



2017 ANNUAL  
REVIEW

WHS

HOME  
ENERGY  
EFFICIENCY  
PROGRAMMES  
SCOTLAND



Scottish Government  
Riaghaltas na h-Alba  
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## Warmer Homes Scotland Glossary

ABS	Area Based Scheme
AFIP	Armed Forces Independence Payment
CVN	Contract Variation Agreement
DECC	Department of Energy and Climate Change
DLA	Disability Living Allowance
DNQ	Did Not Qualify
ECO	Energy Companies Obligation
EPC	Energy Performance Certificate
ESA	Employment and Support Allowance
ESP	Employment and Skills Plan
EST	Energy Saving Trust
EU	European Union
FiT	Feed in Tariff
GDAR	Green Deal Advice Report
GSHP	Ground Source Heat Pump
H&S	Health and Safety
HEEPS	Home Energy Efficiency Programmes for Scotland
HES	Home Energy Scotland
JSA	Job Seekers Allowance
KPI	Key Performance Indicator
LLP	Limited Liability Partnership
LPG	Liquid Petroleum Gas
MCS	Microgeneration Certification Scheme
PAS	Publicly Available Specification
PAT	Portable Appliance Testing
PCL	Pennington Choices Limited
PIP	Personal Independence Payment
QA	Quality Assurance
rdSAP	Reduced Data Standard Assessment Procedure
RFT	Right First Time
RTC	Referral To Completion
SAP	Standard Assessment Procedure
SEEP	Scotland's Energy Efficiency Programme
SG	Scottish Government
SGN	Scottish Gas Networks
SME	Small and medium-sized enterprises
SSEN	Scottish and Southern Energy Networks
UC	Universal Credit
VAT	Value Added Tax
VfM	Value for Money
WIP	Work In Progress

## Part 1: Introduction and Background

Warmer Homes Scotland is the Scottish Government's flagship national fuel poverty scheme. As a key part of the Home Energy Efficiency Programmes for Scotland (HEEPS) toolkit, it is at the forefront of the Scottish Government's efforts to tackle fuel poverty by providing home energy efficiency measures to households who are living in, or at risk of living in, fuel poverty. The scheme achieves this by providing measures, including insulation, heating and micro-generation, to those households who are most in need of help to heat their homes.

The First Minister launched Warmer Homes Scotland in September 2015; 2016/17 was its first full year of operation. The Scottish Government appointed Warmworks Scotland LLP to manage the contract on its behalf following an open procurement exercise. Warmworks is a joint venture partnership between the Energy Saving Trust, Changeworks and Everwarm, which was formed in 2015 to deliver the scheme. Warmworks is responsible for all aspects of the customer journey from the initial survey through to the after-care service.

In the financial year from 1 April 2016 to 31 March 2017, Warmer Homes Scotland helped 5,326 customers, who benefited from the installation of 14,999 separate measures, giving them an average saving of £357 off their annual fuel bills.

Objectives and guiding principles for Warmer Homes Scotland were created as part of the design process for the scheme. These objectives and principles formed the basis of the design and implementation of the scheme and are an important part of how the success of the scheme is evaluated.

The stated objectives of Warmer Homes Scotland are to:

- I. reduce fuel poverty by reducing heating costs to vulnerable households;
- II. contribute to a reduction in the emissions of carbon dioxide from Scottish homes;
- III. improve Scotland's housing stock;
- IV. offer good value for money by leveraging additional funding into the scheme; and
- V. provide benefits to the wider community through vocational training and employment opportunities.

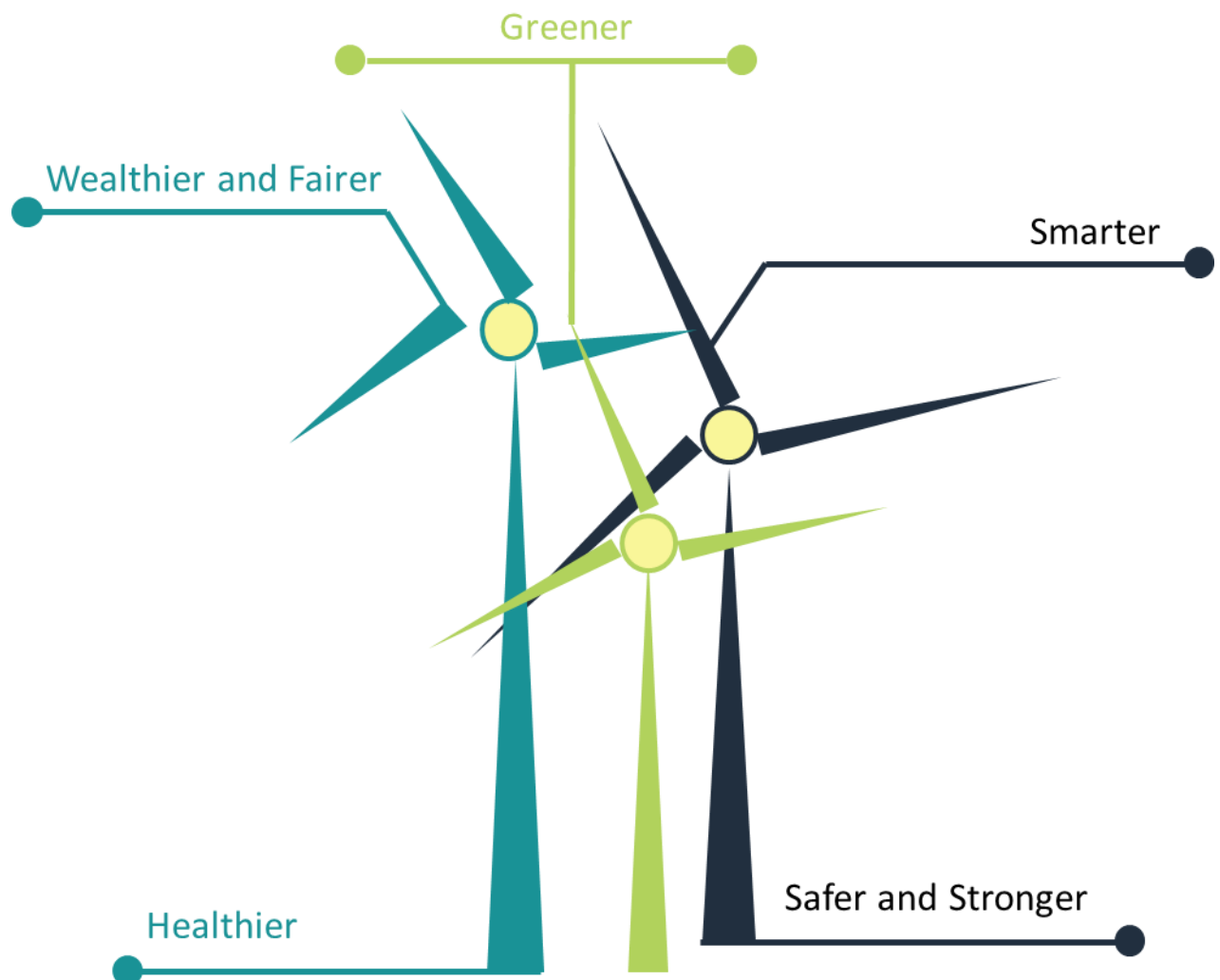
The basic guiding principles of the scheme are that:

- I. it should be customer focussed and provide a first class service to customers regardless of where they live;
- II. it should set high standards in terms of quality and health and safety, even going beyond industry norms;
- III. it should encourage the involvement of local SMEs as far as possible; and
- IV. its impacts should be long term and sustainable.

Warmer Homes Scotland is also designed to contribute to the Scottish Government's five National Objectives and the overarching purpose of sustainable economic growth. (See Figure 1)

The Scottish Government has committed to reviewing Warmer Home Scotland throughout its lifetime to ensure it continues to meet its objectives and delivers its service in accordance with the guiding principles while meeting the stated objectives. The reviews will also be used as a tool in the continuous improvement process that plays an important part in the operational delivery of the scheme.

**Figure 1 – Overarching national objectives<sup>1</sup>**



<sup>1</sup> <http://www.gov.scot/About/Performance/scotPerforms/objectives>

## Scope

As set out in the Terms of Reference for this review, approved by the Strategic Board on 5<sup>th</sup> September 2016, the scope of this review is linked to the overarching objectives of Warmer Homes Scotland.

The objectives of this review are twofold; firstly the review should determine if the scheme is on track to meet its stated objectives and, if there are areas where progress is not being made or where the work being carried out is not aligned to the overarching objectives of the scheme, to make recommendations to ensure the stated objectives are on track to be met. Secondly, the review should consider the progress of implementing the recommendations made in the 2015/16 review and, where progress has not been made or is limited, make further recommendations to ensure that the required improvements are made.

A copy of the Terms of Reference can be found at **Appendix 1**.

## Methodology

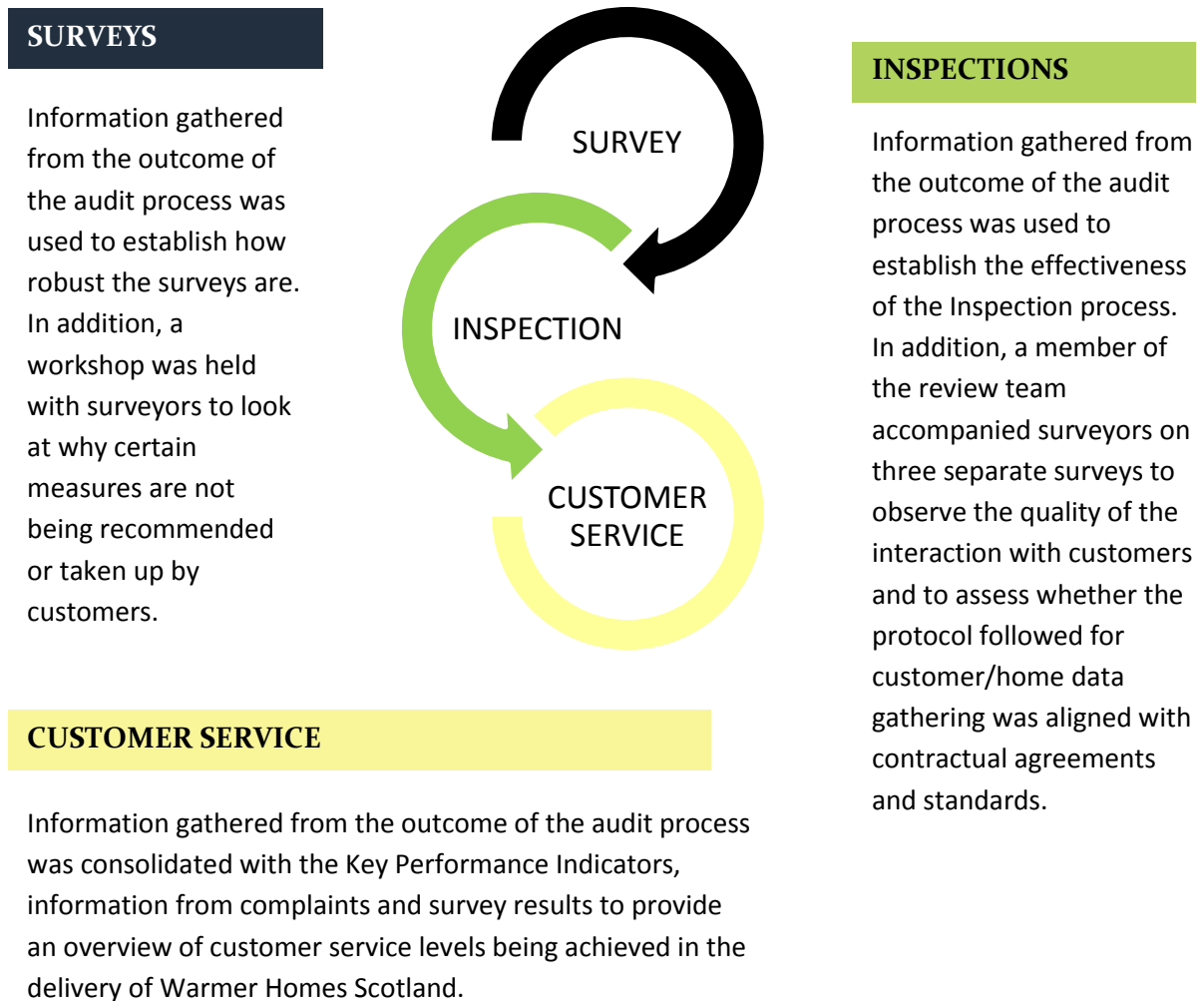
The review team gathered data and evidence from various sources including Warmworks, Home Energy Scotland, and the results of the audits carried out by Pennington Choices, the Scottish Government's appointed auditors for Warmer Homes Scotland, and the review team's own investigations. This data was both quantitative and qualitative in nature. To ensure consistency of approach, the data was analysed by the review team following the same methods as used in the 2015/16 Annual Review.

As Warmer Homes Scotland did not operate for the full 2015/16 year, it was decided that conclusions that are more meaningful could be drawn from the data if comparisons were made in percentage terms rather than on a purely numerical basis.



## Data Sources

Figure 2 - Qualitative data sources



## Part 2: Objective 1 - Fuel poverty

The first stated objective of Warmer Homes Scotland is to reduce fuel poverty by reducing the heating costs of vulnerable households. Traditionally, in Scotland we have defined a household as fuel poor if, in order to maintain a satisfactory heating regime, it would be required to spend more than 10% of its income on all household fuel use. Warmer Homes Scotland uses proxies to identify those households that are fuel poor with the qualifying criteria based on factors that indicate the likelihood of a household being in fuel poverty such as age, income and disability.

Following recommendations from the Scottish Fuel Poverty Strategic Working Group and Rural Fuel Poverty Taskforce, in early 2017 Scottish Ministers appointed an independent panel of experts to review the existing definition of fuel poverty, to ensure that help is being targeted to those who need it most.

The Definition Review Panel reported in November 2017. To coincide with this report the Scottish Government published a consultation on a new fuel poverty strategy, including a proposed new definition of fuel poverty that was informed by the Panel's work. The consultation closed on 1 February 2018, and responses to it will inform policy development and the Warm Homes Bill that is to be introduced to the Scottish Parliament in 2018.

Evidence suggesting that existing support schemes are making a positive impact includes the 2016 Scottish Housing Condition Survey. This concludes that around one third of the reduction in households living in fuel poverty in Scotland can be attributed to improvements in the energy efficiency performance of the housing stock.

### i. Eligibility

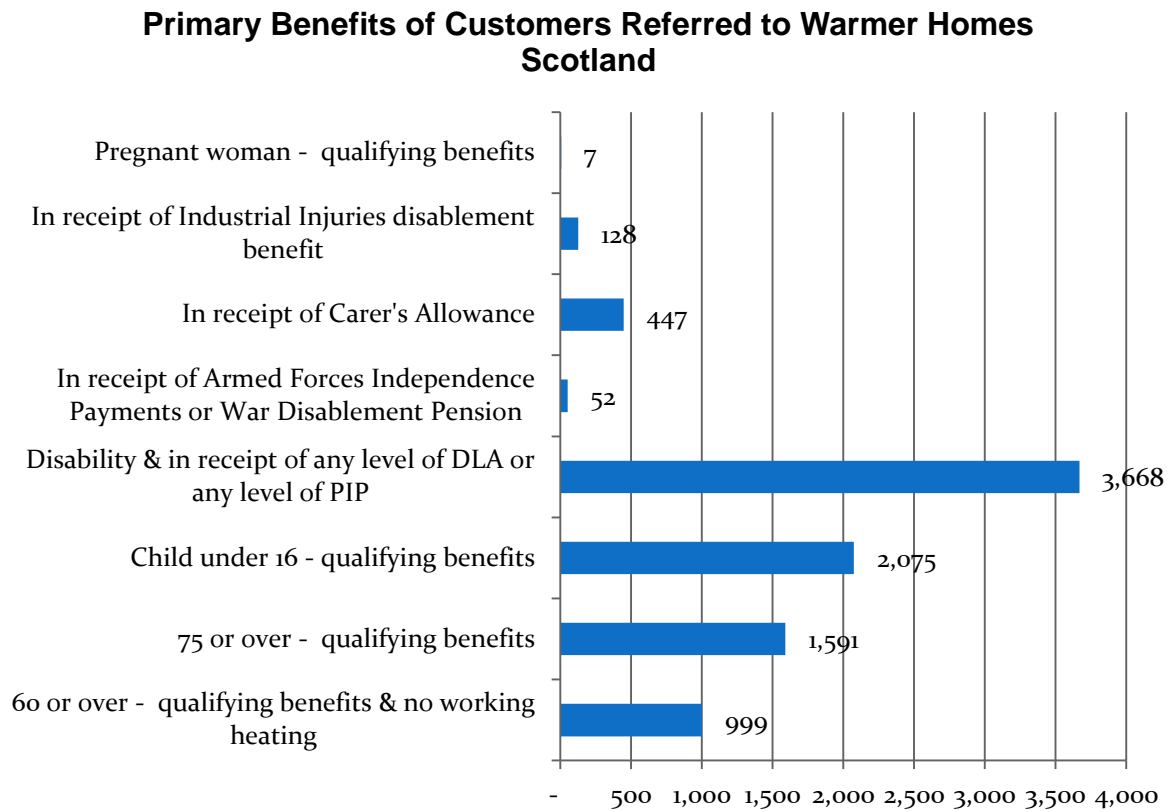
This review examined the two main aspects of the eligibility criteria in order to:

- a. ensure that the criteria correctly identify fuel poor households; and
- b. determine if households that can be considered to be in fuel poverty do not meet the qualifying criteria for the scheme.

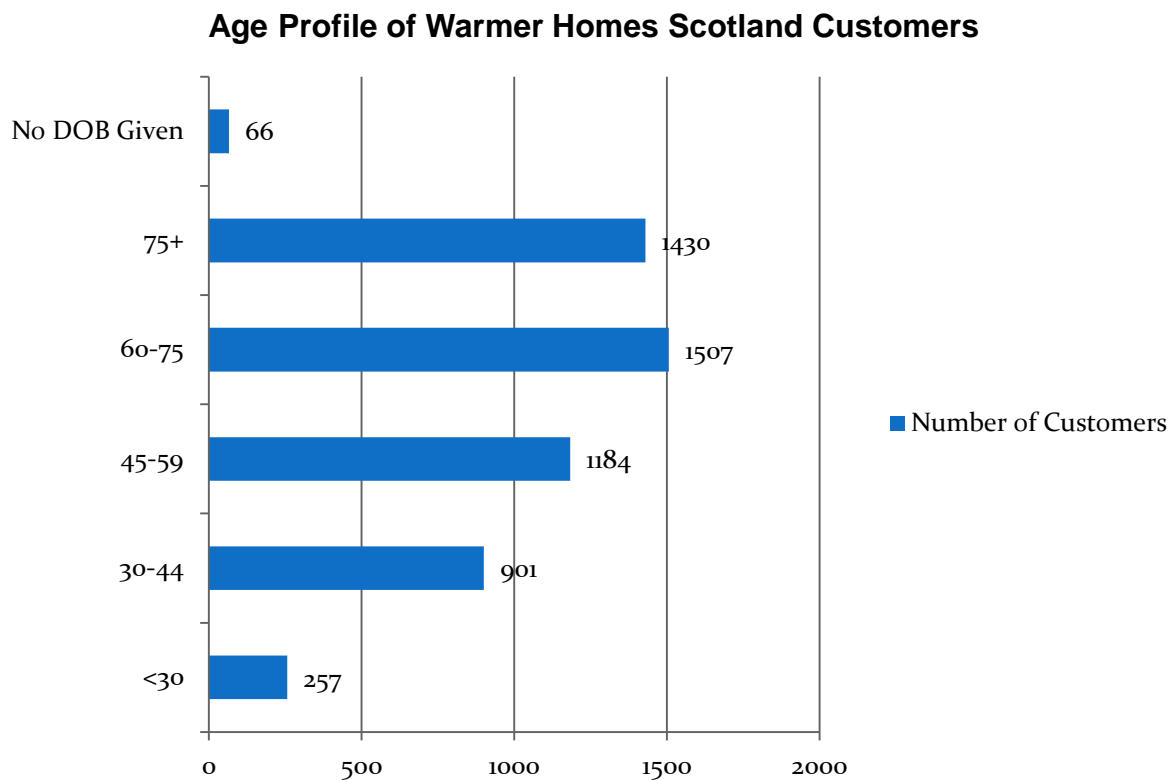
The charts below show the customers who were referred to Warmer Homes Scotland, broken down by the primary benefit they were in receipt of at the time of qualifying for the scheme, and by age.

**Figure 3** shows that the top three qualifying criteria for the scheme, in terms of volume, remain the same as in the 2015/16 operating year. The largest group of customers qualify for Warmer Homes Scotland based on their entitlement to Disability Living Allowance (DLA) or Personal Independence Payment (PIP) followed by those households supporting a child under 16 and in receipt of a qualifying benefit. The third largest group of customers are those over the age of 75 in receipt of a qualifying benefit.

**Figure 3 - Primary Benefits of customers referred to Warmer Homes Scotland**



**Figure 4 – Age Profile of Warmer Homes Scotland Customers**



The 2016 Scottish Housing Conditions survey outlines the key features of the fuel poor population in Scotland in 2016. Its findings showed that, of the households living in fuel poverty, around 10% are families with children, 48% are older one or

two person households and 42% are other types of households with adult residents. In relation to housing tenure 58% of fuel poor households are owner-occupiers, 31% are social housing residents and 11% private sector tenants. This survey also showed that fuel poverty has a strong association with income and households with lower incomes have the highest rates of fuel poverty. 87% of households with an income of less than £200 per week were fuel poor compared to only 3% of those households with an income of over £700 per week. These are the highest and lowest income bands used in the survey.

Given that Warmer Homes Scotland uses proxies to identify those households that are most likely to be living in or at risk of living in fuel poverty and when compared to the findings of the Scottish Housing Condition Survey 2016, the information in **Figure 3** shows that the scheme is supporting those households that are likely to be living in or at risk of living in fuel poverty. The households with the largest uptake of the scheme are those that have a member who has a disability, which is used as a proxy for a low-income household, and the households who are supporting young children or an elderly person aged 75 or over. This supports the use of proxies in identifying those households who are at most risk of living in fuel poverty. However, as DLA and PIP are not means-tested benefits it cannot be concluded that Warmer Homes Scotland is supporting only low-income households. Having said this it must be noted that customers in receipt of DLA may also be in receipt of other income-related benefits, as Home Energy Scotland only records the primary qualifying benefit of customers referred to the scheme.

The figures for the tenure types for Warmer Homes Scotland show that the majority of customers (81.5%) with completed installations are owner-occupiers. This may reflect the help given to social housing tenants through other fuel poverty schemes and the landlord's obligations under the Repairing Standard that places a duty on to landlords in the Private Rental sector to ensure that heating in their properties is in good working order and a reasonable state of repair.

**Table 1 – Warmer Home Scotland completed installations by tenure type**

	Owner-occupied	% of Total	Rented (private)	% of Total	Total
15-16 Budget Year	1159	83.5	213	15.5	1372
16-17 Budget Year	4329	81	1025	19	5354
<b>Total</b>	<b>5488</b>	<b>81.5</b>	<b>1238</b>	<b>18.5</b>	<b>6726</b>

Therefore, whilst the current eligibility criteria appear to capture households at risk of fuel poverty, these households might not strictly adhere to the definition of fuel poverty that specifically refers to income. Furthermore, there may be low-income households living in fuel poverty who currently do not qualify for Warmer Homes Scotland because they are not in receipt of one of the qualifying benefits.

While opening up the eligibility criteria to enable more households to access Warmer Homes Scotland would increase the likelihood of capturing fuel poor households, the number of households that the scheme can help is limited by the budget. Even without extending the criteria, demand for the scheme in 2016/17 exceeded the available budget. Additional funding was identified and the budget was increased from £19 million to £25 million and this allowed more than 1,000 additional households to benefit from the scheme.

**Recommendation 1** – In light of the changes to the fuel poverty definition, review the eligibility criteria to ensure Warmer Homes Scotland continues to meet its stated objective to reduce fuel poverty.

**Table 2** shows that, for the review period, 828 applications were cancelled post-referral because they did not meet the eligibility criteria. The vast majority of these (nearly 90%) were due either to the SAP rating of the house being too high to qualify, or that there were no suitable measures identified for the property.

Following the 2015/16 Annual Review of Warmer Homes Scotland, the qualifying SAP threshold was increased from 55 to 65. The total number of households that did not qualify post-referral due to the SAP rating being too high increased from 357 in 2015/16 to 393 in 2017/18. However, due to the total number of referrals increasing significantly in the same period, this equates to a significant fall in percentage terms from 26% in 2015/16 to 7.3% in 2016/17. Further investigations into the reasons why the customers whose property has a SAP rating greater than 65 were referred would be required to establish if this number could be further reduced.

The suitability of available measures is examined in more detail in Part 4 of this review.

**Table 2 – Reasons Customers did not Qualify Post Referral**

Reason	Number	% of Total
Applicant Less than 1 Year at Property	55	6.7
Applicant Not of Eligible Age and No Eligible Children	3	0.4
Applicant Not on Benefits	31	3.6
Applicant Proofs Missing	7	0.9
Commercial property	1	0.1
Multi-occupancy property	1	0.1
Property Housing Association/(Council Tenant)	7	0.9
SAP - Too high	393	47.5
SAP Qualifies but no suitable measures	329	39.7
Unknown	1	0.1
<b>Total</b>	<b>828</b>	<b>100</b>

**Recommendation 2** – Carry out an in-depth analysis of the reasons why applications that do not qualify post-referral are being referred to Warmer Homes Scotland and make recommendations as to how these numbers can be reduced.

It is accepted that households in remote and rural areas not connected to the gas grid have higher fuel costs than those households connected to the gas grid and those in urban areas. Consequently, under the current definition households in remote or rural areas are more likely to be in fuel poverty<sup>2</sup>. Therefore, it would be

<sup>2</sup> The Scottish Government consulted on a new fuel poverty strategy, which includes a new definition of fuel poverty, during the period November 2016 to the end of January 2018. Responses to the consultation have been analysed and will inform policy development moving forward, and the associated Warm Homes Bill, to be introduced to Parliament in 2018. Under the new proposed

expected that the uptake of Warmer Homes Scotland would be proportionately greater in these areas. **Figure 5** shows a map of Warmer Homes Scotland installations in 2016/17 and **Figure 6** shows maps of postcodes with a gas supply.

**Table 3 – Number of completed installations by region**

Region	Population (mid 2016)	Installs per 1,000 People
<b>Islands</b>	71,950	3.36
<b>Highlands</b>	321,900	1.81
<b>North East</b>	1,003,570	0.90
<b>South West</b>	520,080	1.13
<b>South East</b>	1,364,860	0.76
<b>Strathclyde and Central</b>	2,122,340	0.93
<b>Scotland Average</b>	5,404,700	0.99

From our analysis of installations under Warmer Homes Scotland in 2016/17, uptake per head of population was greater in rural areas than in urban areas. The scheme is designed to ensure people in rural areas have equal access to the same measures despite the higher costs of installing these measures in remote and rural areas. From **Table 3** we can see that installs per 1,000 of the population was over three times the national average in the Islands region, and almost twice the national average in the Highlands region.

**Recommendation 3** – To identify if there are any noticeable changes in rates or anomalies by region or year, the 2017/18 review should carry out a trend analysis of rates of fuel poverty by region and analyse this when compared to Warmer Homes Scotland installations data from launch in 2015 to end of Year 3.

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definition of fuel poverty the rate of fuel poverty is expected to be 20% in rural areas, and 25% for remote rural areas. These lower rates in rural and remote rural areas mostly reflect higher incomes and lower housing costs, which result in residual incomes above 90% of the UK Minimum Income Standard (after housing, fuel and childcare costs) as recommended by the Definition Review Panel, even if these households continue to have high fuel costs. This change to the fuel poverty definition ensures those households who are most in need are considered fuel poor wherever they live in Scotland.

Figure 5 – Map of Warmworks Installations in 2016/17

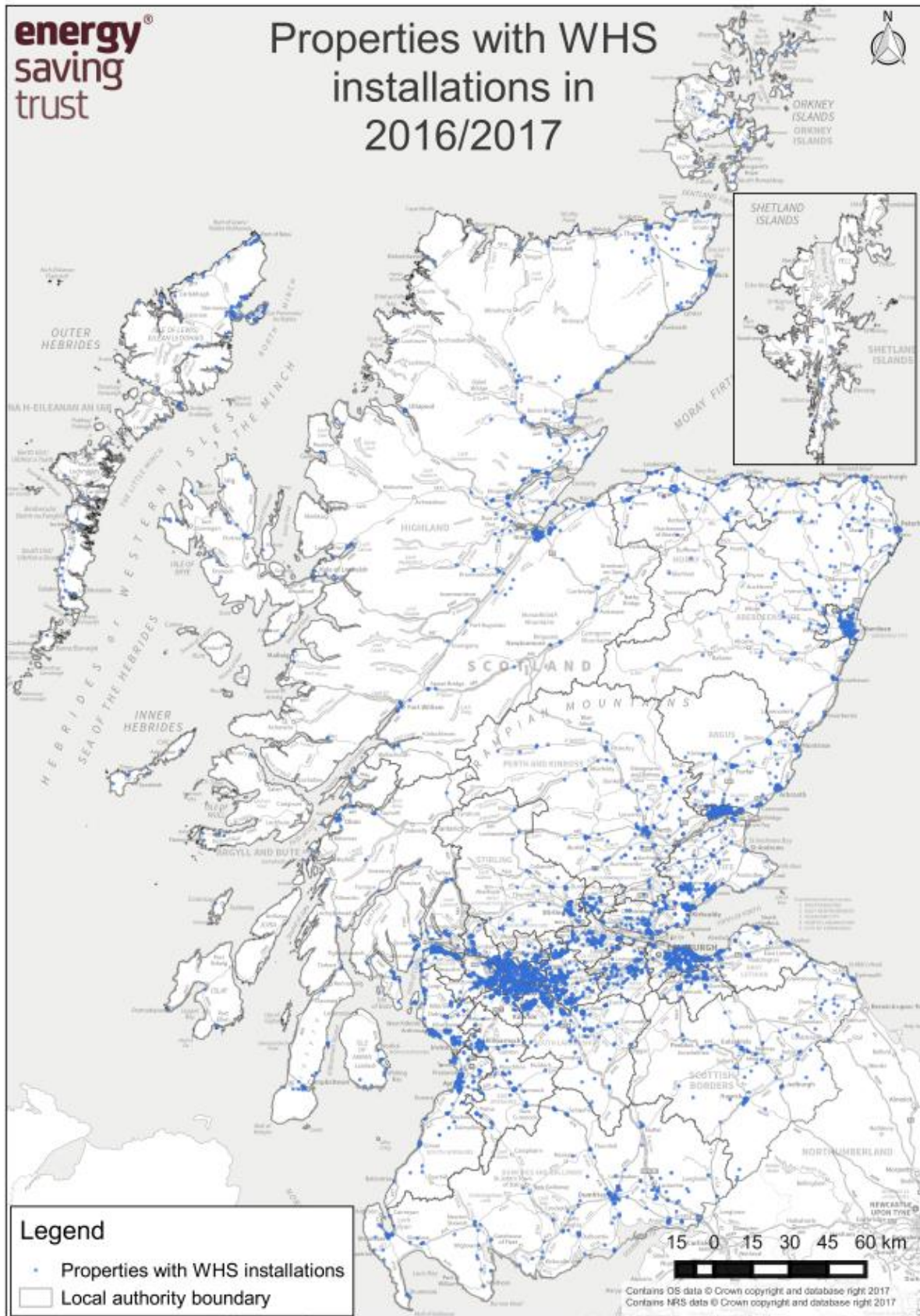
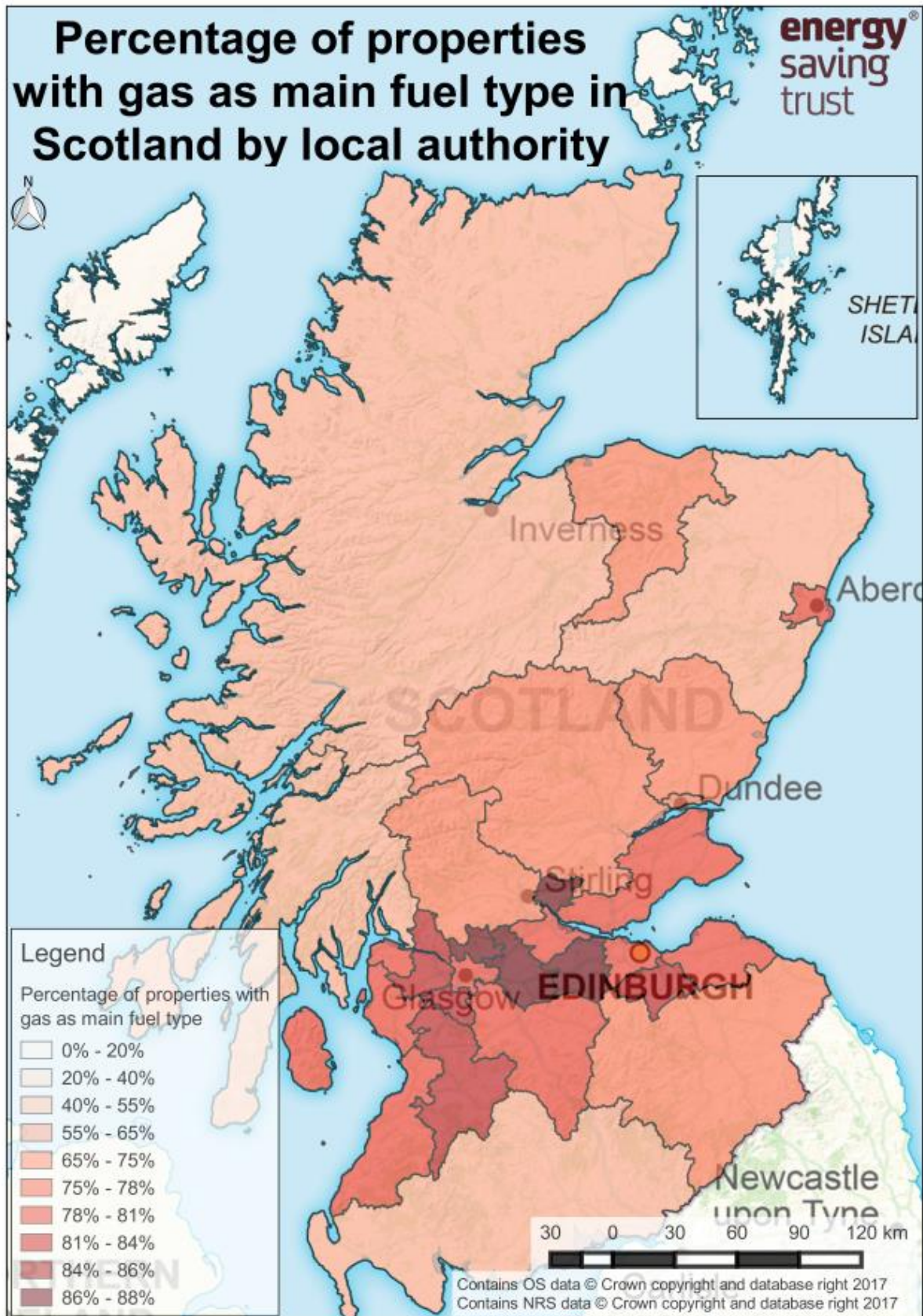


Figure 6 – Map of Postcodes with Gas Supply

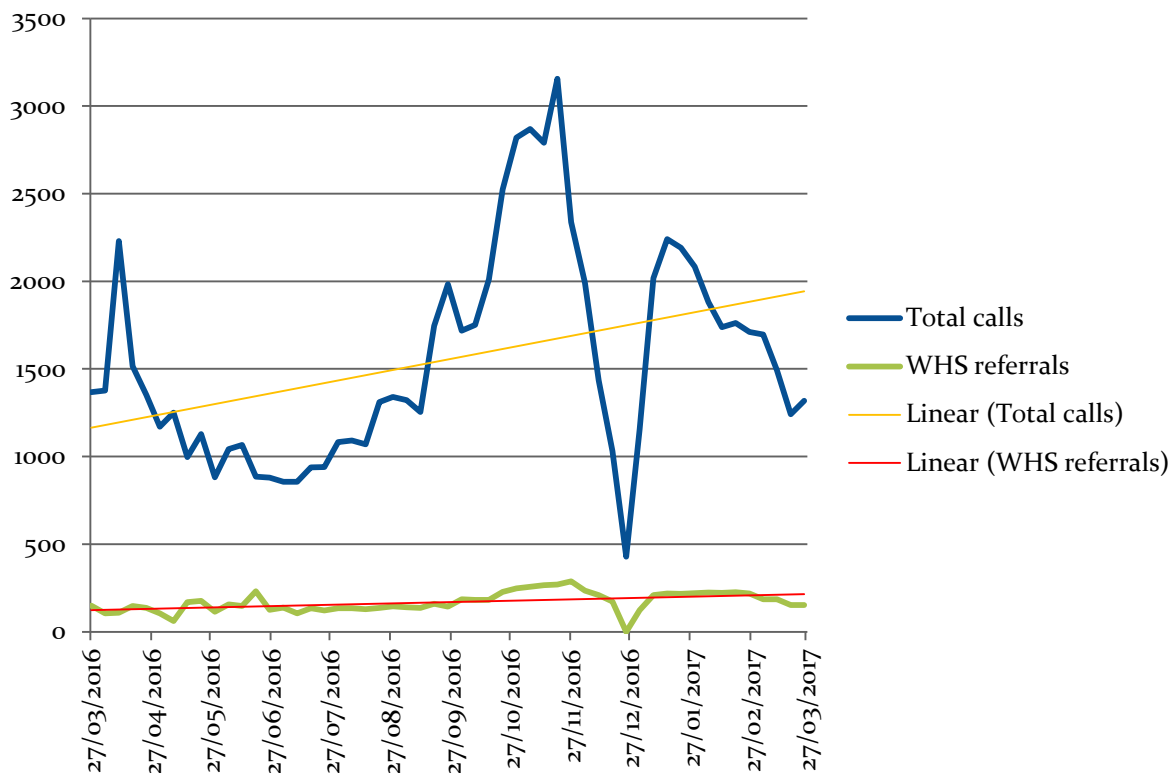




## ii. Awareness

Awareness of Warmer Homes Scotland is important as a way to ensure that the scheme reaches fuel poor households, and to ensure that fuel poor households are aware of the benefits of having measures installed under the scheme. Considering the breakdown by receipt of benefits and age in **Figure 3**, it appears that those in receipt of Carer’s Allowance, Industrial Injuries Disablement Benefit, War Disablement Pension, Armed Forces Independence Payment, and pregnant women have the lowest uptake of the scheme. From **Figure 4** we can see that this is also true for those under the age of 30. There are no figures available for the percentage of the population who are in receipt of these benefits in Scotland so it is impossible to compare this group of Warmer Homes Scotland customers to the general population. The same is true for those households with all members under 30 who are living in fuel poverty.

**Figure 7 – Number of calls (weekly) to HES compared to Warmer Homes Scotland Referrals and the linear trends**

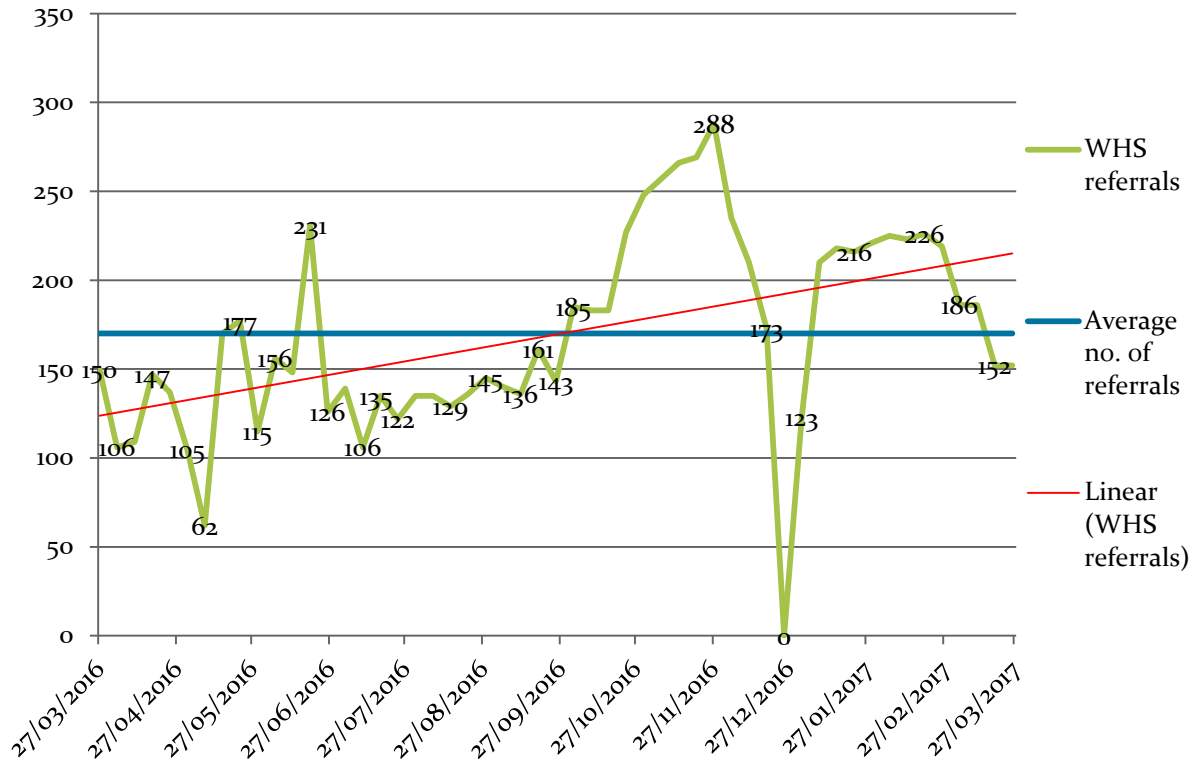


Despite the fluctuations in calls to the HES helpline, as shown in **Figure 7**, the average number of referrals to Warmer Homes Scotland remained relatively constant throughout 2016/17. However, the trend for numbers of referrals increased throughout 2016/17.

**Figure 8** shows Warmer Homes Scotland referral levels in more details. The average number of monthly Warmer Homes Scotland referrals remained steady throughout the period. Home Energy Scotland contacted all those customers who had previously failed to qualify for the scheme due to the SAP rating of their property being too high and this corresponds to the peak in Warmer Homes Scotland referrals at the beginning of June when the change to the eligibility criteria was made. The

upward trend for the numbers of referrals throughout this period is reflected in the upward trend in the call volumes to the HES helpline.

**Figure 8 – Graph showing the average number of weekly referrals and the trend for referrals to Warmer Homes Scotland in 2016/17**



A marketing campaign was carried out by Home Energy Scotland in autumn 2016. This began with TV, Radio and Online adverts in September 2016 and a direct mailing exercise in November. The campaign focused on all available support from Home Energy Scotland, and did not focus specifically on Warmer Homes Scotland. This marketing campaign created an uplift of over 1000 calls per week to HES over the campaign, resulting in an increase in Warmer Homes Scotland referrals.

### iii. Attractiveness

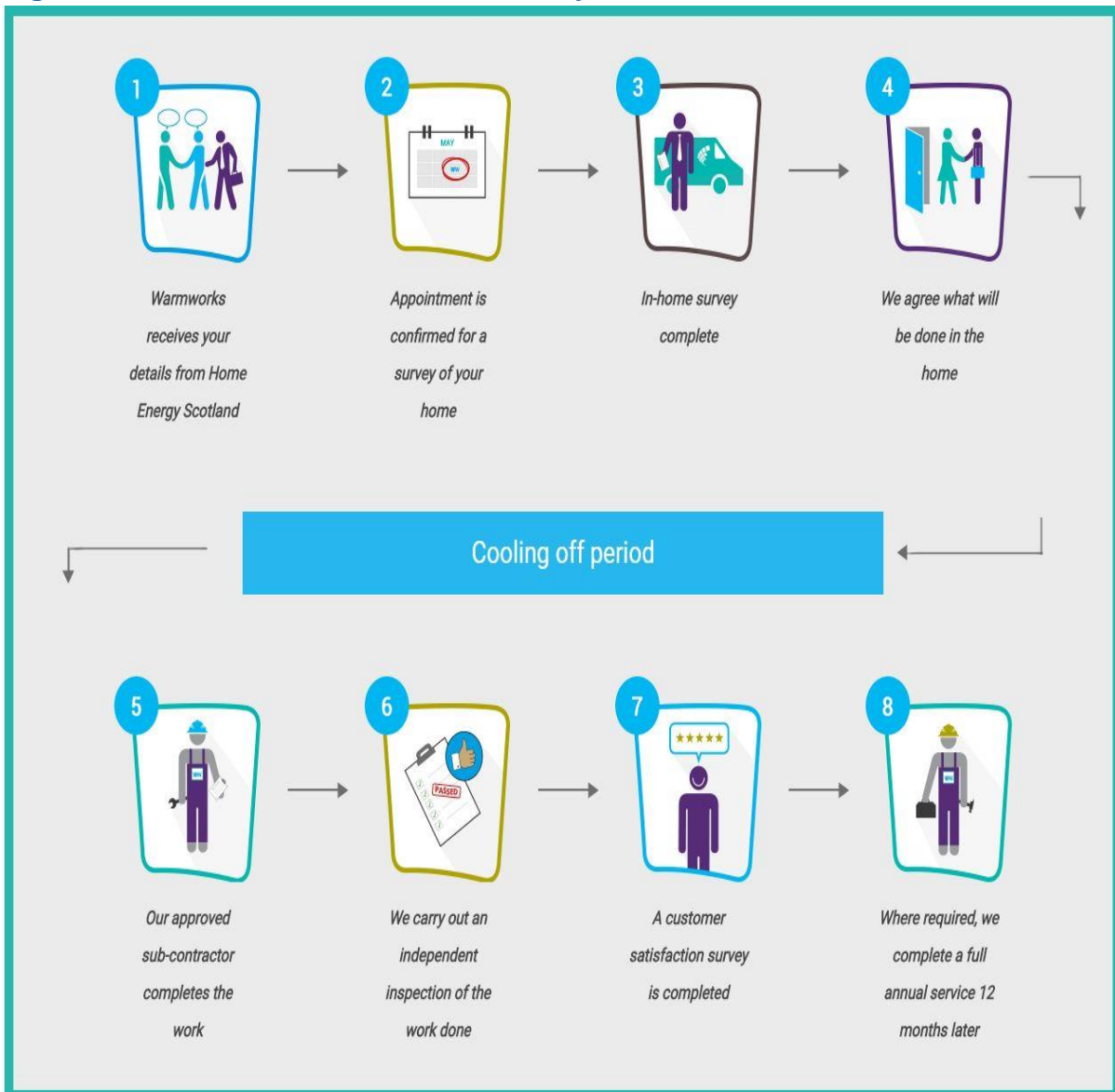
The third element of accessibility of Warmer Homes Scotland is attractiveness. This can be further broken down into two strands:

- a. encouraging a customer to take up a referral to Warmworks; and
- b. ensuring that once referred, they want to remain in the process

Once a customer has contacted Home Energy Scotland, gone through the initial screening process and is deemed eligible for Warmer Homes Scotland, they are referred to Warmworks and have a home survey booked. On receiving a referral to the scheme, Warmworks takes over the management of the end-to-end customer journey that is shown at **Figure 9**. The customer journey process had remained substantively the same since Warmer Homes Scotland was launched in September 2015.

During 2016 some elements of the customer journey were reviewed. This resulted in changes being made to the contract to include additional pause periods that allow more time for customers to have the necessary finance, support and documentation from landlords in place and any new or replacement fuel tanks installed. These additional pause periods were incorporated in to the contract with the agreement of a CVN in March 2017.

**Figure 9 – Warmworks Customer Journey**



In the first 5 months of operation of the Warmer Home Scotland contract a KPI “holiday” was in operation whereby no financial penalty was applied when the KPIs were not met. This affected the cancellation rates as fewer applications were being cancelled by Warmworks.

In 2016/17 a total of 2019 customers cancelled their application to Warmer Homes Scotland. While this is a marked increase on the actual number of cancellations

from 2015/16, proportionately this was a decrease from 65% of completed households in 2015/16 to 38% of completed households in 2016/17.

**Table 4 – Reasons customers cancelled their Warmer Homes Scotland application**

Cancellation reason	Number of Cancellations 15/16	% of Cancellations 15/16	Number of Cancellations 16/17	% of Cancellations 16/17
Applicant - Due to Contribution	37	4.1	36	1.8
Applicant Cancelled - Upheaval/Preparation works required	130	14.5	311	15.4
Applicant Deceased	12	1.3	13	0.6
Applicant Illness	35	3.9	92	4.6
Applicant Moving House	20	2.2	44	2.2
Applicant No Longer Interested (Fuel/Measure Choice)	151	16.9	488	24
Applicant Not Able To Proceed At This Time	72	8.1	16	0.8
Applicant Not Interested (Other)	7	0.8	16	0.8
Applicant out-with timescales	67	7.5	578	28.6
Applicant Private Install	41	4.6	57	2.8
Asbestos	6	0.7	4	0.2
Duplication	65	7.3	52	2.6
LLP (Landlord refused Works or No Contact)	24	2.7	135	6.9
No Access (Survey)	16	1.8	23	1.1
Unable to Contact	133	14.9	150	7.4
Unknown	78	8.7	4	0.2
<b>TOTAL</b>	<b>894</b>		<b>2019</b>	

As shown by **Table 4**, the most common reason for cancelled applications is that they were out-with the timescales of the process. Following the 2015/16 Annual Review, the contract was amended by means of a CVN in March 2017 to add five additional categories of “allowed Pause Periods” were agreed with the intention of reducing the number of applications cancelled because they were out-with the Referral to Completion (RTC) timescale. This change was implemented too late to

have an impact on the 2016/17 figures and the percentage of applications cancelled for this reason increased from 7.5% in 2015/16 to 28.6% in 2016/17.

The second most common cause of cancellations is that the customer is no longer interested due to the fuel or measures recommended at the initial survey. This group has decreased from 16.9% of cancellations in 2015/16 to 15.4% of cancellations in 2016/17.

The third most common reason for cancellations is the perceived upheaval and/or the need for preparation works. As a proportion of applications, this has increased by 0.9% from 2015/16. This small increase has occurred despite the additional leveraging of financial support into the scheme to support customers with enabling measures that Warmworks have achieved in 2016/17. This additional support is discussed in full in Part 5 of this report that looks at how the scheme delivers value for money.

**Figure 10**, shows Warmworks' customer satisfaction scores against volume of survey returns in 2016/17. Customer satisfaction for those customers who remain in the process is very high with 98.5% of customers satisfied or very satisfied by the overall service received. This is based on a 76.4% return rate for completed customer satisfaction surveys. This high customer satisfaction rating indicates that customers are generally happy with the levels of service they receive from Warmworks throughout their customer journey.

The total number of complaints received by Warmworks in 2016/17 was 165 and Pennington Choices confirmed this during the audit process. This amounts to 3% of all completed installations carried out under Warmer Homes Scotland. The number of complaints upheld was 87, which is 1.5% of completed installations and 52% of complaints received. This reinforces the high customer satisfaction rating received by Warmworks during 2016/17.

**Figure 10 – Customer Satisfaction Scores**

The evidence presented suggests that Warmer Homes Scotland is an attractive option for customers. However, more may need to be done to ensure eligible customers take up the offer of support after they have been referred to the scheme.

**Recommendation 4** – Continue to monitor cancellations rates to identify any emerging trends and use lessons learned from other related projects to make any necessary improvements in managing the Warmer Homes Scotland customer journey.

### Part 3: Objective 2 - Climate Change

The second stated objective of Warmer Homes Scotland is to contribute to a reduction in the emissions of carbon dioxide from Scottish homes.

It is widely accepted that the most cost effective way to reduce emissions, and therefore tackle climate change, is by reducing demand for energy. Warmer Homes Scotland was designed to help address the issue of energy demand amongst fuel poor households. The scheme emphasises a “fabric first” approach to measures installation and imposes restrictions on support for certain high carbon fuel types such as oil central heating.

To determine the extent to which Warmer Homes Scotland is contributing to the reduction in domestic energy demand, and therefore meeting its climate change objective, this review sought to answer the following questions:

- Is Warmer Homes Scotland contributing to a reduction in greenhouse gas emissions?
- Does Warmer Homes Scotland offer the most suitable measures to respond to climate change challenges?

At the time of the 2015/16 Annual Review the carbon and fuel bill savings reporting structure was not in place and the evidence assessed was based on modelled data. For the 2016/17 Annual Review modelled data based on more accurate data is available and used for this comparison. **Table 5** shows the breakdown of the total number of measures installed in 2016/17, and from this, **Figure 11** demonstrates the key findings and includes the full list of all measures available through Warmer Homes Scotland.

The data indicates that, on average, a higher level of financial investment has been made per household in 2016/17, £4572 in 2016/17 versus £4000 in 2015-16. This has delivered an average increase in fuel bill savings of £7; increasing to £357 in 2016/17 from £350 in 2015-16. The average SAP point gain per property achieved in 2016/17 is 10.0 compared to 14.9 in 2015-16 and the average annual carbon emissions saved per household in 2016/17 was 1.83 tonnes compared to 2.41 tonnes in 2015-16.

The data available for 2015/16 covered a 7 month winter period during which the number of installations of measures such as External Wall Insulation falls dramatically, therefore, it is impossible to make a meaningful comparison. This should be carried out in the 2017/18 Annual Review when a full data set is available.

A more in-depth analysis of the data is also required to establish the associated investment and carbon emissions savings or SAP point gains per recipient household. For example, it may be the case that there has been an increased level of support provided to rural, island, off-gas grid, stone-built or EPC Band D properties, any of which may incur higher costs per measure installed. However, it is reasonable to suggest that as increasing numbers of “easy to treat” properties benefit from the installation of measures under Warmer Homes Scotland, the financial cost to improve the energy efficiency rating of the remaining properties inhabited by fuel poor households will increase. This would have a knock on effect on the associated Climate Change gains from Warmer Homes Scotland.

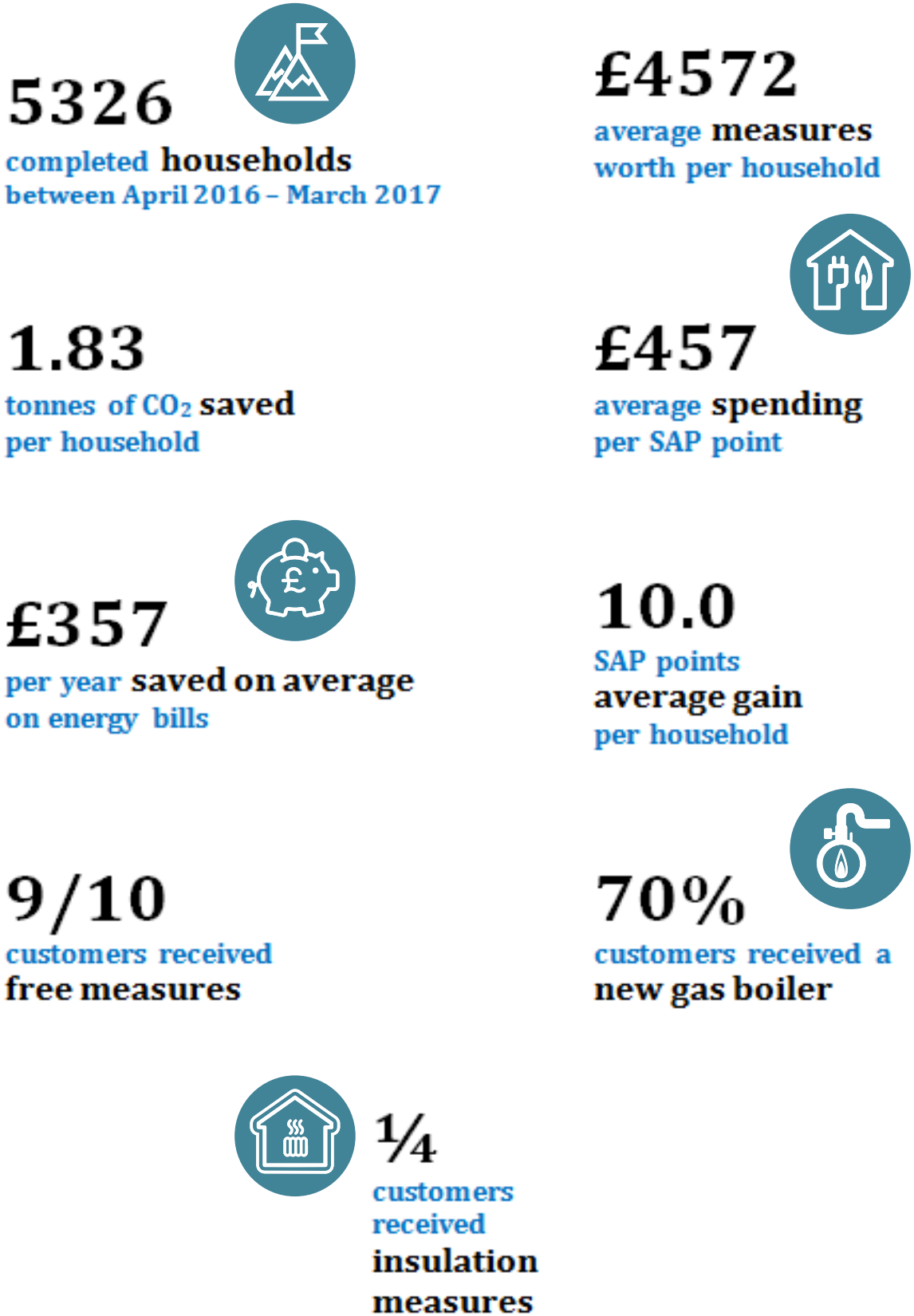
The available data indicates that Warmer Homes Scotland is having a positive impact on customers' energy demand levels and associated energy-based financial outgoings. In total, during 2016/17 the scheme delivered 9670 tonnes in CO<sub>2</sub> savings and this directly contributed to the Scottish Government's ambitious emissions reduction targets.



**Table 5 – Breakdown of measures installed in 2016/17**

Measure	Quantity
Air Source Heat Pump	32
Biomass Boiler	3
Biomass Boiler – Back Boiler	0
Boiler Renewable Heat Source Repair	7
Building Fabric Electrical	0
Cavity Wall Insulation	170
Central Heat Pipe Enclosure	301
CO Detector	4663
District Heating	0
Draught Proofing	250
Electric Load Upgrade	125
Electric Storage Heaters	242
Energy Efficient glazing/doors	558
External Wall Insulation	164
Flat Roof Insulation	23
Flexible Thermal Linings	0
Floor Insulation	84
Flue Gas Recovery Device	57
Gas Boiler LPG	281
Gas Connection	574
Gas Fired Condensing Boilers	3770
Heating Hot Water and AC Controls Hot Water Systems	4010
Heating Secondary Systems	3542
Heating System Insulation	3547
Hot Water Systems	236
Hybrid Wall Insulation	2
Internal Wall Insulation	68
Lighting Fittings	0
Loft Insulation	703
LPG Detector Monitor	249
Mechanical Ventilation	0
Micro Combined Heat and Power	0
Micro Hydro Systems	0
Oil Fired Condensing Boilers	468
Pitched Roof Insulation	26
Secondary Pipework Radiators and TRV Repairs	344
Smoke Alarm	5257
Solar Blinds Shutters and Shades	0
Solar PV	3
Solar Thermal	1
Under Floor Heating	0
Variable Speed Pump and Fan Drives	23
Warm Air Heating Systems	0
Water Efficient Taps	0
Wind Turbines	0
<b>Total</b>	<b>29816</b>

Figure 11 – Climate change related findings



## Part 4: Objective 3 - Housing Stock

The third stated objective of Warmer Homes Scotland is to improve Scotland's housing stock and one of the key guiding principles is that the impacts of the scheme should be sustainable and long-term. On this basis, the scheme aims to ensure that any measures installed in properties are appropriate and will deliver benefits for current and future inhabitants.

Informed by last year's Annual Review, this review sought to address the following questions to determine whether Warmer Homes Scotland is meeting this objective:

- Are appropriate measures for individual properties being recommended through the survey process?
- Why are some measures specified by the scheme not being recommended to or taken up customers?
- What are the most common challenges or concerns encountered by scheme surveyors when making recommendations?
- Are measures recommended being packaged together effectively to deliver the greatest benefit to the customer, within the funding available where possible?
- Should additional measures be included within the scheme to provide more tailored support to on-the-ground circumstances?
- Is the quality of installations delivered through the scheme being upheld over time and across regions in Scotland?

The most and least frequently installed measure during 2016/17 can be found at **Table 5**.

From this, we can see that the two most frequently installed measures were smoke alarms and carbon monoxide detectors both of which are mandatory measures under the scheme. However, if you add all the different types available under the scheme, the most common type of measures installed were heating systems followed by boilers.

Of those measures installed during 2016/17, the least frequently installed were Solar Thermal, Hybrid Wall Insulation, Solar Pv and Biomass Boilers and there were 13 measures available under the scheme that were not installed in any properties. This likely reflects the make-up of the domestic property archetypes in Scotland and the relatively new technology these measures offer, although cost may also play a part. The reasons why some measures were not installed or recommended was examined more closely at the surveyors' workshop held in October 2017. The outcomes of this workshop are discussed in more detail in **Part 4 Section i. Survey** of this review.

### i. Survey

The initial survey undertaken by Warmworks is thorough and takes account of the property type and location to establish the most appropriate suite of measures that are tailored to the individual property. The survey is carried out using rdSAP software and relies on the skills and knowledge of the surveyor to determine the most appropriate suite of measures for each property, including recommending

measures specified by the Warmer Homes Scotland contract that are not included in the rdSAP software.

Pennington Choices audits a 5% sample of surveys on a monthly basis, assessing them against set criteria. The results of the pre-installation audits are summarised at **Table 6**. This shows that a substantial majority of Warmer Homes Scotland surveys pass the audit requirements. This follows a similar trend to 2015/16, suggesting that surveys continue to be carried out in line with the contractual requirements and surveyors are recommending appropriate measures.

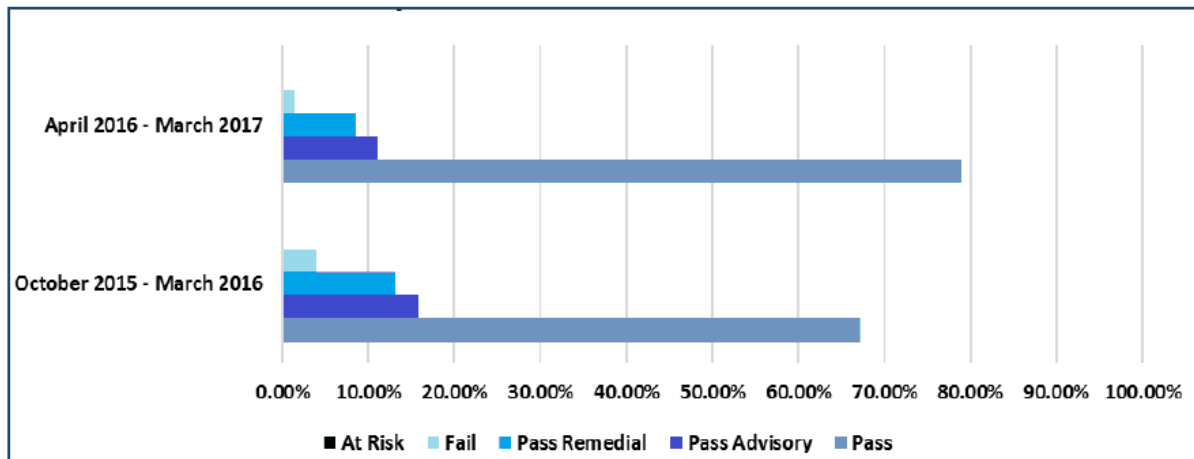
Surveys that failed the audit process increased from 0.2% in 2015/16, to 1.5% in 2016/17 and surveys being given a Pass Advisory at audit increased from 7.3% in 2015/16 to 11.5% in 2016/17. Given the scale of increase in surveys being conducted by Warmworks surveyors between the two review periods, this percentage seems proportionate and within a tolerable threshold to cause no concern regarding the appropriateness and robustness of the survey process.

Having said this, it is interesting to note that a direct comparison between only those months covered by the review process in 2015/16, i.e. October to March, and the same period in 2016/17, shows no increase in the number of “failed” surveys audited (1). The majority of surveys that failed the audit process in 2016/17 were carried out during the Spring/Summer period. However, without more data available on the individual contexts and circumstances of each survey during this period it is not possible to make any valid inferences as to whether this pattern can be reasonably explained by any underlying factor(s) but it may be possible to do so in future years when additional data sets become available.

**Table 6 – Results of Pennington audit of Warmer Homes Scotland surveys 2016/17**

Month	Total Number of Audit	Pass		Pass: Advisory	Pass: Remedial	Fail
		No.	% of total completed			
April	35	35	100	0	0	0
May	36	36	100	0	0	0
June	30	29	96.5	1	0	0
July	21	19	90.5	2	0	0
August	28	28	100	0	0	0
September	25	25	100	0	0	0
October	33	31	94	2	0	0
November	30	29	90	1	0	0
December	35	34	96.5	1	0	0
January	19	19	100	0	0	0
February	43	41	95	2	0	0
March	28	28	100	0	0	0
<b>Total</b>	<b>363</b>	<b>354</b>	<b>97.5</b>	<b>9</b>	<b>0</b>	<b>0</b>

**Figure 12 – Overall comparison of Pennington Choices audit inspections Year 1 versus Year 2 of the Warmer Homes Scotland contract**



In response to Recommendation 8 in the 2015/16 Annual Review, to further investigate “why some measures specified by the scheme have not been offered to customers”, in October 2017 an interactive workshop with a sample group of 6 Warmworks surveyors was organised and chaired by the Scottish Government. The summary report of the surveyors workshop can be found at **Appendix 2** to this review.

General consensus from the workshop suggested the main reasons why certain available measures (identified in the Pennington Choices Measure Specification Audit Report that is attached to the 2015/16 Annual Review) are not recommended, or only recommended on a small number of occasions, are:

- The perception by the surveyors that most of these measures are only suitable for new build properties.
- Customer attitudes and perceptions of certain measures (particularly new, innovative and unfamiliar technologies such as air source heat pumps) mean that a longer-term process of education around these measures is required.
- The higher costs associated with the installation of some of these measures, which in turn means a higher customer contribution level is required, deters many customers from accepting certain or initial recommendations made during the survey. Surveyors consider this in order to revise the overall recommendations package made, to focus on the measures that offer the customer the most benefit within the constraints of the grant levels.

Additional comments provided by the surveyors included:

- The current list of measures available under the scheme could be improved by adding the option to recommend the “installation of ordinary heavy curtains”, in place of the current option, “flexible thermal linings”. The former is seen as a more practical and low cost solution, and is less intrusive during install for the customer. It was suggested that local charities might be able to collaborate with Warmworks to deliver the measure.

- In general the grant level available through the scheme is appropriate, but in the case of rural properties – often stone built with “hard to treat” wall types – it is often considered too low to enable surveyors to offer the customer a fully comprehensive (holistic) package of complementary recommendations. This leads to surveyors having to make trade-offs in their decision of what to recommend, between achieving the greatest energy efficiency improvement for the property versus ensuring an appropriate level of cost (customer contribution) given the personal circumstances of the customer.

The following recommendations have been made after analysing the feedback received at the workshop:

**Recommendation 5** – Given some of the measures are deemed to be more suitable for new builds and that it was suggested that the design of some of the measures, for example flexible thermal linings and water efficient taps, could be redesigned to increase their suitability, the existing list and design of the measures available under the scheme should be reviewed and updated to reflect the on-the-ground experience and insights of surveyors and their understanding of the suitability of the measures when taking the circumstances of customers, sensitivities around property type and need for any associated educational activities due to installation of unfamiliar technology.

**Recommendation 6** – Consideration should be given to building on current training provision for surveyors and establishing a formal programme of annual refresher training for them to ensure any gaps are identified and addressed. Due to their pivotal role in the customer journey, this should include engagement with Scottish Government officials on the contract requirements relevant to the survey process. As part of this engagement, Scottish Government should provide Warmworks with details of the scenarios where some of the more underutilised measures were deemed suitable for use during the schemes development. All current surveyor training and manuals should be updated to reflect the outcome of this review.

**Recommendation 7** – Agree an appropriately robust process to enable suitable measures to be suggested, appraised and tested for future inclusion in the scheme by either Warmworks or the Scottish Government.

**Recommendation 8** – To identify any gaps or areas for improvement in the customer journey, a review of the handling, follow up, recording and action taken on any comments provided by surveyors in completed household surveys should be conducted.

## ii. Installation & Inspection

Warmworks subcontract all Warmer Homes Scotland installations to a supply chain of 30 companies (correct over the period of the review) operating across Scotland, including Everwarm that can undertake up to 50% of the installation work and is contracted to undertake work when other installers are unable to. All installers must have, or be working towards, PAS 2030 certification and must meet the other measure-specific standards set out in the contract, e.g. MCS, Oftec, Gas Safe. A Warmworks inspector inspects all works carried out under the Warmer Homes Scotland contract within 5 days of the works being completed.

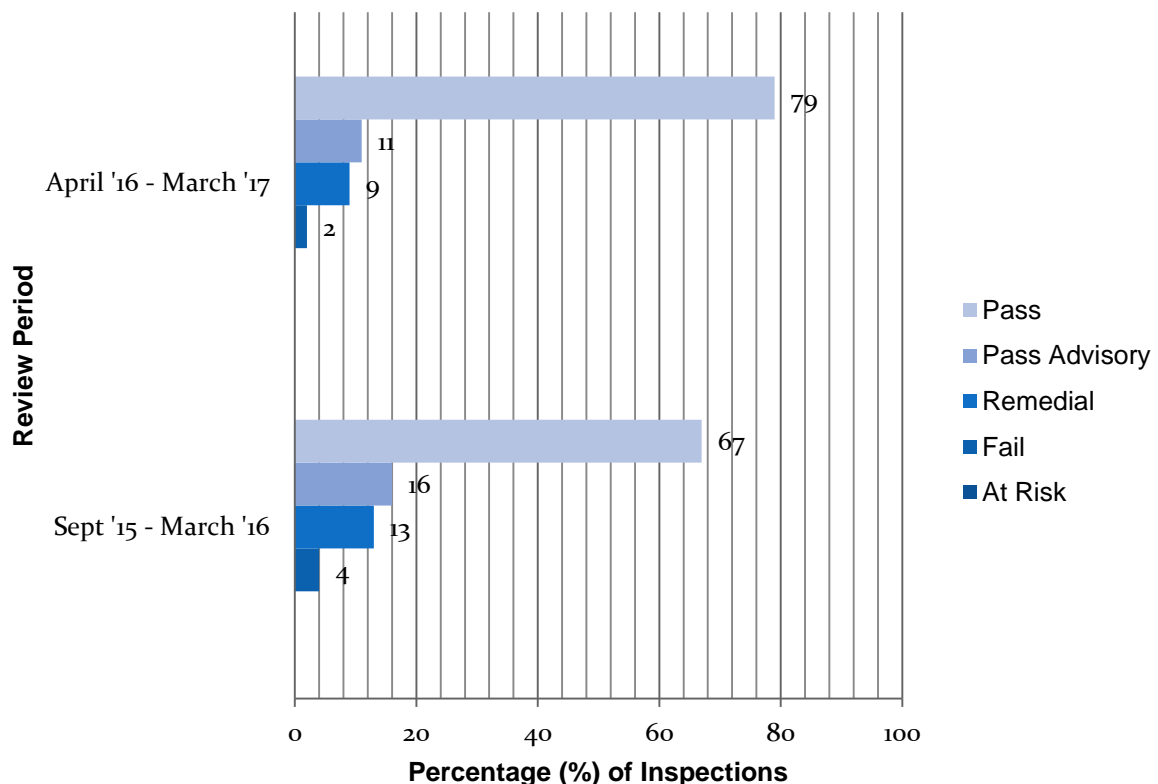
Given the nature of the work being undertaken and the Warmer Homes Scotland customer base, it is vitally important that installations are carried out in line with the technical, health and safety, and customer care standards required by the contract.

To help monitor the quality of installation work being carried out under the Warmer Homes Scotland contract, quality assurance (QA) checks are carried out by Pennington Choices Ltd on 2 work-in-progress (WIP) jobs per month and a random 20% sample (with no fewer than 65 jobs per month) of completed installations through on-site and desk-based audits. **Table 7** shows a summary of their overall findings (including survey, WIP, and post-installation) for 2016/17.

**Table 7 – Results of Pennington Choices on-site inspections of a 10% sample of Warmer Homes Scotland jobs**

Inspection Outcome	Overall Result in 2016/17
Pass	79%
Pass Advisory	11%
Remedial	9%
Fail	2%
At Risk	0

**Figure 13 – Comparison of the results of the QA audits in 2015/16 and 2016/17**



The result of the comparison of the outcome of the QA audits carried out by Pennington Choices during both 2015/16 and 2016/17 show that the total number of installations that passed inspection during the audit process has increased by 12%. This improvement to performance was delivered despite the increase in numbers of monthly installations during this period. This increase indicates that existing quality assurance measures are being applied consistently and effectively, remain robust and indicates an increase in the quality of installations being carried out under Warmer Home Scotland. The number of jobs marked as a “fail” at inspection has decreased by 2%, and the number “at risk” remains constant.

In response to Recommendation 9 in the 2015/16 annual review, a comparison of remedial work between 2015/16 and 2016/17 has been undertaken and the results are shown at **Table 8**. The analysis shows that the number of WIP jobs requiring remedial work, including those jobs recorded at audit as a “pass advisory”, “pass remedial” or “fail”, fell from 49% in 2015/16 to 46% in 2016/17, and the number of Post-Installation jobs requiring remedial work fell from 51% in 2015/16 to 29% in 2016/17. The relatively large decrease in the percentage of Post-Installation jobs requiring remedial work may imply that while sub-contractors continue to make some errors during the installation process (WIP), the quality assurance protocols that Warmworks’ have in place at the end of the installation work are effective. The continuing improvement in quality assurance evidenced here should help increase confidence amongst Warmer Homes Scotland customers that the work carried out in their properties is of a high standard; and over the longer term, this trend in quality improvement may translate into greater economic efficiency in delivery of the programme and workload benefits for Warmworks sub-contractors.

**Table 8 – Number of installations requiring remedial work identified by the QA process in 2016/17**

Inspection Category	Review Year	Total No. of Inspections	Total No. Requiring Remedial Work*	% Requiring Remedial Work
WIP*	2015/16	69	34	49
	2016/17	24	11	46
Post-Installation	2015/16	492	253	51
	2016/17	791	229	29

\*This includes all jobs audited at post-installation phase that have been recorded as “pass advisory”, “pass remedial” or “fail”.

However, the extent to which action is taken, monitored and reported on accurately by Warmworks and its sub-contractors, in response to remedial work identified by Pennington Choices has not been assessed within the parameters of this review.

**Recommendation 9** – An evaluation of the corresponding action taken, monitoring and audit process followed by Warmworks and its sub-contractors in response to remedial work identified by Pennington Choices should be undertaken. The outcome of this evaluation and any resulting actions that are made should be reviewed in the 2017/18 Annual Review.



### iii. Right First Time KPI Adjusted Target Level

The 2015/16 review considered the impact that operational delivery and the behaviours that drive subcontractors had on the contractual Key Performance Indicators (KPIs), particularly Right First Time (RFT). During this evaluation, it was identified that, while the inspection process was pushing up standards, it was also impeding Warmworks' ability to meet the RFT KPI target of 98% in areas with low customer volumes. Due to a statistical anomaly, the target in these areas effectively became a 100% target. This is because Warmworks is paid service provider fees by the Scottish Government to deliver Warmer Homes Scotland. The amount it is paid for each installation is dependent on the regional performance targets achieved and this statistical anomaly was identified as creating an artificial target of 100% in regions where the number of installs was low.

A 3 month trial period to adjust the RFT KPI was implemented as a result of this finding. The adjusted RFT KPI allowed for one failed job in areas with low volumes. In this context, low volume is defined as under 25 jobs per month. The trial was reviewed in December 2016 and it was agreed to extend the trial by a further 3 months to the end of March 2017 as the numbers installed in the initial 3 month period did not allow the trial amendment to be sufficiently tested.

## Part 5: Objective 4 - Value for Money

The fourth stated objective of Warmer Homes Scotland is to offer good value for money (VfM) by leveraging additional funding into the scheme.

In order to ensure VfM, Warmworks, on behalf of Warmer Homes Scotland, is required to leverage funding from sources other than the core Scottish Government budget in order to increase the number of households that can benefit from the scheme.

Recommendation 11 of the 2015/16 Annual Review required that this review give full consideration to the total value added to the scheme through national and local partnerships in this way.

Warmworks is leveraging additional funding in to the scheme in the following ways:

### i. Scottish & Southern Electricity Networks (SSEN) ‘Enabling Funding’

Warmworks has continued its partnership with SSEN through the ‘enabling fund’, which was set up in November 2016 to help customers in SSEN-supplied areas who require additional work that is not included in the Warmer Homes Scotland grant to be carried out in preparation for their installation. This work can include, for example, support to clear access routes such as loft space within the home. SSEN announced £100,000 of funding available for this purpose, with the aim of removing up to 200 people from fuel poverty over the next five years. In the 2016/17 financial year, 47 Warmer Homes Scotland customers received additional help, leveraging just over £14,000 of financial value in to the scheme, or an average of £298 per customer. Without this assistance, these households would potentially have cancelled their application and would not have benefited from the full range of measures recommended for them.

**Table 9** shows a breakdown of this support by month during 2016/17, and **Table 10** shows how this support was distributed by region in Scotland. SSEN does not cover South East Scotland, South West Scotland or Strathclyde and Central Scotland. The 1 customer who received support from the fund in South East Scotland did so because of the area boundaries that SSEN use are different from those used for Warmer Homes Scotland.

**Table 9 – SSEN Enabling Fund support provided in 2016/17 by month**

Month	Number of Drawdowns	Value (£)
April	0	0.00
May	2	500.00
June	5	1250.00
July	5	1574.00
August	7	2450.00
September	5	980.00
October	1	250.00
November	2	695.00
December	0	0.00
January	1	574.00
February	1	417.00
March	10	2411.00
<b>Total</b>	<b>39</b>	<b>11101.00</b>

**Table 10 – SSEN Enabling Fund support provided in 2016/17 by region**

Region	Number of Drawdowns
Highlands	8
Islands	9
North East	21
South East	1
South West	0
Strathclyde & Central	0
<b>Total</b>	<b>39</b>

## ii. Energy Company Obligation (ECO)

A key source of additional leveraged funding to Warmer Homes Scotland is the Energy Company Obligation (ECO), and Warmworks manages this centrally on behalf of the supply chain.

Throughout 2016/17 leveraging ECO proved challenging in terms of ensuring compliance with the complex requirements of the scheme. The changes in ECO compliance that also took place required a period of adjustment to ensure that Warmworks could comply with all requirements consistently.

In considering the total level of ECO funding leveraged in 2016/17 as shown in **Table 11**, it can be inferred that an average of £928 of ECO funding was secured for each Warmer Homes Scotland customer who benefited from this additional support. The number of customers that benefited from ECO (229) during 2016/17 represents approximately 4.3% of the total number of households who received installations under Warmer Homes Scotland, which is a relatively small number given the overall scale and reach of the scheme. However, this is expected to increase as the challenges faced in compliance during 2016/17 are ironed out. Without data on each individual customer who received ECO support via Warmer Homes Scotland during 2016/17 it is not possible to determine whether all available support is being secured for Warmer Homes Scotland customers at all times based on eligibility criteria of ECO. It should also be noted that the data on ECO funding arrangements is commercially sensitive so it is not possible to publish a full in depth analysis of

those households for which ECO funding is leveraged under Warmer Homes Scotland.

**Table 11 – Total number of customers and ECO funding leveraged in 2016/17**

Year	Number of Customers	Total Value (£)
April 2016 – March 2017	229	212,419

### iii. Scottish Gas Networks (SGN) Connections

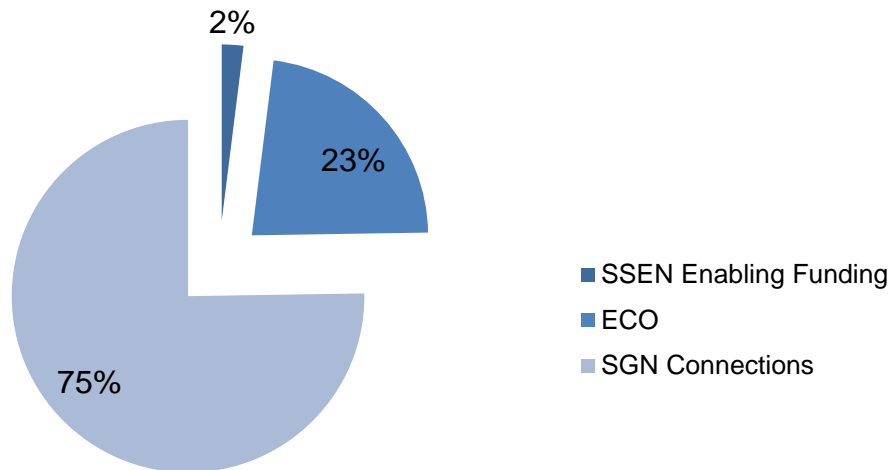
In 2016/17 Warmworks and SGN continued to work together to ensure that households could access the ‘Help to Heat’ scheme, which offers free or discounted connections to the gas network for households that are in fuel poverty or at risk of living in fuel poverty. As illustrated by **Table 12**, this means that 439 customers were able to benefit from a new gas connection and a new, energy efficient heating system without having to pay the cost of the connection. That adds up to £704,846 of additional investment leveraged into the scheme, and a considerable benefit for those households.

**Table 12 – Monthly break down of the number of free or discounted gas network connections provided by SGN to Warmer Homes Scotland customers in 2016/17 and their equivalent monetary value**

Month	Number of Allowances Leveraged	Value (£)
April	26	41550.49
May	37	59165.54
June	43	71289.39
July	30	50048.95
August	33	47591.29
September	27	45735.78
October	25	44165.12
November	38	57393.52
December	41	69309.11
January	45	75137.55
February	46	70262.25
March	48	73196.56
<b>Total</b>	<b>439</b>	<b>704845.55</b>

In conclusion, when added together the total monetary value leveraged in to Warmer Homes Scotland through the SSEN Enabling Funding, ECO and SGN Connections during 2016/17 is £931,276. **Diagram 1** shows the percentage contribution to this total, broken down by funding source. If customer contributions are also included, the ratio of leveraged finance through the scheme equates to £1 of additional funding leveraged for every £23 of Warmer Homes Scotland grant spent; or, in percentage terms, it can be said that the scheme is operating a rate of leveraging of 4.4%. This additional funding is important to the long-term sustainability of Warmer Homes Scotland, particularly given the current economic climate and public sector budget constraints.

**Figure 14 – % of funding leveraged by Warmer Homes Scotland in 2016/17 by source**



**Recommendation 10** – A full appraisal of the strategies, processes or protocols Warmworks has in place to leverage additional financial support into Warmer Homes Scotland should be undertaken. This should focus on challenges faced in leveraging additional funding and how these can be overcome, seeking opportunities for leveraging funding from new sources and making any recommendations for improvement where required. This should also include an assessment of how this funding is being used on the ground i.e. what are the most common ‘enabling’ activities, the least common, the most expensive, any regional variations in activities, etc.

#### iv. Home Energy Scotland (HES) Loans

In cases where the Warmer Homes Scotland grant level available to a customer is insufficient to cover the cost of recommended measures, the customer is required to make a financial contribution to cover the funding shortfall. These customers have the option to seek an interest-free Home Energy Scotland Loan. The Scottish Government funds these loans and so they cannot be considered externally leveraged funding. However, it is still important to recognise that Warmer Homes Scotland and its customers benefit from the wider Scottish Government funded fuel poverty support framework currently in place, evidencing the integration and complementarity of these schemes. This helps deliver value for money across all of the Scottish Government’s fuel poverty initiatives.

**Table 13 – Comparison of the number and value of HES Loans offered versus those paid in full to Warmer Homes Scotland customers in 2016/17**

Offered Vs. Fully Paid 2016/17				
Month	Loans Offered		Loans Paid Out in Full	
	Number	Value (£)	Number	Value (£)
April	2	1904	0	0
May	1	952	0	0
June	4	4601	1	2000
July	4	3891	3	2910
August	3	3316	2	1950
September	2	3100	6	7512
October	4	5055	1	2620
November	5	4649	0	0
December	1	923	1	1480
January	6	8723	0	0
February	3	5506	8	11126
March	4	5186	4	3936
<b>Total</b>	<b>39</b>	<b>47,806</b>	<b>26</b>	<b>33,534</b>

**Table 14 – Regional break down of HES Loans paid in full to Warmer Homes Scotland customers in 2016/17**

Fully Paid 2016/17 (by Region)			
Region	Number of Loans	Value (£)	Average per Customer (£)
Highlands	5	7819	1564
Islands	1	952	952
North East	2	2004	1002
South East	5	5989	1198
South West	3	5572	1857
Strathclyde & Central	10	11,198	1120
<b>Total</b>	<b>26</b>	<b>33534</b>	<b>1282</b>

As **Table 13** shows, HES made 39 loan offers to Warmer Homes Scotland customers in 2016/17; however, not all of these were accepted. There can be a number of reasons why customers do not accept the Home Energy Scotland Loan offer, or withdraw from receipt of the full loan value during the draw down period. Without more in-depth data on the withdrawal reasons given to the Energy Saving Trust, who manage the Home Energy Scotland Loans on behalf of Scottish Government, it is not possible to assess what these may be.

HES paid out 26 loans in full to Warmer Homes Scotland customers. This totalled £33,533, representing an average loan value across recipients of £1,290. From the information in **Table 14**, we can see that the provision of HES Loans to eligible Warmer Homes Scotland customers in 2016/17 was randomly distributed by region in Scotland with most loans provided to the areas with the highest population density. The range of the average loan value paid out to customers, by region, during this period was £905.

**Recommendation 11** – A review of Home Energy Scotland Loans should be undertaken to establish if their purpose should be widened to include enabling measures for Warmer Homes Scotland.

## Part 6: Objective 5 - Community Benefits

The fifth stated objective of Warmer Homes Scotland to provide benefits to the wider community through vocational training and employment opportunities.

Warmworks finalised its Communities Strategy in November 2016. This document sets out the Community Benefits Strategic Goals and the approach Warmworks will take to achieving these goals and the specific Employment and Skills Plan (ESP) targets that are set out in the Warmer Homes Scotland contract. The ESP targets are deliverables that Warmworks has committed to achieving, throughout the duration of the contract. Most of these will be delivered through its supply chain.

As part of the process of producing this strategy, Warmworks recognised that definitions of the ESP deliverables should be agreed and that the targets should be improved to be made more suitable to the delivery of the contract as well as being more specific. As a result, these targets were reviewed and updated by means of a Contract Variation Agreement (CVN) that was agreed on 28 March 2017.

**Table 15** shows the original deliverables and ESP project targets and **Table 16** shows the revised deliverables with definitions and the revised ESP Targets.

Progress on achieving the ESP project targets up to 31 March 2017 can be found at **Table 17**.

In January 2017 the Scottish Government, Pennington Choices and Warmworks met to agree a format for auditing the Community Benefits requirements of the contract. Work on what will be included in these audits and how they will be carried out is on going at the time of this review.

**Recommendation 12** – The outcome of the Community Benefits audits should be evaluated as part of the 2017/18 review.



**Table 15 – Original Project Deliverables and ESP Project Targets**

Original Deliverable	Original ESP Project Target
1. Work Placement or Work Shadowing (14-16 years) – persons securing	20
2. Work Placement or Work Shadowing (16 plus years) – persons	20
3. Skills For Work: Construction Crafts	40
4. Renewable Energy Skills Framework for Action	50
5. Pre Apprenticeship Electrical Installation and Renewables	40
6. Graduates – persons benefitting from graduate positions	10
7. Apprentice (Including Modern Apprentices) Starts – new persons registered on schemes	18
8. Existing apprentices – persons registered on existing schemes	8
9. Apprentice (Including Modern Apprentices) Completions – persons completing apprenticeships	18
10. Jobs created in the core PAS 2030 work areas including office / support – number of new jobs created in this area of work	15
11. S/NVQ Starts for Subcontractors – persons gaining award	20
12. S/NVQ Completions for Subcontractors – persons gaining award	20
13. Training Plans for Subcontractors – number of plans to be completed	6
14. Supervisor Training for Subcontractors – persons to be trained	10
15. Leadership and Management Training for Subcontractors – persons to be trained	10
16. Advanced Health and Safety Training for Subcontractors – persons to be trained	15

**Table 16 – Revised Project Deliverables, Definitions and ESP Project Targets agreed in CVN No. 11**

Revised Deliverable	Revised ESP Project Target	Definition/Details
1. Work Placement or Work Shadowing (14-16 years) – persons securing	20	Number of persons attending placement. From 1 full day onwards and normally <1 year.
2. Work Placement or Work Shadowing (16 plus years) – persons	20	As above.
3. Warmer Homes Scotland Related Training	40	Any relevant training that helps to develop skills and knowledge in relation to the delivery of the scheme, e.g. supporting trades, customer, communication and management skills, specialist knowledge, etc.
4. Renewable Energy Skills Framework for Action	50	Training and up-skilling in relation to renewable energy, including installation, e.g. air source heat pumps.
5. Pre Apprenticeship (covering all Warmer Homes Scotland related work areas)	40	Includes foundation apprenticeship places and pre-construction type places before MAS embarked upon.
6. Graduates – persons benefitting from graduate positions	10	No. jobs created, secured or supported. Must be either graduate entry level new jobs with specific professional development alongside the role OR part of a bespoke graduate-related recruitment scheme.
7. Apprentice (Including Modern Apprentices) Starts – new persons registered on schemes	18	New persons registered each period (qtlly or other). NB Apprenticeships can include Senior Level 5 positions too.
8. Existing apprentices – persons registered on existing schemes	8	Cumulative from day 1 but excludes current quarter & new registrations.
9. Apprentice (Including Modern Apprentices) Completions – persons completing apprenticeships	18	Number of people completing apprenticeship and with relevant pass certificate.
10. Jobs created in the core PAS 2030 work areas including office/support – number of new jobs created in this area of work	15	No. relevant jobs created, secured or supported but not including apprenticeships.

**Table 16 (Continued) – Revised Project Deliverables, Definitions and ESP Project Targets agreed in CVN No. 11**

Revised Deliverable	Revised ESP Project Target	Definition/Details
11. S/NVQ Starts for Main and Subcontractors – persons commencing course	20	Persons commencing relevant S/NVQ. Includes main contractors and their subcontractors and must be a recognised S/NVQ. Apprenticeship S/NVQs also counted.
12. S/NVQ Completions for Main and Subcontractors – persons gaining award	20	Persons completing relevant S/NVQ. Includes main contractors and their subcontractors and must be a recognised S/NVQ. Apprenticeship S/NVQs also counted.
13. Training Plans for Main and Subcontractors – number of plans to be completed	6	To include Warmer Homes Scotland scheme training, core operational workplace and induction training, core and H&S and any training relevant to the scheme. A team or organisational plan.
14. Supervisor Training for Main and Subcontractors – persons to be trained	10	Includes main contractors and their subcontractors.
15. Leadership and Management Training for Main and Subcontractors – persons to be trained	10	Includes main contractors and their subcontractors.
16. Advanced Health and Safety Training for Main and Subcontractors – persons to be trained	15	Non core H&S training. For example – TETRA. Includes main contractors and their subcontractors.

**Table 17 – Project Deliverables, ESP Project Targets and progress on achieving them**

Deliverable	ESP Project Target	ESP Deliverables Achieved in 2016/17
1. Work Placement or Work Shadowing (14-16 years) – persons securing	20	4
2. Work Placement or Work Shadowing (16 plus years) – persons	20	22
3. Warmer Homes Scotland Related Training	40	20
4. Renewable Energy Skills Framework for Action	50	0
5. Pre Apprenticeship (covering all Warmer Homes Scotland related work areas)	40	0
6. Graduates – persons benefitting from graduate positions	10	4
7. Apprentice (Including Modern Apprentices) Starts – new persons registered on schemes	18	35
8. Existing apprentices – persons registered on existing schemes	8	8
9. Apprentice (Including Modern Apprentices) Completions – persons completing apprenticeships	18	13
10. Jobs created in the core PAS 2030 work areas including office / support – number of new jobs created in this area of work	15	243
11. S/NVQ Starts for Main and Subcontractors – persons commencing course	20	54
12. S/NVQ Completions for Main and Subcontractors – persons gaining award	20	16
13. Training Plans for Main and Subcontractors – number of plans to be completed	6	74
14. Supervisor Training for Main and Subcontractors – persons to be trained	10	7
15. Leadership and Management Training for Main and Subcontractors – persons to be trained	10	4
16. Advanced Health and Safety Training for Main and Subcontractors – persons to be trained	15	145

**Recommendation 13** – The progress being made on the Community Benefits requirement under the Warmer Homes Scotland contract should be a key focus of the 2017/18 Review.

## Part 7: Recommendations from 2015/16 Annual Review

- **Recommendation 1** – This review recommends that a workshop on Warmer Homes Scotland eligibility is held in the near future to further investigate the current criteria to ensure all fuel poor households are able to access Warmer Homes Scotland. This workshop will need to take into account the relevant recommendations of the Rural Fuel Poverty Task Force and the Fuel Poverty Strategic Working Group.

A preliminary workshop was held with Warmworks, the Energy Savings Trust and colleagues from the Scottish Government's Area Based Schemes and Fuel Poverty Policy teams. Some changes to eligibility for Warmer Homes Scotland were identified during this workshop and were implemented to help control demand for the scheme, which has increased significantly since November 2016 leading to increased pressure on the scheme budget. The full impact of these changes, along with any other developments in this area, were not implemented in time to have an effect on the 2016/17 operating year and so would not have an impact on this review. It was agreed that, unless budgetary pressures dictate otherwise, any further changes to eligibility for the scheme should be postponed until work on the new fuel poverty definition is well underway.

- **Recommendation 2** – This review recommends that further pro-active promotional work is undertaken in a way that will most effectively reach vulnerable and fuel poor households, particularly those groups identified who have not engaged with Warmer Homes Scotland. This should be in line with the Scottish Government's policies on Above the Line marketing and cold calling activities.

Some Warmer Homes Scotland specific direct mailing activity was undertaken in November 2016 and proved effective in driving up demand. The impact of the success of that marketing led to increased budgetary pressures on the scheme resulting in the requirement for demand management measures being put in place to ensure the continued operation of the scheme within budget levels. Additional funding was sourced from within the Scottish Government budget to increase the annual budget for the 2016/17 operating year to £25 million from the original £19 million.

- **Recommendation 3** – This review recommends that Scottish Government work with HES and Warmworks to improve the information shared with customers and make case studies available to HES and the public to encourage uptake of Warmer Homes Scotland amongst eligible customers.

Scottish Government provided additional information to HES for the Greener Scotland website that outlined the measures that customers had received under the scheme. In addition, Warmworks is regularly producing case study booklets so that HES can share these with potential customers, community groups and any other interested parties.

In addition Home Energy Scotland has developed a secure, online referral portal to enable seamless referrals from external stakeholders to HES. The portal also allows

stakeholders to track progress with the referral to the outcome for the customer. To date 261 organisations are signed up to use the portal.

- **Recommendation 4** – A further review of the grant levels and loan support should be carried out to determine whether or not they are adequate for a fuel poverty scheme.

A review of loan support was undertaken using additional customer data from the operation of the scheme. This resulted in the maximum Warmer Homes Scotland loan value being increased to £4500 and the maximum term of the loan being increased to 8 years commencing in 2017/18. This will be reviewed again in February 2018 ahead of contractual cost increases for Warmer Homes Scotland that are scheduled for 1 April 2018 under the Warmer Homes Scotland contract.

The grant levels were reviewed as part of the budget management processes and Ministers decided that they should remain at existing levels.

- **Recommendation 5** – Customers who have cancelled their application due to lack of assistance with enabling measures should be examined again in the 2016/17 Warmer Homes Scotland review to determine the impact of this work.

Pennington Choices was commissioned to consider whether additional enabling measures could be suitable for inclusion in the scheme and to recommend which, if any, should be included in Warmer Homes Scotland. These recommendations will be implemented once agreement has been reached on the specifications and pricing. Once implemented, the effectiveness of these changes should be evaluated in the relevant review of the scheme.

- **Recommendation 6** – The review recommends that a further investigation is undertaken into why customers do not respond to Warmworks repeated contact attempts.

While a specific piece of work to examine this issue could be carried out, it would be difficult to engage this group of customers as they have already removed themselves from the scheme for unknown reasons.

This is also part of the wider issue of why customers cancel their applications and disengage from the process. A SEEP pilot is being undertaken called Homecare that is being managed by EST and it is anticipated that this pilot will highlight some of the reasons why people drop out of these types of schemes. An evaluation of this pilot will be undertaken and this should be taken into account in the next review of Warmer Homes Scotland.

- **Recommendation 7** – Carbon and fuel bills savings and the associated impact on energy demand & carbon emission reduction should be a key focus of the 2016/17 Warmer Homes Scotland review.

A full dataset for 2016/17 is available, has been analysed and the findings can be found in Part 2 of this review.

- **Recommendation 8** – A further investigation is required to determine why some measures specified by the scheme have not been offered to customers.

As part of this review, a workshop was undertaken with a sample of Warmworks surveyors to gain a better understanding of why some measures had not been recommended. The findings from this workshop can be found in Part 4 of this review. Some of the measures are thought to be inappropriate and others would require the customer to pay a significant contribution if recommended. Overall surveyors recommend an affordable package of measures that provides the greatest benefits to the householder where possible.

- **Recommendation 9** – The levels of remedial work should be examined in the 2016/17 review to compare with 2015/16 levels.

Part 4 (ii) of this review provides an examination of the levels of remedial works based on the outcome of the QA audit process in 2016/17.

- **Recommendation 10** – The national and local partnerships developed by Warmworks and their associated value to the Warmer Homes Scotland scheme should be considered a key part of the 2016/17 review of the scheme.

An examination of the partnership working that Warmworks has undertaken in 2016/17 in delivering the Warmer Homes Scotland contract can be found at Part 5 of this review.

- **Recommendation 11** – Community Benefits reporting should be a key focus of the 2016/17 review of Warmer Homes Scotland.

A full data set for the Employment and Skills Plan has been received and has been evaluated at Part 6 of this review. Work continues on the wider aspects of the Community Benefits to be delivered through the Warmer Homes Scotland contact and the audit process. The outcomes of this work will be evaluated more closely in the 2017/18 annual review.

## Part 8: Conclusions and Recommendations Summary

### Conclusions

The following matrix shows whether Warmer Homes Scotland is on track to meet its stated objectives

Fuel Poverty	On track
Climate Change	On track
Value for Money	On track
Housing Stock	On track
Community Benefits	On Track



## Recommendations Summary

### Fuel Poverty

**Recommendation 1** – In light of the changes to the fuel poverty definition, review the eligibility criteria to ensure Warmer Homes Scotland continues to meet its stated objective to reduce fuel poverty.

**Recommendation 2** – Carry out an in-depth analysis of the reasons why applications that do not qualify post-referral are being referred to Warmer Homes Scotland and make recommendations as to how these numbers can be reduced.

**Recommendation 3** – To identify if there are any noticeable changes in rates or anomalies by region or year, the 2017/18 review should carry out a trend analysis of rates of fuel poverty by region and analyse this when compared to Warmer Homes Scotland installations data from launch in 2015 to end of Year 3.

**Recommendation 4** – Continue to monitor cancellations rates to identify any emerging trends and use lessons learned from other related projects to make any necessary improvements in managing the Warmer Homes Scotland customer journey.

### Housing Stock

**Recommendation 5** – Given some of the measures are deemed to be more suitable for new builds and that it was suggested that the design of some of the measures, for example flexible thermal linings and water efficient taps, could be redesigned to increase their suitability, the existing list and design of the measures available under the scheme should be reviewed and updated to reflect the on-the-ground experience and insights of surveyors and their understanding of the suitability of the measures when taking the circumstances of customers, sensitivities around property type and need for any associated educational activities due to installation of unfamiliar technology.

**Recommendation 6** – Consideration should be given to building on current training provision for surveyors and establishing a formal programme of annual refresher training for them to ensure any gaps are identified and addressed. Due to their pivotal role in the customer journey, this should include engagement with Scottish Government officials on the contract requirements relevant to the survey process. As part of this engagement Scottish Government should provide Warmworks with details of the scenarios where some of the more underutilised measures were deemed suitable for use during the schemes development. All current surveyor training and manuals should be updated to reflect the outcome of this review.

**Recommendation 7** – Agree an appropriately robust process to enable suitable measures to be suggested, appraised and tested for future inclusion in the scheme by either Warmworks or the Scottish Government.

**Recommendation 8** – To identify any gaps or areas for improvement in the customer journey, a review of the handling, follow up, recording and action taken on any comments provided by surveyors in completed household surveys should be conducted.

**Recommendation 9** – An evaluation of the corresponding action taken, monitoring and audit process followed by Warmworks and its sub-contractors in response to remedial work identified by Pennington Choices should be undertaken. The outcome of this evaluation and any resulting actions that are made should be reviewed in the 2017/18 Annual Review.

Value for Money

**Recommendation 10** – A full appraisal of the strategies, processes or protocols Warmworks has in place to leverage additional financial support into Warmer Homes Scotland should be undertaken. This should focus on challenges faced in leveraging additional funding and how these can be overcome, seeking opportunities for leveraging funding from new sources and making any recommendations for improvement where required. This should also include an assessment of how this funding is being used on the ground i.e. what are the most common ‘enabling’ activities, the least common, the most expensive, any regional variations in activities, etc.

**Recommendation 11** – A review of Home Energy Scotland Loans should be undertaken to establish if their purpose should be widened to include enabling measures for Warmer Homes Scotland.

Community Benefits

**Recommendation 12** – The outcome of the Community Benefits audits should be evaluated as part of the 2017/18 review.

**Recommendation 13** - The progress being made on the Community Benefits requirement under the Warmer Homes Scotland contract should be a key focus of the 2017/18 Review.

## Part 9: Acknowledgements and References

### Acknowledgements

The review team would like to thank the following for their assistance with the review:

Ross Armstrong, Nicola Macleod and all the team at Warmworks.

Warmworks surveyors, particularly those who contributed at the Surveyors Workshop and who were accompanied on inspections.

David Campbell and all the team at the Energy Savings Trust.

Matt Corry, Shirley Quinn and all the team at Pennington Choices.

### References

A new definition of fuel poverty in Scotland: review of recent evidence –  
<https://beta.gov.scot/publications/new-definition-fuel-poverty-scotland-review-recent-evidence/pages/15/>

SG Strategic Objectives –

<http://www.gov.scot/About/Performance/scotPerforms/objectives>

Scottish House Condition Survey – <http://www.gov.scot/Topics/Statistics/SHCS>

Customer eligibility criteria – <http://www.greenerscotland.org/home-energy/advice-and-grants/warmer-homes-scotland>

6-fold urban/rural classification –

<http://www.gov.scot/Topics/Statistics/About/Methodology/UrbanRuralClassification>

### Photo references

<https://www.flickr.com/photos/rangy/3027084039/>

<https://www.flickr.com/photos/41583834@N03/4275300702/>

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## **Appendix 1: Warmer Homes Scotland Annual Review 2016/17 Terms of Reference**



**Directorate for Housing and Social Justice**  
Better Homes Division

**Warmer Homes Scotland**

**Review of 2016/17**

**Draft Terms of Reference**

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## 1. Document Control

### 1.1 Revision History

Version	Status	Date	Author/Modifier	Description
0.1	Draft	12/05/2017	Jo Wright	Initial draft TOR for internal review
0.2	Draft	26/07/2017	Moira Parker	Amend reporting date
0.3	Final	6/09/2017	Moira Parker	Added “Sign Off” Date and reverted to Final from Draft

### 1.2 Document Approval

Name	Role	Date Signed Off
<b>Warmer Homes Scotland Strategic Board</b>	To oversee the progress of Warmer Homes Scotland in meeting it's stated objectives	5 September 2016

## 2. Terms of Reference Introduction

### Purpose:

To review the strategic and operational delivery of Warmer Homes Scotland during the 2016/17 financial year and determine whether or not it is meeting its stated objectives.

### Usage:

This document is to be used to define the objectives, scope and approach of the review and as the basis for a more detailed specification to be developed.

### Process:

The TOR should be agreed before any detailed design, development, test or implementation takes place.

The TOR should be approved by the HEEPS Delivery Board. The Board will ensure the TOR is fit for purpose and clearly sets out the requirements of the review.

If all parties are happy to proceed, the review will be approved and scheduled. Notification of both approval and scheduling is the trigger for the contract manager to begin execution at the scheduled date. Senior managers scheduling the project are committing the required resources to be available from the scheduled start date.

### 3. Background

The Scottish Government has committed to reviewing the delivery of the Warmer Homes Scotland scheme annually to ensure it continues to meet its stated objectives and to identify areas of improvement. The scheme's objectives are:

- Tackling fuel poverty
- Reducing carbon emissions
- Improving the housing stock
- Offering value for money
- Bringing additional community benefits

The first review, which covered the period from scheme launch on 1 September 2015 to the end of the 2015/16 financial year, was published on the Scottish Government website in November 2016<sup>3</sup>. It considered every aspect of Warmer Homes Scotland including operational delivery and wider strategic issues. It made 11 recommendations intended to improve access to and delivery of Warmer Homes Scotland.

### 4. Objectives

The overarching objective of the review is to determine whether or not Warmer Homes Scotland is meeting its objectives and to identify any areas for improvement. This review should also outline the progress that has been made in implementing the recommendations of the previous review.

### 5. Approach

Broadly, data collected by both Warmworks Scotland LLP and the Energy Saving Trust related to the delivery of Warmer Homes Scotland during 2016/17 will be analysed in line with the scope of the review to form conclusions and recommendations for future delivery.

### 6. Scope

Linked to the overarching objectives set out in paragraph 3, the review will include (but is not restricted to) the items outlined in the following sections. The review should consider how likely it is that any of these objectives might fail to be met and what improvements

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<sup>3</sup> <http://www.gov.scot/Publications/2016/11/5201>



could be made to mitigate this. The review should also consider what progress has been made in implementing the recommendations of the previous review.

We would expect the review to be carried out in two phases. Phase one includes data collection and validation, and phase two, analysis of that data and the development of recommendations.

### 6.1 Warmer Homes Scotland objectives

Determine whether or not the scheme is meeting (or is on track to meet) its stated objectives;

If objectives are not being met or progress towards meeting objectives is not being made, determine why that is and make recommendations that will bring the scheme back into line with the objectives

### 6.2 Recommendations from 2015/16

Determine whether or not the recommendations from the review of 2015/16 have been (or are in the process of being) implemented;

If the recommendations are not being implemented or progress towards implementation has not been made, determine why that is and make further recommendations that will ensure these improvements are made

## 7. Reporting

The outcome of the review should be reported, firstly, to the Scottish Government's identified contract manager and thereafter to the HEEPS Delivery Board and Warmer Homes Scotland Strategic Board. Where reports make recommendations, all parties will provide an outline of what actions they will take to implement these and their timescales. The review should conclude and report by January 2018.

## Appendix 2: Surveyors Workshop Summary Report

### WARMER HOMES SCOTLAND: ANNUAL REVIEW 2016-17

### SURVEYORS WORKSHOP (31 OCTOBER 2017): SUMMARY REPORT

#### Background

The Warmer Homes Scotland Annual Review 2015-16 contained a recommendation to review the process by which Warmworks surveyors make recommendations to customers about what measures should be included in their installation and to identify potential reasons for why certain measures are not being recommended during the initial survey or being taken up by customers when they are recommended in their initial survey.

In response to this recommendation, as part of the 2016/17 Annual Review, a workshop with six of the Warmworks' surveyors (including a member of management staff) was held on 31 October 2017, chaired by a member of the Review Team. The Agenda for this event can be found at the end of this summary report.

Warmworks advised that they met with the attending surveyors in advance of the workshop to familiarise themselves with the Agenda and to help inform discussions.

#### Topics Discussed

The workshop covered a variety of discussion topics, including:

- IT – software and hardware used by surveyors;
- training and guidance provided to surveyors;
- survey process;
- principles and attitudes of surveyors;
- customer attitudes and behaviour; and
- technical considerations.

#### Emerging Key Themes & Considerations

Throughout the discussions, a number of interlinked themes and considerations were identified:

##### Surveyors' Approach

There appears to be a commonly held attitude amongst surveyors that the “customer comes first” and that any recommendations they make for energy efficiency measures to be installed will always prioritise what is best for the customer. Surveyors are also very careful not to raise customer expectations during the recommendation process (e.g. customers are not privy to the full “measures available” list during the survey to avoid them becoming interested in measures that are inappropriate for their property type).

A process of education is seen as intrinsic to the surveyor's role with the customer, particularly in terms of ensuring the customer understands the reasons why certain

measures that they may be interested in are not being recommended for installation; or to encourage them to consider a measure being recommended that they would otherwise be uncertain of. Surveys are proactive in this process. For example, they are developing an information pack on “air source heat pumps” to be made directly available to customers. This is to help combat apprehension of the new technology.

All surveyors follow the principle of “fabric first”, which is fundamental to the operation of the scheme, and suggest that a “like-for-like” approach may be a preference for some of the installers but this is not endorsed by the surveyors. This reflects the mind-set shared by the surveyors that they will always seek to make recommendations that are “best” for the customer.

### Recommendation Process

While training and guidance provided to surveyors is consistent and the supporting equipment used by surveyors is standardised, there is an element of subjectivity to all recommendations provided. This will depend on the surveyor and his or her own knowledge, awareness and judgement made on the day of a survey.

The behaviour and opinion of the customer is also recognised as an influencing factor. During the workshop surveyors suggested that they will take account of the reaction of the customer to a potential measure, and may change or make certain recommendations in response to this (e.g. surveyors may use discretion to not recommend an air source heat pump if they get the impression from the customer’s reaction that this concerns, or worries them).

Surveyors may provide additional comments to capture these sorts of situations in the “additional notes” section of the survey. Surveyors may also make notes indicating where further or alternative measures could be installed at a property, subject to certain activities being carried out or supporting measures being installed first. These notes are received by central Warmworks staff; however, it is not clear what process is in place to handle these comments once received and what follow up mechanism or actions are taken to address them in order to ensure the maximum benefit is being delivered to the customer based on the original survey conducted.

### Financial Considerations

In some instances, surveyors do not feel able to recommend a comprehensive and complementary package of measures due to the higher installation costs this would incur for the customer. Surveyors felt that the financial constraint of existing grant levels is most particularly felt in rural areas due to the type of houses in those areas requiring measures that are more expensive because they are off the gas grid. Part of the challenge indicated was that previously surveyors would have referred customers on to the HEEPS: ABS programme to secure support for those measures that the Warmer Homes Scotland grant levels could not cover for. As this is no longer an option (i.e. customers who benefit from Warmer Homes Scotland are now not eligible for additional HEEPS programme support) the surveyors indicated that they do suggest customers

consider Home Energy Scotland zero-interest loans but that this option is not always preferable for certain client demographics. Surveyors are often left having to make a choice in their recommendations between what measure will make the biggest impact to the customer. However, overall the surveyors think that the balance between grant levels and customer contribution requirements is appropriate, particularly for lower cost measures often recommended in the Central Belt area.

Where a customer rejects a specific recommendation (most commonly due to the cost implication), surveyors will always try to reassess the recommendations list taking a holistic approach to develop a package that represents the “best (value) offer” for the customer. However they make it clear that the mandatory measures are not optional and that the installation cannot proceed if these are not agreed to.

To convey affordability to the customer surveyors can carry out a calculation, using the customer’s current ‘actual fuel costs’, to indicate the overall cost of an installation package. In this context, surveyors are often very conscious of the customer’s likely response or perception of the recommendations made if, for example, the customer is elderly and the likely payback period for the install is over an extended period of time.

Alternative routes to securing installation of measures or assistance with the cost of enabling measures through the SSEN fund where available are also referred to, or recommended by surveyors in certain instances. This facilitates choice for the customer.

Having family members present at the time of the survey and recommendations process has also been found to be useful for some surveyors, who find that this opens up the opportunity for the customer to source any additional financial contributions necessary to accept a measure.

### **For Future Consideration – Gaps & Recommendations**

Through discussions focusing on the topics and themes outlined above certain gaps in the current survey and provision model, and some recommendations for alternative or new approaches were identified by the surveyors as follows:

Current List of Available Measures – several of the measures available through Warmer Homes Scotland that were not being recommended by surveyors during Year 1 have been identified by the surveyors as only being appropriate within new build developments. This includes, for example, under-floor heating and mechanical ventilation and heat recovery, as well as air source heat pumps. In the case of the latter, surveyors emphasised that many customers are apprehensive of this technology due to it being unfamiliar and innovative (new); and that its reputation has not been helped by several instances of air source heat pumps being installed in properties through other funding mechanisms without also changing the radiators, leading to inefficient technology solutions. While this is anecdotal evidence it gives an insight into the challenges being faced by the surveyors when recommending low carbon fuel alternatives. A full overview of the reasons given by surveyors as to why certain measures are not being recommended, or recommended in very small numbers, is provided below:

Measure	Property type measure is most suited to	Reason(s) why not recommended	Typical response of client	Any other comments
Hybrid wall insulation	e.g. solid brick with sandstone slip at front	Too much upheaval for the client.	Contribution costs unaffordable for client	3 have been installed
Solar blinds, shutters, shades	Passive Houses	There is no reason to fit these as surveyors are not trying to control temperature in people's properties – this product is for passive houses.	Clients not interested	-
Flexible thermal linings	-	The property is already receiving installation of secondary glazing windows and doors.	Too much disruption/intrusive	-
Mechanical ventilation & heat recovery	New Builds	These are installed at new builds only and not suitable for retro fitting without major disruption and no energy savings.	Too much upheaval	-
Under-floor heating	New Builds	This is for new builds only and not retro fit. This measure would take 2-3 weeks to install and the customer would need decanted for this time – the disruption of having to lay two new floors would outweigh any energy savings to the property.	Too much upheaval	-

Warm air heating systems	-	Asbestos contained in these systems is high and there are other / more controllable, more energy efficient heating systems on the scheme.	Too much upheaval	-
Water efficient taps & showers	Any	Scottish Water water-saving gadgets and advice leaflets currently on going on this scheme.	-	-
Solar thermal	Property where there is space for larger hot water tank to be installed. Hot water tank required may not be compatible with existing instantaneous hot water appliances. This measure needs to suit the householder in terms of their hot water usage and lifestyle.	No Renewable Heat Incentive is available with this measure.	No payback incentive	9 have been installed
Solar PV	-	This measure does not work on this scheme as the customer gets no Feed-in Tariff (FiT) payment – any savings are only relevant if the customer is in the property every day and can use the generated electricity.	No payback incentive	8 have been installed

New Measures to be Made Available – specifically commenting on “flexible thermal linings” the surveyors indicated that this is a very intrusive measure (with aesthetic implications for the customer as well), but that if ordinary heavy curtains could be introduced as a measure to be recommended and funded under Warmer Homes Scotland this would be beneficial. A suggestion was made that Warmworks could work with a charity project to provide this measure at a low cost and link it to the Warmer Homes Scotland programme.

Deterrent against high carbon measures – surveyors seemed unaware that under the current Warmer Homes Scotland contract if a customer opts to have a less energy efficient or more carbon intensive measure installed instead of the recommended measure identified by the surveyor, this could be done under the scheme (as its key focus is fuel poverty and the more carbon intensive measures may reduce immediate costs more )but this would result in the customer incurring an additional £400 contribution. The lack of awareness suggests that this contract requirement needs to be highlighted to Warmworks to ensure the current programme management system in place flags this protocol more clearly to surveyors on the ground, and that this requirement is properly enforced. This contribution, if incurred, is passed directly to the Scottish Government by Warmworks.

## **Conclusion**

Outcomes from the workshop suggest that the main reasons why some measures are not recommended, or only recommended on a small number of occasions, are that:

- the perception of the surveyors is that some of these measures are only suitable for new build properties;
- customer attitudes and perceptions of certain measures (particularly new, innovative and unfamiliar technologies) mean that a longer-term process of education around these measures is required;
- the additional cost of some measures would require greater contributions from customers, and surveyors take this into account before making their recommendations to focus on the measures that offer the customer the most benefit within the constraints of the grant levels; and
- the high costs of installation of some measures, which result in higher customer contributions, deters many customers from accepting some measures or the initial recommendations made.

**WARMER HOMES SCOTLAND  
ANNUAL REVIEW 2016-17**

**SURVEYORS WORKSHOP  
Tuesday 31 October**

<b>09:00-09:30</b>	<b>Registration</b>
<b>09:30-09:40</b>	<b>Welcome &amp; Introduction Warmworks Manager</b>
<b>09:40-09:50</b>	<b>General Overview:  Introduction to Survey &amp; Equipment Used</b>  For the benefit of the Annual Review Team <b>Surveyors</b>
<b>09:50-10:10</b>	<b>Discussion Topic 1:  IT, Training &amp; Guidance</b>  What software and equipment is used to conduct surveys, how do surveyors find this, what resources and other support is available to them, is it effective? <b>Facilitators</b>
<b>10:10-10:40</b>	<b>Discussion Topic 2:  Survey Process &amp; Non-Recommended Measures</b>  How do surveyors actually conduct an assessment, what determines recommendations made, is there a lack of guidance or applicability criteria attached to some measures that prevents them being recommended? <b>Facilitators</b>
<b>10:40-11:00</b>	<b>Discussion Topic 3:  Total Value of Installs</b>  How do surveyors take into account the property type, ability to contribute, financial support level available (budget impacts) when making recommendations? <b>Facilitators</b>
<b>11:00-11:20</b>	<b>Round Up: Open Floor</b>  Incl. perceived “like for like” policy, surveyor attitudes, challenges, areas for improvement <b>Facilitators</b>
<b>11:20-11:25</b>	<b>Close</b>





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Any enquiries regarding this publication should be sent to us at  
The Scottish Government  
St Andrew's House  
Edinburgh  
EH1 3DG

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