redress for consumers where sub-standard work is carried out. For future schemes, this should be extended to the Scottish Government designing schemes in Scotland</p>	<p>A regular programme of mystery shopping across all schemes in scope of this research, focusing particularly on the advice and assessment component which at present is under-represented at audit in England schemes but is more comprehensively addressed in the devolved nations</p>
<p>Develop a guidance document and checklist for</p>	<p>Advocate for assessors and installers to require on-</p>	

¹ Determining the most appropriate time frame for longer-term monitoring may require further specialist technical input

² Further discussion/research may be required to consider whether this should be Great Britain-wide or whether there should be one framework per nation

³ This is already being addressed for MCS

⁴ Further discussion may be required to consider whether this should be Great Britain-wide or whether there should be one organisation per nation

consumers that will help identify potential problems with assessment and installation processes, including aspects to look for such as Quality Mark 'badges'

going CPD and for minimum entry criteria and a minimum number of Guided Learning Hours (GLH), in order to drive up quality of training provision

1. Introduction

1.1 Background to the research

Research context

The international climate change treaty ratified in Kyoto in 1997 has been a catalyst for UK Government strategy to reduce carbon emissions and increase energy efficiency. Core objectives were established in 2009 to reduce the level of carbon emissions from a 1990 base by at least 22 per cent by 2012, 33 per cent by 2020 and 80 per cent by 2050⁵.

Governments across the UK are driving the agenda through a mix of legislation and incentivised schemes to encourage home owners to insulate and reduce their energy footprint – mainly through more efficient heating systems and replacing some electricity usage with home-produced electricity from solar PV/wind.

The Energy Act 2011 provided for the launch of the Green Deal, which alongside the Energy Company Obligation, formed the Coalition Government's new approach for improving the energy efficiency of households and non-domestic properties in Great Britain.

The role of the Citizens Advice

The Citizens Advice service provides free, confidential and impartial advice to help people resolve their problems. The Citizens Advice service represents the interests of consumers across the essential regulated industries, including energy, using robust evidence in order to influence critical policy decisions and interventions to support changes where necessary. Citizens Advice Scotland, with a 61 member bureaux and consumer helpline together form Scotland's largest independent advice network. Citizens Advice Scotland supports consumers to solve problems and campaigns for change where this is needed.

A need for better understanding of the quality assurance framework in energy efficiency

Installing energy efficiency measures in domestic homes can help consumers reduce their energy consumption and save money on their energy bills. Improving energy efficiency of the housing stock is also crucial to combatting fuel poverty and achieving carbon emission reduction targets. However if the energy efficiency measures are not appropriate for the home, or are not installed correctly, the end result can be long-term problems for the consumer, as well as failing to deliver anticipated cost or energy savings. If such issues persist, they contribute to a general lack of trust among consumers, which can undermine the market and the aims of government policy in this area.

⁵ HM Government (2011) The Carbon Plan: Delivering our low carbon future
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47613/3702-the-carbon-plan-delivering-our-low-carbon-future.pdf Devolved nations set their own targets

This research has been prompted by the complexity of the quality assurance landscape across Government energy efficiency and low carbon schemes. The Citizens Advice Service has concerns that the range of quality marks, approaches to certification, organisations, warranties and standards are difficult for consumers and businesses to understand and navigate. The Citizens Advice Service is also aware of concerns in some parts of the market that the quality assurance landscape may not be delivering high quality assessments and installation.

1.2 Research objectives

The Citizens Advice Service is seeking evidence of what does, and what does not, work in terms of quality assurance in the domestic energy efficiency market. The main objective of this research is to gain an understanding of the strengths and weaknesses of the wider landscape and infrastructure specific to quality assurance underpinning consumer protection⁶. As feedback to date has been predominantly anecdotal, a robust evidence base is now required in order to gain a full and comprehensive understanding of the issues.

This translates into three core objectives:

1. To map the domestic energy efficiency and low carbon market, key schemes and initiatives including the organisations involved, their roles and systems in place for consumer protection in terms of quality assurance frameworks and processes to ensure their full implementation;
2. to identify issues and problems within the energy efficiency and low carbon market in the context of quality assurance frameworks and the delivery of quality; and
3. to provide recommendations for best practice in quality assurance based on the assessment and gap analysis of strengths and weakness of the current market and quality assurance frameworks.

1.3 Methodology

1.3.1 Definition of quality assurance in this context

For the purpose of this research, the Citizens Advice Service defines quality assurance as:

Appropriate standards, processes and organisations that are in place to minimise the risk to the consumer of sub-standard energy efficiency and low carbon assessments or installations that results in some form of detriment – for example personal distress, harm or financial loss.

⁶ Additionally the Citizens Advice Service has commissioned a review of the adequacy of energy advice and redress

1.3.2 Summary of research methodology

The research sought to capture the knowledge and understanding of individuals and organisations currently operating in the market and have knowledge of the technical issues related to quality of installation and how the current framework of standards are working - or not working - in practice.

This research has predominantly used a qualitative approach, combining secondary data collated and assessed through desk-based research, with primary data gathered through an online call for evidence and in-depth telephone interviews. Given this broadly qualitative approach, there was no expectation of a comprehensive and statistically representative sample of the population; however the evidence gathered via this approach enabled the research to obtain a wide-ranging reflection of key market participants in relation to their role, size, geographic and technology coverage, and involvement in different Government energy efficiency and low carbon schemes.

Desk-based research has mapped the organisations and quality assurance functions associated with the domestic energy efficiency and low carbon market, as well as identifying a number of key research questions about potential issues in the landscape. Analysis of the secondary data was used to design a comprehensive call for evidence document, which sought responses from:

- Energy efficiency installers and assessors
- Green Deal accredited installers, assessors and providers
- energy supply companies particularly those obligated under the Energy Company Obligation (ECO)
- energy efficiency certification bodies
- manufacturers or guarantee/warranty providers of energy efficiency schemes or measures
- Government bodies and local authorities
- professional, trade and employer representative bodies and
- consumer protection bodies

The call for evidence was launched online on 17th December 2014, and ran for 6 weeks until 28th January 2015. The call for evidence enabled information to be gathered from a wide range of stakeholders in the most timely and cost-efficient way, and provided insight into the range and type of issues occurring in the market.

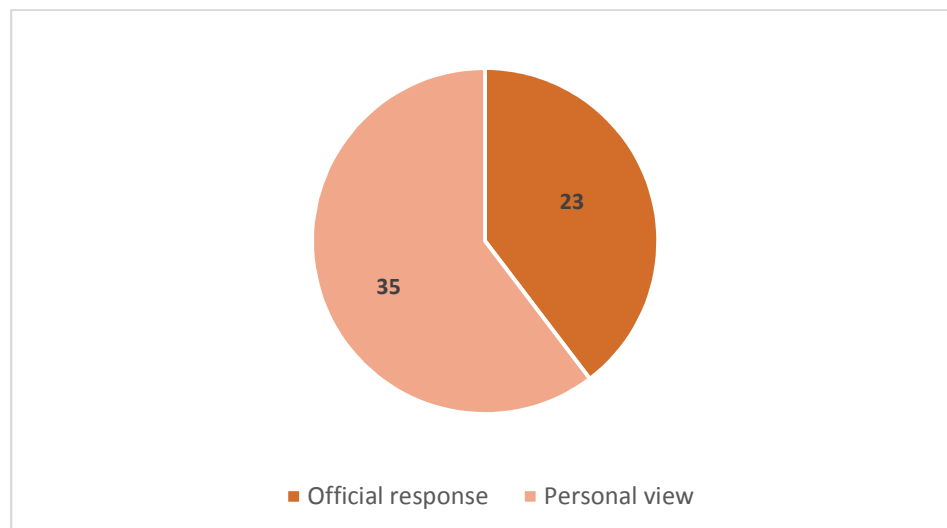
Building upon this evidence base, in-depth, targeted telephone interviews were used to explore emerging issues in greater depth, including what actions might be taken to simplify or improve the landscape of quality assurance.

1.3.3 Profile of research respondents

The call for evidence received a total of 58 responses, of which just over 60 per cent represented individual, personal views, with the remainder being official responses representing an

organisation (Figure 2).

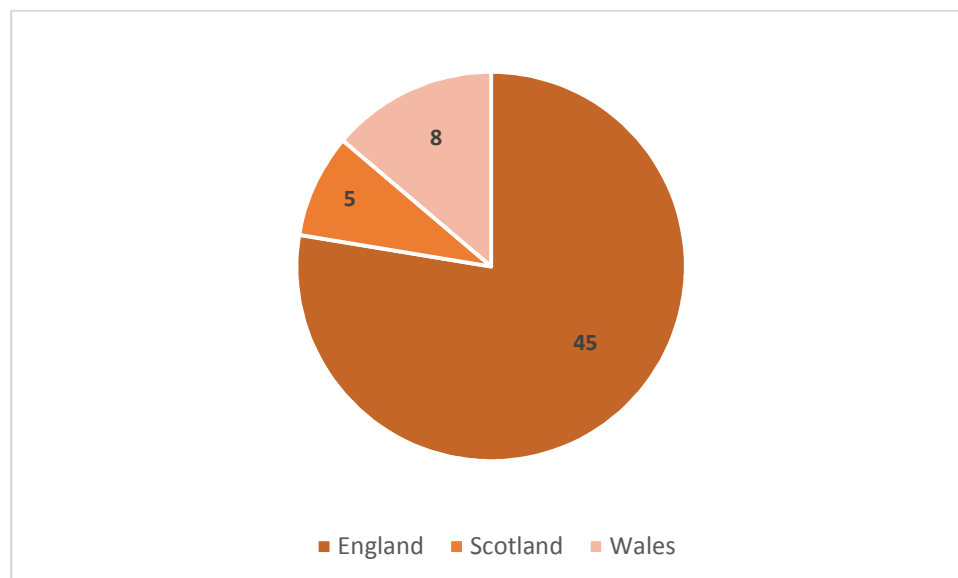
Figure 2: Respondents to the Call for Evidence, by type of response



Base 58

The majority of respondents (78.9 per cent) are based in England, with the remainder in Scotland (8.8 per cent) and Wales (12.3 per cent) (Figure 3).

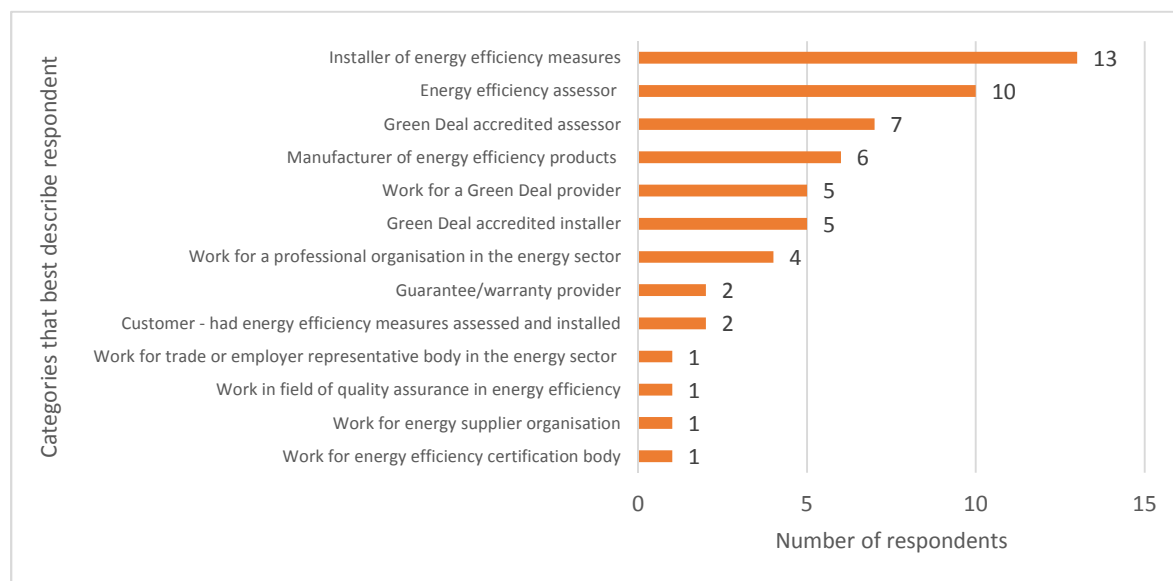
Figure 3: Respondents to the Call for Evidence, by nation



Base 57

The majority of responses were submitted by energy efficiency installers and assessors (Figure 4). Respondents predominantly represented energy efficiency rather than low carbon (20 per cent of respondents); however it should be noted that in the interest of having a holistic approach the latter was included in scope, the main emphasis of the research was intended to be on energy efficiency.

Figure 4: Respondents to the Call for Evidence, by categories that best describe them



Base 58

It should be noted that the energy supplier organisations targeted were those that are obligated i.e. undertaking work under the Energy Company Obligation (ECO).

Telephone depth interviews were undertaken with a sample of 21 respondents able to comment about schemes in England, Scotland and Wales, from the following respondent categories based on criteria as stated in Table 3 below.

Table 3: Respondents to the in-depth telephone interviews

Respondent category ⁷	Selection criteria	Number of interviews
Installer of energy efficiency measures	One organisation represented a wider network of installers and was thus able to present a broader perspective Other respondents were selected to probe for additional detail about the range of key emerging themes	4
Energy efficiency assessor	To probe for additional detail about the range of key emerging themes	3
Energy supplier organisation	Obligated suppliers selected to probe for additional detail about ECO and audit emerging themes	2
Certification body	To gain more detail/clarity about issues relating to certification body roles	2
Guarantee/warranty provider	To seek additional detail about emerging themes on guarantees and warranties	2
Professional organisation in the energy sector	To gain additional input and clarification about emerging themes	3
Providers/managers of energy efficiency schemes in scope of the research	To probe for further detail in relation to quality assurance for specific schemes	5
TOTAL		21

1.4 Report structure

As the infrastructure of the domestic energy efficiency and low carbon market is so complex, with a wide range of organisations and schemes/initiatives, this report begins with a description of the current landscape, and how it fits together, in Chapter Two.

Chapter Three then presents the research findings in relation to what is working well, and the shortcomings of the quality assurance framework, as well as aspects that respondents consider need to change or be improved.

Chapter Four presents the research conclusions and recommendations.

⁷ Please note, a number of individuals were contacted to take part in a telephone interview that had not previously responded to the call for evidence, to seek additional detail/clarity that could not be obtained from the respondents to the online call for evidence

2. The current landscape of domestic energy efficiency and low carbon

2.1 Introduction

This chapter presents a summary of the main Government schemes and initiatives within the domestic energy market, including the organisations responsible for their management and quality assurance processes and procedures. An overview of these is provided in Table 4 below.

This is supplemented by information about other mechanisms that should help to underpin quality assurance and consumer protection for domestic energy efficiency assessments and installations. Mostly these explicitly relate to energy efficiency measures and products, however other generic consumer protections are also described, as these may play a role in assuring quality.

A summary of how these different schemes and quality assurance mechanisms operate as a whole in the domestic market is presented at the end of this chapter.

Table 4: Overview of the main Government domestic energy efficiency and low carbon schemes in England, Scotland and Wales

Scheme name	Scheme description	Geographical coverage
Green Deal	A financing mechanism enabling a range of energy efficiency measures to be installed in domestic homes and businesses at no upfront cost. Finance is paid back through anticipated savings on fuel bills resulting from their installation.	England, Scotland and Wales
Energy Company Obligation (ECO)	Government scheme which obligates larger energy suppliers to deliver energy efficiency measures to domestic premises in Great Britain.	England, Scotland and Wales
Microgeneration Certification Scheme (MCS)	Industry-led quality assurance scheme that certifies microgeneration products and installation companies against a set of installer standards and product scheme requirements.	England, Scotland and Wales
Home Energy Efficiency Programmes for Scotland (HEEPS)	A Scottish Government initiative with an objective to tackle fuel poverty and increase energy efficiency in homes. HEEPS is a cluster of programmes. The	Scotland

	focus in this report is on the Area-Based Schemes. Under these, local authorities fund the installation of energy efficiency technologies and measures for households in their local area.	
Arbed	A Welsh Government programme that undertakes retrofit area-based schemes across Wales, with an objective to improve energy efficiency in homes, reduce fuel bills and contribute to the alleviation of fuel poverty.	Wales
Nest	A Welsh Government demand-led fuel poverty scheme, aimed at helping to reduce the number of households in fuel poverty and make Welsh homes warmer and more energy-efficient.	Wales

2.2 Relevant energy efficiency and low carbon schemes and initiatives and their quality assurance mechanisms

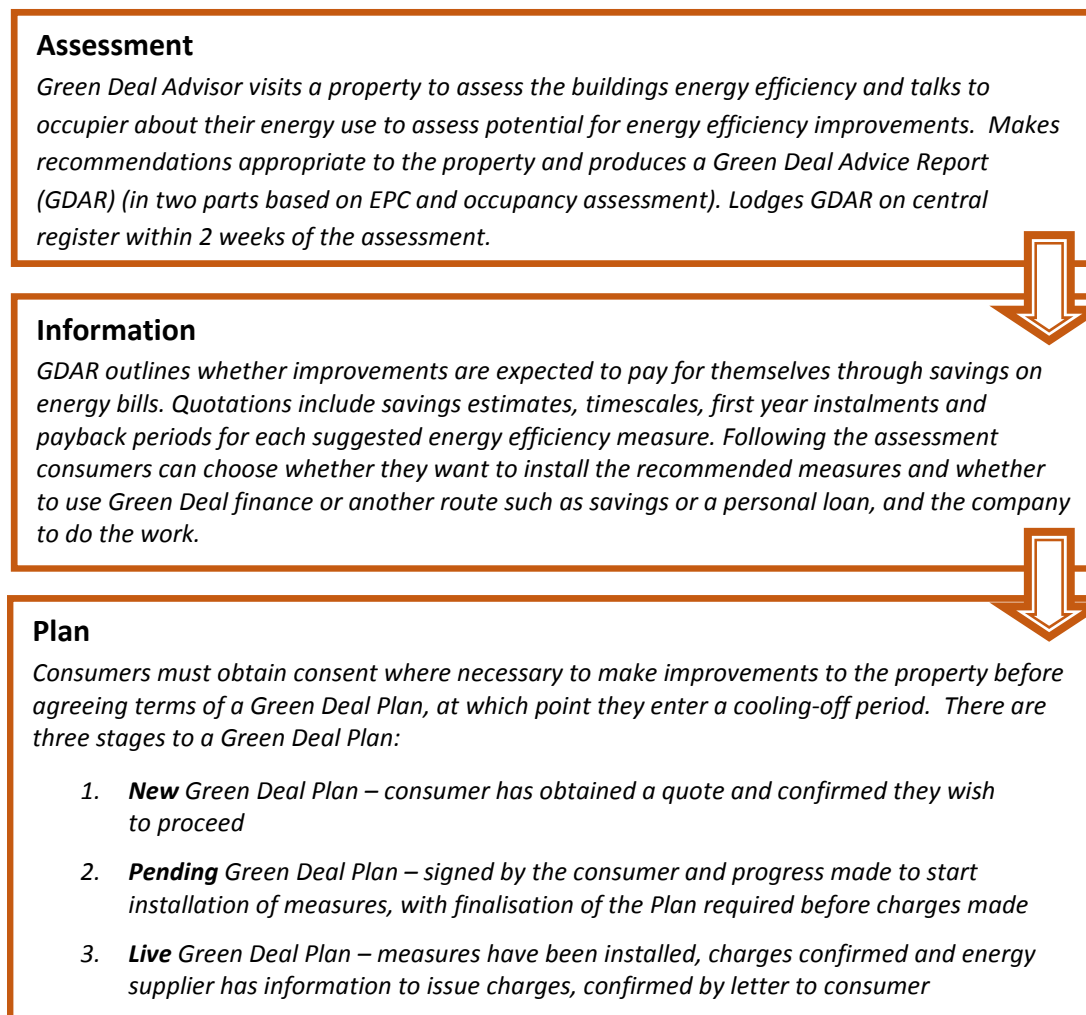
2.2.1 Green Deal

The Green Deal, launched in January 2013, established a new financial mechanism to permit a range of measures, such as insulation, heating or lighting, to be installed in people’s homes and businesses at no upfront cost. Householders are able to obtain finance to fund appropriate energy efficiency measures through the Green Deal, paid back through the anticipated savings on fuel bills resulting from their installation. Actual cash savings cannot be guaranteed, since only building users are able to control how much energy they actually consume.

Properties are only eligible for the Green Deal if they meet the Golden Rule – financial savings must be equal to or greater than the cost of repayment over the term of the Green Deal Plan.

The Green Deal process is summarised in Figure 5 below:

Figure 5: Green Deal process



A wide range of organisations are involved in the delivery of the Green Deal. These organisations are shown as a hierarchical structure in Figure 6. The remit of each of these organisations is explained in Table 5, which also includes a summary of the functions that are in place in relation to quality assurance and consumer protection. Table 6 then explains the quality assurance framework for Green Deal in more detail.

Figure 6: Hierarchy of Green Deal organisations

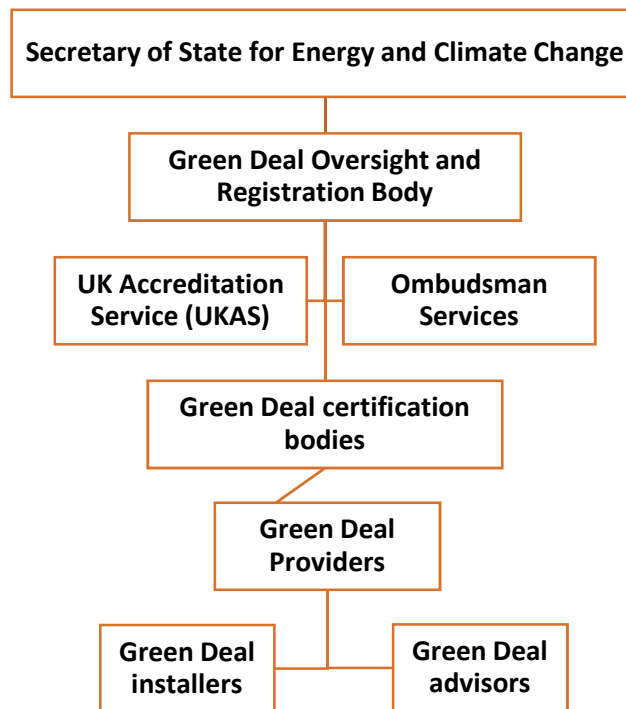


Table 5: Green Deal organisations, their functions and role in the quality assurance framework

Organisation	Role and responsibility
Department for Energy and Climate Change (DECC) ^{8 9 10}	<ul style="list-style-type: none"> • Issues the Green Deal Code of Practice • Sets out the standards for Green Deal installations • Imposes sanctions on offending participants and certification bodies
Green Deal Oversight and Registration Body (GD ORB) ^{11 12}	<ul style="list-style-type: none"> • Manages and monitors: <ul style="list-style-type: none"> ▪ audits of certification bodies ▪ participants' performance and compliance with the Code of Practice, and gathers evidence of any non-compliance ▪ an independent appeals process to respond to breaches of the Green Deal Code of Practice ▪ the use of the Green Deal • Additional roles: <ul style="list-style-type: none"> ▪ advises Department for Energy and Climate Change, or the Ombudsman, on the Green Deal Code of Practice and on actions to strike-off offending accreditation schemes, certification bodies and individual participants where appropriate ▪ ensures UK Accreditation Service (UKAS) and certification bodies operate clear monitoring strategies ▪ controls the use of the Green Deal Quality Mark ▪ maintains a register of accredited Green Deal providers, installers and assessors ▪ produces an annual Green Deal report ▪ imposes sanctions on participants when necessary
UK Accreditation Service (UKAS) ¹³	<ul style="list-style-type: none"> • Accredits Green Deal certification bodies to deliver Government developed and authorised certification schemes
Renewable Energy Assurance Limited (REAL) ¹⁴	<ul style="list-style-type: none"> • Sub-contracted by Gemserv Ltd to monitor the Green Deal

⁸ Department of Energy and Climate Change (23 June 2014) *Green Deal Code of Practice (version 4)*

⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/66666/3745-role-green-deal-oversight-body.pdf
Accessed: 21/11/14

¹⁰ Department of Energy & Climate Change (November 2012) *Government response to: 'Home insulation: a report on the call for evidence to be carried out by the OFT'*

¹¹ Department of Energy and Climate Change (23 June 2014) *Green Deal Code of Practice. (version 4)*

¹² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/66666/3745-role-green-deal-oversight-body.pdf
Accessed: 21/11/14

¹³ http://www.aphc.co.uk/certification_schemes.asp Accessed: 24/11/14

¹⁴ Renewable Energy Assurance Limited. *About Us*. www.renewableenergyassurance.org.uk/about [latest access: 01/04/2015]

	Code of Practice
Ombudsman services¹⁵	<ul style="list-style-type: none"> • Where a Green Deal Plan is in place: <ul style="list-style-type: none"> ▪ Has a remit to resolve complaints (of up to 6 years in the past) from consumers if a Green Deal provider is unwilling or unable to provide assistance in the case of something going wrong with a Green Deal Plan
Green Deal participants and certification bodies¹⁶	<ul style="list-style-type: none"> • Ensure the competence of staff, agents, contractors or subcontractors to work in line with the Green Deal Code of Practice and Publically Available Specification (PAS 2030): <ul style="list-style-type: none"> ▪ on-site visits are carried out to audit the installation service delivery (minimum of 1 per cent per annum, or a minimum of 1) ▪ check training and qualification records of employees and sub-contractors to ensure they meet PAS 2030 ▪ check with Green Deal providers that the installer meets consumer service and other requirements stipulated by the Green Deal Code of Practice ▪ check that installers operate a complaints procedure and procedures to offer the correct responses to consumers. • Required to: <ul style="list-style-type: none"> ▪ be accredited by the UK Accreditation Service (UKAS) (certification bodies only) ▪ make available a copy of the Green Deal Code of Practice to any person upon request ▪ co-operate with relevant ombudsman services investigating complaints, information requested as part of a redress on behalf of a Green Deal consumer ▪ inform the Green Deal Oversight and Registration Body if in receipt of a sanction by the Secretary of State for Energy and Climate Change • Are permitted to use the Green Deal Quality Mark on any documentation or marketing materials pertaining to the Green Deal
Green Deal assessors and assessor organisations¹⁷	<ul style="list-style-type: none"> • Ensures Green Deal advisors comply with the Green Deal

¹⁵ <http://www.ombudsman-services.org/green-deal.html> Accessed: 21/11/14

¹⁶ Department of Energy and Climate Change (23 June 2014) *Green Deal Code of Practice. (version 4)*

¹⁷ <https://www.gov.uk/green-deal-energy-saving-measures>

	<p>Code of Practice</p> <ul style="list-style-type: none"> • Lodges Green Deal assessments in the Landmark Register • Required to: <ul style="list-style-type: none"> ▪ meet and comply with the Green Deal Code of Practice ▪ make it clear whether they are authorised for domestic, non-domestic, or both types of property assessment
<p>Green Deal providers^{18 19}</p>	<ul style="list-style-type: none"> • Provide consumers with a Green Deal plan based upon recommendations from an accredited assessor organisation. • Pay for installation costs of products and systems under the Green Deal via a loan (providers recoup this money from energy suppliers who add the charges to the consumer’s electricity bill) • Arrange for the installation of the agreed products and systems through an authorised Green Deal installer • Provide Green Deal specifications to the installer • Equip installers with handover instructions • Maintains a contractual relationship with the consumer • Ensures all work²⁰: <ul style="list-style-type: none"> ▪ is notifiable under the Building Regulations 2010, or must hold a building warrant prior to work being undertaken (Scotland only) ▪ receives necessary building control approval i.e. completion certificate from a Local Authority ▪ receives a final certificate from an approved instructor or a compliance certificate if work was self-certified under an Authorised Competent Person Scheme <p>Required to sign-up to the Ombudsman Service Scheme²¹.</p>
<p>Green Deal installers²²</p>	<ul style="list-style-type: none"> • Install one or more energy efficiency improvements financed by the Green Deal • Required to meet and comply with: <ul style="list-style-type: none"> ▪ Publicly Available Specification (PAS 2030) – competence demonstrated through achieving relevant Qualifications

¹⁸ BSI (2012) PAS2030:2012 Edition 2: Improving the energy efficiency of existing buildings. Specification for installation process, process management and service provision.

¹⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/66666/3745-role-green-deal-oversight-body.pdf
 Accessed: 21/11/14

²⁰ Department of Energy & Climate Change (June 2014) Green Deal Code of practice (Version 4)

²¹ <http://www.ombudsman-services.org/green-deal.html> Accessed: 21/11/14

²² BSI (2012) PAS2030:2012 Edition 2: Improving the energy efficiency of existing buildings. Specification for installation process, process management and service provision.

	<p>and Credit Framework (QCF) qualifications or gaining membership to a Competent Person Scheme (CPS)²³</p> <ul style="list-style-type: none">▪ Green Deal Code of Practice▪ UKAS Accreditation Body certification▪ Building Regulations▪ monitoring of installation work if so required <ul style="list-style-type: none">• All must be registered under:<ul style="list-style-type: none">▪ Gas Safe Register scheme (if installing gas boilers and heating systems)• Required to:<ul style="list-style-type: none">▪ obtain a location-specific design specification for each energy efficiency product or system, prior to any installation▪ produce a method statement detailing the installation process for product or system installed (within the scope of PAS 2030▪ notify its certification body of all installations completed under the Green Deal within seven days of completion▪ determine all installation staff possess relevant skills and competence levels▪ provide competency and qualification details of all those who are working on-site during an installation▪ keep records of all Green Deal installations for a minimum of 6 years▪ maintain a complaints handling procedure detailing the circumstances in which the installer is required to handle a complaint▪ enter into a relevant warranty scheme which requires them to resolve any problems with the product or system they have installed should they stop working; warranties such as the NICEIC Insulation Scheme last for up to 25 years²⁴▪ provide evidence of correction within 8 weeks of an unsatisfactory on-site inspection by a certification body, citing implications of non-correction by 12 weeks from the date of assessment
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²³ Lock, T (2013) *PAS 2030 Training, Ready for Retrofit*. Energy Saving Trust. www.regensw.co.uk/wp-content/uploads/2014/08/r4r_pas_2030_slides_19_september_2013_300eab15d40f5be4.pdf [latest access: 02/04/2015]

²⁴ NICEIC *The NICEIC Insulation Warranty Scheme*

<p>Green Deal advisor²⁵</p>	<ul style="list-style-type: none"> • Employed or contracted by an authorised Green Deal assessor organisation, remit encompasses a role to: <ul style="list-style-type: none"> • Visit properties and using the Standard Assessment Procedure (SAP), assess a property’s energy performance • Produce a unique Occupancy Assessment (OA) • Lodge Green Deal Advice Reports (GDARs) • All required to: <ul style="list-style-type: none"> ▪ hold a Green Deal Advisor qualification ▪ adhere to the National Occupational Standards (NOS) on Green Deal Advice Report writing²⁶ ▪ be registered on the Landmark Registry
<p>British Standards Institution (BSI)²⁷</p>	<ul style="list-style-type: none"> • Developed and monitors a Kitemark scheme incorporating the requirements of the Green Deal Quality Mark and the Energy Efficient Buildings Kitemark

Table 6: Green Deal Quality Assurance framework processes and procedures

Process and/or procedure	Function
<p>Green Deal Code of Practice</p>	<p>Sets out requirements to be met by Green Deal participants and Certification Bodies, aiming to ensure all deliver good consumer service, provide appropriate training, and maintain suitable redress mechanisms.</p> <p>The Code is designed to ensure that consumers²⁸:</p> <ul style="list-style-type: none"> • receive a standardised level of service • are not subject to unfair or misleading selling practices
<p>Publicly Available Specification (PAS) 2030</p>	<p>The standard for all Green Deal Installers and applies to the installation, management and provision of energy efficiency and low carbon products and systems in existing buildings.</p> <p>Other documents that support the application of PAS 2030 include²⁹:</p> <ul style="list-style-type: none"> • PAS 2031 (see below)

²⁵ <https://www.gov.uk/green-deal-energy-saving-measures>

²⁶ <https://www.gov.uk/green-deal-energy-saving-measures>

²⁷ <http://www.bsigroup.co.uk/en-GB/the-green-deal/Energy-Efficient-Buildings-Kitemark/> Accessed: 3/12/14

²⁸ Department of Energy and Climate Change (2010) *The Green Deal: A Summary of the Government’s proposals*

²⁹ BSI (2012) *PAS2030:2012 Edition 2: Improving the energy efficiency of existing buildings. Specification for installation process, process management and service provision*

	<ul style="list-style-type: none"> • British Standards • Institution of Gas Engineers and Managers’ Standards • Energy Networks Association Engineering Recommendations • UK LPG (trade association for the liquefied petroleum gas industry in the UK) Code of Practice 22 • Department of Communities and Local Government Domestic Building Services Compliance Guide • Construction Industry Training Board (CITB) 01 General Requirements and Guidance for the Installation of Loft Insulation • Common Minimum Technical Competencies Annexes
<p>Publically Available Specification (PAS) 2031:2015^{30 31}</p>	<p>Introduced by the Department for Energy and Climate Change in January 2015, and superseding PAS 2031:2012, the standards set out the certification system by which all Green Deal Certification Bodies must assess Green Deal installers’ compliance with PAS 2030 in the installation, management and provision of energy efficiency measures and systems.</p> <p>The standards are solely to be used in association with PAS 2030.</p>
<p>Green Deal installer scheme^{32 33 34}</p>	<p>Installers are required to become Green Deal approved and to achieve certification from a UKAS accredited certification body before they can operate as a Green Deal installer and use the Green Deal Quality Mark. This certification is based upon evaluating the installer against the criteria laid down in their chosen certification scheme, including the core PAS 2030 requirements for the energy efficiency measure they wish to install.</p> <p>The evaluation may include assessments based upon company procedures and on-site assessments of work. As part of the certification scheme, installers are also required to register with the Oversight and Registration Body.</p>
<p>Competent Person</p>	<p>Scheme permitting approved individuals and enterprises to self-</p>

³⁰ BSI (2015) PAS 2031: 2015 Certification of energy efficiency measure (EEM) installation services: Overview. www.shop.bsigroup.com/ProductDetail/?pid=000000000030300356 [first accessed: 01/04/2015]

³¹ BSI (2013) PAS 2030 and PAS 2031 The Green Deal. www.bsigroup.co.uk/Documents/standards/case-studies/BSI-working-with-government-PAS-2030-PAS-2031-The-Green-Deal-case-study-UK-EN.pdf [first accessed: 01/04/2015]

³² Kent County Council (2013) *Become a Green Deal Installer*

³³ http://www.aphc.co.uk/certification_schemes.asp Accessed: 24/11/14

³⁴ Department of Energy & Climate Change (2013) *Becoming an authorised Green Deal organisation*. www.gov.uk/becoming-an-authorised-green-deal-organisation [first accessed: 01/04/2015]

<p>Scheme^{35 36}</p>	<p>certify that their work is compliant with the Building Regulations. Registered individuals will:</p> <ul style="list-style-type: none"> • be required to comply with all aspects of the Building Regulations • host inspections against the technical requirements of Building Regulations (a minimum of one on-site inspection of a member’s work up to every three years, subject to track record, and installers may be registered with different certification bodies/scheme operators, but it is unclear whether this element is incorporated within certification bodies’ technical audits) • maintain an up-to-date complaints procedure • receive notification of any work that falls below Building Regulations <p>Minimum Technical Competency describes the minimum knowledge, practical skills and levels of experience required by an individual or enterprise to operate under a Competence Person Scheme. Green Deal Installers are required to demonstrate that they meet the relevant Minimum Technical Competencies to their certification body to remain in a Competent Person Scheme. This may include:</p> <ul style="list-style-type: none"> • a written test • workplace observation by a certification body Assessor • questions about a range of different topics <p>Those registered on a Competent Person Scheme will be in possession of a Minimum Technical Competency Card.</p> <p>The Scheme is also applicable for the Microgeneration Certification Scheme (MCS) and ECO.</p>
<p>Green Deal Quality Mark³⁷</p>	<p>Established to identify authorised Green Deal participants and to protect consumers from rogue traders claiming to offer Green Deal services without the appropriate authorisation.</p> <p>The Quality Mark is to be used on all participants’ Green Deal documentation and marketing material. It is governed by a Code</p>

³⁵ <http://www.besca.org.uk/Schemes/CPS> Accessed: 27/11/14

³⁶ Department of Communities and Local Government (2012) *Building Regulations: Competent Person Self-Certification Scheme – Conditions of Authorisation From 6 June 2012*

³⁷ Department of Energy & Climate Change (2010) *The Green Deal: A summary of the Government’s proposals*

	<p>of Practice which sets out the requirements for using the Quality Mark; all participants must:</p> <ul style="list-style-type: none"> • include their registration number when displaying the Quality Mark so consumers may check their credentials • clearly present the scope of activities they are authorised to conduct under the Quality Mark • display the sentence: “Authorised for measures listed on...” and include the website on which their authorised measures are listed (if they are registered for multiple measures)
<p>Consumer contract³⁸</p>	<p>This is a requirement under general consumer law. Either a verbal or written contract of work must be established between a Green Deal Provider and the consumer, based on an offer and acceptance of work to be carried out on a property. If a Green Deal Provider breaks this contract, the consumer has the right to take action.</p>
<p>Green Deal complaints and sanctions system^{39 40 41}</p>	<p>Green Deal providers are responsible for dealing with consumer complaints. If a consumer is unsatisfied with the response to their concern, they may take their unresolved complaint to the relevant certification body. In the event a consumer is not able to register a complaint or if their issue has not been resolved to their satisfaction, the Ombudsman service will be involved, if the complaint is in scope.</p> <p>The Secretary of State for Energy and Climate Change has the power to impose sanctions on accreditation schemes, certification bodies and individual Green Deal participants in response to breaches to the Green Deal Code of Practice.</p> <p>This includes breaches of:</p> <ul style="list-style-type: none"> • consent provision • disclosure and acknowledgement provisions • relevant requirements by Green Deal Providers and installers <p>Other reasons to impose sanctions include:</p> <ul style="list-style-type: none"> • a failure to take a consumer credit modifying step after cancellation

³⁸ http://www.adviceguide.org.uk/england/consumer_e/consumer_protection_for_the_consumer_e/consumer_contracts_e.htm
 Accessed: 1/12/14

³⁹ The Statutory Office (2012) *Energy Conservation: The Green Deal Framework (Disclosure, Acknowledgement, Redress etc.) Regulations 2012: Draft Statutory instruments*

⁴⁰ Ombudsman Services. *The Green Deal*. www.ombudsman-services.org/green-deal.html [latest access: 01/04/2015]

⁴¹ The Statutory Office (2012) *Energy Conservation: The Green Deal Framework (Disclosure, Acknowledgement, Redress etc.) Regulations 2012: Draft Statutory instruments*

	<p>The Secretary of State must take receipt of a complaint or information pertaining to a breach of the Code of Practice before issuing a sanction. Normally the Secretary of State would be advised of the case by the Green Deal ORB. Sanctions can lead to the withdrawal of a Green Deal Provider’s authorisation if they are deemed to be no longer fit to offer this service.</p>
<p>Green Deal Guarantee</p>	<p>In accordance with the Green Deal Code of Practice, the Green Deal Guarantee is designed to ensure that Green Deal participants enter into an insurance contact which is beneficial to both the consumer and the Provider.</p> <p>The insurance is required to:</p> <ul style="list-style-type: none"> • be valid for the lifetime of the Guarantee • be protected by the Financial Services Compensation Scheme • ensure all problems which affect the functioning of an improvement relating to the installation, materials or design are rectified free of charge • permit the consumer and Green Deal Provider to access the Financial Ombudsman Service • ensure that all terms of the guarantee are fulfilled in the event that the Green Deal Provider does not comply with the Ombudsman service, a compliance notice or is insolvent⁴²
<p>Green Deal Warranty⁴³</p>	<p>All Green Deal Providers are required to include a minimum five year warranty on all products and services installed with Green Deal funding, and 10 year warranty cover for all consequential building damage, under the Green Deal Code of Practice.</p> <p>Exceptions include: solid wall insulation and cavity wall insulation – all require a minimum of 25 years warranty cover.</p>
<p>Green Deal Kitemark⁴⁴</p>	<p>Developed by BSI, the Kitemark indicates that a product or service has met necessary safety and performance requirements of the Green Deal Quality Mark and the Energy Efficient Buildings Kitemark.</p>

⁴² Department of Energy & Climate Change (June 2014) *Green Deal Code of practice (Version 4)*

⁴³ Department of Energy & Climate Change (June 2012) *Final Stage Impact Assessment for the Green Deal and Energy Company Obligation*

⁴⁴ <http://www.bsigroup.co.uk/en-GB/the-green-deal/Energy-Efficient-Buildings-Kitemark/> Accessed: 3/12/14

Green Deal Home Improvement Fund

Open to all households in England and Wales, the Green Deal Home Improvement Fund (GDHIF) incentive scheme was introduced in June 2014, and is made up of three monetary releases. It provides a source of capital for homeowners to offset costs incurred while implementing certain energy efficiency and low carbon measures to their houses⁴⁵.

The terms and conditions of the GDHIF depend on the conditions of the particular release relating to the fund. Most of the capital allocated to the fund is geared towards saving consumers money on solid wall insulation installations. Then there are further measures that are also able to garner monetary support from the government, where a consumer installs at least two eligible measures in a property. The GDHIF 'any Two Measure' offer included 11 energy saving improvements⁴⁶:

- a condensing gas boiler on mains gas
- double or triple glazing as a replacement for single glazing
- secondary glazing
- energy efficient replacement external doors
- cavity wall insulation
- floor insulation
- flat-roof insulation
- insulation for a room in the roof
- a replacement warm air unit
- fan-assisted storage heaters
- a waste water heat recovery system

There have been three separate releases of the GDHIF:

1. The first set aside £120 million which was made available on the 9th June 2014, and was closed to new applicants early on 24th July 2014 owing to all available fund having been claimed.^{47 48}
2. The second release was made available on 10th December 2014, which made £30 million available, of which £24 million was designated for solid wall insulation.⁴⁹ The rest, up to £6 million, was intended to be spent on two measures per household from a list of home improvements available under the scheme.⁵⁰ This main release was exhausted in 24 hours of GDHIF's re-launch, however owing to a staggering of funds for this stage, more money was available after the main release was used up.⁵¹

⁴⁵ DECC (June 2014) *Department for Energy and Climate Change Blog*, <https://decc.blog.gov.uk/2014/06/09/the-green-deal-home-improvement-fund-upfront-cash-to-help-you-save-more-on-your-energy-bills/> [Accessed 19/03/2015]

⁴⁶ <http://gdorb.decc.gov.uk/installers/green-deal-home-improvement-fund>

⁴⁷ Department of Energy & Climate Change, (November 2014) Domestic Green Deal and Energy Company Obligation in Great Britain, Monthly report: *Statistical release: Experimental statistics*

⁴⁸ *The Telegraph*, 10.12.2014 [Accessed via <http://www.telegraph.co.uk/finance/personalfinance/household-bills/11279871/How-to-save-5600-on-home-improvements-with-Green-Deal-cashback.html> on 19.03.2015]

⁴⁹ <https://www.gov.uk/government/news/green-deal-home-improvement-fund-details-announced>

⁵⁰ Department of Energy & Climate Change, (December 2014), *Press Release: 'Green Deal home improvement fund details announced'* [Accessed via <https://www.gov.uk/government/news/green-deal-home-improvement-fund-details-announced> on 19.03.2015]

⁵¹ *The Telegraph*, 10.12.2014 [Accessed via <http://www.telegraph.co.uk/finance/personalfinance/household-bills/11279871/How-to-save-5600-on-home-improvements-with-Green-Deal-cashback.html> on 19.03.2015]

3. The third release came on 16th March 2015.⁵² This allocated £70 million more to the fund, and kept the reduced form that the second release had brought about.

Table 7 summarises the organisations involved in delivery of the GDHIF and how they operate in the quality assurance framework.

Table 7: GDHIF organisations, their functions and role in the quality assurance framework

Organisation	Role and responsibility
Department for Energy and Climate Change (DECC)	<ul style="list-style-type: none"> • Established and funds the Green Deal Home Improvement Fund
Capita	<ul style="list-style-type: none"> • Contracted by the Department for Energy and Climate Change (DECC) to run the Green Deal Home Improvement Fund
Green Deal provider or installer⁵³	Green Deal providers and installers can contract with a consumer to provide work under the Green Deal Home Improvement Fund. They must be registered with the GDHIF specifically and complying with its terms and conditions.
Green Deal Home Improvement Fund consumers⁵⁴	<ul style="list-style-type: none"> • All are required to: <ul style="list-style-type: none"> ▪ obtain a Green Deal Advice Report (GDAR) or Energy Performance Certificate (EPC) that is less than two years old ▪ provide the Department for Energy and Climate Change (DECC) with a quote from a GDHIF registered installer or provider for work specified on the GDAR or EPC and included on the list of GDHIF approved measures ▪ proof of property ownership (landlords/undertakings only)

Green Homes Cashback Scheme

In Scotland, the equivalent to the GDHIF was the Green Homes Cashback Scheme, which at the time of writing had completed three phases, the most recent having closed to new applications in February 2015. The first phase of the cashback scheme for social housing providers offered 23 projects funding in 2013/14. The second phase offered funding to 24 projects in 2014/15. The value

⁵² Department of Energy & Climate Change, (March, 2015), *Press Release: ‘£70 million for home energy efficiency through the Green Deal Home Improvement Fund Release 3’*

⁵³ <https://www.gov.uk/green-deal-energy-saving-measures/get-money-back-from-the-green-deal-home-improvement-fund>

⁵⁴ *The Telegraph*, 10.12.2014 [Accessed via <http://www.telegraph.co.uk/finance/personalfinance/household-bills/11279871/How-to-save-5600-on-home-improvements-with-Green-Deal-cashback.html> on 19.03.2015]

of phases 1 and 2 was £13.6 million. As at the end of February 2015, vouchers worth £8.3 million had been paid in respect of phase 3⁵⁵.

2.2.2 Energy Company Obligation

The Energy Company Obligation (ECO) was launched alongside the Green Deal in January 2013, and is a Government scheme which obligates larger energy suppliers to deliver energy efficiency measures to domestic premises in Great Britain⁵⁶. It comprises three main obligations⁵⁷:

- **Carbon Saving Obligation:** installation of measures such as solid wall and hard-to-treat cavity wall insulation, which typically cannot be financed solely through the Green Deal. Following an announcement by the UK Government in December 2013, the list of eligible primary measures was expanded to include easy-to-treat cavity wall insulation and loft insulation;
- **Carbon Saving Communities Obligation:** provides insulation measures to households in defined areas of low income and ensures 15 per cent of this obligation is used to upgrade the most hard-to-reach low income households in rural areas;
- **Affordable Warmth Obligation:** supplies heating and insulation measures for occupiers of private tenure properties in receipt of selected means-tested benefits. Typically supports the most vulnerable low income consumers, such as the low-income elderly.

The new obligation period, known as ECO 2, launched on 1 April 2015. It will run for the next two years to 31 March 2017. It extends the original lifetime of the scheme which ended on 31 March 2015.

Figure 7 shows the organisational infrastructure for the delivery of ECO. This is followed by Table 8, which summarises the roles of each of these organisations, and Table 9, which describes the quality assurance functions within ECO.

⁵⁵ <http://www.energysavingtrust.org.uk/green-homes-cashback-statistics> [accessed 22nd May 2015]

⁵⁶ In line with the report of the Smith Commission, the UK Government is intending to devolve the delivery of ECO to the Scottish Parliament. The level of support will still be determined at a UK level. The UK Government will reserve responsibility for how the money is raised, including the scale, costs and apportionment of the obligations. The Smith Commission (2014) Report of the Smith Commission for further devolution of powers to the Scottish Parliament https://www.smith-commission.scot/wp-content/uploads/2014/11/The_Smith_Commission_Report-1.pdf

⁵⁷ DECC (2013), *Green Deal and ECO Monthly Statistics*

Figure 7: Hierarchy of Energy Company Obligation (ECO) organisations

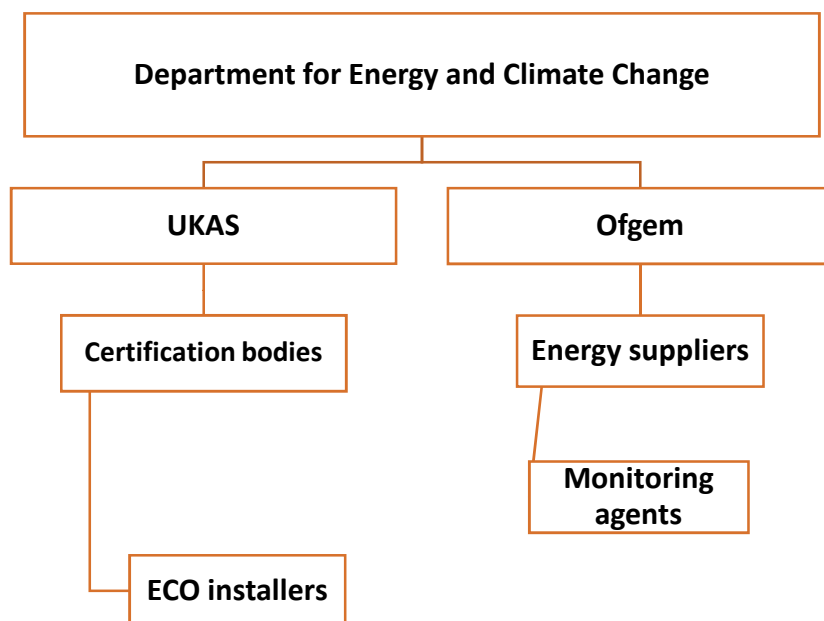


Table 8: Energy Company Obligation organisations and their roles in the quality assurance framework

Organisation	Role and responsibility
Department for Energy and Climate Change ⁵⁸	<ul style="list-style-type: none"> Set out the standards which Energy Company Obligation (ECO) Installers must meet. Advises Ofgem on the administration of ECO
Ofgem ⁵⁹	<ul style="list-style-type: none"> Responsible for administering the Energy Company Obligation (ECO) by: <ul style="list-style-type: none"> allocating a proportion of the overall ECO targets to those Energy Suppliers who qualify for the scheme monitoring and enforcing compliance with ECO auditing, detecting and preventing fraud
UK Accreditation Service (UKAS)	<ul style="list-style-type: none"> Accredits the ECO Certification Bodies to monitor and manage ECO Installers to ensure full compliance with the Publically Available Specification (PAS) 2030 standards.

⁵⁸ Department of Energy & Climate Change (November 2012) *Government response to: 'Home insulation: a report on the call for evidence to be carried out by the OFT'*

⁵⁹ Department of Energy & Climate Change (October 2012) *Helping households to cut their energy bills.*

<p>Energy suppliers^{60 61 62 63}</p>	<ul style="list-style-type: none"> • Required to: <ul style="list-style-type: none"> ▪ determine how much subsidy they will provide to each consumer depending upon their individual circumstances and the quantity of Green Deal finance being used ▪ report on their delivery against their obligation – this information will be checked by an audit ▪ instruct an independent qualified agent to undertake technical monitoring on a sample of the Energy Company Obligation (ECO) installations ▪ ensure the installation of an energy efficiency measure is carried out in accordance with the relevant PAS 2030 standards.
<p>ECO certification bodies⁶⁴</p>	<ul style="list-style-type: none"> • Accredited by UK Accreditation Service (UKAS) to monitor ECO Installers and ensure they are certified to PAS 2030 standards.
<p>ECO monitoring agents⁶⁵</p>	<ul style="list-style-type: none"> • An independent agent, instructed by an Energy supplier, responsible for monitoring a sample (5 per cent) of an Energy supplier’s ECO installations: <ul style="list-style-type: none"> ▪ verify that the sample installations match the product supplier’s notification
<p>ECO installers^{66 67}</p>	<ul style="list-style-type: none"> • Must comply with and be certified to the PAS 2030 standards • Must ensure that all insulation systems covered under ECO are provided with an insulation warranty, as dictated by Ofgem.
<p>Manufacturer and/or importer⁶⁸</p>	<ul style="list-style-type: none"> • Liable for any damage caused by defective good, in accordance with the Consumer Protection Act 1979 • Applicable also for manufacturers and/or Importers operating under the Microgeneration Certification Scheme (MCS).

⁶⁰ Department of Energy & Climate Change (October 2012) *Helping households to cut their energy bills.*

⁶¹ Ofgem E-serve (March 2013) *Energy Companies Obligation (ECO): Guidance for Suppliers*

⁶² Department of Energy & Climate Change (October 2012) *Helping households to cut their energy bills.*

⁶³ Ofgem (2015) *Energy Company Obligation (ECO) Guidance – Delivery: Energy Efficiency and Social Programmes*

⁶⁴ Department of Energy & Climate Change (November 2012) *Government response to: ‘Home insulation: a report on the call for evidence to be carried out by the OFT’*

⁶⁵ Ofgem E-serve (March 2013) *Energy Companies Obligation (ECO): Guidance for Suppliers*

⁶⁶ Department of Energy & Climate Change (November 2012) *Government response to: ‘Home insulation: a report on the call for evidence to be carried out by the OFT’*

⁶⁷ NICEIC. *The NICEIC Insulation Warranty Scheme*

⁶⁸ Citizens Advice Bureau (2012) *Advice Guide: Safety*

Table 9: Energy Company Obligation quality assurance framework processes and procedures

Process and/or procedure	Function
Publicly Available Specification (PAS) 2030 Standards⁶⁹	The same set of standards by which Green Deal Providers and Installers are mandated to operate. All Energy Company Obligation (ECO) Installers must be certified to the PAS 2030 standard.
Energy Company Obligation (ECO) Technical Monitoring^{70 71}	<p>Energy suppliers are responsible for ensuring 5 per cent of their ECO installations are subjected to technical monitoring by a qualified independent agent. This monitoring does not need to be replicated for any installations completed and monitored under the Green Deal.</p> <p>Energy suppliers are also subject to an audit:</p> <ul style="list-style-type: none"> • following a successful audit, suppliers are provided with a full report and recommendations on how to ensure they remain compliant with ECO • following a failed audit, suppliers may be subject to enforcement action, further auditing or monitoring, or the right to attribute savings to energy efficiency measures may be revoked <p>Technical monitoring rules will be revised for the second phase of ECO (2015-17) with the intention of improving the effectiveness of the audit process and resulting enforcement.</p>
Competent Person Scheme⁷²	A Scheme also available to Green Deal and Microgeneration Certification Scheme (MSC) participants; it permits approved individuals and enterprises to self-certify that their work is compliant with the building regulations.
ECO warranty⁷³	<p>A requirement of all ECO installers to provide an insulation warranty to consumers for every installation. This warranty aims to ensure that consumers are protected in the event that their installer is unable to rectify a fault with their installation. Warranties such as the NICEIC Insulation Scheme last for up to 25 years, and the original installer of the measure is required to rectify any issue with the measure or system they installed.</p> <p>For replacement boilers, a warranty of at least one year will only be required from January 2015⁷⁴.</p>

⁶⁹ Department of Energy & Climate Change (November 2012) *Government response to: 'Home insulation: a report on the call for evidence to be carried out by the OFT'*

⁷⁰ Ofgem E-serve (March 2013) *Energy Companies Obligation (ECO): Guidance for Suppliers.*

⁷¹ Ofgem E-serve (April 2015) *Energy Company Obligation 2015-17 (ECO2) Guidance: Delivery*

⁷² <http://www.besca.org.uk/Schemes/CPS> Accessed: 27/11/14

⁷³ NICEIC. *The NICEIC Insulation Warranty Scheme*

2.2.3 Microgeneration Certification Scheme

Established with an objective to be one of the major quality assurance systems governing the energy sector, the Microgeneration Certification Scheme (MCS) incorporates both technical standards and the installation requirements set out by the Renewable Energy Consumer Code (RECC). It aims to protect consumers against fraudulent and poor quality energy generation products and services. MCS certification of both the installer and the product they are installing is a requirement of the Feed-in Tariff (FIT), the domestic Renewable Heat Incentive (RHI), and the Community and Renewable Energy Scheme (Scotland only), and all MCS Installers are mandated to operate according to the relevant installer standards⁷⁵.

- **Feed-in Tariff Scheme (FIT)** was established in 2010 to encourage consumers to invest in installed renewable generation technologies in their properties. These consumers receive payments from their electricity supplier for generating energy and exporting energy back to the electricity grid⁷⁶.
- **Renewable Heat Incentive (RHI)** was established in 2014 to encourage households to install renewable heating in their properties. It succeeds the Renewable Heat Premium Payments Scheme (RHPP) for households which provided households a payment to off-set the cost of installing energy efficiency technologies⁷⁷. The RHI provides quarterly payments to householders over 7 years to offset the additional costs of a RH system over that of a conventional system.

The hierarchy of organisations involved in delivering the MCS is shown in Figure 8.

The remit of each of these organisations is explained in Table 10, which also includes a summary of the functions that are in place in relation to quality assurance and consumer protection.

Table 11 describes MCS quality assurance framework processes and procedures.

Figure 8: Hierarchy of Microgeneration Certification Scheme organisations

⁷⁴ Department

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/342178/The_Future_of_the_Energy_Company_Obligation_Government_Response.pdf

⁷⁵ Renewable Energy Consumer Code (October 2014) *Renewable Energy Consumer Code: For supplying small-scale renewable and low carbon heat or power generating systems to domestic consumers*

⁷⁶ Consumer Focus: Centre for Consumers and Essential Services, University of Leicester (October 2011) *Making the connection: Strengthening the advice, complaint handling and redress framework*

⁷⁷ Consumer Focus: Centre for Consumers and Essential Services, University of Leicester (October 2011) *Making the connection: Strengthening the advice, complaint handling and redress framework*

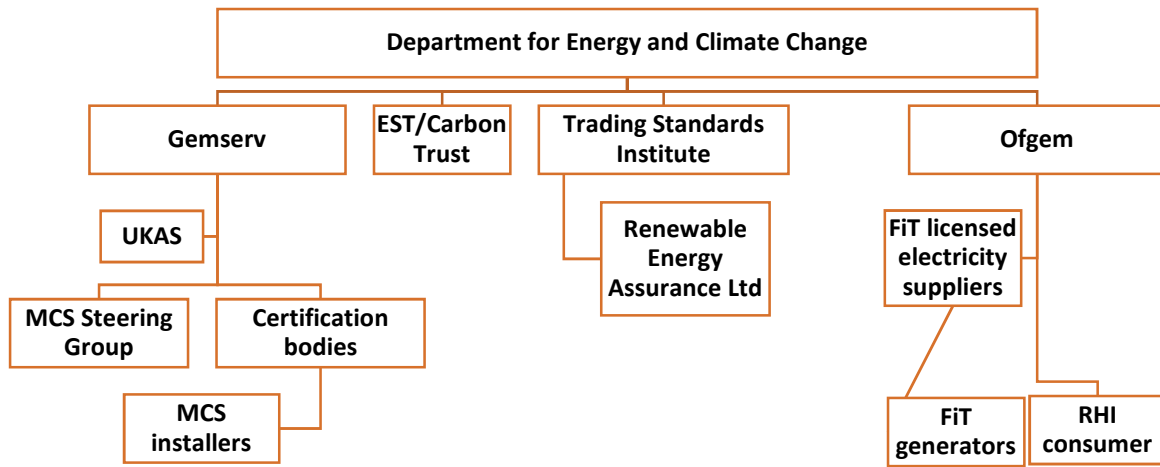


Table 10: MCS organisations, their functions and role in the quality assurance framework

Organisation	Role and responsibility
Department of Energy and Climate Change	<p>Appointed:</p> <ul style="list-style-type: none"> ▪ Gemserv as the administrators of the Microgeneration Certification Scheme (MCS) ▪ EST and the Carbon Trust to provide public information about the Feed-in Tariff Scheme (FiT) ▪ Ofgem as FiT and Renewable Heat Incentive (RHI) administrators <p>Advises Ofgem on the administration of FiT and RHI Responsible for administering payments made under the RHI in collaboration with EST</p>
Gemserv⁷⁸	Administers the MCS on behalf of the UK Government
Renewable Energy Assurance Ltd (REAL)⁷⁹	Administers the Renewable Energy Consumer Code, approved by the Trading Standards Institute
Ofgem⁸⁰	<p>Administers designated functions relating to the FiT and RHI</p> <p>Responsible for:</p> <ul style="list-style-type: none"> ▪ registering community and energy school installations ▪ paying RHI participants for the installation of eligible heat generators or biomethane products ▪ monitoring compliance and undertaking inspections to ensure the FiT and RHI scheme regulations are being adhered to
Energy Saving Trust (EST)⁸¹	<p>Responsible for:</p> <ul style="list-style-type: none"> ▪ providing public information about the FiT and RHI through ESAS and online
Trading Standards Institute^{82 83}	<p>Approved the MCS Code of Practice</p> <p>Supports the Renewable Energy Consumer Code (RECC) as part of its self-regulation initiative: the Consumer Codes Approval Scheme.</p>
UK Accreditation	Accredits the certification bodies responsible for delivering certification

⁷⁸ Renewable Energy Consumer Code (October 2014) *Renewable Energy Consumer Code: For supplying small-scale renewable and low carbon heat or power generating systems to domestic consumers.*

⁷⁹ Renewable Energy Assurance Limited. *About Us.* www.renewableenergyassurance.org.uk/about [latest access: 01/04/2015]

⁸⁰ Ofgem e-serve (July 2013) *Renewable Heat Incentive: Annual Report*

⁸¹ Consumer Focus: Centre for Consumers and Essential Services, University of Leicester (October 2011) *Making the connection: Strengthening the advice, complaint handling and redress framework.*

⁸² Microgeneration Certification Scheme. *Why MSC?* www.microgenerationcertification.org/about-us/why-mcs [latest access: 01/04/2015]

⁸³ Microgeneration Certification Scheme. *Renewable Energy Consumer Code* www.microgenerationcertification.org/consumers/renewable-energy-consumer-code [latest access: 01/04/2015]

Service (UKAS)⁸⁴	based upon the MCS installer standards
IDRS Ltd^{85 86}	The independent dispute resolution provider who will provide the independent conciliation service on behalf of REAL should the consumer request this service
Certification bodies	Required to: <ul style="list-style-type: none"> ▪ to conduct an annual visit to Installers registered under the MCS Quality Mark ▪ provide MCS Quality Mark logo to Installers who successful complete their registration
MCS Steering Group⁸⁷	A group consisting of industry representatives, such as consumer groups and trade associations (appears separate from Gemserv, with a defined hierarchy) Required to oversee the strategic direction for the MCS Oversees the following industry representative Panel and Groups: <ul style="list-style-type: none"> ▪ MCS Management Panel ▪ MCS Standards Management Group ▪ MCS Technical Working Groups ▪ MCS Competence Development Working Group ▪ MCS Certification Bodies Forum
Licensed electricity suppliers⁸⁸	Required to: <ul style="list-style-type: none"> ▪ make an annual declaration of their FiT status ▪ participate in the Periodic and Annual Levelisation processes ▪ assess installation work against the criteria for MCS certified registration ▪ manage the FiT application process ▪ make FiT payments to eligible FiT Generators ▪ ensure the accuracy of information provided by FiT Generators
Installers in the Microgeneration	Required to operate according to: <ul style="list-style-type: none"> ▪ the MCS 001 Installer Certification Scheme Regulations

⁸⁴ Renewable Energy Consumer Code (October 2014) *Renewable Energy Consumer Code: For supplying small-scale renewable and low carbon heat or power generating systems to domestic consumers.*

⁸⁵ IDRS Limited. *Who we are.* www.idrs.ltd.uk/?p=7&lang=e [latest access: 02/04/2015]

⁸⁶ Renewable Energy Consumer Code (2014) *Renewable Energy Consumer Code* www.recc.org.uk/scheme/consumer-code [latest access: 01/04/2015]

⁸⁷ Microgeneration Certification Scheme. *Scheme Governance* www.microgenerationcertification.org/about-us/scheme-governance [latest access: 01/04/2015]

⁸⁸ Ofgem E-serve (July 2013) *Feed-in Tariff: Guidance for Licensed Electricity Suppliers*

<p>Certification Scheme^{89 90 91}</p>	<ul style="list-style-type: none"> ▪ relevant MIS technology specific schemes for the measures they are approved to install e.g. MIS 3001 Solar Heating Standard ▪ Microgeneration Certification Scheme (MCS) Code of Conduct ▪ Renewable Energy Consumer Code (RECC) <p>Required to:</p> <ul style="list-style-type: none"> ▪ be certified, or be working towards certification, under the MCS and RECC, for the technology type they install to remain a member of the Code – failure to achieve this certification within six months of membership will result in the termination of the Installer’s membership to the Code ▪ create the MCS certification for each installation task after entering into a contract with a consumer ▪ register an installation with an insurance company or other provider to ensure their consumer is covered under a relevant warranty scheme ▪ apply for any relevant product guarantees (not mandatory)
<p>Feed-in Tariff (FiT) generators</p>	<p>Consumers who have had microgeneration systems installed in their properties by a MCS accredited Installer, and whom can export surplus energy to the Main Grid.</p>
<p>British Standards Institution (BSI)⁹²</p>	<p>A UKAS accredited body permitted to assess products for MCS Kitemark approval Developed the MCS Kitemark Scheme</p>
<p>Manufacturer and/or Importer⁹³</p>	<p>Liable for any damage caused by defective good, in accordance with the Consumer Protection Act 1979</p>

⁸⁹ Consumer Focus: Centre for Consumers and Essential Services, University of Leicester (October 2011) *Making the connection: Strengthening the advice, complaint handling and redress framework*

⁹⁰ Renewable Energy Consumer Code (October 2014) *Renewable Energy Consumer Code: For supplying small-scale renewable and low carbon heat or power generating systems to domestic consumers.*

⁹¹ <http://www.microgenerationcertification.org/consumers/insurance-and-warranties> Accessed: 02/12/14

⁹² BSI. *Kitemark, Microgeneration Products: New technology with traditional values*

⁹³ Citizens Advice Bureau (2012) *Advice Guide: Safety*

Table 11: Microgeneration Certification Scheme Quality Assurance framework processes and procedures

Process and/or procedure	Function
Microgeneration Certification Scheme Code of Practice⁹⁴	<p>Incorporating requirements of the Renewable Energy Consumer Code (RECC), the Code of Practice is designed to ensure all Microgeneration Certification Scheme (MCS) Installers provide consumers with accurate information about the available financial incentives for installing energy generators in their property, including:</p> <ul style="list-style-type: none"> • the Feed in Tariff Scheme (FiT) • Renewable Heat Incentive (RHI) for heat generators • Scottish Government’s Community and Renewable Energy Scheme (CRES) <p>In order to comply with the MCS Code of Practice, Installers are required to:</p> <ul style="list-style-type: none"> • calculate the income from financial incentives such as Feed in Tariff (FiT) using a model based on a reasonable set of assumptions i.e. the Government’s model for Domestic Renewable Heat Incentive • disclose these calculations to the consumer • be signed up to RECC
Microgeneration Certification Scheme Quality Mark⁹⁵	<p>Designed to symbolise high quality products or installers, the Quality Mark may only be used by individuals or displayed on products licensed to do so. Registered individuals are subject to an annual visit by their Certification body in order to maintain their membership.</p> <p>The Quality Mark is internationally recognised and a list of the approved products is available on the MCS website.</p> <p>It should only be used by those licensed to do so – any MCS installer who does not comply with the guidelines of their license agreement faces the risk of their permission to use the MCS Quality Mark being withdrawn.</p>
Installer Certification Scheme (MCS 001)⁹⁶	<p>Established with the aim to conduct regular and independent assessments of MCS installers of a range of different technologies to ensure all relevant standards are being met to the benefit of their consumers.</p>

⁹⁴ Renewable Energy Consumer Code (October 2014) *Renewable Energy Consumer Code: For supplying small-scale renewable and low carbon heat or power generating systems to domestic consumers.*

⁹⁵ <http://www.microgenerationcertification.org/installers-manufacturers/mcs-logo-marketing> Accessed: 24/11/14

⁹⁶ MCS (November 2014) *Microgeneration Installation Standard: MCS 001: Installer certification scheme requirements: Issue 2.4*

	<p>Installers are awarded certification and the corresponding Certification Mark if all assessments have been completed satisfactorily. This certification is only valid as long as the installer operates with technologies in the scope of their certification.</p> <p>The technologies and systems in scope include:</p> <ul style="list-style-type: none"> • solar domestic hot water • solar photovoltaic • ground-source heat pumps • air-source heat pumps • micro CHP • micro wind • biomass
<p>MCS Technology Specific Schemes⁹⁷</p>	<p>There are 10 technology specific schemes for each of the measures and systems covered under the MCS 001 Standard with dedicated regulations that set out the standards which must be met by all MCS installers in the measure they are approved to install:</p> <ul style="list-style-type: none"> • MIS 3001 Solar Heating Standards • MCS 024 Solar Domestic Hot Water Energy Calculation; Thermal Solar Performance Energy Calculator • MIS 3002 Solar PV Standard • MIS 3003 Small and Micro Wind Systems • MIS 3004 Biomass Standard • MIS 3005 Heat Pump Standard • MCS 021 Heat Emitter Guide • MCS 022 Supplementary Information Ground loop sizing tables; Supplementary Tables of Heat Emitter Outputs • MIS 3007 Heat led Micro CHP Systems • MIS 3007-2 Electricity led Micro CHP Systems
<p>Installer Certification Scheme (MCS 001)⁹⁸</p>	<p>Established with the aim to conduct regular and independent assessments of MCS Installers of a range of different technologies to ensure all relevant standards are being met to the benefit of their consumers.</p> <p>Installers are awarded certification and the corresponding Certification Mark if all assessments have been completed satisfactorily. This certification is only valid as long as the Installer operates with technologies in the scope of their certification.</p>

⁹⁷ Microgeneration Certification Scheme. *Installer Standards*. www.microgenerationcertification.org/mcs-standards/installer-standards [latest access: 01/04/2015]

⁹⁸ MCS (November 2014) *Microgeneration Installation Standard: MCS 001: Installer certification scheme requirements: Issue 2.4*

	<p>The technologies and systems in scope include:</p> <ul style="list-style-type: none"> • solar domestic hot water • solar photovoltaic • ground-source heat pumps • air-source heat pumps • micro CHP • micro wind • biomass
Competent Person Scheme ⁹⁹	A Scheme also available to Green Deal and ECO participants; it permits approved individuals and enterprises to self-certify that their work is compliant with the Building Regulations.
Benchmark Certification: MCS ¹⁰⁰	<p>An independent verification and certification scheme aiming to ensure all MCS Installers meet and operate according to the requirements set out in MCS 001 and the relevant MIS technical standards.</p> <p>Membership to the scheme is not mandatory for all MCS Installers.</p> <p>Certification lasts for 12 months and 30 days, after which members are contacted for renewal.</p>
Consumer contract ¹⁰¹	This is a requirement under general consumer law.
Renewable Energy Consumer Code (RECC) Scheme ^{102 103}	<p>A consumer code, administered by REAL and sponsored by the Trading Standards Institute, which covers all MCS sales activity conducted by MCS participants, including:</p> <ul style="list-style-type: none"> • contracts, such as: terms of business; cancellation rights; deposits and part payments; timetable and consumer preparation • completion of orders, such as: responsibility for the work; design, delivery and installation; and testing and commissioning • pre- and post-sale activity, such as: advertising and sales promotion; behaviour of sales employees or representatives; performance information; proposals, estimates and quotes; permissions, approvals and grants; and pre-contractual information

⁹⁹ <http://www.besca.org.uk/Schemes/CPS> Accessed: 27/11/14

¹⁰⁰ Benchmark Certification Limited (18th January 2013) *Scheme Rules*

¹⁰¹ http://www.adviceguide.org.uk/england/consumer_e/consumer_protection_for_the_consumer_e/consumer_contracts_e.htm
Accessed: 1/12/14

¹⁰² Renewable Energy Consumer Code (2014) *Renewable Energy Consumer Code* www.recc.org.uk/scheme/consumer-code [latest access: 01/04/2015]

¹⁰³ Renewable Energy Consumer Code (October 2014) *Renewable Energy Consumer Code: For supplying small-scale renewable and low carbon heat or power generating systems to domestic consumers*

The RECC scheme includes a consumer complaints procedure; the Code directly states that¹⁰⁴:

- the consumer must tell the Code member he or she agreed the contract with, about any complaint they have as soon as possible, and no later than three months, after they have first noticed the problem;
- the Code member will consider the details of the complaint and report the findings clearly to the consumer within seven working days of receiving the complaint;
- if appropriate, the Code member will arrange to inspect the consumer's system, within seven days of receiving the complaint, and within 24 hours of receiving the complaint where a consumer is without heating or hot water as a result of the situation that has led to the complaint;
- the Code member will try to find an agreed course of action to resolve the complaint speedily and effectively to the consumer's satisfaction;
- if the consumer is not satisfied with the remedy offered by the Code member, and the complaint is (partly or wholly) about technical aspects of the installation of an energy generator, they should direct it to the relevant MCS installer certification body;
- if the Code administrator receives a complaint from a consumer that is about technical aspects of the installation of an energy generator, the Code administrator will forward it to the relevant MCS installer certification body, having first obtained the consumer's permission to do so;
- if the consumer is not satisfied with the remedy offered by the Code member, and the complaint is about any other issues linked to the Code, they should direct it to the Code administrator by completing the online complaints registration form here or by requesting a hard copy from the Code administrator;
- the Code administrator will check that the consumer has already given the Code member the opportunity to resolve the complaint;

¹⁰⁴ Renewable Energy Consumer Code (2014) *Renewable Energy Consumer Code* www.recc.org.uk/scheme/consumer-code [latest access: 01/04/2015]

- if satisfied the Code administrator will register and acknowledge the complaint within seven days of receiving it, and will also notify the Code member of the complaint;
- Code members will not take action through the courts without first trying to solve the problem;
- if the complaint has not been resolved, the Code administrator will assign the complaint to one of its complaint handlers who will mediate between the consumer and the Code member, taking the facts of the matter into account and using their best endeavours to suggest an acceptable solution;
- in the event that the complaint cannot be resolved with the assistance of the Code administrator's complaint handlers, either the Code member or the consumer may request to use the independent conciliation or arbitration services set out below.

There is also an independent conciliation service, arbitration service and disciplinary procedure, the Code directly states that:

- if a consumer's complaint against a Code member has not been resolved, the Code member or consumer may ask for the complaint to be passed to the independent conciliation service;
- if the consumer requests to use the independent conciliation service, the Code member must accede to that request;
- if requested to do so, the Code administrator will pass the complaint to IDRS Ltd. (IDRS) who will provide the independent conciliation service on its behalf;
- before proceeding to conciliation the consumer and the Code member will agree to do their best to comply with the conciliator's recommendations which will then be implemented and the complaint closed without recourse to any further action;
- the Code administrator will inform the other people identified as being involved in the dispute and direct them to the rules available here;
- the consumer may be required to fill in a conciliation form and, if so,

	<p>they should send the completed form to IDRS or as otherwise directed;</p> <ul style="list-style-type: none"> the other parties involved in the dispute may also be required to send any relevant information to IDRS, or as otherwise directed, as soon as possible, but in any event within 10 working days; the independent expert will review the written evidence in the light of the consumer protection legislation in force, and may discuss the details and possible solutions with the people involved; if the conciliator's recommendations are not acceptable to either side, they must explain why to the Code administrator and the independent expert; before applying for independent arbitration a consumer must have attempted to resolve the complaint; before applying for independent arbitration the consumer or Code member must inform the Code administrator of their intention to do so; the consumer must complete the application form available from the Code administrator and return it to IDRS with a fee of £100 + VAT; (this fee will be refunded to the consumer by the Code member if the independent arbitrator finds in his or her favour, or recommends it to be refunded); the Code member must accede to a consumer's request for arbitration, provided that the parties have been unable to resolve the complaint using the complaints procedure as described in this Code. The Code member will also be required to pay a fee of £100 + VAT to IDRS.
<p>Microgeneration Certification System Complaints and Sanctions System</p>	<p>A system which is designed to ensure consumers are able to resolve any technical concerns they may have about the installation of any small-scale renewable energy generating system installed in the property.</p> <ul style="list-style-type: none"> Consumers are first advised to contact their MCS Installer to address their complaint. If the issue is unresolved then consumers are permitted to contact the relevant MCS certification body. <p>If a complaint pertains to a non-technical aspect of the Installer service</p>

	<p>or the contract of work, the consumer is advised to contact the Renewable Energy Assurance Limited Scheme (REAL), as long as the MCS Installer is a member of the Scheme.</p>
<p>Microgeneration Certification Scheme Warranty¹⁰⁵</p>	<p>A financial protection scheme designed to protect:</p> <ul style="list-style-type: none"> • the consumers’ deposits • the workmanship warranty provided to the consumer upon completion of the installation • consumers if their MCS Installer ceases trading and are thereby unable to fulfil the requirements of the Renewable Energy Consumer Code (RECC) <p>Example warranty schemes include: the Deposit and Workmanship Warranty Insurance Scheme (DAWWI) devised by the RECC in collaboration with Warranty Service Ltd</p>
<p>Microgeneration Certification Scheme Kitemark^{106 107}</p>	<p>Developed by BSI, the Kitemark aims to ensure all registered products are reliable and perform to industry standards. The MCS Kitemark can be displayed by:</p> <ul style="list-style-type: none"> • energy products, including: <ul style="list-style-type: none"> ▪ thermal and solar photovoltaic ▪ heat pumps ▪ biomass heating • power products, such as: <ul style="list-style-type: none"> ▪ solar thermal and solar photovoltaic ▪ wind turbines <p>The Kitemark can be applied to products which meet the MCS Technology Specific Scheme standards:</p> <ul style="list-style-type: none"> • MCS 004 Solar thermal panels • MCS 005 Solar photovoltaic (PV) panels • MCS 006 Micro and small wind turbines • MCS 007 Heat pumps • MCS 008 Solid biomass heating appliances • MCS 012 Pitched roof kits for PV panels • MCS 014 Heat-led micro combined heat and power (CHP) units

¹⁰⁵ National Warranties: A Kinnell Group Company (2014) *The Deposit and Workmanship Warranty Insurance Scheme*

¹⁰⁶ BSI. *Kitemark, Microgeneration Products: New technology with traditional values*

¹⁰⁷ BSI. *BSI Kitemark for microgeneration products*. www.bsigroup.com/Documents/product-certification/BSI-Microgeneration-Brochure-UK-EN.pdf [latest access: 02/04/2015]

- MCS 015 Electricity-led micro combined heat and power (CHP) units
- MCS 017 Bespoke building integrated solar PV panels

To access the UK Domestic Government Grant projects for particular technologies, all MSC installers and product manufacturers must be certified with the MCS Kitemark.

2.2.4 Home Energy Efficiency Programmes for Scotland (HEEPS)

HEEPS is an initiative launched by the Scottish Government in 2013 which local authorities fund the installation of energy efficiency technologies and measures in local households, with an objective to tackle fuel poverty and increase energy efficiency in homes. It is designed to be a 10 year programme of investment. Relevant local contractors are registered on the Programme's contractor framework, from which local authorities can select contractors to carry out the installation work. The local authority monitors the installation and the contractor's compliance with the Programme, in addition to managing the contract between them and the contractor.

At the time of writing HEEPS incorporates the following programmes:

- **Affordable Warmth**

This scheme is offered to households classified by the UK Government's Affordable Warmth group as being vulnerable to fuel poverty, and available to homeowners or tenants of private sector landlords in receipt of qualifying benefits. Energy efficiency measures are installed and funded via ECO;

- **Area Based Schemes (ABS)¹⁰⁸**

This is an area-based approach designed to initially target the most deprived areas, based on a needs basis, using evidence drawn from data sources such as child poverty statistics, the Scottish House Condition Survey and indices of multiple deprivation. The ABS component of the programme is delivered by Scottish local authorities, who take responsibility for developing schemes suitable for their local area. Of the total budget of £60 million for 2014-15, Scotland's 32 local authorities have a direct allocation of £42 million, with the remainder available to local authorities on a competitive basis, thereby allowing them scope to be innovative and co-develop larger schemes. There is also an expectation that HEEPS: ABS operates alongside ECO, which could be used as a means to generate further income to deliver measures. A range of energy efficiency measures can be installed in homes, depending on the scheme design, and are free to householders, and available for all types of tenures.

¹⁰⁸ Previously known as the National Retrofit Programme. The area-based component of the scheme is the main focus for this research

- **Energy Assistance Scheme**

The Energy Assistance Scheme is a further component of the programme which makes support available to households deemed to be most vulnerable to fuel poverty but are not eligible for Affordable Warmth and are not resident in a current ABS area. Home owners and tenants of private sector landlords that are eligible, qualify for grants of up to £4,000¹⁰⁹, which can be used to fund insulation and heating measures in the home. The Scottish Government allocated £16 million to this scheme for 2014-15. The Energy Assistance stopped taking referrals in March 2015, and will be re-launched, with a slightly different emphasis, as Warmworks from September 2015.

There is also a HEEPS Loan Scheme, offering interest-free loans of up to £10,000 to install a range of energy efficiency measures, which is available to owner occupiers and registered private sector landlords. The repayment period runs up to 10 years. Applicants must have a Green Deal Advice Report and work must be carried out by a Green Deal certified installer.

HEEPS builds upon a number of similar former Scottish Government energy efficiency schemes including:

- **Home Insulation Scheme (HIS) (2009 - 2011)**: an area-based scheme designed to improve energy efficiency in homes through promotion and installation of free of charge or discounted measures. It was replaced by the Universal Home Insulation Scheme (UHIS), which provided energy efficiency measures such as cavity wall insulation, free of charge. UHIS was managed by local authorities and was closed to new applicants in March 2013;
- **Warm Homes Fund (2009 - 2013)**: provided grants and loans to support renewable energy schemes, managed by the Energy Saving Trust, and open to registered social landlords and local authorities;
- **Energy Assistance Package (2009 - 2013¹¹⁰)**: a range of measures available to support homeowners likely to have difficulty paying their fuel bills or keeping their home sufficiently warm; and
- **Boiler Scrappage Scheme (2010 - 2013)**: a £400 subsidy for homeowners to replace inefficient boilers, managed by the Energy Saving Trust (EST).

Table 12 describes the range of organisations and their roles involved in the delivery of HEEPS. In addition, Green Deal assessors and installers have a role to play in relation to the HEEPS Loan Scheme as described above.

¹⁰⁹ In some cases up to £6,500

¹¹⁰ Superseded by the Energy Assistance Scheme in April 2013. The Home Energy Scotland Hotline that provided free energy advice as part of the scheme, continued to run

Table 12: HEEPS organisations, their functions and role in the quality assurance framework

Organisation	Role and responsibility
Scottish Government	Manages and provides funding for HEEPS, as well as other energy efficiency and fuel poverty programmes in Scotland.
Home Energy Scotland¹¹¹	<p>Manages calls in relation to HEEPS and runs the Home Energy Scotland hotline. Offers a one-stop-shop source of free advice on energy efficiency measures, low cost energy tariffs and identifies the most relevant scheme available to meet the consumers' needs, for which they are eligible, for example a programme component of HEEPS, Green Deal, or ECO. This service is funded by the Scottish Government and run by the Energy Saving Trust.</p> <p>Local advice centres can offer face-to-face support. An accompanying outreach programme offers advice to the most vulnerable consumers.</p>
Energy Action Scotland	A not for profit organisation which campaigns for an end to fuel poverty in Scotland and provides information for consumers about HEEPS.
Local Authorities in Scotland	<p>Manage the delivery of HEEPS using local contractors who are registered on the Programme's contractor framework to carry out installation of energy efficiency measures.</p> <p>Local authorities monitor the installation and the contractor's compliance with the Programme, in addition to managing the contractor.</p>
Consumer contract¹¹²	This is a requirement under general consumer law.

2.2.5 Arbed

'**Arbed**'¹¹³ is the Welsh Government's strategic energy performance investment programme as part of its overarching commitments to reduce climate change, help eradicate fuel poverty, and boost economic development and regeneration in Wales. Phase 1 of the programme predominantly improved social housing (79 per cent) properties, with the remainder (21 per cent) privately owned or rented. Phase 1 invested approximately £30 million in public funding, combined with a further

¹¹¹ Home Energy Scotland is funded by the Scottish Government and run by the Energy Saving Trust

¹¹² http://www.adviceguide.org.uk/england/consumer_e/consumer_protection_for_the_consumer_e/consumer_contracts_e.htm

[Accessed: 01/12/14]

¹¹³ Meaning "Save"

£10 million from energy suppliers and £22 million from Registered Social Landlords, to install energy efficiency measures in over 7,500 homes in Wales. Phase 1 ran from 2009 to 2012.

Phase 2 of the Arbed programme started in May 2012 and is funded by the Welsh Government and the European Regional Development Fund (ERDF). It is a 3-year programme, giving every local authority in Wales the opportunity to submit 2 applications to the Welsh Government per year¹¹⁴.

Key objectives of the Arbed phase 2 programme are to:

- improve the energy efficiency of a minimum of 4800 existing homes in the most deprived areas of Wales by the end of 2015;
- reduce a minimum of 2.54 KTC (Kilo tons of carbon) of greenhouse gas emissions by the end of 2015; and
- boost local economies by using local businesses to manufacture, supply and install as many of the measures as possible and provide training and employment opportunities for local workers.

Arbed 2 is an area-based scheme, delivered by 2 managers, Willmott Dixon in North and Mid Wales, and Mellin Homes in South Wales. Scheme delivery incorporates a number of quality assurance processes for consumers (Figure 9).

Figure 9: Delivery process for Arbed 2 and quality assurance for consumers

¹¹⁴ With a view to commissioning 10-15 schemes per year

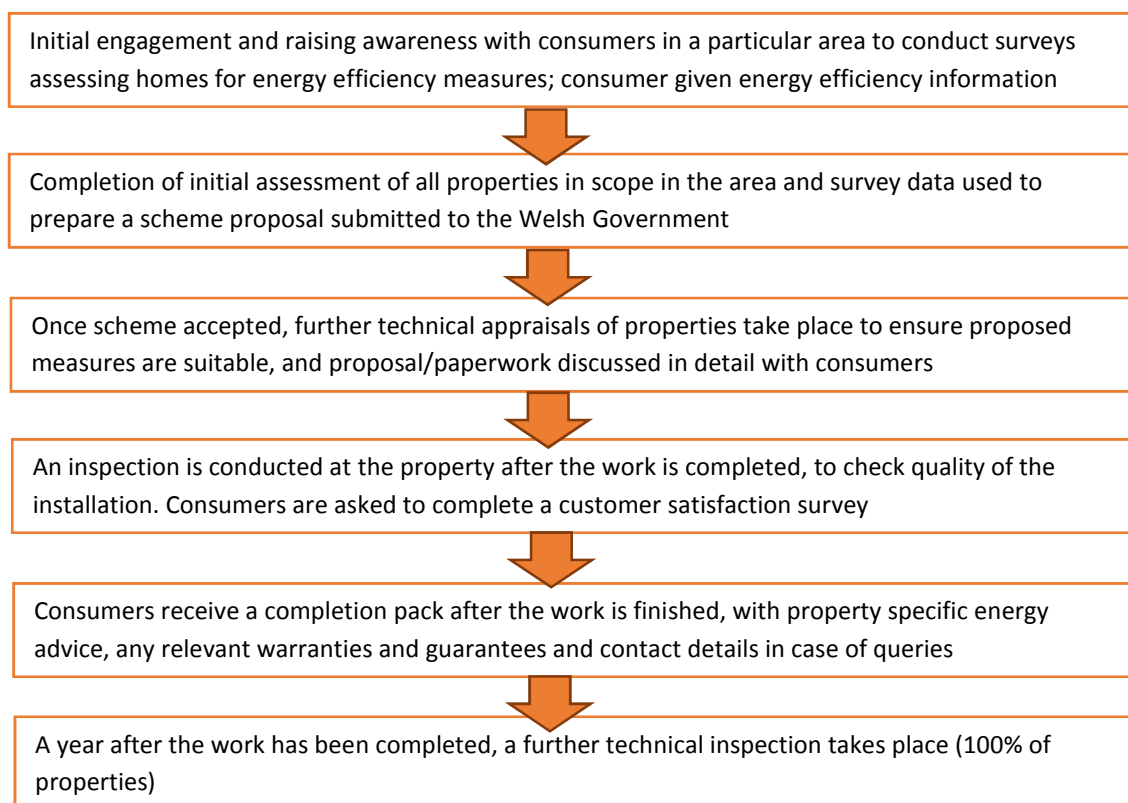


Table 13 provides a summary of the main organisations involved in the delivery and quality assurance of the Arbed 2 programme in Wales.

Table 13: Arbed organisations, their functions and role in the quality assurance framework

Organisation	Role and responsibility
Welsh Government	Overall management and part funding of the delivery of Arbed 2. Approves all proposed area-based schemes and assures quality through data submitted by scheme managers, as well as external research conducted with consumers (post-installation satisfaction surveys).
Willmott Dixon Energy Services	Scheme manager for Arbed 2 in North and Mid Wales. Site management is conducted in-house, therefore Willmott Dixon retain direct responsibility for quality assurance. The customer engagement process is sub-contracted.
Severn Wye	Sub-contractor to Willmott Dixon Energy Services, to carry out the customer engagement for areas proposed to receive support via the Arbed 2 programme.
Mellin Homes	Scheme manager for Arbed 2 in South Wales. Quality is assured through a mix of technical inspections and consumer satisfaction surveys.

Consumer contract ¹¹⁵	This is a requirement under general consumer law.
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2.2.6 Nest

The Nest scheme was launched by the Welsh Government in 2010, with an objective to help reduce the number of households in fuel poverty, and make homes warmer and more energy-efficient. The scheme initially offered a wide range of advice and support about energy efficiency, reducing fuel bills and renewable technologies. A grant component of the scheme enables householders that own or privately rent their property (where landlord permission is obtained) are eligible for Nest whole house improvements. Private landlords are able to refer a maximum of 3 properties to the Nest scheme.

In order to assess whether a householder qualifies for a grant, a Nest assessor visits the property and conducts an assessment to recommend a tailored package of improvements, for example insulation or a new boiler. An installation plan is put together using this information and the proportion of the work to be funded by the Nest programme is then agreed. The majority of the 'whole-house' installations are free to the homeowner. To qualify, homes must be classified as having an F or G energy rating.

A team of Nest partnership development managers work with other organisations such as local authorities and charities, to raise awareness of the scheme, and these organisations are able to directly refer consumers to Nest. The scheme is due to run until 2016.

Since the scheme was launched, the advice component has been reduced within Nest, and replaced by the remit of Resource Efficient Wales, which was launched by the Welsh Government in October 2014.

Table 14 provides a summary of the main organisations involved in the delivery and quality assurance of the Nest scheme in Wales.

¹¹⁵ http://www.adviceguide.org.uk/england/consumer_e/consumer_protection_for_the_consumer_e/consumer_contracts_e.htm
Accessed: 1/12/14

Table 14: Nest organisations, their functions and role in the quality assurance framework

Organisation	Role and responsibility
Welsh Government	Provides funding for and overall management of the Nest scheme in Wales.
British Gas	<p>Contracted by the Welsh Government to deliver the Nest scheme. Qualified assessors and installers (either directly employed or sub-contracted) also undertake internal British Gas training to ensure competence.</p> <p>Responsible for ensuring installers and assessors are qualified and able to undertake work to a quality standard, also inform consumers of quality assurance processes and the complaints procedure.</p> <p>Audits are conducted on all properties post installation, whereby an assessor checks the systems are working and consults the consumer to ensure they are satisfied and understand what has been installed. Installations are guaranteed for 2 years. During this 2-year period the consumer is able to telephone British Gas for advice (aftercare).</p>
Energy Saving Trust (EST)	Sub-contractor to British Gas, with a role in promoting the scheme and providing the advice component (now reduced with the majority of support in the provision of grants).
Resource Efficient Wales (REW)	A contact centre and website to offer a one-stop-shop for consumers about all matters relating to resource efficiency, including information about Government-backed schemes, and general advice and guidance.
Local authorities in Wales	Work in partnership with Nest by referring consumers to the scheme.
Charities in Wales	Work in partnership with Nest by referring consumers to the scheme.
Consumer contract¹¹⁶	This is a requirement under general consumer law.

¹¹⁶ http://www.adviceguide.org.uk/england/consumer_e/consumer_protection_for_the_consumer_e/consumer_contracts_e.htm
 Accessed: 1/12/14

2.3 Other mechanisms underpinning quality assurance applicable for domestic energy efficiency and low carbon

2.3.1 National Occupational Standards (NOS) and qualifications

A series of National Occupational Standards (NOS) have been devised for use in accordance with energy efficiency installations predominantly associated with the Green Deal. These NOS set out the professional and technical standards which must be met by professionals operating under the Green Deal. Relevant NOS titles include:

- Undertake home visits to carry out Occupancy Assessment and give advice
- Conduct assessment in a safe, effective and professional manner
- Produce and issue Energy Performance certificates relating to domestic property
- Explain long-term nature of cost savings

National Awarding Organisations have used many of these NOS to inform their dedicated Green Deal Qualification and Credit Framework (QCF) and National Vocational Qualifications (NVQs), attainment of which is a route to demonstrating Green Deal advisors' and installers' compliance with PAS 2030, including the QCF Level 3 Diploma in Domestic Green Deal Advice¹¹⁷.

In addition, there are other NOS which are applicable for Green Deal installers, such as:

- Install cavity wall insulation
- Install electrical systems in buildings and structures
- Minimise the risk of damage
- Safe work practices

Common Minimum Technical Competencies (CMTCs) for a Competent Person Scheme are developed from the NOS in conjunction with the Department for Communities and Local Government (DCLG), the Competent Scheme Forum, prospective Competent Person Scheme operators and the relevant Sector Skills Council. CMTCs have also been developed for inclusion to certain annexes of the PAS 2030, and CMTC Annexes are developed from the relevant NOS in conjunction with each industry certification scheme and in conjunction with the relevant Sector Skills Council.

Although all Green Deal Advisors are required to achieve a qualification in providing Green Deal advice, installers are only mandated to meet and comply with the standards set out in the Green Deal Code of Practice and PAS 2030.

In addition, a series of technical and product-specific qualifications are on the market and are often included as part of the certification process of Competent Person Schemes. Examples include¹¹⁸:

- QCF Level 3 Award in the Installation of Heat Pump Systems
- SQA Certificate in Environmental Technology Systems
- Level 3 NVQ Diploma in Domestic Heating

¹¹⁷ Asset Skills: the Sector Skills Council for the places where we live and work. *Level 3 Diploma in Green Deal Domestic Advice*

¹¹⁸ Department for Communities and Local Government (December 2011) *Common Minimum Technical Competency Requirements*

2.3.2 Competency schemes and certifications

Competent Person Schemes (CPS) were introduced by the UK Government through the Department of Communities and Local Government (DCLG) to allow individuals and enterprises to self-certify that their work complies with the building regulations as an alternative to submitting a building notice or using an approved inspector.¹¹⁹

A Competent Person must be registered with a scheme that has been approved by DCLG. Schemes authorised by the DCLG are listed on its website.¹²⁰

Contractors on this register are regularly assessed to the standards of their sector and able to self-certify their work as meeting the requirements of the building regulations.¹²¹

There are different schemes for different types of building work:

1. Air pressure and testing of buildings
2. Cavity and solid wall installation in an existing building
3. Combustion appliances
4. Electrical installations
5. Heating and hot water systems
6. Mechanical ventilation and air-conditioning systems
7. Plumbing and water supply systems
8. Replacement windows, doors, roof windows or roof lights
9. Microgeneration and renewable technologies
 - a. Authorised schemes are: APHC, Benchmark, BSI, BESCA, BRE, Certsure, HETAS, NAPIT, OFTEC and Stroma (Table 15).

In order to be registered, installers must demonstrate they meet the relevant minimum technical competence requirements. Most of the Minimum Technical Competences are also used to assess the competence of Green Deal Installers and, where relevant installers of the Microgeneration Certification Scheme.¹²²

Processes and procedures for quality assurance and consumer complaints

The schemes that sit under CPS all have internal systems that manage their quality and deal with complaints. This is one of the stipulations of the Competent Persons Scheme. The stages of the scheme's complaints procedure should be set out in detail, at a minimum on its public website, so that those wishing to use the procedure are aware of the stages, and the procedures shall be

¹¹⁹ <https://www.gov.uk/competent-person-scheme-current-schemes-and-how-schemes-are-authorised#how-schemes-are-authorised>
Accessed: 27.11.2014

¹²⁰ <https://www.gov.uk/competent-person-scheme-current-schemes-and-how-schemes-are-authorised#how-schemes-are-authorised>
Accessed: 27.11.2014

¹²¹ <https://www.gov.uk/competent-person-scheme-current-schemes-and-how-schemes-are-authorised#how-schemes-are-authorised>
Accessed: 27.11.2014

¹²² <https://www.gov.uk/competent-person-scheme-current-schemes-and-how-schemes-are-authorised#how-schemes-are-authorised>
Accessed: 27.11.2014

consistent with the principles relating to complaints management of the Office of Fair Trading Consumer Codes Approval Scheme.¹²³

Therefore, there is an overarching framework recommended by the Department of Communities and Local Government to deal with complaints. The responsibility for a company’s non-compliance with the Building Regulations and breach of scheme rules, lies with the scheme operator. They are compelled to have effective sanctions in place for dealing with these members of the scheme¹²⁴. Furthermore, members of the scheme are assessed against an independent standard and build in annual checks.

Table 15: UK Competent Person Schemes and the organisations involved

Scheme	Function	Organisation involved
Association of Plumbing and Heating Contractors (APHC) ^{125 126}	<p>This is a trade body for plumbing and heating businesses.</p> <p>Established in 1925 APHC represents plumbing and heating installers from sole traders to large companies across England and Wales. APHC aim to provide a system to distinguish their members as professional and reputable businesses. By vetting plumbing and heating contractors as part of the CPS they intend to select firms and individuals who demonstrate quality workmanship and professionalism.</p> <p>The schemes provide the opportunity for companies that meet the approval requirements to promote themselves as ‘certified companies’ under:</p> <ol style="list-style-type: none"> 1. Competent persons schemes: compliant with building regulations 2. Green Deal Installer scheme: undertake installation work as part of government developed Green Deal Scheme 3. Microgeneration Certification Scheme – undertake installation work as part of this scheme <p>To be part of the APHC Certification Ltd the company must meet the criteria laid down for each of the</p>	<p>This is a part of the CPS, and is an umbrella organisation, therefore is managed by the governing regulations of the CPS and represents its members</p>

¹²³ Department Of Communities And Local Government, (June 2012) *Building Regulations: Competent Person Self-certification Schemes 1 - Conditions Of Authorisation*

¹²⁴ Department Of Communities And Local Government, (June 2012) *Building Regulations: Competent Person Self-certification Schemes 1 - Conditions Of Authorisation*

¹²⁵ http://www.aphc.co.uk/certification_schemes.asp Accessed: 24.11.2014

¹²⁶ APHC

	<p>schemes.</p> <p>Approval made up of a combination of desk based assessments of company procedures and on-site assessments of work carried out.</p>	
<p>The British Board of Agrément Solid Wall Insulation Competent Person Scheme (BBA)¹²⁷</p>	<p>BBA is a major authority offering approval and inspection services to manufacturers and installers supplying the construction industry.</p> <p>The BBA's certification and inspection services are recognised by building control, local authorities, industry insurers and key trade associations in the construction industry.</p> <p>Installers of solid wall systems can now join the BBA's Competent Person Scheme (CPS) to self-certify their solid wall insulation work. The BBA will issue a certificate to the installer's consumer and advise the relevant Local Authority that the work has taken place.</p>	<p>Originally set up in 1966 by Government, but now an independent non-profit distributing organisation.</p>
<p>Benchmark</p>	<p>Benchmark Certificated businesses are part of the Government backed Competent Persons Scheme.</p> <p>All Benchmark Members have to agree to the Benchmark consumer code, which is intended to demonstrate commitment to consumer service and providing guaranteed, high quality workmanship to their consumers.</p> <p>Benchmark delivers technical support and industry updates to its members.</p>	<p>Authorised by The Department for Communities and Local Government (DCLG), Independent assessment of its schemes through UKAS.</p>
<p>Building Engineering Services Competence Assessment</p>	<p>Building Engineering Services Competence Assessment Limited (BESCA) is the building services industry's competent person's scheme for the notification of commercial and domestic work under the Building Regulations in England and Wales.</p>	<p>Authorised by The Department for Communities and Local Government (DCLG)</p>

¹²⁷ British Board of Agrément, (September 2014), *BBA Solid Wall Insulation Competent Person Scheme — how will it help installers?* [Accessed via http://www.bbacerts.co.uk/download/document-types/literature/BBAdatasheet_060i2.pdf 20.03.2015]

Limited (BESCA)¹²⁸	<p>The scheme provides for any companies that need to self-certify ‘controlled services’ work under the Building Regulations.</p> <p>BESCA’s schemes was authorised by DCLG to allow self-certification of work requiring notification under parts of the Building Regulations. To be an Accredited Certifier:</p> <ul style="list-style-type: none"> • Someone who has knowledge of the Building Regulations and has a responsibility on a day-to-day basis for the safety, technical standards and quality of the in-scope controlled services. 	
British Institute of Non-Destructive Testing (BINDT)	<p>The British Institute of Non-Destructive Testing (BINDT) is an accredited certification body offering personnel certification against criteria set out in international and European standards through the internationally recognised PCN Certification Scheme. The PCN (Personnel Certification in Non-Destructive Testing) is an international scheme for the certification of NDT technicians and supervisors and meets BS EN ISO 9712 requirements.</p> <p>NDT qualifications are provided through a number of Authorised Qualifying Bodies and certificates of competence are issued under the brand name of the PCN Scheme.</p> <p>A certificate of competence is a document issued under the rules of the certification system indicating that the certificated person is competent to perform the inspection tasks defined in the relevant documents and demonstrates your ability to detect flaws and defects, and to satisfy specifications that call for certificated competent inspectors.</p> <p>PCN certification will also facilitate compliance with ISO 9001:2008 (clause 6.2.2) requirements for ‘competence, awareness and training’.</p>	<p>Authorised by The Department for Communities and Local Government (DCLG).</p> <p>Independent assessment of its schemes through UKAS.</p>
BM TRADA	<p>BM TRADA CPS is designed to ensure that the work</p>	<p>Authorised by The</p>

¹²⁸ <http://www.besca.org.uk/Schemes/CPS> Accessed: 27/11/14

<p>Competent Persons Scheme- Replacement Windows and Doorsets in Dwellings (BM TRADA)</p>	<p>carried out by its members meets requirements set out in Building Regulations and Local Authority Building Control (LABC). The scheme conducts initial checks on installers before they join, as well as regular inspections of their installation work.</p> <ul style="list-style-type: none"> • A written test is to be completed. • Following the test the assessor will observe the installer or surveyor carrying out their work. • They are questioned about a range of different contexts • Benefits are they it provides a uniform standard that will have to be met across the country, with a means of demonstrating competence through a Minimum Technical Competence card. 	<p>Department for Communities and Local Government (DCLG). Independent assessment of its schemes through UKAS.</p>
<p>British Standards Institution (BSI)</p>	<p>BSI is an independent, private, non-profit distributing company which attempts to help organisations improve their quality and performance, reduce their risk, manage and protect their reputations, and help them to be more sustainable.</p>	<p>Authorised by The Department for Communities and Local Government (DCLG). Independent assessment of its schemes through UKAS.</p>
<p>CERTASS Limited (Certification and Assessment)</p>	<p>Certass is a not for profit organisation dedicated to raising standards in the glazing industry. Established in 2006, Certass operates a glazing Competent Person Scheme under government licence. The Thermal Rating Register, also managed by Certass, ensures thermal compliance of replacement windows and doors.</p> <p>This means Certass financially and technically assesses its members to ensure they meet current UK Building Regulations. Certass notifies the local authority of completed member installations and the Building Regulation Compliance Certificate is issued to the householder.</p>	<p>Authorised by The Department for Communities and Local Government (DCLG). Independent assessment of its schemes through UKAS.</p>
<p>National Federation of Roofing Contractors</p>	<p>The Competent Roofer scheme is for roofing refurbishment for over 50% of the roof for all roofing disciplines and for all property types, domestic, commercial and industrial.</p>	<p>Authorised by The Department for Communities and Local Government</p>

Limited (Competent Roofer)¹²⁹	<p>As part of Competent Roofer, the scheme members are regularly inspected and updated on Building Regulations to keep them compliant. They also have a 'hot-line' number which allows them to report non-compliance by property owners or other companies.</p> <p>Domestic property owners will automatically receive a 10 year insurance-backed guarantee which includes breach of Building Regulations and contractor insolvency as part of the compliance certificate, supplied on completion of work.</p>	<p>(DCLG). Independent assessment of its schemes through UKAS.</p>
ELECSA¹³⁰	<p>ELECSA provides inspection, assessment and certification services to contractors working with electrical and renewable energy installations in private dwellings means that ELECSA offers proven consistency, quality and impartiality.</p> <p>ELECSA provides Part P, MCS and BAFE assessment and certification services to contractors installing electrical or renewable technology systems in homes.</p>	<p>Owned by the Electrical Contractors' Association (ECA). Independent assessment of its schemes through UKAS. It is now under the tenure of Certsure (a building services certification organisation, formed from a partnerships with the Electrical Safety Council and Electrical Contractors' Association).</p>
CORGI Services Limited (CSL)	<p>This used to be the membership body of the CPS for gas registration in England and Wales. This has now been replaced by the Gas Safe Register.</p>	<p>Gas Safety Trust</p>
Fenestration Self-Assessment	<p>This is the government authorised Competent Persons Scheme for the replacement of windows, doors and roof</p>	<p>Set up by the Glass and Glazing</p>

¹²⁹ www.competentroofer.co.uk [Accessed 18.03.2015]

¹³⁰ Certsure confirmed that ELECSA is a brand name rather than an acronym

<p>scheme (FENSA)</p>	<p>lights in England and Wales.</p>	<p>Federation (GGF) and other industry bodies. Independent assessment of its schemes through UKAS</p>
<p>Gas Safe Register</p>	<p>Gas Safe Register is the official gas registration body for the United Kingdom, Isle of Man and Guernsey, appointed by the relevant Health and Safety Authority for each area. By law all gas engineers must be on the Gas Safe Register.</p> <p>The Register aims to protect the public from unsafe gas work through:</p> <ul style="list-style-type: none"> • a dedicated national investigations team tracking down individuals working illegally • regular inspections of Gas Safe registered engineers • educating consumers and raising awareness of gas safety • investigating reports of unsafe gas work 	<p>Run by Capita Gas Registration and Ancillary Services Limited, a division of Capita Plc. Independent assessment of its schemes through UKAS</p>
<p>Heating Equipment Assessment and Approval Scheme (HETAS)</p>	<p>HETAS operates a government approved training and registration scheme for solid fuel and biomass installers. Consumers can be assured of wood fuel quality by choosing a supplier approved by the HETAS Solid Biomass Assurance Scheme (SBAS).</p> <p>HETAS also approves solid fuel and biomass heating appliances to meet minimum efficiency and safety standards, with a full list available in the HETAS Guide and online.</p> <p>HETAS represents the solid fuel and biomass industry at government level, and is involved with building regulations and setting standards both in the UK and Europe.</p>	<p>Independent assessment of its schemes through UKAS</p>
<p>National Association of Professional Inspectors and</p>	<p>NAPIT are a Government approved Competent Person Scheme operator for trades-people working within the fields of domestic electrical, plumbing, heating and ventilation work.</p>	<p>Independent assessment of its schemes through UKAS</p>

<p>Testers (NAPIT)</p>	<p>NAPIT members attempt to provide guaranteed, high quality workmanship to all householders while maintaining excellence as standard.</p> <p>NAPIT have gained additional Government approvals including a Microgeneration Certification Scheme for renewable technologies.</p>	
<p>Network VEKA</p>	<p>Network VEKA is a not-for-profit organisation made up of window, door and conservatory companies throughout Britain and Ireland.</p> <p>Companies cannot become members of Network VEKA without undergoing rigorous vetting and must agree to remain under continuous scrutiny to ensure the highest standards.</p>	<p>Independent assessment of its schemes through UKAS</p>
<p>National Inspection Council for Electrical Installation Contracting (NICEIC)</p>	<p>NICEIC is the UK electrical contracting industry's leading independent voluntary body.</p> <p>It offers certification services, Building Regulations Schemes, products and support to electrical contractors and many other trades within the construction industry.</p> <p>NICEIC promotes the use of its registered contractors to householders, landlords, industry and specifiers and talks to Government and other stakeholders on wider issues, such as better regulation and skills.</p> <p>NICEIC registration aims to demonstrate a contractor's skills and professionalism, and the quality of its products and services.</p>	<p>Under the tenure of Certsure</p>
<p>Oil Firing Technical Association (OFTEC)</p>	<p>OFTEC is the Trade Association for the oil firing industry in the UK and the Republic of Ireland.</p> <p>OFTEC Registration Services provides Competent Person Schemes under licence to the Department of Communities & Local Government for technicians in the oil heating and cooking industry and associated trades.</p>	<p>Independent assessment of its schemes through UKAS</p>
<p>STROMA</p>	<p>Aims to ensure contractors can carry out design,</p>	<p>Independent</p>

Certification	installation and issue self-certification for compliance with the Building Regulations for the installation of heating and hot water systems, microgeneration and renewable technologies.	assessment of its schemes through UKAS
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2.3.3 Quality marks, certification marks and kite marks

Quality marks, certification marks and kite marks are ways in which domestic energy efficiency and low carbon measures can be certified as legitimate. These vary depending on the product, or the scheme that the different measures come under. In general, the marks or endorsement are intended to assure the consumer of the verified nature of the product in keeping with a framework of national standards. However, levels of quality assurance provided may differ between different marks. These national standards also differ depending on the product or efficiency measure.

Table 16 summarises relevant organisations that run such quality and kite marking schemes, as well as the complaints and quality assurance processes for each.

Table 16: Organisations involved in the quality, certification and kite marks

Mark	Overview	Organisations involved	Complaint and quality processes
Kitemark ^{131 132}	<p>Kitemark is a UK product and service quality certification mark. It intends to make sure the certified products are reliable and perform to standards.</p> <p>Certification is required by all installers and product manufacturers who want to be able to access the UK domestic government grant projects for some technologies.</p> <p>Energy Efficient Buildings Kitemark: ‘Kitemark has significant business and end consumer recognition at more than 80% for consumers, underpinned by quality, integrity and independence’</p>	Operated through BSI, an independent organisation, which is part of the Competent Skills Scheme.	<p>The quality of products associated with the Kitemark are checked regularly, as the licence to display a Kitemark are reassessed regularly by BSI.</p> <p>Complaints regarding the quality of the Kitemark approved products should be assessed through the BSI.</p>
BBA Logo ¹³³	BBA offers product certification in the	This is run	Complaints and

¹³¹ BSI. *Kitemark, Microgeneration Products: New technology with traditional values*

¹³² <http://www.bsigroup.co.uk/en-GB/the-green-deal/Energy-Efficient-Buildings-Kitemark/> Accessed: 3.12.2014

	<p>following domestic measures:</p> <ul style="list-style-type: none"> • Cavity wall insulation • Loft insulation • Pitched roof insulation • Flat roof insulation • External wall insulation • Draught proofing • Floor insulation • Energy efficient glazing and doors <p>When installers are approved they will be licensed to use a BBA logo.</p> <p>This logo can be used on letter heads, advertisements, literature, quotations, invoices, websites and vehicles. The relevant installer number must be shown directly below the logo, plus the names of the measures for which the approval has been achieved.</p>	<p>through the US Government’s Environmental Protection Agency.</p>	<p>assurance of quality are processed internally.</p>
<p>Building Research Establishment (BRE) Global¹³⁴</p>	<p>UKAS accredited, independent third party approval organisation offering certification of products, services and systems to an international market, including:</p> <ul style="list-style-type: none"> • Loss Prevention Certification Board (LPCB) - many insurers and specifiers look for the LPCB mark of approval when dealing with fire and security issues. • Building Research Establishment Environmental Assessment Methodology (BREEAM) - the world's leading environmental assessment method to assess new, existing buildings and community scale development 	<p>This is accredited by UKAS, but is independently run.</p>	<p>Complaints and quality control are all internal to BRE Global. There are regular quality checks on certified products and services.</p>

¹³³ <http://www.energystar.gov/products/how-product-earns-energy-star-label> Accessed:3/12/14

¹³⁴ <http://www.bre.co.uk/page.jsp?id=1763>

	<ul style="list-style-type: none"> • Microgeneration - certification of products and installers under the Microgeneration Certification Scheme. • Responsible sourcing - a BRE Global framework standard (BES 6001) demonstrates the responsible sourcing of construction products • Environmental profiles - a method of identifying and assessing the environmental effects associated with building materials. • ISO 9001 - the world's most established quality framework for assessing and certifying an organisation's quality management system • ISO 14001 - an authoritative demonstration of the quality of an organisation's environmental management and commitment to the environment. • ISO 18001 - a specification that helps to fully integrate health and safety into company policies and working practices. 		
<p>Keymark</p>	<p>The Keymark is a voluntary quality mark for products and services.</p> <p>Rigorous certification methodology offers assurance that the service or product demonstrates continued compliance with all relevant European Standards.</p> <p>ANEC (European consumer organisation for standardisation) supports the Keymark as a visible and</p>	<p>It is jointly owned by the European Standards Organisations (ESOs) CEN and CENELEC. It is operated by certification bodies that have CEN authorisation.</p>	<p>The Keymark licence is not valid if a Keymarked product is changed/modified, however depending on modifications it might not be necessary to carry out complete new initial type test</p>

	<p>independent confirmation of the conformity of the product to European standards.</p> <p>Based on the Keymark scheme for solar thermal products, testing, inspection and certification are now all organised into a single streamlined process.</p>		<p>An annual surveillance will be carried out which includes a detailed inspection of the product and comparison with the specification of the original type tested sample.</p> <p>A special test can be ordered through a certification body by anyone if the requirements of the certification program or registered values of the certified product is doubted.</p>
<p>The Solar Keymark¹³⁵</p>	<p>The main quality label for solar thermal. Part of the overall Keymark Voluntary third-party certification mark for solar thermal products, demonstrates that the product conforms to the relevant European standards and fulfils additional requirements.</p> <p>To achieve the CEN solar thermal product Keymark one shall follow the general and specific rules:</p> <ul style="list-style-type: none"> • A quality system covering production line based on the EN ISO9000 series of standards • Third party initial inspection of the manufacturing site. • Third party periodic surveillance. 	<p>It is jointly owned by the European Standards Organisations CEN and CENELEC. It is operated by certification bodies that have CEN authorisation.</p>	<p>As above, this is regularly checked.</p>

¹³⁵ The Solar Keymark, CEN Keymark Scheme (November 2010) *The Solar Keymark/ The Quality Label for Solar Thermal Products in Europe*

	<p>Products covered:</p> <ul style="list-style-type: none"> • Solar thermal collectors • Factory made solar thermal systems • Custom built systems • Solar water heater stores. 		
<p>Environmental Impact Assessment (EIA) Quality Mark¹³⁶</p>	<p>This mark allows organisations that lead the coordination of statutory EIAs in the UK to make a ‘commitment to excellence’ in their EIA activities and have this commitment independently reviewed.</p> <p>Registrants have seven key commitments:</p> <ul style="list-style-type: none"> • EIA management – effective control. • EIA team capabilities – all staff undertake regular and relevant continuing professional development. • EIA regulatory compliance – delivering Environmental Statements • EIA context and influence - coordinate effectively • EIA content - undertake assessments • EIA practice – enhance the profile of good quality EIA, on an annual basis and by making appropriate examples of our work. • EIA presentation – commit to deliver Environmental Statements that set out information in transparent way. 	<p>The scheme is operated by IEMA (Institute of Environmental Management & Assessment)</p>	<p>The EIA Quality Mark Panel reviews EIA Quality Mark applications against the EIA Quality Mark application criteria. This happens initially when companies wish to obtain the EIA Quality Mark, and there are regular assessments to make sure these standards are being met, internal to EIA.</p>
<p>Energy Saving</p>	<p>The Energy Saving Trust’s endorsed</p>	<p>Energy Saving</p>	<p>Products endorsed</p>

¹³⁶ <http://www.iema.net/eiaq-what> Accessed: 3/12/14

<p>Trust Endorsed Products</p>	<p>product standards claim to offer consumers and businesses clear and trusted information to help inform the decision-making process when buying new appliances and products. Manufacturers of domestic energy efficiency and low carbon measures can apply to have their products endorsed by the Energy Saving Trust and included on the EST Online database.</p> <p>The Trust runs a database of endorsed products, relating to domestic energy efficiency measures, including</p> <ul style="list-style-type: none"> • Boilers • Heating controls • Glazing • Chemical inhibitors <p>Products endorsed by the Energy Saving Trust have to meet recommended product and energy performance criteria, agreed by industry.</p>	<p>Trust</p>	<p>by the Energy Saving Trust have to meet recommended product and energy performance criteria, agreed by industry.</p>
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2.3.4 Warranties and guarantees

Warranties and guarantees are used in the domestic energy efficiency market as a proxy for quality and a form of redress. They are an agreement between an installer and a consumer, ensuring that any fault with an energy efficiency measure, occurring within the warranty or guarantee timescale, is resolved free of charge by the installer. The term ‘guarantee’ typically refers to the work that has been carried out, whereas the term ‘warranty’ usually relates to the actual project, for example, workmanship may be guaranteed, while a boiler has its own warranty. However it should be noted that the terms can also be used interchangeably, with some products having their own guarantees, for instance.

The Energy Companies Obligation (ECO) have established a list of ‘appropriate guarantees’¹³⁷ which include:

- The **Kinnell Green Deal Guarantee** - specific to cavity wall insulation installations, Park Home External Wall Insulation Systems and solid wall insulation installations¹³⁸
- The **Jelf Insurance Partnership ECO Guarantee** - specific to Cavity wall insulation installations¹³⁹
- The **Enterprise ECO Guarantee from Home Insulation & Energy Systems Quality Assured Contractors Scheme (HIES)** in conjunction with **Consumer Protection Insurance Ltd and Enterprise Insurance Plc.** – specific to cavity wall Insulation and solid wall insulation¹⁴⁰

In addition there was previously the Renewable Energy Installation Guarantee Agency (**REIGA Guarantee** - specific to cavity walls insulation installations¹⁴¹, however REIGA ceased trading in January 2014, following “the failure of protracted negotiations with our insurers to provide a deposit and workmanship guarantee at a competitive rate”¹⁴².

Table 17: Organisations involved in guarantees and warranties

Guarantee	Overview	Organisations involved	Complaint and quality processes
Cavity Insulation Guarantee Agency ^{143 144}	<p>The CIGA guarantee – run by the Cavity Insulation Guarantee Agency - is given to each cavity wall installation that meets CIGAs requirements.</p> <p>The guarantee is specified to provide 25 years cover for materials and workmanship which meet the relevant BBA or BS specification and system suppliers</p>	<p>CIGA also operates and administers the Cavity Wall Insulation Self Certification scheme (CWISC) in association with the British Board of Agrément and National Insulation Association.</p>	<p>The installer should be contacted first, in the existence of any complaints. If the problem remains unresolved, then the CIGA should be contacted.</p> <p>CIGA should then arrange to investigate the complaint, and where necessary, ensure that the appropriate remedial work is carried out free of charge.</p> <p>The maximum value of rectification work is currently</p>

¹³⁷ OFGEM, (2014), Energy Companies Obligation: Appropriate Guarantees

¹³⁸ OFGEM, (2014), Energy Companies Obligation: Appropriate Guarantees

¹³⁹ OFGEM, (2014), Energy Companies Obligation: Appropriate Guarantees

¹⁴⁰ OFGEM, (2014), Energy Companies Obligation: Appropriate Guarantees

¹⁴¹ OFGEM, (2014), Energy Companies Obligation: Appropriate Guarantees

¹⁴² http://www.solarpowerportal.co.uk/news/renewable_energy_installation_guarantee_agency_ceases_trading

¹⁴³ National Insulation Association (August 2010) *Code of professional practice: ‘Consumer Service is the key element for both our association and its members’*

¹⁴⁴ <http://www.ciga.co.uk/about-ciga/> Accessed: 3/12/14

	recommendation.		£20,000.
Biomass Boiler Guarantee (Amgen renewables) ¹⁴⁵	This guarantee is intended to last for 12 months after the boiler is installed.	Run by Amgen Renewables.	As above, the installer should be contacted first, and then the overall guarantee scheme which should then set about investigating the issue.
BUFCA ECO Technitherm Guarantee ¹⁴⁶	An Ofgem approved guarantee dedicated for cavity wall insulations, hybrid wall insulations, and hard to treat cavity wall insulations.	Jelf Insurance Partnership Services Ltd and Guarantee Protection Insurance Ltd.	
CIGA Party Wall Insulation Guarantee ¹⁴⁷	An Ofgem ECO approved guarantee, it covers party cavity wall insulation.	Offered by Cavity Insulation Guarantee Agency (CIGA)	
Enterprise ECO Guarantee ¹⁴⁸	A range of guarantees covering cavity wall insulation, solid wall insulation, and park home external wall insulation systems. Present on the Ofgem 'ECO approved guarantees' list.	Home Insulation & Energy Systems Quality Assured Contractors Scheme (HIES), in conjunction with Consumer Protection Insurance Ltd and Enterprise Insurance Plc.	
Heat Pump Guarantee	This guarantee is marketed to last for 24 months for parts and labour from the date of installation or 33 months from the date of manufacture, whichever is	This is in conjunction with NIBE and Benchmark	As above.

¹⁴⁵ <http://www.amgenrenewables.com/press-releases/biomass-boiler-service/> Accessed: 4/12/14

¹⁴⁶ OFGEM, (2015), Energy Companies Obligation: Appropriate Guarantees V1.23

¹⁴⁷ OFGEM, (2015), Energy Companies Obligation: Appropriate Guarantees V1.23

¹⁴⁸ OFGEM, (2015), Energy Companies Obligation: Appropriate Guarantees V1.23

	<p>shorter.</p> <p>The guarantee is based on the unit being installed and commissioned by a NIBE (domestic heating sector manufacturer) accredited installer, services every year and the Benchmark documents completed.</p>		
<p>Jelf Insurance Partnership ECO Guarantee¹⁴⁹</p>	<p>A guarantee specific to cavity wall insulation installations.</p> <p>The guarantee is included in the ECO ‘approved guarantee’ list.</p>	<p>Issued by Jelf Insurance Partnership Services Ltd and Guarantee Protection Insurance Ltd.</p>	<p>Jelf Insurance Partnership ECO Guarantee¹⁵⁰</p>
<p>Kinnell Green Deal Guarantee¹⁵¹ ¹⁵²</p>	<p>This guarantee is specific to cavity wall insulation installations, Park Home External Wall Insulation Systems and solid wall insulation installations.</p> <p>The guarantee is included in the ECO ‘approved guarantee’ list.</p>	<p>Issued by Warranty Services Ltd on behalf of Guarantee Protection Insurance Ltd</p>	<p>Consumers are recommended to contact their Green Deal provider to notify them of any fault, if this is unsuccessful, consumers must follow the relevant claims procedure.</p>
<p>SWIGA Solid Wall Guarantee¹⁵³</p>	<p>An Ofgem approved ECO guarantee, covering solid wall insulation installations (including non-traditional construction types).</p>	<p>Solid Wall Insulation Guarantee Agency.</p>	

¹⁴⁹ OFGEM, (2015), Energy Companies Obligation: Appropriate Guarantees V1.23

¹⁵⁰ OFGEM, (2015), Energy Companies Obligation: Appropriate Guarantees V1.23

¹⁵¹ OFGEM, (2014), Energy Companies Obligation: Appropriate Guarantees

¹⁵² Kinnell Green Deal. *Frequently Asked Questions*. [Accessed: 02/04/2015]

¹⁵³ OFGEM, (2015), Energy Companies Obligation: Appropriate Guarantees V1.23

Other Heat Pump Warranties

Heat Pump Warranties usually come with a warranty of two to three years. Workmanship warranties for heat pumps can last for up to ten years, for example through QANW (Quality Assured National Warranties).

Many manufactures offer options for warranty extensions for a fee, which can operate for 20 years or more. However these do require regular scheduled maintenance and yearly check by the consumer.¹⁵⁴

Insulation Warranty Scheme

When a system is installed as part of the Green Deal the Green Deal Code of Practice requires that the consumer is protected by an adequate warranty.¹⁵⁵

An example of an Insulation Warranty Scheme is the NICEIC Insulation Warranty Scheme:

- Provides installers with access to Ofgem and Green Deal insulation guarantees.
- NICEIC provides warranties for consumers that last up to 25 years.
- Protect the consumer in the event that the original installer is no longer able to correct installation work.
- Where installers/manufacture are still trading they are required to put the installation right.
- When an insulation system installed as part of the ECO, Ofgem requires that an insulation warranty is provided with each installation.

Solar panel warranty schemes

Solar installers' levels of workmanship and their parts/labour warranties differ based on the installer company. Typically, a parts and labour warranty will cover two years, in addition to the regular manufacturer warranties on the individual solar components. A name brand solar panel will have a 20- to 25-year warranty on output, and one or two years for materials and workmanship. Most manufacturers guarantee at least 80 per cent output (for the specified number of years).

However, there are different warranties based on the particular parts of the solar panel:

- Solar Panels: Full Warranty 20-25 years
- Batteries (non-grid tie systems): 5-10 years
- Inverters: 5-10 years

2.4 How the quality assurance framework fits together

The mechanisms identified in Table 18 below represent the key factors in place underpinning the quality assurance framework for the Green Deal, ECO and MCS. Table 19 shows the key factors in relation to HEEPS, Arbed 2 and Nest.

¹⁵⁴ <http://www.energysavingtrust.org.uk/domestic/content/air-source-heat-pumps> Accessed: 4/12/14

¹⁵⁵ NICEIC. *The NICEIC Insulation Warranty Scheme*

Table 18: Main quality assurance framework mechanisms, Green Deal, ECO and MCS

	Green Deal	ECO	MCS
Code of Practice	Yes	No	Yes
Quality Mark	Yes	No	Yes
Audit	certification bodies	energy suppliers and certification bodies	certification bodies
Scheme specific complaints procedure	where a Green Deal plan is in place, handled by the Ombudsman Service	No	handled by RECC or the Trading Standards Institute
Certification	mandatory requirement for installers to be certified to PAS 2030	mandatory requirement for installers to be certified to PAS 2030	mandatory requirement for installers to be certified to MCS standards
Consumer route to achieving redress	via the Ombudsman Service, where a Green Deal plan is in place	No scheme specific route	via REAL or Trading Standards
Guarantee and/or warranty	both mandatory under CoP, guarantee of an insurance contact, warrant cover for 10 or 25 years depending on product	for most measures, warranty only. For boilers, warranty only mandatory from January 2015	currently only warranties, insurance –backed guarantees to be launched late 2015
Standards	PAS 2030 ¹⁵⁶ , PAS 2031 for certification bodies	PAS 2030	MCS 001 and relevant Technology Specific Schemes
Generic consumer protection	Building Regulations, Consumer Code Approval Scheme, Consumer Protection Act 1979	Consumer Protection Act 1979	Consumer Protection Act 1979

¹⁵⁶ Qualifications for accredited assessors and installers are based on National Occupational Standards (NOS) which are underpinned by PAS 2030

Table 19: Main quality assurance framework mechanisms, HEEPS, Arbed 2 and Nest

	HEEPS	Arbed 2	Nest
Overarching scheme management	Scottish Government 'owns' the scheme	Welsh Government oversees delivery and approves area-based schemes	Welsh Government oversees scheme delivery
Contracting of assessors and installers	Local authorities in Scotland are responsible for assessing suitability, qualifications and competence of assessors and installers they contract with	Scheme managers Willmott Dixon and Mellin Homes are responsible for assessing suitability, qualifications and competence of assessors and installers they contract with	Delivery provider British Gas checks qualifications and competence of assessors and installers, and offers in-house training as well
Audit	Technical inspection by a Home Energy Scotland energy advisor to check measures are suitable for properties Independent technical monitoring agent monitors installations	Technical inspection of properties following scheme acceptance to check proposed measures are suitable for properties 100% of properties inspected a year post-completion of works	100% of properties checked by an assessor post completion of works
Scheme specific complaints procedure/achieving redress	Consumer would have to contact local authority in first instance	Consumer would have to contact the scheme manager in first instance Customer satisfaction surveys undertaken	Consumer would have to contact British Gas in first instance Customer satisfaction surveys undertaken
Accreditation	Domestic energy assessors in Scotland must be part of organisations accredited by the Scottish Government	Domestic energy assessors must be accredited by a scheme approved by DCLG	Domestic energy assessors must be accredited by a scheme approved by DCLG
Guarantee and/or warranty	Relevant product warranties and guarantees issued to consumer	Relevant product warranties and guarantees issued to consumer	Relevant product warranties and guarantees issued to consumer Work guaranteed for 2 years
Standards	Qualifications based on National Occupational Standards (NOS) in turn based on PAS 2030	Qualifications based on National Occupational Standards (NOS) in turn based on PAS 2030	Qualifications based on National Occupational Standards (NOS) in turn based on PAS 2030
Generic consumer protection	Building Regulations, Consumer Protection Act 1979	Building Regulations, Consumer Protection Act 1979	Building Regulations, Consumer Protection Act 1979

3. Issues with quality assurance in the domestic energy efficiency market

3.1 Introduction

This chapter describes the research findings in relation to the issues identified within the quality assurance framework for energy efficiency and low carbon schemes. Findings are presented thematically, and where appropriate make reference to specific schemes and initiatives in scope (as described in more detail in Chapter Two). Where relevant, sections also include information on ‘what needs to change’ – drawn from respondent perspectives, rather than the conclusions of the researchers. Sub-sections include the number of respondents that raised the issue, in brackets after the sub-section heading.

3.2 A highly complex landscape

Chapter Two provides an overview of the wide range of energy efficiency and low carbon initiatives and schemes currently available to consumers. In addition to multiple organisations, processes and schemes, there are also differences between the schemes that operate across Great Britain, and those in Scotland and Wales. There is a consensus among research participants that this creates a highly complex landscape which lacks transparency and is difficult for consumers to navigate.

‘It [the energy efficiency and low carbon landscape] is a minefield [for consumers] as it is so complex and hard to understand’

Manufacturer of energy efficiency measures

‘The range of energy efficiency schemes and organisations is bewildering’

Professional body in the energy sector

Feedback from the depth interviews states that there is anecdotal evidence suggesting work has been in progress to create and implement a Memorandum of Understanding between the various schemes. However additional questioning indicates that it is not clear which organisations are leading on this, specifically what might be achieved, when it will be in place, or whether it will be sufficient to simplify the landscape from a consumer perspective.

3.2.1 Gaps in consumer knowledge and understanding about ‘what good looks like’ (38 respondents)

Research conducted in 2011 stated that many consumers at the time were unfamiliar with the range of energy efficiency and low carbon technologies and measures that can be installed in the home, and that many were similarly unaware of Government schemes such as the Feed-in Tariff (FiT). This report also stated that ‘there are complex issues involved in making decisions about the suitability of technology and the possible savings. Online help is available...but not all consumers are likely to know about it, and not everyone has access to the internet’.¹⁵⁷ Customer contacts to Citizens Advice consumer helpline shows consumer confusion about the Green Deal and ECO, and confusion between the two schemes¹⁵⁸.

Feedback from the respondents to the call for evidence points to dissatisfaction among consumers presented with a myriad of schemes and potential organisations able to undertake energy efficiency and low carbon work, as it can take a long time just to decide how to proceed. The consensus among research participants is that consumers still do not have a strong knowledge or understanding of domestic energy efficiency measures, or the Government schemes that enable installation of such measures for home-owners. In turn they are unlikely to understand the difference between good quality and poor quality energy efficiency assessments and installations¹⁵⁹.

‘Why three schemes for what the customer sees as one job? The energy efficiency and low carbon fuel sector is not a “one stop shop” and has been made very complex’

Quality assurance body, energy efficiency

The provision of quality assurance ‘badges’ for consumers, notably the Green Deal Code of Practice and Quality Mark, are not widely recognised or understood by the general public, and therefore respondents say that consumers have no ‘useable’ benchmark standard.

‘Most consumers have no idea that it [Green Deal Code of Practice] exists, so they have no point of reference to compare companies against’

‘The Quality Mark isn’t readily recognised by the public, and because it isn’t widely recognised, even some customers of the better companies (those that try to make things as clear as possible) don’t really recognise or understand it’

Energy assessors

¹⁵⁷ Consumer Focus: Centre for Consumers and Essential Services, University of Leicester (2011) *Making the connection: strengthening the advice, complaint handling and redress framework*

¹⁵⁸ Consumer Futures (2014) Response to the Energy and Climate Change Select Committee on the Green Deal watching brief part 2 <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/energy-and-climate-change-committee/green-deal-watching-brief-part-2/written/6187.pdf>

¹⁵⁹ Also identified by the Office of Fair Trading in 2012 as part of their research into home insulation

In Scotland, feedback from the telephone interviews points out that there can be inconsistency between HEEPS schemes where they are managed by different local authorities. The local authority's own operating standards and procedures can potentially add a further layer of consumer protection which in some, although not all cases, may be harder for consumers to understand.

3.2.2 What needs to change?

Respondents suggest that consumers need to know and understand 'what good looks like' when having energy efficiency and low carbon measures assessed or installed in their homes. To facilitate this, research participants recommend the following:

- a guidance document and checklist for consumers to help them spot problems and check installation quality
- information to make consumers aware of their rights in relation to quality assurance, legal and other protections, and how to complain and seek redress where relevant, depending on where they live and which Government scheme(s) apply to them
- a requirement for assessors to make consumers aware of the risk of installing measures from a financial perspective, notably that savings in consumption or costs cannot be guaranteed
- a requirement for assessors and installers to make consumers fully aware of warranties and guarantees, as well as any exclusion clauses that may compromise the level of consumer protection
- independent assessment and advice to be detached from installations in order to avoid the risk of mis-selling. This is already taking place in Wales.

3.3 Lack of one central body with overarching responsibility and accountability

3.3.1 Not 'joined up' in England (34 respondents)

There are multiple organisations involved in assessment and installation of energy efficiency and low carbon work, which have varied remits, and can operate in silos rather than collectively. There is no one central body that has overarching responsibility and accountability for quality assurance in the market.

For example the Department for Energy and Climate Change (DECC) 'owns' Green Deal and ECO, although each has a separate governance arrangement. However the Department for Communities and Local Government (DCLG) 'owns' the Competent Persons Scheme (CPS) and the

Energy Performance Certificate (EPC). The latter stems from DCLG's remit for ensuring buildings in the UK meet the standards required by the EU's Energy Performance of Buildings Directive, which states that:

- all properties (homes, commercial and public buildings) must have an Energy Performance Certificate (EPC) when sold, built or rented
- larger public buildings over 500m² must display a Display Energy Certificate (DEC)
- all air-conditioning systems over 12kW must be regularly inspected by an Energy assessor

DECC has *oversight* of the Green Deal certification body process (but *formal accreditation* of the certification bodies is undertaken by UKAS), while DCLG is responsible for *approving* energy assessor accreditation schemes in England and Wales. DCLG approved accreditation schemes cover:

- EPCs for existing dwellings
- EPCs for new dwellings
- EPCs for non-dwellings (commercial buildings)
- DECs
- air conditioning inspection reports

Research participants stated that as ownership 'falls between two stools', this has resulted in the multiple approaches to certification of energy assessors, which were designed and are managed differently, rather than operating in a complementary manner.

'The two [DECC and DCLG] do not appear to be joined up. They run completely different regulatory schemes and there is a need to co-design a new regime'

Energy supplier/utility company

3.3.2 A more streamlined approach in the devolved nations (26 respondents)

The Home Energy Efficiency Programmes for Scotland (HEEPS) is 'owned' by the Scottish Government, and its operational delivery is managed by Scottish local authorities. This means that there is one overarching scheme 'owner', with one clear regulatory regime.

In Wales, the Welsh Government 'owns' the Arbed 2 and Nest schemes, both of which are sub-contracted to scheme managers for operational delivery, and like in Scotland, operate in a more streamlined manner with a core remit and regulatory regime.

3.3.3 What needs to change?

Research participants agree that there is an urgent need to simplify the landscape of domestic energy efficiency and low carbon work, with a number of priority actions as follows:

- one central body within the UK Government able to take ownership and accountability for all energy efficiency and low carbon schemes, and bring them together under one core regulatory framework of technical and quality standards
- similarly, this central body should be the sole avenue for consumers that have queries, complaints or quality issues
- this may entail the creation of an energy efficiency and low carbon Ombudsman which could evolve from that of the Green Deal Ombudsman by widening its powers and responsibilities (respondents did not state whether this would span the whole of Great Britain or need to be nation-specific)

3.3.2 Inconsistent approach to interpreting and monitoring quality assurance (29 respondents)

Research participants pointed to the risks where there are different approaches being used to interpret and monitor standards and processes for quality assurance. This is predominantly because of the high number of organisations that have some kind of role in the delivery of energy efficiency schemes, particularly those that apply across Great Britain namely Green Deal and MCS. However it is also linked to a lack of one overarching energy efficiency and low carbon consumer ombudsman.

Respondents state that there can be some inconsistencies in monitoring of quality assurance within the Home Energy Efficiency Programmes for Scotland (HEEPS), which is attributed to the different approaches used to manage the schemes adopted by the various local authorities contracted to deliver them. The scope of work within HEEPS programmes is largely determined by the local authority as the scheme manager. However this has limited impact on the approach taken towards enforcement of quality assurance (see 3.3.3).

Feedback from the telephone interviews states that the Nest scheme is run by well-resourced organisations, underpinned by the Welsh Government which takes overarching and full responsibility for delivery via a managing agent. Similarly Arbed 2 in Wales is delivered by 2 scheme managers. Respondents state that the Welsh model enables closer oversight of quality assurance, with fewer organisations involved that are able to respond quickly if there are concerns about quality standards.

3.3.3 Limitations in enforcement of quality assurance (21 respondents)

Where there are overarching issues, these contribute to limitations in the ways in which quality standards are enforced. Due to inconsistent approaches to interpreting standards and conflicting sanctions, depending on the organisations involved, research participants state that it can be very difficult to 'police' the industry.

This issue can be exacerbated by:

- lack of information sharing between organisations and
- limited powers to actually take action

This research has found particular issues in respect of the Energy Company Obligation (ECO). For example Ofgem has certain regulatory requirements, such as oversight of technical monitoring for ECO, but research participants perceive that it has little control over the quality assurance framework. Statutory constraints mean Ofgem is unable to secure wide-ranging consumer protection for all ECO measures, resulting in a “weak link”.

‘the biggest gap [in consumer protection] is that Ofgem do not set a standard at the outset against the entire supply chain can be appropriately audited, measured, compared and enforced’

Energy installer

‘Ofgem is ideally placed to provide the organisational infrastructure [for ECO], but sadly lacking in effective powers to implement consumer protection properly’

Professional body in the energy sector

Research conducted in 2014 found a range of concerns about frameworks in place to support the enforcement of standards and quality assurance for ECO. This report states that as each separate aspect of the supply chain is covered by separate registration and certification bodies, ‘in the event of failure the path of enforcement is not clear’.¹⁶⁰

3.3.4 Greater scope for enforcement of quality assurance in devolved nation schemes (22 respondents)

On the whole respondents consider that the HEEPS scheme is better structured to enable quality assurance to be enforced, largely because operational quality issues are identified through independent technical monitoring, and because data arising from this is reported back to local authorities able to take action quickly to address the problem. As one local authority manages schemes in their own area, there is not the same range of different organisations with potentially conflicting remits and powers, therefore local authorities are in a position to respond to the issue directly.

Furthermore respondents state that the contracting process, whereby local authorities contract scheme delivery directly to businesses, is robust and incorporates a range of checks to ensure the contractors have the appropriate training and qualifications to be deemed competent to deliver

¹⁶⁰ Centre for Sustainable Energy (2014) *The ECO: an evaluation of year 1: final report to Energy UK*

work to a high quality standard.

'The important difference [between HEEPS and ECO] is that as it is tendered for there is more information gathered and held about all the installers taking part'

Energy installer

Similarly in Wales, a smaller number of scheme managers are in a position to rigorously evaluate a smaller pool of potential assessors and installers, for the Arbed programme.

'The Arbed scheme like the Scottish HEEPS has the advantage that it is tendered for by a relatively small number of installers whose qualifications, business processes and history can be checked out'

Energy installer

3.4 Gaps in consumer protection

3.4.1 Limitations for ECO (36 respondents)

A number of consumer protections can be more closely linked with customer service and sales, rather than technical installation issues. There is very little assessment of the suitability of the measures in meeting consumer needs in some schemes. Quality assurance can therefore be more implicit than explicit. This is most prevalent within ECO. The majority of research participants consider that ECO is 'less customer focused [compared with the Green Deal and HEEPS]'.

'[There is] not as much focus on protection for consumers [of ECO] who aren't paying for this'

Energy installer

'As the recipients of ECO are usually the less well-off it is counter intuitive to protect them less'

Insurance provider

This is partly attributed to the core objective of the scheme – ie to achieve carbon savings, which in turn dictates the way it is delivered. In particular this influences the nature of monitoring. The primary function of technical monitoring for ECO is to check that installations are delivering the anticipated carbon savings, rather than to check the quality of them per se.

'ECO reporting requirements are extremely complex. This means a huge amount of effort goes into collecting evidence and verifying scores. All this work is carried out to ensure suppliers meet the requirements of DECC and Ofgem, however a lot of it is of no real benefit to the customer'

Energy supplier organisation

3.4.2 Potential issues relating to Green Deal (21 respondents)

Research participants also questioned how consumers might be affected where they buy and sell properties that have a Green Deal plan. Consumers that inherit Green Deal properties may be compelled to take on this 'debt' without having received any form of financial advice from a qualified assessor. In addition there is the risk that these individuals may question the extent of their liability to pay the monthly charge, as they have no contractual relationship on paper with the Green Deal Provider, and it may be unclear to them whether this simply transfers over with the property deeds. Furthermore it is not clear whether mortgage lenders would consider any restrictions to borrowing if there was a Green Deal Plan attached to a property.

3.4.3 Stronger provision in Wales (19 respondents)

Respondents state that the Arbed scheme in Wales have a more comprehensive approach to consumer protection. The Arbed scheme incorporates a number of stages to consumer engagement, satisfaction and quality assurance, including:

- an initial property survey at the scoping stage within an area
- a follow up technical appraisal post scheme approval to ensure measures are suitable for the property
- an information pack for consumers at the point of completion including tailored advice on energy efficiency and use of products/technologies installed
- a customer satisfaction survey
- an inspection one year post completion to check the measures are working as they should.

'This scheme [Arbed 2] has a very good quality regime'

Quality assurance body

3.5 Certification bodies

Accreditation is the confirmation administered by an objective third party that the certification process is undertaken in a way that meets defined standards. UKAS is the official national accreditation body in the UK. **Certification bodies** therefore have been accredited by UKAS to evaluate installer and assessor organisations against the energy efficiency standards (such as PAS 2030). It should be noted that many research participants used the terms 'certification body' and 'accreditation body' to mean the same thing – i.e. the role fulfilled by the certification body. This appears to be because the process of obtaining certification can be referred to as the process of obtaining PAS 2030 *accreditation*. Therefore certification bodies can sometimes be called accreditation bodies. The following sections consider both *certification bodies* and the *accreditation process*.

3.5.1 Issues with certification bodies (37 respondents)

Research participants have identified a number of issues with the remit fulfilled by third party certification bodies in the quality assurance framework:

- the infrastructure allows for inconsistency across the range of certification bodies in the design and execution of background checks and procedures when accepting new assessors (flagged up particularly in relation to Green Deal)
- the number of quality audits that certification bodies are required to take is too low, enabling poor quality assessors and installers to continue to operate (flagged up particularly in relation to Green Deal). Audits are discussed in more detail in section 3.10 below
- the ‘most robust’ certification bodies are deemed to have the highest fees, whereas if they were not-for-profit organisations rather than commercial businesses there may be a more level playing field in setting and applying standards
- these ‘more robust’ schemes can be less popular with installers that are required to ‘jump through more hoops’ to demonstrate compliance
- there is no one overarching standard to make clear:
 - the process to investigate allegations of non-compliance
 - the actions that certification bodies can take in the event of non-compliances, the information that should be shared at the end of an investigation, and the organisations that should be privy to such information sharing
 - a lack of clear guidance means that interpretation of standards can vary between certification bodies. With a competitive market for accreditation schemes, assessors are likely to migrate to the scheme that is cheapest and/or asks the least questions. Robust governance needs to be in place to ensure a level-playing field
- the infrastructure allows scope for rogue traders to continue operating in the market having re-emerged under a new name, and registered with a new certification body

‘One company folds, but can set up again under a different name and just go to a new certification body...these phoenix companies are the biggest problem’

Energy supplier/utility company

Research participants stated particular concerns about the lack of power available to certification bodies to ensure redress for the consumer. For Green Deal and MCS work, while certification bodies can suspend or withdraw memberships if quality standards are not met, there can be inconsistency between organisations as to the approach they take to get an installer to return to a consumer and remedy any defects. Once certification is removed, there may be little the certification body can do to ensure redress for the consumer at this stage.

“Our ultimate sanction against an installer who transgressed, was to remove their certificate”

Green Deal certification body

Ofgem is currently consulting¹⁶¹ on the features that a certification scheme would need to demonstrate to be recognised as an ‘equivalent’ to the MCS scheme, however until this closes and findings are analysed, it is not clear what may or may not emerge as a result.

Furthermore identification of non-compliance is reliant upon having an appropriate standard in place, as certification bodies are required to audit 1 per cent of work undertaken to PAS 2030, to ensure quality standards are met. Therefore any issues with the PAS 2030 as a standard will undermine the rigour of the certification body audit.

Issues in relation to inconsistent interpretation of the PAS 2030 may be addressed by the revised PAS 2031, which has the intention of making the PAS clearer, and will include guidance on how to apply PAS 2030.

Research participants also consider that certification bodies should operate to one core framework of rules that define the process for investigating, reporting and taking action against instances of non-compliance.

3.6 Accreditation process

3.6.1 Issues with the accreditation process (39 respondents)

This research has identified a range of issues with the accreditation process within the quality assurance framework, namely:

- the infrastructure of multiple certification bodies allows the potential for assessors to ‘slip through the net’. For example if assessors accredited to undertake Green Deal work fail an audit with one certification body, they have the option to lodge their reports with another
- there is no requirement for conditions imposed by one certification body on assessors and

¹⁶¹ Consultation due to close on 29th May 2015

installers (such as penalties for failing an audit) to apply across the board, or to share information of this nature between certification bodies

- this means it can potentially take a long time for quality issues to be identified and acted upon
- there are different accreditation regimes for EPCs and Green Deal assessment reports (GDARs), increasing complexity and costs for businesses and consumers
- installers undertaking work under ECO do not have to be certified by a UKAS accredited certification body in the same way that Green Deal accredited installers do

Many certification bodies operate across the whole of the UK and therefore these issues are also pertinent to the devolved nations.

<p><i>'[Suspensions as a GD installer] would not prevent them working on the scheme for a different utility or managing agent and gaining work through brokerage'</i></p> <p style="text-align: right;">Energy installer</p>
<p><i>'One of the problems with the accreditation framework is that it is composed of different bodies inter-reliant on others but with no-one taking ultimate responsibility for the quality of measures'</i></p> <p style="text-align: right;">Energy supplier organisation</p>

3.6.2 What needs to change?

Respondents suggest that certification bodies could play a stronger role in helping to improve quality standards. One issue relates to the range of different bodies which have some inter-reliance on others, but with no one overarching body able to take responsibility for quality assurance.

Therefore respondents concluded that one industry-wide accreditation body able to set and enforce quality standards could act as the nucleus of one standard quality framework, audit and inspection regime. This single scheme would remove the risks associated with multiple certification bodies, but would need to take into consideration the differences between nations and their legislation, schemes, qualifications etc.

Furthermore such a body could operate tighter controls in relation to assessing the required level of competence. For example the required level of competence could link to the Qualifications and Credit Framework (QCF) in England and Wales, and to the equivalent SQCF in Scotland.

A small number of individuals that took part in a telephone interview said that UKAS could create and manage a central repository of all activities, to be used as a reference point for those who

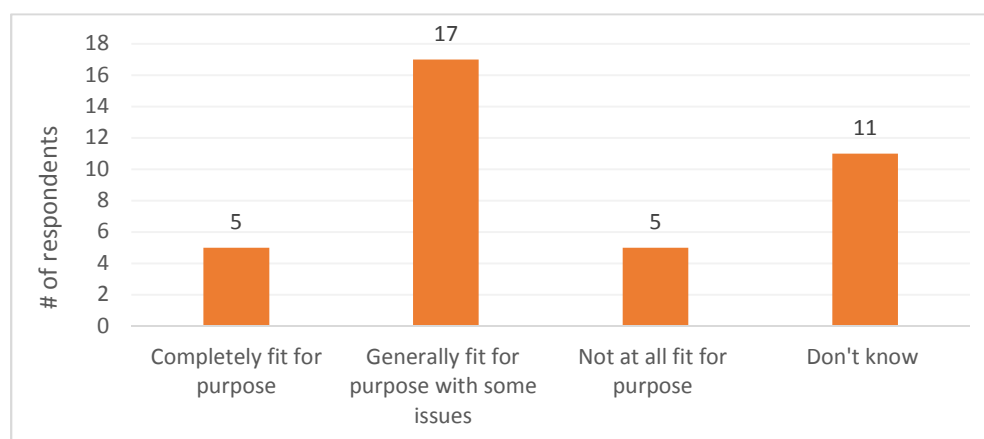
wanted to check the performance of installers. This would rely upon certified installers reporting their installation and audit results to their certification bodies, who in turn would feed this information to UKAS.

3.7 Guarantees and warranties

3.7.1 Fitness of purpose of guarantees and warranties

The majority of those responding to the call for evidence said that guarantees and warranties in relation to energy efficiency and low carbon schemes are generally fit for purpose but with some issues (Figure 10). Reasons for this are discussed in the sections that follow.

Figure 10: Respondent views on the fitness of purpose of guarantees and warranties



Base 38 respondents

3.7.2 Do not offer universal coverage (22 respondents)

There are variations as to whether guarantees and warranties apply, depending on the measure(s) installed, particularly for Green Deal, MCS and ECO. Ofgem publishes a list of appropriate guarantees for ECO work, which shows that not all measures are covered. Furthermore Ofgem guidance states that they do not approve or endorse any of the listed guarantees.

Similarly, not all Green Deal measures are subject to consumer protection of this nature, depending on the type of home. Feedback from the depth interviews pointed out that guarantees do not always have to be provided for a flat whereas they would do for a house. It is unclear why there are these conflicting requirements. There are also discrepancies between the guarantees that need to be offered for Green Deal work and those offered under ECO. The former encompasses a higher number of measures. For ECO, at the time of writing, only solid and cavity wall insulation installations require guarantees, however boilers will also need guarantees from April 2015.

Feedback also stated that warranties and insurances may not always be issued for work

undertaken through MCS, but reasons for this were not given.

3.7.3 Exclusion clauses and caveats (43 respondents)

There is a consensus among research participants that consumers lack freedom to shop around for the best policy, as this is done by the installer. Instead the consumer shops around for their preferred choice of installer, if at all, and may be unaware that installers can use a range of different guarantees or warranties. In the absence of one core standard, installers are able to select the different options which may differ in the cost to the installer and protections for the consumer. Therefore the consumer may be left without adequate cover, and reliant on general consumer protections, such as the Consumer Credit Act (CCA) to seek redress.

This issue is also exacerbated by the consumer lack of knowledge and understanding, and a potential misconception that they will be fully covered by a Government-run scheme. This offers a 'false sense of security'. Research participants stated that consumers are not made sufficiently aware of exclusion clauses and caveats in the same way as they are likely to be if buying from the financial services sector.

'This [the role of guarantees and warranties in protecting consumers from sub-standard work] is arguably the greatest weakness [of the Green Deal] as the warranties and guarantees are full of caveats'

Professional body in the energy sector

'We constantly see examples of insurance backed guarantees that offer little or no protection for consumers, often with astonishingly generous exclusion clauses for the insurer'

Quality assurance body in the field of energy efficiency

3.7.4 Consumers do not know enough about them (18 respondents)

The evidence states that in relation to Green Deal and ECO in particular, guarantees and warranties are not highlighted particularly well to the consumer, as the time spent assessing the properties typically focus on products, savings, and installation processes.

It is not clear whether audit processes check whether consumers were either given, or that they understand the relevant warranties and guarantees. For example many warranties require annual inspections, and if consumers are unaware of this, their policy would be invalid in the event of a claim. This raises a question in relation to aftercare, and whether this is sufficient in the event of installation problems, particularly if consumers do not know how to seek redress or who to contact.

In Wales, there is a more clearly defined aftercare programme for Nest, with consumers able to contact British Gas with any questions for a 2-year period after the work was installed (work being

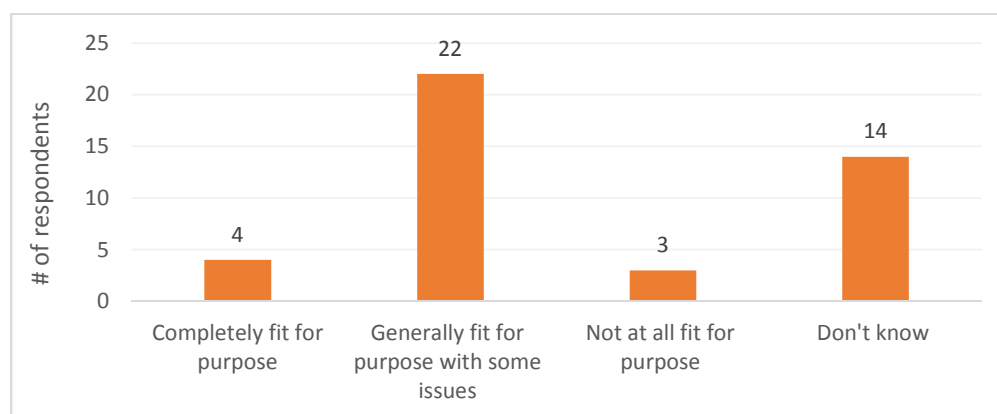
guaranteed during this time). However it is less clear whether managing agents become divorced from the aftercare process in respect of other schemes in Great Britain.

Another concern for research participants is whether warranties and guarantees are transferred to the new householder, where properties are sold or tenancies come to an end. This does not seem clear to consumers.

3.7.5 Issues with manufacturer kite marks

The majority of those responding to the call for evidence consider that manufacturer kite marks are generally fit for purpose but with some issues (Figure 11).

Figure 11: Respondent views on the fitness of purpose of manufacturer kite marks



Base 43 respondents

A number of reasons were cited in respect of the issues around kite marks:

- Some manufacturer schemes do not necessarily cover the installation of the product under all circumstances. As it may be the installation that was at fault, rather than the product, this can limit the usefulness of manufacturer kite marks. This indicates scope for potential conflict between manufacturers and installers
- Warranties are typically underpinned by PAS 2030 as the quality standard so if there are shortcomings in PAS, the warranty may not be effective either
- Different energy efficiency and low carbon measures may be covered through different schemes. This can add a further layer of complexity making it harder for consumers to understand what their rights are. This was cited as a particular problem for Green Deal

'Sometimes issues occur when multiple guarantees are in place and there is no clear guidance about which guarantee should be used in which situation'

Green Deal certification body

'Warranties and insurance are good where they are issued - probably in less than 10% of projects does proper consumer protection take place [under MCS]'

Guarantee/warranty provider

3.7.6 Insufficient protection where companies fail (25 respondents)

The consensus among research participants is that certain warranties and guarantees offer greater security to consumers where they are insurance-backed, ie incorporate provisions for if the company goes out of business. This is particularly pertinent for the longer warranties, some of which extend to 25 years. As schemes allow non-insured guarantees to be issued, this leaves consumers vulnerable if companies fail.

However feedback from the telephone interviews states that even if insurance-backed guarantees had to be issued in all cases, that this alone would not be sufficient to assure consistent levels of quality. This is because there is no one standard as to what encompasses a robust insurance-backed guarantee for the domestic energy efficiency and low carbon market. It would be the role of the Financial Conduct Authority (FCA) to develop such a standard, but research participants consider that there is no strong motivation for this to happen, as energy efficiency and low carbon measures have not been embraced by the mass market.

Furthermore it should be noted that the Renewable Energy Installation Guarantee Agency ceased trading in January 2014, as a result of the breakdown of negotiations with insurers to provide a competitively priced deposit and workmanship guarantee, which indicates there may be difficulties associated with the agreement and introduction of appropriate warranties and guarantees that meet consumer needs as well as insurer requirements.

Feedback from the telephone interviews stated that consumers would receive stronger protection if insurance-backed guarantees were used for the Arbed scheme in Wales.

'There needs to be a new standard for consumer protection guarantees, which ought to be enforced by the Financial Conduct Authority. In particular, there should be standard requirements for deposit protection schemes, workmanship/installation protection guarantees and lifetime (5, 10, 25 year) installation guarantees'.

Quality assurance body in the field of energy efficiency

'An FCA regulated insurance company gives its policy holders automatic access to the Financial Ombudsman and the financial services compensation scheme if it were to be unable to look after its policy holders'

Guarantee/warranty provider

3.7.7 What needs to change?

Feedback from the research data identifies a role for the Financial Conduct Authority (FCA) to set one core standard for insurance-backed guarantees for energy efficiency and low carbon work.

To be fully effective, warranties and guarantees must be underpinned by a robust quality framework which may require third party certification on a measure by measure basis. Participants to the research also identified a need for consumers to be made aware of the warranties available for each of the energy efficiency measures being installed in their properties, with fairer and clearer exclusion clauses. This is particularly pertinent given a sense of reliance on “Government-approved” schemes among consumers, who subsequently may not fully read and understand all the relevant documentation. An energy efficiency ombudsman could play a role in preventing consumers from being penalised in such cases.

Research participants also emphasised the need for a process to ensure consumers know about and crucially, understand warranties and guarantees, which would include them signing up to indicate this (in the same way as they would if buying financial services products). This could build upon the approach already taking place in Wales for the Arbed scheme, whereby consumers receive a detailed information pack not just about the products that have been installed in their homes, but tailored advice on how to make best use of the systems, and copies of any guarantees and warranties. Energy saving behaviour advice could include a reminder of the consumer responsibility in relation to warranties – for example the need to get boilers serviced annually.

3.8 Standards for installers

3.8.1 PAS 2030

PAS 2030 is the core standard spanning a wide range of energy efficiency and low carbon measures. Research participants give this standard an average rating of 5.5 out of 10, in relation to its role in underpinning quality. One of the main reasons for this is a lack of consistency in accrediting organisations to PAS 2030, which undermines quality of installers in the industry. Whilst it is considered that it can be interpreted in different ways by certification bodies, this issue may be addressed through PAS 2031 guidance on how to apply the PAS 2030.¹⁶²

‘As a customer, you take it as gospel that all PAS 2030 accredited installers are the same – they are not’

Professional body in the energy sector

Table 20 provides a summary of feedback about PAS 2030 from the call for evidence, where

¹⁶² However PAS 2031 is not referenced in ECO

research participants explained their reasons for providing the rating on the 1-10 scale.

Table 20: Reasons for ratings of usefulness for PAS 2030

<p>Ratings of fewer than 3 (2 respondents)</p> <p>This lowest rating was given because of the respondent's concern that there were few checks of the quality of background of the installer. The respondent identified that certified PAS 2030 installers</p> <p><i>"only have to do one installation that is checked in order for them to be certified"</i></p> <p>Therefore, the respondent recommended that there be more regular audits of installers to demonstrate their compliance throughout the year, as the annual audit did not suffice.</p>
<p>Ratings of 5-6 (8 respondents)</p> <p>Justifications for middling scores mainly focused on the above concern regarding the quality of installers and the perceived shortcomings of the installer audit. Other issues related to conflicting levels of consistency when accrediting organisations using PAS 2030 as the standard.</p> <p>There were criticisms of the PAS 2030 for not ensuring compliance in terms of customers; one respondent remarked:</p> <p><i>"PAS 2030 does little to ensure consumers receive a good quality and appropriate installation."</i></p>
<p>Ratings of 7 and above (5 respondents)</p> <p>Those who have higher scores did so because they generally valued the standard, and perceived it to be a useful base which lent consistency.</p> <p><i>"PAS 2030 is effective at assuring quality ... as it provides, robust, universal and consistent standards which all PAS 2030 compliant installers must abide by"</i></p> <p>Some respondents praised PAS 2030 in its fundamental form, but pointed to the ongoing nature of such a standard and the need for constant monitoring:</p> <p><i>"PAS 2030 is effective when the required initial assessment and on-going surveillance is carried out by an independent UKAS accredited certification body."</i></p> <p>However, some felt that better use could be made of the standard, particularly if there was increased specificity within the scheme. For example,</p> <p><i>"It is an umbrella standard covering many installation categories therefore by its nature is isn't measure specific"</i></p>

One respondent commented that in Wales, issues in respect of quality in the available workforce,

were not necessarily helped by having PAS 2030 as the standard.

Research participants also stated that it is a *minimum* standard. As there are multiple bodies able to certify to PAS 2030, it may be too easy to obtain – for example installers seeking PAS 2030 certification do not have to demonstrate a previous track record. Furthermore companies offering a fast track route to certification can do so using an ‘off the shelf’ Quality Management System (QMS) which may not be fully fit for purpose.

‘It [PAS 2030] is similar in nature to other Quality Management Standards such as ISO 9001, but is a lot simpler and quicker to achieve’

Training provider website

3.8.2 Lack of awareness and understanding among consumers (29 respondents)

Furthermore feedback from the telephone interviews states that the majority of consumers are unfamiliar with PAS 2030 as the core standard. It is not widely referenced within building regulations, which focus more on embedding energy efficiency and low carbon measures into buildings rather than the quality of their installation. Thus any poor performance of PAS 2030 accredited installers may not be passed on to certification bodies to take action, as consumers are unlikely to be aware of this route.

‘If no-one is aware of it [PAS 2030] what is the point?’

Manufacturer of energy efficiency products

‘PAS2030 is a reasonable standard but people don't know whether installations reach that standard or not’

Green Deal provider

3.8.3 What needs to change?

Research participants pointed to a need to strengthen the PAS 2030 as the main technical standard for energy efficiency and low carbon installations. This will require clearer wording to reduce the scope for ambiguity and inconsistent interpretation, and should also integrate scope for consumer protection through reference to suitable product warranties and insurance-backed guarantees.

3.9 Lack of impartiality

3.9.1 Lack of impartiality in the infrastructure (44 respondents)

Research participants identified a number of loopholes offering scope for mis-selling within Green Deal. The main issue is that Green Deal providers can employ and financially reward Green Deal assessors for recommending certain measures. This lack of independence undermines the concept that assessment should be impartial. Some providers do not pay assessors for carrying out a

survey, but instead on the measures that are recommended and subsequently installed. There is currently no requirement for Green Deal Advice Reports (GDAR) to provide ‘whole house’ recommendations, as opposed to just the ones that have been selected by the assessor, in theory following a discussion with the consumer).

‘The Green Deal has a serious fundamental flaw. The majority of assessors are salespeople who only recommend products their company installs’

Manufacturer of energy efficiency products

‘How can anyone give impartial energy saving advice to a customer on this basis?’

Green Deal accredited installer

‘There are huge challenges in delivering impartiality within Green Deal’

Certification body

Issues also relate to ECO and MCS, with some of the same organisations undertaking multiple roles in carrying out assessments as well as installations, thus they have a vested interest in recommending certain products, with no guarantee that these are the most suitable for the consumer. One example cited was of the domestic Feed in Tariff for solar PV, only payable to consumers with properties in EPC Band D or above, which creates an incentive for solar PV companies to ensure EPCs generate Band D ratings.

There appears to be greater impartiality in the area-based schemes in Scotland and Wales, where consumer engagement is carried out to understand the level of interest in retrofit schemes, accompanied by advice and guidance alongside the property assessment survey. There is no discernible benefit or advantage to scheme managers for recommending certain measures over others. For example scheme managers for Arbed in Wales receive a management fee but no incentives for recommending certain products.

Similarly the HEEPS scheme in Scotland uses local authorities to contract with installers and assessors to undertake work in specific areas, but have no affiliation with any particular providers.

3.9.2 Rogue salesmen and cold calling ‘scams’

The Citizens Advice Service reports that unsolicited phone calls or door-to-door rogue salesmen are a significant consumer problem in the sector. In the six months to the end of February (2014) it received 1,250 Green Deal complaints to the Citizens Advice consumer helpline¹⁶³, of which 880 were identified as scam or possible scams. Of these 480 were prompted by a cold call.

¹⁶³ Covering Great Britain

It is not clear whether this is also an issue for schemes in the devolved nations, which also involve a certain amount of “door-knocking”; at the time of writing there was no evidence to suggest that this is the case.

3.9.3 Unintentional mis-selling – Green Deal (12 respondents)

There are two factors which contribute to the unintentional mis-selling of a Green Deal plan, one of which is poor quality training for assessors (discussed in more detail in section 3.12). Where assessors lack a comprehensive skills and knowledge base, there is a risk that they do not recommend measures that are the most suitable to meet the consumer needs, taking into consideration the building fabric as well as consumer behaviour.

The second factor relates to flaws in assessment tools and approach (discussed in more detail in section 3.11). If methodology and/or software is not fit for purpose at producing an accurate occupancy assessment report, this may result in misleading projections about cost savings as a result of having energy efficiency and low carbon measures installed. A rise in energy prices could undermine any future savings, unless the rise was less than the amount being saved. Some respondents thought that the assessment process does not typically make consumers aware of this risk, in the same way that they would be if buying from the financial services sector.

‘There remains some room [in the Green Deal] for mis-selling which is detrimental for consumers. The main area relates to the ‘payback’ for installation of the measures where factors such as product efficiency performance and return on investment can, to a certain extent, be manipulated to present a more favourable projection than the reality may deliver. This runs the risk of Green Deal finance deals being misleading’

Quality assurance body in the field of energy efficiency

Research undertaken by Consumer Focus¹⁶⁴ also questioned whether there could be scope for ‘secondary mis-selling’, where consumers that purchase or rent houses with a Green Deal plan attached to them, may find they inherit a ‘debt’ without having received any financial or other form of advice about it, or any information about their right of redress in case of problems.

3.9.4 Green Deal Home Improvement Fund

The voucher scheme designed to promote take up of the Green Deal in England and Wales has prompted concerns among research participants, half of whom reported that it is not at all fit for purpose (Figure 12). In particular it has been stated that the scheme was poorly designed by trying to combine a range of measures in order to be eligible for a voucher, which may not be appropriate to meet consumer needs. Furthermore it is not clear that this scheme has the consumer protection related to a Green Deal plan, for example research participants consider that

¹⁶⁴ <http://www.consumerfocus.org.uk/files/2010/12/Green-Deal-misselling-v1.0.pdf>

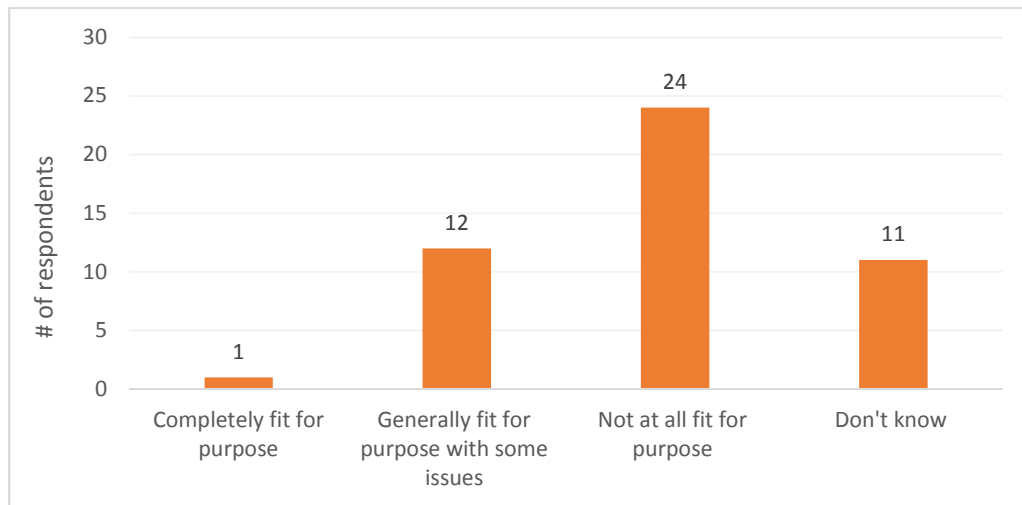
it sits outside of Ombudsman jurisdiction.

‘Quality issues have resulted from too many organisations trying to offer lots of schemes in the interest of chasing the available funding’

Installer of energy efficiency measures

No feedback was provided about the equivalent Cashback Scheme in Scotland that would indicate any concerns in relation to quality assurance for consumers.

Figure 12: Respondent views on the fitness of purpose of the Green Deal Home Improvement Fund



Base 48 respondents

3.10 Audit

3.10.1 Sampling and sample size for audit (27 respondents)

Feedback from telephone interviews stated that PAS 2030 is not sufficiently independently monitored, with a need for more regular audits to be undertaken throughout the year, rather than the minimum of 1 per cent (minimum of 1 installation). This can reduce the opportunity to drive up quality on an on-going basis.

‘More regular audits should be carried out on installers to show that they are compliant throughout the year and not just when it come to the time of their annual audit’

Green Deal Provider

Research participants state that the sample size for audit can be too low, ie not enough properties are audited, and that in particular there is not enough independent technical monitoring of installations, notably for Green Deal and MCS work. Under ECO there is a commercial and regulatory requirement for robust technical monitoring. However as previously stated, this focuses predominantly upon the carbon savings achieved rather than the quality of the

installation.

Another issue is that sampling may not be as random or independent as it could be, as annual inspections from certification bodies offer advance warning, and the ability for installers to select the project. Whilst a number of research participants suggest that a more robust approach would be an unannounced audit, they acknowledge the difficulties of this as consumers would need to be in to offer access to the property. An alternative approach would be to introduce mystery shopping.

'Although there is an inspection regime for MCS, it is not particularly well monitored and assessed. MCS installers are assessed once per year and only a handful of installations are inspected on that day. These are usually "selected" by the installer to ensure they are "good" installations. So while the assessment organisations are impartial, they are not always as "random" as they could and should be'

Quality assurance body in the field of energy efficiency

There are also concerns that certain aspects of quality assurance are not covered through the audit processes, notably assessments – for example checking whether the consumer was given the right advice, or whether recommended measures were suitable for the property. Checks are not in place to see whether consumers were mis-sold or pressured into financial packages.

Issues in relation to sampling and selecting the right aspects to audit relate to the Green Deal, ECO and MCS predominantly. Arbed and Nest in Wales both adopt a different approach whereby all properties are subject to inspection post-installation, with part of the approach checking whether measures are suitable for properties and that systems work correctly. Independent technical monitoring takes place for the HEEPS scheme in Scotland, however there was no feedback from respondents about any issues encountered with this process.

3.10.2 Not sufficiently driven by risk (45 respondents)

Where sampling is low, it means quality issues can take longer to be identified, or 'slip through the net' entirely. To increase sample sizes would, however, have an impact on costs, and could be unrealistic in practice. A balance needs to be struck in terms of the costs of monitoring as these will ultimately be paid for by consumers, even where they do not pay directly. Under ECO, the costs of the scheme are ultimately borne by all energy consumers.

'The only way to ensure the best quality is for the work to be randomly inspected by a totally independent body - the only problem with this is it will add additional costs to the Green Deal and it will discourage installers from promoting or getting involved in a scheme which in its present form is struggling to get going'

Energy efficiency installer

Feedback from telephone interviews points to a need to establish a risk-based audit regime. This could reflect the scale of the financial risk, for example the likes of EPCs compared with a £30,000 loan for Green Deal work. Known loopholes that could enable the system to be exploited could also be a trigger. For example a certain volume of consumer complaints could also be a trigger. Work where there is a greater risk would trigger a higher sample size for audit.

3.10.3 Paper-based 'light touch and tick-box' approach (19 respondents)

Concerns were also raised about 'light touch' paper-based audits for ECO. This relates to an issue around scheme compliance being focused on paperwork being compliant, rather than a robust assessment of the quality of the installation as well as its suitability for the property and the needs of the occupant(s).

3.10.4 Lack of data mining and information sharing (24 respondents)

There is an opportunity to undertake more data mining of the information amassed across all the energy efficiency and low carbon schemes. This approach may enable 'red flagging' of individuals and companies, which could then be used as a trigger within a risk-based audit regime.

'The use of data mining could identify assessors who are persistently outside of the "norms", eg identify assessors who statistically have a higher incidence of recording lower levels of loft insulation for a particular age and type of property, compared to the "norm"'

Professional body in the energy sector

Such an approach would be further strengthened by information sharing between organisations that conduct audits. Research participants consider that Ofgem data in particular would help to address industry-wide failures and enable action to be taken against installers failing standards. In the absence of data sharing, non-compliant individuals have the freedom to operate with other companies or installer networks that would be unaware of this.

'As Ofgem has collated both RdSAP and quality failure reasons via obligated suppliers technical monitoring, it would seem obvious that this data is made available to both the software houses and the PAS 2031 accreditation [certification] bodies'

Energy supplier/utility company

3.10.5 What needs to change?

Research participants suggest a risk-based approach to auditing would use a 'red flag' approach, generated through data mining, to trigger more regular audits in the event of greater risk, or patterns that indicate increased likelihood non-compliance. Where feasible, one standard set of paperwork should be used to help streamline the process and enable data sharing between

relevant organisations.

Other suggestions included:

- An external quality assurance system established to audit the auditors used by Green Deal providers
- More auditing of assessments and inspections taking place at pre as well as post installation stages
- Inspections of RdSAP data (see 3.11 also)
- Longer-term monitoring via repeat audits/inspections, to identify issues that may take longer to emerge in a property.

3.11 Flaws in assessment tools and methodology

3.11.1 Energy Performance Certificate (EPC) underpinning assessments (31 respondents)

Research participants identified two flaws in the use of EPCs to underpin occupancy assessment reports for energy efficiency and low carbon measures. This is because the EPC assessments were designed for a different purpose, ie to present a cautious estimate of the energy demand of a house, thus protecting potential house buyers and mitigating the risk that ratings could be exaggerated.

This approach will have a significant impact in certain scenarios, for example where the age of a property is unknown, the assessor will enter the older of the likely age ranges. However this now means that this same process may artificially inflate the potential energy saving assessment, undermining its accuracy in some cases.

On the other hand, the 'in-use' factors used in the GDAR downgrade the predicted energy savings of certain measures. This potentially has a neutralising effect, however, was not raised by respondents.

'EPC conventions were designed for the purposes of being needed upon construction, rental and sale of buildings. They were not designed for ECO or Green Deal. As a general rule, conventions will sway the assessor to be cautious, so not to over inflate the rating on the EPC. But of course for ECO and Green Deal the effect of this is that savings from measures could be overinflated'

Professional body in the energy sector

'EPCs have become a key cornerstone of Government energy efficiency schemes - ECO, Green Deal,

RHI and FiT, but the Scheme Operating Requirements and audit regimes were put in place before this use of EPCs evolved, and have not been re-visited and revised to better reflect how EPCs are now used'

Professional body in the energy sector

Furthermore the process of developing the EPC is based on minimal disruption to the house holder in the form of a short survey and limited activity in the property. Thus the EPC assumes mechanisms such as boilers and thermostats work as they should, when they may not, again putting the accuracy of the assessment at risk. This is also a factor for the Nest scheme in Wales where EPCs are used to determine householder eligibility.

3.11.2 Flaws in assessment methodology (26 respondents)

Feedback from the call for evidence points to issues with the underpinning assumptions used in the methodology used to measure and generate projections of energy savings in the home. RdSAP software is used to assess how much energy will be consumed in a dwelling, when delivering a pre-defined level of comfort and service provision. The assessment is based on standardised assumptions for occupancy and behaviour.

However research participants identified issues with this approach as follows:

- inaccurate U value conventions for solid wall properties
- incorrect assumption that cavity walls are insulated in homes built from 1982¹⁶⁵
- consumer behaviour can be taken into account, but this can change (some interview participants acknowledged that it would be difficult to build forecasting of future behaviours into the assessment methodology)
- some companies use a median projection of energy savings, to offer a more realistic assessment, but there is nothing in place to stop organisations using the highest projection of potential savings to encourage the customer to buy the recommended measures
- the potential for change in the energy price is not taken into consideration, and can affect the energy savings that can be achieved, although it was acknowledged this would be impossible to include with any accuracy

The UK Government has announced an intention to review RdSAP *“to ensure it remains fit to*

¹⁶⁵ Consumer Focus, (2012), Filling the Gaps <http://www.consumerfocus.org.uk/publications/filling-the-gaps-accuracy-of-green-deal-advice-for-cavity-walled-homes>

deliver the policy initiatives that it underpins”¹⁶⁶.

3.12 Training and competence

3.12.1 Inconsistency in quality of training provision

Research participants gave an average rating of 5.9 out of 10 in relation to the effectiveness of the Level 3 Diploma in Green Deal Advice. There is a consensus among research participants that the quality of training for energy efficiency assessors and installers is inconsistent, with many courses available that do not require prior experience, are too short and are not fit for purpose to provide the necessary skills and competence. This is fuelled by competition between providers to offer the shortest and cheapest training courses, and has enabled assessors and installers to gain a relevant qualification without truly being competent. More detailed feedback is shown in Table 21 below.

¹⁶⁶ <https://www.gov.uk/standard-assessment-procedure>

Table 21: Reasons for ratings of usefulness of the Level 3 Diploma in Green Deal Advice based on National Occupational Standards (NOS)

<p>Ratings of less than 5 (1 respondent)</p> <p>The respondent disagrees with the nature of the course providers, stating that as long as companies pay, they receive the qualification:</p> <p><i>“What levels of accountability do they hold, or is it about selling products?”</i></p>
<p>Ratings of 5-6 (8 respondents)</p> <p>Again, the accessibility, and the perceived poor quality inspired by this accessibility formed most of a basis for justification for these middling scores. Respondents highlighted that the qualification in its most raw form met all of the needs, however:</p> <p><i>“there are many Green Deal Advisors being trained up from a point of having no knowledge whatsoever in this sector, trained by training providers who are giving a very poor service, and seemingly assessors allowing them to qualify with extremely limited knowledge and experience in some key areas, and in the worst cases I've come across trainers giving trainees blatantly incorrect information.”</i></p> <p>This lack of knowledge of Green Deal Assessors was further criticised by other respondents stating:</p> <p><i>“No specific pre-requisite for a technical skill to become a GDA.”</i></p> <p><i>“The depth of assessors’ knowledge is not great enough to cover all the measures and scenarios, so often they look for standard measures they are comfortable in recommending.”</i></p>
<p>Ratings of 7-8 (7 respondents)</p> <p>Justifications for higher scores were varied in reasoning. The <i>“good track record and review process”</i> was praised, but there were criticisms of the <i>“highly variable and not sufficiently professional”</i> Green Deal advice and assessment.</p> <p>One respondent recommended that to remedy this <i>“Energy advisor training should be tougher and controlled by Local Authority licensing”</i></p>
<p>Ratings of 9 and above (1 respondent)</p> <p>The respondent who scored the highest rating found that the qualification was a <i>“very effective way of following competence standards”</i></p>

'In some cases assessors are allowed to qualify with extremely limited knowledge and experience in some key areas...there are too many fast-track options'

Energy assessor

'For a fee you can qualify in 3-5 days and be capable of assessing almost 50 technical measures with no prior experience'

Energy efficiency installer

3.12.2 Lack of Continuing Professional Development (CPD) (11 respondents)

Furthermore there is a gap in relation to on-going training, with no mandatory requirement for CPD.

'The major gap is in CPD for energy assessors where there isn't a common syllabus of training so quality will be varied. There also needs to be a mechanism where training delivery is more tightly accredited (particularly regarding length of training). It would also be worth reviewing the entry pathways for installers as training isn't a mandatory element'

Sector Skills Council

3.12.3 Common Minimum Technical Competencies (CMTCs) for installers

Research participants gave an average rating of 5.3 out of 10 in relation to the effectiveness of the CMTCs in assuring quality (Table 22). Feedback stated that the CMTCs are too generic, and that the overarching standard needs to be raised. Furthermore the language used may be complex and difficult for the workforce to understand.

Table 22: Reasons for ratings of usefulness for Common Minimum Technical Competencies (CMTCs)

Ratings of 3 or fewer (2 respondents)

The lowest ratings were given predominantly for the perceived poor standard. Respondents commented:

"It is what it is- minimum! How low can you go?"

"Some installation course only last a day, so how can they ensure that the install is carried out to the highest standard and that the installer is full competent."

There was also a call for the raising of these standards in order to protect the consumer.

Ratings of 4-5 (7 respondents)
<p>Again, the lower scores were given because of the restricted assessment level that was recognised by some respondents who branded it <i>“subjective, depending on who is doing the assessment”</i></p> <p>Such respondents perceived that alternative methods of ensuring competency should be pursued, with one stating:</p> <p><i>“A better way [of ensuring competency] is requiring a better ratio of NVQ or qualification requirements.”</i></p>
Ratings of 6-7 (9 respondents)
<p>Respondents who gave a score of 6 or 7 pointed to the non-specific nature of the CMTC, calling it generic and needing a greater level of detail.</p> <p>Other respondents echoed earlier concerns of the nature of such a review, as they perceive <i>“it will only ever tell us about the day the review took place.”</i></p> <p>This shows a criticism of the structure of the assessment, and respondents call for a better monitoring of this in the field and in the office.</p>
Ratings of 8 and above (4 respondents)
<p>Those who gave higher scores did so because they generally valued the CMTCs.</p> <p>Respondents noted it as being <i>“effective...very useful in defining set competency standards”</i></p> <p>However these respondents also were not entirely satisfied by the CMTC, there were criticisms about its format:</p> <p>One respondent stated the <i>“language in which they are written is very complicated so interpretation is often needed”</i>. They proposed that a CMTC Qualification Guide would be <i>“very helpful”</i> to ensure a standardized interpretation across the industry.</p> <p>A different respondent noted the need for the certification body to <i>“carry out the appropriate assessments and surveillance onsite and at the office to demonstrate these competencies in practice.”</i></p> <p>Another respondent concurred noting that it is:</p> <p><i>“crucial that installers, inspectors have the minimum competency knowledge/experience to ensure the install and inspection is completed accordingly.”</i></p>

3.12.4 Competent Persons Scheme (CPS)

Research participants gave an average rating of 6 out of 10 in relation to the effectiveness of the

CPS in assuring quality (Table 23). A Competent Person must be registered with a scheme approved by the Department for Communities and Local Government (DCLG). Members of the scheme are assessed against an independent standard (CMTCs) and the scheme builds in annual checks.

The scheme also offers financial protection in the event of non-compliant work, and operates a complaints procedure which can mean escalation to an ombudsman if necessary. However annual inspections represent only a small proportion of completed work, so there is still scope for an audit regime to be improved.

Table 23: Reasons for ratings of usefulness for the Competent Persons Scheme

Ratings of less than 6 (1 respondent)
This respondent rated the Competent Persons Scheme 1 out of a possible 10, questioning its robustness and role in the quality assurance framework.
Ratings of 6-7 (12 respondents)
<p>The middling and higher ratings were for mixed reasons. One respondent considered the CPS as a <i>“success in the construction industry as a whole, as it offers a benchmark for a specific skill set.”</i></p> <p>However others who rated this as a 6 or 7 held reservations about the effectiveness of the CPS in terms of the overarching quality this can account for as <i>“the inspections are a small percentage of the work completed”</i> and because of this the CPS is <i>“not fool-proof”</i>.</p>
Ratings of 8 (5 respondents)
<p>The higher ratings considered the scheme effective, and for some respondents this lies specifically in the financial protection within the scheme. One such respondent stated that this meant that quality is <i>“effectively assured”</i> for customers, as in the event of non-compliant work, customers can claim the CPS’s financial protection.</p> <p>Another respondent who scored the CPS highly commended the quality assurance that stems from <i>“Assessment of members against independent standard which applies to them before acceptance on the scheme and annual assessments of competence”</i>.</p> <p>Others had no further comment stating that <i>“this is currently working well”</i>, and others claiming that they are <i>“generally happy with the scheme”</i>.</p> <p>Criticisms from these respondents were few, but some flagged up the effectiveness of the scheme as existing only when <i>“the required initial assessment and on-going surveillance is carried out by an independent UKAS accredited certification body”</i>, thus highlighting the importance of impartial, regular checks on quality.</p>
Ratings of 9 and above (3 respondents)
Those who scored the scheme highest commended the simplicity of the scheme and the effectiveness thereof. One of these respondents noted that the scheme works <i>“well both from a technical monitoring basics and also quality of installation and in our opinion should be used on all schemes”</i> .

[CPS is an] 'effective use of delegation for self-certification by the national body(ies) for accreditation to particular trade disciplines'

Quality assurance body in the field of energy efficiency

3.12.5 What needs to change?

There is a need to standardise training provision and raise quality standards, which research participants suggest can be achieved through:

- a requirement for CPD
- minimum number of guided learning hours to be a requirement of all relevant training courses
- pre-requisite skills and experience for acceptance on to relevant training courses

3.13 Risks and potential consequences for consumers

3.13.1 Lack of trust among consumers (37 respondents)

This research has found that the perception of industry stakeholders is that trust among consumers is steadily waning, as the number of stories in the press about rogue traders and flawed installations increases, and this is particularly in relation to the Green Deal. Research participants stated that 'a badge is no guarantee of competence or quality'. Action needs to be taken to enforce the scheme's rules. A recent statement in Parliament announced that around 10 per cent of Green Deal assessor organisations and 12 per cent of Green Deal installers have had their authorisations removed, in consequence of non-compliance issues against the Green Deal Code of Practice.¹⁶⁷

'If adhered to, the [Green Deal] Code of Practice is excellent. However, many people in the industry are not adhering to it'

Energy assessor

3.13.2 Complaints may not be pursued, which may mask the full extent of problems (29 respondents)

As there are multiple organisations with different remits and responsibilities across the various schemes, it can be difficult for consumers to know where to go when trying to make a complaint or seek redress.

¹⁶⁷ <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2015-02-12/224408> [Accessed 17th March 2015]

Research participants echoed findings from a study undertaken in 2011, which stated that ‘if consumers are expected to pursue complaints through the certification bodies or through UKAS there is great potential for consumer confusion and detriment. There is a risk that consumers will be “pushed from pillar to post” and find the whole process so daunting that they give up before it is resolved’.¹⁶⁸

‘The whole framework of consumer protection is confusing with many different organisations offering many, sometimes overlapping consumer protection policies. This can result in no or delayed action while the consumer establishes who to contact in event of a complaint’

Green Deal certification body

With ECO there is no scheme-specific complaints handling process, and complex contracting arrangements can make it difficult for consumers to know who is responsible for the quality of their installation. Also consumer protection bodies have noted that consumers may be less likely to complain where they receive measures for free¹⁶⁹.

This issue is less prevalent for the HEEPS scheme in Scotland, and Arbed and Nest in Wales, where there are fewer delivery organisations and a clearer understanding among consumers about how to gain further information, have questions answered, or make complaints.

3.13.3 Financial and emotional detriment where remedial work is not done or incurs high costs (19 respondents)

The gaps and loopholes in the quality assurance framework present a high risk for consumers, with the full extent of possible damage unclear at this stage. There are concerns among some research participants that damage to properties could occur, resulting in high costs to put the work right in the longer-term, as well as the risk that damage may not be uncovered for some time because consumers would be unlikely to spot problems.

‘Problem is no-one really knows about quality standards so householders wouldn't know if they had poor work done’

Manufacturer of energy efficiency products

Whilst sanctions for organisations and individuals that are authorised to undertake energy efficiency and low carbon work largely involve the removal of their authorisation, it is less clear what this means for the consumer at the end of the process. For example they may not understand how they are able to have sub-standard work and damage to their homes rectified.

¹⁶⁸ Consumer Focus: Centre for Consumers and Essential Services, University of Leicester (2011) *Making the connection: strengthening the advice, complaint handling and redress framework*

¹⁶⁹ Consumer Futures (2014) Response to the Energy and Climate Change Select Committee on the Green Deal watching brief part 2 <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/energy-and-climate-change-committee/green-deal-watching-brief-part-2/written/6187.pdf>

'The main weakness in this area [ECO] is that of the customer's ability to get remedial work done. Because the installer isn't contracted direct to the customer (but to the managing agent or energy company), it is harder for the customer to get redress'

Energy efficiency installer

It is less clear whether this risk is quite so prevalent in the HEEPS, Arbed and Nest schemes in Scotland and Wales, due to the way in which they are managed – respondents have not raised any particular concerns.

4. Conclusions and recommendations

4.1 Conclusions

Overview

Analysis of the research data reveals a highly convoluted landscape for domestic energy efficiency and low carbon assessments and installations, complicated by multiple schemes, organisations, remits and standards.

On paper there is a wide range of quality assurance mechanisms, particularly for the Green Deal, including Quality Marks, Codes of Practice, operating standards, guarantees and warranties. However this overarching framework is undermined by a lack of consumer knowledge and understanding – for instance numerous quality marks do not have the same level of currency as one overarching and well-understood standard such as GasSafe – and as a result of numerous gaps and loopholes, which in turn weakens the level of consumer protection.

Gaps and loopholes in the quality assurance framework

Some of the most critical issues relate to the Green Deal and the Energy Company Obligation (ECO). A major concern for the Green Deal is a lack of impartiality in the infrastructure, which means that assessors have a vested interest in recommending certain products and measures for installation. This creates scope for mis-selling. As the majority of consumers do not know ‘what good looks like’ in this context, it is unlikely they would know whether recommended measures were actually suitable for their property, and there is no means to check this except by seeking multiple assessments (which may identify discrepancies but still would not necessarily help the consumer recognise which was accurate).

On paper, ECO has the least consumer protection built into the scheme, compared with the other initiatives in scope of this research. There is no scheme-specific complaints process or right of redress for consumers, and audits focus on whether predicted carbon savings have been achieved, rather than on the quality of the assessment or installation (Although at 5 per cent sample of installations audits are more extensive than some other schemes). These are particularly pertinent issues considering the bulk of ECO recipients are likely to be more vulnerable consumers who may be in fuel poverty.

Similarly, the audit process for Green Deal and the Microgeneration Certification Scheme (MCS), contains gaps in that there is no discernible requirement to check the quality of the assessment – that is, were recommended measures actually suitable for the property – and the advice given to the consumer, notably to identify any potential mis-selling.

Other principal issues relate to the certification bodies and accreditation processes, and to

warranties and guarantees:

- A range of certification bodies means there can be inconsistencies in their approach to accredit and certify companies, hence some apply higher standards of quality than others; furthermore there is a lack of clear guidance about sanctions/actions that should be taken in the event of non-compliance among assessors and installers
- Assessors are able to engage with multiple certification bodies, therefore if they fail an audit with one, they are able to by-pass this body and move to another for subsequent work, meaning that quality issues could take a long time to be identified or even slip through the net entirely
- ‘Rogue’ traders (assessors and installers) have the capacity to close down and re-open under another name and start trading again, which is predominantly made possible because organisations with a role in assuring quality do not share information about problem companies
- The PAS 2030 is not deemed to be sufficiently strong enough as the main technical standard for energy efficiency work against which to accredit organisations
- Sanctions against non-compliant assessors and installers do not necessarily compel them to remedy any defective work, therefore the consumer could be left with the financial and emotional cost of putting the problems right
- Warranties and guarantees can have exclusion clauses which the consumer may not be aware of or fully understand; furthermore it is not clear whether they transfer to the ownership of a new householder if the property is sold or a tenancy is ended (a particular for Green Deal where the new home owner inherits the ‘debt’)
- Insurance-backed guarantees do not have to be issued in all cases, leaving consumers vulnerable if installer companies become insolvent.

Best practice in assuring quality

Best practice in relation to quality assurance is more prevalent in the Scottish and Welsh schemes, with consumer protections including:

- ✓ Information pack provided at the time of assessment with advice and guidance around energy saving behaviours and proposed measures for the property ie tailored to meet the consumer’s specific needs (Arbed 2, Nest)
- ✓ An area-based approach means that fewer organisations are involved in scheme management, so there is one clear point of contact for the consumer in relation to quality

assurance issues, and there is also a more robust approach to evaluating the competence and suitability of assessors and installers used to deliver the work (Arbed 2, Nest, HEEPS)

- ✓ All properties are inspected post-installation, not just a sample, and for the Arbed 2 scheme, there is a further inspection a year after work is completed; while for the Nest scheme the consumer has access to aftercare for 2 years post installation
- ✓ Advice and assessment is decoupled from the recommendation of measures and installations ie assessors have no vested interest in proposing certain products or measures due to an affiliation with a company (Arbed 2, Nest, HEEPS)

Lessons may be learned from these approaches for improving consumer protection in other schemes.

Customer journey mapping

The following Figures 13 to 18 summarise the customer journey in relation to each of the main schemes in scope of this research, showing where the main gaps and loopholes are within the quality assurance framework.

The key below, used in the customer journey mapping, emphasises that highlighted risks to the consumer are only *potential* risks, and do not necessarily mean that the risks will materialise or issues will arise for all or even many consumers. Similarly this shows where consumers are most *likely* to be protected but again this is not guaranteed, due to different approaches adopted between the likes of energy suppliers, installers, assessors etc. The number of the potential risks and likely protections therefore do not indicate their relative importance.

KEY




-  indicates consumer is **likely** to be protected due to adequate quality assurance
-  indicates **potential** risk(s) to the consumer due to gaps and/or issues in quality assurance
-  Indicates **potential** impact as a result, e.g. recommended measures not suitable for a property because assessor was not fully competent

Figure 13: Customer journey showing potential consumer protections and risks within the quality assurance framework for Green Deal

Approach	Assessment	Installation	Post-installation	Longer-term
● Green Deal Quality Mark and Code of Practice	● Green Deal Quality Mark and Code of Practice	● Green Deal Quality Mark and Code of Practice	● Audit of a sample of properties (minimum 1% per annum by certification body)	● Guarantees and/or warranties ranging from 5 to 25 years depending on products installed
▲ Rogue sales, consumer pressurised into sale or false advertising	▲ Financing options not clearly/fully explained (consumer sold inappropriate financing plan)	● Green Deal Kitemark	● Green Deal Guarantee – insurance fulfilled if Green Deal provider fails to comply or is insolvent	● 10-year warranty for consequential building damage and Green Deal Kitemark
	▲ Recommended measures not suitable for property (not impartial)	▲ Installer not fully competent, resulting in sub-standard work and potential damage	▲ Quality of assessment and whether measures suitable for property not inspected/audited	▲ Predicted cost/energy savings based on behaviour of previous, not new householder
	▲ Assessor not fully competent, resulting in inaccurate or flawed assessment	▲ Consumer may not know 'what good looks like'	▲ Not all properties audited, hence some quality issues may slip through the net	▲ Cost/energy savings cannot be guaranteed
	▲ EPC and/or assessment data not fit for purpose, undermining accuracy of assessment	▲ Consumer not made aware of complaints/sanctions process or how to seek redress	▲ Consumer not made aware of complaints/sanctions process or how to seek redress	▲ Longer-term damage caused to the property not identified in absence of longer-term monitoring
	▲ Recommended measures not suitable for property	▲ Consumer not made aware (or fully aware) of exclusion clauses within warranties and/or guarantees	▲ Variances in level of consumer protection depending on length and type of warranties and/or guarantees	▲ House sale or mortgage decisions potentially affected by Green Deal financing attached to the property
	▲ Consumer not made aware (or fully aware) of complaints/sanctions process or how to seek redress			▲ Consumer leaves property (sale or end of tenancy); new householder inherits Green Deal liability having had no financial advice
	▲ Consumer may not know 'what good looks like'			▲ Consumer leaves property (sale or end of tenancy); new householder disputes inherited Green Deal liability
				▲ New householder has no contractual relationship with Green Deal provider
				? Unclear whether warranties/guarantees can be transferred to new householder

Figure 14: Customer journey showing potential consumer protections and risks within the quality assurance framework for ECO

Approach	Assessment	Installation	Post-installation	Longer-term
▲ Not driven by consumer choice	● Renewable Energy Code of Practice (RECC)	● MCS Accreditation/PAS 2030 standards	● Audit of a sample of installations (5%)	● Guarantees and/or warranties ranging up to 25 years depending on products installed
	▲ Assessor not fully competent, resulting in inaccurate or flawed assessment	▲ Installer not fully competent, resulting in sub-standard work and potential damage	▲ Audits predominantly focus on carbon savings achieved not quality of assessment or installation	▲ Longer-term damage caused to the property not identified in absence of longer-term monitoring
	▲ EPC and/or assessment data not fit for purpose, undermining accuracy of assessment	▲ Consumer may not know 'what good looks like'	▲ Not all properties audited, hence some quality issues may slip through the net	▲ Cost/energy savings cannot be guaranteed
	▲ Recommended measures not suitable for property	▲ Variances in level of consumer protection depending on length and type of warranties and/or guarantees	▲ No scheme-specific consumer route to redress	? Unclear whether warranties/guarantees can be transferred to a new householder
	▲ No scheme specific complaints/sanctions process	▲ Not all measures require guarantees/warranties		
	▲ Consumer not made aware of how to seek redress	▲ No requirement for insurance-backed guarantees		
	▲ Consumer may not know 'what good looks like'	▲ Consumer not made aware (or fully aware) of exclusion clauses within warranties and/or guarantees		

Figure 15: Customer journey showing potential consumer protections and risks within the quality assurance framework for MCS

Approach	Assessment	Installation	Post-installation	Longer-term
● Quality Mark	● Quality Mark	● Quality Mark	● Annual inspections of sample of MCS installations per installer	● Guarantees and/or warranties ranging from 5 to 25 years depending on products installed
● Renewable Energy Code of Practice (RECC)	● Renewable Energy Code of Practice (RECC)	● Renewable Energy Code of Practice (RECC)	● Renewable Energy Code of Practice (RECC)	● Renewable Energy Code of Practice (RECC)
	● Assessor has no incentives to recommend certain measures over others	● MCS Kitemark	● MCS Kitemark	● MCS Kitemark
	▲ Assessor not fully competent, resulting in inaccurate or flawed assessment	● Scheme-specific complaints and sanctions process	● MCS Warranty protects consumer if installer ceases trading	▲ Cost/energy savings cannot be guaranteed
	▲ EPC and/or assessment data not fit for purpose, undermining accuracy of assessment	● MCS Warranty <i>Insurance-backed guarantees to be introduced</i>	● Consumer has access to independent dispute resolution provider	▲ Longer-term damage caused to the property not identified in absence of longer-term monitoring
	▲ Recommended measures not suitable for property	▲ Consumer may not know 'what good looks like'	▲ Quality of assessment and whether measures suitable for property not inspected/audited	▲ Predicted cost/energy savings based on behaviour of previous, not any new householders
	▲ Consumer may not know 'what good looks like'	▲ Installer not fully competent, resulting in sub-standard work and potential damage	▲ Not all properties audited, hence some quality issues may slip through the net	? Unclear whether warranties/guarantees can be transferred to a new householder
	▲ Consumer not made aware (or fully aware) of complaints/sanctions process or how to seek redress	▲ Consumer not made aware (or fully aware) of exclusion clauses within warranties and/or guarantees	▲ Installer is able to select installations for audit, undermining objectivity of the process	
		▲ Variances in level of consumer protection depending on length and type of warranties and/or guarantees		

Figure 16: Customer journey showing potential consumer protections and risks within the quality assurance framework for HEEPS

Approach	Assessment	Installation	Post-installation	Longer-term
● Comprehensive information, advice and guidance available to consumer on all aspects of energy efficiency, measures, tariffs and relevant schemes (not just HEEPS)	● Local authorities enter into contracts with assessors, and have no particular affiliation or vested interest in working with one company over another	● Local authorities enter into contracts with installers, and have no particular affiliation or vested interest in working with one company over another	● Consumer has one clear point of contact at the local authority in case of complaints or queries	● Guarantees and/or warranties ranging up to 25 years depending on products installed
● Face-to-face and outreach advice available for consumers	● Independent technical inspections undertaken to check property suitability for proposed measures	▲ Installer is not fully competent, resulting in sub-standard work and potential damage	▲ Not all properties audited, hence some quality issues may slip through the net	▲ Predicted cost/energy savings based on behaviour of previous, not any new householders
▲ Some components of the scheme ECO funded/facilitated and not driven by consumer choice	● Assessor has no incentives to recommend certain measures over others	▲ Consumer may not know 'what good looks like'	▲ Consumer not made aware of complaints/sanctions process or how to seek redress	▲ Cost/energy savings cannot be guaranteed
	▲ Assessor not fully competent, resulting in inaccurate or flawed assessment	▲ Consumer not made aware of complaints/sanctions process or how to seek redress		▲ Longer-term damage caused to the property not identified in absence of longer-term monitoring
	▲ EPC and/or assessment data not fit for purpose, undermining accuracy of assessment	▲ Consumer not made aware (or fully aware) of exclusion clauses within warranties and/or guarantees		? Unclear whether warranties/guarantees can be transferred to any new householders
	▲ Recommended measures not suitable for property	▲ Variances in level of consumer protection depending on length and type of warranties and/or guarantees		
	▲ Consumer may not know 'what good looks like'			
	▲ Consumer not made aware (or fully aware) of complaints/sanctions process or how to seek redress			

Figure 17: Customer journey showing potential consumer protections and risks within the quality assurance framework for Arbed 2

Approach	Assessment	Installation	Post-installation	Longer-term
● Consumers approached by engagement company with no vested interest in 'selling'	● Initial assessment followed by a further technical appraisal to check proposed measures suitable for property	● Consumer given completion pack including advice on energy efficiency behaviours, measures installed, and associated guarantees and/or warranties	● Inspection of 100% of properties to check quality of installation	● Guarantees and/or warranties ranging up to 25 years depending on products installed
	● Assessor has no incentives to recommend certain measures over others	● One point of contact for consumer in the event of complaints or queries	● One point of contact for consumer in the event of complaints or queries	● Further technical inspection of 100% of properties a year after installation
	▲ Assessor not fully competent, resulting in inaccurate or flawed assessment	▲ Installer not fully competent, resulting in sub-standard work and potential damage		▲ Cost/energy savings cannot be guaranteed
	▲ EPC and/or assessment data not fit for purpose, undermining accuracy of assessment	▲ Consumer may not know 'what good looks like'		? Unclear whether warranties/guarantees can be transferred to a new householder
	▲ Recommended measures not suitable for property	▲ Consumer not made aware (or fully aware) of exclusion clauses within warranties and/or guarantees		
	▲ Consumer may not know 'what good looks like'	▲ Variances in level of consumer protection depending on length and type of warranties and/or guarantees		

Figure 18: Customer journey showing potential consumer protections and risks within the quality assurance framework for Nest

Approach	Assessment	Installation	Post-installation	Longer-term
● Awareness raised about the scheme and referrals made from Nest development managers and their partnership organisations, none of whom have any vested interest in 'selling'	● Initial assessment informs development of an installation plan to confirm proposed measures are suitable for property	● Consumer given completion pack including advice on energy efficiency behaviours, measures installed, and associated guarantees and/or warranties	● 100% of properties checked by assessors after work completed	● Aftercare available to consumer for 2 years post installation
● Advice and guidance for consumers about energy efficiency measures and behaviours available via Resource Efficient Wales	● Assessor has no incentives to recommend certain measures over others	● One point of contact for consumer in the event of complaints or queries	● Installations guaranteed for 2 years	▲ Cost/energy savings cannot be guaranteed
	▲ Assessor not fully competent, resulting in inaccurate or flawed assessment	▲ Installer not fully competent, resulting in sub-standard work and potential damage	● One point of contact for consumer in the event of complaints or queries	▲ Predicted cost/energy savings based on behaviour of previous, not any new householders
	▲ EPC and/or assessment data not fit for purpose, undermining accuracy of assessment	▲ Consumer may not know 'what good looks like'		? Unclear whether the 2-year guarantee can be transferred to a new householder
	▲ Recommended measures not suitable for property	▲ Consumer not made aware (or fully aware) of exclusion clauses within warranties and/or guarantees		
	▲ Consumer may not know 'what good looks like'			

4.2 Recommendations

In summary, there is no guarantee for the consumer that work will be 'right first time'. This points to an urgent need to simplify the overarching landscape for consumers, and to close the loopholes and fix the issues in the quality assurance framework. Such issues and loopholes create the potential for sub-standard work to be carried out, and which furthermore could become rife, in light of limited consumer understanding as to 'what good looks like'. There could be longer-term consequences for consumers experiencing financial and emotional detriment as a result.

We therefore recommend that the Citizens Advice Service consider the following actions:

- Advocate for the UK Government to transfer of responsibility and accountability of all energy efficiency related schemes and mechanisms currently managed by multiple UK Government departments, into one department (likely to be DECC)
- Advocate for the UK Government to incorporate stronger consumer protection into ECO, notably offering some form of redress for consumers where sub-standard work is carried out. For future schemes, this should be extended to the Scottish Government that will have responsibility for design of schemes in Scotland
- Develop a guidance document and checklist for consumers that will help them to identify potential problems with the assessment and installation process, including aspects to look for such as Quality Mark 'badges'
- Consider how best practice in the Scottish and Welsh schemes might be incorporated into Great Britain-wide initiatives Green Deal, ECO and MCS, with particular attention given to:
 - decoupling advice and assessment from recommendation of measures
 - improving information given to consumers about guarantees and warranties
 - improving aftercare and incorporating longer-term monitoring (for example technical inspections take place a year after the work was completed for Arbed 2)

Increasing the sample size for audit/inspection to 100 per cent as it is for the Welsh schemes, is likely to be cost prohibitive, and further research may be required to identify potential funding streams

- Advocate for UK and national Governments to work towards the creation of one¹⁷⁰ energy efficiency and low carbon framework that integrates quality assurance with technical operating standards, and includes one clear and seamless process for customers to make complaints and seek redress. This could include for example:

¹⁷⁰ Further discussion/research may be required to consider whether this should be Great Britain-wide or whether there should be one framework per nation

- guidance for certification bodies about investigating and taking action against instances of non-compliance among assessors and installers, and in setting and enforcing quality standards
 - a requirement for insurance-backed guarantees to increase consumer protection¹⁷¹
 - a requirement for consumers to be given independent financial advice for schemes such as the Green Deal and any future similar initiative which is based on a loan financing mechanism
- Consider how the PAS 2030 could be strengthened as the main technical standard for energy efficiency work. This is likely to require:
 - clearer wording to reduce the scope for ambiguity and inconsistent interpretation
 - scope for consumer protection through reference to suitable high quality product warranties and insurance-backed guarantees (see below)
 - Advocate for the Financial Conduct Authority (FCA) to set one core standard for robust high quality guarantees and warranties for energy efficiency and low carbon work
 - Advocate for the UK Government to put in place a single Ombudsman to cover energy efficiency and low carbon, considering how this would fit in with the wider redress landscape¹⁷²
 - Advocate for the UK Government to introduce a risk-driven audit regime which would include:
 - information sharing between relevant organisations about audit results
 - auditing of quality of advice/assessment as well as installations
 - a requirement for longer-term monitoring to identify problems that may emerge over time¹⁷³
 - Advocate for measures to improve the quality of training provision and competency standards, for energy assessors and installers to require:
 - on-going CPD
 - minimum entry criteria (for example a certain amount/type of relevant industry experience) for training courses
 - a minimum number of Guided Learning Hours (GLH) for training courses

¹⁷¹ This is already being addressed for MCS

¹⁷² Further discussion/research may be required to consider whether this should be Great Britain-wide or whether there should be one organisation per nation

¹⁷³ Determining the most appropriate time frame for longer-term monitoring may require further specialist technical input

- Undertake a regular programme of mystery shopping across all schemes in scope of this research, focusing particularly on the advice and assessment component which at present is under-represented at audit

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