



Department  
of Energy &  
Climate Change

# Research into the Green Deal and ECO Programme Supply Chain (Follow up Study)

**Technical Report**

July 2015

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Any enquiries regarding this publication should be sent to us at [HouseholdEnergyEfficiencyResearch@decc.gsi.gov.uk](mailto:HouseholdEnergyEfficiencyResearch@decc.gsi.gov.uk).

The views expressed in this report are those of the authors, not necessarily those of the Department of Energy and Climate Change (nor do they reflect Government policy).

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# Glossary of Terms and Acronyms

This Technical Report uses the following terms and acronyms:

<b>CERT</b>	Carbon Emissions Reduction Target
<b>CESP</b>	Community Energy Saving Programme
<b>DECC</b>	Department of Energy and Climate Change
<b>ECO</b>	Energy Companies Obligation
<b>GD advisor</b>	Green Deal advisor
<b>GD assessor</b>	Green Deal assessor organisation (GDAO)
<b>GD finance</b>	Green Deal finance
<b>GD installer</b>	Green Deal installer
<b>GD ORB</b>	Green Deal Oversight and Registration Body
<b>GD provider</b>	Green Deal provider
<b>GD</b>	Green Deal
<b>GDAO</b>	Green Deal assessor organisation
<b>GDAR</b>	Green Deal Advice Report
<b>SWI</b>	Solid wall insulation

# 1. Overview of the study

- 1.1. In September 2014, ICF International – working with GfK NOP – was commissioned by DECC to carry out a follow up study into the Green Deal (GD) and Energy Companies Obligation (ECO) programme supply chain. The first study was conducted in January 2014 and reported later the same year<sup>1</sup>. The two studies both formed part of an evaluation of the GD and ECO programme being led by ICF International.
- 1.2. The follow up study differed from the first study of the GD supply chain in that it comprised solely of a quantitative survey, whereas the first study also included qualitative research. In addition, the views of GD Providers, as a separate group, were not explored in the follow up study.
- 1.3. This Technical Report provides information about the design and delivery of the follow up study, and should be read alongside the analytical report, the research instruments used, and the data tables from the survey<sup>2</sup>.
- 1.4. The follow up study was developed in relation to the following two broad objectives:
  - to collect evidence on the operations of advisors, assessors and installers and how they are delivering under GD and ECO; and
  - to investigate GD installers'<sup>3</sup> views and experiences of Release One of the GD Home Improvement Fund (GDHIF) scheme.
- 1.5. The study comprised a quantitative telephone survey of GD suppliers located in England, Wales and Scotland<sup>4</sup>, which took place between December 2014 and February 2015. The survey consisted of over 700 interviews in total, of which there were:
  - 295 interviews were with GD advisors,
  - 123 interviews with GD assessors, and
  - 295 interviews with GD installers (in order to permit separate analysis of sub groups, for this supplier type a boost at the sampling stage meant that 151 of the 295 installers were flagged in the original sample as delivering Solid Wall Insulation (SWI) and 183 were registered for the first release of GDHIF.
- 1.6. Section 2 outlines the full approach to sampling.

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<sup>1</sup> The link to the report:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/421010/P10\\_GD\\_Supply\\_chain\\_research.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/421010/P10_GD_Supply_chain_research.pdf)

<sup>2</sup> All available at <https://www.gov.uk/government/publications/research-in-to-the-green-deal-and-eco-programme-supply-chain-follow-up-study>

<sup>3</sup> GD HIF questions were only asked of certified GD installers, since neither GD advisors nor assessors have a specific role in the delivery of GDHIF. Although GD providers may also deliver under GDHIF, the survey excluded certified GD providers (unless they were also certified GD installers). In this instance they would only be asked about their GD installer activities specifically.

<sup>4</sup> Advisors and installers were sampled in this way; for assessors, a census of all leads was taken. A full description is provided in Section 2.

## 2. Quantitative survey

### Defining the study populations

- 2.1. The subjects of the follow up study were certified GD advisors, assessors and installers:
  - **GD advisors:** individuals operating as sole traders, or under contract to GD assessor organisations, and certified to undertake GD assessments
  - **GD assessors** (also known as GD assessor organisations, or GDAOs): businesses that are certified to provide GD assessments to households. GD assessors may employ GD advisors to carry out GD assessments
  - **GD installers:** businesses that install energy efficiency measures for households. Only authorised GD installers may install measures that are funded via the GD finance mechanism.
- 2.2. Given their diverse roles and business models, it was necessary to present separate analyses for GD advisors, assessors and installers, rather than analysing GD suppliers as a single entity. The three groups of supplier – advisors, assessors and installers – were therefore treated as three separate populations in terms of their sampling, question design and reporting, as was the case in the first study.
- 2.3. Contact details were accessed for all those that were registered with the GD Oversight and Registration Body (ORB) at the end of September 2014. Before de-duplication, within and against all supplier types (advisor, assessor and installer), there was just over fifteen thousand entries across all files.
- 2.4. The GD ORB register included duplicate records, with businesses with multiple trading names sharing the same phone number or address, and advisors with more than one Certification ID (because they had been certified by more than one certification body). Leads were sometimes listed under one or more supplier types (e.g. assessor and installer). Leads were listed at an establishment level, i.e. all sites were listed for multiple-site organisations, and a named contact was included for each listed business.
- 2.5. The first step in preparing the sample for the survey was for GfK NOP to conduct an extensive de-duplication exercise within, and across, the advisor, assessor and installer files at an establishment level (i.e. all business sites of the same organisation remained if they were at a different address).

### De-duplicating the assessor and installer populations

- 2.6. In line with previous GD supply chain survey, the survey was establishment-based, i.e. multiple branches (establishments) from the same assessor or installer organisation were included. This once again ensured that the survey was able to capture the views of decentralised businesses where, for instance, branches of a larger corporation may have their own business models and experiences of the Green Deal and ECO programme. Whilst the databases may have shown more than one contact at each site this was reduced to a single lead to ensure that each site or unit would only be contacted once.

- 2.7. To be eligible for the survey, assessor contacts had to be flagged as 'domestic' in the GD ORB database (those that were additionally flagged as non-domestic were also included). All installer contacts were deemed to be in scope for the survey.
- 2.8. Whilst most assessor and installer organisations only appeared once in the database, there were instances where the same organisation had multiple entries under the same address (i.e. same site). In such cases, a single occurrence for that establishment was created by manually building up all the information on supporting columns, i.e. all descriptive and contact details. If different contact names were given across all cases then up to three were included in the sample for fieldwork. Other rules to note were:
- where a number of different businesses existed at the same address and the nominated contact and telephone number were the same, it was assumed that one individual had set up a number of companies. In such cases, one company was selected at random, to ensure that we did not speak to any single individual in the survey more than once
  - where a number of businesses existed at the same site but the nominated contact and telephone details were different, no deduplication took place.

### De-duplicating the advisor population

- 2.9. In order to be eligible for the survey, GD advisors had to be flagged as 'active' in the GD ORB database.
- 2.10. GD advisors were different from assessors and installers in that they were registered as individuals rather than establishments (either as sole traders/ self-employed and contracted to one or more GDAOs; sole traders/ self-employed who were also registered GD assessors; or individuals employed directly by GDAOs). This sub sample reflected a survey of professionals/individuals as opposed to a survey of businesses at an establishment level.
- 2.11. Identifying unique occurrences relied upon a review of the full name of the advisor as there were no other unique identifier fields available on the GD ORB database (including Domestic Advisor ID and Certification ID<sup>5</sup>). Telephone numbers and email addresses were often tied to the organisation to which advisors were contracted to or employed by. Any single advisor could have a number of contracts with various organisations (indeed they sometimes had a number of occurrences within the same organisation).
- 2.12. It should be noted that an assumption was made that the same name equated to the same person. All multiple occurrences by name were removed and a single contact created.
- 2.13. With regard to finalising contact information, if an advisor had only one occurrence in the database it was assumed that these details were to be used in the sample for contact purposes. However, in multiple occurrences of phone numbers/ email addresses per advisor (due to the fact that the numbers/ email addresses applied to the various contracting organisation), it was not known which telephone number/email address was the most appropriate as a contact point. In these cases, up to three contact numbers were built in to the sample information. A mobile number was prioritised; if there was no mobile number, the most prevalent number was prioritised and up to two alternative numbers were listed as alternative points of contact for each individual. In fieldwork, if the first number did not yield contact for the interviewer (i.e. not in service, engaged) then the second and/or third contact number would be used.

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<sup>5</sup> Where GD advisors had been certified by multiple certification bodies, they had multiple and different Domestic Advisor IDs and/ or GD advisor certification IDs.

## Profile of the de-duplicated populations

- 2.14. Once each file was cleansed it was necessary to look for multi-function businesses (i.e. advisor, assessor and/or installer) and those that were specific to one role. There was no consistent identifier in the GD ORB contact databases that would enable a business to be systematically matched across the three roles (advisor, assessor and/or installer). Instead, this process was done by manually matching business trading names, addresses, telephone numbers, and email addresses. Address was useful for assessors and installers (it was not available for advisors) in order to ascertain which businesses were the same organisation/same site or different organisation at the same site (there was some evidence of supplier hubs).
- 2.15. At the end of this exercise there was a single occurrence per business/ individual with each contact flagged in terms of their single or multiple supply chain role. The vast majority of contacts were specific to one role (97%). Over half of advisors (57%) were single role; the same was true of 37% of installers.
- 2.16. As with the initial study, assessors only made up a small proportion of all suppliers (3% of the contacts were designated assessor organisations and another 2% were found within multiple functions). This meant a process of over-sampling had to take place for this group in order to reach a large enough sample size for independent analysis (as described in the next section).
- 2.17. Table 2.1 shows the numbers of businesses within the de-duplicated populations.

**Table 2.1: Profile of the de-duplicated populations**

	De-duped breakdown (number)*	De-duped breakdown (%)
Group 1: Advisor	4015	57%
Group 2: Installer	2621	37%
Group 3: Assessor	206	3%
Group 4: Advisor Assessor	68	1%
Group 5: Advisor Installer	65	1%
Group 6: Installer Assessor	90	1%
Group 7: Advisor/assessor/installer	34	.5%
TOTAL	7099	
<i>Installers: Solid Wall Insulator installers</i>		26%

**Note:** \*these figures reflect the number of unique establishments across all roles (advisor, assessor or installer) de-duped by name of person on register, telephone number, business name and/or business address. This differs to counts from GD ORB which reflect the number of registrations and each establishment can have a number of these (depending on what type of work delivering) within and against each supplier type.

## Sampling

- 2.18. The target for the overall survey sample was n=730 businesses. Within that targets were put in place by supplier type: advisors, assessors, installers and by multi-function: advisor and assessor and/or installer. Targets were calculated in order to achieve the levels required to deliver a 95% confidence level and a maximum 5% margin of error, assuming that 50% of respondents gave a particular response (and accounting for finite population correction<sup>6</sup>).
- 2.19. When discussing targets, it was agreed that assessors would be over-sampled in order to generate a sufficiently large number to permit separate analysis. The following approach was taken:
- a census of assessors was agreed, with the aim to achieve a minimum sample of n=100 (70 interviews from the 206 leads that were single role assessors and 30 interviews from contacts that were assessors with multiple supply chain roles);
  - a census of contacts that had multiple supply chain roles was taken (with the aim to achieve at least n=85 interviews from a total of 257 leads);
  - a stratified random sample of advisors (single role);
  - a stratified random sample of installers (single role).
- 2.20. The route taken by suppliers through the telephone survey was driven by both the sample information and survey responses. Single function suppliers were interviewed according to their sample flag. Multi-function suppliers were asked at the start of the survey about their main business priority e.g. if they more readily recognised themselves as assessors or installers (the exception to this rule was suppliers flagged as advisors assessors, who were required to follow assessor routing in order to maximise the size of the overall assessors sample).
- 2.21. Table 2.2 shows the targets per sample description (seven groups in total), the number of contacts in the survey sample and the questionnaire route taken by each sub set.

**Table 2.2: Summary of targets, number of contacts in survey sample and route through questionnaire per sample type**

Sample Description	No. contacts after de-duping/cleaning	No. interviews targeted	No. contacts in survey sample	Sample flag	Questionnaire route followed
Group 1: Advisor	4015	300	1200	1	Advisor routing
Group 2: Installer	2621	275	1100	2	Installer routing
Group 3: Assessor	206	70	206	3	Assessor routing
Group 4: Advisor assessor	68	22	68	4	Assessor routing
Group 5: Advisor installer	65	22	65	5	Respondent selects primary function

<sup>6</sup> A finite population correction is applied where a sample represents more than 5% of the population (as was the case for the samples of assessors, advisors and installers). The correction adjusts the standard error to account for the fact that there is less uncertainty in the results than would be the case when drawing a sample from a very large or infinite population

Sample Description	No. contacts after de-duping/cleaning	No. interviews targeted	No. contacts in survey sample	Sample flag	Questionnaire route followed
Group 6: Installer assessor	90	30	90	6	Respondent selects primary function
Group 7: Advisor/assessor/installer	34	11	34	7	Respondent selects primary function
<b>Total</b>	<b>7099</b>	<b>730</b>	<b>2763</b>		

### Creating the sample files for single function suppliers (who were not census allocated)

2.22. After the removal of contacts that were out of scope for the survey (for advisors, those who were inactive and for assessors, those that were not flagged as domestic) and the completion of the deduplication exercise (described previously), the following steps were taken for those identified for a stratified random sample approach, namely single role advisors and installers (assessors and all those flagged with a dual or multiple role were covered as a census).

#### Advisors

2.23. Advisors (sample flag 1<sup>7</sup>)

- the sample was flagged with various sample/stratification variables from the GD ORB database as follows:
  - earliest (active) certification start date (where there were multiple entries per name, the earliest start date of all active entries was selected)
  - region (1 for England and Wales<sup>8</sup>, 2 for Scotland and 3 for occurrences in both if multiple active entries per advisor)
- the sample was stratified by region and then earliest certification start date
- a 1 in N sample interval was applied to deliver a total sample of 1200 contacts
- for all those sampled – all contact data was checked and applied:
  - if there were multiple telephone numbers and email addresses for an advisor, a maximum of three were built in to the sample information. Priority was given to mobile phone numbers; the second and third contact phone numbers were adopted if the first contact proved to be out of service/ wrong number.

2.24. There was a final exploration of sample for those 'employed by larger organisations'. Where high numbers of advisors had the same contact information (telephone number and email) it was agreed that the survey should minimise survey burden to the organisation to which they were employed.

2.25. Where the email address of an advisor was associated with 10 or more contacts on the database, that contact was flagged as 'employed by larger organisations': 16 organisations were associated with 10 or more advisors (and 3 organisations had over

<sup>7</sup> See table 2.2 for sample flag descriptions

<sup>8</sup> England and Wales classification depended on a yes flag for the variable 'Member of EPBD scheme in E&W'; Scotland classification depended on a yes flag for the variable 'Member of Protocol Organisation in Scotland'

30 advisors linked to them via email address). Within each organisation, target numbers of advisors was agreed - an approach was developed for this which incorporated scaled sub sampling relative to organisation size. Then within each organisation advisors were re-stratified by date of certification and region and a 1 in N selection took place

- 2.26. A top up sample of 400 sole trader/ self-employed advisors was drawn and kept in reserve for use should the conversion rate of employed advisors fall short of target (in many cases 0800 numbers were given and this proved particularly difficult in terms of contact points for these individuals).

## Installers

- 2.27. Installers single function (sample flag 3). This sample was flagged with sample variables:

- 'earliest certification start date' (where there were multiple entries per name, the earliest start date of all active entries was selected);
- postcode
- country
- the type of measure installed (overlapping categories: solid wall insulation; hard-to-treat cavity wall insulation; solar photovoltaic; and/or heating technologies)
- SWI flag
- GDHIF flag from secondary database.

- 2.28. It was determined that the survey would benefit from at least 100 interviews with installers who were registered GDHIF and also (as a separate requisite) those involved in SWI. In terms of the process of sampling within sub groups, the following steps were applied:

- The sample was stratified by region and then earliest certification start date (if no boost)
- a 1 in N was selected to give the contacts needed for fieldwork
- for all those sampled – all contact data was checked and applied - if there were multiple telephone numbers and email addresses for an installer, a maximum of three were built in to the sample information. Priority was given to mobile phone numbers; the second and third contact phone numbers were adopted if the first contact proved to be out of service/ wrong number.

## Fieldwork

- 2.29. Prior to being contacted, individuals and businesses within the sample were sent an email or a letter<sup>9</sup> explaining the research. A copy of this email/letter text is included as Annex 1 in a separate document, Research Instruments<sup>10</sup>. An alternative form of the email/ letter was devised for businesses/ individuals who had generic contact details (for example, 0800, 0845 telephone numbers and / or email addresses taking the form of info@xxx, admin@xxxx, etc). A copy of this email/ letter text is included as Annex 2, again in the Research Instruments document.

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<sup>9</sup> GD assessors and installers whose details consisted of a generic email address (for example, 'info@xxx, or admin@xxx' were sent a letter in the post as well as an email with the name of the individual in the subject line. In the case of advisors, only email addresses were available for advance communication.

<sup>10</sup> Available at: <https://www.gov.uk/government/publications/research-in-to-the-green-deal-and-eco-programme-supply-chain-follow-up-study>

- 2.30. Interviews were conducted by GfK NOP using Computer Assisted Telephone Interviewing (CATI) from GfK NOP’s telephone centre in Luton. Interviewers were fully briefed prior to starting work on the study by senior members of the GfK NOP team.
- 2.31. Excepting unobtainable numbers (‘dead lines’, wrong numbers, fax numbers etc.), up to ten attempts were made to contact all individuals and businesses within the samples. After ten unsuccessful attempts (answer phones, engaged, no replies etc.), contacts were labelled as a non-response. Interviews were undertaken both during weekdays and weekends, and at different times in the day (daytime and early evening).

**Pilot fieldwork**

- 2.32. A pilot of 21 interviews took place across a cross section of business sizes/ respondent types, with six being multiple function respondents. The pilot interviews were undertaken by two experienced business interviewers who asked (where feasible) up to five open ended questions at the end of the interview to cognitively assess and challenge the ways in which respondents interpreted certain questions, their response and some of the pre-coded categories offered. The pilot ran between 17th and 21st November, with a break mid-way to review emerging findings with DECC. Table 2.3 provides a breakdown by sample type and table 2.4 provides a summary of sample outcomes.

**Table 2.3: Pilot study – target versus achieved interviews**

Sample type (from GD ORB database)	Target	Achieved
Advisor	5	5
Assessor	5	5
Installer	12	5
Advisor Assessor	1	2
Advisor Installer	0	0
Installer Assessor	1	4
Advisor Assessor Installer	1	0
<b>Total</b>	<b>25</b>	<b>21</b>

**Table 2.4: Pilot study – sample outcomes**

Sample outcome	N	%
<b>Total sample provided, of which:</b>	<b>95</b>	<b>100%</b>
<i>Surveys achieved</i>	21	22%
<i>Dialled sample still active</i>	44	46%
<i>Screening failures</i>	2	2%
<i>Refusals</i>	5	5%
<i>Other non-response#</i>	19	20%

**Note: # including not available in fieldwork period, number called 10+ times**

- 2.33. At the end of the pilot, GfK NOP and ICFI provided a short discussion paper and a marked up questionnaire for final review with DECC.
- 2.34. The pilot showed that the time required to complete the questionnaire exceeded the target duration (of around 20 minutes). A number of questions were therefore cut to bring timings in line with the 20 minute average.
- 2.35. The findings from the pilot resulted in some changes to improve clarity and completeness, for example, some question phrasing was amended and some precodes were added (after an examination of 'other specify' responses). As a result of these changes, the findings from the 21 completed pilot interviews were not used in analysis of the results of the main survey.

### Mainstage fieldwork

- 2.36. Mainstage interviewing ran from 2nd December 2014 to 9th February 2015. The interviewing team received a face to face briefing from the GfK NOP executive team before commencing interviewing. Initially the team worked on all sample types other than the advisor sample, which due to its complexity, was released later on 6th January 2015.
- 2.37. The interviews averaged 20 minutes. In all cases the named contact in the sample was asked to confirm they were the best person to speak to in terms of an overview of all assessments/installations at that site. If they were not, a referral was sought.
- 2.38. In total 713 interviews were achieved. Table 2.5 shows the breakdown of interviews by sample type.

**Table 2.5: Interviews achieved by sample group**

Sample type (from GD ORB database)	Achieved
Advisor	289
Assessor	79
Installer	257
Advisor / assessor	29
Advisor / installer	20
Installer / assessor	27
Advisor / assessor / installer	12
<b>Total</b>	<b>713</b>
Route followed through questionnaire	Achieved
Advisor	295
Assessor	123
Installer	295*
<b>Total</b>	<b>713</b>

**Note: \* of which 151 were flagged as SWI installers in the GD ORB database and 183 confirmed they had registered for the first release of GDHIF**

- 2.39. The following actions were taken during fieldwork:

- for all samples, where there was more than one contact number in the GD ORB database, a landline (non 0800 number) was prioritised, then a mobile. When all primary numbers had been tried over an initial period, the alternative number was fed into the sample management system to provide the best chance of reaching the respondent
- the advisor sample had the highest proportion of wrong numbers within it (9% versus 4% or less in other sample groups). An internet search for alternative numbers was undertaken using the information available on the sample (email address) and any alternatives were fed through to the sample management system for the interviewing team to try
- response on the advisor sample was very closely monitored (in terms of sole traders/self-employed versus those employed by large organisations). After calling through all leads it was clear that the target sample size would not be reached; this was primarily due to the high volume of duplicate numbers in the employed advisor sample. In such cases, interviewers faced receptionists barring access, or saying that they either had no record of the named advisor or had no means of transferring the interviewer to that person
- low response within the 'employed advisor' group resulted in the decision to release more sample in the sole trader/ self-employed group. This was done in two tranches of n=200 leads (released on 16th January and 21st January)
- an examination of the assessor sample revealed that some larger players in the market had not been interviewed. DECC was able to provide a contact for one of these organisations. This lead was able to provide alternative, direct contact details for a proportion of advisors working for the same organisation that had been sampled for the survey as part of the advisor sample and these details were passed to the interviewing team.

### Call outcomes and response rates

- 2.40. Table 2.6 presents response rates across the seven sample types. Response rates are presented in two ways:
- unadjusted –the number of interviews is shown as a percentage of all leads sampled
  - adjusted – the number of interviews is shown as a percentage of in-scope leads, i.e. after the removal of ineligible respondents and deadwood (wrong numbers, fax numbers, etc.).
- 2.41. The highest response was amongst advisor assessors (48.3%) and the lowest amongst advisors (23.5%<sup>11</sup>)
- 2.42. Table 2.6 summarises call outcomes and response rates. Call outcomes are classified in the following ways:
- completed interviews
  - ineligible leads (those who failed the screening questions about whether they were a GD supplier at the start of the survey)
  - deadwood (wrong numbers, fax numbers, out of service numbers)

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<sup>11</sup> It should be noted that the lower response rate amongst advisors was to be expected given that this group has the shortest period of time in field.

- no contacts (individuals and businesses that were never directly spoken to; all were called at least ten times without direct contact occurring)
- refusals
- other unproductive (individuals and businesses where contact was made but an interview was not secured. Some of these would have been broken appointments; in some cases the respondent could not take part within the research period. In some cases interviewers were told by receptionists that there was no direct number for the named person in the sample/ that person was unknown).

**Table 2.6: Call outcomes and response rates**

Outcome	Assessors		Installers		Advisor Assessors		Advisor Installer		Installer Assessor		Advisor Assessor Installer		Advisor	
	Leads	%	Leads	%	Leads	%	Leads	%	Leads	%	Leads	%	Leads	%
<b>Issued sample</b>	<b>220</b>	<b>100.0%</b>	<b>1,100</b>	<b>100.0%</b>	<b>66</b>		<b>63</b>	<b>105.0%</b>	<b>90</b>	<b>105.9%</b>	<b>34</b>	<b>103.0%</b>	<b>1,389</b>	<b>113.1%</b>
Ineligible leads	4	1.8%	45	4.1%	3	4.5%	0	0.0%	2	2.2%	0	0.0%	24	1.7%
Deadwood (wrong number, fax numbers, etc.)	12	5.5%	40	3.6%	3	4.5%	3	4.8%	3	3.3%	1	2.9%	137	9.9%
<b>In scope leads</b>	<b>204</b>	<b>100.0%</b>	<b>1,015</b>	<b>100.0%</b>	<b>60</b>	<b>100.0%</b>	<b>60</b>	<b>100.0%</b>	<b>85</b>	<b>100.0%</b>	<b>33</b>	<b>100.0%</b>	<b>1,228</b>	<b>100.0%</b>
No contact (voicemail etc.)	89	43.6%	515	50.7%	21	35.0%	30	50.0%	38	44.7%	13	39.4%	568	46.3%
Refusal	9	4.4%	132	13.0%	5	8.3%	5	8.3%	9	10.6%	5	15.2%	114	9.3%
Other unproductive	27	13.2%	111	10.9%	5	8.3%	5	8.3%	11	12.9%	3	9.1%	257	20.9%
Completed interview	79	38.7%	257	25.3%	29	48.3%	20	33.3%	27	31.8%	12	36.4%	289	23.5%
<b>Unadjusted response rate</b>		<b>35.9%</b>		<b>23.4%</b>		<b>43.9%</b>		<b>31.7%</b>		<b>30.0%</b>		<b>35.3%</b>		<b>20.8%</b>
<b>Adjusted response rate</b>		<b>38.7%</b>		<b>25.3%</b>		<b>48.3%</b>		<b>33.3%</b>		<b>31.8%</b>		<b>36.4%</b>		<b>23.5%</b>

## Data processing and analysis

### Coding

- 2.43. For some questions, respondents were asked to specify details whenever they gave an 'other' as an answer (i.e. a response that was not already covered by the list of response codes available to the interviewer). These verbatim responses were analysed by GfK NOP coders and, where possible, were back-coded to existing codes or to newly created codes. The exception was those answers that were unclear or too general or where answers were 'unique' because they were given by just one survey respondent; such responses were left in an 'other' code.
- 2.44. There were also a number of fully open questions included in the survey. For these questions, a codeframe was developed by GfK NOP's coding team in order to summarise the key themes emerging under that question.

### Weighting and reporting conventions

- 2.45. In terms of weighting, Random Iterative Method (RIM) weights were applied (as in the previous study) as follows:
- 2.46. Advisors/Assessors and Installers
- GD supplier role (i.e. single role, dual role or multiple role)
  - geography; and
  - earliest date of registration
- 2.47. Installers: single role Installers (those that were not classified as having any other supplier role i.e. Assessor and/or Installer) were downweighted by SWI provision and also if GDHIF certified as these subgroups were boosted in the sample selection to ensure high enough base sizes for analysis.
- 2.48. The following tables provide information regarding the universe weighted to.

## Advisors

**Table 2.7: Advisors: Profile of universe and interviewed profile**

		% of Advisor universe	% of Advisor Interviews
Role	Single role (Group 1)	96.05%	97.95%
	Dual/multi role (Group 4,5,7)	3.95%	2.05%
Region / Member of scheme*	England/Wales	79.45%	80.82%
	Scotland	5.96%	6.16%
	England/Wales/Scotland	14.59%	13.01%
Date of certification (earliest if multiple)	Within year 2012	2.99%	2.05%
	January to the end of June 2013	30.60%	37.33%
	July to the end of December 2013	26.05%	28.42%
	Within year 2014	40.36%	32.19%

**Note:** \* For Advisors no address details were in the sample. We have used the following fields Member of EPBD scheme in England and Wales and Member of Protocol Organisation in Scotland

## Assessors

**Table 2.8: Assessors: Profile of universe and interviewed profile**

		% of Assessor universe	% of Assessor interviews
Role	Single role (Group 2)	52.02%	63.03%
	Dual/multiple role (Group 4,6,7): Advisor/Assessor	47.98%	36.97%
Location	England	78.28%	78.15%
	Wales	8.59%	7.56%
	Scotland	13.13%	14.29%
Date of certification (earliest)	Within year 2012	5.05%	5.04%
	January to the end of June 2013	34.85%	30.25%
	July to the end of December 2013	23.23%	27.73%
	Within year 2014	36.87%	36.97%

## Installers

2.49. The weighting for installers was a two-step process. First of all the GDHIF registered and SWI boost samples needed to be downweighted to fall in line with the universe figures. Table 2.9 shows the correct population profile against the interviewed profile.

**Table 2.9: Profile of universe and interviewed profile, by GDHIF and SWI flags**

	GDHIF only	SWI only	Both SWI and GDHIF	Neither SWI nor GDHIF	Total
Records in de-duped UNIVERSE for single role installer	463	303	391	1464	2621
<i>% in de-duped UNIVERSE for single role installer</i>	18	12	15	56	100
No. of interviews (single role installer)	62	43	80	72	257
<i>% interviews (single role installer)</i>	24	17	31	28	100

2.50. Secondly, target weights were calculated for the installer sample based on other factors, as follows:

**Table 2.10: Profile of universe and interviewed profile**

		% of Installer universe	% of Installer interviews
Role	Single role (Group 3)	93.27%	87.12%
	Dual/multi role (Group 5,6,7): Advisor/Installer	6.73%	12.88%
Location	England	83.37%	84.41%
	Wales	6.28%	7.46%
	Scotland	10.35%	8.14%
Date of certification (earliest if multiple)	Within year 2012	11.29%	10.85%
	January to the end of June 2013	27.10%	28.47%
	July to the end of December 2013	36.32%	29.49%
	Within year 2014	25.28%	31.19%

## Reporting conventions

2.51. The following reporting conventions are used throughout this report: all differences between groups and within sub-groups that are commented on in the analysis are statistically significant at the 95% confidence level; reported data are weighted; all base sizes quoted in the report are unweighted; and 'don't know' and 'refused' answers have been omitted from the charts except where they are relevant.

## Data analysis

2.52. Data tables were produced that presented weighted responses to all questions. Cross-tabulations were carried out in order to provide sub-group analysis against the following variables:

- size (micro, small or medium/large sized<sup>12</sup>)
- type of advisor (sole trader or employed by an assessor)
- role (single supply chain role, multiple supply chain role)
- scale of regional/ devolved administration (DA) delivery (one region/ DA, two to four regions/ DAs, or five or more regions/ DAs)
- country of operation (Scotland only, Scotland in combination with other countries, not operating in Scotland)
- delivery under GD and/ or ECO since January 2014 (GD only, ECO only, GD and ECO, neither)
- number of GD assessments or installations completed under GD since January 2014 (1-99 or 100+)
- delivery under GDHIF first release (registered, did not register)
- SWI installer (this information was taken from a flag on the GDORB database)
- GDHIF installer (this information was taken from response to a survey question about registration under the first release of GDHIF)
- type of measures installed (all insulation<sup>13</sup>, conventional heating<sup>14</sup> glazing, renewables<sup>15</sup>; SWI/ not SWI)
- number of installations funded under GDHIF
- proportion of sales attributed to GD and/ or ECO since January 2014 (under 10% of total sales, 10-99% of total sales, 100% of total sales)
- whether delivered under the CERT and CESP programmes<sup>16</sup>
- whether provided financial advice/ brokerage for customers (provided info/ recommendations on finance options, arranged or brokered finance, neither)
- whether charged a fee for GD assessments.

### Limitations of the quantitative research

2.53. As noted previously, contact databases provided by GD ORB did not indicate overlap between the categories of advisor, assessor and installer. Instead, this was estimated based on analysis of businesses' and individuals' names, email addresses and telephone numbers. This process was based on manually applied procedures (outlined in paragraphs 2.9, **Error! Reference source not found.** and **Error! Reference source not found.**), where commonalities across the datasets in terms of named individuals, email addresses or telephone numbers were assumed to be indicative of an organisation with multiple roles. It is possible that some instances of overlap were missed, particularly in relation to the overlap between advisors and assessors and/or installers, as no data were available on advisors' postal addresses. This issue is

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<sup>12</sup> Micro = <10 employees and turnover ≤£2m; Small = <50 employees and turnover ≤£10m; Medium/ large = <250 employees and turnover ≤£50m; Large = ≥250 employees and turnover >£50m

<sup>13</sup> Internal or external SWI; Cavity Wall Insulation (CWI); loft insulation

<sup>14</sup> Gas or oil boilers

<sup>15</sup> Solar Photovoltaic (PV), solar thermal, ground or air source heat pumps, biomass boilers

<sup>16</sup> The Carbon Emissions Reduction Target (CERT) and the Community Energy Saving Programme (CESP), which finished in December 2012 and were 'precursors' to the ECO programme

relevant to the calculations of the size of the de-duplicated populations of advisors, assessors and installers, and thus the post-survey weighting approach.

- 2.54. It should be noted again that some advisors were individuals working in large organisations and contact details were generic (i.e. an 0800 number and/or generic email address such as info@). Despite our very best efforts some of these individuals were hard to interview as no contact was ever made beyond the initial call centre or switchboard. The impact of this has been potentially to ‘under-represent’ the views of advisors that worked for large assessor organisations and to ‘over-represent’ the views of advisors that were self-employed or that worked for small assessor organisations.

## Confidence intervals

- 2.55. A confidence interval is a measure of the range within which it is probable that a population value lies. The wider the confidence interval, the more variation there is in an estimate of the population value. It is typical to calculate confidence intervals using a 95% confidence level. This means that we are 95% certain that the population value lies within the confidence interval (i.e. that if we drew 100 samples from the population and asked the same question, in 95 of these 100 samples, their response to the question would lie within the range of the confidence interval).
- 2.56. Table 2.11 shows the confidence intervals for a selection of sample sizes for a range of survey estimates (e.g. percentages of survey respondents). For example, if 295 advisors answered a yes/no question and 50% said ‘yes’, we can be 95% certain that between 44.6% and 55.4% of all installers in the population would have answered ‘yes’. As this table demonstrates, confidence intervals narrow (meaning greater precision about the true population value) when the sample size increases and/or where responses are more ‘polarised’ (i.e. where a high/low proportion of survey respondents provide a particular response).

**Table 2.11: Confidence intervals for the quantitative survey (expressed as +/- %) for a selection of survey responses (percentages)**

Type of supplier	Sample size <sup>17</sup>	Survey response		
		10% / 90%	30% / 70%	50% / 50%
Advisor	295	3.2	4.9	5.4
Assessor	123	3.4	5.1	5.6
Installer	295	3.3	5.0	5.5
SWI installer	151	4.2	6.5	7.1
GDHIF registered installer	183	3.9	5.9	6.4

<sup>17</sup> The table shows slightly different confidence intervals for advisors and installers even though the sample size was the same; this is because the actual universe is taken into account, which was larger for advisors.

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Department of Energy & Climate Change

3 Whitehall Place

London SW1A 2AW

[www.gov.uk/decc](http://www.gov.uk/decc)

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