Future Climate

purple
MARKET RESEARCH

Final Report to Citizens Advice:

A review of consumer experience of solar PV systems

June 2015

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1 Executive summary

The domestic solar PV market has grown significantly since the introduction of the Feed-in Tariff (FiT), bringing down costs and expanding its reach beyond the households we would traditionally expect to take up such technology. The market is at a stage when it is time to take stock of consumers' experiences in the installation and operation of their solar PV systems, and how these compare with the claims of manufacturers and installers.

In 2011, Consumer Focus published *Keeping Fit*[1]. They found that the early adopters of solar PV were typically rural and in the highest socio-demographic groups, although even at that time there was also a smaller, parallel group of social tenants whose landlords moved early to take advantage of generous return offered by FiTs.[2] In 2014, solar PV has been taken up by a much larger group of households. This new research, commissioned by Citizens Advice, considers the experience of purchasing, installing and operating solar PV for this larger, and more diverse, group of consumers.

This research covered households using solar PV across England and Wales, with a balanced sample across the different regions. It considers users in terms of when they had the technology installed, to see how the consumer experience has changed. The overall sample size was 647, which included 609 online surveys and 38 telephone surveys. The survey was designed to be comparable with the key elements of the consumer research of *Keeping FiT* in 2011, as well as incorporating issues that had arisen more recently.

A major aim of this research was to consider different user groups – dividing householders in terms of the way in which they acquired, or ended up living with, solar PV. There is the core group of owner-occupiers who have chosen to purchase solar PV to fit on their own property. Some paid for the panels through a financing scheme, similar to those offered for other household goods such as furniture, where they do not pay upfront but rather use the FiT to repay the interest. Some householders have had solar PV installed under rent-a-roof schemes – whereby installers provide solar PV for free and have the FiT income assigned to them while the household receives the electricity produced. A fourth group is social housing tenants, whose landlords have fitted the panels on their roofs. Finally, there is the growing – but still very small – number of people who have bought or rented a home with the panels already fitted.

Considering these different user groups, this research looked at all aspects of the experience of acquiring and living with solar PV. As well as overall satisfaction with the technology, the research asked about information provided and sought experience of pre-installation and the installation process. It then focused on the customer experience of aftercare and how customers find the benefits of the technology.

1.1 Findings

The consumer experience of solar PV is generally a good news story. Results are broadly positive and general satisfaction is high; there are very few areas in which solar PV users are explicitly dissatisfied. While there are some areas that could be improved, overall, there are no parts of the process that are highly problematic.

[1] Consumer Focus (2011), *Keeping FiT,* http://bit.ly/1Gaq7ce

[2] Tenants were likely to be under-represented in both parts of the *Keeping Fit* review – because the Energy Saving Trust excluded them from the 'consumer attitudes' research and because the 'consumer experience' research respondents were recruited substantially from households in direct receipt of FiT payments.

However, satisfaction is generally falling over time across most areas of the solar PV customer journey. The levels are not tumbling, the decline is small to moderate, but it is noticeable. It is difficult to draw conclusions on whether this trend will continue, but comparisons between the 2011 and 2015 survey, as well as the variations by year of installation, confirm the reduction.

Worryingly, users are also now less likely to recommend solar PV to friends, family and neighbours. In *Keeping FiT*, early adopters of solar PV were great advocates, which helped stimulate take-up. This decline has not yet been seen in the installation rates of domestic solar PV, but it is possible that it will start to impact over the next few years if other drivers do not maintain their prominence.

It is important that a high level of customer service is maintained and that improvements to ongoing support and advice, particularly maximising the benefits of solar PV, are realised.

1.1.1 Information and advice

There are few independent sources of information and advice, and these are being used less often than they were in 2011. The main source of information and advice is the installer (visit, website and materials) and independent internet searches, which generally bring up installer websites. The Energy Saving Trust and friends/family/neighbours are also cited, but the main source is the installer.

Many, although not all, stakeholders saw this as a potential problem. As take-up of solar PV becomes more widespread and prospective consumers are less informed, independent advice might be more important. However, some stakeholders suggested that advice often needed to be site and situation specific, and installers might be best placed to provide this.

More specifically, consumers did cite several areas where they did not feel they had enough information or advice – Energy Performance Certificates (EPCs), carbon emissions reduction and planning issues related to solar PV.

The motivations for installing solar PV are changing over time. In 2011, the financial benefit presented by the FiTs was the primary reason for installing solar PV but over time, environmental considerations have become stronger, and in the case of rent-a-roof users, rising electricity prices are now the primary reason.

Key finding: Customers feel they need more and clearer information on EPCs, planning issues and carbon emissions reductions relating to solar PV.

Key finding: More customers are citing rising electricity prices as a reason to install solar PV.

1.1.2 Sales process

Satisfaction with the sales process is still high, although has fallen slightly over time. Half of users rely on only one or two quotes, despite most organisations advising on three quotes. Rent-a-roof users tend not to obtain alternative quotes at all. The percentage of users approached speculatively by installers has increased over time, with those buying on finance and installing through a rent-a-roof scheme particularly likely to have been approached speculatively.

Checking that the installer is MCS registered is sporadic, in particular, a third of those installing through a rent-a-roof scheme do not appear to be checking if the installer is MCS registered and, of those who do, most are taking it on trust from the installer rather than checking independently.

Less than half of users are being made aware of the complaints procedure. More work needs to be done by consumer protection organisations to promote good practice and general awareness to consumers before they sign a contract.

Key finding: Customers are not checking installer details with the MCS and RECC schemes but instead taking it on trust with their installer that they are registered.

Key finding: Customers continue to obtain less than three quotes, with those on rent-a-roof schemes more likely to get only one quote.

1.1.3 Installation

There are some positive indicators relating to installation and the post-installation stage. Overall satisfaction with solar PV systems installed is high. Installers generally inform users about the cancellation period and about system guarantees, although less than half recall the installer talking through warranties and insurance-backed guarantees – another area that consumer protection organisations could be promoting to improve awareness.

1.1.4 System performance and maintenance

Satisfaction is lower for aspects of the post-installation phase - the handover, provision of information and advice on maintaining the system, and aftercare. While aftercare has not necessarily been an issue for solar PV users yet (due to the relatively young age of systems), advice on maintaining the system and maximising the benefits is needed. Installers should be providing this information before completion. However, there is often not an ongoing relationship between consumer and installer, so there could be a role for consumer organisations to play in providing ongoing support to consumers on using their solar PV most effectively.

Key finding: Consumers need more information on warranties and insurance-backed guarantees. They also need more information on how to check their system is working correctly and how to maximise the electricity generated by it.

1.1.5 Social housing

Social housing tenants were generally less satisfied than users in general with all aspects of the process. Social housing stakeholders reported that early installations of solar PV had not included tenant engagement, which explains lower satisfaction. Particular areas that need addressing are: upfront advice and information, which could be written into social housing providers' contracts with installers; and ongoing advice and support to change behaviour regarding energy use in order to maximise the benefits of solar PV. This advice should be embedded within the work of social housing providers so that all staff that interact with tenants can add this advice to other areas of knowledge and help they provide.

Key finding: Social housing tenants seem not to be engaged with the process of solar PV installation prior to the decisions being made to install systems in their homes.

Key finding: Social housing tenants don't appear to be engaged on how to use their systems effectively, nor how their actions can effect overall energy consumption in the home. The additional advice and information they would like tends to be regarding electricity bill savings, effective use of their system and more technical details.

Key finding: There seems to be a lack of ongoing engagement with social housing tenants regarding their solar PV systems, or when new tenants move into homes with solar PV already installed.

2 Introduction

This report presents the findings of quantitative consumer research commissioned by Citizens Advice into the consumer experience of solar photovoltaic (PV) panels installed in homes in England and Wales.

The market for solar PV has changed substantially since Feed-in Tariffs (FiTs) were introduced in 2010. Although the cuts to the tariff in 2012 mean that domestic solar PV is a less attractive investment than it was, it is now also a more mainstream product. Households living with solar PV are far more diverse now than the early adopters, who tended to be wealthier owner-occupiers. This research aims to take stock of the experiences of different types of householders in having solar PV installed and in operating and enjoying the benefits of their systems.

This research covered households using solar PV across England and Wales, with a balanced sample across the different regions. It considers users in terms of when they had the technology installed; to see how the consumer experience has changed, the results can, in many cases, be compared to the earlier *Keeping FiT* quantitative consumer research undertaken by Consumer Focus in 2011.

A major aim of this research was to consider different user groups – categorising householders in terms of the way in which they acquired, or ended up living with, solar PV. There is the core group of owner-occupiers who have chosen to purchase solar PV to fit on their own property. Some paid for the panels through a financing scheme, similar to those offered for other household goods such as furniture where they do not pay upfront but rather use the FiT to repay the interest. Some householders have had solar PV installed under rent-a-roof schemes – whereby installers provide solar PV for free and have the FiT income assigned to them while the household receives the electricity produced. A fourth group is social housing tenants whose landlords have fitted the panels on their roofs. Finally, there is the growing – but still very small – number of people who have bought or rented a home with the panels already fitted.

Considering these different user groups, this research looked at all aspects of the experience of acquiring and living with solar PV. As well as overall satisfaction with the technology, the research asked about information provided and sought experience of pre-installation and the installation process. It then focused on the customer experience of aftercare and how customers find the benefits of the technology.

The results of the research have been discussed with organisations involved in advising customers and regulating the solar PV markets in a stakeholder workshop. A separate workshop was held with social housing providers to discuss specifically the experience of social tenants.

Overall, the research shows that levels of satisfaction with solar PV technology are high across all user groups, although decreasing slightly over time. The experience of acquiring the technology is also generally positive. However, there are clear areas where the experience could be improved and there are marked differences in satisfaction, both with the technology as a whole and in enjoying the benefits between different user groups.

3 Background

FiTs for small- and medium-scale renewable electricity generation in Britain were introduced in 2010. They led to a rapid transformation of the market for domestic solar PV, largely because of high tariff levels that made solar PV very attractive as a stable long-term investment for owner-occupiers and social landlords[3]. A market also emerged for 'rent-a-roof' schemes, whereby a third party company installs the solar PV on the roof and claims the FiT while giving the building occupant the benefit of the free electricity.

In 2011, Consumer Focus (now Citizens Advice) published *Keeping FiT* to explore the consumer experiences of buying and installing solar PV through the various stages of the journey.[4] That research built on work commissioned by the Energy Saving Trust (EST) at around the same time, looking at consumer attitudes to microgeneration. These studies focused on owner-occupier users of solar PV, not on tenants whose landlords had installed the technology.

The research found that the early adopters of solar PV were typically rural owner-occupiers and in the highest socio-demographic groups, although even at that time, according to social housing stakeholders, there was also a parallel group of social tenants whose landlords moved early to take advantage of FiTs.[5]

By 2014, solar PV had been taken up by a much larger group of households, which prompted Citizens Advice to commission this new piece of research into the consumer experiences of installing and living with solar PV.[6] In particular, this research has allowed us to consider the experiences of households who accessed financing to help pay for the system or who had the system paid for by a third party – either by their landlord or a rent-a-roof provider.

Given that the technology has only been taken up by large numbers of householders in the past few years, we found only a small (and statistically unrepresentative) group of householders who had moved into homes with solar PV already installed. We expect that this group will continue to grow and considering the experiences of these householders could be a focus for future studies.

The early owner-occupier installers of solar PV received a very generous FiT.[7] For owner-occupiers that have had solar PV installed more recently under lower tariffs and/or for householders using systems provided by landlords or under rent-a-roof schemes, maximising the use of the energy generated in the home becomes a more important issue than for early adopter owner-occupiers.[8]

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[3] Private landlords seem to have been much less likely to take up solar PV, even though in the early FiT period they would have benefited from the long-term FiT payments. This is probably because the tax regime is less favourable for landlords and the sector is dominated by non-professional landlords.

[4] Consumer Focus (2011), *Keeping FiT: Consumers' Attitudes and Experiences of Microgeneration,* http://www.consumerfocus.org.uk/publications/keeping-fit-consumers-attitudes-and-experiences-of-microgeneration

[5] Tenants were likely to be under-represented in both parts of the *Keeping FiT* research – because EST excluded them from the 'consumer attitudes' research and because the 'consumer experience' research respondents were recruited substantially from households in direct receipt of FiT payments. However, social housing stakeholders did say that they had taken advantage of the higher rate of FiT in 2011/12.

[6] *Keeping FiT* (2011, p16) (see Footnote 3) estimated 80,000 households had installed solar PV in 2011, compared with 483,913 by December 2014; Ofgem (2015), *Feed-in Tariff Installation Report,* https://www.ofgem.gov.uk/publications-and-updates/feed-tariff-installation-report-31-december-2014

[7] The original tariff was 48.07p/kWh for installations of less than 4kW peak, whereas the tariff at the end of 2014 was 14.38p/kWh.

[8] Note that the reducing tariff is not the only reason that it is increasingly important that householders are supported to maximise on-site use of solar PV-generated electricity. Those who are using finance arrangements or rent-a-roof will benefit most if they maximise on-site use as it is, in effect, free electricity.

This is a particularly important issue in light of some findings from *Keeping FiT* and from a Changeworks study, *Using Solar PV to Tackle Fuel Poverty*:[9]

- For some households, reductions on bills were not as great as hoped, with only 45 per cent of the Changeworks tenant respondents feeling that the solar panels had reduced their bills.[10]
- Only 31 per cent of households received a guide from installers on how to maximise the benefits of the system for their household, and advice on using and maintaining the system is the area of greatest customer dissatisfaction.[11]
- 60 per cent of social housing tenants with solar PV lacked the critical, basic understanding that using appliances during the daytime would maximise their savings.[12]

4 Research objectives

Against this background, the research aims to understand how consumers' experiences of solar PV have changed since 2011, and whether solar PV is now being used by a broader group of consumers. It also explores the experiences of not only purchasing and installing solar PV but also living with it, and how it might have changed consumers' behaviour when using energy in their homes. It also looks at whether changes to the level of FiT have affected consumer satisfaction with solar PV, and how motivations for installing solar PV have changed over the past four years.

The research also identifies aspects of the process, from information and advice through to aftercare, where improvements might be needed to ensure that consumers are protected, that they continue to have a positive experience of solar PV and that take-up continues to grow.

The research will be used to inform Citizens Advice's consumer advice on solar PV, as well as their policy and advocacy activity in this area, to ensure consumers have a positive experience of installing and living with solar PV and maximise its benefits.

5 Methodology

5.1 Online research

An online survey was conducted with 609 users of solar PV in England and Wales. The survey was designed to be comparable with the key elements of the consumer research of *Keeping FiT* in 2011, as well as incorporating issues that had arisen more recently. Discussions with some key stakeholders helped to inform the questionnaire, and identify additional areas to explore.

Respondents were selected using online access panels in order to avoid self-selection bias, particularly polarisation of strongly positive and negative experiences. As a result, the sample used is not representative of the whole population and has not been weighted as part of the analysis.

Potential respondents were selected using a brief online filtering questionnaire, based on their location (England and Wales) and installation of solar PV, although they were presented with a range

[9] Changeworks (2014), *Using Solar PV to Tackle Fuel Poverty* http://www.eagacharitabletrust.org/index.php/projects/item/using-solar-pv-to-tackle-fuel-poverty
[10] Ibid
[11] Consumer Focus (2011), *Keeping FiT: Consumers' Attitudes and Experiences of Microgeneration,* http://www.consumerfocus.org.uk/publications/keeping-fit-consumers-attitudes-and-experiences-of-microgeneration
[12] Changeworks (2014), *Using Solar PV to Tackle Fuel Poverty,* http://www.eagacharitabletrust.org/index.php/projects/item/using-solar-pv-to-tackle-fuel-poverty

of energy measures so did not know the questionnaire would be about solar PV until they had been selected.

Invitations to complete the online survey were sent to all of those who met the initial criteria. When 500 surveys had been completed, the user types, region and demographics were analysed to ensure a good spread of respondents and a large enough sample in key areas for exploration, including rent-a-roof users. Where user groups were well represented, those areas were closed off to further responses. Where others were under-represented, they remained open and further invitations were sent out, particularly in Wales, the North East and London, where response rates were lower.

Online research was conducted from 30 January to 20 February 2015.

5.2 Telephone interviews

The online survey generated 19 interviews with social housing tenants.

Telephone interviews were conducted with social housing tenants to boost the sample for this category. The aim was to interview 100 tenants in total. However, obtaining tenants' details from social housing providers within data protection requirements proved difficult.

Permission to forward their details was received from 50 social housing tenants, and telephone interviews were conducted with 38 of these, boosting the overall number of responses in this category to 57.

In order to compare data for different user types, the telephone survey replicated the online survey but excluded questions that did not apply, such as the sales process. A small number of additional questions were added, to explore engagement, information and advice, and user confidence.

Telephone interviews were conducted from 4 to 12 March 2015.

Inclusion of the telephone interviews took our sample size for this research to 647 solar PV users.

5.3 Stakeholder workshops

Following the completion of field research, two stakeholder workshops were held to discuss the findings, explore how they reflected stakeholder experiences, draw conclusions and suggest recommendations. The first workshop was held with installer and consumer representatives on 5 March 2015, and the second with social housing providers on 20 March 2015. The views of stakeholders have been incorporated into the analysis and conclusions.

6 Results

6.1 Consumer profiles

The consumer profiles for this research apply to the sample and are not representative of the population of solar PV users as a whole. This is because of the methodology used; online consumer access panels were used to mitigate the bias of respondents generally being polarised as either very positive or very negative.

Therefore, the profiles below describe the consumers who responded through the online access panels, as well as social housing tenants who were either members of online access panels or whose details were provided by social housing providers.

As you would expect, the majority of consumers had purchased their solar PV outright, although this would likely include those who had extended their mortgages in order to finance the installation (Table 1). In order to analyse alternative financing methods, consumers who had taken up rent-a-roof offers also featured, with 72 completing the survey. Discussions with stakeholders suggested that some consumers were purchasing their solar PV on finance, with new offers coming onto the market – 44 consumers who had financed their solar PV in this way were included. The experience of tenants was also key to the research, particularly social housing tenants. However, the number of private rented tenants who responded was very low and so cannot be analysed. This was expected, given the low rate of installation in that sector.

Table 1: Type of solar PV user by purchase arrangement

TYPE OF USER	
All users	647
Purchased outright	457
Purchased on finance	44
Already installed when moved into home	15
Installed by private landlord	5
Installed by social landlord	54
Installed through rent-a-roof or free solar PV scheme	72

While there was variation among solar PV consumers (Table 2), trends in the type of user were evident. Those who purchased solar PV outright were more likely to be older, with 71 per cent aged 55 years or older, and they tended to be more affluent (49 per cent in the AB[13] group) or retired (38 per cent). Half of those who purchased outright had their solar PV installed in 2011 or earlier.

Those consumers who purchased on finance were more likely to be younger, with 67 per cent aged 54 or under, and were also more likely to have children living at home (54 per cent). Rent-a-roof households were a more diverse group with a mix of social grades and urban/rural split, and they were more likely to be middle aged or older (52 per cent aged 45-64 and 33 per cent aged 65 or older). Social housing tenants were generally older (65 per cent aged over 55 years).

Table 2: Pen portrait of solar PV users

	PURCHASED OUTRIGHT	PURCHASED ON FINANCE	RENT-A-ROOF OR SIMILAR	SOCIAL TENANTS
Definition	Personally purchased solar PV outright (not on finance)	Purchased solar PV on finance	Signed up to a rent-a-roof or free solar scheme	Solar installed by social housing landlord
Demographics	Older (71% aged 55+) Tend to be AB (48%) or retired (38%) Children likely to have left home (only 16% have children under 18 years living at home)	Younger (67% aged 54 or under) Tend to be AB (56%) 54% have children living at home	Middle aged to older (52% aged 45-64, 33% aged 65+) Mix of social grade (46% ABC1, 54% C2 or retired) 25% have children living at home	Older (65% aged 55+) Tend to be DE (19%) or retired (44%) Children likely to have left home (only 30% have children under 18 years living at home)
Home	Half urban, half rural Likely to be a detached dwelling (56%) or semi-detached (23%)	68% urban Mix of housing type (30% detached, 30% semi, 23% terraced)	Mix of urban (43%) and rural (57%) Mainly detached (47%) and semis (29%)	Likely to be urban (78%) Likely to be a semi-detached home (44%) or terraced (35%)
When installed	50% installed in 2011 or earlier	Mix – 57% installed 2012 or earlier, 43% installed 2013 or later	Mix – 30% installed 2011 or earlier, 31% in 2012 and 33% 2013 or later	Mix – 45% installed 2012 or before, 55% installed 2013 or later

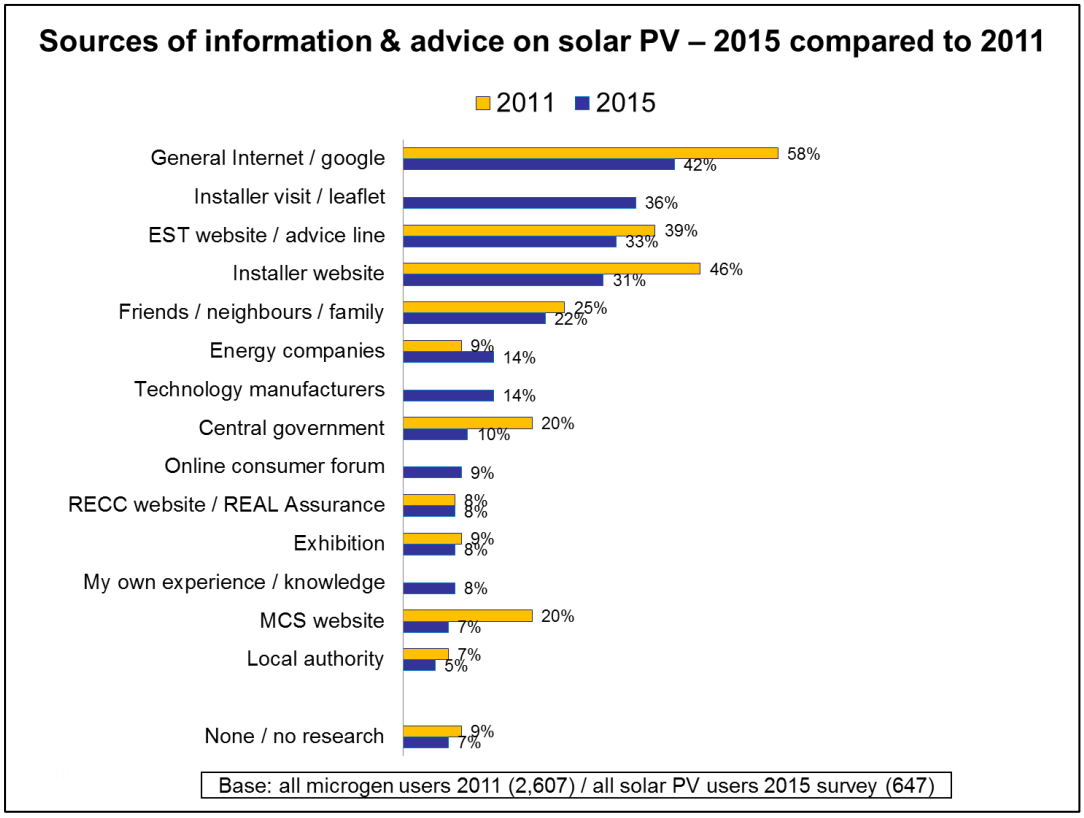
Further detail on consumer profiles is contained in Appendix 3.

[13] Social grade is the 'common currency' social classification (the 'ABC1' system) used by the advertising industry and employed throughout marketing, advertising and market research. The classification assigns every household to a grade, usually based upon the occupation and employment status of the chief income earner. See Appendix 4 for further details on the classifications used in this research.

6.2 Information and advice

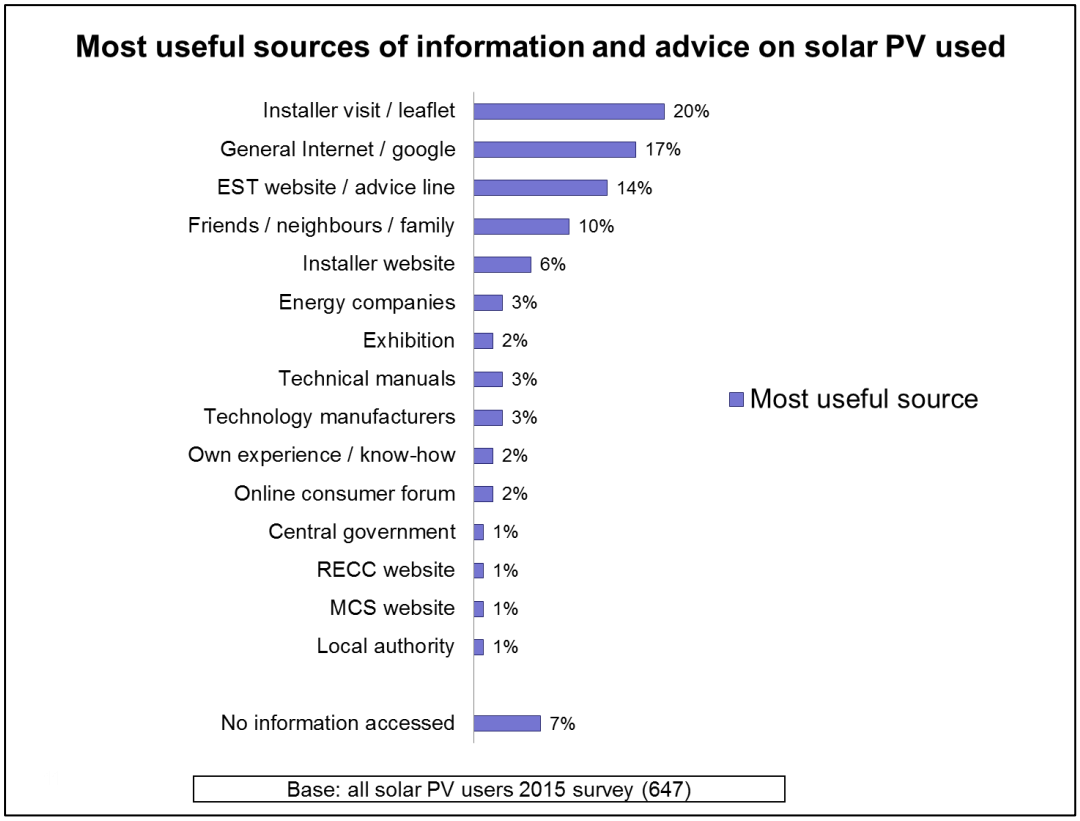
The first area explored with consumers was the information and advice they accessed or received prior to purchasing and installing solar PV (Figure 1). General internet searches were the predominant source of information, although this declined from 58 per cent in 2011 to 42 per cent in 2015. Installers were also a popular source of information and advice – 36 per cent accessing information from installer visits or leaflets and 31 per cent from installer websites. The EST and friends, family and neighbours were also significant sources (33 per cent and 22 per cent respectively), although both were lower in 2015 than in 2011.

Figure 1: Sources of information and advice – 2011 and 2015 (multiple answers allowed)



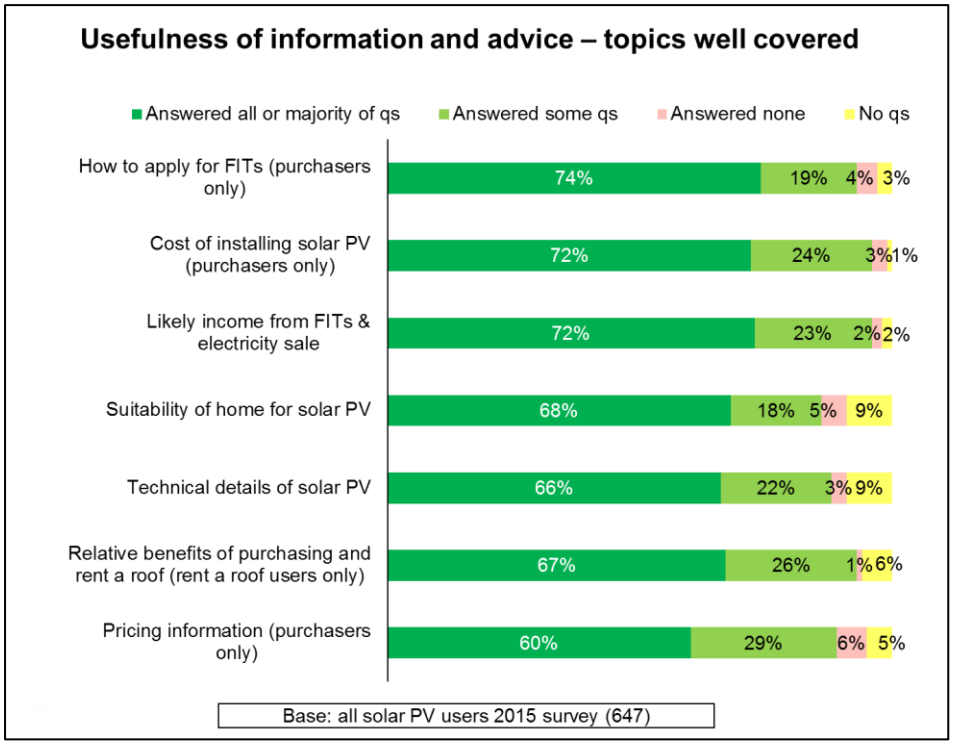
Consumers found installers to be the most useful source of information (20 per cent for visit/leaflet and 6 per cent for website), followed closely by general internet research (17 per cent) (Figure 2). The EST (14 per cent) and friends, family and neighbours (10 per cent) were also useful sources of information for consumers.

Figure 2: Most useful sources of information and advice (single answer allowed)



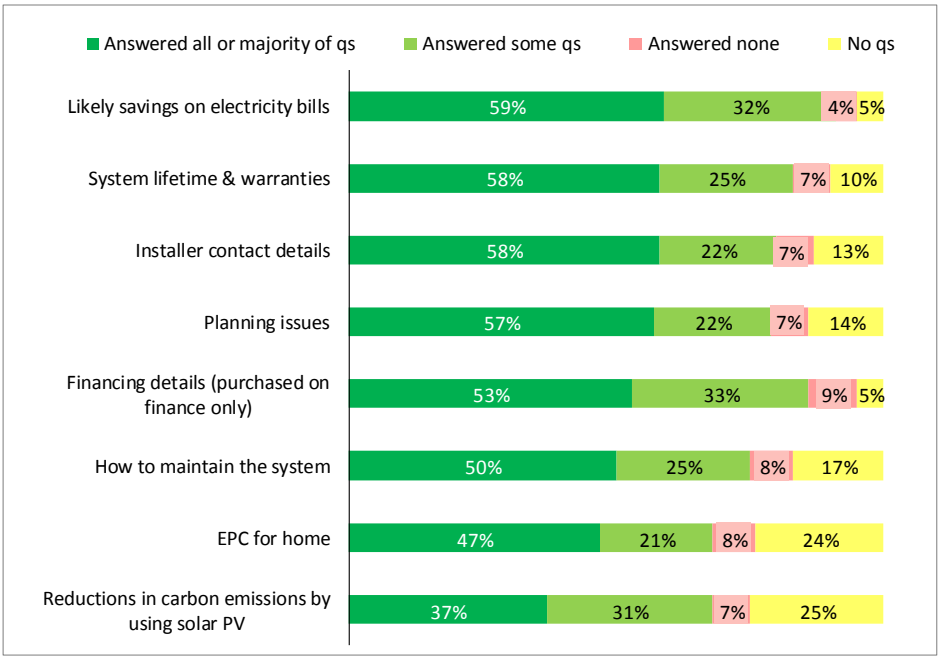
Information covered a range of topics and consumers were positive about the usefulness of addressing areas such as how to apply for FiTs, costs of installing solar PV, likely income from FiTs, technical details and suitability of the home (Figure 3).

Figure 3: Usefulness of information and advice – topics well covered (single answer allowed for each topic)



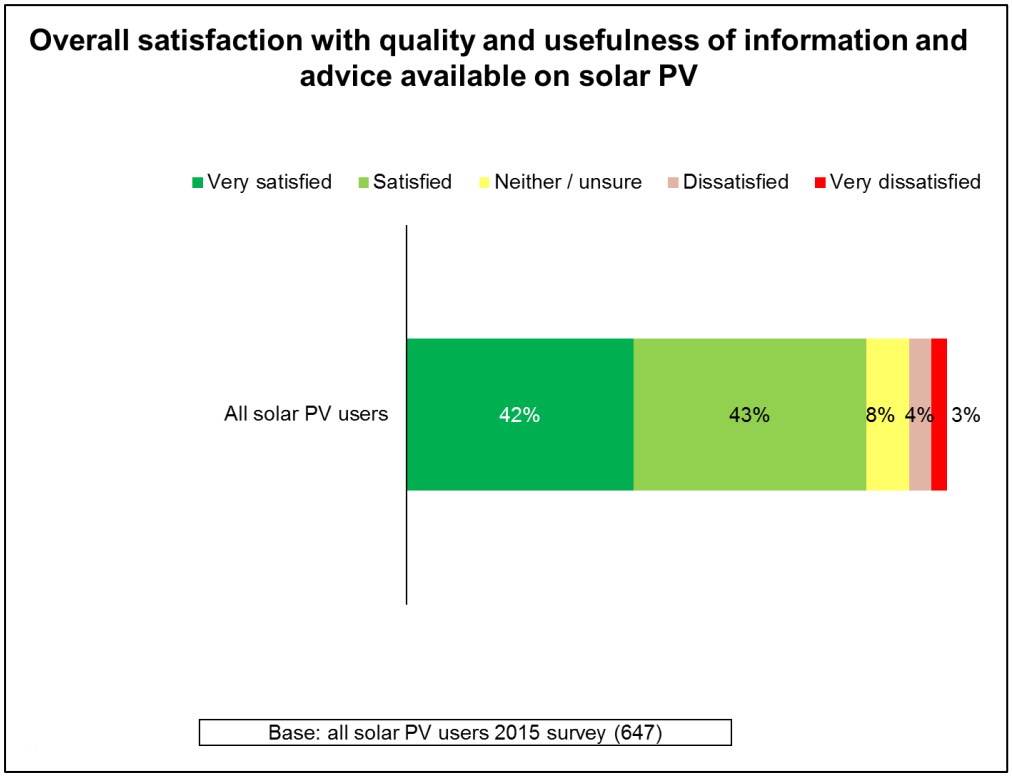
Conversely, consumers were less satisfied with the usefulness of information covering reductions in carbon emissions, planning issues, Energy Performance Certificates (EPCs), system maintenance and finance, although they felt that the information answered the majority of their questions on most of these issues (Figure 4).

Figure 4: Usefulness of information and advice – topics not covered as well (single answer allowed for each topic)



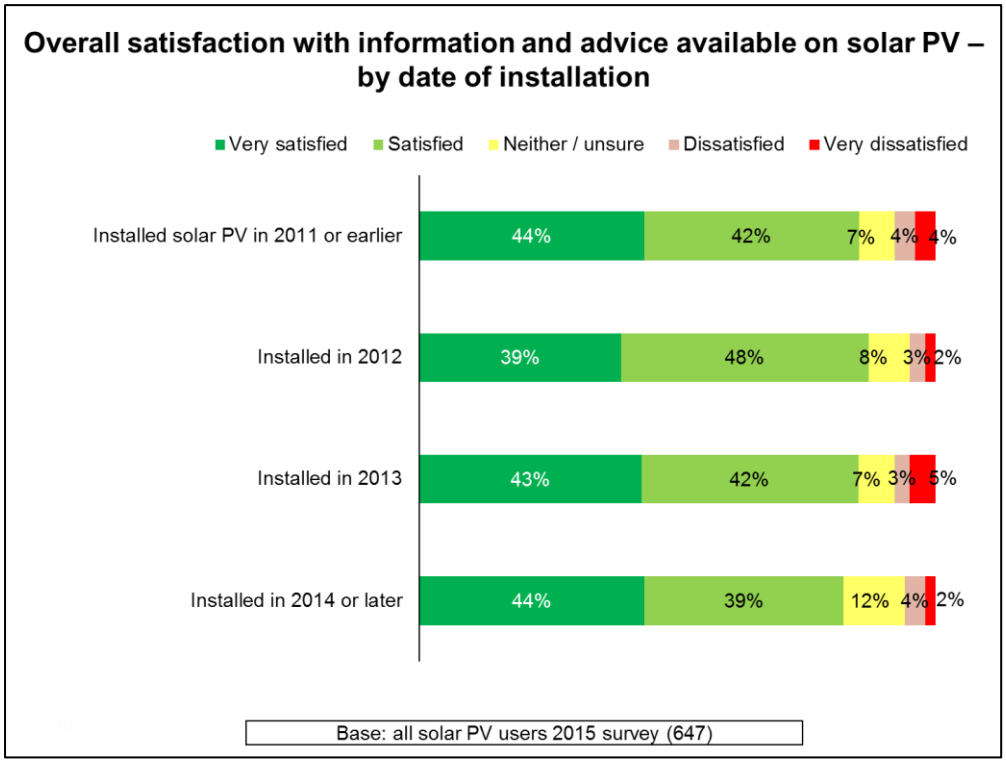
Overall, however, consumers were generally satisfied with the overall quality and usefulness of information and advice they received, with 42 per cent very satisfied and 43 per cent satisfied (Figure 5). Only 7 per cent were dissatisfied or very dissatisfied.

Figure 5: Overall satisfaction with quality and usefulness of information and advice (single answer allowed)



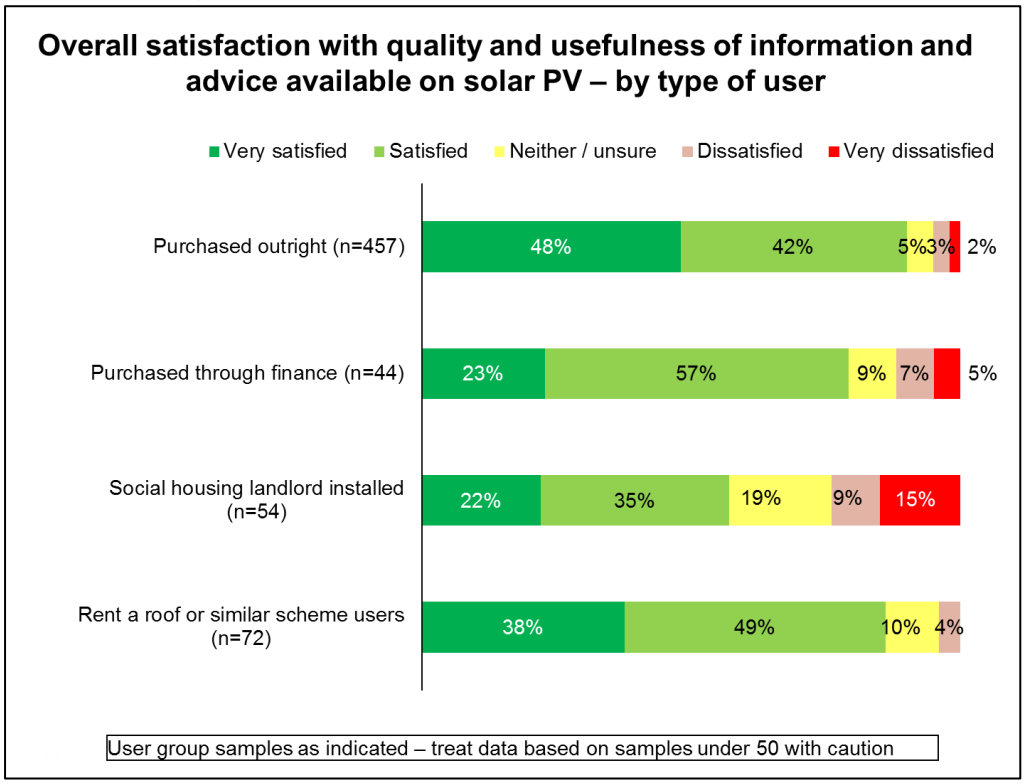
Satisfaction has remained relatively constant over time, with those having had solar PV installed in 2011 or earlier recording similar satisfaction levels as those who had it installed in 2014 or later (Figure 6).

Figure 6: Overall satisfaction with information and advice by date of installation (single answer allowed)



However, significant variations in satisfaction occurred based on consumer type (Figure 7). Those who purchased their solar PV outright were much more satisfied (48 per cent very satisfied and 42 per cent satisfied) than those who purchased on finance (23 per cent very satisfied and 57 per cent satisfied) or social housing tenants (22 per cent very satisfied and 35 per cent satisfied), a theme that continues throughout the solar PV consumer journey. The latter two groups were also likely to be dissatisfied with the quality and usefulness of information, with 12 per cent of those who purchased on finance and 24 per cent of social housing tenants being very dissatisfied or dissatisfied, compared with only 5 per cent of consumers who had purchased outright.

Figure 7: Overall satisfaction with quality and usefulness of information by type of user (single answer allowed)



There was no obvious difference in satisfaction with information and advice between users of different sized solar PV systems (Table 3). Regionally, users in Wales recorded lower levels of satisfaction, although this was still at 80 per cent. Consumers in terraced houses and flats were also less satisfied, although this is probably because these house types are more prevalent amongst those who purchased on finance or are social housing tenants.

Table 3: Satisfaction with information and advice by size and demographics

Satisfaction with information and advice on solar PV – by size of system and demographics

		SATISFACTION WITH INFORMATION & ADVICE
Size of system	3kWp or less	88%
	3.1-4 kWp	88%
	4.1+ kWp	91%
Region	London & South East	84%
	South West	87%
	Midlands / East	86%
	Wales	80%
	North	86%
Type of home	Detached	89%
	Semi-detached	86%
	Terraced	68%
	Flat *	72%
	Bungalow / maisonette	84%

* Treat with caution - low sample size

Overall, consumers are satisfied with the information and advice they access or receive, although less than half are very satisfied with the quality and usefulness of advice. Satisfaction has remained stable over time with no notable differences between 2011 and 2015. However, there are some subject areas where consumers would like more or better quality information, particularly around EPCs, carbon emissions and planning issues. These are areas where the government and/or its delivery agents could be providing more and clearer information to consumers.

Key finding: Customers feel they need more and clearer information on EPCs, planning issues and carbon emissions reductions relating to solar PV.

One issue of potential concern is the source of information. Consumers are increasingly accessing information from installers and relying less on independent or impartial sources of advice. Even general internet searches are likely to result in sending the user to installer and industry websites. While consumers appear to be satisfied with the information and advice they receive, independence and impartiality is generally considered to be an important aspect of its provision. This may become a bigger issue as consumers change from well-informed early adopters to a wider group who are starting from a lower information base.

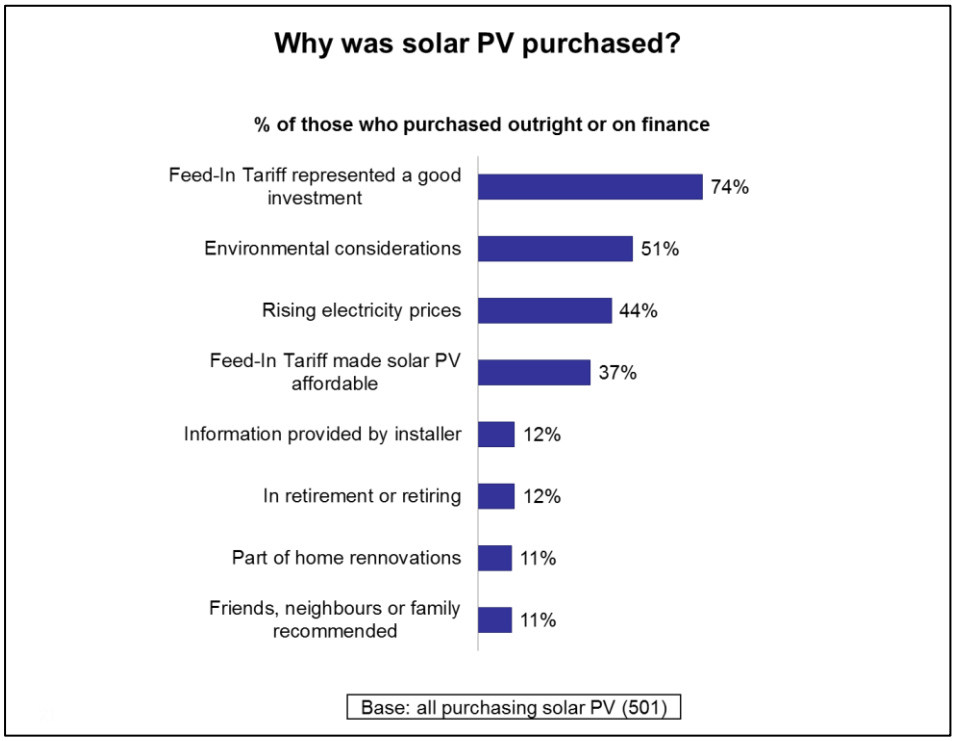
The lower levels of satisfaction with certain user groups – those who purchased on finance and social housing tenants – begins with information and advice and continues throughout the consumer journey, suggesting that those who are less engaged with parts of the process are also less likely to be satisfied. This theme is explored further in section 6.6 on social housing. The profile of consumers who purchased on finance is also younger, and stakeholders suggested that they may not have the

time to devote to researching their solar PV in the way that retirees who have purchased outright have.

6.3 Sales process

Consumers (excluding social housing tenants) were surveyed on the sales process. The key drivers for installing solar PV are financial, although they are becoming less important over time. Environmental considerations have become an increasingly important motivator since 2011. Overall, 74 per cent of purchasers cited the FiT being a good investment as their reason for purchasing solar PV and 51 per cent claimed environmental considerations (Figure 8).

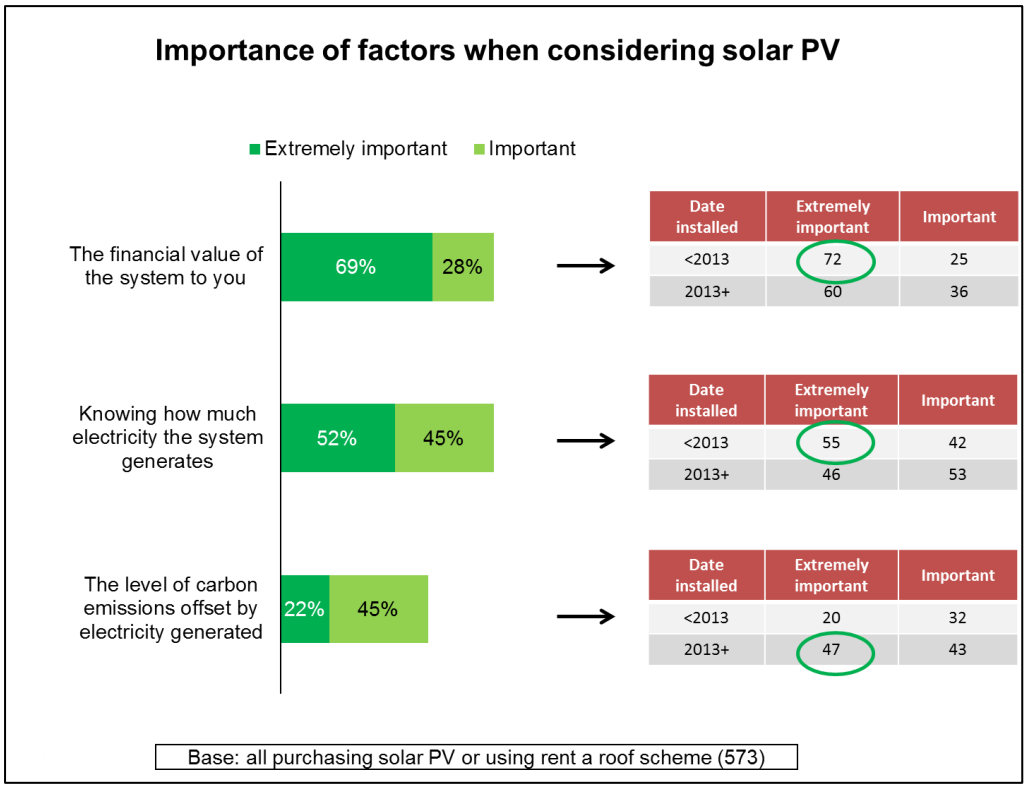
Figure 8: Reasons for purchasing/installing solar PV (multiple answers allowed)



However, the idea of the FiT representing good value for money has become less dominant, with 80 per cent of those installing pre-2013 citing it as a reason, falling to 58 per cent of those installing 2013 or later. Environmental considerations, on the other hand, increased in prominence from 50 per cent of those installing pre-2013 to 54 per cent of those installing 2013 or later, and 65 per cent of those installing 2014 or later. Rising electricity prices fell slightly, from 46 per cent of those installing pre-2013 to 40 per cent of those installing 2013 or later.

When looking at the importance of the factors when considering which solar PV system to install, the factors were predominantly financial and environmental: the financial value of the system; knowing how much electricity the system generates; and the level of carbon emissions offset by generation (Figure 9). However, once again the financial factors have become less important over time and the environmental considerations have risen.

Figure 9: Importance of factors when considering solar PV (single answer allowed for each factor)



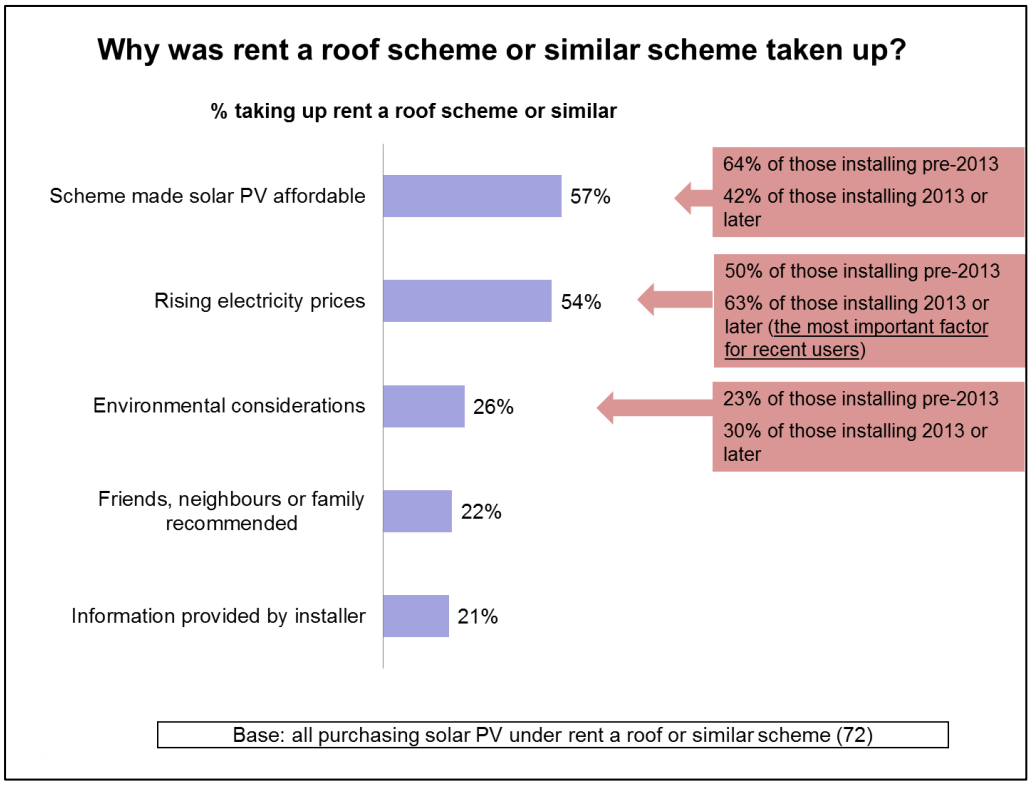
Date installed	Extremely important	Important
<2013	72	25
2013+	60	36

Date installed	Extremely important	Important
<2013	55	42
2013+	46	53

Date installed	Extremely important	Important
<2013	20	32
2013+	47	43

The rent-a-roof user group, like users generally, has seen a fall in those citing financial reasons for take-up and an increase in those claiming environmental considerations (Figure 10). However, the number of users generally that cited rising electricity prices fell between 2011 and 2015 but rent-a-roof users saw a big jump in these being a motivation, with 50 per cent of pre-2013 rent-a-roof users and 63 per cent of those installing in 2013 or later claiming it as a reason. For rent-a-roof users installing in 2013 or later, rising electricity prices was the most important factor.

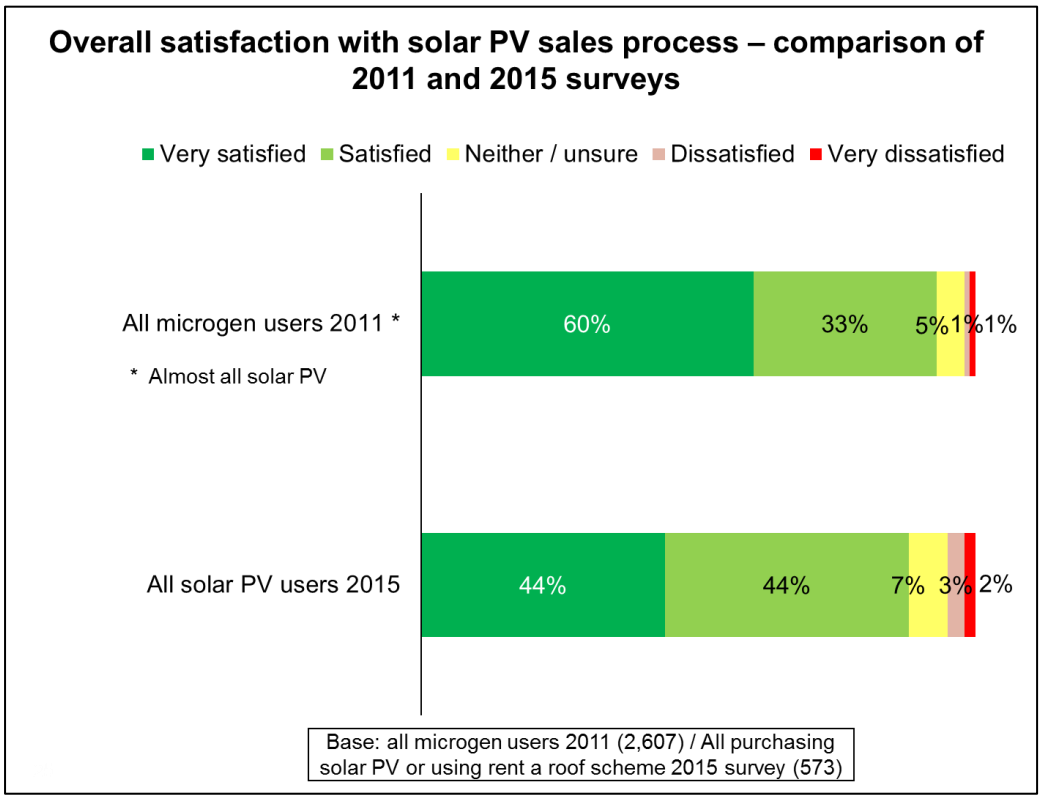
Figure 10: Reasons for taking up a rent-a-roof scheme (multiple answers allowed)



Key finding: Customers are increasingly citing rising electricity prices as a reason to install solar PV.

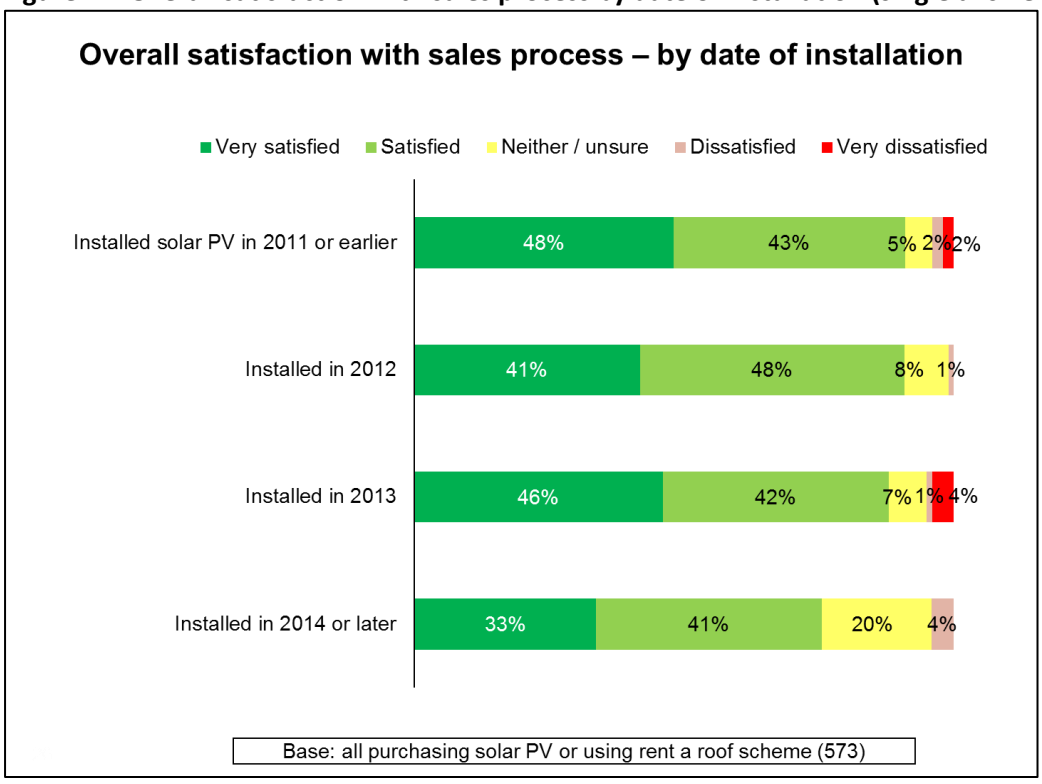
Overall, satisfaction with the sales process is declining over time, particularly those consumers who are very satisfied – 60 per cent in 2011 and 44 per cent in 2015 (Figure 11).

Figure 11: Overall satisfaction with sales process – 2011 and 2015 (single answer allowed)



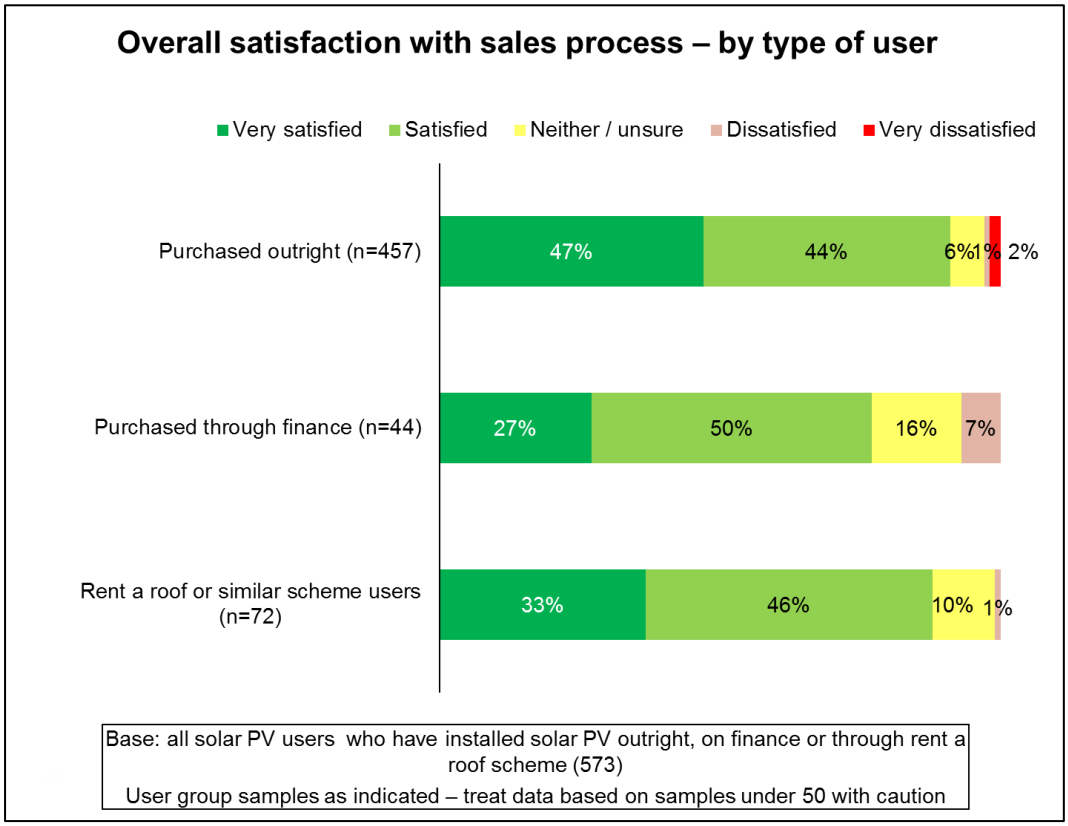
This trend appears to be reflected in installation years, with those who had it installed in 2011 or earlier much more satisfied (48 per cent very satisfied and 43 per cent satisfied) than those who had it installed in 2014 or later (33 per cent and 41 per cent) (Figure 12). While the number of consumers dissatisfied with the sales process has not increased significantly, those claiming to be unsure or neither has gone up – 5 per cent for those who had it installed in 2011 or earlier, compared with 20 per cent for those who had it installed in 2014 or later.

Figure 12: Overall satisfaction with sales process by date of installation (single answer allowed)



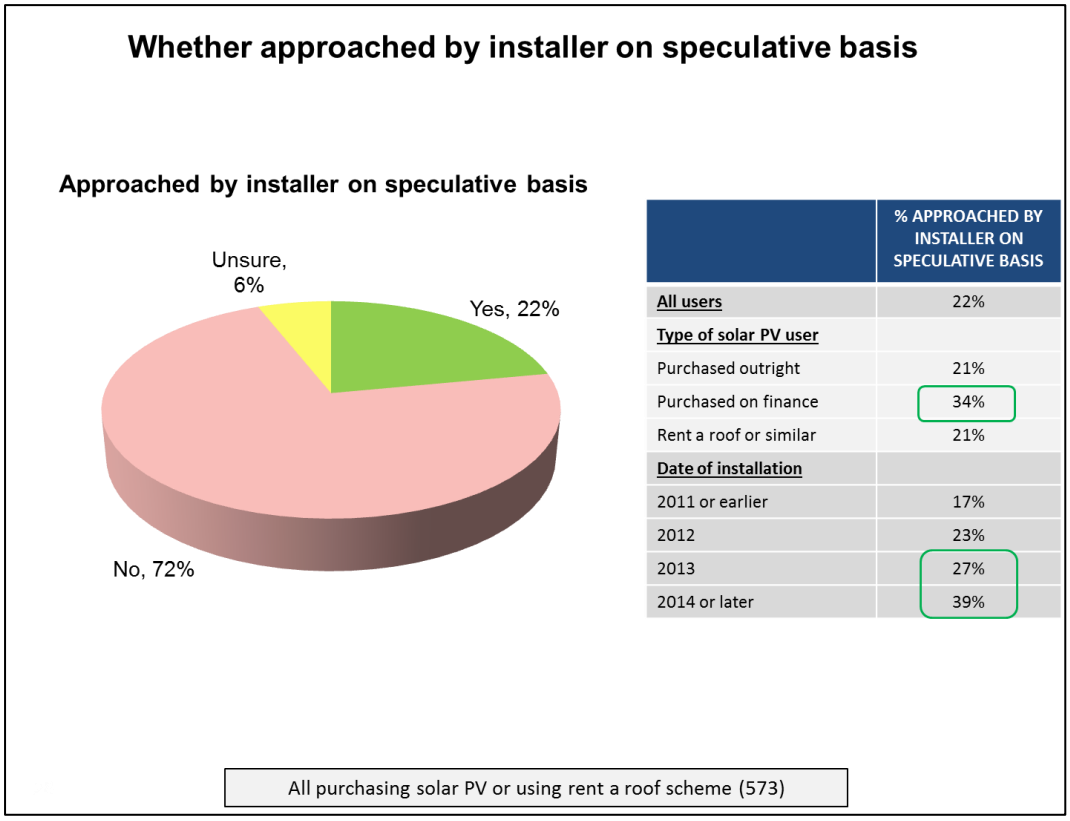
Once again, satisfaction is lower for those who purchased their solar PV on finance – 27 per cent are very satisfied compared with 47 per cent of those who purchased outright (Figure 13). However, that group are still recording overall satisfaction (satisfied and very satisfied) levels of 77 per cent.

Figure 13: Overall satisfaction with sales process by type of user (single answer allowed)



Almost a quarter of consumers (22 per cent) were approached speculatively by an installer (Figure 14). This number rose to 34 per cent for those consumers who purchased on finance and has become more prevalent for those installing solar PV later – only 17 per cent for those installing in 2011 or earlier, compared with 39 per cent for those installing in 2013 or later.

Figure 14: Consumers approached speculatively by an installer (single answer allowed)

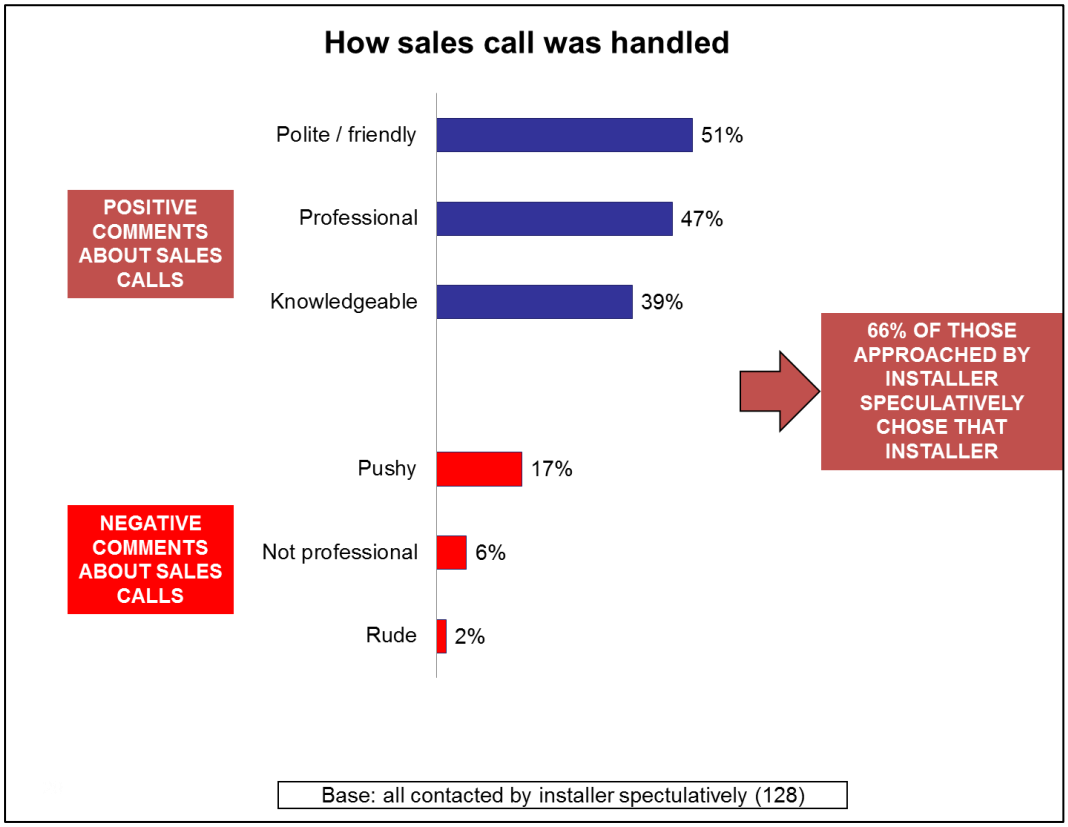


	% APPROACHED BY INSTALLER ON SPECULATIVE BASIS
All users	22%
Type of solar PV user	
Purchased outright	21%
Purchased on finance	34%
Rent a roof or similar	21%
Date of installation	
2011 or earlier	17%
2012	23%
2013	27%
2014 or later	39%

Of those who were approached speculatively by an installer, 66 per cent chose that particular installer (Figure 15). Generally, consumers felt that sales calls were handled positively, although the research did not include people who had been approached but did not go on to install solar PV. Those consumers who were positive about their sales call experience said that they were polite/friendly (51 per cent), professional (47 per cent) and knowledgeable (37 per cent).

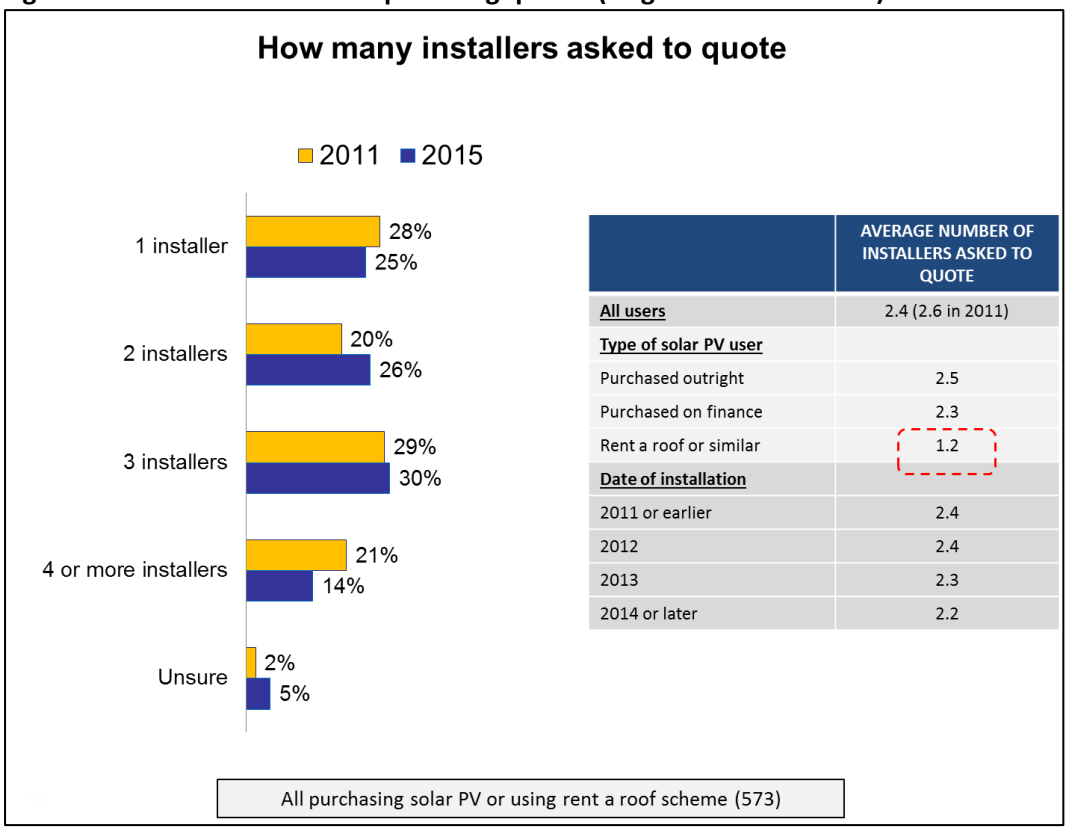
Conversely, those who had a negative experience of sales calls said that they were pushy (17 per cent), unprofessional (6 per cent) and rude (2 per cent). The number of consumers who were dissatisfied is far too small (only 7) to make any further conclusions, although 57 per cent did go on to use that installer for their solar PV.

Figure 15: Experience of sales calls (multiple answers allowed)



The number of quotes consumers are getting before installing solar PV has remained broadly similar since 2011 and by year of installation (Figure 16). On average, consumers are obtaining 2.4 quotes, compared with 2.6 in 2011. What is still concerning, however, is that one in four are still only obtaining a single quote for their solar PV. Rent-a-roof consumers in particular are not shopping around, obtaining an average of 1.2 quotes.

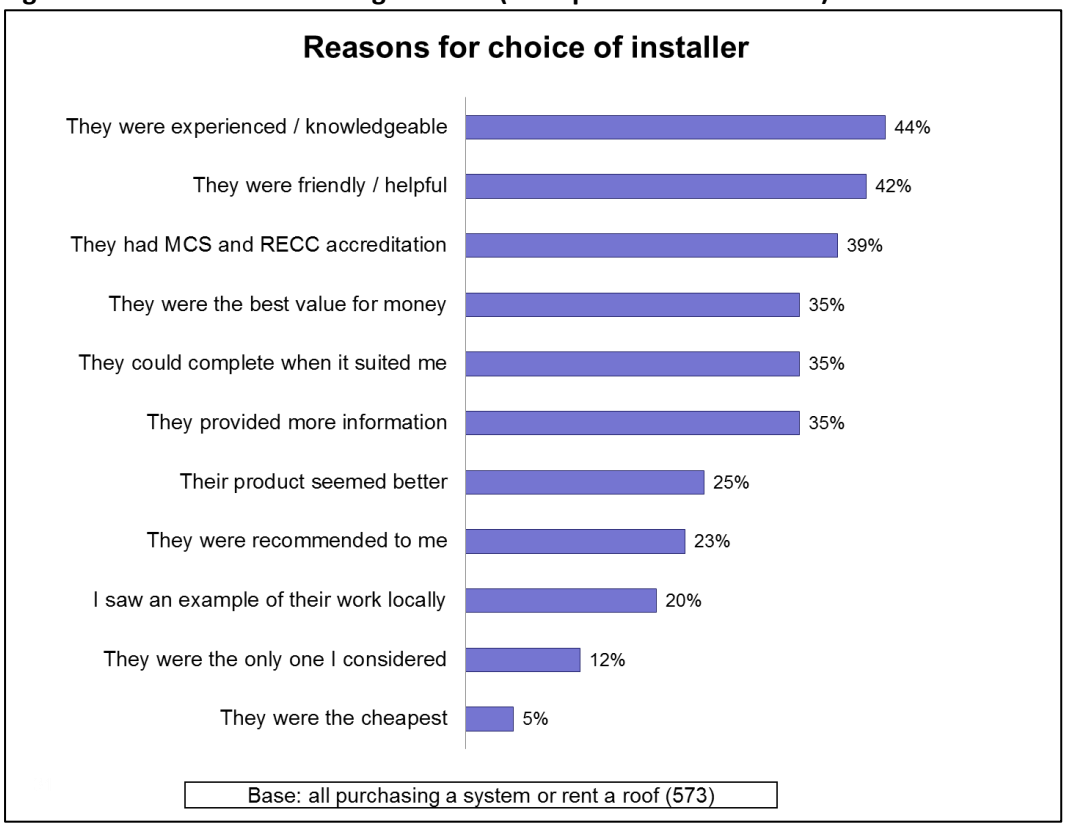
Figure 16: Number of installers providing quotes (single answer allowed)



	AVERAGE NUMBER OF INSTALLERS ASKED TO QUOTE
All users	2.4 (2.6 in 2011)
Type of solar PV user	
Purchased outright	2.5
Purchased on finance	2.3
Rent a roof or similar	1.2
Date of installation	
2011 or earlier	2.4
2012	2.4
2013	2.3
2014 or later	2.2

While being experienced and knowledgeable was the primary reason for choosing a particular installer (44 per cent), it is concerning that the second biggest reason was that they were friendly and helpful (42 per cent), especially against a backdrop of a quarter of consumers only getting one quote (Figure 17).

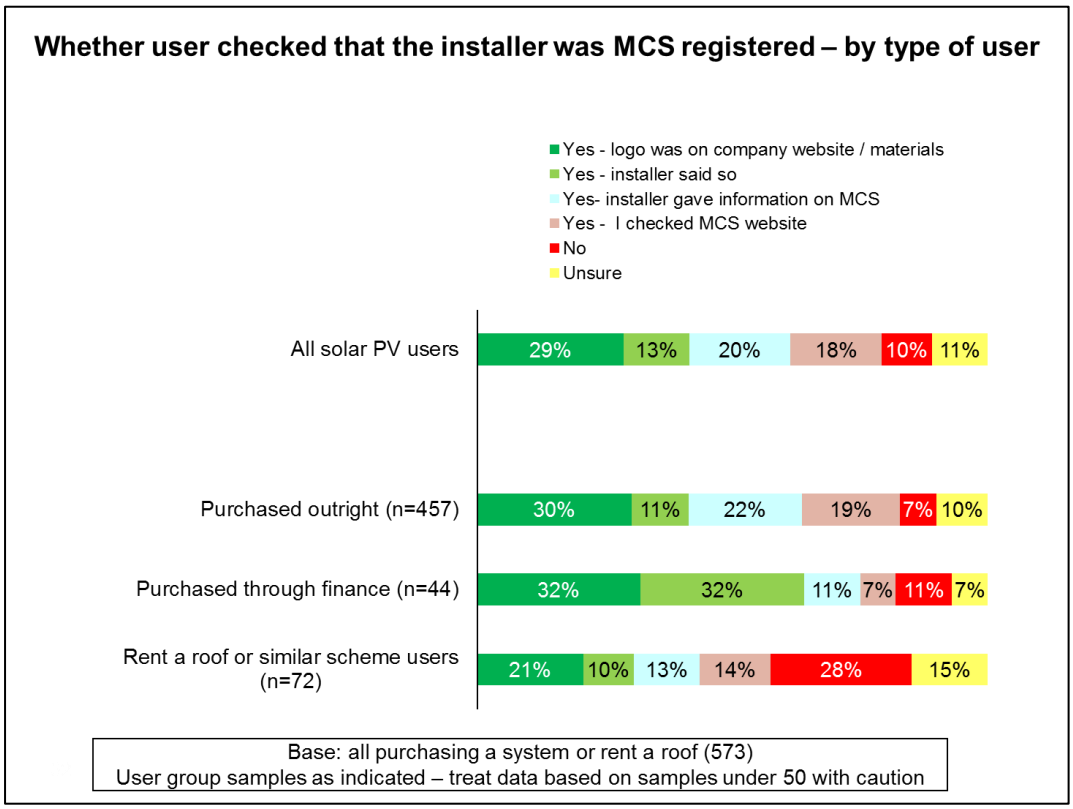
Figure 17: Reasons for choosing installer (multiple answers allowed)



Consumers were asked whether they checked that the installer was registered with the Microgeneration Certification Scheme (MCS), which is a quality assurance programme for both microgeneration products and installers (Figure 18).[14] Most consumers were taking it on trust that an installer was registered with MCS – 62 per cent of all users either saw the logo on company materials, were advised by the installer or were given information on MCS from the installer. Only 18 per cent specifically checked the MCS website and 21 per cent either did not check or do not remember.

Also concerning is the large number of rent-a-roof users who did not check at all (28 per cent) or are unsure (15 per cent). This is even more concerning, given this group recorded the lowest number of quotes (1.2 on average).

Figure 18: Consumer checks for MCS registration of installer (single answer allowed)

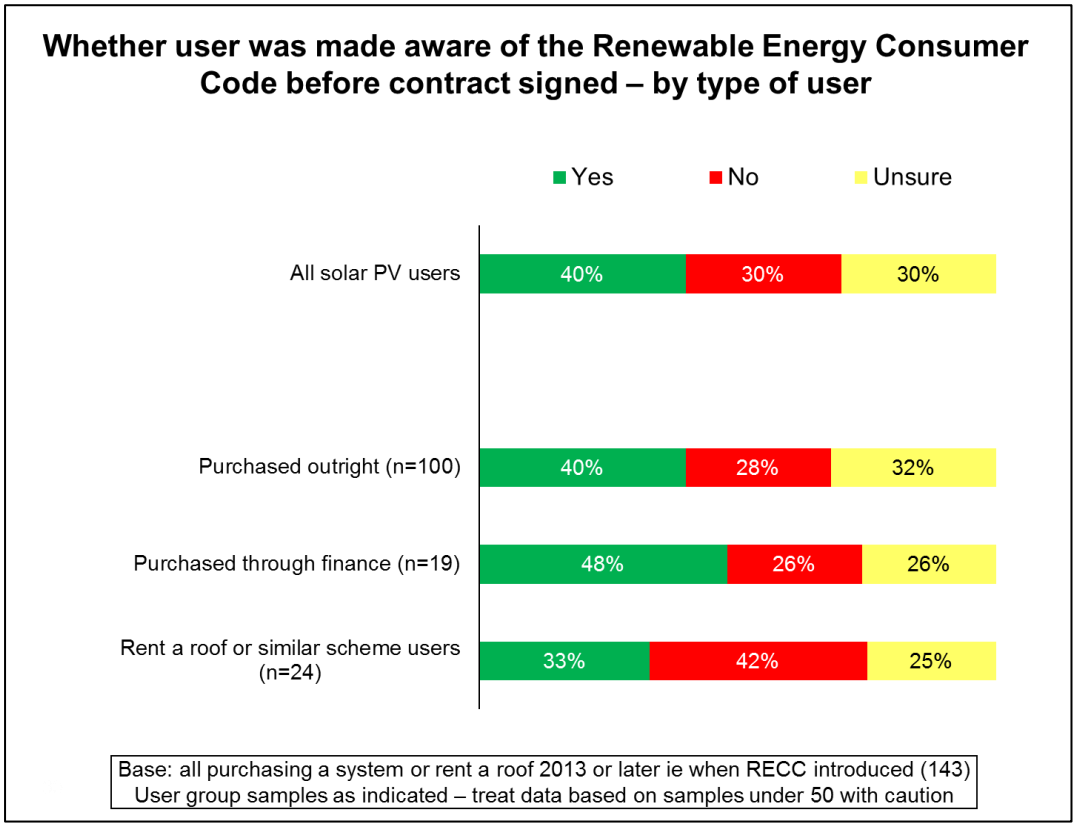


[14] http://www.microgenerationcertification.org/

Since 2006, there has been a consumer code for small-scale renewable energy. It was previously the REAL code, but was renamed the Renewable Energy Consumer Code (RECC) in 2013. The question in Figure 19 concerning RECC was asked of all consumers but the analysis applies only to those who had solar PV installed in 2013 or later, as they should have been made aware of the Code, which sets out best practice for installers and sales people around the selling and installation of microgeneration. The Code is backed by the Trading Standards Institute.[15]

Consumer awareness of RECC does not appear to be very high, with nearly a third of consumers unsure if they were made aware of RECC by their installer (Figure 19). However, 40 per cent said that they were advised of RECC but levels are much lower among rent-a-roof users.

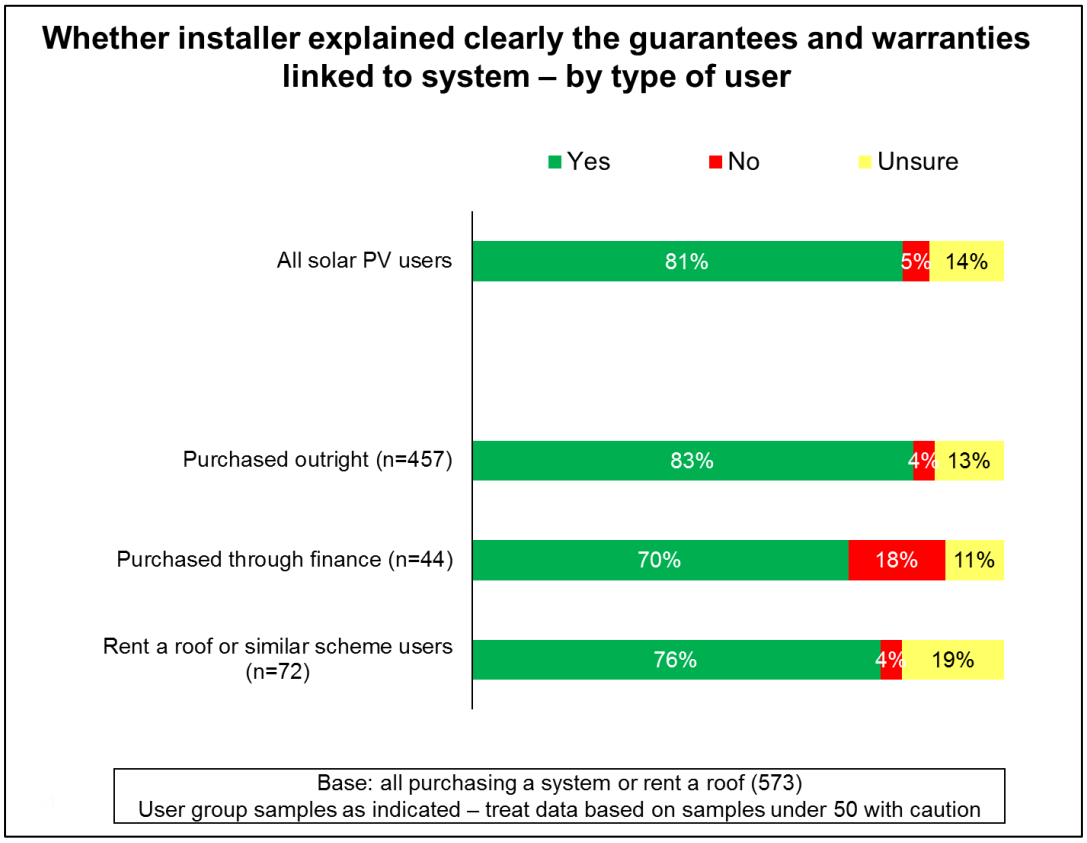
Figure 19: User awareness of Renewable Energy Consumer Code (single answer allowed)



[15] https://www.recc.org.uk/scheme

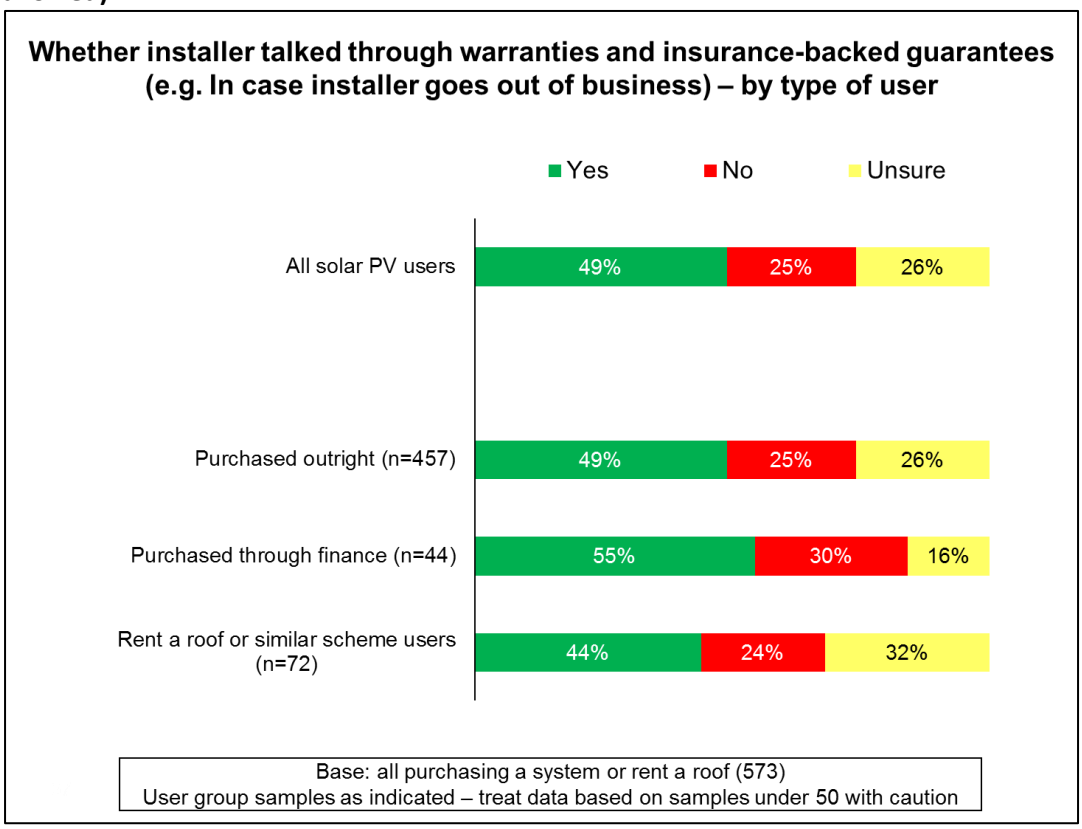
RECC, and its predecessor, clearly set out requirements regarding the provision of warranties, guarantees and insurance-backed guarantees in case an installer goes out of business. The vast majority of consumers were made aware of the guarantees and warranties, with 81 per cent of installers explaining the requirements to consumers (Figure 20). However, these levels are troublingly lower for those who purchased on finance, with 18 per cent saying they did not receive an explanation and 11 per cent unsure. A even higher number of rent-a-roof users also seemed unsure – 19 per cent.

Figure 20: Explanation of guarantees and warranties, by user type



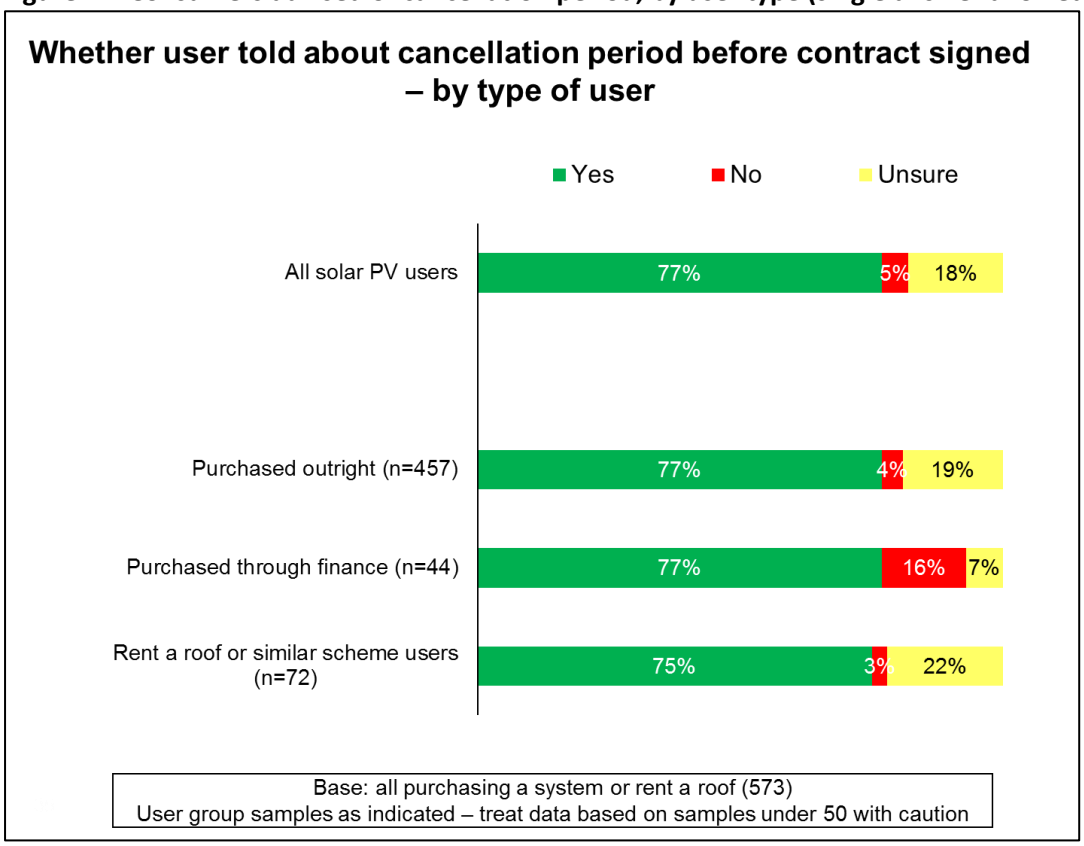
The results for installers explaining third-party, insurance-backed guarantees in the event that they should go out of business are much lower (Figure 21). A quarter of all users were not advised, and another quarter were unsure. This might suggest a reticence on the part of installers to raise the possibility of them going out of business.

Figure 21: Installer advising of warranties and insurance-backed guarantees (single answer allowed)



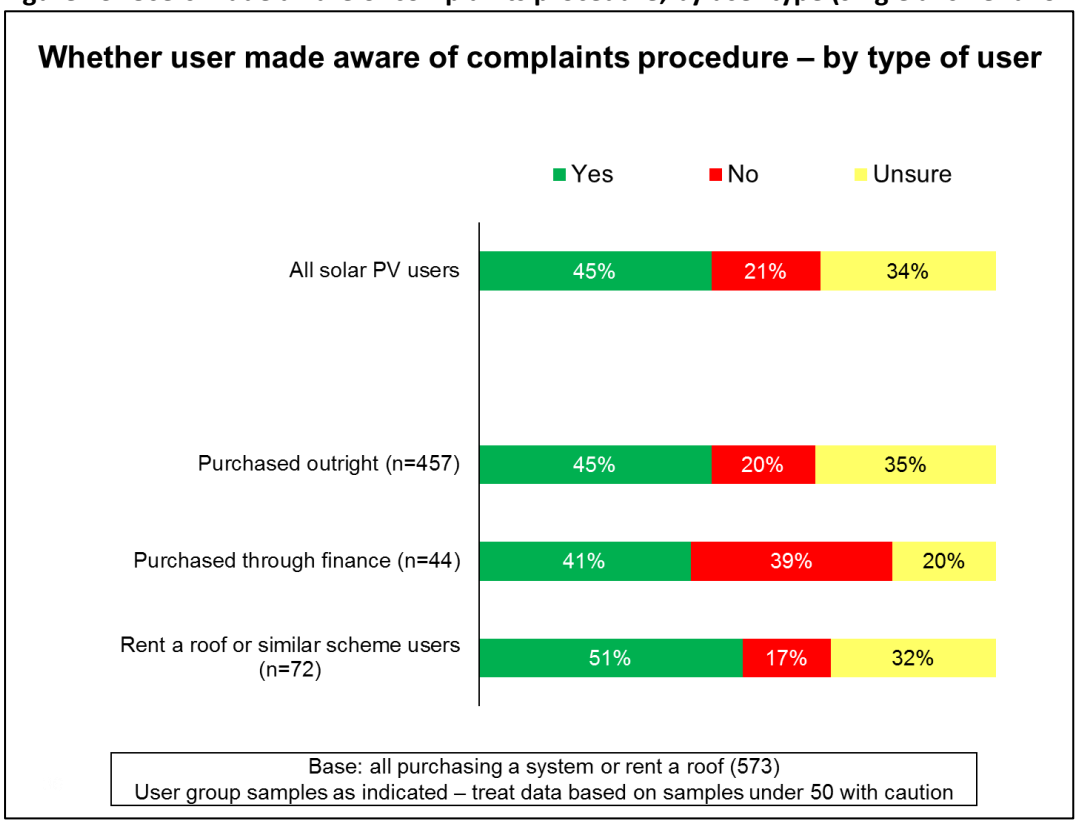
RECC also requires consumers to be advised of the cooling-off period, during which they can cancel the order, before the contract is signed. Nearly three-quarters of users were advised of this (Figure 22).

Figure 22: Consumers advised of cancellation period, by user type (single answer allowed)



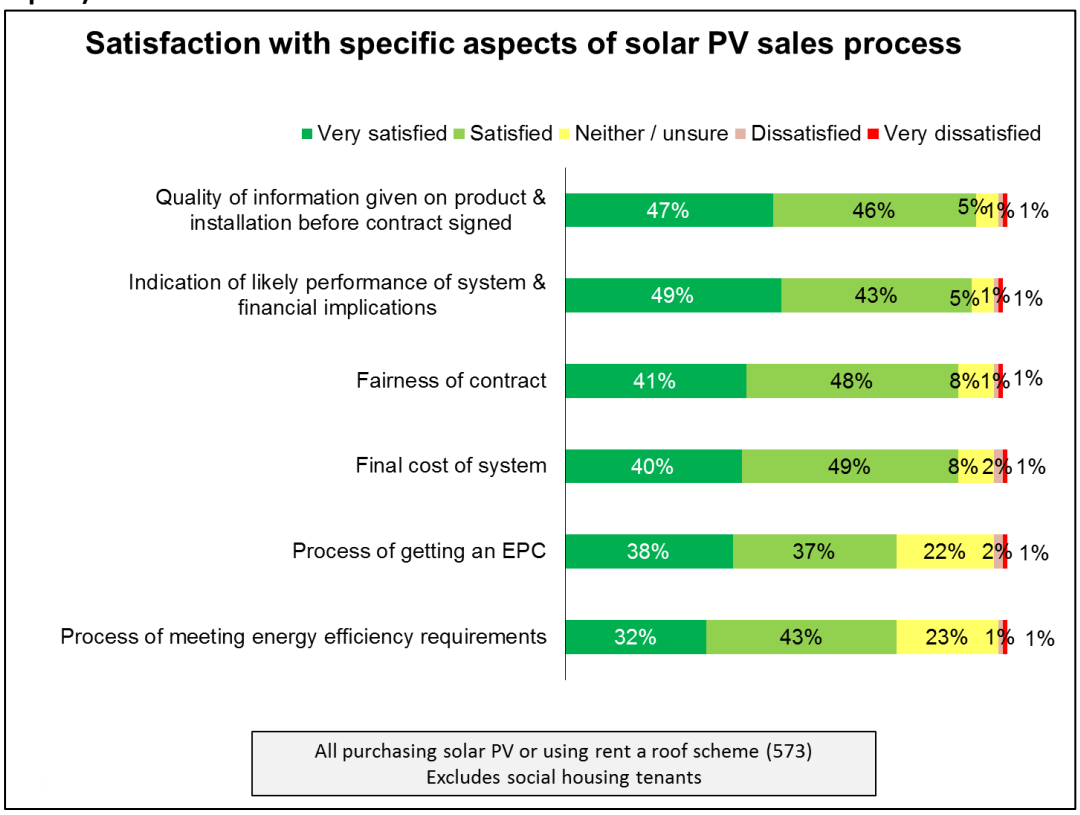
RECC also sets out a complaints procedure, of which less than half of consumers were advised (Figure 23). In the case of those who purchased on finance, 59 per cent either were not advised or were unsure.

Figure 23: Users made aware of complaints procedure, by user type (single answer allowed)



Generally, users were satisfied with most aspects of the sales process, including the quality of information given, likely performance and financial implications, fairness of the contract and final cost of the system (Figure 24). While not explicitly dissatisfied, many consumers were unsure/neither satisfied nor dissatisfied about the process of getting an EPC and having to make energy efficiency improvements to their property. But even in those areas, levels of dissatisfaction were low.

Figure 24: Satisfaction with specific aspects of the sales process (single answer allowed for each aspect)



Levels of satisfaction with requirements to improve energy efficiency and meet EPC standards are reasonable, although significantly higher for those who purchased outright or on finance than for rent-a-roof users (Table 4). Those who had solar PV installed in 2013 or later are also significantly more satisfied than those who had it installed earlier.

Table 4: Satisfaction with EPC requirements and making energy efficiency improvements

Satisfaction with process of making home energy efficient / EPC ready – by type of user, date of installation and region

		SATISFIED WITH PROCESS OF GETTING AN EPC	SATISFIED WITH PROCESS OF MEETING ENERGY EFFICIENCY REQUIREMENTS
Type of user	Purchased outright	77%	76%
	Purchased on finance	82%	82%
	Rent a roof or similar	61%	63%
Date of installation	2011 or earlier	71%	73%
	2012	77%	74%
	2013	83%	82%
	2014 or later	84%	80%
Region	London & South East	78%	76%
	South West	78%	72%
	Midlands / East	74%	76%
	Wales	68%	70%
	North	75%	76%

All purchasing solar PV or using rent a roof scheme (573)
Excludes social housing tenants

Overall, consumers are satisfied with the sales process, although the number of respondents who are very satisfied has been declining over time. Consumers are happy with the information they are being given, although there does appear to be a problem with awareness of MCS and RECC, along with a limited level of independent checking of installers' membership and adherence to these schemes.

It is also concerning that consumers are still failing to obtain three quotes before proceeding – particularly rent-a-roof users, who are recording much lower levels than users generally.

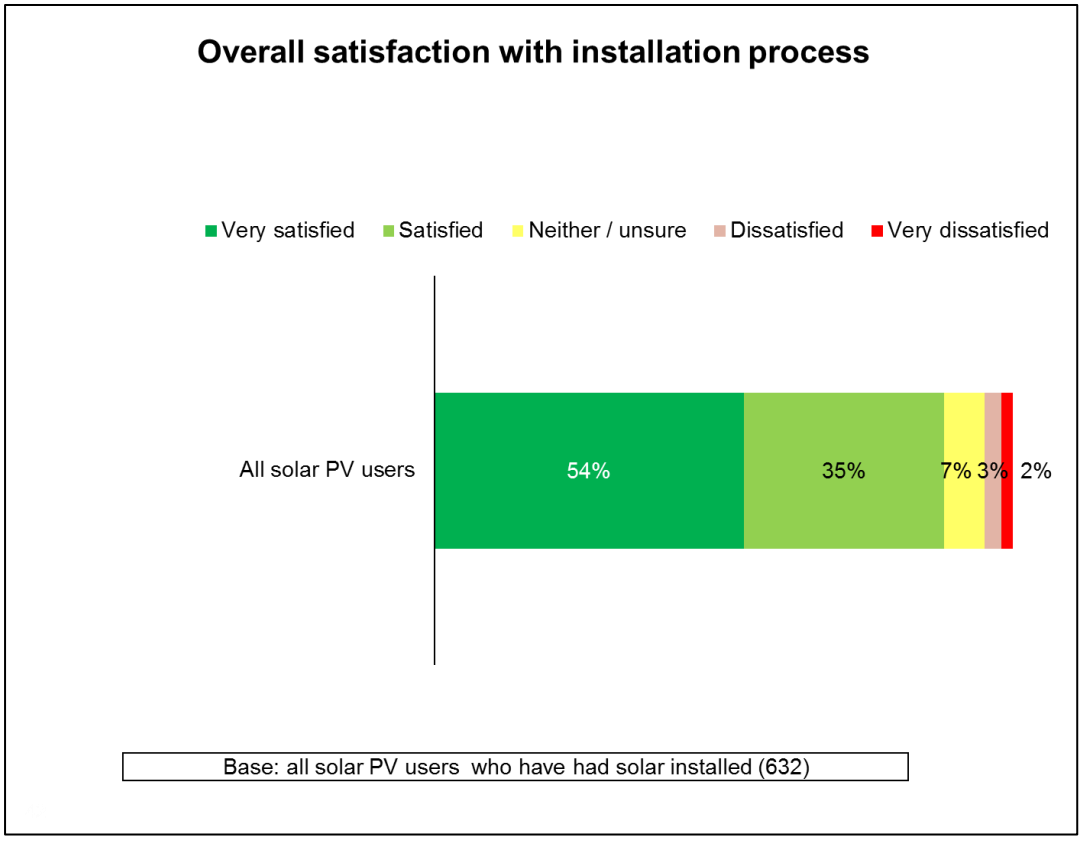
Key finding: Customers are not checking installer details with MCS and RECC but instead taking it on trust with their installer that they are registered.

Key finding: Customers continue to obtain less than three quotes, with those on rent-a-roof schemes more likely to get only one quote.

6.4 Installation

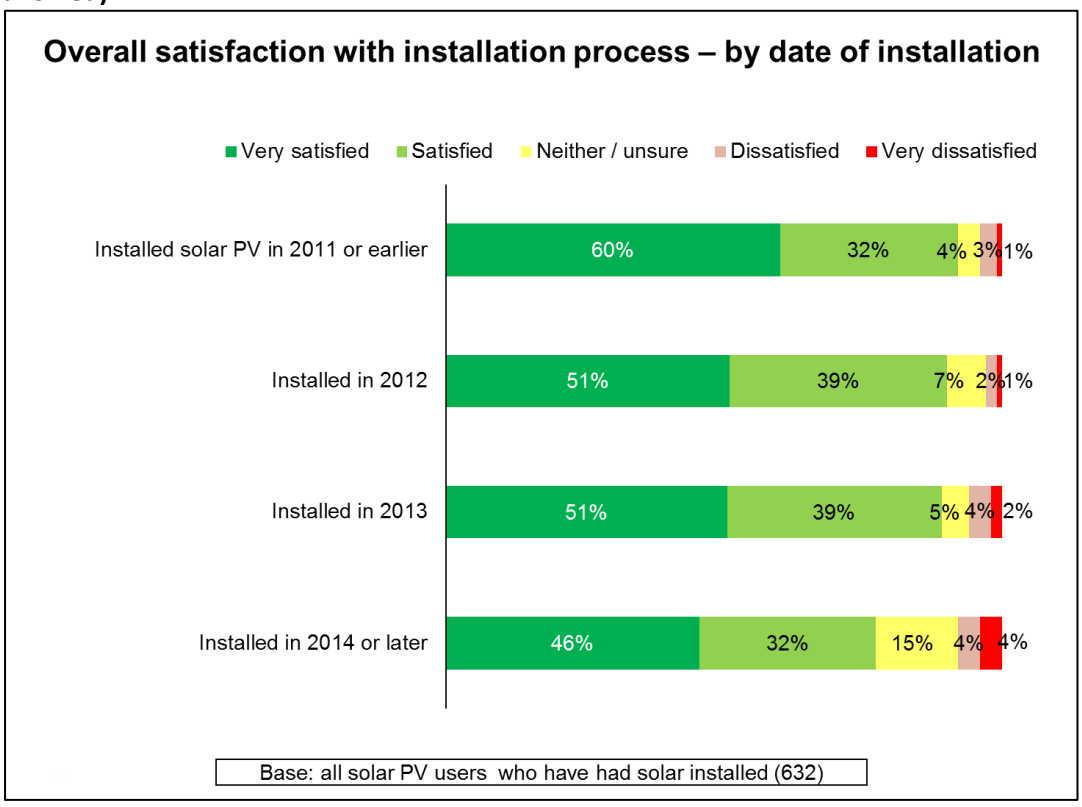
Satisfaction with the installation process is high, with 89 per cent of users being either very satisfied or satisfied (Figure 25).

Figure 25: Overall satisfaction with the installation process (single answer allowed)



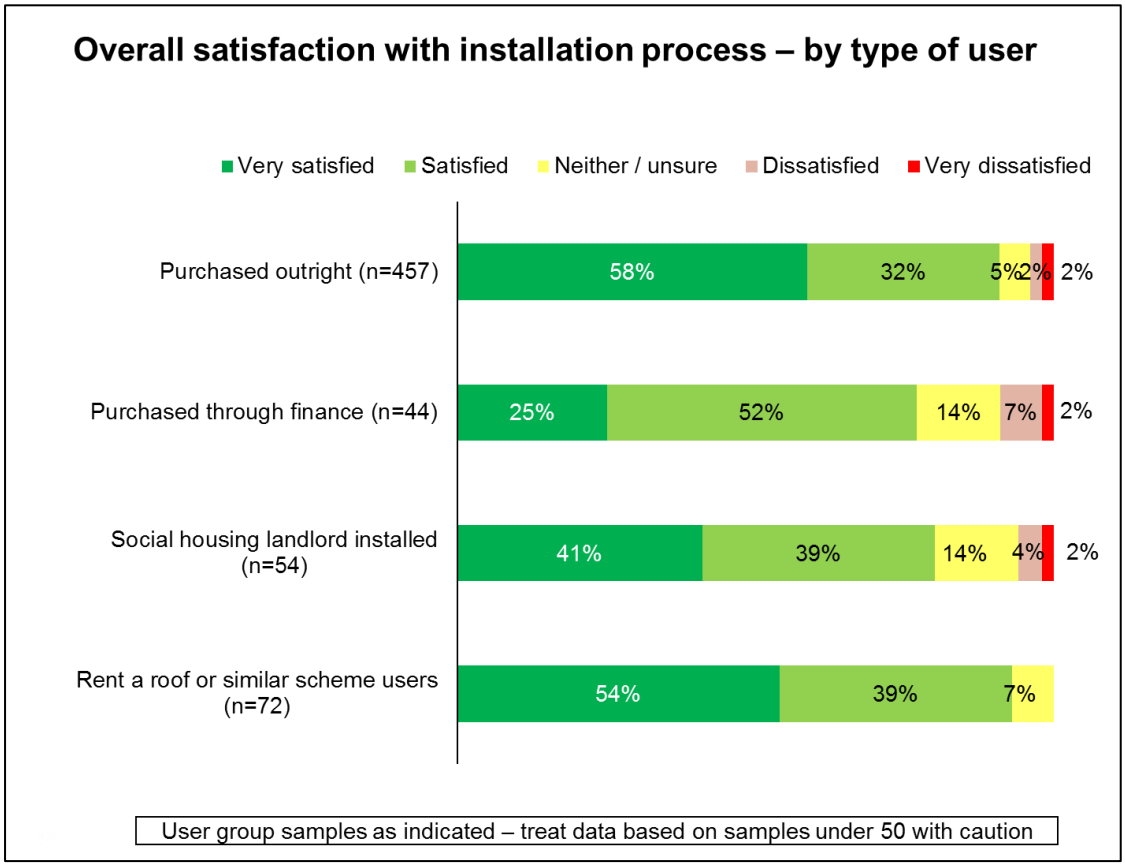
However, satisfaction levels are falling over time – 60 per cent of those who had solar PV installed in 2011 or earlier are very satisfied, compared with 46 per cent of those who had it installed in 2014 or later (Figure 26). Levels of dissatisfaction have risen slightly but perhaps more concerning are those consumers who are neither satisfied nor dissatisfied – 15 per cent for those who had it installed in 2014 or later.

Figure 26: Overall satisfaction with installation process by date of installation (single answer allowed)



Once again, consumers who purchased through finance and social housing tenants are less satisfied than users generally – only 25 per cent of those who purchased on finance, and only 41 per cent of social housing tenants, are very satisfied (Figure 27).

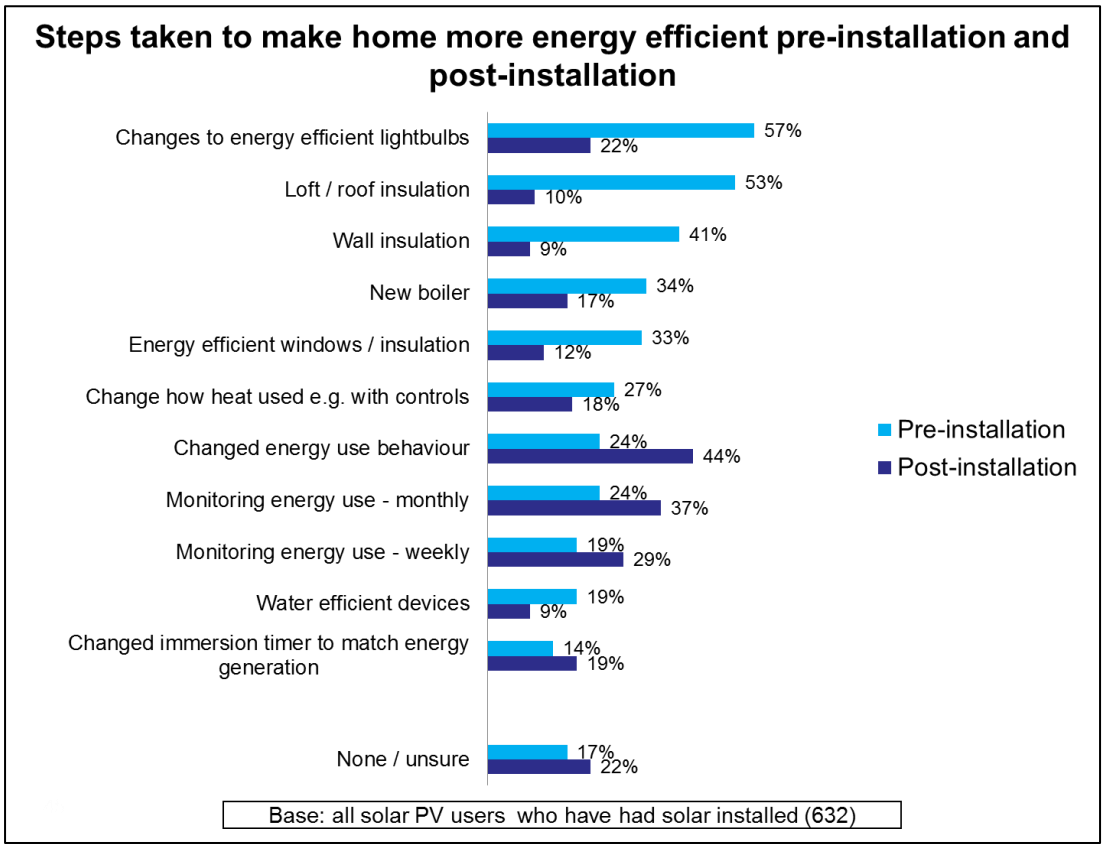
Figure 27: Overall satisfaction with installation process by type of user (single answer allowed)



Consumers were asked what actions they had taken to improve the energy efficiency of their homes during the year before and the year after they had solar PV installed (Figure 28). The results for improvements before installation are high and do not tally with stakeholders' experiences of energy efficiency installation rates through the predominant energy efficiency schemes, such as the Energy Company Obligation and its predecessor, the Carbon Emissions Reduction Target.

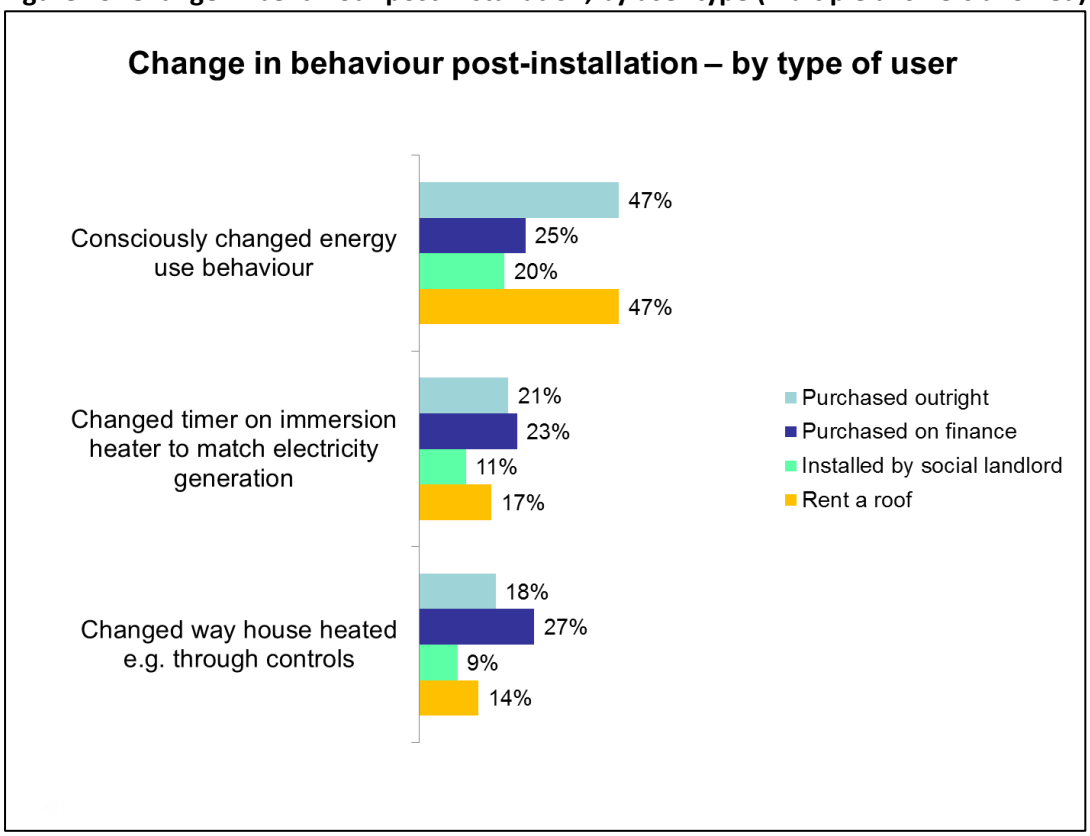
However, the behaviour changes claimed after installation are of note – 44 per cent of consumers said that they had changed their behaviour regarding energy use. Energy use monitoring was also noted – 37 per cent monthly and 29 per cent weekly.

Figure 28: Steps taken to make homes more energy efficient (multiple answers allowed)



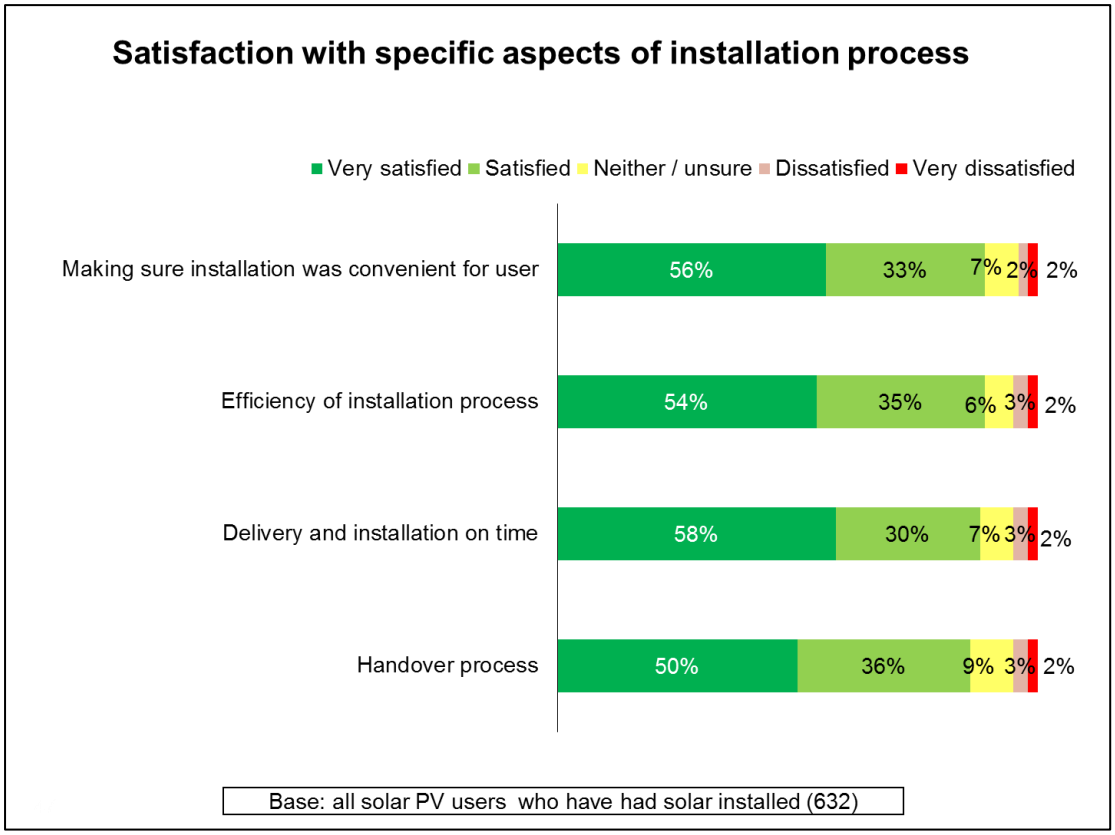
By user type, those in social housing were least likely to change their behaviour regarding energy use (20 per cent), whereas those who purchased outright (47 per cent) and rent-a-roof users (47 per cent) consciously changed their behaviour (Figure 29).

Figure 29: Change in behaviour post-installation, by user type (multiple answers allowed)



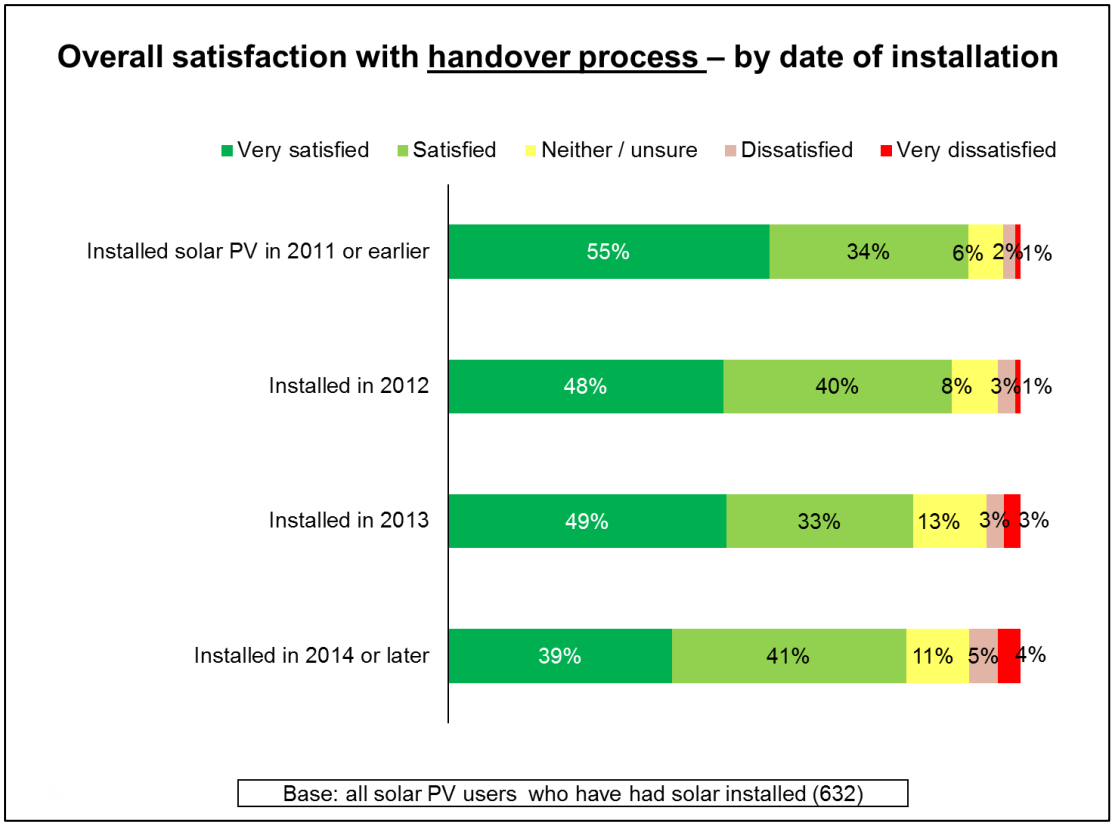
Overall, consumers were satisfied with the specific aspects of the installation process – convenience, efficiency, timely service and the handover process (Figure 30). The lowest levels of satisfaction were with the handover process, but these were not significantly lower than the other aspects.

Figure 30: Satisfaction with specific aspects of the installation process (single answer allowed for each aspect)



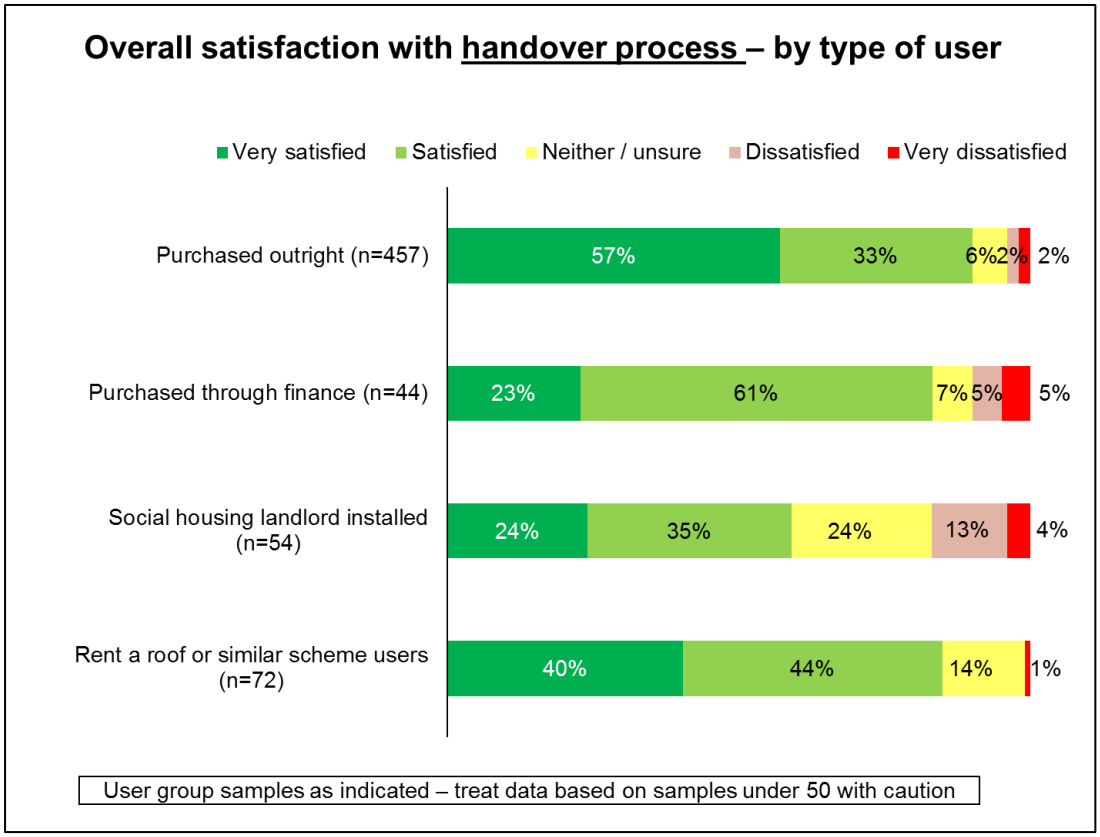
Satisfaction with the handover process has dropped a little over time – 89 per cent of users who had solar PV installed in 2011 or earlier were satisfied or very satisfied, compared with 80 per cent for those who had it installed in 2014 or later (Figure 31). Dissatisfaction levels also rose slightly, from 3 per cent to 9 per cent respectively.

Figure 31: Satisfaction with the handover process by date of installation (single answer allowed)



Once again, the lowest levels of satisfaction were recorded among those who purchased on finance (23 per cent very satisfied and 61 per cent satisfied) and social housing tenants (24 per cent very satisfied and 35 per cent satisfied) (Figure 32). More concerning is the dissatisfaction (including those who were dissatisfied and very dissatisfied) amongst these groups – 10 per cent and 17 per cent respectively.

Figure 32: Satisfaction with the handover process by type of user (single answer allowed)

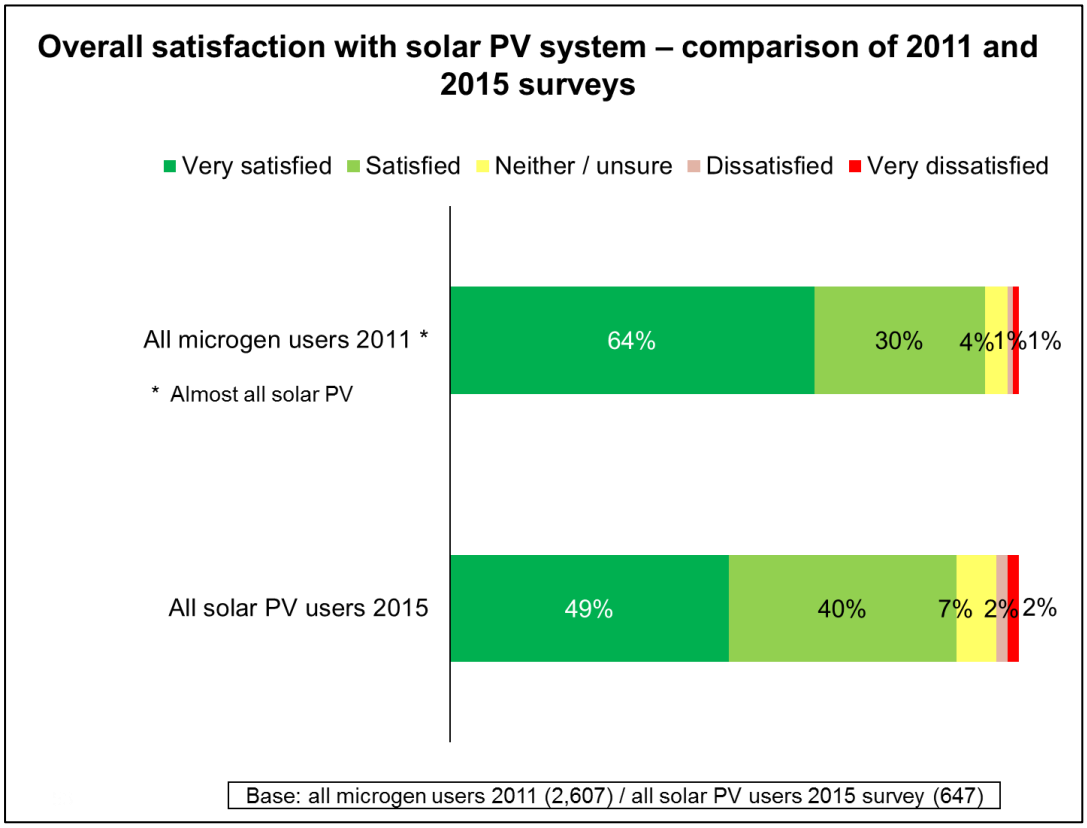


Generally, satisfaction with the installation process is high, although it has fallen a little over time. Satisfaction with most elements of the process – convenience, being done on time – is high, but is lukewarm for the handover process. Once again, those who purchased on finance and social housing tenants are the least satisfied with this part of the process.

6.5 System performance and maintenance

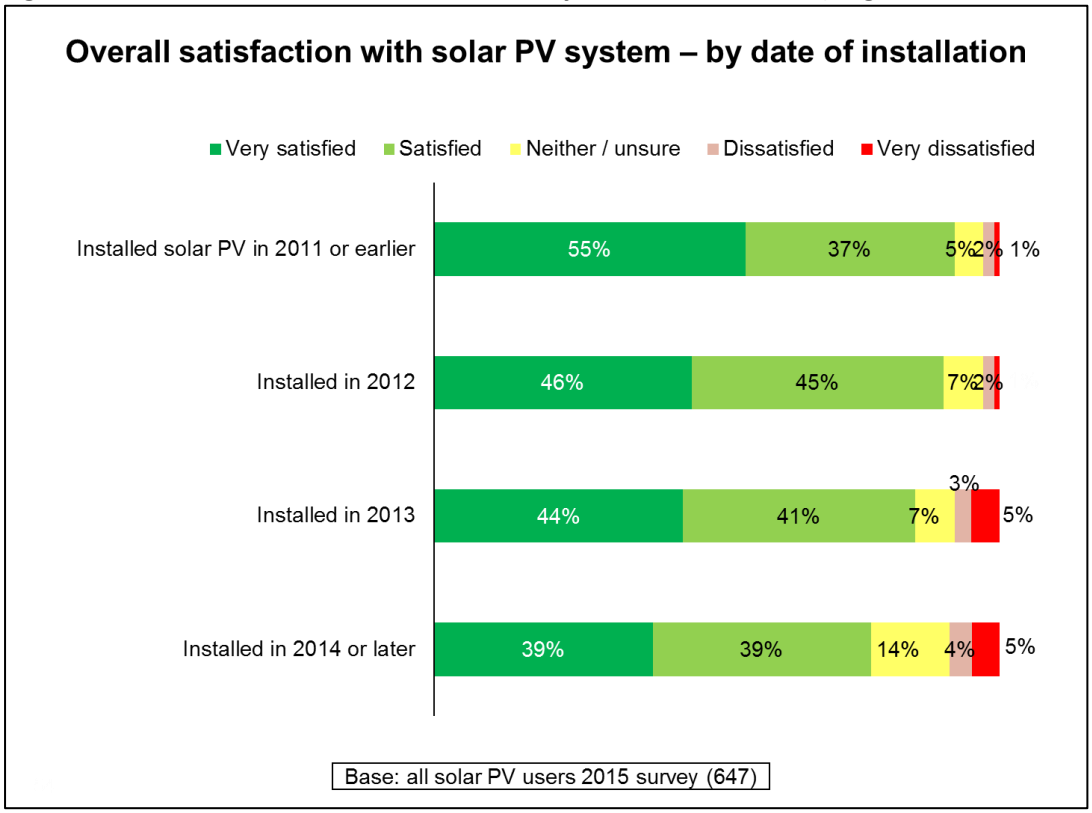
General satisfaction with the quality of solar PV is high, with 89 per cent expressing themselves satisfied or very satisfied in 2015 (Figure 33). However, general satisfaction has fallen over time, with 94 per cent satisfied or very satisfied in 2011 and just 89 per cent in 2015. The percentage that are very satisfied has fallen, from 64 per cent in 2011 to 49 per cent in 2015.

Figure 33: Overall satisfaction with solar PV – 2011 and 2015 (single answer allowed)



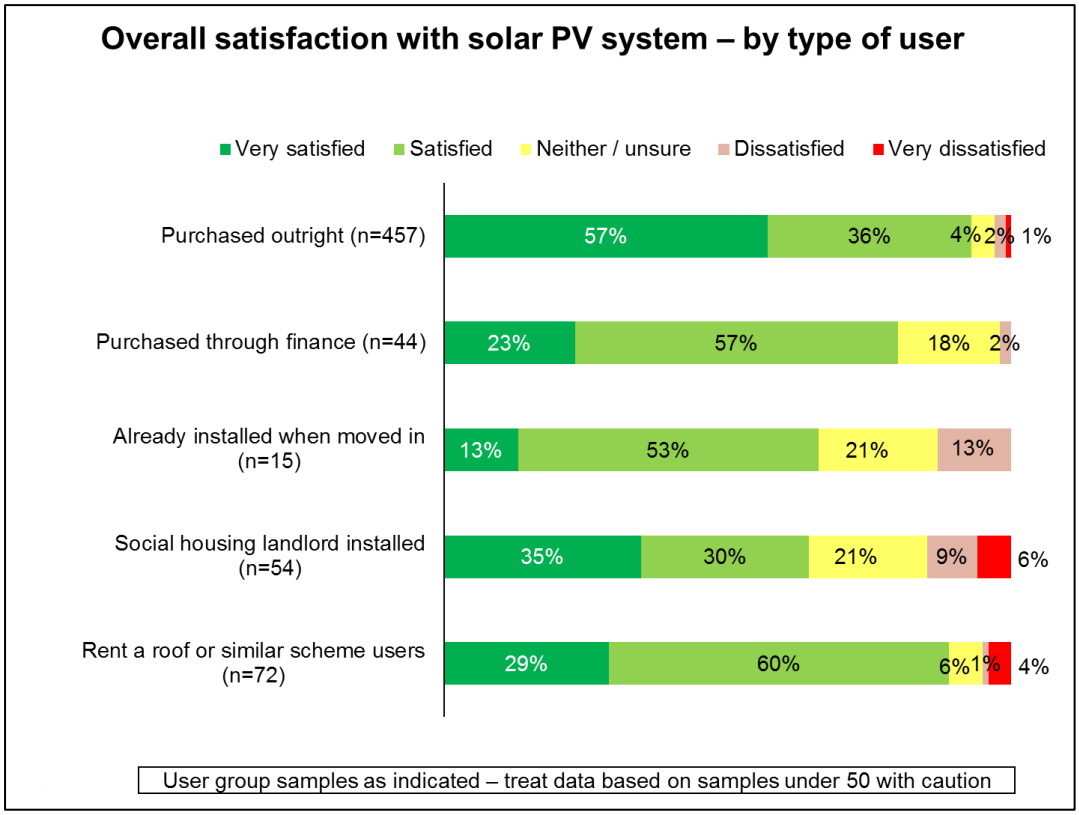
The trend of weakening satisfaction is also borne out in the analysis by date of installation; levels of high satisfaction and satisfaction both declined during each installation year – 55 per cent and 37 per cent respectively for those who had it installed in 2011 or earlier, dropping to 39 per cent for both, for those who had it installed in 2014 or later (Figure 34). Explicit dissatisfaction levels increased slightly over the same period – rising from 3 per cent for 2011 or earlier to 9 per cent for 2014 or later.

Figure 34: Overall satisfaction with solar PV, by date of installation (single answer allowed)



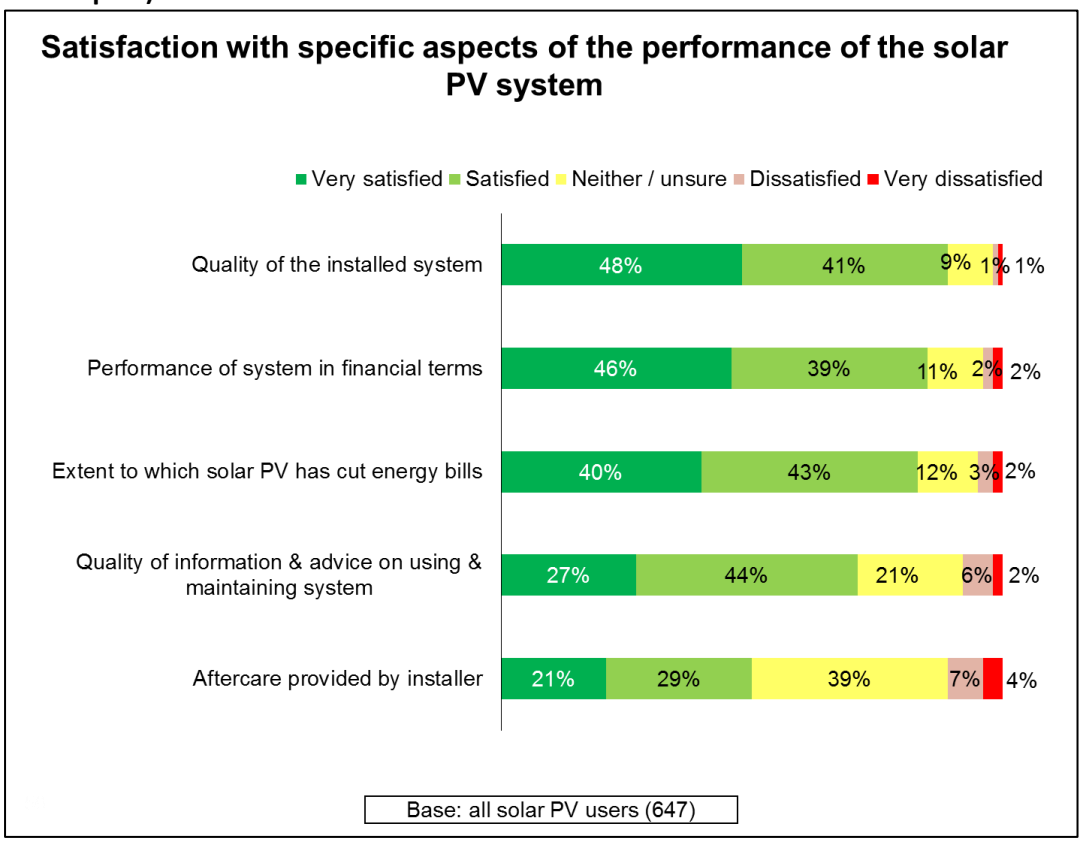
Satisfaction is particularly lukewarm among those who have not purchased solar PV outright, that is, among those who purchased through a rent-a-roof scheme, who purchased on finance and who already had solar PV installed when they moved in (although the sample size for the latter is low and needs to be treated with caution) (Figure 35).

Figure 35: Overall satisfaction with solar PV, by user type (single answer allowed)



Users were generally happy with the quality and performance of the system installed and the extent to which it cut energy bills, however, satisfaction with the information and advice on using and maintaining the system, and aftercare provided by the installer, was much lower (Figure 36). Dissatisfaction was not significantly higher but a much larger proportion of users were unsure. In the case of aftercare, this might have been because they have not had cause to contact their installer since their system was installed.

Figure 36: Satisfaction with specific aspects of solar PV performance (single answer allowed for each aspect)



Once again, social housing tenants were the least satisfied with the different elements of the performance of, and support for, their system (Table 5). This issue is explored further below but it does support the hypothesis that a lack of engagement throughout the process results in lower levels of satisfaction.

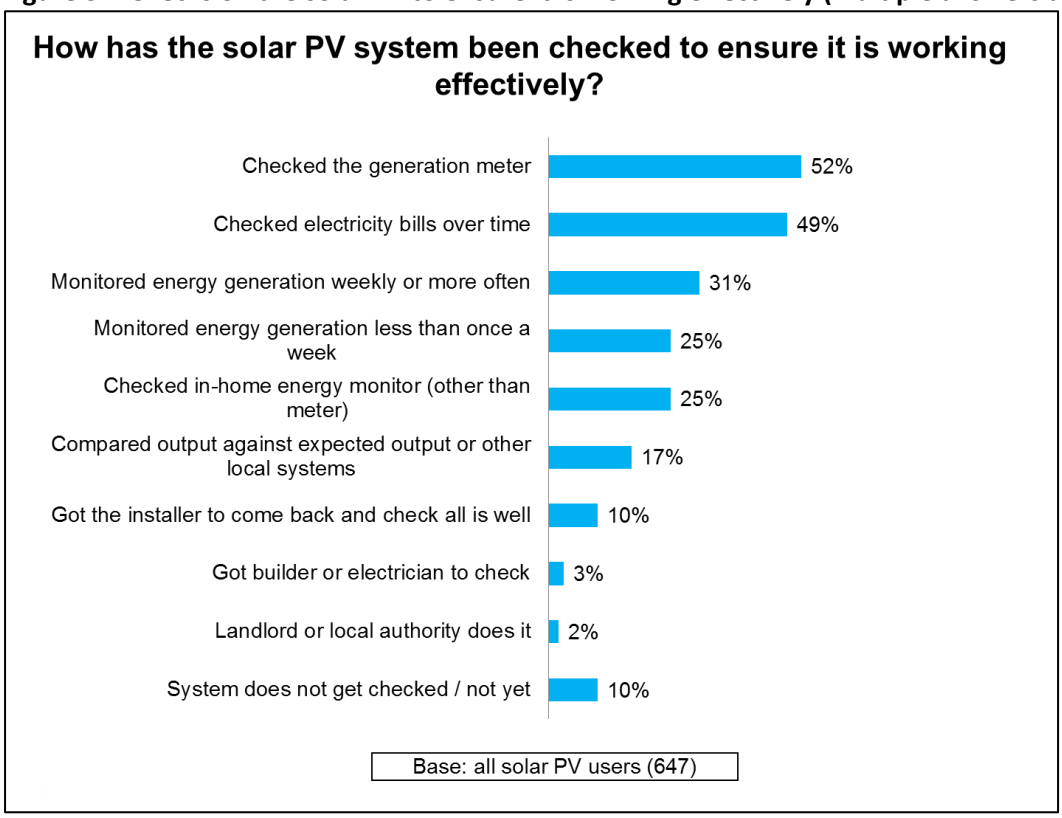
Table 5: Satisfaction with performance, by user type, installation date and region

Satisfaction with reduction in energy bills, information & advice on maintenance and with aftercare – by type of user, date of installation and region

		EXTENT TO WHICH SOLAR PV HAS CUT ENERGY BILLS	SATISFIED WITH INFO & ADVICE ON MAINTENANCE	SATISFACTION WITH AFTERCARE
Type of user	Purchased outright	88%	76%	51%
	Purchased on finance	77%	73%	66%
	Social housing tenant	57%	39%	33%
	Rent a roof or similar	86%	72%	57%
Date of installation	2011 or earlier	86%	74%	48%
	2012	85%	71%	49%
	2013	81%	67%	53%
	2014 or later	79%	79%	65%
Region	London & South East	80%	71%	53%
	South West	91%	76%	51%
	Midlands / East	83%	69%	48%
	Wales	75%	75%	58%
	North	86%	72%	46%

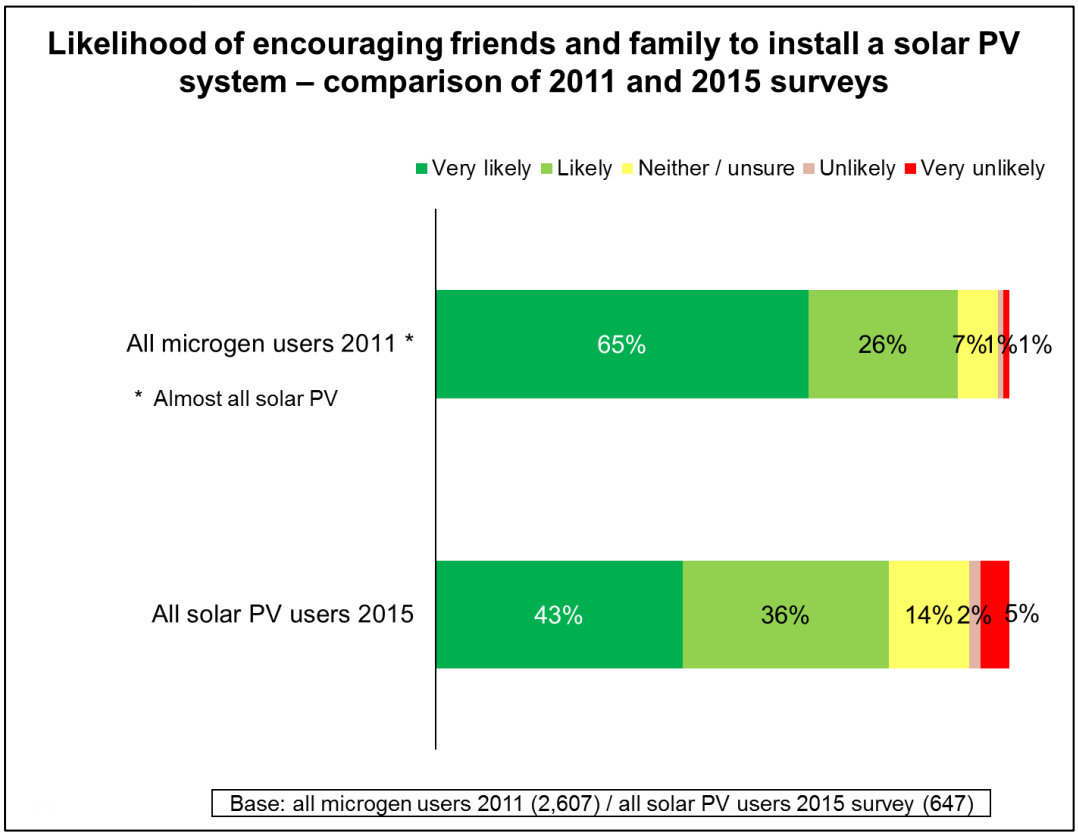
The majority of consumers have checked that their systems are working effectively, with 52 per cent checking their generation meter and 49 per cent checking their electricity bills (Figure 37). However, 10 per cent have had their installer back to check and another 10 per cent have not checked at all.

Figure 37: Checks on the solar PV to ensure it is working effectively (multiple answers allowed)



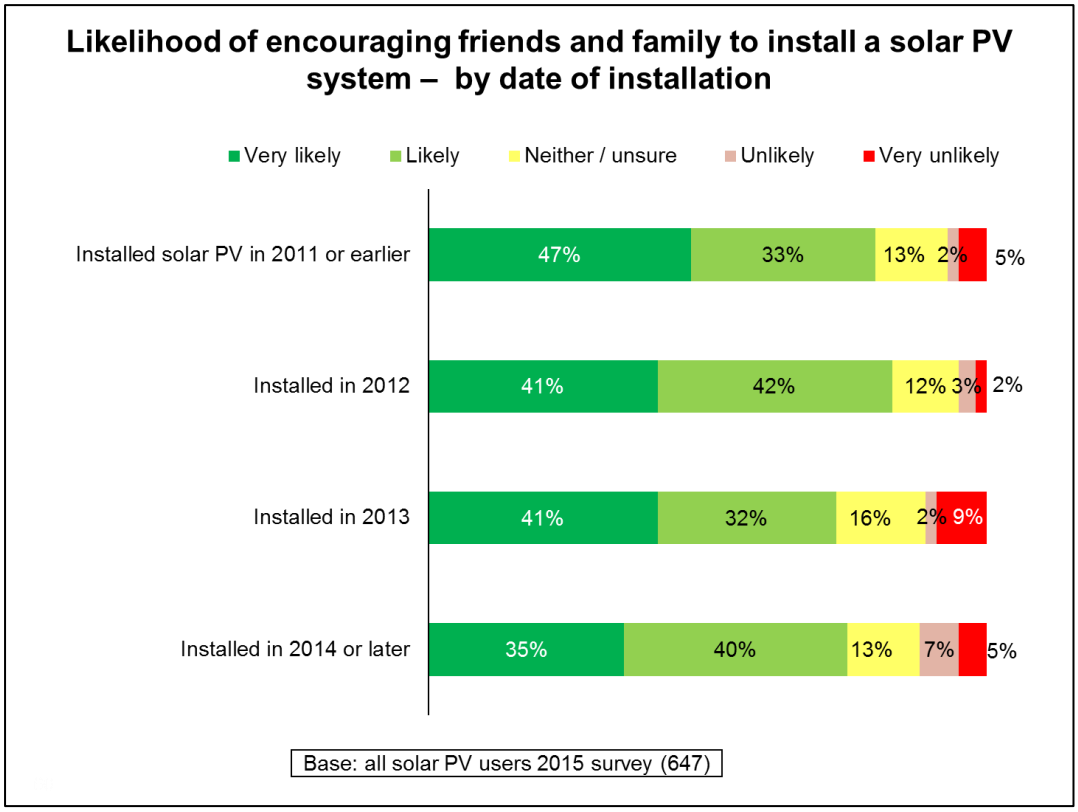
Friends, family and neighbours are one of the more trusted sources of advice and recommendation on solar PV. These recommendations play an important role in the continuing uptake levels. However, we have seen a significant decline in the number of consumers who are likely to recommend solar PV to those they know – 91 per cent likely or very likely in 2011, down to 79 per cent in 2015 (Figure 38). There has also been an increase in those consumers who are unlikely, very unlikely or unsure about recommending solar PV – 9 per cent in 2011, rising to 21 per cent in 2015.

Figure 38: Likelihood of encouraging friends and family to install solar PV – 2011 and 2015 (single answer allowed)



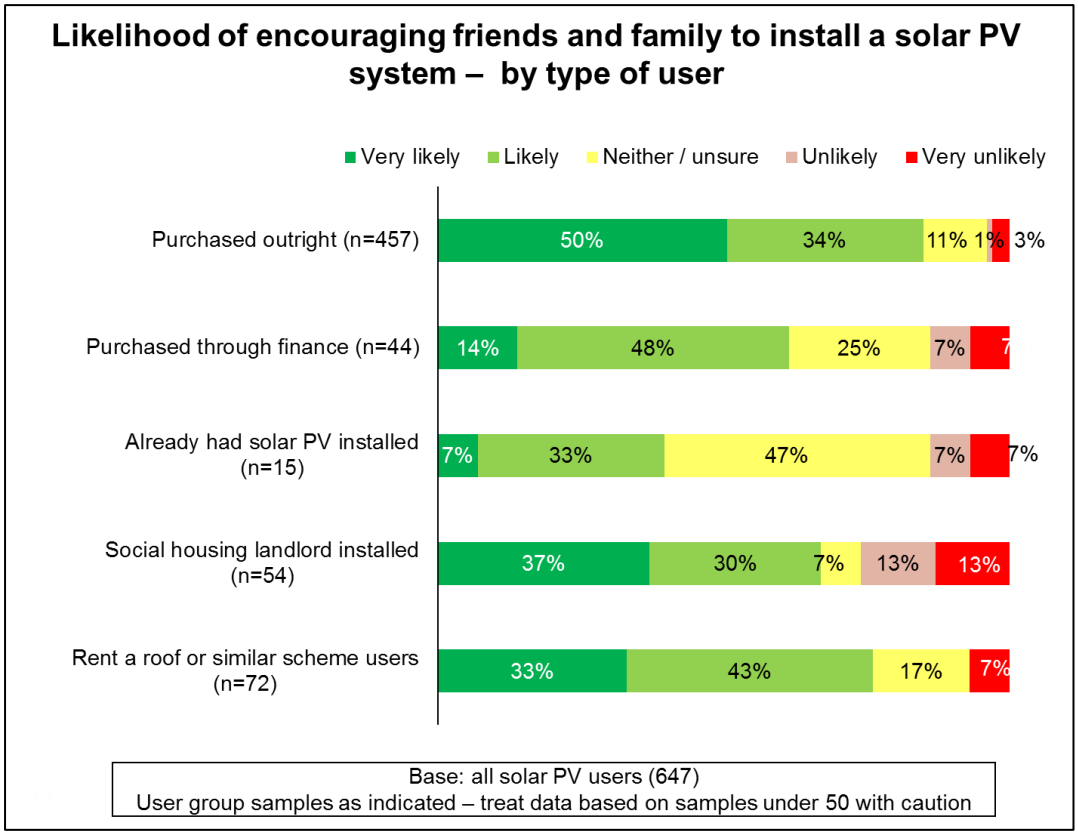
The trend broadly continues by installation date, with 47 per cent of those who had solar PV installed in 2011 or earlier being very likely to recommend, compared with 35 per cent who had it installed in 2014 or later (Figure 39).

Figure 39: Likelihood of encouraging friends and family to install solar PV, by installation date (single answer allowed)



Once again, those who purchased on finance and social housing tenants are much less likely to recommend solar PV to friends and family – 62 per cent and 67 per cent respectively are likely or very likely to recommend, compared with 84 per cent for those who purchased outright (Figure 40).

Figure 40: Likelihood of encouraging friends and family to install solar PV, by user type (single answer allowed)



System size is not a factor in overall satisfaction, and although there is regional variation, it does not point to a particular correlation (Table 6). Satisfaction levels are lower for terraces and flats again, but that is more likely to be a reflection on user type, that is, those who purchased on finance.

Table 6: Overall satisfaction and likelihood to recommend by size, location and house type

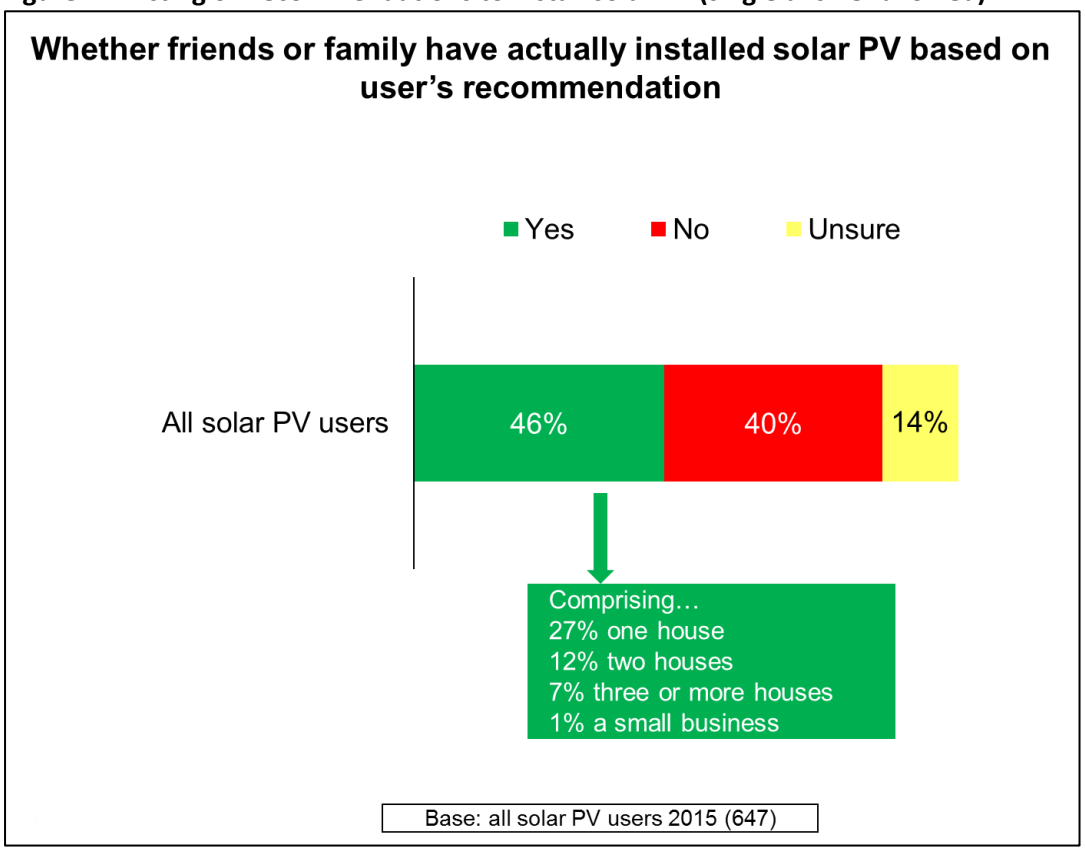
Overall satisfaction with solar PV and likelihood to recommend – by system size and demographics

		GENERAL SATISFACTION	LIKELIHOOD TO RECOMMEND
Size of system	3kWp or less	92%	81%
	3.1-4 kWp	91%	83%
	4.1+ kWp	91%	83%
Region	London & South East	85%	74%
	South West	91%	81%
	Midlands / East	90%	80%
	Wales	83%	85%
	North	90%	81%
Type of home	Detached	91%	82%
	Semi-detached	89%	80%
	Terraced	68%	71%
	Flat *	89%	56%
	Bungalow / maisonette	92%	81%

* Treat with caution - low sample size

Recommendations from friends and family clearly have an effect. 46 per cent had installed solar PV based on a recommendation from friends or family (Figure 41). In some cases, recommendations had influenced installations in more than one home.

Figure 41: Acting on recommendations to install solar PV (single answer allowed)



Satisfaction with the quality of solar PV is high, although it has fallen slightly over time. The number of those who are very satisfied has dropped, which reflects the findings for other parts of the solar PV process. Similarly, satisfaction is lower amongst those who appear to be less engaged in the details of the process – those who purchased on finance, rent-a-roof schemes and social housing tenants.

An area for improvement is that of information and advice relating to operating the system and the aftercare provided by installers.

Key finding: Consumers need more information on warranties and insurance-backed guarantees. They also need more information on how to check that their system is working correctly and how to maximise the electricity generated by it.

One area of particular concern is the falling likelihood of users recommending solar PV to family and friends. This is a key area of information and influence for prospective purchasers, and while installation rates are not yet dropping off, these lower levels of recommendation might have an impact in the future as they start influencing decision-makers.

6.6 Social housing

Additional research, via telephone interviews, was conducted with social housing tenants. Their results have been incorporated into the main data set, however, it is worth exploring the findings on

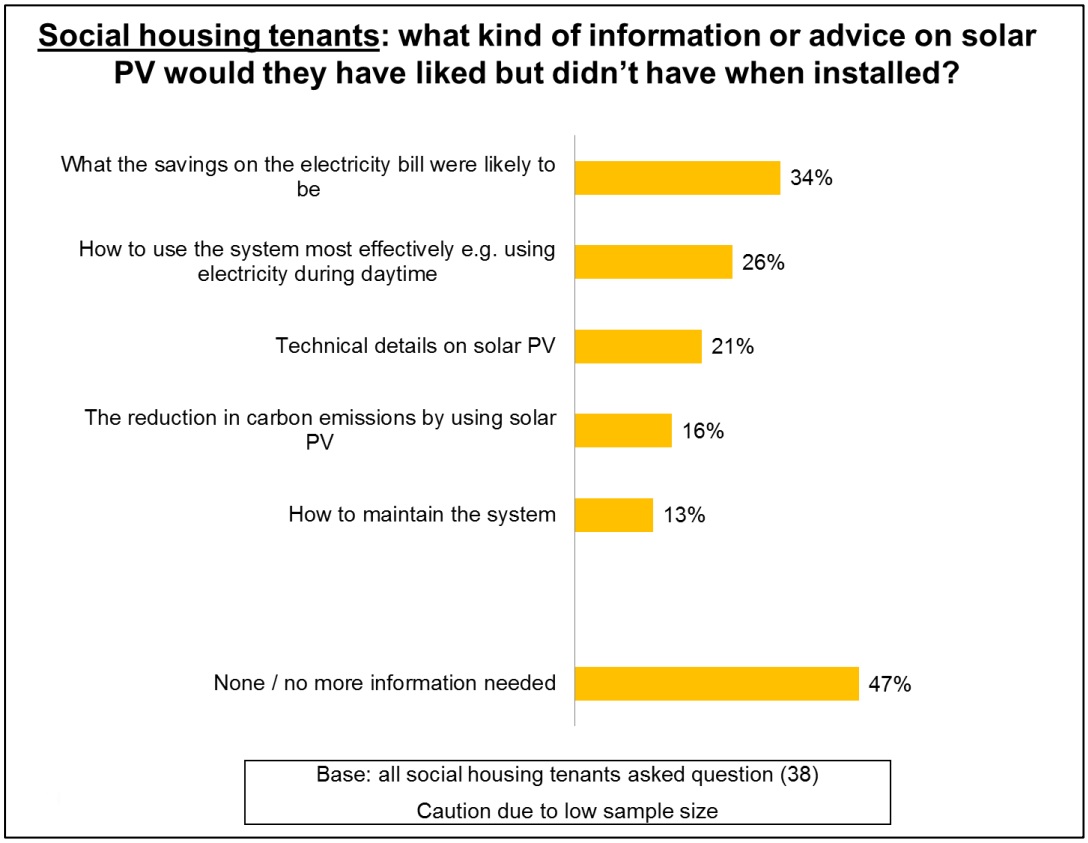
social housing tenants further as they are different from the main set, and recommended solutions or interventions are different from those who purchase solar PV or use a rent-a-roof scheme.

6.6.1 Information and advice

Social housing tenants did not generally access information or advice on solar PV before it was installed (58 per cent). Discussions with stakeholders suggested that, in many cases, tenants were not consulted or engaged in the decision-making process so were not necessarily provided with information on solar PV.

Social housing tenants were specifically asked about the type of information and advice they would have liked prior to installation, and were most interested in electricity bill savings (34 per cent), effective use of the system (26 per cent) and technical details (21 per cent) (Figure 42). However, 47 per cent said that they did not want/need any more information.

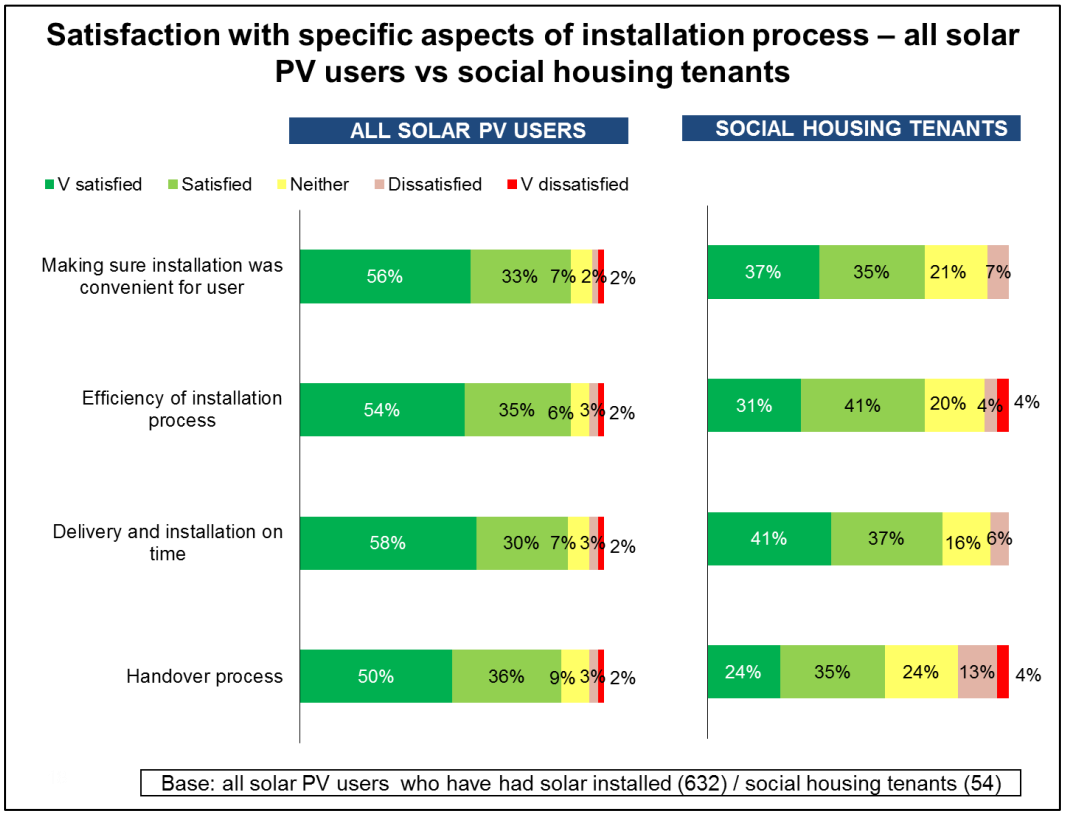
Figure 42: Type of advice social housing tenants would have liked but didn't have (multiple answers allowed)



6.6.2 Installation process

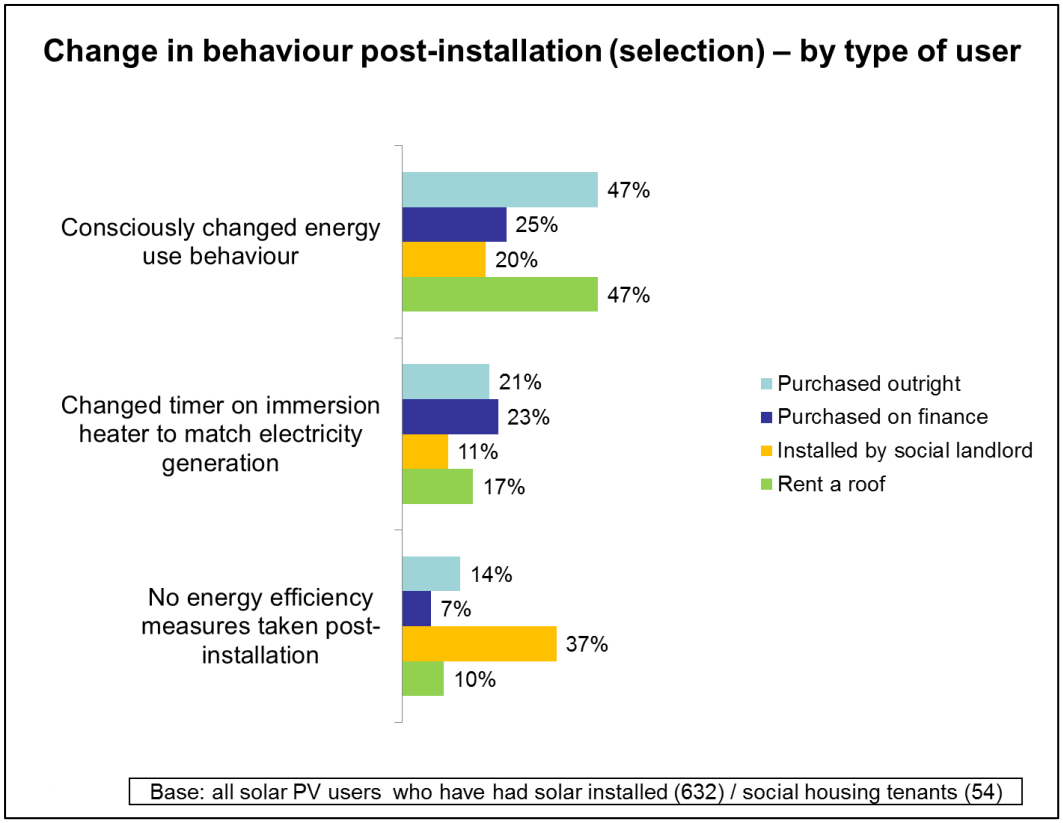
General satisfaction among social housing tenants with the installation process is high, although lower than among users in general (Figure 43). Social housing tenants' satisfaction with key aspects of the installation process – the efficiency of the process, convenience to the user, being done on time and the handover process – is also lower than for all users.

Figure 43: Satisfaction with aspects of the installation process – all users vs. social housing tenants (single answer allowed for each aspect)



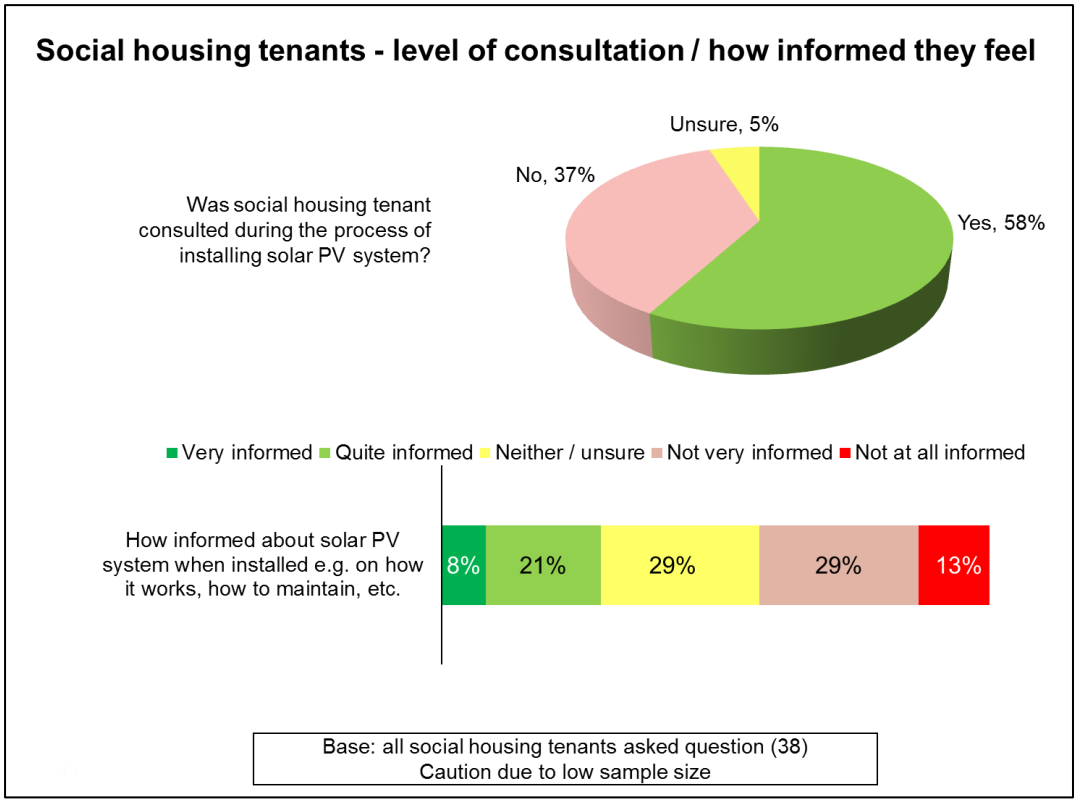
Social housing tenants are also less likely to have changed their behaviour with regard to energy use following the installation of their solar PV – 20 per cent have consciously changed their energy using behaviour compared with 47 per cent of those who purchased their solar PV outright (Figure 44). 37 per cent of social housing tenants claimed not to have made any changes at all, compared with 14 per cent who purchased outright.

Figure 44: Behaviour changes after installation, by user type (multiple answers allowed)



Although 58 per cent of social housing tenants were consulted during the installation process, only 29 per cent considered themselves informed. This lack of engagement may explain their lower levels of satisfaction.

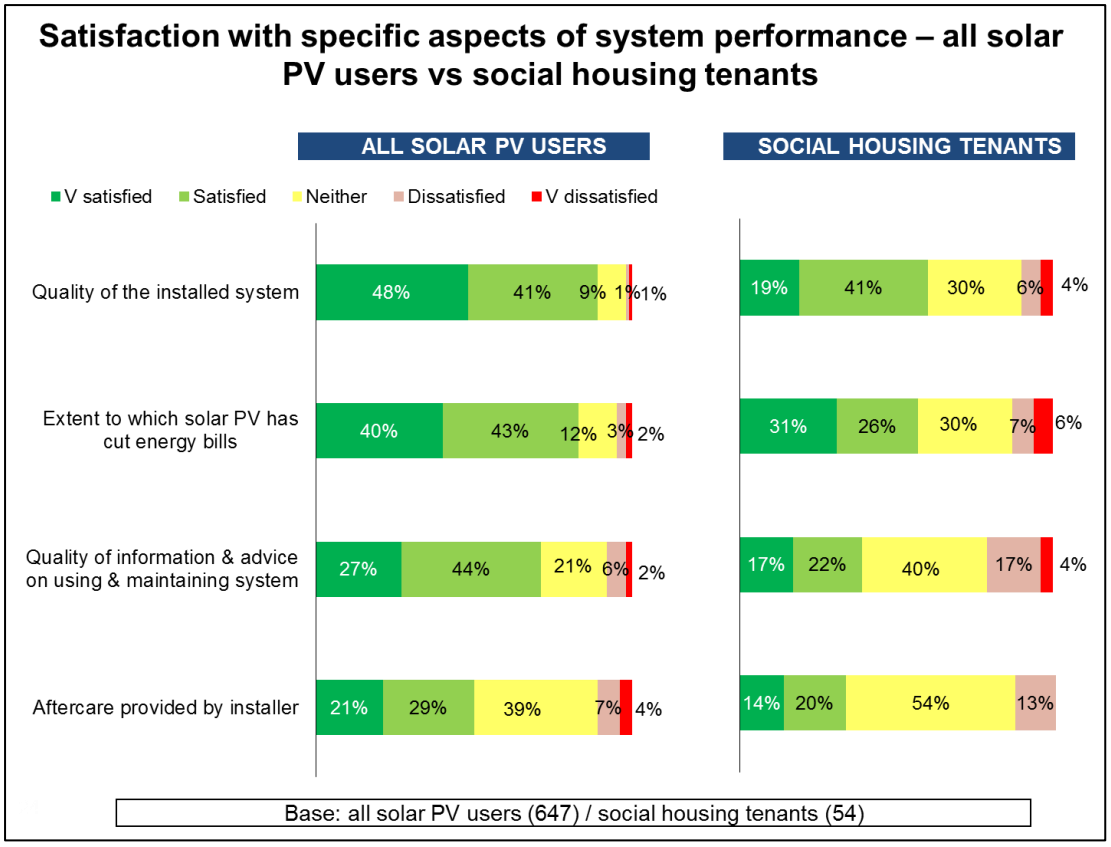
Figure 45: Level of consultation and how informed social housing tenants feel (single answer allowed for each question)



6.6.3 System performance and maintenance

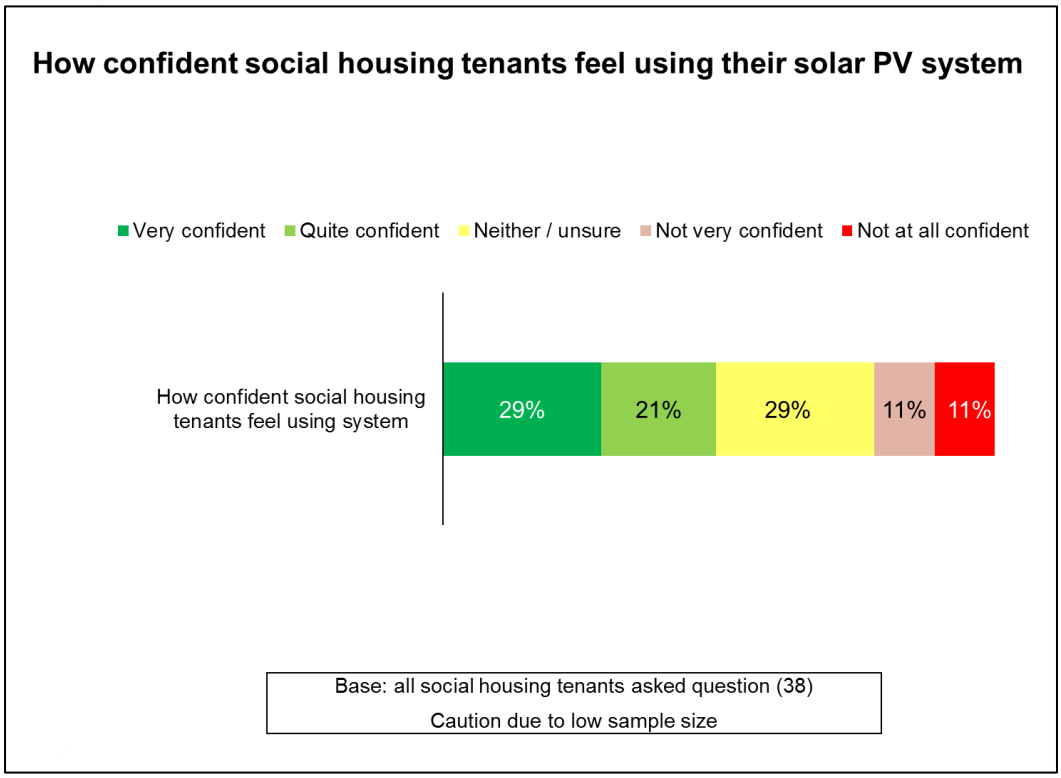
Social housing tenants are moderately satisfied with solar PV – two-thirds express themselves satisfied and the same number would encourage family or friends to adopt solar PV, although 26 per cent would not. However, 15 per cent are explicitly dissatisfied with solar PV. On specific aspects of the system's performance, they are considerably less satisfied than all users, including the quality of the system installed, extent to which electricity bills have been cut, information on maintenance and aftercare. In the case of the latter two aspects, these are likely to be undertaken by the social housing provider (Figure 46).

Figure 46: Satisfaction with aspects of system performance – all users vs. social housing tenants (single answer allowed for each aspect)



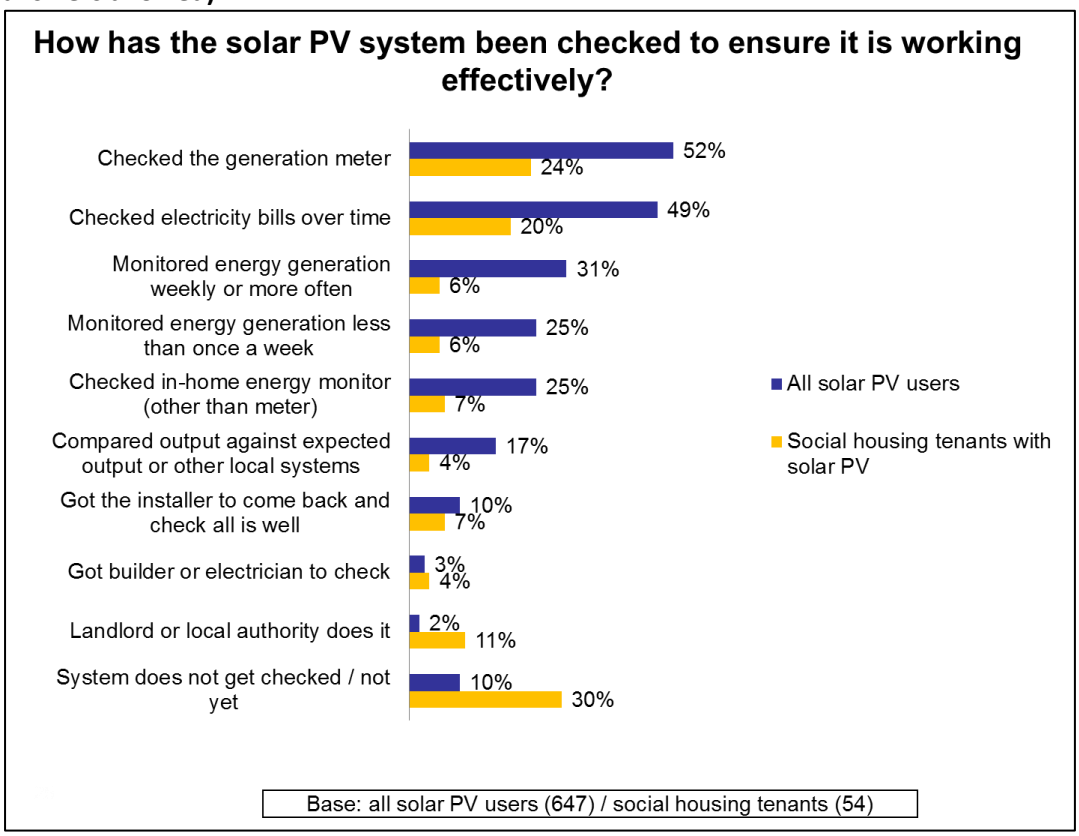
Only half of social housing tenants feel confident in using their solar PV system (Figure 47). This may in part be due to the lack of information and advice they received throughout the process, and their lack of engagement with it. Social housing stakeholders strongly felt that tenants needed to be more engaged from the beginning of the process, and that information and advice on using solar PV and maximising the benefits should be provided by a range of social housing staff who interact with tenants on a regular or periodic basis, and this advice provision should be embedded throughout social housing organisations.

Figure 47: Confidence of social housing tenants in using their solar PV system (single answer allowed)



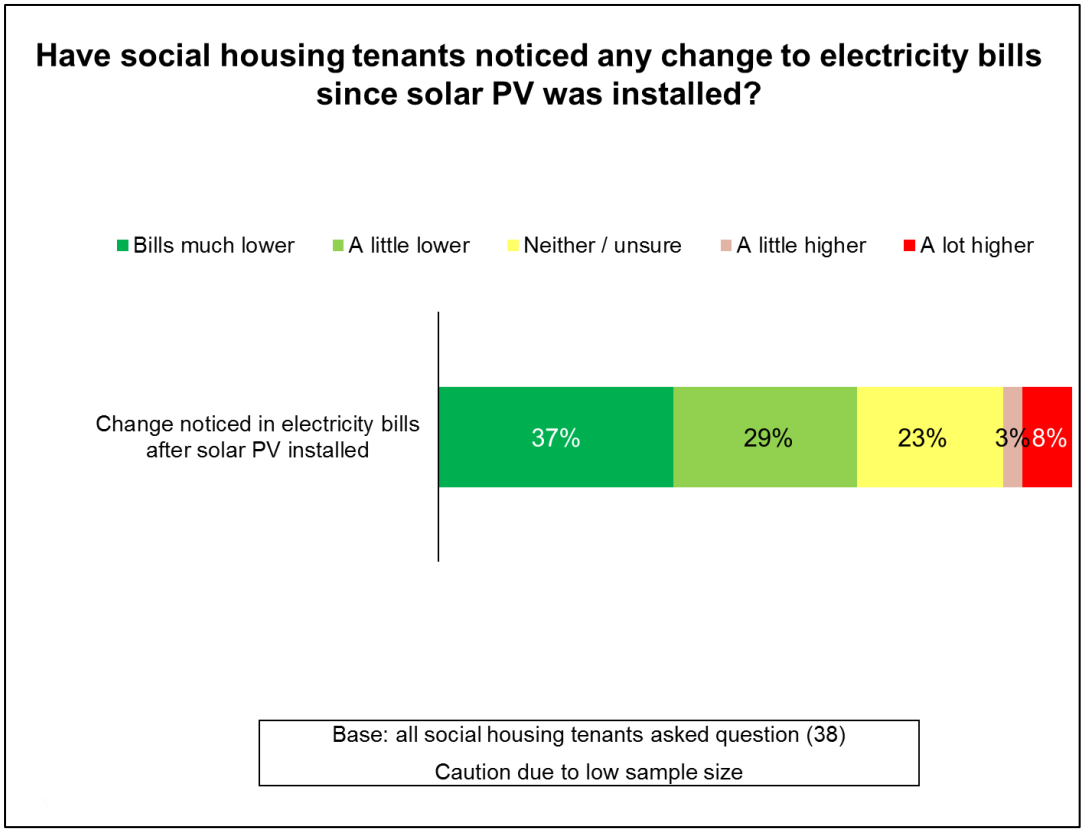
Given the lack of confidence in using, and engagement with, the solar PV system, it is not surprising that almost a third of tenants have not checked that their system is working (Figure 48). Social landlords generally have remote monitoring of systems, but tenants are, once again, disengaged from their solar PV system.

Figure 48: How solar PV system has been checked to ensure it is working effectively (multiple answers allowed)



Despite only 20 per cent of social housing tenants checking their electricity bills over time to see if their solar PV systems were working, 66 per cent of social housing tenants noticed their bills getting lower. This is a positive result, given relatively few tenants consciously changed their behaviour regarding energy use and do not feel they have had information about how to get the most out of their solar PV systems.

Figure 49: Changes in electricity bills for social housing tenants (single answer allowed)



While social housing tenants are not expressing satisfaction levels as high as users in general, around two-thirds are satisfied with the information and advice available on solar PV, the overall performance of their solar PV system, have noticed that their energy bills are lower, and would encourage friends and family to adopt solar PV. Explicit dissatisfaction is low, with only a quarter expressing dissatisfaction, although this level is higher than for the all-user average.

However, there is room for improvement, particularly in areas such as provision of independent information and advice when a solar PV system is installed, including areas such as likely savings on the electricity bill and how to use the system effectively. Support and advice on how to use the system once it has been installed are particularly important, given there is little evidence of social housing tenants changing their behaviour to maximise the benefits of solar PV. Ongoing support and advice, with regular reinforcement, would help to overcome this problem and would also increase tenant engagement with their solar PV system. Improved engagement could also improve satisfaction levels more broadly, and increase the likelihood of tenants recommending solar PV to friends, family and neighbours.

Key finding: Social housing tenants seem not to be engaged with the process of solar PV installation prior to the decisions being made to install systems on their homes.

Key finding: Social housing tenants don't appear to be engaged on how to use their systems effectively, nor how their actions can effect overall energy consumption in the home. Additional

advice and information that they would like tends to be regarding electricity bill savings, effective use of their system and more technical details.

Key finding: There seems to be a lack of ongoing engagement with social housing tenants regarding their solar PV systems or when new tenants move into homes with solar PV already installed.

7 Conclusions

The consumer experience of solar PV is generally a good news story. Results are broadly positive and general satisfaction is high; there are very few areas in which solar PV users are explicitly dissatisfied. While there are some areas that could be improved, overall, there are no parts of the process that are highly problematic.

However, satisfaction is generally falling over time across most areas of the solar PV customer journey. The levels are not tumbling, the decline is small to moderate, but it is noticeable. It is difficult to draw conclusions on whether this trend will continue, but comparisons between the 2011 and 2015 surveys, as well as the variations by year of installation, confirm the reduction.

Worryingly, users are also now less likely to recommend solar PV to friends, family and neighbours. In *Keeping FiT*, early adopters of solar PV were great advocates, which helped stimulate take-up. This decline has not yet been seen in the installation rates of domestic solar PV, but it is possible that it will start to impact over the next few years if other drivers do not maintain their prominence.

It is important that a high level of customer service is maintained and improvements to ongoing support and advice, particularly maximising the benefits of solar PV, are realised.

7.1 Information and advice

There are few independent sources of information and advice, and these are being used less often than they were in 2011. The main source of information and advice is the installer (visit, website, materials) and independent internet searches, which generally bring up installer websites. The EST and friends/family/neighbours are also cited, but the main source is the installer.

Many, although not all, stakeholders saw this as a potential problem. As take-up of solar PV becomes more widespread and prospective consumers are less informed, independent advice might be more important. However, some stakeholders suggested that advice often needed to be site and situation specific, and installers might be best placed to provide this.

More specifically, consumers did cite several areas where they did not feel they had enough information or advice – EPCs, carbon emissions reduction and planning issues related to solar PV.

Key finding: Customers feel they need more and clearer information on EPCs, planning issues and carbon emissions reductions relating to solar PV.

The motivations for installing solar PV are also changing over time. In 2011, the financial benefit presented by the FiTs was the primary reason for installing solar PV, but environmental considerations have become stronger and, in the case of rent-a-roof users, rising electricity prices are now the primary reason.

Key finding: More customers are citing rising electricity prices as a reason to install solar PV.

7.2 Sales process

Satisfaction with the sales process is still high, although has fallen slightly over time. Half of users rely on only one or two quotes, despite most organisations advising on three quotes. Rent-a-roof users tend not to obtain alternative quotes at all. The percentage of users approached speculatively by installers has increased over time, with those buying on finance and installing through a rent-a-roof scheme particularly likely to have been approached speculatively.

Checking that the installer is MCS registered is sporadic, in particular, a third of those installing through a rent-a-roof scheme do not appear to be checking if the installer is MCS registered and, of those who do, most are taking it on trust from the installer rather than checking independently.

Less than half of users are being made aware of the complaints procedure. More work needs to be done by consumer protection organisations to promote good practice and general awareness to consumers before they sign a contract.

Key finding: Customers are not checking installer details with the MCS and RECC schemes but instead taking it on trust with their installer that they are registered.

Key finding: Customers continue to obtain less than three quotes, with those on rent-a-roof schemes more likely to get only one quote.

7.3 Installation

There are some positive indicators relating to installation and the post-installation stage. Overall satisfaction with solar PV systems installed is high. Installers generally inform users about the cancellation period and about system guarantees, although less than half recall the installer talking through warranties and insurance-backed guarantees – another area that consumer protection organisations could be promoting to improve awareness.

7.4 System performance and maintenance

Satisfaction is lower for aspects of the post-installation phase – the handover, provision of information and advice on maintaining the system, and aftercare. While aftercare has not necessarily been an issue for solar PV users yet (due to the relatively young age of systems), advice on maintaining the system and maximising the benefits is needed. Installers should be providing this information before completion. However, there is often not an ongoing relationship between consumer and installer, so there could be a role for consumer organisations to play in providing ongoing support to consumers on using their solar PV most effectively.

Key finding: Consumers need more information on warranties and insurance-backed guarantees. They also need more information on how to check their system is working correctly and how to maximise the electricity generated by it.

7.5 Social housing

Social housing tenants were generally less satisfied than users in general with all aspects of the process. Social housing stakeholders reported that early installations of solar PV had not included tenant engagement, which explains lower satisfaction. Particular areas that need addressing are: upfront advice and information, which could be written into social housing providers' contracts with installers; and ongoing advice and support to change behaviour regarding energy use in order to maximise the benefits of solar PV. This advice should be embedded within social housing providers

so that all staff that interact with tenants are able to add on the advice to other areas of knowledge they provide.

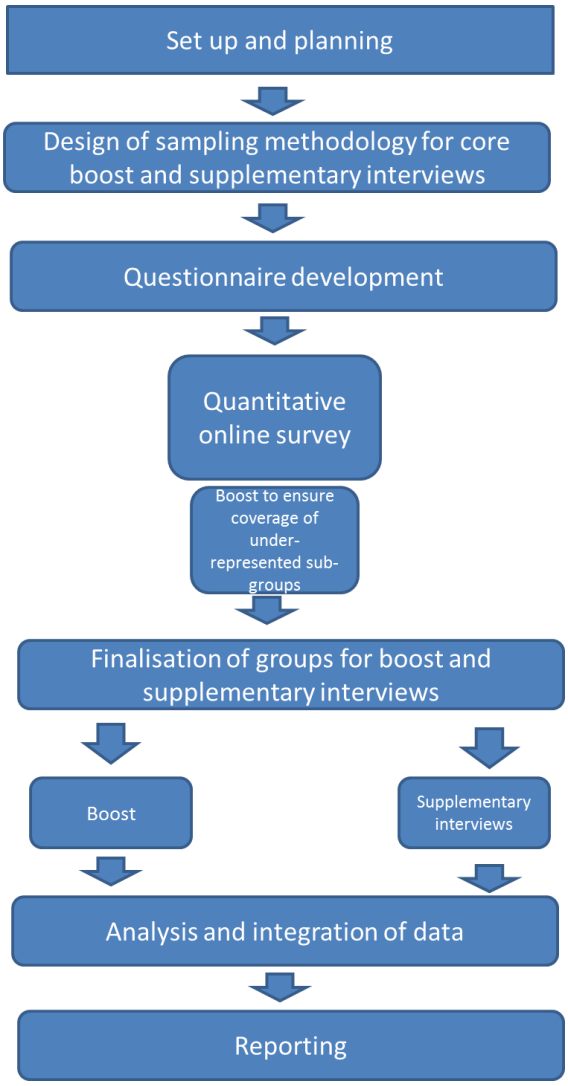
Key finding: Social housing tenants seem not to be engaged with the process of solar PV installation prior to the decisions being made to install systems on their homes.

Key finding: Social housing tenants don't appear to be engaged on how to use their systems effectively, nor how their actions can effect overall energy consumption in the home. The additional advice and information they would like tends to be regarding electricity bill savings, effective use of their system and more technical details.

Key finding: There seems to be a lack of ongoing engagement with social housing tenants regarding their solar PV systems, or when new tenants move into homes with solar PV already installed.

Appendix 1: Methodology

The research process is summarised below.



In the following sections we outline each of the main components of the research in more detail.

Set up and planning phase

The first stage of the research process was the set up and planning stage. This phase is critical to the success of research-based projects. It is crucial to invest time at the start of a research project to ensure that we fully understand the objectives of the research i.e. what information and insights are required, how the research findings should be reported and communicated, and who will be using the research findings.

The set up and planning phase was initiated in a meeting involving key Citizens Advice, Future Climate and Purple Market Research personnel and held on 11 December 2014.

Following that meeting we reviewed previous research (some of which we conducted ourselves) to inform the questionnaire development. The project team worked closely with Citizens Advice and other relevant stakeholders to develop a questionnaire that met the research objectives.

The survey was designed to be comparable with the key elements of the consumer research of *Keeping FiT* in 2011, as well as incorporating issues that had arisen more recently. Discussions with some key stakeholders helped to inform the questionnaire, and identify additional areas to explore.

The final quantitative questionnaire is given in appendix 2.

Main online research

For the quantitative stage of the research programme, the central part of this research, we conducted a survey of consumers who are using PV in their home.

The main methodology employed was an online survey, by which users of solar PV were identified on online access panels and sent an invitation to participate in the research, together with a link to the online survey.

Respondents were selected using online access panels in order to avoid self-selection bias, particularly polarisation of strongly positive and negative experiences. As a result, the sample used is not representative of the whole population and has not been weighted as part of the analysis.

Potential respondents were selected using a brief online filtering questionnaire, based on their location (England and Wales) and installation of PV, although they were presented with a range of energy measures so did not know the questionnaire would be about solar PV until they had been selected.

Invitations to complete the online survey were sent to all of those who met the initial criteria.

When 500 surveys had been completed, the user types, region and demographics were analysed to ensure a good spread of respondents and a large enough sample in key areas for exploration, including rent-a-roof users. Where user groups were well represented, those areas were closed off to further responses. Where others were under-represented, they remained open and further invitations were sent out, particularly in Wales, the North East and London, where response rates were lower.

Online research was conducted from 30 January to 20 February 2015.

Supplementary Telephone Interviews with Social Housing Tenants

The online survey generated 19 interviews with social housing tenants. Telephone interviews were conducted with social housing tenants to boost the sample for this category. The aim was to interview 100 tenants in total. However, obtaining tenants' details from social housing providers within data protection requirements proved difficult.

Permission to forward their details was received from 50 social housing tenants, and telephone interviews were conducted with 38 of these, which boosted the overall number of responses in this category to 57.

In order to compare data for different user types, the telephone survey replicated the online survey but excluded questions that did not apply, such as the sales process. A small number of additional questions were added, to explore engagement, information and advice, and user confidence.

Telephone interviews were conducted from 4 to 12 March 2015.

Overall sample profile

In total 647 quantitative interviews were conducted. The breakdown by type of solar PV user is as follows.

Table 1: Type of PV user

TYPE OF USER	
All users	647
Purchased outright	457
Purchased on finance	44
Already installed when moved into home	15
Installed by private landlord	5
Installed by social landlord	54
Installed through rent-a-roof or free solar scheme	72

This sample yields results that are robust at an overall level (to within 5% at the 95% confidence level).

As would be expected, the majority of consumers had purchased their PV outright, although this would likely include those who had extended their mortgages in order to finance the installation. In order to analyse alternative financing methods, consumers who had taken up rent-a-roof offers also featured, with 72 completing the survey. Discussions with stakeholders (see below) also suggested that some consumers were purchasing their solar PV on finance, with new offers coming onto the market – 44 consumers who had financed their PV in this way were included. The experience of tenants was also key to the research, particularly social housing tenants. However, the number of private rented tenants who responded was very low and therefore cannot be analysed. This was expected given the low rate of installation in that sector.

Qualitative research with stakeholders

Following the completion of field research, two stakeholder workshops were held to discuss the findings, explore how they reflected stakeholder experiences, draw conclusions and suggest recommendations.

The first workshop was held with installer and consumer representatives on 5 March 2015, and the second with social housing providers on 20 March 2015.

The views of stakeholders have been incorporated into the analysis and conclusions.

Appendix 2: Questionnaire

A. TYPE OF SOLAR PV SYSTEM & REASONS FOR INSTALLING

We are conducting research on solar Photovoltaic or Solar PV, by which solar panels are installed to provide your home with electricity.

A1. Which of the following applies to you? PLEASE CHOOSE ONE OF THESE ANSWERS ONLY

	SINGLE CODE	
I purchased solar PV and had it installed on my own home	1	CONTINUE
I purchased solar PV on finance for my home	2	
Solar PV was already installed when I moved into my home	3	
My private landlord installed solar PV on my home	4	
My housing association or local authority installed solar PV on my home / building	5	
I have solar PV on my own home through a 'rent a roof' or free solar scheme	6	
None of the above – I do not have solar PV on my home	7	DOES NOT QUALIFY

A2. When did your solar PV system go live?

	SINGLE CODE
Before 2010	1
2011	2
2012	3
2013	4
2014	5
2015	6
Unsure	99

A3. What size is the solar PV system installed in your home?

	SINGLE CODE
Less than 1 kWp	1
1 - 2 kWp	2
2.1 - 3 kWp	3
3.1 - 4 kWp	4
4.1 - 5 kWp	5
More than 5 kWp	6
Unsure	7

IF RESPONDENT PURCHASED SOLAR PV EITHER OUTRIGHT OR THROUGH FINANCE OR THROUGH RENT A ROOF SCHEME (A1 = 1 OR 2 OR 3) ASK A4:

A4. What were the main reasons you installed solar PV? PLEASE CHOOSE AS MANY ANSWERS AS YOU LIKE

ROTATE LIST	MULTI-CODE
Feed In Tariff represented a good investment	1
Feed In Tariff made solar PV affordable	2
Rising electricity prices	3
Information provided by the installer	4
Friends, neighbours or family recommended	5
Environmental considerations	5
In retirement or retiring from work	6
Part of significant home renovations	7
Other (RECORD BELOW)	
Unsure	99

IF RESPONDENT HAS SOLAR PV THROUGH A RENT A ROOF SCHEME AT A1, ASK A5:

A5. What were the main reasons you installed Solar PV through a rent a roof scheme? PLEASE CHOOSE AS MANY ANSWERS AS YOU LIKE

ROTATE LIST	MULTI-CODE
Scheme made solar PV affordable	1
Rising electricity prices	2
Information provided by the installer	3
Friends, neighbours or family recommended	4
Environmental considerations	5
Other (RECORD BELOW)	
Unsure	99

A6. When you were considering a solar PV system, how important were the following to you…? ASK FOR EACH ITEM

	Not important	Important	Extremely important	Unsure
Knowing how much electricity is being generated by the system	1	2	3	4
The level of carbon emissions offset by the electricity generated	1	2	3	4
The financial value of the system to you	1	2	3	4

B. SOURCES OF INFORMATION AND ADVICE

B1. How satisfied were you overall with the quality and usefulness of information and advice available to you on solar PV in general?

	SINGLE CODE
Very dissatisfied	1
Dissatisfied	2
Neither	3
Satisfied	4
Very satisfied	5
Don't know / not applicable	99

B2. Before you had solar PV installed, where did you get information or advice on solar PV from? PLEASE CHOOSE AS MANY ANSWERS AS YOU LIKE

B3. Which source of information or advice did you find the most useful? PLEASE CHOOSE THE ONE SOURCE YOU FOUND MOST USEFUL.

ROTATE LIST	B2. SOURCES USED MULTI-CODE	B3. MOST USEFUL SINGLE CODE
General Internet search / Google	1	1
Installer website	2	2
Installer leaflet or visit	3	3
Technology manufacturers	4	4
Energy companies	5	5
Local authority	6	6
Central Government	6	6
Online consumer forum	7	7
Local energy or environmental group	8	8
Energy Saving Trust website	9	9
Energy Saving Trust advice line	10	10
MCS website	11	11
Renewable Energy Consumer Code (RECC) website	12	12
Exhibition	13	13
Friends, neighbours or family	14	14
My own experience or knowledge (e.g. as a professional)	15	15
Builder	16	16
Architect	17	17
Local demonstration homes	18	18
Local council / planning department	19	19
Other (RECORD BELOW)		
Nowhere – did no research / was not involved in decision	98	
Unsure	99	99

SKIP B4 IF 98 OR 99 ANSWERED AT B2

ASK B4 FOR THE SOURCE FOUND MOST USEFUL (CODED IN B3)

B4. How useful did you find the information and advice provided by (SOURCE FOUND MOST USEFUL) on the following subjects?

ROTATE LIST	Answered all of my questions	Answered the majority of my questions	Answered some of my questions	Answered none of my questions	I did not have any questions on this
The cost of installing solar PV	1	2	3	4	5
(THOSE WITH RENT A ROOF SYSTEM ONLY IE A1 = 6)) The relative benefits of buying solar panels vs. rent a roof scheme	1	2	3	4	5
(THOSE PURCHASING SOLAR PV ON FINANCE IE A1 = 2) The financing details such as the amount you would pay pack, length of time paying back, etc.	1	2	3	4	5
How to apply for the Feed In Tariff	1	2	3	4	5
What the income from the Feed In Tariff and selling electricity was likely to be	1	2	3	4	5
What the savings on the electricity bill were likely to be	1	2	3	4	5
The reduction of carbon emissions by using solar PV	1	2	3	4	5
Contact details of installers	1	2	3	4	5
Suitability of your home for solar PV	1	2	3	4	5
Pricing information	1	2	3	4	5
Technical details on solar PV	1	2	3	4	5
Energy Performance Certificates (EPCs) for your home	1	2	3	4	5
Details on lifetime of system and warranties	1	2	3	4	5
Planning issues	1	2	3	4	5
How to maintain the system	1	2	3	4	5

ASK SECTION C (SALES PROCESS) ONLY IF RESPONDENT PURCHASED SOLAR PV OUTRIGHT, THROUGH FINANCE OR THROUGH RENT A ROOF SCHEME (A1 = 1 OR 2 OR 3)

C. THE SALES PROCESS

C1. Were you approached by an installer on a speculative basis?

	SINGLE CODE
Yes	1
No	2
Unsure	99

ASK C2 / C3 IF YES ANSWERED AT C1

C2. How well did the salesperson handle the approach?

	MULTI-CODE
Polite / friendly	1
Professional	2
Knowledgeable	3
Not professional	4
Pushy	5
Rude	6
Other (RECORD BELOW)	
Unsure	99

C3. Did this company install your solar PV?

	SINGLE CODE
Yes	1
No	2
Unsure	99

C4. How many companies did you ask for a quote to install solar PV?

	SINGLE CODE
1	1
2	2
3	3
4	4
5 or more	5
None – not my decision	6
Unsure	7

C5. Why did you choose your installer? PLEASE CHOOSE AS MANY ANSWERS AS YOU LIKE

ROTATE LIST	MULTI-CODE
They were the only one I considered / got a quote from	1
They were the cheapest	2
They were the best value for money	3
They were recommended to me	4
They were experienced / knowledgeable	5
They were very friendly / helpful	6
Their product seemed better	7
They provided me with more information	8
They could complete the installation when I wanted it	9
They had MCS and RECC accreditation	10
I saw an example of their work locally	11
Other (RECORD BELOW)	
Unsure	99

C6. What was discussed with you at the site assessment?

ROTATE LIST	MULTI- CODE
Estimate of energy performance / output	1
Slope / angle of roof	2
Shading of the panels	3
Planning and building control issues	4
Accessing the roof	5
Energy efficiency in the home	6
How to monitor electricity output	7
Maintenance	8
Current energy use – how much, when, etc.	9
How to use the solar PV system efficiently	10
Other (RECORD BELOW)	
Unsure	99

C7. When did you sign the contract?

	MULTI-CODE
On the basis of a quote, subject to a survey (in my home with the salesperson present)	1
On the basis of a quote, subject to a survey (signed without a salesperson present)	2
During the survey visit, when the quote was also drawn up (in my home with a salesperson or surveyor present)	3
On the basis of a quote sent after the survey and signed at a later date without a salesperson or surveyor present	4
When I sent in the contract, which was left with me after the sales visit	5
When I sent in the contract which had been sent to me (without a visit from the installer)	6
Unsure	99

C8. Did you check that the installer was MCS registered?

	SINGLE CODE
Yes – the logo was on the company website / leaflet / letter	1
Yes – they told me they were	2
Yes – the installer gave me information on the MCS	3
Yes – I checked the MCS website myself	4
No	5
Unsure	99

C9. Were you made aware of the Renewable Energy Consumer Code before you signed the contract?

	SINGLE CODE
Yes	1
No	2
Can't remember	99

C10. Did the installation company explain clearly the guarantees and warranties linked to your solar PV system?

	SINGLE CODE
Yes	1
No	2
Can't remember	99

C11. When you signed the contract, were you told about a cancellation period ie that you had the right to cancel the contract within 14 days?

	SINGLE CODE
Yes	1
No	2
Can't remember	99

ASK C12 & C13 IF RESPONDENT PURCHASED SOLAR PV OUTRIGHT (A1 = 1)

C12. What percentage of the contract price were you asked to pay as a deposit up front?

	MULTI- CODE
None	1
1-5%	2
6-10%	3
11-15%	4
16-20%	5
21-25%	6
26-50%	7
51-75%	8
76-99%	9
100% / all of it	10
Unsure / can't remember	99

C13. Did the installer offer you a discount?

	SINGLE CODE
Yes	1
No	2
Can't remember	99

ASK C14 IF YES ANSWERED AT C13

C14. What was the reason for the discount?

ROTATE LIST	SINGLE CODE
To match another quote I had	1
To meet a deadline (e.g. rising panel price, before winter sets in)	2
Special offer	3
Dependent on me monitoring my energy usage	4
If I provided a reference for the installer	5
Other (RECORD BELOW)	
Unsure	99

C15. Thinking about some specific aspects of the sales process, how satisfied were you with…? ASK FOR EACH ASPECT

ROTATE ASPECTS	Very dissatisfied	Dissatisfied	Neither	Satisfied	Very satisfied	Don't know
The sales approach	1	2	3	4	5	6
Quality of information given about products & installation before the contract was signed	1	2	3	4	5	6
The process of getting an Energy Performance Certificate (EPC)	1	2	3	4	5	6
The process of meeting energy efficiency requirements	1	2	3	4	5	6
The likely performance of the system and what it would mean financially	1	2	3	4	5	6
Fairness of the contract	1	2	3	4	5	6
The final cost of the solar PV system	1	2	3	4	5	6

C16. Did the company make you aware that there is a complaints procedure should you need to make a complaint?

	SINGLE CODE
Yes	1
No	2
Can't remember	99

C17. Did your installer talk you through warranties and insurance-backed guarantees, for example in case the installer goes out of business?

	SINGLE CODE
Yes	1
No	2
Can't remember	99

C18. How satisfied were you overall with the sales process?

	SINGLE CODE
Very dissatisfied	1
Dissatisfied	2
Neither	3
Satisfied	4
Very satisfied	5
Don't know / not applicable	99

ASK ALL SECTION D EXCEPT ANY WHO HAD SOLAR PV ALREADY INSTALLED WHEN THEY MOVED IN (IE ANY ANSWERING A1 = 3 SHOULD SKIP SECTION D)

D. THE INSTALLATION PROCESS

D1a. Did you take any of these steps in your home in the year before you had solar PV installed to meet Energy Performance Certificate (EPC) requirements? PLEASE GIVE AS MANY ANSWERS AS YOU LIKE

D1b. And have you taken any of these steps in your home since you had solar PV installed and prompted by having solar PV? PLEASE GIVE AS MANY ANSWERS AS YOU LIKE

ROTATE LIST	MULTI- CODE	
	BEFORE SOLAR PV INSTALLED	AFTER SOLAR PV INSTALLED
Installed wall insulation	1	1
Installed loft or roof insulation	2	2
Replaced boiler	3	3
New window insulation	4	4
Installed water efficient devices	5	5
Monitoring energy usage - weekly	6	6
Monitoring energy usage - monthly	7	7
Consciously changed energy use behaviour*	8	8
Changed to more energy efficient lightbulbs (not just when bulbs blow)	9	9
Changed the timer on the immersion heater to match electricity generation times	10	10
Changed the way you heat the house by installing heating controls or heating different parts of the house differently	11	11
Other (RECORD BELOW)		
None – no energy efficient measures	98	98
Unsure	99	99

D2. Do you have the name and address of a contact at the installation company in case you need to follow up on any issues in the future?

	SINGLE CODE
Yes	1
No	2
Can't remember	99

D3. Thinking about some specific aspects of the installation, how satisfied were you with…? ASK FOR EACH ASPECT

ROTATE LIST	Very dissatisfied	Dissatisfied	Neither	Satisfied	Very satisfied	Don't know
Efficiency of the installation process	1	2	3	4	5	6
Delivery and installation on time	1	2	3	4	5	6
Making sure the installation process was convenient for you	1	2	3	4	5	6
The handover process i.e. explaining the system, technical paperwork, etc.	1	2	3	4	5	6

D4. How satisfied were you overall with the installation process?

	SINGLE CODE
Very dissatisfied	1
Dissatisfied	2
Neither	3
Satisfied	4
Very satisfied	5
Don't know / not applicable	99

ASK ALL

E. SOLAR PV SYSTEM PERFORMANCE AND MAINTENANCE

The next few questions relate to the performance and maintenance of your solar PV system.

E1. Thinking about some specific aspects of the system performance and maintenance, how satisfied have you been with…? ASK FOR EACH ASPECT

ROTATE LIST	Very dissatisfied	Dissatisfied	Neither	Satisfied	Very satisfied	Don't know
The performance of the system in financial terms	1	2	3	4	5	6
The quality of the installed solar PV system	1	2	3	4	5	6
The extent to which solar PV has cut your energy bills	1	2	3	4	5	6
Quality of information and advice on using and maintaining the solar PV system	1	2	3	4	5	6
Aftercare provided by installer	1	2	3	4	5	6

E2. How, if at all, have you checked that the solar PV system is working effectively?

ROTATE LIST	MULTI-CODE
You got the installer to come back and check all is well	1
You have checked electricity bills over time	2
You got a builder or electrician to check	3
Your landlord, housing association or local authority does it	4
You checked the generation meter	5
You checked the in-home energy monitor (other than the meter)	6
You have monitored energy generation weekly or more often	7
You have monitored energy generation but less frequently than once a week	8
You have compared output against expected output or other local systems	9
Other (RECORD BELOW)	
System does not get checked / not yet	98
Don't know / not applicable	99

E3. Overall how satisfied have you been with quality and performance of the solar PV system since it was installed?

	SINGLE CODE
Very dissatisfied	1
Dissatisfied	2
Neither	3
Satisfied	4
Very satisfied	5
Don't know / not applicable	99

E4. How likely would you be to encourage your friends and family to install a solar PV system?

	SINGLE CODE
Very likely	1
Likely	2
Neither likely nor unlikely	3
Unlikely	4
Very unlikely	5
Unsure	99

E5. Have any friends, family or neighbours actually taken up a recommendation from you to install solar PV system?

	SINGLE CODE
Yes – one household	1
Yes – two households	2
Yes – three households	3
Yes – four or more households	4
Yes – a small business	5
No / none	6
Unsure	99

THE HOME (ASK ALL)

The next few questions relate to your home.

F1. What type of property do you live in?

	SINGLE CODE
Detached house	1
Semi-detached house	2
Terraced house	**3**
Flat conversion	4
Purpose built flat	5
Bungalow/maisonette	6
Other (RECORD BELOW)	
Unsure	99

F2. Which of the following applies to you?

	SINGLE CODE
I own my home outright or with a mortgage	1
I rent my home from a private landlord	2
I rent my home from a local authority or housing association	**3**
I am living with my parents	4
Other (RECORD BELOW)	
Unsure	99

F3. What kind of area would you say you live in?

	SINGLE CODE
A built up area within a town or city	1
A village or more rural area outside of a town or city	2

F4. How many bedrooms does your home have?

	SINGLE CODE
1	1
2	2
3	3
4 or more	4

F5. Roughly when was your home built?

	SINGLE CODE
Pre-1919	1
1919-1944	2
1945-1964	**3**
1965-1980	4
1981-1990	5
Since 1990	6
Unsure	99

F6. What is your MAIN current heating system?

	SINGLE CODE
Gas	1
Electricity	2
Oil	3
Solid fuel (coal, wood, etc.)	4
LPG	5
Other (PLEASE RECORD BELOW	
Unsure	99

F. PERSONAL DEMOGRAPHICS (ASK ALL)

The following questions are about you and these are to make sure we include a good cross-section of people in the research?

G1. What gender are you?

	SINGLE CODE
Male	1
Female	2

G2. Which of these age groups do you fall into?

	SINGLE CODE
Under 25	1
25-34	2
35-44	3
45-54	4
55-64	5
65-74	6
75 or over	7

G3. What is the job of the main income earner in your home?

	SINGLE CODE	AUTO CODE
Higher managerial, administrative or professional	1	A
Intermediate managerial, administrative or professional	2	B
Supervisory, clerical, junior managerial, administrative or professional	3	C1
Skilled manual workers	4	C2
Semi and unskilled manual worker	5	D
Unemployed / currently not working	6	E
Housewife/househusband	7	E
State pensioner or Retired	8	E
Student	9	C1

G4. RECORD REGION (ASK IF NECESSARY)

	SINGLE CODE
North East	1
North West	2
Yorkshire & Humberside	3
East Midlands	4
West Midlands	5
East of England	6
Greater London	7
Other South East	8
South West	9
Wales	10

G5. How many children under 18 do you have living at home

	SINGLE CODE
None	1
1	2
2	3
3	4
4 or more	5

SECTION H: ADDITIONAL QUESTIONS FOR SOCIAL HOUSING TENANTS

Finally, thinking about your experience of having solar PV installed…

H1. What kind of information or advice on solar PV did you *not* have but you *would have liked* when it was installed? Any others? DO NOT READ OUT. CODE ALL MENTIONED.

DO NOT READ OUT AND MULTI-CODE…	MULTI-CODE
What the savings on the electricity bill were likely to be	1
The reduction of carbon emissions by using solar PV	2
Technical details on solar PV	**3**
How to maintain the system	4
How to use the system most effectively e.g. using electricity during the daytime	5
Other (PLEASE SPECIFY)	
None / no more information needed	99

H2. Were you consulted during the process of installing the solar PV system?

CODE ONE ANSWER ONLY…	SINGLE CODE
Yes	1
No	2
Unsure	99

H3. How well informed did you feel about the solar PV system when it was installed, on things like how it works, how to maintain, etc.?

READ OUT AND CODE ONE ANSWER ONLY…	SINGLE CODE
Not at all informed	1
Not very informed	2
Neither informed nor uninformed	**3**
Quite informed	4
Very informed	5
Unsure	99

H4. How confident do you feel using the solar PV system?

READ OUT AND CODE ONE ANSWER ONLY…	SINGLE CODE
Not at all confident	1
Not very confident	2
Neither confident or unconfident	**3**
Quite confident	4
Very confident	5
Unsure	99

H5. Have you noticed any change to electricity bills since solar PV was installed? Would you say that electricity bills now are…

READ OUT AND CODE ONE ANSWER ONLY…	SINGLE CODE
Much lower than before solar PV was installed	1
A little lower than before	2
Around the same as before	3
A little higher than before	4
A lot higher than before	5
Unsure	99

Thank you for taking part in this survey.

Appendix 3: Detailed analysis of respondents

User by region of England/Wales

REGION	
All users	647
Greater London	82
Other South East	96
South West	86
Wales	40
West Midlands	50
East Midlands	53
East of England	80
Yorks & Humberside	60
North West	63
North East	37

User by purchase arrangement, house type, installation date and system size

Number of users		Total 647 %	Purchased outright 457 %	Purchased on finance 44 %	Already installed 15 %	Installed by social landlord 54 %	Rent a roof or similar 72 %
Home type	Detached	48	56	30	13	2	47
	Semi	26	23	30	47	44	29
	Terrace	11	5	23	27	35	11
	Flat	3	2	16	7	6	1
	Bungalow / maisonette	12	13	2	7	13	11
When installed	<2012	44	50	30	73	19	30
	2012	28	28	27	20	26	31
	2013	18	15	14	0	35	22
	2014+	9	7	29	7	8	11
Size	< 3.1kWp	28	31	34	20	11	20
	3.1-4kWp	36	42	41	20	2	18
	4.1kWp+	12	13	11	14	6	8
	Unsure	24	13	14	47	81	54

User by purchase arrangement, age, social grade and urban/rural split

Number of users		Total 647 %	Purchased outright 457 %	Purchased on finance 44 %	Already installed 15 %	Installed by social landlord 54 %	Rent a roof or similar 72 %
Age	<35	9	8	29	20	6	3
	35-44	10	7	20	53	13	13
	45-54	16	15	18	13	17	21
	55-64	30	33	16	7	28	31
	65+	35	38	16	7	37	33
Social grade	AB	43	48	56	46	13	22
	C1	10	7	16	33	9	24
	C2	7	4	11	7	15	15
	DE / retired	40	40	16	13	63	39
Type of area	Urban	50	45	68	80	78	43
	Rural	50	55	32	20	22	57

Appendix 4: Social Grade Classification

Social Grade is the 'common currency' social classification (the 'ABC1' system) used by the advertising industry and employed throughout marketing, advertising and market research. The classification assigns every household to a grade, usually based upon the occupation and employment status of the Chief Income Earner.

In this research we have used the following question and simple table to determine the classifications:

What is the job of the main income earner in your home?

	SOCIAL GROUP
Higher managerial, administrative or professional	A
Intermediate managerial, administrative or professional	B
Supervisory, clerical, junior managerial, administrative or professional	C1
Skilled manual workers	C2
Semi and unskilled manual worker	D
Unemployed / currently not working	E
Housewife/househusband	E
State pensioner or Retired	E
Student	C1

Detail on the classifications can be found on the Market Research Society's website: https://www.mrs.org.uk/pdf/occgroups6.pdf