

Business, Energy and Industrial Strategy Committee

Oral evidence: Decarbonising heat in homes, HC 110

Tuesday 16 November 2021

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Watch the meeting

Members present: Darren Jones (Chair); Richard Fuller; Ms Nusrat Ghani; Paul Howell; Mark Pawsey.

Questions 114 - 137

Witnesses

I: Ian Rippin, CEO, Microgeneration Certification Scheme; Juliet Phillips, Senior Policy Advisor, E3G; Marcus Shephard, Lead Analyst, Residential Buildings, Climate Change Committee; Zoe Guijarro, Senior Policy Researcher, Citizens Advice.

Written evidence from witnesses:

- Microgeneration Certification Scheme [[DHHH0109](#)]
- E3G [[DHH0124](#)]
- Citizens Advice [[DHH0040](#)]



Examination of witnesses

Witnesses: Ian Rippin, Juliet Phillips, Marcus Shephard and Zoe Guijarro.

Q114 **Chair:** Welcome to this morning's session of the Business, Energy and Industrial Strategy Committee for our final hearing on our decarbonising heat in homes inquiry. The purpose of the session this morning is to reflect on the Government's recently published heat and buildings strategy. To do that, I am delighted to welcome four witnesses to the Committee this morning: Juliet Phillips from E3G; Zoe Guijarro from Citizens Advice; Marcus Shephard from the Committee on Climate Change; and Ian Rippin from the Microgeneration Certification Scheme. Good morning to all of you.

My first question to each of you in turn is to share your reflections with the Committee at a headline level about what was good and bad about the heat and buildings strategy.

Juliet Phillips: Good morning, everyone. Overall, we feel that the strategy sets the right direction of travel for low-carbon heat this decade, but the hard work is still to be done in turning ambitions and targets into actual delivery on the ground.

In terms of the strengths, we can point to the regulatory direction set on heat. The plan to stop installing fossil gas boilers by 2035 sends a really strong signal to both industry and to households, as does the target for off-grid homes. Of course, the devil lies in the detail and we need to make sure that these are implemented strongly. We also really welcome the strategy's intention to boost UK manufacturing of heat pumps. This is really good for jobs and economic growth.

In terms of the weaknesses, I appreciate this inquiry is around heat but energy efficiency is crucial regardless of which low-carbon heating solution we go with. On this area, we felt that the strategy was slightly weaker, particularly for the owner-occupier sector where there is very little in the near term in terms of regulations, incentives and subsidies related to energy efficiency. I am not saying that every home has to be insulated to the nines before we can consider installing a heat pump, but we need to have this whole-house approach that ensures the right sequencing of measures.

Finally, another weak area would be financing. This is across all areas of the area. The industry and private finance are assumed to be doing a lot of the heavy lifting. The Energy Efficiency Infrastructure Group estimates that we are still around £4.15 billion short for heat pumps. I will round off there.

Zoe Guijarro: Like Juliet and E3G, we think that the heat and buildings strategy is a really welcome step overall. There are some really great individual elements to it. However, it does seem to lack some cohesion. Juliet has already touched on the issue of energy efficiency. For



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consumers, it is going to be really crucial that homes are as efficient as possible to ensure that these new technologies work in the way that is intended. Some of that needs a rethink. There is also a need for greater support for homeowners. That is not necessarily in the form of more grants or Exchequer funding, but there are lots of other options such as low-interest finance through green mortgages or low-interest loans, reforms of stamp duty land tax, and other incentives that could be employed.

Overall, there is one major key piece that is missing, which is around consumer protection. At the moment, consumer protection for heat pumps and other low-carbon technology is quite small scale, and it generally only applies to people who are installing these measures using Government funding. Given that we need to get to 600,000 heat pumps installed a year by 2028, it cannot be right that only those people accessing Government financing have the stronger protections. There is a need for a wholesale review of consumer protections.

We welcome the boiler upgrade scheme. That is great news, and it was really good to see that BEIS have taken on board a lot of feedback from previous grant schemes such as the RHI. But it will still leave a big shortfall. We are doing research at the moment that shows that some households will need to spend upwards of £20,000 to make the necessary upgrades to help us deliver net zero. There is definitely some space for more thinking around what support consumers need—information, advice and other financial options.

Q115 Chair: Marcus Shephard, could you answer the same question but also tell the Committee how it aligns to the recommendations of the sixth carbon budget from the Climate Change Committee?

Marcus Shephard: Gladly, Chair, and thank you very much. It is always a pleasure to speak to Parliament.

I would note that, in my remarks about this, we are considering the net-zero strategy and the heat and buildings strategy together because the two speak to each other and need to be considered. We published our immediate response to the net-zero strategy a few weeks ago, and we have a longer analysis of the heat and buildings strategy coming up, which I will be glad to share with the Committee in due course.

Our overall impression of the heat and buildings strategy is broadly positive. The strategy sets out a level of ambition that aligns with the CCC's balanced pathway to net zero and the fourth, fifth and sixth carbon budgets. It presents sensible approaches to deliver this ambition in many areas. However, we would note that there are several key policy gaps in both the near and medium term that could limit progress.

Let me first reflect on the strengths. The strong backing for electrification as a primary route to decarbonisation of home heating, alongside the development of heat networks and a pathway to the development of



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hydrogen, is definitely a positive step forward. The strategy also sets out clear market signals and other support for industry, including this proposed boiler obligation. However, the market-based approach does bring delivery risks and will need to be carefully managed. The focus on cost reductions as part of the strategy, in particular cost parity of heat pumps with boilers by the end of the decade, is a good step forward. But the Government will need to work with industry to achieve this.

We see funding extensions in key areas, in particular the fuel poor, public buildings, heat networks and a small pot of grant funding to maintain the current heat pump market, but we believe this can go further. The other strength of the strategy is that it sets a clear commitment, for the first time in writing, on rebalancing the policy costs on electricity and gas. I should note that that was in the net-zero strategy, not the heat and buildings strategy, but it is a key component of this. This is vital to make heat pumps more cost effective to run.

The main weaknesses are definitely around the policy gaps. The strategy relies, as Juliet noted, on co-ordinated improvements in both heating and efficiency for buildings. While we feel it is strong on the heating side, the proposals for efficiency are weaker. In particular, there are policy gaps relating to the 60% of homes that are owner-occupied and not fuel poor. There is no integrated offer on home retrofit within the strategy, and that is detrimental and possibly concerning. It is something the Government could definitely address.

We also feel, as Zoe said, that the proposals around information, enforcement and skills are weaker than they need to be. The lack of strong systems for quality assurance, compliance checks, and wider regulation and governance creates some contradictions within the policy framework that has been laid out. The overall funding levels are low. There is a lot of expectation that the proposals will crowd in private investment. If that works, that would be great, but, as it stands, the level of investment is slightly below what we would expect, in particular for heat networks and public sector buildings.

Lastly, we note that there are delivery risks associated with many of the policy proposals that are in the strategy. It is critical that the Government work together to move forward on these, with both regional and local governments and the private sector, delivering their consultations in good time so that they can move on addressing these gaps.

Ian Rippin: Good morning, everyone. Broadly, MCS welcomes the ambition that is set out in the heat and buildings strategy, in particular no gas boilers from 2035 and ensuring all new buildings in England are net-zero ready from 2035.

I too have some concerns from an installer supply chain perspective. As the boiler upgrade scheme comes to an end, how do we move from 30,000 heat pump installations a year to 600,000 a year from 2028? That seems to be a bit of a void to me. I am really pleased, though, to read



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about the boiler upgrade scheme. That is broadly welcome, and hopefully it will learn from the challenges that the sector had from the green homes grant voucher scheme. It is great to hear that the installer is the centre in terms of payment mechanisms. That is really important.

I also welcome the fact that a decision over hydrogen as a technology to heat homes has been put back. The proven technology at the moment is heat pumps. We need to get on with the electrification of heat using the proven technology, which is heat pumps. Those would be my comments.

Q116 Chair: Ian, you mentioned installers. There is concern that the move towards heat pumps and other types of technologies will leave a lot of the current workforce, who work on traditional gas boilers, behind. Should we have seen more in this strategy to deal with the jobs transition for those installers?

Ian Rippin: Yes, absolutely. There are a number of factors at play here that we found with the green homes grant voucher scheme, which was about green jobs, and then we were surprised that there was a supply chain challenge. Yes, there needs to be more in the way of how you transition your business from a fossil fuel installing business to a heat pump business. That is critical, and there is some work going on that MCS is supporting in terms of training programmes, conversion courses and a new low-carbon heating technician apprenticeship. But all these things will take time to come to the market.

In the meantime, we know, from the research that Sussex University did into why heat pumps are so widely adopted in places like Finland, that it is the long-term policy environment that allows people to make investments in their business and make career choices in terms of clean heat being a place where people want to work. My concern is that the three-year boiler upgrade scheme is not that. It is welcome but it falls short of giving that confidence that the sector needs to grow. "I can earn enough, frankly, as a gas boiler installer"; that is the way people think. How do we bring them over and make their businesses more sustainable for the future as a low-carbon heating technician?

Q117 Chair: Marcus, you referred to some of the policy gaps in the heat and buildings strategy. It has been noted that the number commitment in the policy does not actually meet the number of homes that we need to transition in the current timeframes. Is it your view that this policy gap is just a reflection of the hope from Ministers that the market will pick up the difference and, therefore, that it is legitimate, or do you think it is a fundamental problem with the policy?

Marcus Shephard: That is a very good question. There is a great expectation that the market-based mechanism will smooth over many of these bumps. If deployed well, the potential of the market-based mechanism seems very promising, although it is quite a novel approach to delivering this. I understand that the Government have certain fiscal and political constraints on the actions they take in this area. The risk is



that you have lots of moving parts that need to come together quite elegantly. You need to have the obligation on boilers. You need to have the boiler phase-out. You need to have investment in innovation and skills to help grow the supply chains. It is clear that the Government did learn from the green homes grant, where they tried to push too much money in over too short a timeframe and the supply chains could not work with that. The intention here is to grow it.

Once we look outside of that mechanism at the areas that are not covered by funding, such as able-to-pay owner-occupiers and stuff like that, there are real questions about, if the market fails to reach parity, what the incentives or supports are for owner-occupiers to do some of this stuff. This is a necessary transition that people will have to make, but there are not very many carrots in there; there are just a few oblique sticks down the line. There will have to be a bit of a watching brief on it, and hopefully the mechanism develops well, but the Government should be ready to put more support and weight behind it over time. They need to continually review the areas of the housing market that are underserved by the policy framework that has been laid out.

Q118 Ms Ghani: Good morning, everybody. I have a set of questions on low-carbon heat technologies. The strategy was criticised for delaying a decision on hydrogen because it will not be made until five years from now, and there was some anxiety that other industries will have used up quite a bit of hydrogen and there will not be that much left over to heat people's homes. That is a bit of a backdrop I want to give to you before I pose my questions. Do you think the Government's delay of five years was strategic because they are not quite set on hydrogen or do you think it is because the Government need to deliver stronger policy proposals on hydrogen?

Juliet Phillips: That is a great question. Green hydrogen has a really important role in helping us reach net zero, particularly in helping decarbonise sectors where there are few other solutions available, such as green fuel production. Green hydrogen is likely to be a premium and scarce fuel for decades to come, so its use needs to be very strategic. At E3G, we are cautious of the role of hydrogen for heating for a number of reasons. While there may be a small role for hydrogen to play in areas where there is likely to be a secure supply, installing hydrogen-ready boilers across the country in regions that are unlikely to be serviced by the fuel might not make the most sense for customers, and there could also be risks associated with delaying action.

It is useful to remember that there are different ways of producing hydrogen. Some are lower carbon than others. Blue hydrogen produced using fossil fuels with CCS is not meaningfully zero emission at the moment due to methane leakages along the supply chain. Green hydrogen produced using electrolysis can be zero emission if it is produced using renewables. But it is more efficient to directly electrify the home using a heat pump. Indeed, a study by the German Government



found that the amount of green electricity needed to produce green hydrogen is up to 600% greater than the equivalent number of heat pumps. It is much more efficient in most cases just to directly electrify a home.

A reason in favour of hydrogen would be that we can use existing infrastructure and assets. However, the CCC has found that the sunk cost of having an expensive gas grid means that it will not automatically be lower cost. In fact, a hydrogen-dominated domestic heating scenario is the CCC's highest-cost pathway. While for the consumer it might be around the same price to install a hydrogen-ready boiler as a traditional fossil gas boiler, hydrogen is likely to have higher running costs than heat pumps. There are also going to be costs associated with transforming the entire gas network for hydrogen distribution.

Bearing all those considerations in mind, it is good that the Government are taking a careful approach to the deployment of hydrogen-ready boilers, and not just encouraging the roll-out until we are fully aware of the costs and risks associated with doing so.

Ms Ghani: Thank you, Juliet. That was very thorough. You started off being cautious and then you said the Government are taking quite a sensible approach—a curious way to end that.

Marcus Shephard: I would echo much of what Juliet said there about the costs of hydrogen. The CCC recommended that all new gas boilers should be hydrogen ready by 2025. Without a strong signal from Government, the market may not prioritise this. A decision in 2026 may not perfectly align with that. But we have previously talked, in our progress reports and the sixth carbon budget report, about the need for the Government to take a set of decisions in the middle of this decade, so around that time, following work to demonstrate the safety case. There are a lot of unresolved questions on hydrogen that the Government should be working on addressing. More haste is not necessarily an imperative here.

The key thing for Government, as with much of the housing question, is that there are different solutions in different areas. The key thing with hydrogen is to work out governance procedures. Hydrogen is a cross-sector, cross-region, cross-economy challenge that intersects with many other areas of the net-zero challenge such as transport and industry. The Government really need to take time to consider how they co-ordinate decision-making at the local, regional and national levels in partnership with the private sector, potentially alongside what is going on internationally, to understand what the best case is for hydrogen. In that case, a deliberative approach makes sense here, but we need to see some decisions coming down in good time as per our recommendations.

Q119 **Ms Ghani:** Marcus, you said the Government need to take their time to make the right decisions, but then you talked about 2025 and 2026, which is not that far off. Can you be a bit more open? What progress can



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you expect the Government to make by the end of this Parliament, so in the next 24 months, for example?

Marcus Shephard: In the next 24 months, swift action on the consultation that is already in progress would be good, as would work on the development that they are doing with the hydrogen pilot village. Other than that, I can follow up in writing to the member's question because I am not sure what more I can say on hydrogen. If that is alright, I am happy to follow up with you in writing.

Ms Ghani: Thank you, Marcus. Do you have anything to add to that?

Juliet Phillips: No, that was a comprehensive summary. On the consumer side, it is probably worth flagging that, if people are buying a hydrogen-ready boiler and thinking they have done the green thing but in fact it is continuing to be fuelled by fossil gas, this could be misleading and potentially delay action. That is a risk that is worth flagging as well.

Q120 **Ms Ghani:** That is definitely being flagged. The energy White Paper announced the Government's intention to legislate the regulation of heat networks in this Parliament but no further details were provided in the heat and buildings strategy. How could the Government ensure heat network regulation is actually accurate?

Ian Rippin: I am not sure exactly what the question is there. We need test installations to prove the heat networks can work when we see that. There needs to be a lot more work on where they could be deployed, and the presence of heat networks is an investment, and certainly in new build. I am encouraged by plans for the future homes standard to include heat networks and MCS standards for heat pump deployment. I am not sure I am answering the member's question clearly though.

Ms Ghani: You definitely are, Ian.

Zoe Guijarro: Citizens Advice has campaigned since 2015 for the regulation of heat networks. We believe, with it being highlighted by the CCC as a key technology for delivering net zero, that, when we see an increased number of consumers on there, it cannot be right that they are not protected in the same way as gas and electricity consumers. We are disappointed that the legislation has not been forthcoming in this Parliament. We believe it needs to be forthcoming in the next Parliament, and I know that BEIS teams are working very hard on developing those regulations and what shape that will take. Hopefully, imminently, we will hear some announcements as to who the regulator will be.

It is worth noting, around how to make heat networks a success, that we really need to see a more holistic national framework for local energy mapping and planning, because only then can you see which technology would be the most cost effective and the most appropriate for those areas. Low-carbon heat solutions are really dependent on location, and heat networks are no different. We need to see legislation come through as quickly as possible before we start designating any areas to be heat



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network-only zones, because I am not exaggerating to say that we will be locking in consumers for 50, 60 or 80 years, which is how long some of these contracts currently are. If people get exclusive access to a particular area, they could be locked in indefinitely. We need to make sure that consumers are protected and properly represented in that space.

Q121 Ms Ghani: My colleagues will be asking you further questions on that later. The Government have a very ambitious plan to stop the sale of new gas boilers by 2035 and of high-carbon fossil fuel heating systems by 2026. Who thinks that that is over-ambitious? You all think it is absolutely achievable.

Marcus Shephard: It is difficult to see how you can achieve full turnover of the boiler stock in just 15 years without some kind of standard in place around boiler replacement. In this sense, the off-gas standards are a clear template and an important test of how the Government can do this in a way that is fair and where people are sufficiently supported through the process. But we do see that, while the lifecycle of a boiler is expected to be 10 to 15 years, there are a lot of people out there with very old boilers, particularly among the fuel poor or in the private rented sector. In the absence of standards, ensuring this full transition will be challenging. We will have more analysis of this forthcoming, which, again, I am happy to share with you once we have completed it.

Ms Ghani: I think Ian is going to be controversial, thankfully.

Ian Rippin: I will try. The controversial bit is that this is a climate emergency and we need to respond as such. The technologies for renewable and electric heat are commercially established and serve millions of consumers worldwide. The costs of renewable wind and solar, because of fast development cycles and mass production, are steadily falling. Contrast that with the historic chaotic projected increases in gas prices and uncertainties around hydrogen. It is appropriate that there is a boiler upgrade scheme and that it is pointing to heat pumps. I just wish it was bigger. Is that controversial?

Ms Ghani: No, it was great.

Juliet Phillips: We also really welcome the timeline and the phaseout date, but we recognise that there is a real need for action and investment to make this more than just an unachieved ambition but something that can get on track. Electrify Heat, which is a coalition that E3G helps convene, has identified three areas for near-term progress: training, trusts and tariffs.

First, on training, there is currently a huge skills shortage across the country for installing heat pumps. If we are going to be able to make sure that no one has to install a fossil gas boiler, it is really important that we



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are reskilling and training engineers to make sure that we are able to plug that skills gap.

Second, in terms of trust, we need to build household awareness and confidence so that they know how heat pump technologies work and how they are maintained, and, importantly that they are protected and very well advised. There is much more of a need for a nationwide awareness and information push as well as rolling out high-quality support and advice.

Finally, regarding tariffs, as we all know, fossil gas is cheaper than clean electricity. That is in part due to the way that fuel bills are structured. It is really important that, when people make the switch to a heat pump, they are being rewarded for using cleaner heat rather than facing higher bills. We are asking the Government to accelerate their timeline for rebalancing those costs.

Q122 Paul Howell: I want to continue on exactly that same space in terms of the Government's target to install 600,000 heat pumps per year and how the boiler upgrade scheme will have achieved that, given that it is only going to support 30,000 heat pumps per year. Ian, would you like to comment a little further on that?

Ian Rippin: The boiler upgrade scheme is welcome but the funding is limited and I worry it will cap the market. Year to date, for the last 12 months, there have been 27,600 heat pump installations registered under MCS, which is not that far short of the 30,000 target that has been set for three years every year for the boiler upgrade scheme. My worry is that, as a consumer, you are going to want to access the grant if it is available. Will that inhibit the growth of the market, which we are now seeing over the last 12 months, even with the situation with Covid and issues over supply in terms of materials that have affected the entire construction sector? My fear is that the 30,000 might get spent quite quickly. What do we then do in the final quarter of the year? Yes, I would say it is welcome in terms of its design but not its ambition. It needs to be much more.

Q123 Paul Howell: Would anyone else like to comment on the specifics before I come to Zoe with regard to how that is going to impact the balance with the financial support for the renewable heat incentive? Zoe, you were going to speak anyway so why don't you start there?

Zoe Guijarro: With the boiler upgrade scheme, there is a big gap. The problem is, as Ian just alluded to, the potential issue of this boom and bust cycle continuing. That is really unhelpful for consumers. When you have this boom and bust cycle of installing low-carbon technologies, it just makes the sector rife for scammers. We consistently see clients contacting us who have been scammed out of money, claiming that there is still money left in the pot, for example, whether that is RHI or previously FITs, and then signing up to loans to pay the money and being told that the new heating system will pay that back for them and then



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some. It is really critical, as far as possible, that the boiler upgrade scheme can maintain a consistency throughout, but more thought must be given to supporting consumers who will not be able to access that.

There is another key issue that has really shown up with the green homes grant. If the design of a grant scheme is critical, how you roll that out is critical because, if it is not inclusive and people cannot access it, it is only going to be those people who can quickly get online and quickly sign up for it. We could see a real disparity between the haves and have-nots in being able to access that funding. We really need to make sure it goes to the right people who are perhaps unable to access upfront capital elsewhere.

Juliet Phillips: As mentioned a few times already, the boiler upgrade scheme does fall significantly below the levels of public funding that we feel would be necessary in order to roll out the number of heat pumps. It is also worth quickly noting that the 600,000 heat pump target actually falls below the number that we think would be needed to get on track for net zero. Yes, it was even lower before then.

In terms of how we can move forward, we think we can top up the boiler upgrade scheme. We have currently had £16 billion in issuances through the UK green gilt, so we could direct money from that to help fund greener homes. We also have the UK Infrastructure Bank, which presents a really good opportunity to support concessional finance for households and local authorities to decarbonise the building stock. There are some really good opportunities there.

It is also important to note that the current levels of funding actually fall below the Conservatives' manifesto commitments. We are calling for the topping up of the home upgrade scheme, which is currently £1.2 billion short, and also of the social housing decarbonisation fund, which is around £200 million short of what was committed.

Finally, on structural incentives, it is really important to note that, as well as the public finance, there are ways we can leverage additional private finance. Green stamp duty was already noted but it is worth giving that another shout-out as it is targeted at a key trigger point where people are likely to retrofit their home at the point of sale. That could really help spur the market. Zero per cent VAT on low-carbon heating technologies and other green home retrofit solutions could also help spur the market.

There is a lot that the Government could do to make sure that we get on track to exceed the targets that have been set.

Q124 **Paul Howell:** I want to try to summarise that in a couple of sentences just for my understanding. It feels like the message is that there are many levers that can be pulled but they all need to be consistently pulled, making sure that we do not put any situations in with unintended consequences. Ian talked about how having the 30,000 cap suddenly stops the continuation of investment, training, et cetera.



Marcus Shephard: I echo a lot of what is being said. To your summary point, the thing across the whole strategy that we need—and the boiler upgrade scheme is part of that—is policy coherence. The policies need to support each other, which they do not necessarily do. The boiler upgrade scheme, as a means to support early growth of the market-based mechanism, shows some promise, and we definitely welcome that, but it will have a maximum of 90,000 installations. That is three years at the current rate of installation but we are looking at a ramp-up. The CCC believes we need 900,000 a year by 2028. The Government are aiming for 600,000. Even with a third of those coming from new builds, this is still a trajectory that will swallow up 90,000. We will be doing more than 90,000 within a couple of years to hit that number. If the boiler upgrade scheme is too small, it means that the other proposed instruments such as the boiler obligation, standards in new homes, off-gas properties and the private rented sector need to do more of the heavy lifting.

You need to have that policy coherence. There needs to be policy co-ordination because these areas often sit in different bits of Government. Then, as noted, there needs to be policy consistency. If there is a success, it is not enough to have a scheme that runs for three years and then vanishes. You need to keep working with it and keep growing the mechanisms you have put in place, to ensure that they deliver that long-term growth in the market that you need to hit the future carbon budget and the decarbonisation cost to houses.

The point about finance is really crucial. There are really important questions about fairness and the access to low-cost finance, which needs resolving. One example of good practice that we point to, particularly in the context of whole-home retrofits, again thinking about that policy coherence point, is the decade-long KfW Bank scheme in Germany. This was set up to provide interest-free finance for home upgrades. It is largely self-funding and is widely celebrated as a major policy success. We think this is something that deserves further consideration by the Government.

Q125 **Paul Howell:** Moving along on the finance side, Zoe, is there anything that the Government should be doing particularly for low-income households to make sure that they engage in this process and this programme?

Zoe Guijarro: Yes, it is like I said before. How a scheme is designed in the first instance is critical. It has to be designed with inclusion in mind. The example I always use is that we often talk about “able to pay”; people are able to pay as this homogenous group of people. Actually, the scale of banding for that is absolutely massive. People are all individuals with unique circumstances, and lots will depend on where they live and what other things they have going on. A scheme has to be easily accessible.

With the green homes grant, clients were telling us that they were finding it very difficult to access the scheme because it was all on a digital



platform. That immediately locked out those people who might have low digital literacy skills or those without access to the internet at all. People can go in and out of being a consumer in vulnerable circumstances. One time someone might have access to the internet but, because of circumstances, all of a sudden they might find themselves in a situation where they do not.

The boiler upgrade scheme is really going to need to demonstrate how it has learned the lessons from the green homes grant and be able to put those into practice. We completely understand the focus on digital in terms of advice, information and delivery of schemes like this, but it should be digital first, not digital only. The Government, and others who deliver these schemes, need to consider what other mechanisms they need to provide to consumers to allow them access to this funding.

That is not to say that we should set up energy efficiency advice offices like we used to have back in the day across the country. There are lots of other organisations that have boots on the ground and could be key deliverers of the boiler upgrade scheme and other schemes to help people access. We have seen this with ECO and the local delivery mechanism. That has been particularly successful because it is able to tap into local communities and talk to them in a way that they resonate with.

Paul Howell: You are getting lots of nods there around the table.

Ian Rippin: I just want to add the installer perspective on Zoe's comments there. The green homes grant voucher scheme, despite its problems, stimulated a great deal of interest in clean heat technology. We should not forget that there is demand out there. However, from an installer point of view, with the low-income proportion of this where you could get a grant for £10,000, installers became very nervous about those projects because the consumer was not providing any of their own funding or making a deposit.

Just to emphasise what Zoe has said, we need to see this from both the consumer side and the installer side. As an installer, you fear your cashflow. You want to get paid. If something looks like it is not really underwritten in the right way, installers will choose which installations they want to perform. They are very busy at the moment and the sector is gradually growing, as I say. That is just to give another perspective on that point.

Q126 **Paul Howell:** Can I move on to have a discussion around reforming environmental levies? How should the Government ensure that the reform of environmental levies being applied is sufficient in driving the fuel switching from gas to electricity for heating?

Juliet Phillips: This is a really important issue in order to make sure that people are really feeling incentivised to make the switch to clean electricity. Currently, around 23% of the electricity bill is constituted of ECO levies and regulatory costs, which, in some instances, could make it



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more expensive to heat homes using a heat pump rather than fossil gas. We do know that certain policy costs, such as ECO and the warm home discount, are progressive policies and should be kept on the energy bill rather than going into general taxation because there is a risk if that is reduced at a spending review.

There is recognition from the Government that action needs to take place on this area. In the heat and buildings strategy, there was a call for action over this decade. However, this is too slow. We need to have some clearer and faster timelines here.

The question around how we protect vulnerable households is absolutely critical. There are differences in opinion around how we might go about rebalancing the cost of heat. Lots of organisations called for the levies to be picked up in general taxation. We appreciate it is probably more likely that the Treasury will look to recoup the costs through shifting them on to either the gas bill or a general carbon taxation. Steps that could be taken to protect low-income and vulnerable households could include providing exemptions from a domestic gas carbon price or further refinement of the warm homes discount scheme, such as at a level that discounts to recognise the changing prices of energy.

To reiterate, however the Government go about rebalancing the cost of heat, which is absolutely essential, protection of poor and vulnerable households has to be really centrally considered.

Marcus Shephard: I echo what Juliet said and underscore the fact that, in the CCC's view, rebalancing the levies on electricity and gas will remove market distortions and is, to quote, a necessary condition for success. We feel very strongly that a consultative approach to fairness is appropriate here. Of paramount concern is ensuring that the Government manage the impacts of this shift on the 2 million or more fuel-poor homes that are on gas, a majority of which would stand to potentially lose from any shift in the near term.

We do not feel that there are currently adequate plans for this. The Government are falling short in this area, and I agree with Juliet that this cannot be done over a decade; it needs to happen faster. The exact rate of transition would need to be done in co-ordination with developments in other policy areas and would require some sort of monitoring and evaluation framework, as well as a dialogue between the Treasury, BEIS and DLUHC to ensure that what is done is done fairly and done well.

Q127 **Richard Fuller:** Welcome, everyone. All of you are directly involved in the green transition and are very knowledgeable about it. But, for many people, it looks like the proposals mean that they are going to have to pay extra for something that they already have, that their tax bills are going to go up, and that those taxes are going to be spent supporting or subsidising industries that may or may not make a return. It looks like a classic big government response, and people are sceptical. What is your reassurance to them that that is not what is going to happen?



Ian Rippin: I will give you my opinion from an installer community perspective. Over the next three or four years, we are going to see what we would class as the “corporate installer”. Major brands like Octopus, which owned the headlines recently with its training development in Slough, as well as British Gas are coming into this market, which will provide the reassurance to a certain demographic of consumer, who will recognise that brand and see that it is offering not only tariff alternatives, but also the technology that is available and coming to market.

Knowing that your installation is backed by an MCS standard that has been developed over the last 15 years by industry for industry gives some reassurance that it is to a specific standard that has evolved over time. Linked to that are the customer protections that it can afford if things go wrong. Things go wrong with heating systems whether they are based on a heat pump or from gas. We have heard in a recent report that there were problems with about a third of gas installations.

Consumer education is going to be important, but the next generation of heat pump adopters—not the innovators but the early majority—are going to be looking for reassurance. They are pragmatists. They want to be convinced that the money is going to be well spent, so maintenance and aftersales are important, as is choice in terms of an increasing range of suppliers of heat pumps.

Q128 **Richard Fuller:** I want to come to some consumer protection issues with Ms Guijarro from Citizens Advice in a minute, but, just so I am clear, we are asking people to replace a gas boiler with a heat pump, which does exactly the same thing as their gas boiler does now.

Ian Rippin: It does more. It decarbonises their heat and it makes a contribution to the fight against climate change.

Q129 **Richard Fuller:** Okay, so that is the benefit. Let us talk about taxes to achieve this. As part of decarbonising homes, is it the case that taxes will have to go up? Would anyone like to answer that question? Okay, I guess we will have to pass that. No one has an idea whether taxes will or will not go up. Let us ask this question then: is it part of this strategy that Government will subsidise industries?

Ian Rippin: I will attempt to answer that.

Q130 **Richard Fuller:** You are a courageous man and I applaud it. I really cannot understand, Chair, why, on a simple question about what the speakers have just been talking about—about the strategy and things they want to see—they are not prepared to voice an opinion on whether taxes will go up or whether there will be subsidies of industry. Yes, please go ahead, Mr Rippin.

Ian Rippin: There will need to be subsidies for an industry that is in a growth phase. That is what we are seeing with heat deployment in the UK. Mass adoption of heat pumps is the norm on the continent, so we are going to have to fuel that growth—no pun intended. The boiler upgrade



scheme makes an attempt at that. The domestic RHI made an attempt at that. To answer your question plainly, yes, there is going to need to be more Government incentive to get us on the right track.

My reading of the heat and buildings strategy is that, post the boiler upgrade scheme and other incentives, there is an expectation that the market will grow to a point where the costs go down. People like Octopus have already said that their aim is to make a heat pump heating system with same or comparable costs to that of a gas-fired boiler system. We do not buy heating systems for ourselves every week, do we? It is now and then. When you buy a new home or it unfortunately goes wrong, you need to make an investment. At that point, there is a moment of truth: is there an alternative that allows you to make your contribution to the fight against climate change? Right now, the Government need to make that more affordable because we do not have scale yet here in the UK.

Q131 Richard Fuller: The other interesting thing, which you may like to comment on, is the opportunity for export markets. That is where the economic opportunity is. It is not the replacement of one thing for here in the UK or a skills change because that is just shifting people from one trade and skill to another. It is the export opportunity. Did you feel, as I did, that perhaps the report trailed off a little on where that opportunity was? What would be your judgment, Mr Rippin, on the export potential? Were they right to say, "It is there but we are not sure where it is yet", or should they have been bolder?

Ian Rippin: I would love them to be bolder. Like you, I think that is light on detail. The community that I represent, MCS installers, is predominantly SMEs. They have a great opportunity going forward in terms of the integrated home and time of use tariffs. The electrification of heat lends itself to other electrical appliances, like EV charging and time-of-use tariffs on when you heat your hot water through the night, which maybe acts as a heat store. Blending these technologies together will become the norm. Your heat pump installer is going to become more than that over the next five years. That is where the opportunity is.

Q132 Richard Fuller: Ms Guijarro, I was interested in a comment you made right at the start in response to the Chair's question about the need for more consumer protections. I think Mr Rippin spent a bit of time on that. Could you just say what sort of consumer protections you particularly had in mind?

Zoe Guijarro: Yes. When it comes to low-carbon heat technologies, we have a couple of consumer codes that make sure that, in the process of an installer contacting and engaging with the consumer, they are being upfront about the costs, there are clear contract terms and they are providing a good level of aftercare, so that, if something goes wrong, a consumer can contact them to come back and do the work. If they do not do that, there is a backstop and there is a redress through the renewable energy consumer code and MCS. They can intervene on a consumer's behalf if there are any problems with their installer. If, for any reason,



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that does not get resolved, there is a backstop of an alternate dispute resolution service.

It just means that consumers have that protection, should something go wrong, but, right up front, they are given all the right advice and information. Everything is really clear to them so that they can make an informed decision about which technology they want installing in their home, so a heat pump in these circumstances.

The problem is that, across the UK, unless someone is having an installation through one of the Government-funded programmes, there is no obligation on an installer to be a member of that consumer code or MCS-accredited. I should say that built into MCS accreditation is the requirement to be a member of a consumer code, so it is nice and cyclical. It deals with consumer service standards as well as the technical standards of kit that is going in. Consumers therefore come to us when they literally have nowhere else to go.

Q133 Richard Fuller: Should it be made mandatory?

Zoe Guijarro: We believe it should be mandatory for all installations in the same way that you would not expect to put a gas boiler in without having a gas-safe engineer. There needs to be one single brand or single point of contact that is really clear and that consumers recognise and value. That, therefore, would help them to not fall prey to scammers. As I have already mentioned, we see lots of scammers in this place, especially when grant funding is tailing off.

Q134 Richard Fuller: Of course, when you are dealing with something new, the opportunity for scammers is greater because you cannot talk to your neighbours or friends. There is a commitment the Government have made in the paper to "ensure that all consumers are made aware of the actions they should be taking, the specific changes that will affect them, and the support available". Do you think that commitment, in terms of messaging from the Government, is sufficient? If not, what else would you like to see?

Zoe Guijarro: It is fantastic to see that commitment in writing, but we need to see it actioned. There is no national communication strategy around net zero, why it is important and, therefore, what people need to do to help play their part to achieve it. It goes back to your question earlier. We are seeing real volatility in the gas market. Having a gas boiler all of a sudden is less attractive, and that volatility will only increase as time goes on. The time is right for some really clear messaging around the direction of travel for the energy sector as a whole. If you have that overarching message, underneath which people can see how it affects them and what they need to do, you can see a place where constituencies can start thinking about how they target their messaging for their local communities, their local city citizens and what they need. That is the biggest gap overall.



Q135 **Richard Fuller:** Earlier on, Ms Phillips had some very creative ideas about how to protect people on low incomes from the transition to net zero. What about the extent and scale of that? Do you think that there should be, for those on the lowest incomes, complete exemption from any of the costs of transition? What is the view of Citizens Advice about how that burden is shared?

Zoe Guijarro: It is something we are really concerned about. We are very clear that the transition to net zero needs to be just and fair. Those who are on the lowest incomes need protecting. There are a variety of ways you can do that, but we need much more clarity on what those mechanisms would be and how that would then impact the overall picture. There will be a cost, and that has to be picked up somewhere. The majority of costs will be picked up by consumers. How do we protect those people who are less able to pay while not squeezing everyone else too much? We know it is a really difficult time overall at the moment.

Juliet Phillips: Zoe has made a lot of the points that I was going to raise. On the previous point regarding taxes going up, I do not have a crystal ball so I am not able to offer insight on that. But what I will say is that we have seen lots of fearmongering and confusion around the role of individuals in the clean heat transition. What we can make clear is that this is not going to happen overnight. There is not going to be a boiler police. No one is going to have their boiler ripped out. When launching the heat and buildings strategy, the Prime Minister set out an article in the *Sun* saying that they are going to make sure that the transition is affordable, attractive and common sense.

This is what we should be aiming for, and this is the narrative we should be normalising. Like Zoe was saying, there needs to be much more awareness raising. These are established technologies seen in multiple European countries that are much colder than our own. They do work. We need to have protections in place but, done well, it is going to be a real benefit for people and common sense.

This has been picked up already but there are really positive stories to tell about green jobs in the UK, moving away from imported fossil gas on to UK renewables, and export opportunities. As Ian said, this is absolutely essential for net zero. We will not get on track for our climate targets without addressing this sector. It definitely is not easy but it is a challenge we really have to seize hands on.

Q136 **Chair:** I have two final questions before we wrap up for today. Marcus Shephard, you mentioned local authorities in one of your early answers. What specific role do you think local authorities need to play that is not referenced in the heat and buildings strategy?

Marcus Shephard: I am not sure what role they need to play that is not referenced broadly. On their specific role, the local area energy planning and the heat network zoning things are areas of policy that need to be developed further. We are keen to see a commitment on that.



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As ever, one of our main concerns with the local authorities is their powers, resources and capabilities. What they are being asked to take on is quite complex and quite novel in many ways, particularly around understanding the planning and engineering implications of things like heat networks. We are very encouraged that the Government recognise the need for different solutions in different areas, and are open to allowing a thousand flowers to bloom and the innovation and local knowledge to come through.

There is definitely a place for central Government both to co-ordinate some of these efforts, particularly around things like hydrogen, which may have effects that cut across local authority areas or are more regionally focused, and to provide the resources and capabilities they need to do this in terms of engineering and planning expertise, and the powers, where necessary, to make that happen. There are costs associated with this, and who bears the costs of some of this work is not fully laid out. That needs to be developed further.

Q137 Chair: Ian, we have heard today that some of the witnesses would like the pace of delivery to be quicker than the Government intend but that we have had supply chain problems in the past. How do we avoid a similar problem to the green homes grant where the money and the policies were put in place, but it did not deliver and then all the money was pulled out at the last minute? What lessons can we learn about Government and Parliament knowing if it is not delivering properly and how we can then tweak it?

Ian Rippin: That is a very good question. The point has been made that £1.5 billion had been put through the pipe really quickly and it was meant to be about stimulating green jobs, and then we are surprised when there is a supply chain challenge. It is about working with industry and MCS in terms of the installer community, which are willing to invest in their businesses if they can see a policy initiative extending beyond, say, three years. It is also about having the right training programmes in place and the right apprenticeships that are now coming through. We are supporting delivery through BPEC and LCL awards, which is the Heat Pump Association course through manufacturers. The options for training are increasing all the time. Skills to work in this environment are starting to grow, so I am quite ambitious for the future. The programmes are now starting to appear.

Chair: We now need to bring this session to an end. Thank you to Juliet Phillips from E3G, Zoe Guijarro from Citizens Advice, Marcus Shephard from the Climate Change Committee, and Ian Rippin from the Microgeneration Certification Scheme. We will bring this session to an end.