



RECC Response to BEIS Consultation on Future Support for Low Carbon Heat

Introduction

Renewable Energy Consumer Code (RECC) is pleased to submit this response to the BEIS Consultation on Future Support for Low Carbon Heat.

In submitting this response RECC has drawn on some of its research and publications which are described below: an analysis of in situ performance of heat pumps and a Heat Pump Guide for installers (attached with this response). RECC has also provided extensive results from a RECC Members' survey carried out in June. We asked our members who install renewable heat systems for their views on a number of aspects of the Government's proposals. Finally we are pleased to support the response submitted by REA, our parent company.

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About RECC:

RECC is the main Consumer Code setting and requiring high standards of protection for consumers wishing to buy or lease small-scale renewable energy generating systems, with 1,500 members. RECC was set up in 2006 by the Association for Renewable Energy and Clean Technology (REA) and is approved by Chartered Trading Standards Institute (CTSI) as part of its self-regulation initiative, the Consumer Codes Approval Scheme.

Businesses working with domestic consumers who wish to access the Domestic Renewable Heat Incentive (RHI) or the Smart Export Guarantee (SEG) must be members of a CTSI-approved Consumer Code. RECC members work with installers of the full range of renewable heat and power generating technologies as well as with related products. RECC works closely with MCS to provide a seamless certification and consumer protection umbrella for installers.

The Code sets out high consumer protection standards under the following headings:

- general business standards

- pre-sales activities
- contracts
- completing the order
- after-sales activities
- in case of problems
- monitoring performance

RECC Members' survey

During June 2020 RECC polled its 870 heat installer members asking them for their views on various aspects of the Clean Heat Grants consultation. We have included some of their responses in this response. 167 heat installer members responded to the poll, giving a response rate of almost 30%. Many of them contributed comments to elucidate their responses. Wherever possible we have quoted these comments verbatim. Direct quotations are in blue in the text below.

We asked our members the following questions:

1. Are you aware that:

- a. the Government has extended the Domestic RHI to close to new generators on 31 March 2022?
- b. the Government is proposing to introduce a system of up-front grants for homeowners from 1 April 2022? (Link to consultation provided.)

2. How positive do you think the following aspects of the proposals are?

- a. The scheme will run for two years to 31 March 2024.
- b. Eligible technologies will be air source heat pumps, ground source heat pumps and biomass boilers.
- c. The capacity limit for each system will be 45 kW.
- d. Each grant will be worth £4,000.
- e. Grants will be made using a system of vouchers issued to consumers and redeemed by installers.
- f. There will be quarterly implementation caps.
- g. The total budget for two years will be £100 million.
- h. The maximum number of systems supported will be 25,000.
- i. For consumers to qualify for a grant they will have to choose an MCS certified installer.

3. Are there any aspects of an up-front capital grant scheme that concern you?

- a. Yes
- b. No

If Yes, please provide more details. (Free text box provided.)

4. How do you think these proposals will impact your business:

- a. Positive
- b. Neutral
- c. Negative

Should you have any comments please provide them here. (Free text box provided.)

5. Do you have any further comments on the Government's proposals? (Free text box provided.)

Domestic Heat Pumps: A Best Practice Guide

RECC has been part of the team developing and writing the Domestic Heat Pump Best Practice Guide. RECC has worked with the following organisations, with input from the MCS Heat Pump Working Group (No 6), MCS, Energy Saving Trust and Heat Pump Association (HPA). These organisations understand collectively that building consumer confidence in low-carbon heat is critical to market growth. Building that trust depends on both technical expertise and best practice in consumer protection and contractual issues.

The Heat Pump Guide aims to build consumer confidence and trust. Comprehensive and accessible, the Heat Trust Guide brings together and clearly explains the advice available to installers. It is designed to be used alongside MIS 3005 in the same way that the Solar PV Guide is used. The detail is brought to life with tips, key points, illustrations and case studies based on real experience.

The Heat Pump Guide provides the best guidance on technical *and* consumer protection. It is not intended to be a cover-to-cover read and nor is it a set of industry rules. Instead it is a reference manual and resource to help MCS Contractors and RECC members solve technical or contractual problems and deploy the best solutions and processes in a compliant and legally compliant way.

The Heat Pump Guide supports MCS Contractors on every aspect of the design, installation and commissioning of heat pumps. The technical sections were written with the input of some of UK's most experienced clean energy experts. The contractual section examines every aspect of the consumer journey with a focus on the performance claims that underpin contract agreements. It was written by consumer protection specialists who have audited hundreds of microgeneration companies who work with renewable heating technologies.

The Heat Pump Guide has three sections:

- Technical Guidance: *Getting the design & installation right*
- Contractual Issues: *Getting the contract right*
- Specific Guidance on MIS 3005 V5.0 (forming MGD 002 Issue 2)

In situ performance of heating systems eligible for the Domestic RHI

In July 2019 RECC requested from Ofgem information on how the MMSP and Metering for Payment installations are used to monitor the in-situ performance of Domestic RHI-eligible renewable systems. We also asked for the data used to monitor performance. In September 2019 Ofgem provided data for over 2,000 domestic installations subject to Metering for Payment. The dataset includes information for installations carried out from 2015.

RECC has developed a methodology to analyse the data and this paper provides a short summary of our approach used and the headline results obtained. We refer to results using a sample of just over 400 installs; 300 of which were included in the analysis. It is important to note that the information obtained from Ofgem includes the installer provided SCOPs for each install and this has allowed a unique comparison between the actual SPF's achieved and the installer performance forecasts.

Key points of RECC's response

RECC welcomes Government's commitment to introduce Clean Heat Grants immediately after the DRHI closes on 31 March 2022. RECC stresses the importance of independent advice for consumers (calculators, comparison websites, fact sheets, helplines). This will assist consumers in making informed decisions.

The majority of RECC member installers told us that they consider that the DRHI to be a sophisticated mechanism which delivers measurable policy outcomes. They are therefore opposed to the introduction of flat-rate up-front grants and urge Government to extend the DRHI which will better meet the CO2 reduction Government targets.

RECC considers that a tariff mechanism, such as DRHI, allows for ongoing obligations to be placed on consumers at risk of losing future payments, helping to enforce sustainability and usage standards. This in turn puts pressure on installers to install the system correctly.

RECC considers that, given the limited size and duration of the proposed Clean Heat Grants scheme, it needs to be more tightly targeted to achieve critical mass. For this reason, we consider that, if there are to be grants, they should be limited to domestic off-grid properties and be flexible according to the needs of the property. In this way, Government can green the gas grid, avoid stranded assets, maximise efficiency of all boilers, mandate heat pumps in all new build properties and convert all heating and hot water off-grid properties to biomass, heat pumps and solar thermal.

RECC stresses the need for the Clean Heat Grants to be contingent on minimum levels of energy efficiency in the property and be linked to the grants for improving energy efficiency. RECC also stresses the need for Clean Heat Grants to be combined with low- or no-interest loans to cover the balance of the up-front costs together with the larger pipework, radiators and underfloor heating that are required.

RECC stresses the need for competent, skilled installers to be MCS certified and RECC members going forward; and for MIS 3005, developed over 10 years, together with the Heat Pump Guide and the Consumer Code, to underpin all installations to ensure high standards for consumers.

RECC proposes that a voucher should not be issued to a consumer until they have a compliant Heat Pump System Performance Estimate (HPSPE) together with an Energy Performance Certificate. They should also have been provided with details of the CTSI Consumer Code the installer is a member of, including the Alternative Dispute Resolution service available to them.

RECC considers that the voucher should not be redeemed until the installation has been registered on the MCS Installation Database with evidence of compliance with the relevant MCS standards.

RECC urges Government to ensure that renewable heating systems installed in new buildings are covered by the same level of certification and consumer protection as those installed directly for consumers. Currently the end-use consumer has no direct relationship with the installer leading to problems with resolving complaints.

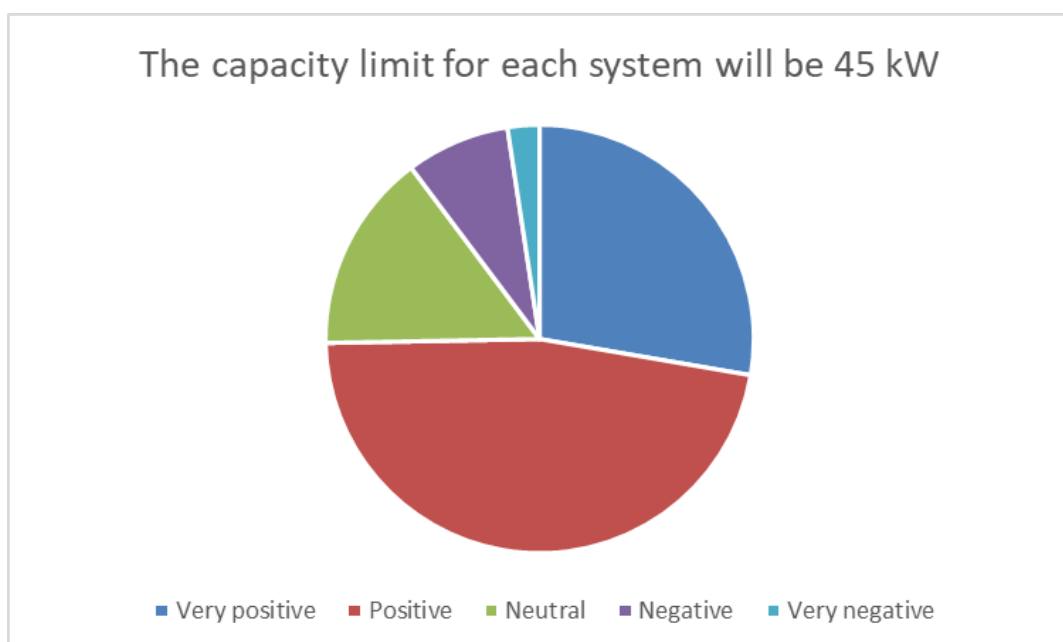
22. Do you agree with targeting support at domestic and non-domestic installations with a capacity up to and including 45kW? Yes/No. Please provide evidence to support your response.

RECC considers that 45 kW capacity cap to be arbitrary. Rather, we consider the aim of the scheme should be well-articulated, and eligible recipients targeted in a more appropriate way. We propose that grants should only be available for off-grid properties, and that it should be limited to domestic, and perhaps ‘micro-business’, consumers. Targeted in this way, rather than by means of a capacity limit, the scheme is likely to achieve some credible outcomes.

If the target of the scheme is to replace domestic heating systems, currently responsible for xx% of UK CO2 emissions, it needs to be carefully targeted. So long as a householder meets the definition the capacity limit should be high enough to meet the householder’s heat demand. Registration of installations should be easy and consistent, and so the capacity limit on the Microgeneration Certification Scheme Installation Database should be adjusted as necessary. Other policy levers are available for non-domestic installations, such as Enhanced Capital Allowances and Business Rate reductions.

A flexible capacity limit would allow for a wider range of domestic properties to install clean heat systems according to their heat demand. This must be closely linked to energy efficiency improvements in the property. It is essential that the scheme does not have the unintended consequence of undersized systems being installed to ensure they fit below the 45 kW capacity cap when the needs of the property are for a much bigger system. The heating system installed should be the most appropriate for the property and its residents. As currently drafted in the consultation the capacity limit is simply not suitable for biomass projects and will not even deliver the limited number of ‘niche’ biomass projects identified within the consultation.

Four in five survey respondents, when asked in Q2 about the proposed 45 kW capacity limit for each system installed, were positive or very positive. (See the chart below.)



23. Do you agree that support for buildings technologies should change from a tariff to a grant? Yes/No. Please provide evidence to support your response.

RECC considers that the Domestic RHI (DRHI) has worked well, and installers and consumers like it. It is an effective, proportionate incentive for the installation of renewable heating systems with remuneration driven by heat demand. It therefore represents good value for money for taxpayers and rewards actual CO₂ savings from the system vis-à-vis business as usual. It also gives Government control over how the system is used for 7 years. The model works well homeowners who purchase their system using credit since finance agreement repayments typically run over 10 years. A flat-rate grant has none of these benefits.

RECC supports REA’s view that the grant will support the deployment of heat pumps in on-gas grid properties. In 2019 the average domestic unit cost for electricity was 16.6 p/kWh compared to an average unit cost for gas of 3.79 p/kWh.¹ A consumer switching from a gas boiler to a heat pump is likely to see significant increase in running costs which is not addressed by a one-off capex focused grant support mechanism. Very similar comparisons can be made to the ongoing costs of biomass feedstocks compared to continuing to burn oil. Any saving the consumer makes in upfront costs is quickly negated by ongoing operational expenditure, providing little incentive for the consumer to make the switch.

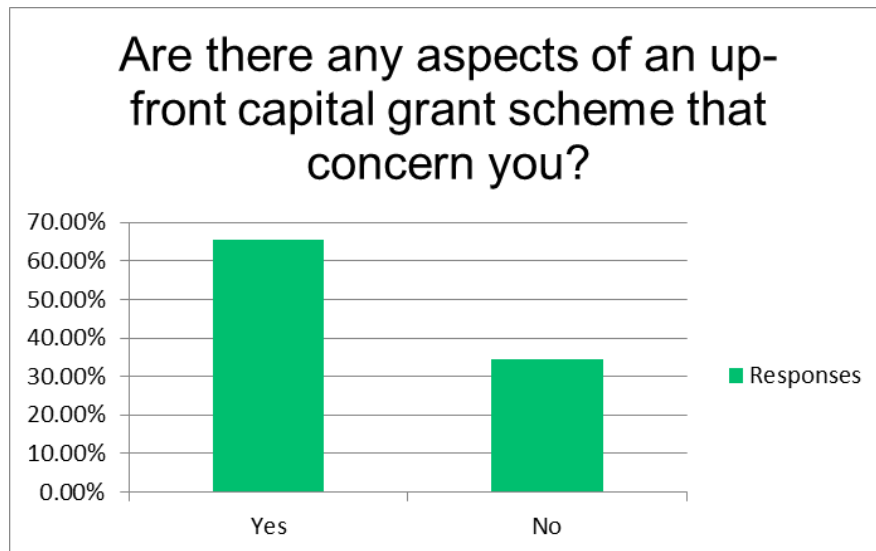
If tariff levels are set correctly, allowances like ‘Assignment of Rights’ can overcome the requirement for up front capital expenditure, as has been the case at some scales within the RHI. Strong design, installation and maintenance standards are needed to accompany a grant scheme to ensure quality installations are installed and used.

We strongly encourage BEIS to further consider a tariff-based scheme, especially for larger scale projects, where economies of scale mean that up front capital are less of a barrier due to access to finance. Lessons can be learned from reforms made to the RHI to ensure that a future tariff mechanism are well designed.

RECC asked its renewable heating members, in Q3 of the survey, whether there were any aspects of an up-front capital grant scheme that concern them. This is how they responded. Almost seven in ten told us they had concerns, and outlined what they were, while three in ten told us they had no concerns.

Total responses	167
No	55 (33.1%)
Yes	111 (66.9%)
Percentage without comments	35%
Percentage with comments (A)	65% (108)

¹ BEIS (2019) Annual Domestic Energy Bills, <https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics>



One in four survey respondents with concerns cited implementation and administration. For example, they were concerned about organising and processing vouchers and about the time it would take to get paid and the effects of a delay on their cashflow. Some of their comments follow.

“It must NOT be like the OLEV grant for EV chargers where installers HAVE to give the discount to the customer upfront, then a) assume the customer will tell the truth on their application and be eligible for the grant b) wait for the very slow OLEV bureaucracy to get round to paying the installer. Disaster and we no longer offer it.”

“I would have concern in regard what turnaround time will be and how that might affect cash flow.”

“Any payment should reflect efficiency/quality of system. For installer to reclaim vouchers is wrong and will impact cashflows, especially for smaller companies. Can see it will be a "race to the bottom" with little incentive for consumers to install better quality attracted by grant contribution. We've been here before with biomass tariffs set too high resulting in high number of poor installs and cowboys in the market using poor products resulting in bad name for the technology and the renewables sector.”

“A voucher scheme is EXTRA PAPERWORK AND ADMIN as if we don't have enough already. I can foresee there being protracted negotiations between the installer and whomever cashes in the vouchers on a case by case basis with evidence being required to be gathered and delivered - and delayed payments (negative cash-flow).”

One in five survey respondents with concerns explained that they preferred a tariff-style model to a grant. Some of their comments follow.

“At the moment the RHI helps people choose alternatives to gas and oil because the RHI pays for around 70% of the cost of the new technology install. This competes with installing a new gas or oil boiler. For example, an 11kW ASHP system will cost around £10 – 11,000 to install and the homeowner on average should receive £7,000, leaving a balance of £3,000. This, on average, is the same size replacement cost for an oil or gas boiler. Up-front payments of £4,000 would leave them with a balance of £6,000. Making the new technologies almost double the cost. Maybe you should ask the [manufacturers] to reduce their prices.”

“We are trying to encourage the world to use Renewable Energy but then we slash the grant available and limit the number to 25,000 installations! Why not extend the existing RHI system another 5 years into the future? Heat pumps unlike solar panels have gone up in cost not down. we must invest sensibly in our Sustainable Future, not play at it.”

“The £4K is not enough towards the install. Considering that [heat] pump manufacturers have increased the cost of heat pump up by nearly 20% in the last two years.”

“This is likely to lead to situation where large companies jump onto the grant [bandwagon] until it is subsumed. This is likely to be in more [densely] populated residential areas. This does not favour the existing industry which is made up [of] smaller installers serving the existing marketplace which is largely off- grid. It is a retrograde step as we have already had the RHI premium payment scheme which was a forerunner to the more sophisticated RHI mechanism. The existing mechanism [guarantees] carbon savings through the ongoing payment declaration structure.”

“Would be better if a tiered approach, based on efficiency delivered.”

One in six survey respondents with concerns said that they preferred the RHI scheme. Some of their comments follow.

“[A grant scheme] is too broad brush the present Domestic scheme is the only way we can see the ground source and air source market continue, albeit very slow it is increasing. Changing the scheme will negatively affect the heat pump market and oil will be back, especially at its existing low cost.”

“Whilst RHI was not ideal for many it offers much, much more benefit and to the customer over a longer period.”

“As I understand it the new proposed scheme is a stop gap whilst a grander plan is designed. The budget allocated does not support a higher deployment rate than the existing scheme and seems to require the wheel to be re-invented when it comes to the rules and administration of the scheme. The existing scheme has high approval ratings from users and a mechanism that has been refined so why change this for two years before doing something else. It seems an unnecessary expense and risk given the potential failure for the embarrassing failure of new scheme e.g. "The green deal" Government proposals for a Clean Heat Grants Scheme.”

“Why-oh-why replace a perfectly functioning Domestic RHI scheme which has been bedded in over a period of years and proven to be successful with this new grant scheme? Why try to fix something that isn't broken? The [proposed] funding is insufficient to allow the renewable technologies to compete with fossil fuel boilers. With no regular guaranteed quarterly payments no lender is going to finance the up-front costs so the only customers who will be able to take advantage would be ones that have the money sitting in their bank accounts. As an installer you try and think why the Government is throwing the Domestic RHI scheme under the bus, and only reason I can think of is to reduce the administration costs. Is that really worth destroying the sector for? For the record I totally agree with scrapping the corrupted Non-Domestic RHI which is simply a vehicle for wealthy people to get wealthier at the taxpayer's expense.”

“[The proposals] will result in a much less attractive incentive scheme for those who install after the close of the Domestic RHI scheme in March 2022 which will result in less people making the switch to renewable heating. Given the current impact of COVID-19 this has essentially put the brakes on installations for the majority of 2020 which has hit businesses like ours as well as slowing down the general switch away from fossil fuels. As we try to come out of the pandemic with a more green ideology than before and with the emphasis to "Build back Better" I would like to see the Domestic RHI continue for the foreseeable future despite the costs involved in doing so because this is not about how much it costs, it's about the changes we make going forward to help protect the planet. If it's not possible to continue with the RHI then I would like to see a better voucher scheme to make it more attractive to potential clients. Maybe it should reflect how well a client is prepared to insulate the fabric of their building prior to installing a renewable heating system i.e. the more efficient the property appears on an Energy Performance Certificate then the higher the voucher amount for example.”

One in five survey respondents with concerns cited the limited scope and ambition for the proposed scheme. Some of their comments follow.

“It is concerning that support for hybrid heat pump systems appears to be omitted from the proposals. With the closing of Non-domestic RHI in March 2021 and Clean Heat Grant not coming into force until April 2022, there will be a substantial funding gaps for tech such as shared ground loop heat pumps. In a time where Government is prioritising achieving net zero goals and driving economic recovery from Covid-19 via the green sector, it would make sense for such industries to be supported rather than hindered.”

“25,000 installations are a drop in the ocean.”

“With an urgent need for economic stimulus, this is dire. This is lip service and a sticking plaster. Interest free loans would be a far better incentive.”

“If you wish to inspire investment and hit climate targets that are decades in the making you MUST give higher and longer-term support that reflects that policy genuinely. Now is the time to seize the green opportunity for the UK. could also be offering a simple interest free loan for the balance of the cost to help.”

“First of all, there needs to be a serious consideration of extending the RHI for at least 3 months of which we have missed out on due to Covid-19. If you took a 24 month period to the proposed end of the RHI period, 3 months lost is a significant amount of time and has cost our company a lot of money, certainly a lot more than any grant money that has been offer. This potential deferral / 3-month extension to me should not be out of the question. Secondly, if the grant scene is the only direction [Government] wishes to pursue then the [flat rate] figure of £4k must be increased. If you work to an average sales price of £ 10k, without a decrease in the product cost which will only be going one way the business will not be feasible. The administrative work involved to obtain the grants will no doubt be extensive and therefore we would still need the same set up/staff to effectively carry out the day to day running of the business. What [Government] will undoubtedly find is that the only people that are able to effectively carry out work in line with the scheme are the "one-man bands". not the businesses that have grown and developed around the industry over the last few years. This will inevitably lead to a poor service and experience involved with those

willing to take on an installation under the new scheme and in effect drastically reduce the amount of heat pumps being installed and efforts at reducing the carbon footprint. To me the only way the industry will go without a substantial plan going forward will be in the same direction of Solar PV. Yes, there are still installations in and only now we are experiencing people putting solar in for the good of the environment etc, being more intrinsically motivated rather than financially motivated. However, this has taken more than 3/4 years. No business could ever plan to the continuation of the decrease in installation to the same degree. To be serious about the future of the heat pump installation I firmly believe a more substantial plan needs to be in place to support those who have helped grow and build the industry over recent years.”

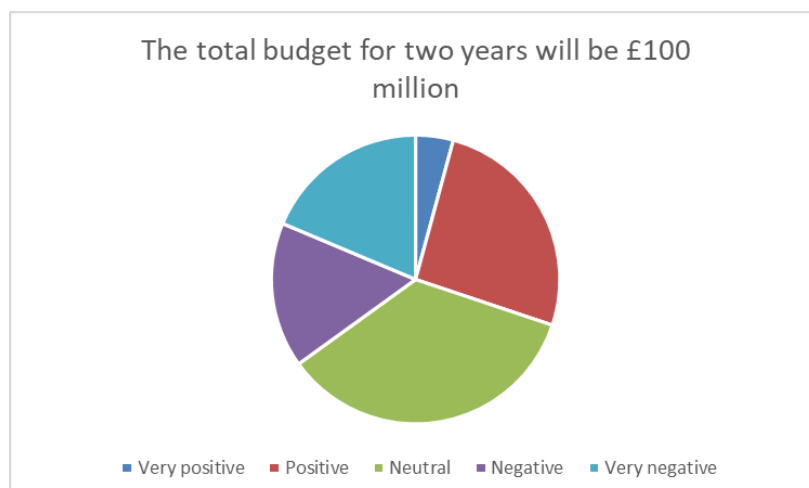
“If you wish to inspire investment and hit climate targets that are decades in the making you MUST give higher and longer-term support that reflects that policy genuinely. Now is the time to seize the green opportunity for the UK. could also be offering a simple interest free loan for the balance of the cost to help.”

“If you wish to inspire investment and hit climate targets that are decades in the making you MUST give higher and longer-term support that reflects that policy genuinely. Now is the time to seize the green opportunity for the UK. could also be offering a simple interest free loan for the balance of the cost to help out.”

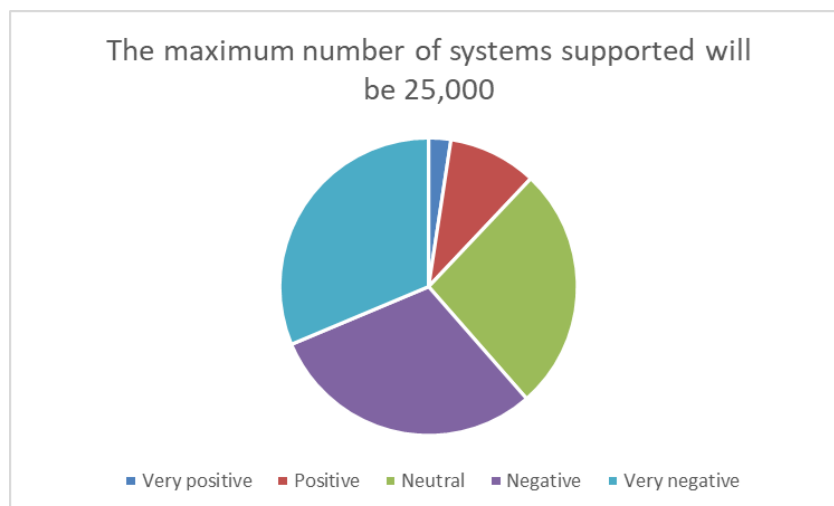
“As the grant scheme may be the preferred route, it is not designed to support decarbonisation of heat at the £ level suggested. If the grant was matched funding for any scheme size using any renewable technology, the industry could play a huge part in the move away from fossil fuels to deliver net zero by 2050.”

“Forget it and provide a better solution that is fairer. Grants provided through energy billing and means-tested grants. Also the whole renewable business will not hit volume until there are penalties for using gas, oil and solid fuel.”

One in three survey respondents, when asked in Q2 about the proposal that a maximum of £100 million would be available for the scheme over two years, viewed it negatively while a further one in three viewed it positively and the final one in three were neutral. (See chart below.)



Six in ten survey respondents, when asked in Q2 about the proposal that a maximum of 25,000 systems would be supported over two years, viewed it negatively or very negatively. A further three in ten were neutral with only one in ten viewing it positively. (See the chart below.)



One in ten survey respondents with concerns said that there was a risk of a grant scheme attracting rogue installers, resulting in sub-standard work and a ‘race to the bottom’ in terms of quality of work. Some of their comments follow.

“[I am concerned about] the time and process for the consumer to apply for and receive a grant. The process and time lag for installers to redeem the voucher, as this could seriously impact profitability and cash flow. [I am also concerned by the] lack of mandatory consumer protection (RECC) commitment from the installer [leading to rogue] traders setting up to fleece consumers of the vouchers and supplying substandard service and equipment.”

“[I am concerned that] the massive drop from current RHI benefits will lead to a last minute RHI cliff-edge scramble which always leads bad sales, bad installations, attracts cowboys who hover up then go out of business afterwards.”

“[I am concerned about] overcharging by installers and sub-standard installations, if not checked by proper bodies. Also [I am concerned about] companies with no track record appearing and leaving substandard jobs, getting the market a bad name then moving onto the next funding or grant funding scheme.”

“[I am] concerned that we may see a huge influx of companies like what we saw with solar PV tariffs.”

One in twenty survey respondents who did NOT have any concerns added comments such as those that follow.

“[Up-front grants] are much simpler system and easier for folk to understand.”

“The current RHI incentive is far better for the end user, but the grant scheme at least gives some reasonable incentive especially on air-source heat pump systems.”

“I think people will still want installations, and a grant is better than ongoing earnings, as it prevents the installation of renewable system being seen as an income generating scheme.”

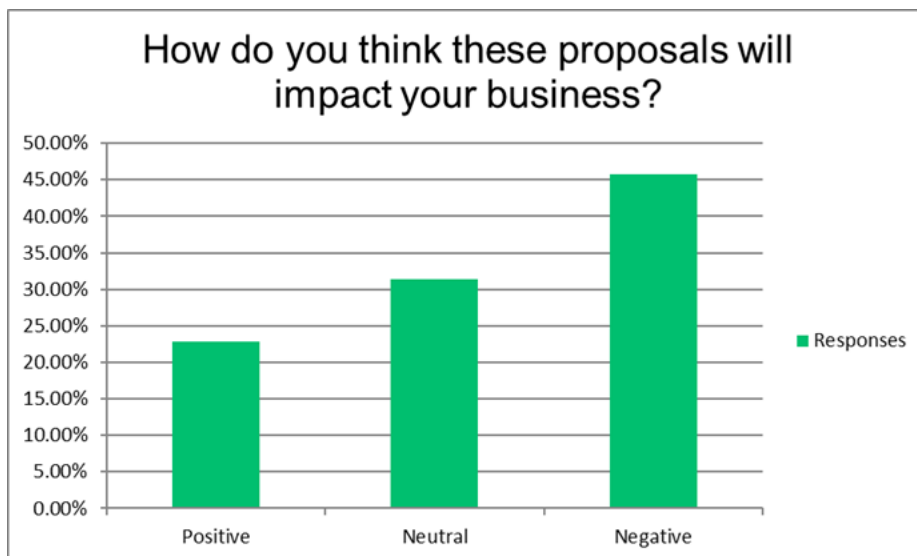
“We welcome this grant system which will be far easier for homeowners to understand than the complicated RHI scheme as they will understand at the outset how much of a grant they will receive. The RHI scheme has been complicated for homeowners, and costly and bureaucratic to run.”

“[Grants] usually mean lots of crazy Government paperwork. Stop the paperwork. W we have to do it and charge for it and Government has to employ people to check it’s right.”

“Please don't make the new scheme too complicated.”

RECC asked its renewable heating members, in Q4 of the survey, how the Government’s proposals would impact their business. This is how they responded. Almost half said the impact would be negative, and added comments, while the half were split between neutral (three in ten) and positive (two in ten).

Total responses	166
Positive	38 (22.89%)
Neutral	52 (31.33%)
Negative	76 (45.78%)
Percentage without comments	53.61%
Percentage with comments (B)	46.39%



One in five survey respondents who thought the impact of the proposals on their business would be negative cited the limited timeframe for the proposed scheme as an issue together with the cliff-edge leading up to the closure of the DRHI. Some of their comments follow.

“It is very challenging for businesses to plan when we know this is only for 2 years. 25,000 installations over a 2-year period is not a significant number in terms of decarbonising the millions of heating systems across the UK.”

“I know the country’s financial position has as a result of the virus taken a nosedive, but our future depends now on sensible long-term thinking.”

“Government should come up with a long-term sustainable plan and not keep chopping and changing.”

“[I am concerned about] an identical grant sum for all technologies regardless of the capex of each technology. Also, a simple 2 year extension with another cliff edge no doubt does not enable ANY business plan for a future in terms of investment, training and [expansion] as we seem to be stuck in an endless cycle of a scheme ending in very short timeframes”

“We will carry on installing but we can’t develop how we really need to because the timeline is simply too short to build a market, sales and install capacity. The govt (blue) have only ever done short term policy and then cut short as with FIT so we are nervous already. If we truly want to get to Net Zero then policy and support has to come with it. Especially given the need to inspire business post Covid-19 this is really short sighted.”

“It’s great that the RHI is continuing until 2022 BUT in reality it is only just getting going - Heat Pumps are still quite niche market and not well understood by consumers As above - it seems crazy to keep changing these schemes - the admin must cost a fortune Still - better than nothing.....”

“[I am concerned that,] as an MCS installer of biomass, and soon to be ASHP, £4,000 upfront cost is nowhere enough. All it will do is create a budget and a race to the bottom in terms of quality of the renewable technology and the quality of the workmanship on offer. For a scheme to be seen to be tackling climate change and fuel poverty, for people who are struggling to afford to heat their homes they will never be able to afford to switch to renewable heat sources with only a £4K upfront cost and then be left to find the balance of anywhere between £4K-15K. Personally, I think better quality technologies should attract a higher tariff. I also think biomass boilers, which are ideal for older less efficient homes should attract a higher tariff than ASHP as the cost of installation is much higher. ASHP are good for newer more efficient homes but have their limits before they become inefficient, but this doesn’t seem to stop people selling them. All installations must be subject to MCS standards.”

24. Do you agree with our proposal to offer a technology-neutral grant level? Yes/No.

No. RECC does not consider that this can be claimed is a technology-neutral grant level. We consider that it will result in small-size air-source heat pumps being installed uniformly whether they are appropriate for the property or not, and without the correctly sized pipes, radiators and underfloor heating.

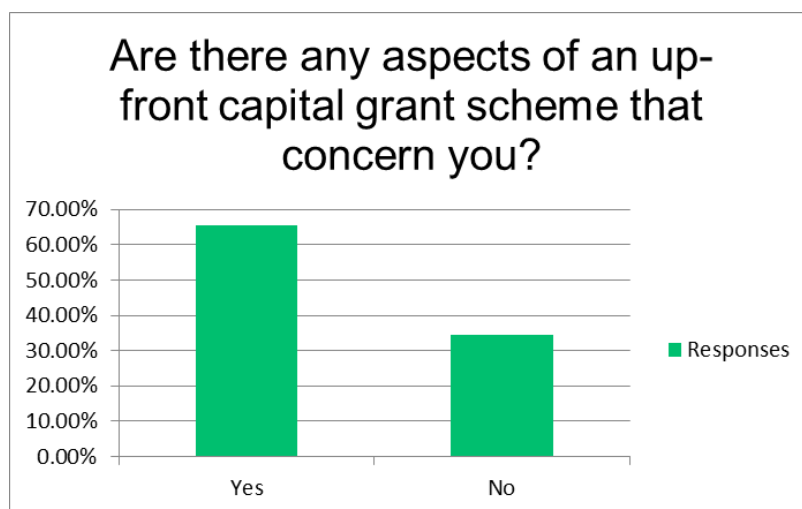
The consultation identifies air source heat pumps as being of strategic importance, while the stated capital expenditure figures within the Impact Assessment demonstrate that the grant has been designed to deliver air-source heat pumps primarily. This clear market signal will restrict consumer choice.

RECC supports REA’s response setting out the way in which a technology-neutral grant could be achieved through a flexible grant level based on the capacity deployed. This would help cover the partial cost of each kW, no matter the technology. This would allow developers to assess a property and its heat requirements, allowing for the design of a heat installation in accordance with the need of the building. The continued use of heat lost assessments will also ensure BEIS’s strategic objective of primarily delivering heat pumps, with biomass where it is most appropriate to do so, is also met.

Please provide evidence to support your response.

In June RECC asked its renewable heating members, in Q3 of the survey, whether there were any aspects of an up-front capital grant scheme that concern them. This is how they responded. Almost seven in ten told us they had concerns, and outlined what they were, while three in ten told us they had no concerns.

Total responses	167
No	55 (33.1%)
Yes	111 (66.9%)
Percentage without comments	35%
Percentage with comments (A)	65% (108)



One in five survey respondents with concerns cited the restrictive design of the scheme as an issue. Some of their comments follow.

“A grant system only acceptable if there are specific grants for each eligible technology with a sliding scale of value depending on the power banding (e.g. 1-4kWh, 5-10kWh etc). Having a flat, non-technology specific grant which is what is proposed will only limit delivery of key net zero technologies such as heat pumps.”

“The scheme only supports capital investment but doesn't address ongoing usage especially if fossil fuel costs remain so low 2 - £4,000 will provide a good incentive for ASHPs but at this level it is extremely unlikely to provide an incentive for biomass and GSHP systems.”

“A typical ASHP retro install is over £10,000. If you have a choice of spending £3K on a new oil or LPG over £6K for ASHP the uptake the will drop.”

“It is not enough. An air source heat pump will cost you around £10K and a ground source around £25K. There are large disparities in the price depending on the location. For example, the north is a lot cheaper than the south of England. London is more [expensive] as well. The savings from powering the heat pump vs fossil fuels are not enough to make the installation economically viable if you only get £4K.”

“To have a flat rate of £4,000, regardless of system size or type, will discourage customers from investing in larger systems/GSHP systems. This will discourage the change from large fossil-fuelled systems to large renewable systems and will simply encourage the small end of the market where fossil fuel displacements will be minimal.”

“Forget it and provide a better solution that is fairer. Grants provided through energy billing and means testing Grant's. Also the whole renewable business will not hit volume until there are penalties for using gas, oil and solid fuel.”

“Introduce Carbon Taxes and remove Biomass as a "carbon zero" solution. Burning wood to keep warm - Really!!”

One in twenty survey respondents with concerns cited job losses resulting from the scheme design, particularly for those who work with ground-source heat pumps and biomass.

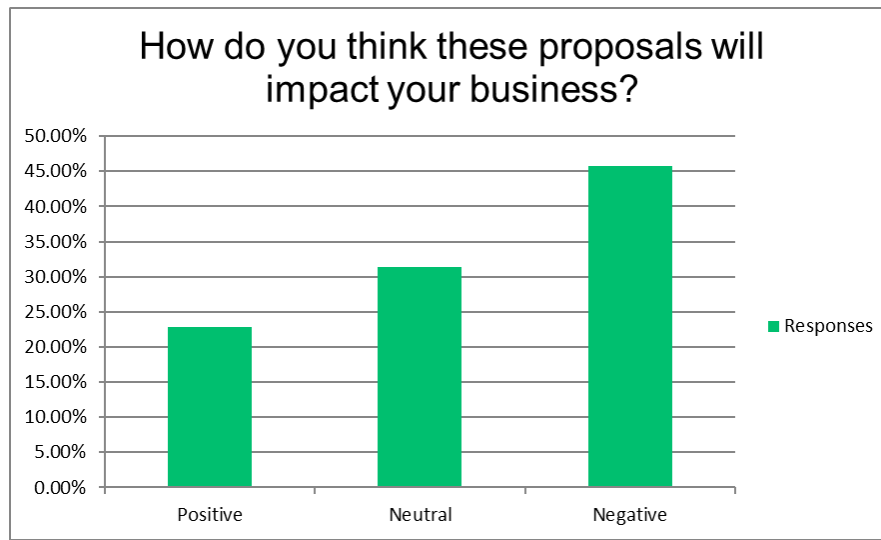
“£4,000 is nowhere near enough for ground source heat pump installations. This will have a massive effect on ground source heat pump installations in this country and will result in the loss of 1,000s of jobs.”

“£4,000 will see the death of Ground Source [Heat Pumps].”

“The result of this policy will cause a large drop in GSHP installations. Why would anybody choose a GSHP over an ASHP when the grant is the same? This follows on from a large drop in PV installations, due to tariff drop/removal, large drop in biomass installations, due to tariff drop and now we are looking at a large drop in GSHP installations. ASHP will also be affected because again this is a drop in funding by up to 50% from existing, together with drop in oil price, which again dampens uptake and we as MCS registered contractors, will be competing against non MCS contractors, who don't have to jump through all the MCS hoops, so the relative difference is going to be less than £4K. With Ofgem target of replacing all boilers with heat pumps by 2050, cannot see how this will happen, as this "carrot" is almost a waste of time, so am thinking there must be a very big "stick" to counteract it? Would be very interested to understand what, if any, "stick" there will be and why they think this won't kill off most of the GSHP industry?”

RECC asked its renewable heating members, in Q4 of the survey, how the Government’s proposals would impact their business. This is how they responded. (See chart below.)

Total responses	166
Positive	38 (22.89%)
Neutral	52 (31.33%)
Negative	76 (45.78%)
Percentage without comments	53.61%
Percentage with comments (B)	46.39%



Almost half said the impact would be negative, and added comments, while the half were split between neutral (three in ten) and positive (two in ten).

“Support for my technologies (biomass and solar thermal) will be substantially reduced or removed respectively.”

“It is concerning that support for hybrid heat pump systems appears to be omitted from the proposals. With the closing of Non-domestic RHI in March 2021 and Clean Heat Grant not coming into force until April 2022, there will be a substantial funding gaps for tech such as shared ground loop heat pumps. In a time where government is prioritizing achieving net zero goals and driving economic recovery from Covid-19 via the green sector, it would make sense for such industries to be supported rather than hindered.”

“Air to air systems should be included in the domestic side of the grants. I have been replacing storage heating with it and cutting my customers heating bills by half. If you could even give a one-off grant for installation costs this would help.”

“No allowance has been made for solar hot water, which when designed and installed correctly can be used for both the production of hot water and significantly offset a property's heating bill if fed into a thermal store.”

“Only to say that the DRHI has only started to gain traction for GSHP's in the last couple of years just in time for it to be canned. Now a scheme that puts the technology at a very serious disadvantage compared to ASHP's and Biomass makes me question whether after implementation of this scheme there will in fact even be a GSHP market.”

“If it is a 'one size fits all' system it is likely to drive air source over ground source because of difference in initial costs.”

“Ground source heat pumps need to be treated differently to air source heat pumps as the installation costs are considerably higher so the level of grant should reflect this.”

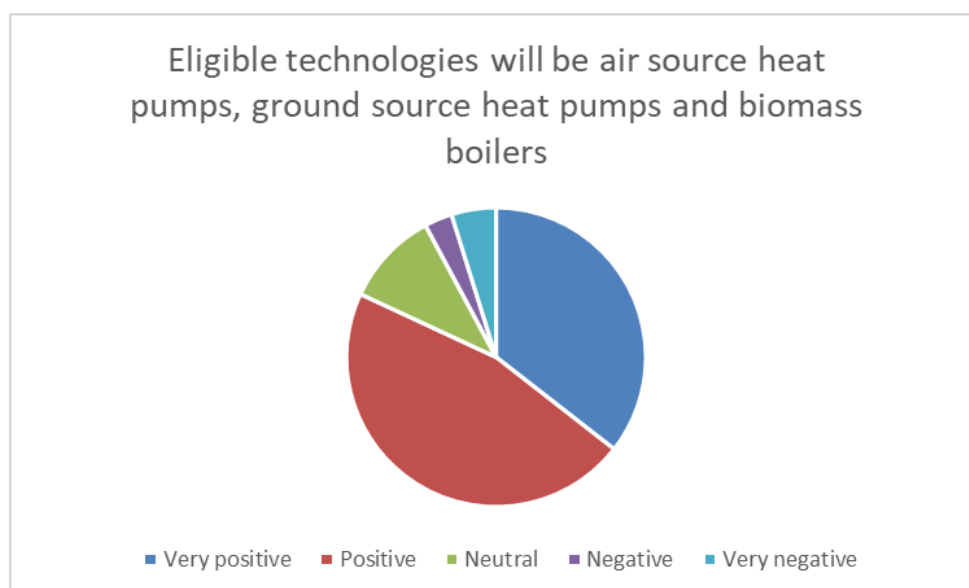
“These proposals will kill the biomass industry and just create another 'flavour of the month' in heat pumps. This is unsustainable. Remember what happened with PV? There needs to be a wide range of available technologies as otherwise there will be a whole host of installations where the technology is chosen because of incentives and not because it is the most suitable.”

“Including biomass boilers is ridiculous and shows the gov has no clue about CO2. Grants should be linked to SCOP, so more efficient Heat Pumps are installed.”

“I run a rurally located renewable heating installation business employing six staff in South West Wales. We install all renewable heating technologies. Our clients are residential consumers living in detached stone properties that are generally poorly insulated and usually heated via a radiator system. The proposed scheme will favour small ASHP installations in higher (lower cost to install) density areas. Almost all of our clients would not have installed a renewable heating system without the support of the existing Domestic RHI. My estimation, based on the existing proposal, is that our turnover would fall by 60% overnight and once the grant was assumed by ASHP then to just 20% of what it is today. In that event I would have to make most of my permanent staff redundant and probably wind up the business.”

“I provide funding through the assignment of rights. This scheme will kill my business.”

Four in five survey respondents, when asked in Q2 about the eligible technologies to be included within the scheme, viewed this positively while one in ten was neutral and one in ten viewed this negatively. (See the chart below.)



25. Do you agree that £4,000 is an appropriate grant amount to meet the aims of the scheme?

Yes/No.

No. This level of grant will only be significant for small air source heat pumps. We agree with REA that the grant needs to meet a proportion of the cost for each kW capacity being deployed. We agree also that this should be based on the heat loss assessment which should be required for all applications. This should be accompanied by a low-interest loan, as seen in Scotland, to meet the remaining project costs.

The proposed grant of £4000 will not incentivise renewable heat projects of any technology type much above 10kW, as the proportion of the total costs of the project are simply not significant enough. In all technologies, capacities of above 10 kW fall foul of BEIS's justification of the "psychological threshold" described in the cited "Price elasticity research". This makes clear consumers are much more likely to pay capital costs once the price falls below £10,000 pounds, with significant consumer uptake once below £7,000.

The £4000 level means that if a project is deployed above 10 kW, it is likely to be of low quality, or undersized, to a level that does not meet the consumer's heat needs. Consumers will effectively be disincentivised from considering better designed projects where the grant will cover less of the total project cost.

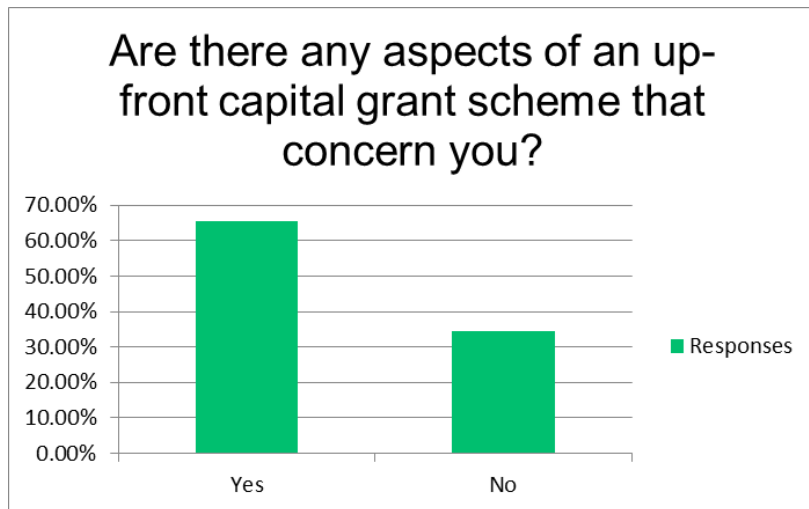
The consultation document also makes clear that the grant is intended "*to target public support on those technologies that offer best value for money*". Again BEIS 2019 Domestic RHI deployment data indicates that on a cost per kW basis, larger scale projects above 10 kW provide the best value per £ spent. This is true of all renewable heat technologies.

Otherwise consumers will be victims of mis-selling of air source heat pumps and mis-selling of finance. They risk purchasing a system on the basis that it will save them money on their energy bills and will be out of pocket when it does not and they have to repay finance with interest. It's important to stress that purchases such as these are one-off rather than repeat purchases and consumers have very little knowledge about the product, how it works or how it performs.

Please provide evidence to support your response.

In June RECC asked its renewable heating members, in Q3 of the survey, whether there were any aspects of an up-front capital grant scheme that concern them. This is how they responded. Almost seven in ten told us they had concerns, and outlined what they were, while three in ten told us they had no concerns.

Total responses	167
No	55 (33.1%)
Yes	111 (66.9%)
Percentage without comments	35%
Percentage with comments (A)	65% (108)



One in two survey respondents with concerns cited the £4k grant as being too small. Some of their comments follow.

“The grant is too small to form an incentive. The number of installations is limited to 25,000, so still only a small number of houses could get it.”

“The £4,000 may be enough for some but not for most installations. Having said that, we agree it should be capped but I would like to see a scheme that paid out on the floor area of the dwelling, so maybe £4,000 for the smaller 2 & 3 beds and up to £10,000 for the bigger houses. Typical costs for the replacement of a fossil fuel boiler to a heat pump on a 4-bed house is over £10,000, therefore, we are not sure the £4,000 grant would be enough for people to make the change. Biomass installations costs are even higher, and we worry this will have a detriment[al] effect on the take up of this new scheme.”

“Grant system only acceptable if there are specific grants for each eligible technology with a sliding scale of value depending on power banding (e.g. 1-4kWh, 5-10kWh etc). Having a flat, non-technology specific grant which is what is proposed will only limit delivery of key net zero technologies such as heat pumps.”

“£4000 is too low in relation to the considerable supply and [installation] cost of these technologies.”

“£4,000 will see the death of Ground Source [Heat Pumps].”

“As an MCS installer of biomass, and soon to be ASHP, £4,000 upfront cost is nowhere enough. All it will do is create a budget and a race to the bottom in terms of quality of the renewable technology and the quality of the workmanship on offer. For a scheme to be seen to be tackling climate change and fuel poverty, for people who are struggling to afford to heat their homes they will never be able to afford to switch to renewable heat sources with only a £4K upfront cost and then be left to find the balance of anywhere between £4K-15K. Personally, I think better quality technologies should attract a higher tariff. I also think biomass boilers, which are ideal for older less efficient homes should attract a higher tariff than ASHP as the cost of installation is much higher. ASHP are good for

newer more efficient homes but have their limits before they become inefficient, but this doesn't seem to stop people selling them. All installations must be subject to MCS standards.”

“At the moment the RHI helps people choose alternatives to gas and oil because the RHI pays for around 70% of the cost of the new technology install. Which competes with installing a new gas or oil boiler. For example, a 11kW ASHP system will cost around £10-11,000 to install and the homeowner on average should receive £7,000, leaving a balance of £3,000. Which on average is the same size replacement cost for an oil or gas boiler. Up-front payments of £4,000 would leave them with a balance of £6,000. Making the new technologies almost double the cost. Maybe you should ask the [manufacturers] to reduce their prices!!”

“Unless material costs drop the install, numbers will fall dramatically.”

“The £4K is not enough towards the install. Considering that [heat] pump manufacturers have increased the cost of heat pump up by nearly 20% in the last two years.”

“Current scheme ensures the heat pump is cost neutral over an oil/LPG boiler over the seven-year period - attractive. The renewables mindset is still based on upfront costs.”

In June RECC asked its renewable heating members, in Q5 of the survey, whether they had any other comments on the Government’s proposals, one in two said they had.

One in five of those who had further comments said the proposed grant was too low. Some of their comments follow.

“Rethink the budget, rethink the amount paid back. renewable energy is definitely the way forward and so much good has already been done, it would be a shame for it to stumble now because of a lack of investment.”

“Try again, the renewables industry seems to get a rough deal consistently, as installers we spend years building a business for the Government to wipe us out again and again. This is just like the FIT withdrawal all over again, i can understand that RHI rates may need to be reduced but to a 4K grant!!??? Only the cheapest of the cheap ASHP's go in at 10K. Oh how to kill a growing a growing industry!”

“I don't understand why they are lowering the incentive so much as they are trying to encourage people to install greener technology.”

One in ten of those who had further comments cited the fact that renewable heating cannot compete with the costs of gas boilers. Some of their comments follow.

“Forget it and provide a better solution that is fairer. Grant's provided through energy billing and means testing Grant's. Also the whole renewable business will not hit volume until there are penalties for using gas, oil and solid fuel. Biomass inclusion is a terrible mistake.”

“Being MCS accredited only has value as long as there is RHI or grants like these. There are numerous companies installing systems without RHI in new builds for instance. However gas boilers need to be Gasafe and oil Oftec to install regardless of grants. Should MCS be a requirement of all installs regardless?”

“Until the price of Gas increases you will have great difficulty selling new heat pumps as even with a high SCOP a heat pump will not beat a gas boiler with a cost of 2.3p per kWh.”

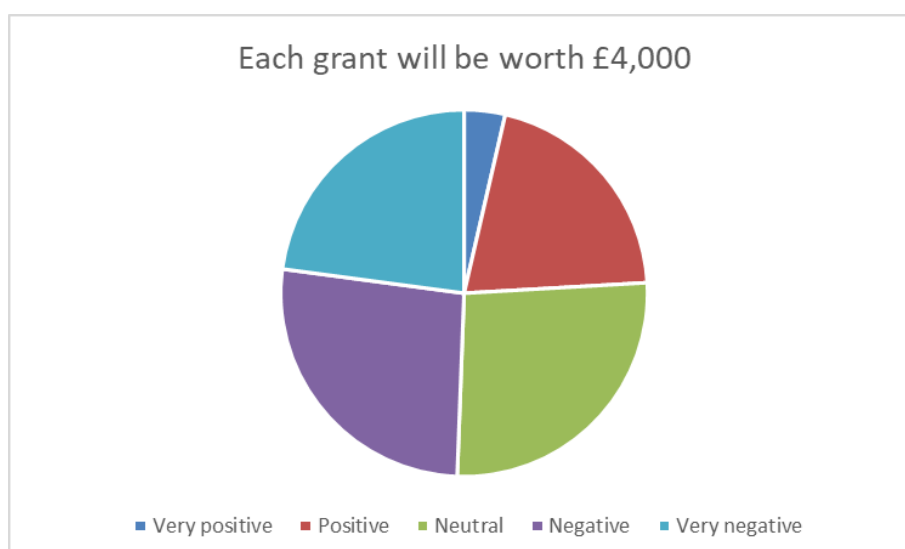
“Too little, half-baked, no real thought about what it takes to install a system - did [Government] consult with the people doing this as a daily job?. The costs of installation are going to remain the same, and in fact will only increase. How is cutting the incentive to a mere £4,000 going to drive forward the immediate change which is meant to happen to reduce carbon quickly and effectively. Seriously - air source heat pumps cost approximately £9-£16,000 plus, depending on what needs doing, hot water systems etc, then there are the radiator changes required for the system to work efficiently – this could mount to another £3,000. Let me do the maths - costs up to £20,000 - grant £4,000 = actual cost £16,000 - and this is what most retrofit homes will be considering. Without a proper grant, this isn't going to happen - gas and oil are much cheaper to install and will remain cheaper in the near future. So this proposal is a nonsense! And why oh why did they remove Solar Thermal? One of the most efficient renewables? And why oh why don't they allow solar thermal to support temperatures in buffer vessel supporting heating - such a simple way to reduce carbon. This is another fag packet idea.”

One in ten of those who had further comments cited the need for greater incentivisation for moving away from fossil fuel boilers. Some of their comments follow.

“Very few domestic customers are going to take advantage of this grant scheme as the levels of funding means that the renewable technologies can't compete with fossil fuel installations.”

“Just mandate no more gas or oil boilers in new properties from January 2021 and spend this money on helping upgrade older properties instead. Stop subsidising gas and oil industries through reduced VAT etc - it's just embarrassing to keep saying these are not fossil fuel subsidies when they fall within the WTO definition that the UK signed up to.”

One in two survey respondents, when asked in Q2 about the level of the grant, viewed this very negatively or negatively, while one in four was neutral and one in four viewed it very negatively or negatively. (See the chart below.)



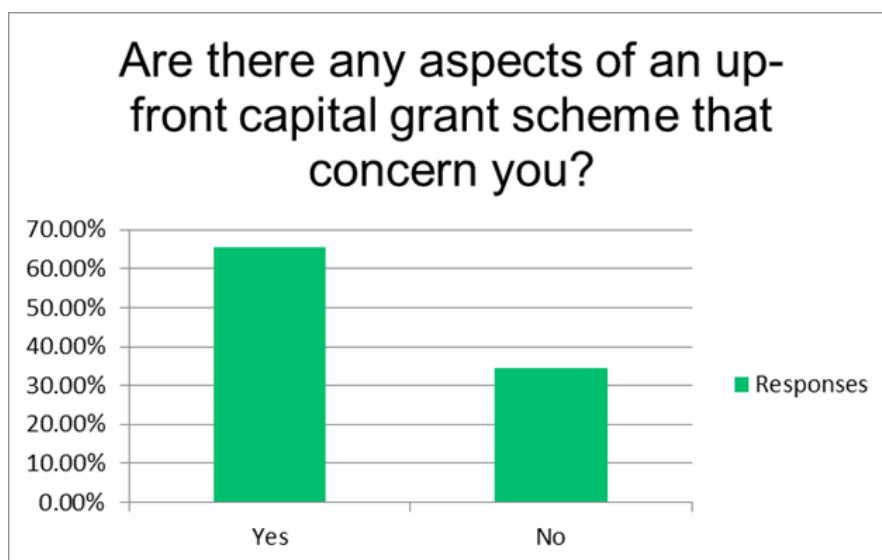
26. Do you agree with the recommendation for a flat-rate grant? Yes/No.

No. We agree with REA that the grant needs to meet a proportion of the cost for each kW capacity being deployed. We agree also that this should be based on the heat loss assessment which should be required for all applications. This will represent the best value for money for consumers and for Government and will achieve the greatest level of CO2 savings for the budget. The grants should be accompanied by a low-interest loan, as seen in Scotland, to meet the remaining project costs.

Please provide evidence to support your response.

In June RECC asked its renewable heating members, in Q3 of the survey, whether there were any aspects of an up-front capital grant scheme that concern them. This is how they responded. Almost seven in ten told us they had concerns, and outlined what they were, while three in ten told us they had no concerns.

Total responses	167
No	55 (33.1%)
Yes	111 (66.9%)
Percentage without comments	35%
Percentage with comments (A)	65% (108)



One in ten survey respondents with concerns cited perceived conceptual flaws in not basing the grant on a system’s net carbon benefits and in discouraging larger renewable systems. Some of their comments follow.

“This is likely to lead to situation where large companies (e.g. saving Britain money etc) jump onto the grant until it is assumed. This is likely to be in more [densely] populated residential areas. This does not favour the existing industry which is made up [of] smaller installers serving the existing marketplace which is largely off grid. It is a retrograde step as we have already had the RHI premium

payment scheme which was a forerunner to the more sophisticated RHI mechanism. The existing mechanism [guarantees] carbon savings through the ongoing payment declaration structure.”

“A fixed grant cannot ever reflect the relative value to the UK of different technologies or installation sizes. A simple, transparent figure is welcome but there will have to be a small amount of size banding for each technology. If not then the consequence will be that the only projects that get funded are small and cheap with relatively low heat loads and therefore carbon savings. This will fail to deliver value for money and will not support a diverse low carbon heat industry.”

“The focus upon grant aid to heat pump technology is a major issue for us. Heat pumps are not a renewable technology in themselves, they use electricity to produce heat efficiently and of course depend upon inefficient electrical generation from a range of fuel mixes. Whilst this is of benefit in new heat efficient homes, it is of no benefit to older properties as the heat load is too great – which is the majority of UK housing stock. Heat loss mitigation can only go so far in many of these properties - the heat-load is still beyond the capability of these devices on a normal domestic electrical supply. The level of support should be relative to the gain in terms of efficiency and net CO₂ produced and therefore most appropriate technology. Small scale biomass in traditional stone houses is still the best way to make the biggest impact. Unfortunately, the RHI support for this has [all but] disappeared and the proposed scheme is no better.”

“To have a flat rate of £4,000, regardless of system size or type, will discourage customers from investing in larger systems/GSHP systems. This will discourage the change from large fossil-fuelled systems to large renewable systems and will simply encourage the small end of the market where fossil fuel displacements will be minimal.”

“As a mainly ground source heat pump installer the grant should be higher for this technology to reflect the added capital cost and improved efficiency.”

“As above plus we specialise in GSHP's which are the most capital cost yet provide the most reliable and efficient and clean power source for homes but the grant is proposed as being identical to the other technologies.”

“Install numbers will drop in large numbers. People are generally claiming 7-10k! At 4k interest will drop.”

“We install heat pumps to the retrofit market and they are currently very happy with the level of grant under RHI because by the time the 7 years have passed it doesn't end up costing them much more for a heat pump than it would have done to put in a whole new gas boiler system.”

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“As previously mentioned the grant is not enough and makes renewable energy unreachable for the people in fuel poverty. Currently all of the RHI is being collected by people who really don't need the incentive at all.”

“Taking away the present scheme, which is proving not enough to even use up the government budget on the Domestic RHI and replace it with less incentive is going to contract the market in a huge way, especially the ground source market. Both will drop off a cliff similar to solar PV.”

“This scheme will cause the industry to contract and to the least carbon effective installations. This coming at a time when the Committee on Climate Change are advising that heat pump deployment needs to be scaled up to 300,000 per year is a serious backwards step.”

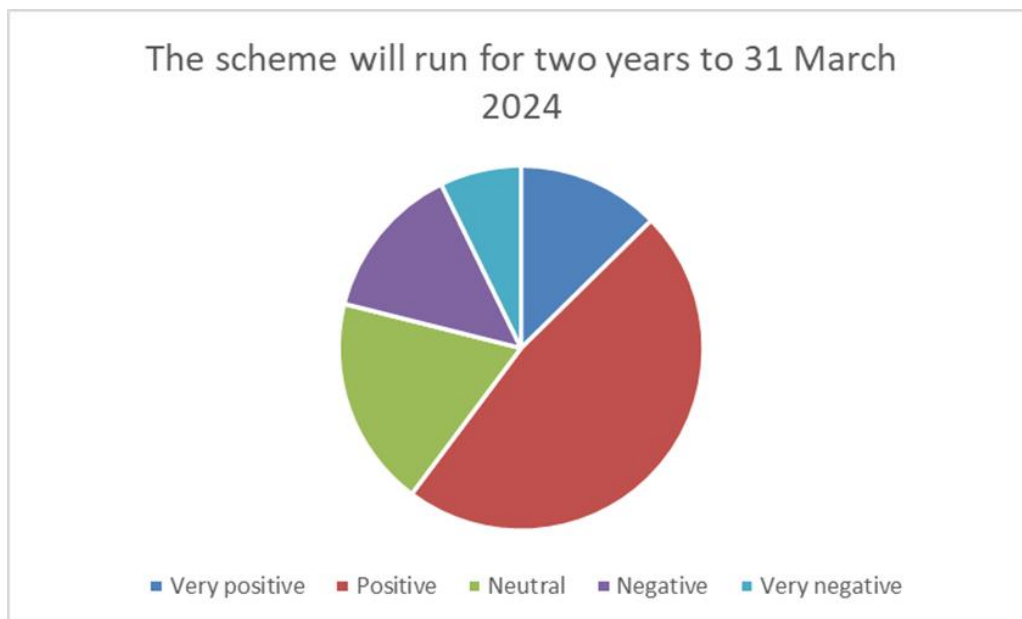
“A flat rate grant will probably mean that installs will be skewed to biomass (high temp) installs as the easier option, followed by Air source Hp and Ground source. Would be better if a tiered approach, based on efficiency delivered.”

“The amount for ground source should be at least 3x the cost to reflect the higher capital cost to install the system.”

“Make grants dependant on size and declared consumption of system/property etc.”

“I feel the grant needs to be of a higher value and relative to the size of install/heat requirement.”

Three in five survey respondents, when asked in Q2 about the proposed two-year timeframe for the scheme, viewed this positively while two in five viewed this negatively or were neutral. (See the chart below.)



27. If you believe a variation by capacity should be considered, please provide evidence to justify a process and level for varying the grant.

RECC supports the REA's view that the grant needs to be able to cover roughly similar proportion of the total cost of a project, no matter the size or technology required. The fairest way to do this would be to deliver a grant based on the capacity required to sufficiently heat the building. This is best achieved by providing a flexible grant that pays out based on £/kW deployed, with a proportion of each kW covered by the grant.

To further enable larger projects to deploy, a low-interest loan should also be offered in conjunction with the scheme to help cover the remaining cost of the project. This will also help mitigate low quality or undersized projects by enabling consumers to consider more expensive installations.

Such a loan is likely easiest supplied by Government and can be modelled on the successful Home Energy Scotland Loan Scheme, which provides 0% interest loans up to £17,500 for renewable energy systems.² At this level, the remaining capital expenditure following receipt of the grant is easily met and will make the Clean Heat Grant Scheme far more attractive to consumers. This would simply be a case of extending this scheme to the rest of the UK.

RECC endorses the evidence submitted by REA in its response that shows a flexible grant allowing for projects across the proposed capacity range to deploy, with a similar level of each project covered by the grant. Most significantly, a flexible grant of £280/ kW results in the consumer having a remaining capital cost below £10,000 in most cases, no matter the capacity being installed. This is below the 'psychological threshold' identified in the consultation as being critical to incentivising consumer uptake.

REA has shown in its response that a flexible grant allows for projects across the proposed capacity range to deploy, with a similar level of each project covered by the grant. Most significantly, a flexible grant of £280/ kW results in the consumer having a remaining capital cost below £10,000 in most cases, no matter the capacity being installed. This is below the 'psychological threshold' identified in the consultation as being critical to incentivising consumer uptake.

In June RECC asked its renewable heating members, in Q5 of the survey, whether they had any other comments on the Government's proposals, one in two said they had.

One in ten survey respondents who had further comments explained that the scheme was not suitable for decarbonising the country. Some of their comments follow.

"It is concerning that support for hybrid heat pump systems appears to be omitted from the proposals. With the closing of Non-domestic RHI in March 2021 and Clean Heat Grant not coming into force until April 2022, there will be a substantial funding gaps for tech such as shared ground loop heat pumps. In a time where government is prioritizing achieving net zero goals and driving

² For further details see: <https://energysavingtrust.org.uk/scotland/grants-loans/home-energy-scotland-loan-overview>

economic recovery from Covid-19 via the green sector, it would make sense for such industries to be supported rather than hindered.”

“If you wish to inspire investment and hit climate targets that are decades in the making you MUST give higher and longer-term support that reflects that policy genuinely. Now is the time to seize the green opportunity for the UK. could also be offering a simple interest free loan for the balance of the cost to help out.”

“First of all, there needs to be a serious consideration of extending the RHI for at least 3 months of which we have missed out on due to Covid-19. If you took a 24 month period to the proposed end of the RHI period, 3 months lost is a significant amount of time and has cost our company a lot of money, certainly a lot more than any grant money that has been on offer. This potential deferral / 3-month [further] extension to me should not be out of the question. Secondly, if the grant scheme is the only direction [Government] wishes to pursue then the grant figure (£4k) must be increased. If you work to an average sales price of £ 10k, without a decrease in the product cost, which will only be going one way, the business will not be feasible. The administrative work involved to obtain the grants will no doubt be extensive and therefore we would still need the same set up/staff effectively to carry out the day-to-day running of the business. What [Government] will undoubtedly find is that the only people that are able effectively to carry out work in line with the scheme are the ‘one-man bands’ rather than the businesses that have grown and developed around the industry over the last few years. This will inevitably lead to a poor service and experience involved with those willing to take on an installation under the new scheme and in effect drastically reduce the amount of heat pumps being installed and efforts at reducing the carbon footprint. To me the only way the industry will go without a substantial plan going forward will be in the same direction of solar PV. Yes, there are still installations going in, only now we are experiencing people putting in solar PV in for the good of the environment etc, being more intrinsically motivated rather than financially motivated. However, this has taken more than 3 years. No business could ever plan for the continuation of the decrease in installations to the same degree. To be serious about the future of the heat pump installation I firmly believe a more substantial plan needs to be in place to support those who have helped grow and build the industry over recent years.”

28. Please provide any relevant views to help inform development of the delivery mechanism.

The principal source of information for consumers is direct from installers. Thus the key push for consumers to apply for vouchers is likely to come from installers. It is essential that installers provide consumers with correct, accurate information, and that they establish suitability of the property before proceeding with the installation.

It is essential that consumers have access to independent sources of advice about the suitability of systems for their property, e.g. calculators, cost comparison websites, interactive websites and independent advisors.

These grants must be closely linked into low- or zero-interest grants and dependent on energy efficiency ratings, and the correct size of pipes, radiators and underfloor heating being installed.

Given the intention to make the first stage of the application consumer led, it will be important that the applicant is made aware that the grant they receive is based on the size of the project installed and that this will need to be appropriately justified by the installer in stage 2. It is important that consumers are protected during this process and that in the event that they have been miss sold an installation, that can then not be justified in stage 2, the remaining cost does not revert to the consumer. This will help to ensure installers design and install appropriately sized projects, as failure to secure a grant could see costs come back to them.

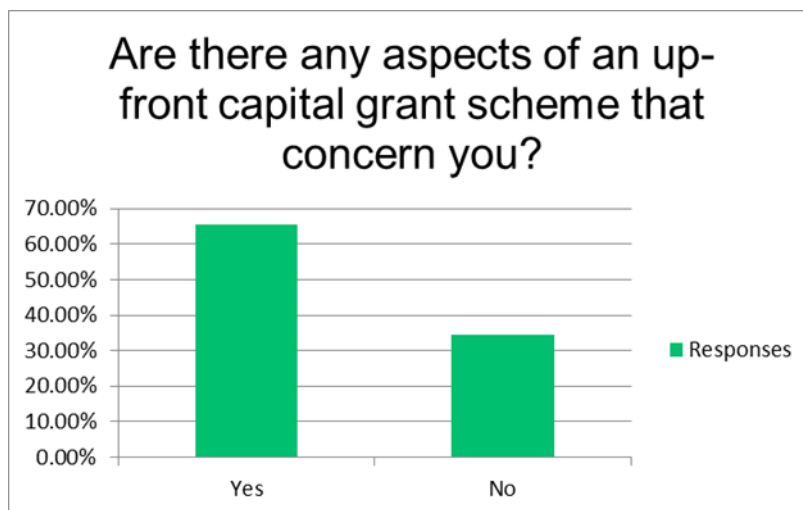
RECC considers that the voucher fulfilment scheme needs to be designed so as to guard against consumers being pressurised into applying for vouchers in respect of an unsuitable system, and then being unable to cancel their contract with the installer. RECC further considers that Government must ensure that the process for redeeming the vouchers is rigorous and checked, but that there are no inordinate delays built into the system which would adversely affect installers' cash flow. It must be clear who is responsible should a grant not be forthcoming at the end of an installation. RECC urges Government to take the following points into consideration:

- vouchers should only be issued on evidence of a satisfactory HPSPE relevant to the property in question and its residents;
- the HPSPE should immediately be followed by the heat loss calculation carried out in situ;
- consumers must have the right to cancel the contract if the heat loss calculation results differ in any significant way from the HPSPE;
- installers must provide itemised quotations to consumers and show the contribution the grant will make to avoid inflating the base costs and treating the grant as the margin;
- installers must be incentivised to work with consumers so that they understand what they are installing and how to use it correctly;
- if the grant is refused post-installation it must be clear in the contract the position the consumer will be in regarding the missing £4k – they should not be liable unless it can very clearly be shown that it is their responsibility that the grant was refused;
- there must be clear Service Level Agreements (SLAs) for administering the voucher system including timeframes for carrying out the requisite checks and redeeming the vouchers;
- installers must be made aware of these SLAs and the timeframe so that they can manage their cashflow effectively;

- Government must carry out routine and risk-based spot checks on installations – where they are shown to be non-compliant with the MCS standard or consumer code the installer should be liable, not the consumer;
- consumers must have access to low- or no-interest loans to cover the balance of the up-front costs together with the cost of upgraded pipes, radiators and underfloor heating.
- any commercial finance providers involved in the scheme must take liability for any mis-selling of the system they are part financing (performance, reduced energy costs &c).

In June RECC asked its renewable heating members, in Q3 of the survey, whether there were any aspects of an up-front capital grant scheme that concern them. This is how they responded. Almost seven in ten told us they had concerns, and outlined what they were, while three in ten told us they had no concerns.

Total responses	167
No	55 (33.1%)
Yes	111 (66.9%)
Percentage without comments	35%
Percentage with comments (A)	65% (108)



One in ten survey respondents who had further comments cited equity of access to the scheme, fearing that those in fuel poverty would struggle to find the balance of the up-front costs, while wealthier consumers would be more like to have ready access to funds. Some of their comments follow.

“The ambition is [too] low, on the one hand it will potentially help smaller installs go ahead who could be in fuel poverty but the likelihood is the more cash rich, the bigger heat loads / heat pumps and who could afford it in the first place will go ahead sooner at the expense of the smaller installs.”

“The prices of installation are anywhere between £10,000 and £30,000. The fact [that] you are reducing the RHI available is ridiculous and you are only going to be able to sell these systems to the rich. Surely it would be better to leave it as it is or increase the amount that you would give out beforehand. Another way you could do this is to pay the full amount of RHI to the installer once it has been installed and signed off.”

“This is likely to lead to situation where large companies jump onto the grant until it is assumed. This is likely to be in more [densely] populated residential areas. This does not favour the existing industry which is made up [of] smaller installers serving the existing marketplace which is largely off grid. It is a retrograde step as we have already had the RHI premium payment scheme which was a forerunner to the more sophisticated RHI mechanism. The existing mechanism [guarantees] carbon savings through the ongoing payment declaration structure.”

“Fuel poor will struggle to fund the balance.”

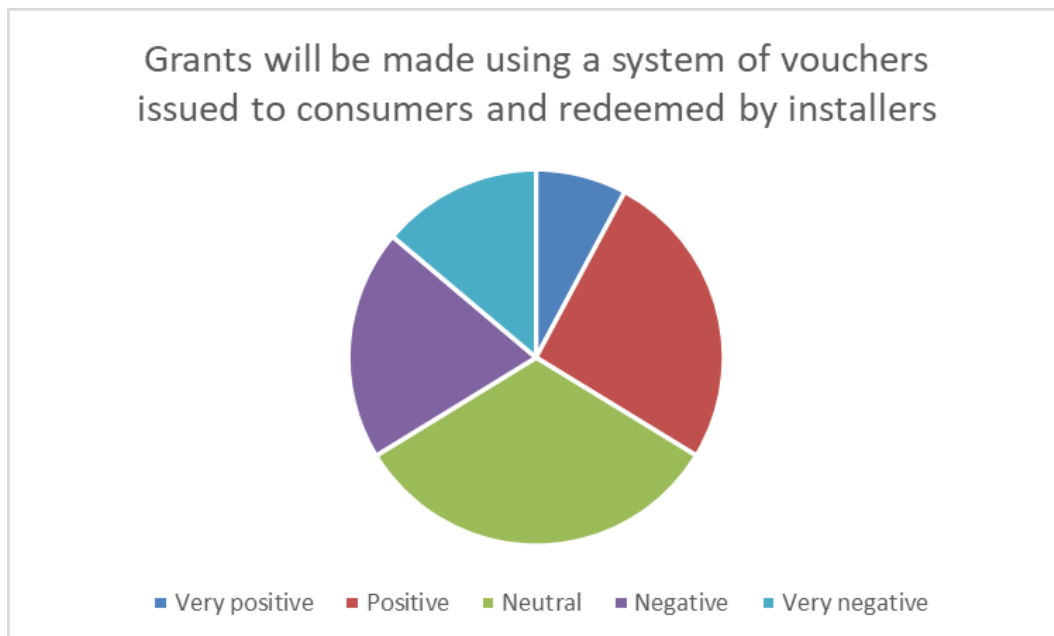
“We need to [be] VERY clear on the stipulations to qualify for the grants.”

“Cost cutting scheme that will only work if other types of boilers are ACTUALLY banned from installation.”

“Will make no different to take up- only people benefitting are ‘manufacturers, selling on wildly exaggerated returns.”

“If installers can’t redeem the voucher until after the installation has been completed and post MCS accreditation, then the current 60% maximum RECC threshold for upfront [deposit and further advance] payments from the customer will have to be increased.”

Respondents, when asked in Q2 about the proposal to make the grants using a system of vouchers issued to consumers and redeemed by installers, were evenly split with one in three viewing this very positively or positively, one in three being neutral, and one in three viewing it very negatively or negatively. (See table below.)



29. Do you agree with the minimum efficiency requirements for heat pumps and evidence requirements? Yes/No.

Yes. RECC supports the proposal to increase the minimum efficiency requirement for heat pumps from 2.5 to 2.8.

These grants need to be closely linked to energy efficiency grants available so that a minimum level of efficiency can be achieved. The grants also need to be linked to funding for larger radiators, pipework and/or underfloor heating. The evidence is that, without this, heat pumps do not work efficiently and additional forms of heating are likely to be employed.

Please provide further evidence to support your response.

Both the consultation and the associated Impact Assessment stress that the overall scheme spend cannot exceed £100m and it is important the money be targeted in such a way as to:

- maximise consumer benefit;
- maximise CO₂ saving; and
- create the conditions necessary for sustainable market growth by providing the correct signals to installers and industry bodies to place more emphasis on improving installation performance.

Field trials indicate that a significant proportion of heat pump installations perform with an overall efficiency of less than 2.5³. To contribute to the evidence available on this issue, RECC has carried out detailed research on data provided to us by Ofgem. Our research provides, in particular, a unique insight into the reliability of installer-provided SCOP forecasts.

³ See for example:

Dunbabin, P. and Wickins, C. (2012) Detailed analysis from the first phase of the Energy Saving Trust 's heat pump field trial. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48327/5045-heat-pump-field-trials.pdf

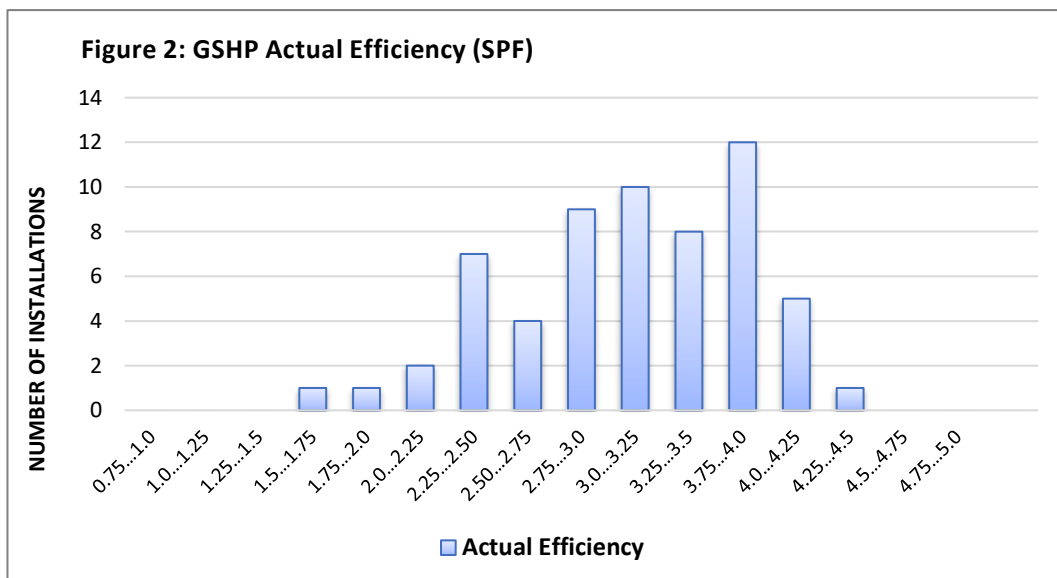
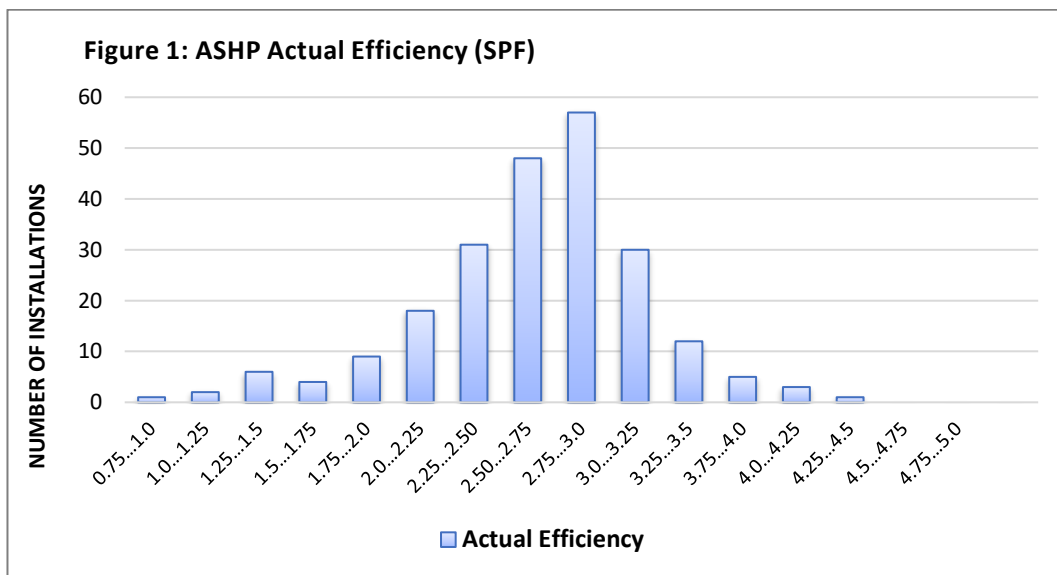
Gleeson, C. P. and Lowe, R. (2013) 'Meta-analysis of European heat pump field trial efficiencies', Energy and Buildings. Elsevier B.V., 66, pp. 637–647. doi: 10.1016/j.enbuild.2013.07.064.

Lowe, R. et al. (2017) FINAL REPORT ON ANALYSIS OF HEAT PUMP DATA FROM THE RENEWABLE HEAT PREMIUM PAYMENT (RHPP) SCHEME Issued : March 2017. Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/606818/DECC_RHPP_161214_Final_Report_v1-13.pdf

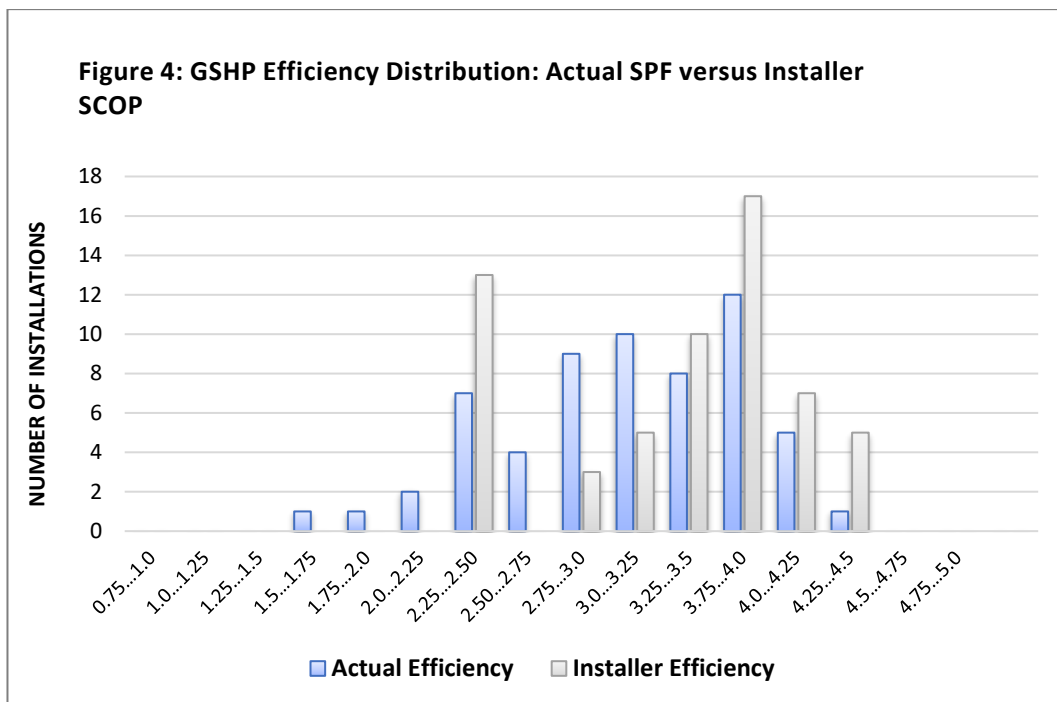
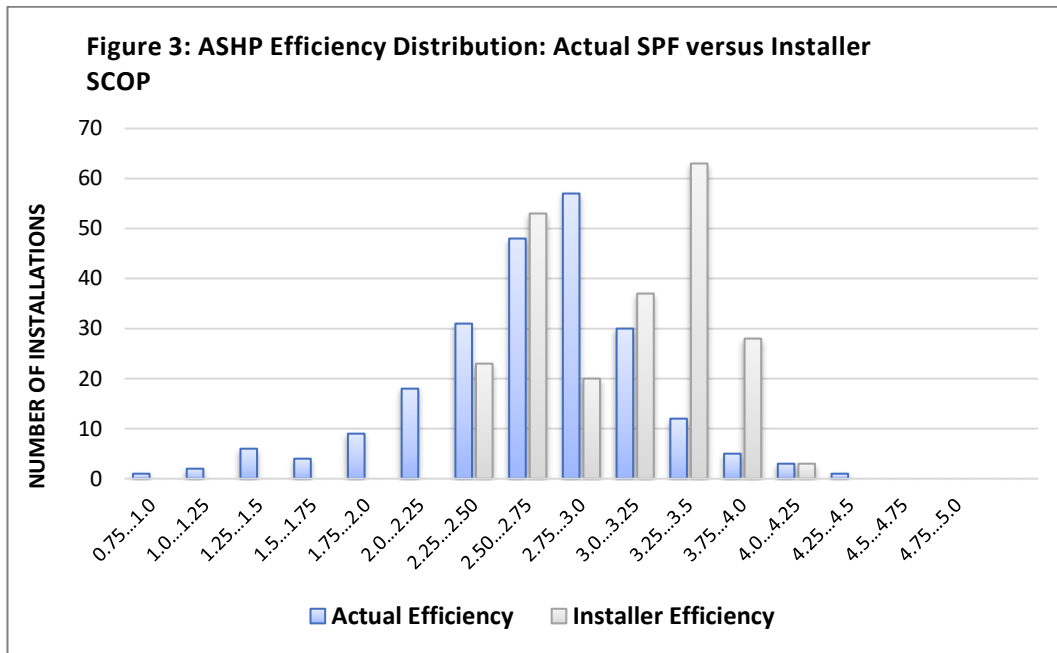
Figures 1 and 2 (below) provide the frequency distribution of actual efficiencies calculated for ASHPs and GSHPs separately. The overall *average* SPF for the heat pumps included in the final analysis was as follows:

- All RHI accredited ASHPs: **2.67**
- All RHI accredited GSHPs: **3.15**

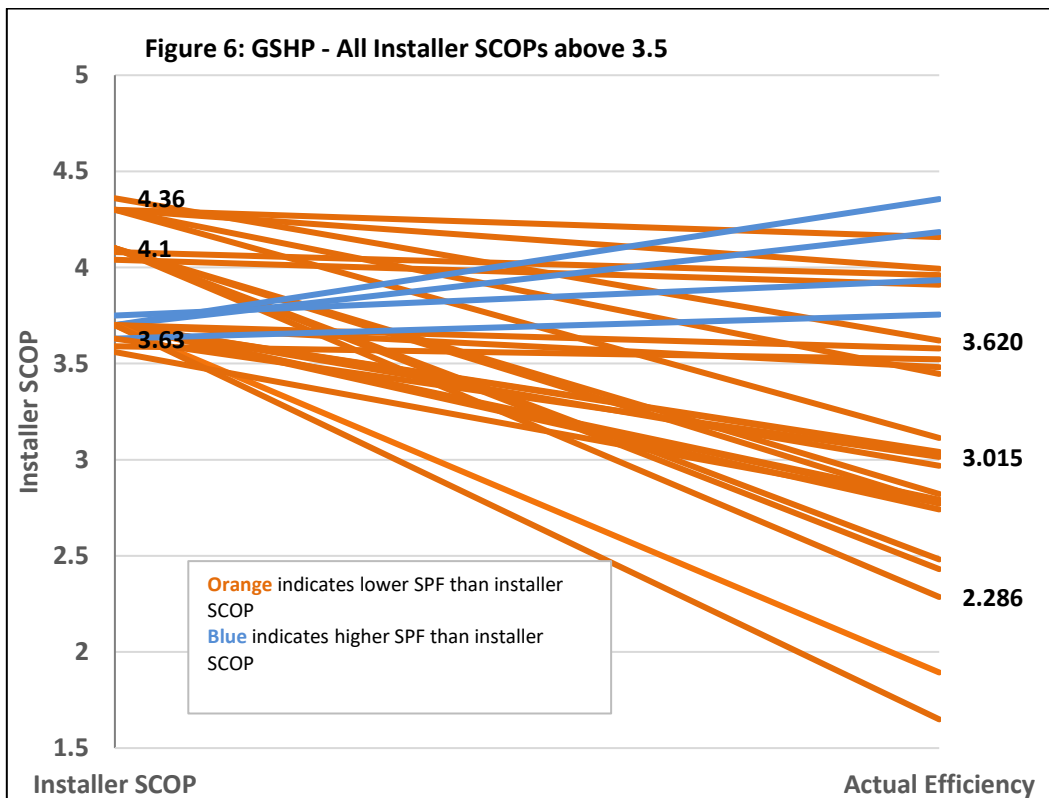
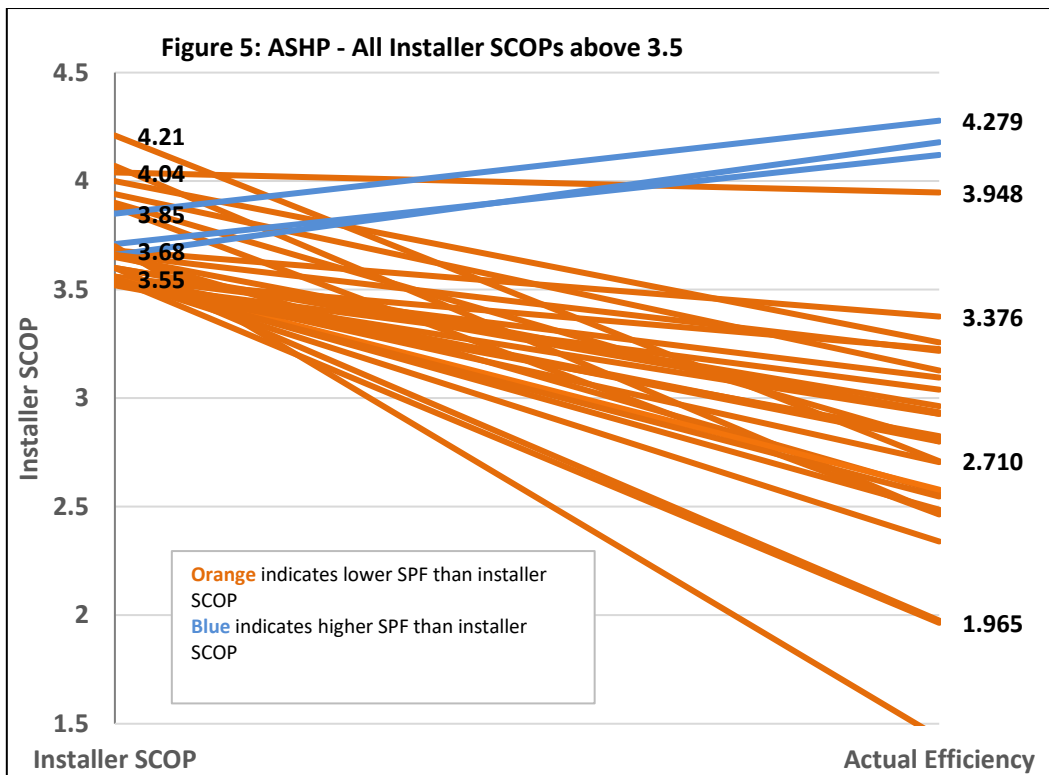
These results are slightly higher than the RHPP field trial results published in March 2017 for the SPFH4 boundary.



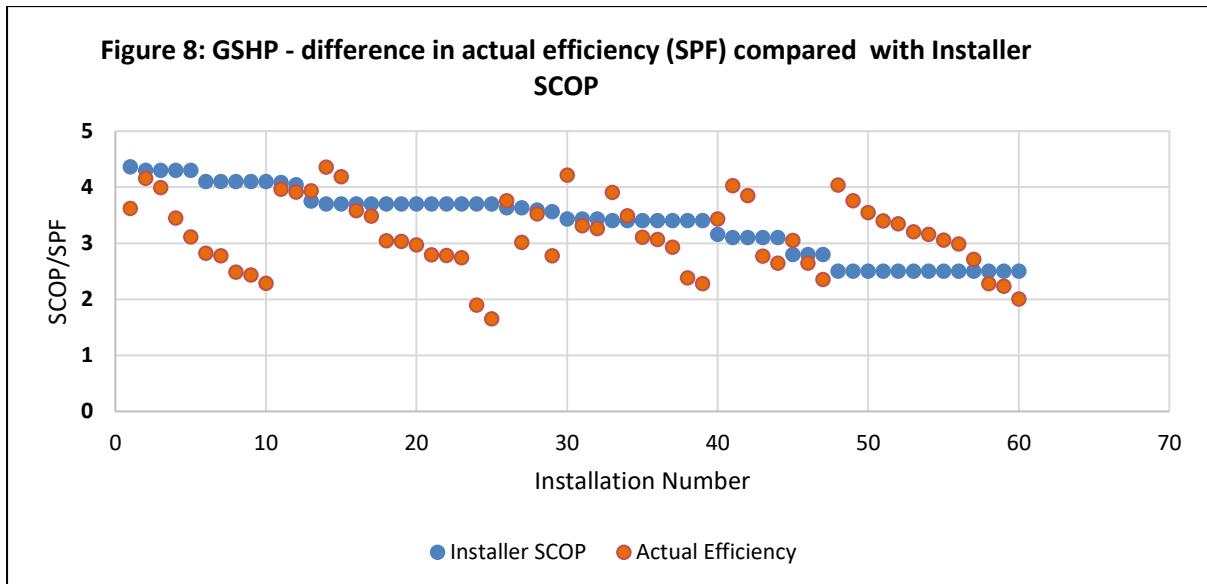
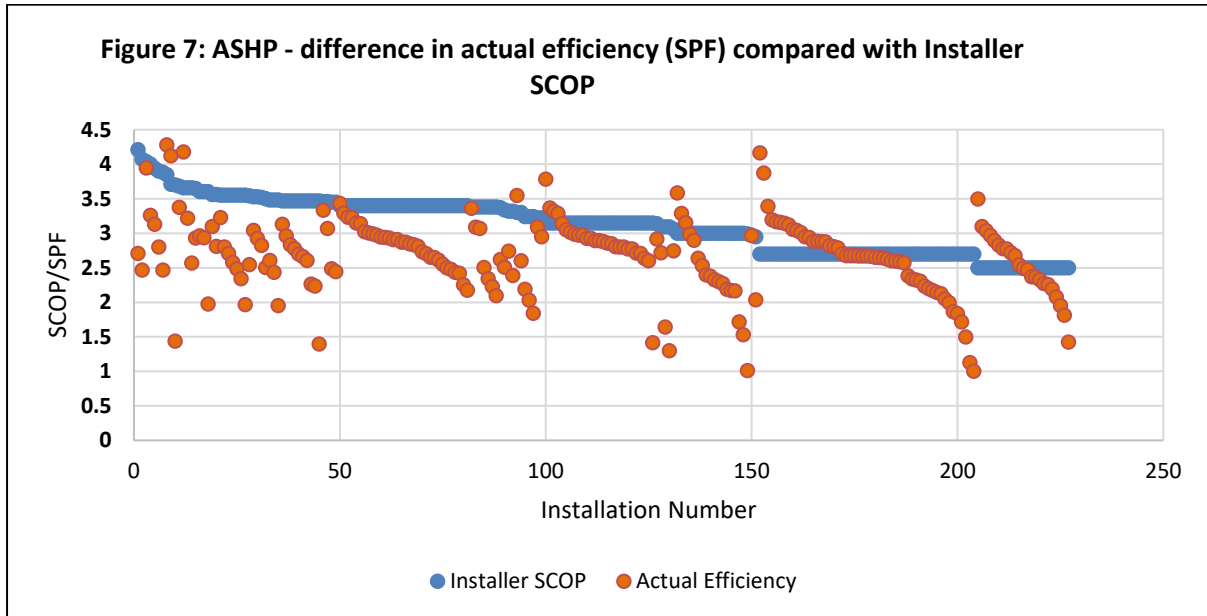
Figures 3 and 4 (below) provide the efficiency distribution comparing the actual SPF with the installer provided SCOP forecasts.



Figures 5 and 6 (below) are slope graphs that illustrate the discrepancies between the installer efficiency forecasts and the actual SPF values obtained for those installations where the installers provided forecasts of 3.5 or higher. Overall, the largest discrepancies relate to the installations where the installer has forecast high SCOPs.



Figures 7 and 8 show that there is little correlation between the installer SCOP forecasts and actual SPFs obtained. Overall, a proportion of the lowest (most cautious) SCOP forecasts tend to *underestimate* actual SPFs obtained while the vast majority of other SCOP predictions *overestimate* likely performance. The installations with the highest SCOP forecasts do not appear to perform significantly better than the others.



The research into the Ofgem data described above is important for the following reasons:

It is clear that heat pumps can provide efficient and cost-effective heat with a significant proportion of both ASHPs and GSHPs delivering SPFs of greater than 3.0. Some achieve very high efficiencies of between 3.5 and >4.0. A clear majority of GSHPs, in particular, provide the efficiencies that consumers are usually told should be expected: 3.0 and above.

However, most heat pumps are not as efficient as installers predict and a significant minority continue to perform with SPFs of less than 2.5. Critically, (as *Figures 7 and 8* illustrate), there is little to no correlation between the SCOP forecasts and the actual efficiencies obtained. Given these results, it is RECC's view that far more emphasis should be placed on improving the design stage of installation practice.

It is critical to note that these discrepancies between the installer forecasts and the actual experience will, in most cases, result in longer than expected 'payback' times. Our own modelling shows that small variations in SPFs achieved can have severe financial consequences: consumers may be told they will save money on fuel bills when that is unlikely or impossible.

Additionally, the above research does raise important questions about the methodology used for performance forecasting and the inherent problems with the SCOP metric. RECC described those problems in the newly published ***Domestic Heat Pumps: A Best Practice Guide*** (published by MCS and RECC) (attached) which states:

"The SCOP efficiency value is based on factory-based product testing. The SCOP efficiency prediction will differ from the actual performance achieved by the heat pump when installed within the context of a heat generating system. It is therefore inevitable that the actual efficiency achieved will be less than the SCOP prediction." Page 60.

Yet, even though industry bodies recognise that the SCOP metric is very likely to exaggerate performance, that information is rarely made available to consumers. Even where a system is correctly designed and forecast to deliver a SCOP above 2.5, there is a high probability that the actual efficiency will be less.

RECC has worked on these issues for some time and argued within the MCS Heat Pumps technical working group that the industry should place more emphasis on offering consumers realistic performance assessments.

Using a minimum efficiency threshold of 2.8 will focus industry attention on design issues and performance forecasting and reduce the number of installations that perform with efficiencies of less than 2.5. We will continue to argue within MCS for the replacement of the SCOP metric with a forecasting tool that better reflects actual performance. Consumers are more likely to choose cleaner heat options if they can make informed decisions.

We also note that BEIS proposes 'that evidence will need to be provided that the SCOP has been calculated in line with the MCS SCOP calculator, or equivalent.' RECC strongly supports the current MCS rule that installers must provide consumers with the compulsory MCS *Heat Pump System Performance Estimate* (HPSPE). That document provides consumers with the MCS SCOP calculation and additional information about the impact of lower flow temperatures. The HPSPE provides key information in a simple and unbiased form and its use should be specified as a condition of Clean Heat Grant eligibility. BEIS should consider making the submission of the HPSPE to a central register compulsory. BEIS (or MCS/RECC) could administer the register and the submitted HPSPEs could then

be used as evidence that the SCOP has been calculated in line the MCS SCOP calculator and the submitted forms could then be used for audit checks.

As evidence of this, and as set out in more detail in our response to Q35, the issues listed below are examples of those commonly cited in air source heat pump complaints received by RECC in 2018 and 2019:

- the system is undersized (e.g. property requires 30KW system, but a 15KW system is installed);
- the system does not provide adequate heating or hot water. For example, the design stipulates that the system will reach 21 degrees C, but it reaches only 12 degrees C;
- problems with radiators e.g. their size is inappropriate, or they are leaking;
- high electricity bills. Consumption levels significantly more than the amount consumers expected at the pre-contractual stage. For example, a consumer reports an annual consumption of 16,000 kWh compared with domestic average consumption of about 4,000 kWh;
- lack of savings. Consumers are told to expect savings in their energy costs of between 30-40% but find a few months after the installation that savings are not achievable.

**30. Do you agree with the proposal to require electricity metering for all heat pump installations?
Yes/No.**

Yes. RECC supports the government's aims to improve consumer awareness of system performance and focus attention on system efficiency through the use of metering for performance. As detailed in our response to Question 29, RECC is concerned about how performance is communicated to consumers and we support strategies that improve understanding.

Please provide further evidence to support your response.

These meters can, in some circumstances, offer practical help if consumers seek to complain to their installer about performance issues. Perhaps just as importantly, these meters can also help to focus the installer's attention on performance issues.

It is RECC's view, however, that consumers require significant knowledge about system operation in order to use the information properly. Installers are unlikely to offer guidance. Additionally, by their nature, the metering relates to installation work already completed. They do not empower consumers to challenge installers at the design stage.

Metering for performance is useful but should only form part of a much wider strategy to strengthen the consumer's ability to make informed choices. To that end, RECC has campaigned for improved performance information *before* contract and we hope BEIS will support RECC's suggestions under Question 29 on this issue.

RECC also supports REA's call for Government to go further and require heat meters on the output of the heat pumps as well. Whilst the installation of an electricity meter allows the householder to monitor electricity usage, it does not give them an understanding of the system efficiency. Fitting a heat meter as well allows comparison of electricity used with heat delivered and thus provides a clear indication of system performance. We agree with REA that this will drive installation standards up as householders will be better able to hold installers to account. As cited elsewhere, poor design in heat pump systems can result in excessive electricity consumption, depriving other grid users of capacity and increasing heating costs for consumers. This is one of the most common issues cited by consumers who register complaints with RECC.

31. Do you agree with the proposed air quality requirements set out above? Yes/No.

No. Biomass boilers are underrated as a technology. They provide a good solution in lots of settings, particularly for properties off the gas grid that are hard to treat.

The proposed restrictions are therefore unnecessary and damaging to both the purpose of the Clean Heat Grant Scheme and to the Government broader heat decarbonisation objectives, creating a barrier to deployment. It also greatly restricts consumer choice. The market will be able to determine where biomass is an appropriate renewable heat technology for a site, in terms of delivering heat requirements and value for money. Rather than an outright ban, the Governments focus must be on the ensuring the tight installation and maintenance standards so that what is installed poses no risk to air quality.

Please provide further evidence to support your response.

The recent 2018 paper on Biomass Combustion in Urban Areas by WHA and REA:

(<http://www.woodheatassociation.org.uk/rea-wha-response-to-beis-consultation-on-renewable-heat-incentive-biomass-combustion-in-urban-areas/>) is particularly strong when it describes the international context in which biomass plays a critical role in countries such as Sweden, Denmark and Germany. In particular, the section describes innovative incentive grants in Germany that are:

“...not only provided to those installing a biomass system on a €/installed-kW-basis, but they are also 'topped up' where the installation meets certain enhanced emissions criteria.”

Best practice is incentivised through extra funding for flue gas clean up technology and additional support offered for installation in energy efficient buildings. The WHA and REA argue that this type of incentive regime improves efficiency and installations that are suitably clean for urban areas.

RECC has contributed time and resources to the development of this standard and we support the objective. However, the detailed research into the performance of solid biomass boilers (funded by BEIS and carried out by Kiwa) found that the *main cause* of pollutant emissions was rapid cycling. The current plans for the Biomass Maintenance Standard, which confine its remit to very basic annual checks carried out by personnel who may not be qualified to the same standard as MCS installers, will not resolve pollutant emissions related to rapid cycling caused by poor design.

Relegating biomass to 'niche' uses in limited areas risks breaking up supply installation and fuel supply chains and harming the technical help the owners of existing systems can access. RECC would support an alternative and more nuanced approach that uses the Clean Heat Grant to incentivise better installation practice and cleaner biomass technologies. The WHA and REA have highlighted a number of ways this can be achieved:

<http://www.woodheatassociation.org.uk/rea-wha-response-to-beis-consultation-on-renewable-heat-incentive-biomass-combustion-in-urban-areas/>

For example:

- BEIS intends to carry over the approved fuel and emissions certificate requirements from the RHI. BEIS should consider *reducing* the RHI emissions thresholds (e.g. particulate matter threshold from 30g PM/Gj to 15g).
- BEIS should consider tiered support based on the emissions profile of systems as used in Germany. Alternatively, the Grant could be made available to systems that meet specific low emissions and high efficiency criteria.

32. Do you have any comments on how best to ensure ongoing compliance with fuel sustainability and quality requirements following the redemption of a grant?

If homeowners receive a no-strings-attached up-front grant it will not be possible to oblige them to purchase sustainable fuel once the grant has been redeemed.

As the one-off grant will replace on-going obligations under the RHI, it is difficult to know how to ensure compliance with fuel sustainability and quality requirements. The best solutions are unlikely to be supported by BEIS – for example, BEIS licensing of fuel suppliers to ensure that ENplus or some other form of certification is compulsory. Unless regulation is imposed on the supply side, specific obligations would need to be imposed on the demand side as a contractual condition of grant approval. IE a contractual condition could be that the consumer source fuel only from suppliers registered with the Biomass Suppliers List.

33. Please provide views on the appropriate requirements for the heat loss calculation, as well as the minimum heat loss value that should need to be demonstrated.

RECC agrees with REA that the Heat Loss Assessment should be conducted as part of all applications on the scheme, not just biomass. This should be used to make clear the capacity of the installation required, and the grant level based on this number.

The proposed heat loss assessment should not only be used to ascertain if the right technology is being installed, but if the right capacity of being proposed on all Clean Heat Grant Scheme Applications. The value of the grant is then based on this assessment, with £/kW paid out on the actual capacity required. This should avoid people being able to benefits from wrongly sizing installations or gaming the system to get more vouchers.

The grant level can be based and issued in conjunction with the heat loss assessment which should be carried out for all applications. The assessment will stipulate both the appropriateness of the technology being installed and the capacity required to effectively heat the building.

On acceptance of an application, which includes an independent heat loss assessment, Ofgem will be able to issue the grant voucher at a value based on the capacity recorded as required by the assessment. For example, if the capacity required is 20 kW's, and a grant of £280 per kW is applied, a voucher for £5600 would be issued. This can be done with the assurance that the project is appropriately sized and well designed to meet the heat needs of the property.

By avoiding explicit tiers and basing the grant on the heat loss assessment, the scheme should be able to avoid the oversizing issues or multiple boiler issues experienced in the non-domestic RHI.

While BS EN 12831 does offer a reasonable assessment of heat loss on m² basis (W/m²), its use related to, for example, MCS heat loss assessments has been criticised for failing to include critical heat loss sources. An MCS heat loss assessment would definitely not include an air tightness test or account for significant thermal bridging. What this means is that BS EN 12831 (as used in a MCS assessment) works, at best, as a 'ball park' estimate.

The chaotic nature of heat pump SCOP assessments is demonstrated in RECC's research cited in detail in our response to Q29. If ASHP SCOP forecasts were more reliable, then the proposal for a minimum heat loss value for biomass may make more sense but, if the heat loss (W/m^2) is set too high, then there is a danger that the biomass option will be ruled out but an ASHP may still not cope well with the building due to poor design or a lack of air tightness (for example) which does not form part of the heat loss assessment.

A 'minimum' heat loss in W/m^2 fails to offer consumers flexibility to seek expert help from consultants or approved organisations (such as Home Energy Scotland) who can advise on a range of factors including heat loss and other fabric issues. RECC considers that Government is likely to be wrong in attempting to exclude biomass from urban areas, 'on gas grid' areas and also in relation to heat loss. As GSHPs may be impossible for most properties, such a strategy imposes ASHPs as the only possible clean heat solution for too many consumers. In other countries, both biomass and heat pumps are successfully used in energy efficient buildings and the BEIS insistence that biomass only be used in specific 'hard to heat' niche situations is not consistent with best practice elsewhere.

34. Please provide views on any other criteria to ensure that biomass support is focused on hard to treat properties only.

RECC considers that all these grants should be focussed on hard-to-treat properties in off-gas-grid areas only. The number of systems to be supported and the short duration of the programme lead to greater targeting needed for the grants if they are to reduce carbon effectively. It is unlikely that systems installed in properties on the gas grid will achieve significant CO₂ reductions.

As it stands the grant directly encourages the installation of cheaper technologies and smaller systems. It does not encourage installers to assess the right technology and size of project for that building's needs.

Biomass heat has provided some of the best value for money projects under the RHI and should be enabled to do so again in the Clean Heat Grant Scheme. Delta EE make clear that when considering harsher winters, which are widely predicted to become more common, policy makers need to be considering the role of higher heat load technologies.

Implement tight emission and maintenance standards for urban biomass projects. Such a restriction, which ignores the results that can be achieved from deploying Best Available Techniques (BAT), adopts an approach seen nowhere else in the world and sets a dangerous and difficult-to-reverse precedent which will further obstruct the deployment of renewable heat, particularly in larger buildings.

Ruling out support for biomass in 'on gas grid' post-code areas should certainly not exclude many properties where a gas grid connection is not economically viable. Domestic scale biomass is likely to be a better option for some of those properties than a heat pump. For example, GSHPs are not viable in most urban and semi-urban situations and ASHPs may not be suitable for existing properties that are hard to heat.

It is essential that Clean Heat Grants are part of a wider, holistic intervention that includes energy efficiency improvements. Clean Heat Grants should also be integrated with consumer advice about

hard to heat buildings and the best strategies to improve building fabric and what heat systems are most appropriate in specific circumstances.

The core problem related to 'hard to treat (or heat)' homes is that they have very poor energy efficiency and biomass will not resolve that problem. A hard to heat building with no energy efficiency improvements may have a heat loss of 30,000kWh per annum and a biomass system can be designed to meet that demand. However, a biomass system installed in the same but improved building with a heat loss of 20,000kWh could be smaller, would use less fuel, with lower emissions and cost less to run.

BEIS should place more emphasis on ensuring that consumers can make informed choices. Sustainable markets and supply chains are most likely to be established where consumers have access to a range of viable technologies and they can access expert advice on which technology is most appropriate to their specific circumstance and property. A better strategy would be to place more emphasis on improving the system design and performance of both biomass and heat pump installations through incentivising improved efficiencies for both technologies.

35. What do you consider to be the main consumer protection risks of providing support through an upfront grant and how might they be mitigated? Please provide evidence to support your response to question.

RECC considers that there are consumer protection risks from a number of aspects of the proposed scheme. These are around the design of the scheme, funding and the voucher fulfillment system. We have outlined these in more detail below.

Design of the scheme

Consumers are not generally well-informed about renewable technologies and, in particular, the difference low-grade heat will have in terms of their space heating and hot water. Consumers are generally motivated to save money on their energy bills, to reduce their CO2 emissions. This means that they are particularly vulnerable to misleading claims and pressure selling of renewable heating technologies. In particular, consumers are often persuaded that installing an air source heat pump in their home will reduce their energy costs when this is not the case. It is usually the reverse.

For this reason, RECC considers it essential that consumers have access to impartial information in the form of interactive websites, factsheets and cost calculators and cost comparators. This will go some way towards safeguarding consumers and ensuring they do not fall victim to misleading claims and pressure selling. In addition, RECC considers that the following structural changes are required.

- the scheme should be very tightly targeted only on off-grid domestic properties only;
- the scheme should allow for grants proportionate to the needs of the property in question and its occupants;
- as part of the voucher application process consumers must confirm that they have considered the independent information and advice available to them including about likely energy cost savings, the likely CO2 savings and whether the system they are contracting for is likely to be suitable for their needs;
- installers must be certified and competent, and there must be clear recourse for consumers should any problems arise before, during or after the installation of the system, including protection of their payments and access to Alternative Dispute Resolution;
- certified and competent installers must be clearly listed, for example on the MCS and RECC website, so consumers can easily find an installer and check that any claims are justified;
- the same, certified installer must sign the contract, be responsible for the design and installation and redeem the voucher, even if they subcontract elements of the work in line with MCS standards – that way consumers have one point of contact and one route to redress;
- consumers must be provided with the compulsory *MCS Heat Pump System Performance Estimate* (HPSPE) before signing a contract in line with MIS 3005 and the associated guidance – by law, all claims on the basis of which a contract is signed, whether made verbally or in writing, are implied terms of the contract;
- particular attention must be paid to the correct design of the system, and this must be built into the process of preparing the HPSPE, in line with MIS 3005 and the associated guidance;
- the HPSPE must be followed by a detailed heat loss calculation including a detailed room-by-room survey;

- consumers must be able to cancel the contract without penalty following a heat loss calculation even if they have already applied for a voucher;
- grants must be directly linked to grants for energy efficiency improvements and radiator upgrades without which heat pumps will not perform effectively, and also to interest-free loans for the balance of the up-front cost;
- the administration of the scheme should seek to avoid creating cliff edges which have been shown to increase mis-selling.

Funding and the voucher fulfilment scheme

A grant of £4,000 will only cover a proportion of the total upfront cost of a renewable heating system. This means that consumers who take advantage of the grant will be expected to find a minimum of 60% of the upfront cost from other sources. In RECC's experience consumers are often persuaded to take out credit to cover these costs, and this can end up being very expensive. Typically, consumers are informed that they will be able to cover the costs of the repayments through savings on their energy bills. However, this is rarely the case.

For this reason, RECC considers it essential that the Government makes available access to low- or no-interest loans to cover the balance of the cost of the renewable heating system. This has been shown to be very effective in Scotland and is a popular way for consumers voluntarily to upgrade their property.

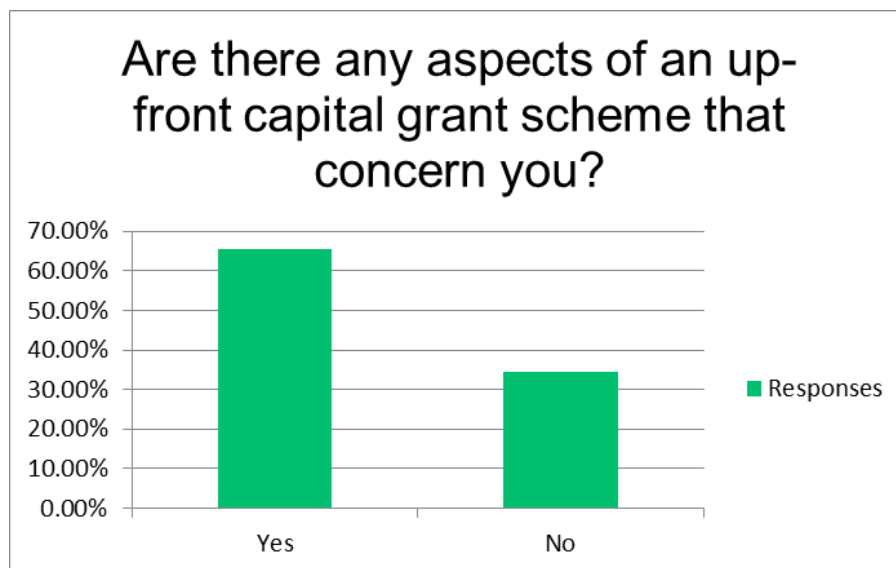
RECC considers that the voucher fulfilment scheme needs to be designed so as to guard against consumers being pressurised into applying for vouchers in respect of an unsuitable system, and then being unable to cancel their contract with the installer. RECC further considers that Government must ensure that the process for redeeming the vouchers is rigorous and checked, but that there are no inordinate delays built into the system which would adversely affect installers' cash flow. It must be clear who is responsible should a grant not be forthcoming at the end of an installation. RECC urges Government to take the following points into consideration:

- vouchers should only be issued on evidence of a satisfactory HPSPE relevant to the property in question and its residents;
- the HPSPE should immediately be followed by the heat loss calculation carried out in situ;
- consumers must have the right to cancel the contract if the heat loss calculation results differ in any significant way from the HPSPE;
- installers must provide itemised quotations to consumers and show the contribution the grant will make to avoid inflating the base costs and treating the grant as the margin;
- installers must be incentivised to work with consumers so that they understand what they are installing and how to use it correctly;
- if the grant is refused post-installation it must be clear in the contract the position the consumer will be in regarding the missing £4k – they should not be liable unless it can very clearly be shown that it is their responsibility that the grant was refused;
- there must be clear Service Level Agreements (SLAs) for administering the voucher system including timeframes for carrying out the requisite checks and redeeming the vouchers;

- installers must be made aware of these SLAs and the timeframe so that they can manage their cashflow effectively;
- Government must carry out routine and risk-based spot checks on installations – where they are shown to be non-compliant with the MCS standard or consumer code the installer should be liable, not the consumer;
- consumers must have access to low- or no-interest loans to cover the balance of the up-front costs together with the cost of upgraded pipes, radiators and underfloor heating.
- any commercial finance providers involved in the scheme must take liability for any mis-selling of the system they are part financing (performance, reduced energy costs &c).

RECC asked its renewable heating members, in Q3 of the survey, whether there were any aspects of an up-front capital grant scheme that concern them. This is how they responded. Almost seven in ten told us they had concerns, and outlined what they were, while three in ten told us they had no concerns.

Total responses	167
No	55 (33.1%)
Yes	111 (66.9%)
Percentage without comments	35%
Percentage with comments (A)	65% (108)



One in ten survey respondents with concerns stressed that contracting with an MCS-certified installer should be a prerequisite for applying for a voucher to ensure that high standards are maintained and that there is a level playing field. Some of their comments follow.

“As an MCS installer of biomass and soon to be ASHP [I think it is essential that] all installations must be subject to MCS standards.”

“To ensure that the high standards set by MCS installers are maintained by only allowing access to these contractors.”

“[All heat technologies will] be affected because this is a drop in funding by up to 50% from existing, together with drop in oil price, which again dampens uptake. We, as MCS registered contractors, will be competing against non MCS contractors, who don't have to jump through all the MCS hoops, so the relative difference is going to be less than £4K.”

“Work quality seems to get forgotten and numbers become more important. Installation/system quality is key or the reputation of renewables is forever ruined.”

“Concern if grant given to consumer and the installation work isn't completed by an MCS installer. Also £4,000 won't cover the cost of upgrading radiators and cylinder for heat pump installations so this may not be actioned.”

“Concern for standards if the grant is given to the consumer and the installation work isn't completed by an MCS installer.”

“There will be no assurance of quality if it will only be about filling out the correct forms.”

“Overcharging by installers and sub-standard installations [will be the norm] if they are not checked by proper bodies. Also companies with no track record will appear and leave sub-standard jobs, giving the market a bad name, and then moving onto the next funding or grant scheme.”

“We will see another rush of cowboys jumping on the bandwagon to take advantage of the scheme, then disappearing on closure.”

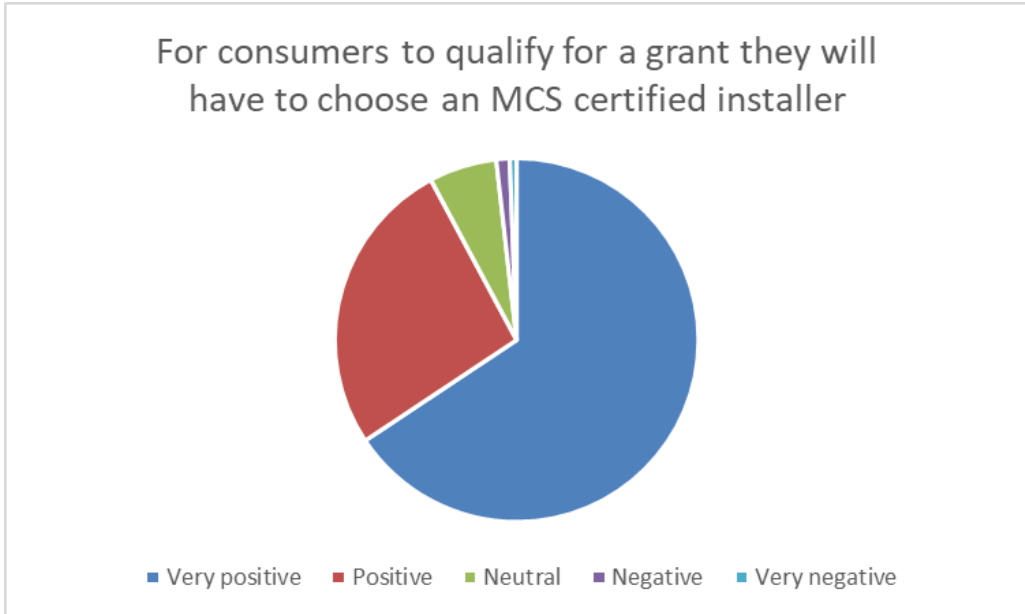
“[I am concerned about] the time and process for the consumer to apply for and receive a grant. The process and time lag for installers to redeem the voucher, as this could seriously impact profitability and cash flow. [I am also concerned by the] lack of mandatory consumer protection (RECC) commitment from the installer [leading to rogue] traders setting up to fleece consumers of the vouchers and supplying substandard service and equipment.”

“Example given that MCS standards required for retrofit but not new-builds but Gas Safe/ Oftec required for all gas/ oil boiler installers.”

“All government incentives are a positive especially when using MCS scheme to try and get the cowboys out.”

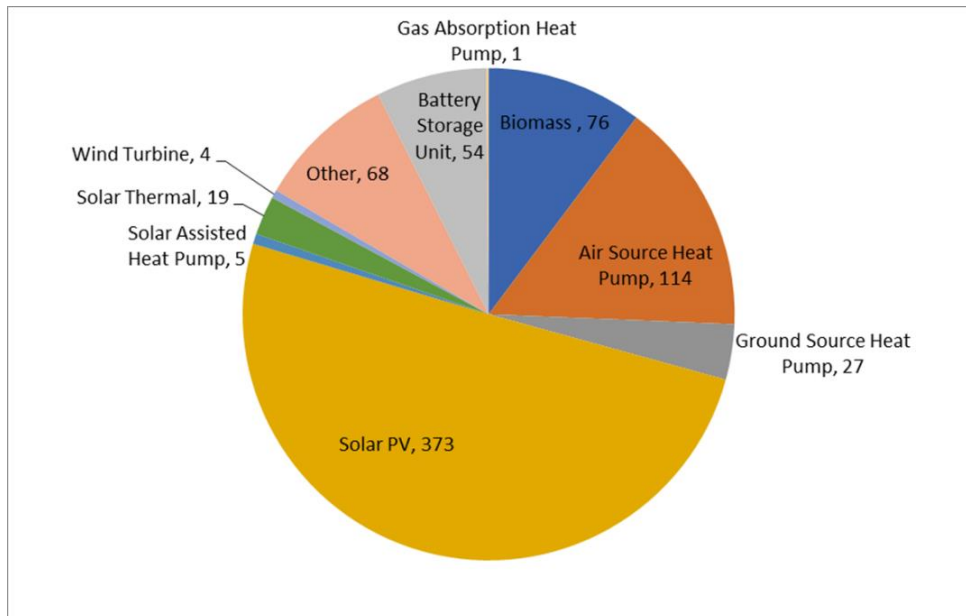
Ninety-three percent of survey respondents, when asked in Q2 about the proposal that consumers will have to choose an MCS certified installer to claim a grant, viewed this very positively or positively. Fewer than two percent viewed this very negatively or negatively. (See the chart below.)

For consumers to qualify for a grant they will have to choose an MCS certified installer



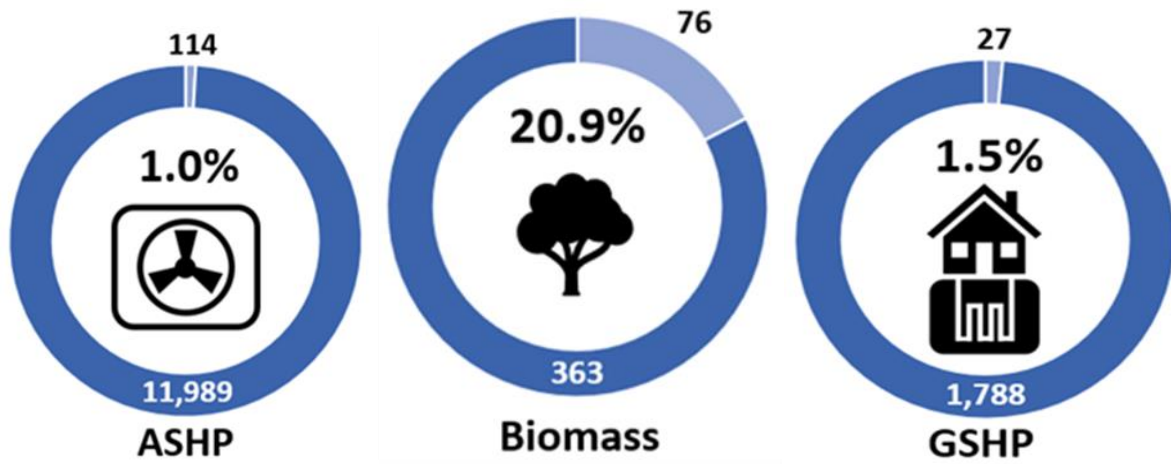
RECC complaints

RECC receives complaints from consumers. We work to resolve these complaints, in partnership with MCS and the Certification Bodies where appropriate. Consumers and RECC members who fail to resolve their complaints have access to Alternative Dispute Resolution in the form of the independent arbitration scheme run on behalf of RECC by CEDR. In 2019 RECC received the following complaints by technology⁴:



⁴ RECC 2019 Annual Report.

The infographics below, also from the RECC 2019 Annual Report, show these complaints as a percentage of the total number of installations registered on the Microgeneration Certification Scheme Installation Database in 2019. The percentage for solar PV is 0.7%. (Not all complaints relate to installations in the same year, typically there will be a lag, so these are for illustrative purposes only.)



The following is a summary of the issues underlying the complaints RECC received in 2018 and 2019 about heat pumps.

Pre-contract/marketing/pre-installation/during installation issues:

- Payment of huge deposit (in excess of 25% limit in the Code) and advance payments (in excess of 35% limit in the Code) without any work carried out or protection in place. In some cases, the installer subsequently ceases to trade a few weeks after taking payment or the consumer cannot establish contact with them.
- Delays which are several weeks beyond agreed completion date, leaving consumers without heating and hot water in their property.
- Faulty design meaning that the systems are undersized (e.g. property requires 30KW system, but a 15KW system is installed).
- Faulty design meaning that systems do not provide adequate heating or hot water (e.g. the design stipulates that the system will reach 21 degrees C, but it reaches only 12 degrees C).
- Failure to provide essential pre-contractual information such as a written performance estimate, accurate RHI income figures and accurate likely cost/benefit estimates.
- Failure to carry out adequate heat loss calculation.
- Failure to explain about EPC or metering requirements.
- Failure to inform consumers of additional running costs such as higher electricity costs and annual maintenance costs.

Post-installation issues:

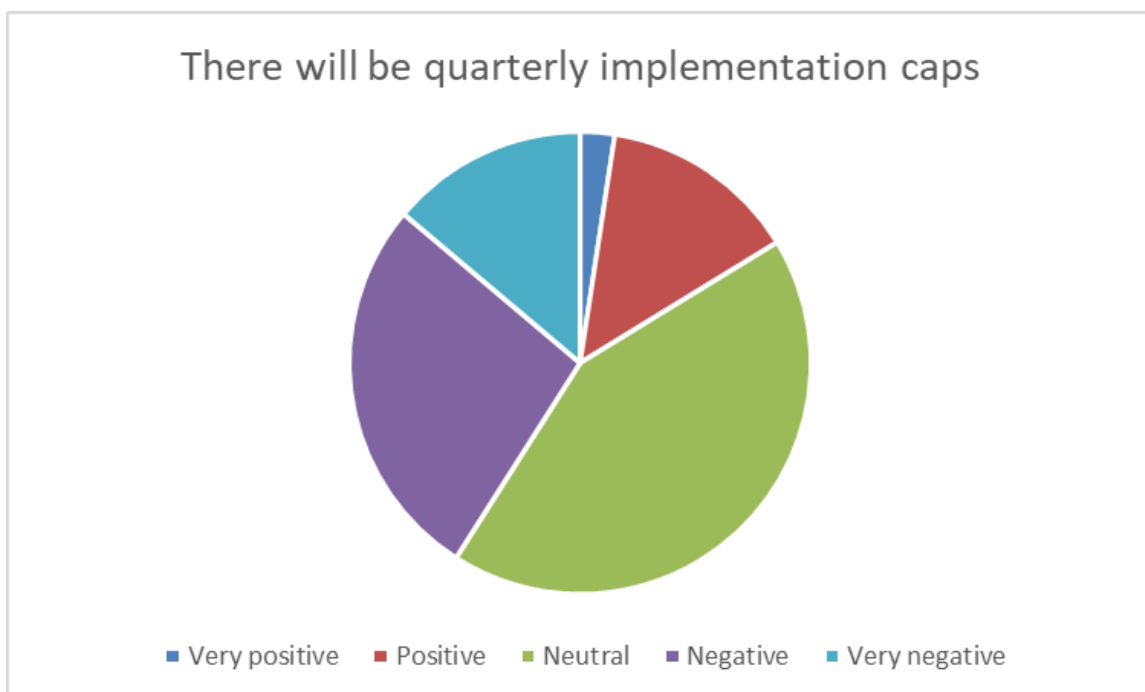
- Delays in testing, commissioning and handover of the system.
- Problems with radiators (e.g. their size is inappropriate, leaking or, not heating up properly).

- Systems makes a very loud noise.
- Multiple system breakdowns during which consumers are without hot water and heating which the installer is unable to repair even after numerous attempts, leading to a replacement of the system.
- Poor level of workmanship overall with the installation leading to post installation faults.
- Problems with the system that arise immediately after completion (e.g. persistent leaks in the system).
- Temperature does not meet heat and hot water demands of the property.
- High electricity bills. Consumption levels significantly more than the amount consumers expected at the pre-contractual stage (e.g. annual consumption of 16,000 kWh compared with domestic average consumption of about 4,000 kWh, partly caused by water heated by electric immersion heater).
- Lack of savings. Consumers are told to expect savings in their energy costs of between 30-40% but find a few months after the installation that savings are not achievable.
- Failure to provide correct documentation including MCS Certificate, manufacturers' and workmanship guarantees and insurance-backed guarantees.
- Poor customer service.

37. Do you agree that quarterly grant windows would prevent overspend and manage demand to ensure an even spread of deployment? Yes/No. Please provide evidence to support your response.

RECC understands the reasons for the quarterly implementation caps. However, we urge Government to ensure that there are no artificial cliff-edges. They inevitably lead to pressure selling. In addition it is essential that the system for queuing, should one quarter's allocation be complete, is very transparent and efficiently operated. Here again, the Microgeneration Certification Scheme Installation Database will be an excellent tool for managing this. It has been used for the same purpose with the Feed-In Tariff to great effect.

Two in five survey respondents, when asked in Q2 about the proposal to have quarterly implementation gaps to spread the funding evenly, were neutral. A further two in five viewed this very negatively or negatively and the remaining one in five viewed in very positively or positively. (See chart below.)



40. Do you agree with not supporting solar thermal systems under the Clean Heat Grant? Yes/No. Please provide evidence to support your response.

Several survey respondents who had a concern about the Government's proposals cited concern that solar thermal had been excluded. Some of their comments follow.

"No allowance has been made for solar hot water, which when designed and installed correctly can be used for both the production of hot water and significantly offset a property's heating bill if fed into a thermal store."

"What about solar thermal solar PV, that's what I'm registered MCS with?"

"We are a solar thermal installer and it's not on the list for this scheme. I think this should be reconsidered."

"Why-oh-why did they remove solar thermal, one of the most efficient renewables? And why-oh-why don't they allow solar thermal to support temperatures in buffer vessel supporting heating - such a simple way to reduce carbon."

41. Do you agree with not supporting hybrid systems under the Clean Heat Grant? Yes/No. Please provide evidence to support your response.

Several survey respondents who had a concern about the Government's proposals cited concern that that hybrid systems had been excluded. One of their comments follow.

"Excluding hybrids is a mistake. An ASHP that covers 50% of the peak kW heat loss will provide 70-80% of the annual energy coverage in kWh. If that is fed by 100% renewable electricity tariff then this will significantly reduce CO2 production in that home. There is no incentive for consumer or installer to not effectively implement a hybrid solution. Project costs for these larger houses/heating demands are £10-20k. Alternatively; I find most clients want to remove boiler completely. A single ASHP can only really deliver 12-14kW at 55C flow temperature into radiators and is constrained by physics in doing any more. This means we have to then cascade 2x units together which increases project cost. Based on 75w/m2 heat loss, this scheme will essentially exclude all off-gas properties over 200-250m2. £4k voucher will not be sufficient support for £20k heating system upgrade. I therefore recommend projects of this type to be able to claim 2x vouchers. If you can install 5kW of heat pump capacity and claim £4k then it seems reasonable to install 2x12kW and claim £8k. These larger properties consume more heat and homeowners will have higher incomes so are more able to invest in more expensive renewable heating systems."

43. What are the main risks of non-compliance, fraud or gaming associated with the Clean Heat Grant?

Several survey respondents who had a concern about the Government's proposals cited the risk of unscrupulous installers gaming the system. Some of their comments follow.

"This will be open to abuse from large contractors and those with call centres especially, encouraging customers to apply *en masse*, thereby 'locking up' vouchers which may or may not get used. Likely to affect small businesses like mine especially."

“This is likely to lead to situation where large companies (e.g. saving Britain money etc) jump onto the grant until it is assumed. This is likely to be in more [densely] populated residential areas. This does not favour the existing industry which is made up [of] smaller installers serving the existing marketplace which is largely off grid. It is a retrograde step as we have already had the RHI premium payment scheme which was a forerunner to the more sophisticated RHI mechanism. The existing mechanism [guarantees] carbon savings through the ongoing payment declaration structure.”

“Having an upfront voucher will result in persons applying but then failing to install while sitting on ‘reserved’ grant funding. My concern is that a voucher, valid for the duration of the programme is more likely to expire, leaving grants unclaimed. Vouchers should have an expiry date of 3-6 months to ensure customers are encouraged to act swiftly.”

44. What would be the most important features of an audit regime to minimise the risk of non-compliance?

RECC considers that Government must take a very proactive approach to auditing. This should be both routine and risk based. We consider that it would be possible for Government to work closely with MCS to make sure that monitoring and auditing programmes are co-ordinated. This will avoid multiple visits to the same sites and ensure that examples of poor practice are picked up quickly. Persistent non-compliance should result in exclusion from the sector.

RECC’s experience with the DRHI is that initially Ofgem took a minimalist approach to auditing and enforcement. Following the publication of the NAO Report into the RHI Ofgem started to take a much more proactive approach which has borne fruit. Unfortunately, in some cases, there were many years of RHI payments that had to be reclaimed. This caused consumer detriment. This is why it is important that there is a time limit after which grants cannot be withdrawn or reclaimed.

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