

Housing, Communities and Local Government Committee

Oral evidence: Local government and the path to Net Zero, HC 34

Monday 12 July 2021

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Members present: Mr Clive Betts (Chair); Bob Blackman; Ian Byrne; Brendan Clarke-Smith; Florence Eshalomi; Ben Everitt; Rachel Hopkins; Ian Levy; Andrew Lewer; Mary Robinson; Mohammad Yasin.

Questions 52 - 102

Witnesses

I: Richard Smith, Head of Standards, Innovation and Research, National House Building Council (NHBC); Catherine Evans, Director of Assets Operations, Stonewater; Brian Robson, Executive Director of Policy and Public Affairs, Northern Housing Consortium.

II: John Alker, Director of Policy and Places, UK Green Building Council; Michael Lewis, CEO, E.ON; Nicola Pitts, Executive Director, Independent Networks Association.

Examination of Witnesses

Witnesses: Richard Smith, Catherine Evans and Brian Robson.

Chair: Welcome, everyone, to this afternoon's evidence session of the Housing, Communities and Local Government Committee. This afternoon, we have two panels of witnesses and we are going to be exploring with them local government and the path to net zero. We are looking at climate change—the challenges and the role that local government can play in meeting those challenges. We will introduce our first panel of witnesses in just a second, but first of all members of the Committee are going to put on record any particular interests they have that may be relevant to that inquiry. I am a vice-president of the Local Government Association.

Bob Blackman: I am a vice-president of the Local Government Association and I employ a councillor in my office.



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Ian Levy: I employ two councillors in my office, one in Blyth and one in Westminster. I am a member of the Blyth town board and a member of the chamber of trade.

Ian Byrne: I am a sitting councillor in Liverpool and I employ a councillor in my office.

Florence Eshalomi: I am also a vice-president of the Local Government Association.

Rachel Hopkins: I am also a vice-president of the LGA and I employ a councillor in my office.

Mary Robinson: I employ a councillor in my staff team.

Andrew Lewer: In addition to the register of interests, I am a member of the Northampton Forward board and a vice-president of the LGA.

Brendan Clarke-Smith: I employ councillors in my office.

Q52 **Chair:** Thank you very much for that. We move on now to our witnesses. Thank you very much for joining us. I will ask each of you in turn just to say a little bit about yourselves and your interest in this subject.

Richard Smith: Good afternoon. My name is Richard Smith. I am the head of standards, innovation and research at NHBC. NHBC is the UK's largest structural warranty provider, with an approximately 75% market share.

Chair: It is always helpful to explain what the initials stand for, so that everyone knows, and that was really helpful, Richard. Thank you for that.

Catherine Evans: I am Catherine Evans. I am director of homes for Stonewater. Stonewater is a national social housing provider. We have circa 33,000 homes in our portfolio at the moment and we support around 70,000 customers. We also have a very ambitious new build development pipeline, with the aim to deliver 1,500 new homes across our communities each year.

Brian Robson: Good afternoon. I am Brian Robson. I am executive director for policy and public affairs at the Northern Housing Consortium. We are a membership organisation for councils, housing associations and ALMOs across the north of England. Our focus in this agenda is on how we retrofit our homes to ready them for net zero.

Q53 **Chair:** Thank you all for joining us this afternoon. I have a general question to begin with, and I will go through each of the witnesses in turn. The Government have a goal of achieving a 75% to 80% reduction in carbon emissions from new homes that are built from 2025 onwards. Is that ambitious and something that is going to be difficult to achieve, or is it not ambitious enough, given the challenges facing us with regard to climate change? Richard Smith, would you like to address that first of all?



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Richard Smith: It is ambitious but it is achievable. There is a timeline and a timeframe that gives an opportunity for developers to prepare and get ready for that improvement.

Catherine Evans: I would concur. It is ambitious but very much achievable. From Stonewater's perspective, we are very keen to influence the transitional arrangements as much as the overarching delivery of this. At the moment, we recognise that perhaps some of the transitional targets could be more ambitious, specifically around walls and flooring.

Chair: We will come on to transition in the next question, if that is okay. This covers the initial target.

Brian Robson: I would relate this back to the scale of the challenge we face. We have 5 million homes in the north that we need to retrofit in the coming years. From that point of view, we cannot afford to be building new homes that we are going to have to retrofit in the future too. We cannot afford to add to the scale of that challenge. It is much more expensive to go back and retrofit homes that have already been built. It is five times cheaper if we get it right first time. From that point of view, we need as much ambition as possible. It is positive that the Government are going to allow local authorities to set higher targets, where they think that is appropriate, and it is important that that continues long term.

In relation to the 2025 target, given where we are, in the second half of 2021, the challenge now, as Catherine said, is about getting the roadmap and the transition right. We need really robust and ambitious milestones leading up to 2025, and we need really clear signals to the market to enable it to develop the skills and supply chain needed. The Government need to be as ambitious as possible in the timetable, consulting as soon as possible on the final details, legislating as early as possible, and sending really clear signals to the whole sector.

Q54 **Chair:** Everyone thinks the timetable is about right, but are there any additional details that we ought to have now in respect of future homes and future building standards? Bear in mind that we will come on to the transition arrangements in a minute.

Brian Robson: I am not sure that I have much to add on the regulations themselves. I would flag two additional issues, if I may, around the transition. The first is around the grant-funding arrangements for new homes. We do not want higher standards to impact on the quantum of new affordable homes that we can deliver, so we do need a conversation between MHCLG, Homes England and housing providers around how we are going to manage that transition.

Local authorities, in terms of their planning teams, are really the first port of call for applicants and are going to providing support for planning applicants, so they will need to upskill their teams. That challenge should not be underestimated. We have lost two-thirds of our planning and development capacity in councils in the north of England since 2010.



These are now very stretched teams, so we need to start early in resourcing and readying them to provide that first port of call for applicants. The Government have promised a resources and skills strategy for the planning sector in connection with the planning for the future reforms, and the future homes standard also needs to be factored into that strategy.

Q55 Chair: What you are saying there, just to be clear, is that, when you are looking at a new development, the amount of leeway to fund affordable and social housing would be diminished by the extra costs of suddenly going to more homes that emit less carbon. Those costs, unless we are careful, will come out of the money available to fund social and affordable housing.

Brian Robson: Yes. It could impact on the viability of the schemes, in terms of both planning obligations and the amount of grant made available by Homes England to housing associations and councils.

Q56 Chair: That is an interesting point. Catherine Evans, do you want to follow up on the issue of what more could be done now with regard to 2025?

Catherine Evans: From our perspective, the future homes standard implies that a heating system is acceptable if it can be converted to non-fossil fuel at a later date—for example, hydrogen-ready gas boilers. That is a concern for us, if it is not supported with a very clear commitment that those components must be converted within their own lifecycle, and that there is a very clear retrofit action plan in place from the outset.

The only other point that we need clarity on is when the standard will come into play. At the moment, we run the risk that we could have developments receiving planning permission in 2024, for example, based on the use of fossil fuels, so we could have developments underway in 2027 that contradict what we are trying to achieve within the future homes standard.

Chair: We can pick up some of those issues on the transition as well, but those are again helpful points.

Richard Smith: The main thing is to ensure that homeowners and home occupiers are fully prepared for these changes. NHBC Foundation is our research division, and we are doing a fair bit of work on various publications such as non-fossil fuel heating, battery storage and renewable energy sources. The main thing is to ensure that all these systems are installed correctly from day one, and that homeowners then use and understand how to use these systems fully and effectively. Dwellings of a non-fossil fuel type will function slightly differently, and it is a different culture and concept. It is very important that all occupiers of homes are fully up to speed with how technologies work.

Chair: I did say we were going to move on to transitional arrangements, and we are.



Q57 Ian Byrne: I direct my first question to Catherine. Written evidence to this inquiry indicates there are mixed views about the proposed transitional arrangements. Some are against requiring stricter standards for different houses on the same sites depending on when they were started, and have said this approach might threaten heat networks. Others have said we risk having to retrofit thousands of homes built between now and 2025. How would you assess these different arguments, and what transitional arrangements would you like to see?

Catherine Evans: As I was saying earlier, the really important piece is that we are being ambitious enough with the transitional arrangements. Our concern is that we have examples in the transitional standards that have been proposed that are exactly the same as the standards we are currently working to. From the perspective of a social housing provider with a significant stock base, we could end up in a position of having to undertake, at a later date, very complex and costly retrofit works that are inconvenient to our customers. We would certainly want the transitional standards around walls and flooring to be more ambitious, because those are the really complex and costly elements at the point of retrofit.

Richard Smith: It is quite a change with the transitional arrangements this time round to previous transitional arrangements. I support the fact that, especially on large-scale sites, where there is a large phasing going on, there is an opportunity to improve on a plot-by-plot basis rather than on a whole site basis. There are some added complexities around that. The infrastructure is a large one, particularly on phasing. Developers may struggle if they are on the final phase of a site but the infrastructure has been set up based on mains gas. That may have some complications and we are doing some research into that particular area. It is worth noting that the transitional arrangements this time round, as proposed, are far more onerous.

Going back to Catherine's comments, there are aspects of the structural fabric where there will be a significant increase in performance anyway. Walls, floors and elements are built to a relatively good standard now. It is just taking it to that extra level and that extra layer.

Some developers have raised concerns where plot one, for example, may have a footprint that is bigger than plot two, because plot two started after the transition, and the wall thicknesses may have increased a little, or the heating system has changed. On a site, there could be some variances between two plots that look the same from the outside but have a different size of building on the inside.

Brian Robson: I would agree with colleagues. The MHCLG evidence summed this up well. We cannot be building and completing homes to standards that were set in 2006 or 2010, so it is right to take a per-home approach to the transition.

Q58 Ian Byrne: I just want to touch on the performance gap. We have heard calls for an improvement in the performance gap between the modelling



of carbon emissions from new homes and the actual output. How do you think the gap should be addressed and, just as importantly, who should pay for it?

Brian Robson: The key thing here is to move much more towards monitoring the in-use performance of homes, so that we can understand the cause of the gap and identify the steps to close it. Some of our members are very active in monitoring in-use performance. Some of the housing associations that are retrofitting homes are doing before and after tests on individual properties, using sensors to determine heat use and demand on a kilowatt hour per square metre basis. We also have members who are involved in a programme called SMETER, which is using smart meters to measure the thermal performance of homes. We need to understand much more about in-use performance and then use that to tackle the gaps. I am not expert in this area, but I would be very happy to send the Committee a note on those innovations, if it would be of interest.

Ian Byrne: Thanks, Brian. That would be really good for the Clerks.

Richard Smith: I support Brian's comments about in-use performance. It is worth mentioning that, in the future homes standard and what is proposed for the 2022 changes, more evidence is required by builders to submit to the energy assessment bodies to complete energy performance certificates—EPCs. The EPC should have a closer reflection than the as-built performance, just because far more evidence is required for the energy assessor to carry out that assessment.

Catherine Evans: I completely agree with what has been said. I have a couple of other points. The focus on evidencing the EPC standards is really important, but we just need to ensure that appropriate resource is available at local government level, so that that evidence is thoroughly and robustly reviewed, and that, for developers developing at scale, there is no opportunity for them to simply submit duplicate or photographic evidence.

Coming back to a point that was made earlier, the in-use piece is really important, as well as proactive education across consumers to ensure that they understand how to maximise the value of this new technology.

Q59 **Mary Robinson:** I have a very quick follow-up for Richard. You said that the main challenge is to make sure that homeowners are ready and that these new low-carbon technology homes will function differently. How are you, as an industry, going to tackle that information gap, so that people are aware that this could be quite a different prospect for them when they move into a home with this different technology?

Richard Smith: With NHBC Foundation, we are conducting research projects on this particular area, and they are publicly available to everybody, so we have started to get that ball rolling in that respect. Under the building regulations in the proposals, there is a provision under the new standards where more information is to be provided to the



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homeowner and the end user. There has always been that requirement, but it is tightened up even further for the 2022 and 2025 standards. It is even more critical now than ever to make sure that the information is provided.

I know that we have a number of technologies, but I am a strong believer in simplicity being the way forward in trying to make the home as autonomous as possible for the end user. In that way, they can occupy their property without really having to think about it too much. That is the important part, rather than putting extra levels of complication into the building.

Chair: We move on to look at the issue of funding. We are not going to get very far without the funding question being answered.

Q60 **Florence Eshalomi:** There have been various funding schemes and finance announced by the Government for existing homes with people and owner occupiers, private-rented housing and social housing. How would you assess the current funding schemes in place, such as the green homes grant and the social housing decarbonisation fund, which have all been rolled out to promote retrofitting?

Richard Smith: I am sorry to do this, but it is not an area for me. I am more focused on new build housing.

Q61 **Florence Eshalomi:** I will jump on to that then. Has there been enough funding for new homes?

Richard Smith: Again, this is not an area for me that focuses on funding. There are builders and developers that seem quite proactive towards the change in standards, and others that think that some of the Government's proposed increases in costs are ambitious from the point of view of building to the increased standards. From a private development perspective, private developers will have to absorb that. From the point of view of social housing, Brian and Catherine are probably better to answer that question.

Catherine Evans: Our experience to date has been inconsistent. Stonewater operates across over 130 local authorities. We have local authorities that have really embraced and engaged in this particular agenda, and others that are perhaps slightly less mature in their journey in terms of understanding the importance of retrofit and the implications of new build. As a social housing provider, we would be keen to be able to access these funds directly rather than necessarily having to go via local authority partners. We would continue to collaborate with them and ensure that we understand the insight that they have around local communities, but, for a business that is operating at scale across a national portfolio, direct access would enable us to deliver a much more consistent offer for our current and new customers.

Brian Robson: In relation to the green homes grant, the voucher element of the scheme was a huge disappointment, allocating only 10%



of the vouchers that it was supposed to. What has been overlooked in that story is the relative success of the local authority delivery element of the green homes grant. This is where local authorities were running schemes at local level, targeting households in fuel poverty.

It has not been without its challenges and there have been some incredibly tight deadlines involved, but, from a standing start 12 months ago, it is delivering £500 million of investment into the homes and neighbourhoods of people living in fuel poverty, and it should upgrade 55,000 homes. That shows you what local authorities can do when they are put in the driving seat on this. It has been delivered to tight timescales and with limited capacity. There is scope for greater impact and a more strategic use of funds, if we can get those sorts of schemes on to a longer-term footing at the spending review. All those funds expire on 31 December this year. There is no funding beyond the end of this calendar year.

On the subject of the social housing decarbonisation fund, it is early days for that. We had a demonstrator phase, which is out in the market now. We agree with the recommendation that was made by colleagues on the Environmental Audit Committee when they looked at energy efficiency. They called for the £3.8 billion social housing decarbonisation fund that is due to be verified at the spending review to be front-loaded and spent in this spending review period, rather than trickled out over 10 years. That would ensure that we can use the scale of the social sector, which is one in five homes in the north, to inject confidence into the market. That is really important. We need to be scaling up the skills and supply chain. There is the potential for 77,000 jobs across the north by the 2030s, if we get this right, but we need to add scale, and that is what the social housing sector can add to the mix.

Q62 Florence Eshalomi: That is really important. Both of you touched on some of the challenges in that. Some of the reasons are the timescales for applications and the collapse of the voucher system. If there were to be additional funding schemes, what should underpin them? Should there be additional financial incentives to help get take-up?

Catherine Evans: Yes, in short. We need to ensure that we are incentivising all developers and providers. At the moment, certainly from Stonewater's perspective, on our non-section 106 sites, we are already committed to not using any fossil fuel heating systems. We embedded that from the start of this year.

Unfortunately, for private developers in the sector, gas heating is still the cheapest and easiest solution. From our perspective, we committed to that higher specification, which we are proud to have done, but that will, in time, place additional financial burdens on us and mean that, in some instances, we will be outpriced in terms of access to land. Incentivising a commitment to that higher specification would be really important.



Brian Robson: The tight competitive bidding timescales that have been adopted to date have proved really challenging. There have been different varieties of LAD. There was LAD 1A and 1B, where councils applied directly to BEIS. What was perhaps more successful was the LAD 2 scheme, which was allocated through regional energy hubs, and their councils or LEPs got a pre-allocation of funding, so they knew what was up for grabs in their area, if they could come up with a bid that met the mark. That approach has proved more successful. It has certainly avoided wasted time on bids that were never going to succeed. That kind of approach, where we operate at a regional level, pre-allocate to councils and LEPs, and ask them to come up with schemes to use the money, would be a more constructive way forward that avoids duplication and waste.

The main thing that we need is a medium-term plan, which is really important in building the supply chain. The supply chain does not have the confidence at present that there is going to be a continued coming forward of funds. As I said, everything runs out at the end of this year, so we need to put some confidence into that supply chain.

Florence Eshalomi: Thank you very much. I totally agree with you.

Q63 **Chair:** Just to follow up, we have talked about the need to deal with existing homes as well, and about some of the funding deals that have not been brilliantly successful so far. If you are talking to an owner-occupier who has a perfectly functioning gas boiler that they may have paid for three or four years ago, how are you going to get them to put anything in that is more climate friendly, when the costs to them will be significant and the benefits in terms of finance are probably zero?

Brian Robson: There is a need to incentivise this for owner-occupiers and the able-to-pay market. The LAD schemes and so on are for those who are in fuel poverty. We do not have a grant offer at the moment for people who are able to pay. We are interested in exploring what motivates consumers about this, because there are benefits in terms of having a warmer and healthier home. When the balance of tax on gas and electricity begins to shift, it should be cheaper in the long run. There are all these job implications that I have talked of—77,000 new green jobs. One thing that we are doing with social housing tenants at the moment is running a climate jury to put them in the driving seat and make recommendations to the sector.

Q64 **Chair:** I can understand social housing, because, in the end, the council or housing association will take a decision, but say you own your own home and are making the decision. It is all very well saying that electricity may be cheaper in seven or eight years' time, when you are paying the fuel bills now. Catherine, do you have any ideas about this?

Catherine Evans: I completely understand your point and we are in a slightly different position, but the opportunity that can be leveraged by more joined-up working at a local level could be quite significant. For



example, across our portfolio, we should be working with our local authority partners at point of procurement, as soon as we go through to do any retrofit work, to look at the opportunities that we can then pass out to the wider community. Procurement at scale will mean that we can reduce the cost and the installation costs, which will benefit homeowners. I would concur that a big part of this is around education and making sure that we are consistent in our messaging around why this is such an important topic.

Q65 Rachel Hopkins: Which technologies should be used in retrofitting? Are there alternatives to heat pumps and hydrogen?

Catherine Evans: From our perspective, certainly in the medium term, heat pumps are the most likely non-fossil fuel technology to be utilised. We are awaiting the outcomes of the reviews around hydrogen and so on. At the moment, we have an accurate understanding of how much heat pumps cost to procure and install, and then for our customers to use. Until we have further evidence around the cost of installation and the cost of use for our customers, we will probably continue to use heat pumps. Stonewater already has just over 1,000 homes that are serviced by heat pumps, which are proving to be relatively affordable, convenient and effective for our customers.

Brian Robson: We start from the point that we need to move quickly, and the technology that is available at the moment is heat pumps. We have had mixed messages from Government so far, and it would be really helpful, when the heat and buildings strategy comes through, if they can clarify their intentions around decarbonisation. The 10-point plan says that we expect to be installing 600,000 heat pumps a year, which is a signal of the Government's intentions, but if they could be really clear about this we could then scale it up. France installs 400,000 heat pumps a year. This is a proven technology that is used elsewhere in the world.

You asked about alternatives. We are quite sceptical about hydrogen. There is no hydrogen heating any occupied homes at the moment. It might be 10 years off. One alternative that we identified, which about a million homes in the north would be suitable for, is heat networks. This is a combined heat and power system, with pipes connecting homes. That works when you get to a certain density of homes, and there are particular opportunities in the north around using things like mine water. We have heated mine water underground as a legacy of our industrial past, and there are schemes being built in the north as we speak that are going to use heated mine water to heat homes. Heat networks might be coming up on the inside as an alternative, but we reckon that the vast majority of homes across the north, about 4.5 million, will end up using heat pumps.

Richard Smith: The main thing to consider is to ensure that any improvement to any building is holistic. A heat pump will work well in a really good fabric, so ensuring an assessment of the entire building and



its quality in relation to air quality, making it as good as it can be to serve a heat pump, is quite important.

There are other technologies coming through, such as PV panels. Rather than discharging into the grid when there is a surplus of energy, PV panels could power and provide heat for hot water in that scenario. Potentially, long-term battery storage is something to look at, particularly with electric vehicle charging taking place as well. If you factor all of that together, with a renewable energy source in solar PV going into a heat pump, and waste electricity going to heat your hot water and into a battery that runs your car, that would be a very good system. Making sure that everything is considered holistically is important.

Q66 Rachel Hopkins: Talking of all these new technologies and things that could happen, we know that there needs to be extensive training to ensure that there are enough people who are qualified to safely install heat pumps and, possibly, hydrogen boilers. What measures need to be taken to meet this need as we move forward?

Catherine Evans: There is a massive skills and labour gap at the moment. Within Stonewater, we have quite a wide supply chain of partners that work with us, and they are actively engaging with us already to understand what skills are going to be required from their workforce moving forward. With the green revolution agenda that has been so well documented so far, this is a real opportunity now to engage people in this journey. We need to be focusing on apprenticeships around green technology, ensuring that this technology is embedded across all our supply chain partners and academies, and that they are upskilling their teams now to be prepared for the installation and maintenance of all these systems moving forward.

Brian Robson: We have a huge skills challenge down the line and, frankly, we are not as prepared for it as we need to be. We have 1,000 heat pump installers in the country—*[Inaudible]*—gas engineers, and that is going to have to change. We need a clear signal to the market to get ready to retrofit—*[Inaudible]*—technologies that the Government prefer.

With your inquiry into the role of councils, there are probably two roles. One is a strategic role to co-ordinate at local or city regional level the pace at which work happens, to identify opportunities for area-based schemes, and to bring the skills sector together with the construction clients and contractors. There is also the citizen-facing role, which is what the Chair was referring to, in getting people ready for heat pumps. We need to provide people with trusted support and co-ordinators who can co-ordinate all the different trades and skills that we need, because householders are not in a position to do that themselves. They are going to need a retrofit co-ordinator, which might well be somebody with really good customer service skills who had previously worked in hospitality or retail. They would be really well placed to do that kind of role.



Richard Smith: The other point to add is about ensuring that all competent person schemes are fit for purpose and regulated. MHCLG is doing some work at the moment on reviewing competent person schemes. That is another aspect: ensuring that, where there are installers or organisations that are accrediting installers, there is quite strong regulation for them.

Q67 **Rachel Hopkins:** Bringing the technology, the people and the skills together, how does our approach need to differ, depending on the types of housing being built or retrofitted? Do we need a different approach for, say, housing association properties compared to owner-occupiers?

Richard Smith: The key thing for me is different building types and whether it is existing or new build housing stock. When you are designing something from scratch, and you incorporate and build that in, that is okay, to a degree. The complexity of retrofit and how it works with existing building occupiers represents more of a challenge. As I mentioned earlier, if the external elements are going to be insulated with a different heating system, has a full survey been conducted to ensure that the ventilation provision is still adequate and that there is not a risk of overheating, for example? With new build, that should be part of the design process and is part of the energy assessment piece in relation to part L. We have to look at each of these building types slightly differently, especially on the retrofit side, to make sure that we do not have any future issues.

Catherine Evans: I completely agree. The other issue to consider is how ambitious we are in terms of retrofit and its delivery. For us, that would be through our capital investment programme. We need to ensure that, when we are delivering new build properties, we maximise every opportunity to ensure that the property is fit for purpose, now and moving forward. Equally, we need to be mindful that we do not create social inequalities with some customers in older properties, for example, not benefiting from the value bought with the new technology.

Brian Robson: In terms of tenure, organisations like Catherine's will be quite intelligent clients and employ their own surveyors, and so on. We have millions of private landlords and individual homeowner occupiers, and that is where the role of councils comes in. They can employ people to give this advice or signpost to trusted organisations or agencies that can do that, and co-ordinate this whole suite of works that need to take place in each individual home.

Q68 **Chair:** Just to pick up one point of clarification with Richard Smith, you mentioned the words "competent persons". I presume you mean, in the normal sense of the word, that the person doing the job ought to be competent, trained and skilled, with qualifications, not as in the registered competent person electrical scheme, where the person doing the work need not be trained at all, as long as there is some general supervision in the company.



Richard Smith: I will just clarify. I was really focusing on what is cited in the regulations as a recognised competent person scheme. For example, for microgeneration, there is a competent person scheme. For electrical installation, there is a competent person scheme. It is about making sure that all those competent person schemes are properly regulated and fully accredited to ensure that their members are all working to a competent level and are audited to ensure that they do that day in, day out.

Q69 **Chair:** Just to pursue that a bit further, a person putting a gas boiler in has to be qualified, but a person putting an electrical installation in does not have to be qualified. Do we not need to address that, if we are going to put all these heat pumps into properties? Surely the person doing the work needs to be trained, skilled and qualified.

Richard Smith: I used the example there of a gas boiler, which is a regulated installation. A competent person may install that boiler and, in doing so, would not submit a building regulations application, because they are competent to do so. In relation to a heat pump, if it is an electrical installation, it is also regulated, so it would be a regulated installer under part P. If they were part P registered or under a competent person scheme, a building regulations application would not be required. If it was a heat pump installation—and this is the same with a gas installation from a building regs perspective—if someone carried out the work but was not deemed a competent person, they would have to go through the building regulations process.

Chair: The Committee might pick that up in due course, but that is a helpful clarification. We move on to the role of local government and central Government, and whether they work together or not. Sometimes it is a challenge.

Q70 **Mohammad Yasin:** Our written evidence showed a majority of submissions supported local authorities being able to set their own standards on carbon emissions, for example for new homes. I understand that opinions on this issue are divided, but I want to know your view on this.

Richard Smith: As mentioned, NHBC fully supports the future homes standard. We are less supportive of local authorities setting their own standards. There are two reasons for that. First, it does not help with increasing the number of houses needed if there are different standards, where developers have to do bespoke designs across their range for different authorities.

The other area that I am a little concerned about is if local authorities do not have the overall experience to understand what they are setting, where there could be some unintended consequences if that is not set correctly. My main concern is that a target is very easy on paper, but what are the consequences on the other areas that have not been set for those occupiers within that dwelling or building?



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Catherine Evans: I would agree. Stonewater would very much prefer a consistent, national specification. We are very much supportive of the higher specification that some of our local authority partners have implemented but, unfortunately, we do not see that consistently across the country. For us, consistency and our ability to deliver that higher specification at scale in all the communities in which we operate would be really important.

Brian Robson: I would differ at this point. It is positive that Government have retained the ability for local authorities to set higher standards. Local authorities have declared climate emergencies. A quarter of our emissions in the north come from existing homes, so we need the levers to be able to change that. Housebuilding is fundamentally local and fundamentally site by site, so this is just part of the work we do whenever we build homes, to make sure that they are appropriate for local needs.

I would say that there are some protections in there for developers. The policy is tested when the plan is adopted, and developers have the right to appeal if their application is rejected on those grounds. There are some failsafes in there, and it will be important and interesting to see whether Government continue with the ability for local authorities to set higher standards when the new planning system comes in in due course.

Q71 **Mohammad Yasin:** Brian, it has been suggested that the definition of “zero-carbon home” is not broad enough. There have also been concerns about the inaccuracy of energy performance certificates. In your view, do any of the current metrics for energy efficiency and carbon emissions need to change and, if so, how?

Brian Robson: There have been some concerns about the accuracy of EPCs. They are based on a visual inspection, so it does involve some assumptions being made about the property. Generally speaking, the assessor is in the property for less than an hour. It does not take into account energy usage in the home or user behaviour, and they are subject to some quite dated assumptions about how electricity is generated. In terms of carbon emissions, it is based on an old assumption about the mix of electricity in transmission in the UK.

Balancing that, it is a well-known scale. We have quite a substantial national database now of lodgements, so it will continue to be an important measure going forward. I referred earlier to some alternatives that members are exploring around post-occupancy monitoring and tracking, and so on, but the EPC will be with us for a while yet and will continue to be an important benchmark.

Richard Smith: I would generally agree with Brian on that. EPCs have been around since 2007 and there is now a minimum EPC rating for let properties, which is a good opportunity. It is fair to say that, although there have been some issues, it has been a positive, in general terms. EPCs become more complicated the more zero carbon or energy efficient



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a building becomes. There is some work to be done there. In general terms, the message is more positive, but, as Brian said, there is more work to be done.

Catherine Evans: I agree. EPCs have been a very useful benchmark to date and will continue to deliver for us in the short to medium term. As was picked up, they do not account for any intrusive works, so you would not, though an EPC, pick up anything around failing insulation in cavities et cetera.

There should be an additional target set, though, around running costs, so that we can effectively demonstrate that the technology is delivering for our customers and all home occupiers, and that we can measure that the running costs are as they should have been.

Finally, EPCs are becoming increasingly technical, so it might be useful to consider an alternative representation of that information for home occupiers that is perhaps slightly easier to understand.

Q72 **Mohammad Yasin:** How can we ensure that standards, local or national, are enforced on the ground?

Catherine Evans: This really comes back to one of my initial points around resourcing and ensuring that all local authority partners have appropriate resource, capability and competence to police this moving forward, and to thoroughly scrutinise at point of planning and post-handover of new homes, again measuring that in-use cost for occupiers.

Brian Robson: There is no shortage of ambition from local authorities, and 60 of our 70 local authority members have declared climate emergencies, so they are really keen to act on this agenda, but there is a shortage of capacity. If you look at local authority financing in the north, 80% of spend now goes on statutory services, and I know you will be familiar with that. We have seen a reduction in spending on housing services of over 50% since 2010 in the north, which means that, in many places, there are not the officers on the ground to enforce the standards that exist.

BEIS is setting and consulting on very ambitious standards for the private rented sector in particular in order to get them up to EPC C by 2028. That would be really progressive and important, because that is often where the worst problems are, but at the moment we do not have the enforcement staff on the ground to co-ordinate this, to go house by house and to ensure that those standards are being met.

Local authority capacity needs to underpin our activity on net zero. I appreciate that it is not sexy and you cannot put a ribbon on it, but it really does underpin everything that we need to do on net zero to have local understanding, analysis and action.

Richard Smith: The first thing we mentioned at the beginning was the ambition here. It is about making sure that the ambition is realistic. We



have said that it is ambitious, but it is realistic. From there, it needs to ensure that the process is about learning and setting more ambitious targets, then learning and setting more ambitious targets. We have had some dates that seemed to go back a year or forward a year, but we need to draw a line in the sand and say that that is the first target.

In relation to regulation, the evidence required during the build process—and the same would apply going forward during a retrofit process—is that the accountability of the supply chain of information is a huge step in the right direction.

Q73 Brendan Clarke-Smith: Good afternoon, everybody. Besides the measures that we have mentioned already, what further steps do local authorities need to take to support achieving net zero? Following on from that, do local planning authorities, in your experience, have the skills, resources and capacity to get the UK to net zero?

Richard Smith: I do not have that much direct involvement with local authorities. For me, the first piece is setting good regulation that can be followed. Setting the right standards and regulations is the important piece and, again, the accountability piece is critical.

Brian Robson: I completely agree with Richard that national Government have that role in establishing a strategy for the country, but councils have that local mandate and accountability to add local direction and ambition to that. Retrofitting is an activity that needs to happen in millions of homes across the country, and you cannot co-ordinate those individual conversations from Whitehall, but you can at a local level. Councils, other trusts and local agencies can help people through this. Councils can take advantage of local opportunities that exist.

I referred earlier to the opportunity that we have in the north-east around mine water. That is a very local opportunity, but a local authority can drive that. Councils also have a really important role in joining this up locally, because this should be good for health and for skills. We reckon that there is potential for 77,000 jobs across the north, and it is local authorities that can lead the conversations locally, with the skills sector and with schools and colleges, to make sure that we have people ready to take on those roles. It is very much a hub role, co-ordinating and collaborating with the various sectors.

Catherine Evans: I would agree with everything that has been said. From a Stonewater perspective, as I have mentioned, we see a lot of inconsistency in understanding and engagement with this particular agenda across the local authorities in which we operate. Being able to drive consistency of understanding, resources and engagement is going to be critical. It is around that bigger picture, so new build and retrofit are just one part of this whole agenda. We need local authorities to be joined up in everything that they are doing across their local communities, bringing in health, transport and education together for



what is going to build consumer confidence and understanding of this whole agenda.

Chair: Thank you to all our witnesses for giving very thorough and interesting answers to the questions that we have asked. We will be taking those into account, along with our other evidence sessions, to produce a report on what is one of the biggest issues facing us at present. Thank you all very much for coming this afternoon and giving evidence to the Committee.

Examination of Witnesses

Witnesses: John Alker, Michael Lewis and Nicola Pitts.

Q74 **Chair:** We now move on our second panel. We have another three witnesses joining us. Thank you very much for coming this afternoon. I will come to each of you in turn and ask you to say briefly who you are and the organisation you are representing today.

John Alker: Hello, everybody. I am John Alker. I am director of policy and places at the UK Green Building Council. UKGBC has been around for about 14 years. It is a charity and our mission is to transform the sustainability of the built environment. We are an independent NGO but we are majority funded by membership fees from our private sector members right across the value chain.

Michael Lewis: Good afternoon, everyone. I am Michael Lewis, chief executive of E.ON UK. We are the UK's largest electricity supplier and we supply around one in five of all UK residences with 100% renewable electricity.

Nicola Pitts: I am Nicola Pitts. I am executive director of the Independent Networks Association. They are small, non-geographically focused companies that connect largely new homes and industrial/commercial properties.

Chair: Thank you all for joining us this afternoon.

Q75 **Mary Robinson:** First of all, is the Government's goal of achieving 75% to 80% reductions in carbon emissions from housing from 2025 ambitious enough or is it too ambitious?

Michael Lewis: I think 100% would be nice but, as a starting point, it is ambitious enough and is the right level of ambition that we need to get the whole sector moving towards zero-carbon heating.

John Alker: We broadly agree with that aspiration, but it is worth remembering that, although a 75% to 80% reduction sounds like a lot, it refers only to the energy covered by building regulations. It covers the majority of energy used in operating a home—primarily space and water heating—but does not include appliance use and, perhaps most



significantly, does not include embodied carbon that is emitted through the construction process itself, including emissions associated with materials. We believe that, by 2025, the Government should introduce targets for reducing both regulated and unregulated energy in use and begin to address embodied carbon.

Nicola Pitts: It is ambitious and, to get to our 2050 targets, we have to be ambitious. My member organisations are concerned about the practical timetable for getting there and the fact that clarity from MHCLG will be arrived at relatively late in 2024, just as the supply chain is needed to deliver that. It is good to be ambitious, but let us also be realistic about these things.

Q76 **Mary Robinson:** There have been some concerns raised in written evidence that the proposed Government changes to transitional arrangements could mean that new houses will have to conform to the latest building standards when on the same site as older houses that are following the older standards, which will have a detrimental impact on the delivery of heat networks. I wonder what your view is. Nicola, I know that this something that the INA has raised.

Nicola Pitts: One of the problems is the practicality of housebuilding, particularly when you have large sites. The planning permission and the networks that serve them—whether electricity or gas—are often built long before the last house on that particular development is done. Changing midway through is a very practical issue, so we are very interested in what the transitional arrangements will be. Unfortunately, those will not be consulted on until 2023, so this is creating a degree of uncertainty.

Q77 **Mary Robinson:** What would you like to see?

Nicola Pitts: We would like to clarify things earlier in terms of what the standard should be. In Scotland, they have made the decision that I know is a difficult one, which is balancing some of the practicalities of delivering the scale of new homes versus meeting our climate change targets as swiftly as we can. They have decided that the development itself will be judged as to when it gets its planning permission, rather than a particular date where you have plot 13 at a different spec to plot 15.

John Alker: I cannot add to that level of detail. We were supportive of the proposals on transitional arrangements, and my reading of the Government response to the consultation was that an overwhelming majority of respondents were. I would comment slightly more broadly that it is really important that we do move ahead as quickly as possible and tighten up the transitional arrangements, not least because zero-carbon homes are something that we have been talking about since 2006. We really need to crack on with this.

Michael Lewis: I agree with what has been said already. I would just conceptually say how we would like to see the transitional arrangements



move. Clearly, the more houses we build that are not zero carbon, the more retrofit we have to do later, which is much more expensive. The more quickly we can move, the better, and you can do that only with an assessment at the individual development level—not a general answer across the whole country, but looking at each individual development, how far advanced it is and what the cost would be of moving more quickly to zero-carbon, depending on the state of development of the networks connecting it. Otherwise, if you continue with a slower transition, you are just building up a problem for later, which, ultimately, will cost more.

Q78 Mary Robinson: Staying with you, Michael, just for clarity, are we using the right metrics in measuring what a zero-carbon home is?

Michael Lewis: Broadly speaking, yes. You can always argue precisely about what the right numbers are, but, generally, yes. The bigger problem is not the metrics but, as was discussed on the previous panel, the rigour with which those numbers are generated and with which standards are enforced. That is the challenge, I would say.

John Alker: We need to know two things: how much energy is being used, and how much carbon is being emitted. In terms of energy, we favour an energy use intensity metric, so kilowatt hours per metre squared per year, and a carbon metric, so kilogrammes of CO₂ equivalent per metre squared per year. The CO₂ metric will become increasingly redundant as we reduce total energy use and decarbonise that energy, and so we favour the kilowatt hours metric as a primary metric and CO₂ as a secondary metric.

It is also worth mentioning that there is a third factor—occupancy—that has an important bearing on that, and is probably particularly irrelevant for non-domestic buildings, which can be used quite differently. If a building is underoccupied and achieves the same energy use intensity metric as a fully occupied one, they are performing very differently, so Government and industry need to work together to develop occupancy-related EUI metrics for buildings as well.

Nicola Pitts: I agree with the points that have been made and do not have anything else to add.

Q79 Ian Levy: Thank you to the panel for joining us today. If I could direct my first question to John, we have concerns that we may have skills shortages. Do we have a large enough skilled workforce to be able to install the heat pumps that we need? If we need to bring more people into the sector, how can the Government achieve this? Is there anything that we can do to help?

John Alker: I will make a couple of comments, but other colleagues may be better placed to come in on that. My main point on this is that long-term clarity and consistency of policy is of utmost importance in terms of the industry responding, investing and getting skills in place in order to



deliver on those targets. Whether it is new build or existing stock, stop-start policymaking has been incredibly detrimental to the industry and has made forward planning extremely challenging indeed.

The second point is that, bearing in mind the topic of the inquiry, local government has a crucial role to play in being a facilitator and convenor between necessary parts of the ecosystem in terms of skills, bringing together industry with FE, HE and skills providers, and working to understand and make sure that those training programmes and so on are in place, in order to meet the expected demand going forward. Places like Greater Manchester Combined Authority are an excellent example of that sort of theory and practice.

Q80 Ian Levy: On local government, if you do not mind expanding a little bit, do local authorities have the expertise and resources to grapple with all the technical issues that we need to move towards net zero?

John Alker: I heard the previous panel discuss this, and this is probably a familiar refrain, but, no, I do not think that they do. This is a rapidly moving agenda. That is not a criticism of local authorities by any means, but they are clearly under capacity and under-resourced. Perhaps combined authorities have a little more capacity to bring together boroughs and authorities within their region and to work with local partners on this, but there is no question that that is something that needs to be looked at.

Michael Lewis: On the training side and the point that was just made about long-term consistency, looking at renewable energy, we started way back in 2000 with our first offshore wind farm. At that time, it was five to six times more expensive than a coal fire generator. What we had then was a long-term perspective—the ROC scheme—that endured through different Prime Ministers under Labour and Conservative Governments, because there was an agreed view of the long-term perspective. That meant that we could invest in the supply chain, our people and skills, and meant that the cost came down very dramatically. We built a completely new, world-leading industry in 15 years. We need to replicate that with the rollout of zero-carbon homes and heating.

Again, if you look at smart-meter rollout, it is instructive. In many ways, it did not go or has not gone as well as we would have liked, but there are some good lessons to take out of that. We trained 2,000 highly skilled technicians in a very short period. We took them from within our organisation and externally. We retrained people from different professions and skilled them up to electricity and gas standards to install smart meters, to the point where, pre lockdown, we were installing 4,000 smart meters every day.

We can get to the scale, but the smart programme and the renewables programme both had the benefit of a very clear Government target and a very clear policy of how we get there. We need to replicate that with



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zero-carbon heating. I am absolutely confident that we can do it, if we replicate what we did before, which we know is successful.

Nicola Pitts: It is a major concern that we do not have enough heat-pump fitters in particular going forward. The latest data I saw was that there are about 1,200 and we need closer to 10,000 to reach the Government's aims, so there is a massive opportunity there.

A BEIS study looked at people involved in the heating sector and whether they just did gas or heat pumps as well. One of the things that they found—I am trying to say this delicately—is that those people are mainly in the heyday of their careers rather than at the start, so there is a great opportunity here to bring skills to younger people coming into the industry.

To a question that you asked before in terms of the interaction with local authorities, some have managed to link significant developments to apprentice training as well. There is a great supply chain benefit that we can get from this.

Going back to a response to a previous question about certainty around the transition, one of the problems that we have had before is that companies have started to train people up, but the demand was not there. We really need these jobs to come on stream at the right moment, which probably tells you that it is more of a local issue to do that, because they will be much more in tune with what developments are coming forward.

Q81 Ian Levy: My last question, where you may be able to follow on from that, Nicola, is about safety in the industry. What guarantees and reassurances could the panel give with regard to safety and the training that has gone on, so that people can feel happy and safe that they have these heat pumps in their homes? What standards will the fitters be meeting?

Nicola Pitts: Going back to the previous panel, it is a vital thing for people's trust that these people are sufficiently trained to an accredited programme linked to some sort of trusted arrangement. One of the BEIS findings is that people use local fitters as a way to understand what is sufficient and appropriate for their home, so there is a real need to embed the trust there in order to enable the consumer to have confidence in that.

Michael Lewis: Safety and training are critical, and the same applied to the 2,000 technicians we trained to install electricity and gas smart meters. You are dealing with potentially very hazardous installation processes. You need rigorously trained people to the right standard, and the standards fully enforced. Where local authorities have a key role is in making sure that standards are adhered to.

Q82 Bob Blackman: Thank you to our panel for the answers you have given



thus far. One of the issues here is funding of all these arrangements. There has been some criticism, most notably by our colleagues on the Environmental Audit Committee, of the Government's flagship green homes grant, which has been contrasted with local authority delivery scheme. What is your organisation's experience of dealing with the funding schemes?

Michael Lewis: Our experience broadly replicates what is commonly known—namely that the green homes grant voucher scheme was not at all successful, with only 7% take-up. There are many reasons for that—most importantly that it was a very challenging timeframe and that it was difficult for consumers to engage with. On the other side, the LAD scheme has been extremely effective. We are working with 32 local authorities across the UK in helping to deliver those schemes.

We have been working with local authorities over many years on different schemes, but this was a continuation and a progression of that. We created joint programmes, so that we can work together to deliver right across the different measures. What that tells us is that a partnership between central Government, setting out the framework and the financial resources available, and local government, working with private sector providers that can deliver, is a good combination, and we should replicate that when we move to the home upgrade grant system. We need to significantly increase the funding for social housing and for vulnerable customers through those kinds of schemes.

John Alker: I absolutely endorse that. I would also point the Committee towards a very helpful briefing from the Energy Efficiency Infrastructure Group on lessons learned from the green homes grant scheme. It noted that there was possibly a mismatch in terms of the original intention of the scheme, the Treasury being particularly interested in a short-term economic stimulus, and there was a very fast turnaround in the design of the scheme, which may ultimately have proven to be one of the biggest problems. There was limited consultation at the outset with industry or with local bodies.

Key challenges, as we have noted, included a very complicated application process, lots of delays for homeowners, late payments to installers and delays issuing vouchers. Indeed, some firms even ended up having to lay off workers, which is very distressing. There were perhaps issues around the contract with the private provider as well. There were a huge number of lessons learned from that.

Going back to the point about the importance of giving industry long-term policy certainty and confidence to invest, it is really important to give schemes time to work and deliver at scale. Interestingly, there was a sense that public demand is there. Quite a significant number of applications were made for the green homes grant scheme, and surveys showed there was a high degree of interest in it. It is really important, though, to work with industry and local partners in scheme design right



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from the start and, while it may sound obvious, to ensure effective administration of the scheme.

I also agree that the local authority delivery component seems to be very promising, and that shows that local authorities can deliver, if they are given time and resources. There are lots of advantages to them playing a very active role in home retrofit.

Nicola Pitts: My members are really involved in the new homes connection and also significant regeneration projects, so we probably do not have anything to add to the comments that have already been made.

Q83 **Bob Blackman:** Given the experiences that we just heard—and we will be making recommendations as a Committee on what should underpin the future arrangements—are there any key principles that you would like to see us examine and possibly put forward for future funding schemes?

Nicola Pitts: Many people have said that the big issue here is how we retrofit homes, given the amount. An issue that I wanted to raise more generally on the future homes standard is that what is even more important in the wider retrofit market is communication and getting people to understand the impact that emissions from homes make, so that you build education and understanding of the need to change, going back to a question on the previous panel that Clive raised about how you get somebody to think about changing things in their home before something breaks. The education and engagement piece is critical.

Q84 **Bob Blackman:** Michael, given your experience, are there any particular principles that we should be recommending to underpin future funding agreements?

Michael Lewis: I do not know if we will come on to this, but there are two issues here. One is the schemes funded by public money, including the LAD scheme, and the principle that I mentioned is that central Government should set an overarching framework, look to show how we can invest the £9 billion that was mentioned in the manifesto, not all of which has been committed yet, build on the success of the LAD scheme, and look at how we can create a national framework, where we have a national system of being able to deliver on behalf of each local authority for the vulnerable customers in social housing within its area. I would look at the LAD scheme and build on that.

Coming to private money, this is where the really big challenge is. We have to activate the able-to-pay sector, and that is a much bigger challenge, in the sense that people have to invest their own money. However, there is a very straightforward way of doing that, which is when a house is transacted—bought or sold. We have a £275 billion annual mortgage market in the UK. If you can tap into 3% to 5% of that every year, you will get to the number required to deliver this transition.

Q85 **Bob Blackman:** Can I just probe a bit further then? Are you saying that, for example, if someone wants to sell their home, they would have to



provide some form of certification or demonstrate that they were up to the required standards before they would be allowed to sell their home?

Michael Lewis: That is one way of doing it. The other way is that you could say to a buyer, "If you commit to making these investments, we will give you an incentive to do it—namely, relief on stamp duty." When someone buys a house, you incentivise them or apply a standard that requires the work to be done, and the bank will lend against that, so that you can reduce energy bills through all the energy efficiency measures but also—

Bob Blackman: But also achieve the carbon-neutral position.

John Alker: In terms of principles, I ran through a few lessons learned from the green homes grant fiasco in my last answer, but I agree with Michael in terms of that need for incentivisation, and we are going to need all of the above. We have been very supportive of the idea of differentiated stamp duty, which could be fiscally neutral for the Treasury. Of course, that would mean some people's stamp duty goes up as well as others' going down, and we need to be really clear about that. That point of sale, if work is done within a period of time after exchanging hands, is an absolutely critical juncture, as Michael says.

We should have that kind of backstop, which we do have in the private rented sector, of minimum energy efficiency standards, and be really clear with the public that we do need to move the whole of the housing stock forward over a period of time. If it comes to it, a graduated point in the future, where properties will not be able to be sold without meeting certain standards, is going to be required, and then a whole host of possible private finance arrangements, green mortgages being a very obvious one. The Green Finance Institute is looking into a range of possible ideas that have been used elsewhere.

Q86 **Bob Blackman:** Moving on, we have a potential solution for homeowners, but one vital sector that has grown quite dramatically in this country over the past few years has been the private rented sector. How can local authorities incentivise landlords, and indeed tenants, possibly, to improve the energy efficiency of their homes, especially given the circumstances that, if you are a tenant, there is probably not a great incentive to do this? We have implemented several requirements on privately rented properties—for example, on various aspects of safety. What measures are we going to need to introduce to encourage landlords to do the right thing?

John Alker: In many ways, many of the same principles apply. Many landlords will still have a mortgage, so there are certain intervention points that still apply. The minimum energy efficiency standard regulations that I referred to are absolutely the key driver. In the past, we have had things like the landlord's energy saving allowance. We need that full range of tools in the box in terms of low-cost finance and that clarity of what is expected over the long term.



Michael Lewis: I would agree with what John said. In the end, those houses that are ultimately rented are transacted as well in the market. By a curious symmetry, about 20,000 houses are transacted per week in the UK. Over the next three decades, that is roughly the number you need to upgrade every week in order to get to zero carbon. Provided we start to incentivise people when houses are being transacted, you will get there, one way or another.

There will obviously be a tail of houses that are not, and then you will have to resort to hard deadlines by a certain date where it is mandatory, as a backstop. Doing it through the mortgage market, when a house is bought or sold, is the most natural way to go with the grain of the housing market.

Q87 **Bob Blackman:** Nicola, you have the social rented sector. What would we need to do to encourage housing associations and other such bodies, or social landlords, to do the necessary work?

Nicola Pitts: My members tend to get involved with those when there is some sort of new build or significant regeneration.

Q88 **Bob Blackman:** I understand that. From your experience, is there anything, retrofitting-wise, for existing social housing properties? Do you have any particular views on that?

Nicola Pitts: One of the issues was mentioned before. If you invest in the technology and can get those costs down, that is a really good way to move forward. I think Michael raised it before in terms of the renewable sector and the way costs were achieved from there. That is a really important factor. At the moment, heat pumps are more expensive than gas boilers, as an initial investment. Things that we could do to bring the costs of technology down and make that easier for people to adopt would be very helpful.

Q89 **Ben Everitt:** John, should local government be permitted to set its own standards on energy efficiency?

John Alker: Yes. Local authorities have a critical role. The climate leadership being shown by many authorities is actually far outpacing national Government at this time. We strongly support the ability of local authorities to go further than national minimum standards. I know that that is a challenging question for many in the industry, mainly because of that difficulty of having different standards in different places.

In an ideal world, there would be a national trajectory, clearly set out in advance, which was so robust and ambitious that perhaps only a degree of variation by location was needed to reflect difference of geographical circumstances. In the early days of the code for sustainable homes and the 2016 zero carbon policy, perhaps that idea was not too far-fetched. With that stripping away of ambition at the national level over the course of the last decade or so, it is absolutely inevitable the local authorities and combined authorities have stepped into that leadership vacuum.



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Many local and combined authorities are acting on a very strong local mandate and have declared climate emergencies, and so on.

As a final point, there should be clarity in terms of the destination. To use an analogy, as a nation we all need to be going to the same place, going down the same road to get there, but we might be going at different speeds. That means using the same metrics, the same sorts of standards, but perhaps different levels of standards to make it as easy as possible for developers.

Q90 Ben Everitt: I think that the industry would certainly echo that last point that we need to have a clear and simple system. Speaking as a former local councillor, in your view do you reckon that local councillors are sufficiently qualified to be able to make these decisions about local standards on energy efficiency? Would it not lead to an arms race of undeliverable promises?

John Alker: We are seeing a huge amount of variation in the level of understanding and engagement. That does not necessarily mirror the size of the authority. It often comes down to knowledgeable and passionate individuals, whether officers or elected members. We are seeing a huge amount of leadership from fairly diverse places, from Greater Manchester to Leeds, to Cornwall, to Cambridge, to Herefordshire, to the West Midlands. There are other places that are further behind.

We try to provide consistent guidance to all local authorities and respect the level of stretch and ambition that they would like to go to. We hope to provide consistent guidance to say, "This is where we think everybody needs to get to as a minimum. For those that want to go further faster, here is some advice".

As a very live example, we are coming to the end of some work with Manchester City Council. That has been a collaborative piece of work with the city council, the climate change agency in the city and the private sector in the city. We have been working in partnership to provide advice to the city council on what that next iteration of the local plan in 2023 should look like, to try to respond to an extremely ambitious city, in terms of its citizens, council and private sector, in order to move to net zero-carbon new homes and buildings as quickly as possible. That has been an incredibly positive exercise. I realise that not everybody can do that, but, once a small number of places trailblaze, those sorts of approaches can be picked up elsewhere with greater ease.

Q91 Ben Everitt: From your experience, you would be saying that there is not an equal level of commitment across local authorities to reaching net zero.

John Alker: There is an increasingly equal commitment in terms of rhetoric and a sort of vision, but that is not necessarily backed up with a full recognition of what that means to implement in practice. It is not a lack of willingness. The majority of local authorities have committed to



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climate emergency, but not all those authorities have the capacity or wherewithal to have done the hard yards in terms of what that actually means, whether that is for new build or the existing stock.

- Q92 **Ben Everitt:** You very deftly and diplomatically answered the first point I alluded to, in terms of the ambition not really reaching the capacity in some cases. To get over that, what kind of balance should there be between the roles of local government and the national Government, in terms of getting to net zero?

John Alker: One thing that would really help is that sense of an overarching, long-term framework, so that, whether we are talking about new build or the existing stock, we have a really clear sense of what needs to be achieved and by when. At the moment, if we look at the built environment as a whole, we do not even really have a clear line of sight on the aggregated carbon emissions from different building types. We certainly do not have that broken down on an area-by-area basis. That would be extremely helpful.

As I understand it, the group UK100 tomorrow is proposing a new framework to deliver net zero, a sort of compact between local government and national Government. I await that recommendation with interest.

- Q93 **Ben Everitt:** Thank you very much, John. That was really interesting stuff. Nicola, I am interested in your perspective on this in terms of devolving the ability to set standards down to a local level and then that balance between the central and local as to where the responsibility is, who sets the targets and who does the heavy lifting in getting there. What are your thoughts on this?

Nicola Pitts: I would probably like to split it in two. In terms of the fabric of the home, I see advantages with having some national adhered standards, just because of the supply chain making sure that all these materials are robust, fire tested and as cost effective as possible.

Apart from that, there are some real benefits to looking at things at a local level and, in particular, looking at local heat solutions. For example, in both the London Borough of Southwark and Cornwall, they are looking at geothermal. You drill into, in London, the chalk layer to get heat from there. That is a great use of the local environment. That can really help to get buy-in. There needs to be some room for the local authorities to set and plan their agendas. Let us have some national layering there to make it all as efficient as we can.

- Q94 **Ben Everitt:** That is really interesting. I am assuming, from the experience and examples you brought into that answer, that you share the view that the ambition and expertise is not equally spread among all local authorities on this.

Nicola Pitts: Certainly, my members have seen a greater interest from the local authorities around the whole net zero agenda, so I feel that



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there is a movement there. I just feel that some councils either have been doing this for a longer period of time, or have the resources, like across London, which has set some of its own standards.

Q95 Ben Everitt: We have a very diplomatic bunch of witnesses. Michael, what do you think? From your perspective, are we going to go full localist on this, or does industry want a broader, more national picture?

Michael Lewis: There are very different and distinctive roles for national and local government, as I hinted before. As far as local authorities are concerned, they have an absolutely central role in delivering zero carbon in different guises.

For instance, in the first part there are things such as local planning, enforcement of building regulations and all those kinds of bread and butter issues that are normal day-to-day activities of local authorities. They have to be aligned with the zero-carbon agenda and there will be conflicts. We have 460,000 listed buildings. No one knows how we get those to zero carbon. They can help to advise national Government in how planning policy and building regulations need to change, because they are enforcing it on the ground.

They have a key role to play in schemes like LAD and possibly home upgrade in the future. They have a critical role to enforce standards and make sure that, whatever standard or goal we are aiming for, it is being done properly. Whether it is people trained properly or houses retrofitted properly, there needs to be some kind of certification and standard. Finally, they have a key role in decarbonising the public estate and their own buildings.

Each of those is a slightly different role, but I would not go down the route of setting lots of different local standards. That is a recipe for chaos. Let us have some national standards and give the local authority a key role in making sure those standards are adhered to, helping national Government understand where the blockers and challenges are and what we need to do to change it to make it happen, and working with companies like ours to deliver the zero-carbon measures we need through schemes like HUG and LAD.

Ben Everitt: This feels to me like it is one of those issues where the rubber hits the road on localism. If we have a big—*[Inaudible]*—set some national targets for it. Arguably, climate change and the race to net zero is the biggest factor. Thank you very much to all the witnesses.

Q96 Andrew Lewer: We have received divided opinions in this inquiry between those who are enthusiastic about heat pumps and those who are keen to stress the role that can be played by other technologies, such as hydrogen boilers. I seek each of the panel members' views on that please.

John Alker: We believe that heat pumps will have a really critical role to play in delivering low-carbon heat. We welcome the targets set out in the



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10-point plan, but I think that is going to be some way short of what is needed to get us on track. The Committee on Climate Change sees 1.7 million heat pumps installed in existing homes by 2028. We think that that is going to be vital.

I would not pretend to be an expert in hydrogen, but I would point the Committee towards a very good report by the London Energy Transformation Initiative, or LETI, which is a group of independent experts, into hydrogen. The summary of that piece of work is that, when considered holistically, it seems unlikely that zero-carbon hydrogen supplied via a repurposed gas mains network will be available to the vast majority of buildings for the foreseeable future, due to various key challenges. I do not pretend to be an expert on that particular issue.

Michael Lewis: I am wary of making predictions 30 years into the future. Our organisation is working on the basis that there will be a mixed answer to that question. Probably 60% of households will have heat pumps, 20% district heating, powered by the heat pumps, biogas, biomass or indeed hydrogen, and 20% hydrogen boilers. That is our working hypothesis.

The reason for that is that we see a role for hydrogen, because we need it as a storage vector. The very large volumes of renewable energy that will be produced in offshore wind need to be stored and green hydrogen is probably the way to store it. It will be needed for certain industrial purposes and for shipping, for instance. We can see certain hubs of hydrogen growing in different parts of the country. In those areas, hydrogen will probably be used as a fuel for domestic homes as well. Who knows whether that extends into a national network, but we can see a role there from today's perspective.

Most of the heavy lifting will be done by heat pumps. Yes, there is still a lot that needs to be done, in terms of driving down the cost of heat pumps and, indeed, levelling the cost of gas and electricity that supply heat pumps or boilers at the moment to make them comparable. We think that we know what needs to be done. In our view, getting to the 600,000 a year target by 2028 will be the key to driving down the cost of heat pumps. It is all about scale and logistics. As soon as you start to get that scale and can replicate it at scale, the cost will come down.

That is our view. It is a combined picture. Whether it turns out to be 20/20/60 or something a little bit different will depend on how those economic dynamics develop over the next two decades.

Nicola Pitts: There is a really big issue around heat pumps, which is the fact that, generally, consumers do not understand that buildings emit carbon. Only about 18% have some understanding of heat pumps. We need to very urgently engage with people around that. It is the only thing that is coming forward under the future homes standard at the moment. We need to make that a success.



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First we need to get consumers to understand about different forms of heating. At the moment, 85% have gas. The other statistic I wanted to throw at you is that 80% of the homes we are living in now we will be living in by 2050. Hydrogen has a great benefit because people are familiar with it and the required retrofitting to homes would be less.

It is really important that, as a nation, we are looking at a range of options. To only have one real choice of heating at the moment is a difficult scenario for us all to be in. We need to encourage looking at hydrogen at scale as a matter of urgency. It would be great for BEIS to issue its heat and buildings strategy so we can see where Government feel they are going on that.

Q97 **Andrew Lewer:** Building on that, the Climate Assembly UK in 2020 recommended that individuals have a choice over the types of technology used and local areas can determine their own approach to keep disruption to individuals to a minimum. Given that there is this huge gas infrastructure there already, does it not make sense, in terms of both disruption and the amount of energy and effort used in tearing out and replacing networks, to make use of that gas network for hydrogen? Is there not a bit of a disconnect between MHCLG's timescales and recommendations and BEIS's, when it comes to gas boilers, hydrogen, et cetera?

Nicola Pitts: It is unfortunate that we have a different series of timescales, because it means that there is only one choice for consumers at the moment. We need to bring forward the work on hydrogen as soon as we can to make that clear, whether that is an option or not. Also, there has been no silver bullet in all the time I have been dealing with energy. This is about having a set of multiple levers.

Back to a previous point, how do you encourage local areas to think about what heating system works for them, whether it be hydrogen if you are in a hydrogen hub, biogases if you are in rural areas, et cetera? Let us look at this as broadly as we can. This is a difficult problem to solve and a very costly one. The more that we can reuse and do this in the least costly way, the better.

Q98 **Andrew Lewer:** Do you think the public are sufficiently or fully aware of the sheer cost of this, just how much it is going to cost, and therefore the potential impacts on their bills and household expenditure?

Nicola Pitts: I do not believe that we have reached that level of understanding, especially as only 5% understand that carbon is emitted from homes. We have quite a long way to go to engage people. People understand the effects of transport on climate change more than they do homes. There is a long way to go here.

Andrew Lewer: I have the same questions for you, Michael.

Michael Lewis: We should try to reuse any infrastructure we can, but the question of whether it makes sense to convert our entire gas network



into a hydrogen network will depend on many things, not least what the cost of producing green hydrogen is and whether it makes sense when compared with a heat pump.

The good news is that we do not have to decide now. We can defer that decision, because there are many no-regrets measures we can take, for instance working on those properties where we know what the answer is already, which are off-gas-grid homes with oil-fired heating. We can move straight away to heat pumps there.

As we scale up heat pumps, for instance in social housing, through various public schemes, we can start to see how the cost curve is developing and how it is coming down. I sincerely believe we can cut the cost of a heat pump by about 50% if we get to the scale of 600,000 installs a year. If you couple that with changing the cost of gas and electricity, by taking the policy costs out of electricity and putting a carbon tax on gas, you start to get to a position where heat pumps become much more attractive.

People do not understand at the moment and that is certainly a failure. We need to educate people. In the end, the reason we are getting to zero carbon is that it is a benefit. It is not a cost. There is a question of how the cost is distributed through time. There is a question of how the cost is distributed in terms of who pays, whether it is general taxation or individuals, and so forth. Overall, this is a benefit, because we are eliminating catastrophic climate change and getting many other benefits, in terms of local air pollution, warmer homes and healthier people. We must never forget that.

The point of the policy is to design a framework that enables us to show people that there is a benefit to them as well as a more general benefit. That is where Government have a key role in designing the right policies and educating people. We have a key role in helping consumers understand the products and giving them attractive products to enhance the value of their home.

Q99 Andrew Lewer: Older homes, and consequently often older people, disproportionately use gas. You are talking about carbon taxes there on people who are going to struggle to pay. Really, you are talking about general taxation, are you not?

Michael Lewis: It depends. You have to look at the whole picture and see what can be paid for from general taxation, what should be socialised and what should be within the energy bill. I agree that there is no way we can pay for this energy transition by putting all the costs into the energy bill. It would effectively be a highly regressive form of taxation. We have to look at where that burden falls. Is it in general taxation, stamp duty and council tax, or the energy bill? We have to get to a system that takes account of people's ability to pay but also ensures we provide the right economic incentives for people to do the right thing.



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John Alker: I would like to say how encouraging it is to hear Michael being such a champion of that view on the cost of inaction. He put it extremely articulately. Going back, we know the cost of inaction on climate change. It is about apportioning the costs of that transition as fairly as possible.

I would just make a couple of extra points. I am not going to comment any further on hydrogen specifically. I would reflect that, for the last 25 to 30 years or so, we have talked about choice going forward, but, arguably, customers have not had a huge amount of choice and do not have a huge amount of choice at the moment, in terms of how they heat their homes. There are options opening up.

There was a really good report recently by the Microgeneration Certification Scheme, looking at three of the largest heat pump markets in Europe and showing the growth, year on year, of installations, how that has come about and the impact on cost. That is largely through Government intervention, in terms of low-cost loans, grants and reductions on VAT, to encourage that. There are some good news stories there that we can learn from.

On consumers generally, we perhaps do not give enough credit to how savvy consumers can be if something is seen as aspirational and attractive. Perhaps 20 years ago, nobody could have predicted just how familiar people would become with the incredibly powerful computer that runs your life that you carry around in your pocket. That is something that we have not had huge Government education programmes around. It is seen as something that is necessary and attractive. People will move with the times.

Q100 **Bob Blackman:** The good news is that I am the last one who is going to ask you any questions. You will be freed from your ordeal. Local authorities have a key issue in relation to decarbonising housing and promoting that. We have gone through that. What else can local government do to help reduce the UK's carbon emissions?

John Alker: There was a very good report by the Committee on Climate Change over the last 12 months or so that set out very neatly that local authorities have areas of direct control. Procurement is obviously a key lever. It has been mentioned previously, but they also have a place-shaping role, around not just regulations but things like the location of development, the impact that has on transport, site orientation, low-carbon infrastructure, resilience and so on. These are clearly crucial issues. Local authorities can act as trailblazers and showcase particular approaches or technologies. They have that incredibly crucial role in partnership with the private sector, education sector and so on, as well as engagement in communication.

One thing I would like to pick up in terms of buildings is that we have not talked that much about non-domestic buildings. Local authorities have



significant responsibilities around certain non-domestic buildings. The public sector decarbonisation scheme is encouraging.

There is a great opportunity for local authorities to take a leaf out of what some of the state governments, I believe, did in Australia. That is to commit to only occupying energy-efficient, low-carbon properties over a certain period of time. That has stimulated a significant change in the private sector in Australia, and it could do here, in terms of the private sector that is providing those spaces for the public sector to occupy. That is something that I would like to see local authorities make much more use of.

Nicola Pitts: So as not to repeat, I would like to focus on transport. They have a major role in terms of any public transport that they run, and in creating electric, hydrogen or whatever the right solution is. My members have seen a massive increase in that. There is also the case of how we make sure we have enough EV charging stations in the right places at the right time. That is another area where they can develop the system within their area.

Michael Lewis: I agree with everything that has been said. I have two additional points. I think I alluded to it earlier. Local authorities have really good, accurate data about what is going on on the ground and can help inform national Government about what policies work, what planning regulations need to be changed, how we can change building regulations, so all the things that will remove friction from getting to zero carbon. Local authorities have a key role in helping to shape and helping national Government remove obstacles.

The other point is decarbonising the public estate. That is something where local authorities can really take a lead and be much more proactive. I have one example. We are really struggling at the moment to get smart meters into some local authority buildings. This is one of the key policy levers to get to zero carbon. They need to be proactive where they can be, and they need to help national Government adjust policy and implement effective policy where they have the information that national Government do not.

Q101 **Bob Blackman:** Nicola mentioned earlier the lack of public awareness of decarbonising, in particular, homes and other domestic environments. What do we need to do to get the public to understand their role in achieving net zero?

Michael Lewis: National Government, local government, the education system and companies like ours, when we are marketing products like heat pumps and green electricity tariffs, have key roles to help consumers understand why it is necessary. Our experience has been that, once you sit down with people and explain it, they are very open and understand it.



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I have a quick example. We did a session with some of our district heating customers. There were a lot of complaints that they could not switch suppliers. We explained that the district heating system was part of a zero-carbon plan and was a trailblazer scheme. "Oh, right, I am contributing to help solve a problem. I get it now." We need to have a lot of "I get it now" moments with 30 million households across the country. We all have a role to play in that.

Q102 Bob Blackman: Nicola, you know there is a problem. How can we help solve it?

Nicola Pitts: There is a picture at the national level, which is just an understanding of how climate change is caused. Food is another area and perhaps even more controversial. Back to John's point about how we use new technology, if there is not a family member who has a heat pump, what about an influencer? How do we get those voices out there that tell people what it is like to live in a home like that? At the moment, 85% of the population do not.

Bob Blackman: You are being optimistic with 85%.

John Alker: Local authorities have a key role to play, working in partnership with other trusted community groups. That area-by-area approach, if we are thinking about carbon emissions from homes and retrofit approaches, is beginning to bear fruit. Local authorities are that trusted channel of advice and support, working with groups that are perhaps a bit closer to the ground.

There are great examples from Leeds and elsewhere of very strong community groups working in partnership with the local authority or perhaps an academic institution, leveraging funding from the social housing decarbonisation fund, for example, in order to provide a joined-up blended finance approach to different tenures. Having that kind of focused, area-by-area approach is the way to cut through to people.

Nicola Pitts: Let us not underplay the importance of the future homes standard. This is the first real intervention under a climate change banner that the Government are making within people's homes. It is really important that it is a success. I wanted to reinforce the importance of this programme.

Chair: Thank you, all of you, for being with us this afternoon and answering our questions. You have provided the Committee with an awful lot of really interesting and helpful information that we will obviously be reflecting on and taking forward into producing our report at the end of our evidence sessions. Thank you very much for coming and answering all our questions in such detail and so helpfully.