



**OFFICIAL REPORT**  
AITHISG OIFIGEIL

# Local Government, Housing and Planning Committee

**Tuesday 30 November 2021**

**Session 6**



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Pàrlamaid na h-Alba

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**Tuesday 30 November 2021**

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**LOCAL GOVERNMENT, HOUSING AND PLANNING COMMITTEE**  
**13<sup>th</sup> Meeting 2021, Session 6**

**CONVENER**

\*Ariane Burgess (Highlands and Islands) (Green)

**DEPUTY CONVENER**

\*Elena Whitham (Carrick, Cumnock and Doon Valley) (SNP)

**COMMITTEE MEMBERS**

\*Miles Briggs (Lothian) (Con)

\*Willie Coffey (Kilmarnock and Irvine Valley) (SNP)

\*Meghan Gallacher (Central Scotland) (Con)

\*Mark Griffin (Central Scotland) (Lab)

\*Paul McLennan (East Lothian) (SNP)

\*attended

**THE FOLLOWING ALSO PARTICIPATED:**

Bruce Cuthbertson (East Ayrshire Tenants and Residents Federation)

Professor Ken Gibb (University of Glasgow)

Stephen Good (Construction Scotland Innovation Centre)

Aaron Hill (Scottish Federation of Housing Associations)

Bryan Leask (Hjaltland Housing Association Ltd)

Elizabeth Leighton (Existing Homes Alliance Scotland)

Derek Logie (Rural Housing Scotland)

Professor Lori McElroy (University of Strathclyde)

Chris Morgan (John Gilbert Architects)

**CLERK TO THE COMMITTEE**

Euan Donald

**LOCATION**

The David Livingstone Room (CR6)



## Scottish Parliament

### Local Government, Housing and Planning Committee

*Tuesday 30 November 2021*

*[The Convener opened the meeting at 09:00]*

#### Decision on Taking Business in Private

**The Convener (Ariane Burgess):** Good morning, and welcome to the 13th meeting in 2021 of the Local Government, Housing and Planning Committee. I ask all members and witnesses to ensure that their mobile phones are on silent and that all other notifications are turned off during the meeting.

Our first item is consideration of whether to take items 4 and 5 in private. Item 4 will be an opportunity for members to reflect on the evidence that they will have heard earlier in the meeting on retrofitting housing for net zero, and item 5 will be the committee's chance to consider its approach to scrutiny of the recently laid short-term lets regulations. Do members agree to take items 4 and 5 in private?

**Members** *indicated agreement.*

## Retrofitting Housing for Net Zero

09:01

**The Convener:** The second item on our agenda is an evidence session that forms part of the committee's work on retrofitting housing for net zero. We will take evidence from three panels this morning. The session will not by any means be the committee's only one on the issue, but we hope to understand more today about the costs and funding of retrofitting; how retrofitting can be done in a way that considers a just transition; public engagement on retrofitting; and the skills, supply chain and infrastructure necessary for retrofitting.

I welcome our first panel. Professor Ken Gibb is director of the UK Collaborative Centre for Housing Evidence at the University of Glasgow, and Chris Morgan is an architect and director at John Gilbert Architects. Chris Morgan was involved in the project that we will discuss. I thank the witnesses for joining us.

We will move straight to questions. If the witnesses wish to respond to a question or to contribute to the discussion, they should add an R in the chat box to indicate that. We will possibly direct some of our questions to a specific person, but we will probably have a bit of time because there are just two witnesses. We have around 12 questions to get through.

We will start with Chris Morgan. Will you give a brief overview of the purpose of the Niddrie Road project?

**Chris Morgan (John Gilbert Architects):** I believe that some of you visited the project. I am sorry that I was not there to guide you, but I know that a colleague of mine did so. The project is a Passivhaus-level retrofit, or EnerPHit retrofit. Essentially, it is an attempt to show that we can get extremely energy efficient performance from an old building. The building will be more energy efficient than new homes, and that will have an obvious benefit for carbon emissions and fuel poverty. We reckon that people who live in those flats will spend roughly around £10 to £15 a month on their heating. That is an enormous reduction—the heating cost is normally around £100. There simply cannot be fuel poverty when people pay so little for their heat.

In addition to the building being energy efficient, we wanted it to be healthy, so we have done a number of things to address the health and wellbeing of tenants. There were also a number of things to look at in relation to the heritage of the building. We are thinking about how the building is looked after and how the fabric is retained and cared for, and not damaging Scotland's heritage in our approach.

**The Convener:** I and a few others who are here today went to the Niddrie Road project, and it was great to see the work that is being done and the care in keeping the exterior at the front of the building. I also got the impression that a good deal of consideration had been given to making the interior environment more pleasant not just through the use of insulation but through the use of the space itself, and it was really great to see that there was an opportunity to do that.

Ken Gibb, do you have anything to add with regard to the purpose of the Niddrie Road project? You do not have to, but there might be something else that needs to be said.

**Professor Ken Gibb (University of Glasgow):** What I would say is that it is very much a demonstration project that shows what is possible. It is clearly radical in the sense that it seeks to—I hope that it will—achieve a net zero outcome in a pre-1919 tenement, and in that respect it is a very important and precedent-setting project with lots of lessons about how we think about the retrofit of older buildings and recognise the scale of the older tenements in Glasgow. For those reasons, it is potentially a very useful project to learn lessons from.

There are two other points to make. First, as you will have recognised when you were there last week, the project is a building site and is still ongoing. Secondly, my role in it is to lead the evaluation of the work, for which we have received a grant from the Scottish Further and Higher Education Funding Council, and much of that evaluation will begin when the building gets handed back to the housing association early next year. As a result, any comment about that evaluation will be very preliminary, tentative and made before we have actually received a lot of the data.

**The Convener:** Thank you for pointing that out.

My next question, which is on energy efficiency, is also for Chris Morgan. What type of energy efficiency and low-carbon heating measures are involved in the retrofit, and have you faced any technical challenges in designing and installing them?

**Chris Morgan:** The energy efficiency measures are largely the same as those normally used. We have insulated the loft and the ground floor a lot; we have put external wall insulation on the back of the building, as you will have seen; and insulation has been put on the inside of the street-facing walls.

However, there are two differences with the insulation measures that we have put in. First, we have closed up the gaps. Broadly speaking, in conventional work, what gets done are the easier bits, not the difficult bits—that is, where the roof

meets the wall or where the wall meets the floor. Those are the places where you often cannot get the insulation to join. Everybody is sick of me using this analogy, but it is like having holes in a bucket; you used to have 10 holes and now you might have six. In other words, you might think that you have improved things, but the reality is that the heat still moves out of the building.

Our job with regard to Passivhaus is to close up all of those holes, with more effort taken with messing about in the corners of things and with the things that are tricky to do. A good example would be what happens with first-floor joists. However, it also shows how difficult it is to make this project representative and why we need a broader strategic approach, because it would be very difficult for someone to do what we do if they did not own the flat above or below theirs. We do not stop insulating at the floor and the ceiling; instead, we take the insulation up through the ceiling and down through the floor to ensure that all the gaps are filled. That cannot always be done, but it has to happen, because either the heat gets lost or the moisture can get out of the building and into the walls.

The second difference is that we are concerned about the risks associated with internal wall insulation. This is a little bit technical, but a difference between our project and others is that we have tested what would happen with moisture in the stone walls and have found a high likelihood of there being excessive moisture, which would lead to the timber lintels over the windows and the timber floor joists decaying. As a result, we have gone to extra trouble and cost by using vapour-permeable wood fibre insulation and designing things in such a way that that situation should not happen. That sort of thing is not normally done, but our expectation is that we will not get rotten floor joists or rotten timber lintels. That will be an issue in the future with regard to retrofit.

We use triple glazing, but that is not particularly unusual; it just means that windows are heavier, which can be an issue. We have used NVHR units, which involve heat recovery ventilation—it is a bit of a faff but is fundamentally not that difficult.

Therefore, for the most part, it is the same as other renovations, but with more insulation, more care taken at the corners and an unusual solution to the internal wall insulation, because of the moisture and health issue.

**The Convener:** I am curious about the insulating materials that we saw on the back of the building. It is covered in a thick insulating material; I cannot remember what it is called. Is it wood fibre?

**Chris Morgan:** On the back, it is mineral wool. One of the issues that we have at the moment,

post-Grenfell, is that, under our insurance terms, anything that goes on the outside of the building needs to be non-combustible. Quite a lot of the types of plastic insulation that you normally see are not non-combustible.

I would prefer to use wood fibre, because it is a natural material, but that is also combustible. Post-Grenfell, we have been forced to use only non-combustible materials. The mineral fibre that we are using is not ideal—it is Rockwool—because there are issues with moisture, but the fire risk trumps those at the moment.

**The Convener:** That is interesting. I asked about wood fibre insulation because I was wondering whether we could start manufacturing it in Scotland. Is it already manufactured in Scotland?

**Chris Morgan:** It is not manufactured in Scotland and it would be wonderful if it was.

**The Convener:** I am thinking about how we can shorten supply chains and grow things here.

Did you encounter challenges with getting the project through planning or building control?

**Chris Morgan:** We had almost no problems with building control; the team took a light-touch approach on the basis that, given that we were improving the building, they would support us as long as we were not doing anything that obviously contravened the regulations to do with the building's general health and safety.

For example, we had designed the windows to be compliant with the building regulations in relation to fire escapes, child locks and so on. However, the planning department insisted that we did something in a way that, to us, was less safe. We had to contact building control and say, "We are being asked to do something that does not comply with modern fire escape and safety standards." Building control said, "Look, you're improving the windows, we'll just let you go with whatever planning tells you to do."

Building control was very good; planning was very difficult. It took a very long time, and the planners—in many cases for good reason—were, in essence, against almost all the sustainability things. Without getting into too much detail, I will say that the planning legislation as applied to the project was directly counter to most of the sustainability things that we were trying to achieve. I am not saying that the planners were wrong; in many cases I sympathise with what they were trying to achieve. However, their approach was counter to some of the broader sustainability issues that we were trying to address.

**The Convener:** Given the speed at which we need to roll out retrofitting in Scotland, we might

need to look into and address the area, to smooth things over somehow.

**Chris Morgan:** I would say so, yes.

**The Convener:** My understanding is that we are basing everything on energy performance certificate C rating—that is where we are trying to get to. Shortly after being elected, I learned that that rating is based on the benchmark for a house in Milton Keynes—I am not sure if I have got that right. I understand that in the building industry there are questions about whether we should be working towards that rating. What are your thoughts on that?

**Chris Morgan:** I did not know how much opportunity I would get to speak; I can certainly say that the standard assessment procedure—SAP—calculation methodology and EPC ratings are not the way forward. They are not an accurate map either of buildings or where we need to go. The big risk is that, if we stick with EPC ratings, we will go through the difficulties that we are discussing at the moment—ramping up retrofit, developing the funding strategies and finding the money—but having spent all that money we will not achieve the reduction in either carbon emissions or fuel poverty because EPCs do not measure the energy efficiency of buildings particularly accurately. EPCs do that a bit, but they are part of a system that is owned by a private company and, if you press the company, it will admit that it is not an energy efficiency calculation, but a compliance method. It is a way to demonstrate compliance with the building standards, but it is not specifically an energy efficiency methodology.

09:15

There are quite a lot of problems with EPCs, many of which could be resolved and some of which cannot be resolved. For example, in order for something to be a compliance method, one has to assume certain behaviour by the occupants of the building. Of course, the occupants then go and do something completely different, which means that we do not get an accurate measurement. That is not the fault of SAP. There are many things that could be changed to make the measurement more efficient. It could also be calibrated against reality, which it currently is not.

Much my understanding of the topic comes from testing buildings. We run a project called Hab-Lab, where we go out and test buildings that have been retrofitted. We carry out physical tests—we do airtightness tests and thermography and we talk to the tenants—and we have discovered that, on the whole, buildings do not operate as designed at all, because reality and what SAP and the EPC tell us are quite distinct things.

**The Convener:** That is an area for further exploration, either for our committee or for the Net Zero, Energy and Transport Committee.

**Professor Gibb:** I have two quick points. First, on planning, as I said earlier, Niddrie Road is a demonstration project and part of its purpose is to provide guidance, for example to Glasgow City Council, to help the council take forward its strategy on the traditional tenement stock. One of the bits of learning from the project is that, even though Niddrie Road is not in a conservation zone—it is an absolutely bog-standard tenement of its type—sustainability and heritage objectives run up against the way the planning system works. That is the case for normal, standard tenements. If one is considering pursuing a bigger strategy, then the planning system has to move, policies have to be set, and precedents have to allow things to move forward in different ways.

Our colleague on the project, Professor Tim Sharpe, who is an architecture professor at the University of Strathclyde, is particularly good when discussing the problems with SAP and EPC. He would point to academic literature that raises some of the problems with EPC and SAP that Chris Morgan has already mentioned.

**Elena Whitham (Carrick, Cumnock and Doon Valley) (SNP):** I refer members to my entry in the register of members' interests: I am still a serving councillor on East Renfrewshire Council.

Professor Gibb, you have already alluded to the fact that Niddrie Road is a demonstration project and is in its early stages. Is any cost benefit analysis of the project available so far? We have heard from Chris Morgan about the fuel cost reductions for tenants, but how does the project compare to demolishing and refreshing the stock totally?

**Professor Gibb:** That is a very good question. We are trying to make sense of that just now. Cost benefit analyses are quite a big part of the overall evaluation, but at this stage they are more a working principle than practice, because we are still waiting for some of the costs to be made available.

Let me explain what we are trying to do. We need counterfactuals against the work of the retrofit project. We are comparing it with a basic refurbishment of the properties and with a demolition and new build. In terms of embodied carbon and suchlike, it is clear that new build has an extensive cost.

Refurbishment on its own would be cheaper than refurbishment plus the retrofit—that is, by definition, true. On the other hand, further costs relating to improvements are attached to refurbishment. For example, social housing needs to achieve the energy efficiency standard for social

housing, so further costs have to be met to do that.

Outwith EnerPHit retrofits, we expect new builds and refurbishments to have gaps in their energy performance. They will not do as well as we think EnerPHit retrofits would do, so further energy and carbon costs are attached to that.

Given that social tenants or mid-market rent tenants would be in the properties, there would be a positive distributional effect—resources would be redistributed in favour of low-income groups, which might not be the case if we were talking about the population as a whole.

There are a number of points of principle. Unfortunately, at this stage, we do not have all the costs to be able to pin things down. We are trying to take an approach that is as close as possible to that of the conventional green book, but one that fully includes the monetised value of carbon savings and embodied carbon. That is our aspiration, and we hope that that will be available early in the new year.

**Elena Whitham:** Thank you for that brilliant explanation.

**The Convener:** Mark Griffin, who joins us online, has a supplementary question.

**Mark Griffin (Central Scotland) (Lab):** Good morning. If the project was rolled out nationally and scaled up, we would expect unit costs to come down. As we move to mixed tenure models that involve owner-occupiers, or in relation to the example that has just been given, would you expect the burden of the initial cost of the project to fall on tenants through increased rents or on owner-occupiers? Would it be reasonable to expect the social landlord or the owner-occupier to pick up all the costs? Would that be feasible or would there need to be greater incentives through Government grants to cover the costs? Would that hold back a national roll-out?

**Professor Gibb:** We recognise that the demonstration project is very unusual in that it involves an empty block where no tenants live. It will be run and owned by a social landlord, but we should bear in mind that, through private finances, the housing association is making a major contribution to the cost of the project. Rent from its tenants will cover some of the costs of the project. It is undoubtedly the case that the EnerPHit standard, by definition, results in higher costs than those for retrofits involving EPCs, which we hear so much about.

It is clear that, as soon as there is multiple ownership in a tenement, there is a set of issues. We recognise that. It is interesting that, in the Glasgow city region scoping research for its plans for a retrofit economic strategy, there is strong



recognition of the need to manage the different interests of owner-occupiers, private landlords and social landlords. Personally, I think that owners—be they landlords or owner-occupiers—need to have a well-communicated route that gives them a menu of choices. They are asset owners, so they can certainly contribute to and share the costs, but that will depend on their resources, their income, their wealth and the value of the property.

We need to think about grants and loans, including low-cost loans, and about payment deferral mechanisms whereby the costs might be transferred forward in time until the property is sold, but we need to have institutions to organise all of that. All those things are important, and the approach needs to be just. A lot of owner-occupiers are not wealthy—they do not have high incomes, or they may be older and have less resource. There is a whole set of tactics and strategies that we have not really begun to use around that yet.

Reflecting on the project also tells us about the variety of housing in Glasgow and the variety of situations that individual tenants and owners in tenements have, and we must remember that there are 70,000-odd tenement flats in Glasgow. All those things have to be considered. I am sorry that I am going on so much, but underlying it all is the fundamental need for maintenance of the tenements. There is little point in thinking about retrofit if the property is not maintained in a sustainable way in the first place. We know that many tenements need considerable repair and that there are real problems with that. That was reflected in the excellent work of the working group on tenement maintenance in the previous session of Parliament, which pointed to the need for fundamental reform of tenement law.

Several layers of things have to be done. We are exposing a particular issue in the broader ecosystem of how to make tenements work and be sustainable. I accept the complexities and high costs that are involved when we look at the whole of the city of Glasgow or at Scotland as a whole, but the issue is part of a broader set of housing questions that are challenging but have to be exposed and embraced.

**The Convener:** Elena Whitham has a follow-up question.

**Elena Whitham:** Professor Gibb, does the heat in buildings strategy provide sufficient clarity about the Scottish Government's approach to multiple-tenure buildings?

**Professor Gibb:** It is a beginning, but I do not think that it is an end. The Glasgow City Region Grant Thornton report makes it clear that it is possible to scope out the level of resources that is required to achieve a fairly modest improvement—

one that is relative to what we are talking about at Niddrie Road—but it identifies a significant funding gap and looks for the funding to come from the UK Government as well as the Scottish Government. There are assumptions about what resource will be available and, critically, when it will be available. That work will take a decade or two, and other things are going on.

The critical place for multiple-tenure ownership is the tenement. A lot of people in Glasgow and Edinburgh live in tenements. However, we also need real progress on tenement law reform to make all of that happen. It is not just about the heat in buildings strategy; it is also about the complementary but fundamental things that we need to make progress on alongside that.

**Miles Briggs (Lothian) (Con):** I have some questions about engagement with tenants, specifically around future decision making on such projects. How is Southside Housing Association taking that forward? What is best practice on it?

**Chris Morgan:** There are a number of ways in which we can engage with tenants. When we study buildings and discover that things do not work in the way that we predicted, one of the biggest variables that we discover is that people use buildings in ways that we did not anticipate. In particular, they often do not understand the controls in their buildings. There are lots of reasons for that.

In the Niddrie Road project, Professor Tim Sharpe, whom Ken Gibb has alluded to, will be running the engagement with the tenants in collaboration with Southside Housing Association. There will be meetings with the tenants before they go into the building and at least one or two meetings after they have entered it. We have provided quick-start guides that give a basic introduction to the building and the control systems—the services—within it. The information on the services can often be, for example, 50 pages of German text about the boiler wiring system. Nobody needs to know that, but it is useful to give people basic information so that they understand things such as how to keep warm in winter and cool in summer.

09:30

We will also ensure that the controls are clear and obvious and that they are well explained when people move in. There is a bit of work to be done to explain to people why it is worth taking trouble with those things. It is not just a question of sticking the thermostat up; it is about understanding the interrelationships. That is not particularly complicated, but many people do not understand how their building works, so taking the

time to engage is a really important part of getting the energy efficiency that is hoped for.

**Professor Gibb:** I would amplify that. It is an important part of the evaluation, as well as being a tremendously useful part of the demonstration project. We are using tried and tested techniques to do pre and post-occupancy surveys. We will have to do the post-occupancy surveys twice, because the tenants are likely to move into the properties around March, so we will miss the first winter. We will monitor them in the summer, and we want to do another survey with the residents around the following March.

With the permission of the tenants—obviously, that is still to be decided, as we do not know who the tenants will be yet—we want to monitor the building and have sensors in it to see how temperature, moisture and suchlike vary. The idea is to compare the tenants' lived experience of being in the property, and their ability to use the documentation and training that Chris Morgan talked about, against a kind of objective measure of how the building is performing.

We are in a privileged position in that we will have an empty property with new tenants coming in. It might be that not all the tenants will want to participate, but even if only a small number of them stick with it, we will have a tremendously valuable set of data coming out of that. There are lots of interesting questions about how people actually use buildings, particularly when they are living in a property that is different from anything that they have lived in before. That is exciting.

**Paul McLennan (East Lothian) (SNP):** I refer everyone to my entry in the register of members' interests, which shows that I am a serving councillor on East Lothian Council.

My question is probably for Professor Gibb, who touched on the role of the city council. More broadly, what role would councils need to play to facilitate similar work across wider areas? Do we need to look at wider local heat and energy strategies? Obviously, each local authority would scale that up differently, so I seek your views on that. Finally, do you have anything to add on how you will share the findings of the evaluation of the project?

**Professor Gibb:** I sit on the housing portfolio of Glasgow City Region, so I have been involved in and watched how the strategy on that has evolved over time. That seems to me to be a sensible level at which to examine the issue, because it is, in effect, a local labour market area. It is a functional economic region, so it makes sense to think about construction, skills and supply chains, as well as the housing market as a system, within that. That makes sense as a strategy, but local authorities clearly have different geographies and different

combinations with regard to those functional economic areas. Partnership across local authority boundaries must make sense at some level where there is an economic rationale for it. That is the starting point for me.

Sorry, but will you remind me what your first point was?

**Paul McLennan:** It was about the city council facilitating the project. What role do councils need to play in facilitating similar work in other areas? You almost touched on that in the point that you made.

**Professor Gibb:** Yes. The city council has been an excellent partner of ours. Not only has it put a lot of capital funding into the project, but it has been a partner in the sense that we have talked through the various stages of the work with it. It is in the nature of a pilot demonstration to surface problems, and we have surfaced some issues and challenges. We have held some public meetings of late, and the council's head of housing was able to say even at this stage that elements or components of the work will be replicable or usable in the strategy. We recognise that the Niddrie Road development also has idiosyncratic and specific features but, nonetheless, we have an interesting partnership with the council that relates to its strategies on housing, on tenements specifically and on retrofit. That is an important part of the project.

With regard to evaluation, there are four or five separate but linked evaluations, which we will try to synthesise. We are trying to understand the decision making in real time, as it were. If we start with a retrofit on paper and then try to make it real, what decisions do we have to make? What can we and other projects learn from that? We are doing the cost benefit analysis that we talked about previously, and we are doing a building performance evaluation, on which Tim Sharpe is leading, working with Chris Morgan. We will try to synthesise all the aspects, and we will undertake pre-occupancy and post-occupancy qualitative research that is linked to the building performance measurements.

As you probably know, we have made a film about the project, which is available on YouTube and has been widely watched. We are going to make a second film once the residents are in and we have done some of the post-occupancy survey work. We will certainly disseminate that in the normal way, hopefully through face-to-face events, and certainly as a webinar at the minimum. There will be a series of publications—not just the main report, but policy and practice briefs and summary documents.

We are very aware of the high levels of interest and engagement in the project. The Scottish

Funding Council is keen that we promote what we find as widely as we can, and we certainly intend to do that. We will probably start to publish working papers and things of that kind in February or March.

**Paul McLennan:** My other question is probably for Chris Morgan. I ask you to be brief, if you can. Have you had any supply chain issues, or issues with the availability of skilled labour? If that is a problem, it will affect how the project is scaled up. I know that it is hard to say what the scale would be, but do you think at present that there would be an issue?

**Chris Morgan:** There have been delays. The contractor asked for a time extension on the contract, largely—I believe—because of delays in the supply of materials, rather than issues with labour. Funnily enough, there has not been such a backlog with some of the more unusual or European materials that we have specified. The biggest problems for the contractor have involved materials such as mineral wool and plasterboard, because everybody wants those at the moment, and there are backlogs.

There has not really been a skills shortage, although the contractor initially had problems in sourcing somebody to do the lime plastering. Working with lime, rather than just cement, is a relatively traditional skill set. We needed to use lime as it will not crack and move. On the whole, the supply chain difficulties that have arisen in the project have been more to do with the current issues around Brexit or Covid, rather than any major structural problems. I think that that is a fair comment.

**The Convener:** I will bring in Miles Briggs, who has another question, to be followed by Elena Whitham. I invite the witnesses to keep their answers tight.

**Miles Briggs:** What evaluation is likely to take place to look specifically at how the work can benefit the health of residents? Professor Gibb mentioned that the evaluation period will not take in winter, but I wonder how that will be measured.

**Professor Gibb:** A significant part of the building performance analysis relates to exactly that point. We are interested in the internal circulation of air and moisture. There is obviously an extensive literature that says that damp, condensation and so on are associated with health problems. I know that Chris Morgan is of the view that the use of natural materials and our decisions not to do certain things such as using chemical treatments are important parts of trying to improve the health of the building and, hence, the people inside it. He might have more to say about that.

**Chris Morgan:** That aspect is key. Passivhaus is generally considered to be a comfort strategy,

and the number 1 issue is the need to keep people warm when it is cold. On the maintenance of air quality, there will be subjective discussions with people but, as Ken Gibb said, air quality, moisture and temperature will be objectively measured. Those are the main elements, but we will also look at chemicals and the presence of volatile organic compounds.

**Elena Whitham:** The theme of my question has already arisen this morning. There will be tensions in the planning system in balancing the need to address climate change with preserving Scotland's built heritage. How will that affect our ambitions, and how do we square those two aspects? That is a big question, but I put it out there because it will be one of the major issues that we face in retrofitting our built heritage.

**Professor Gibb:** I agree—it is one of those classic points where there needs to be movement. In a sense, I am stating the obvious there.

I go back to my earlier point. If we are serious about protecting the tenement way of life—the neighbourhood and wellbeing factors, which it does so well—as well as the built heritage, we must recognise that significant work has to be done related to climate change and net zero. It is clear that there will be a significant cost to that, but at some level it is a political choice that has to be made, which requires a shift in some of the current nostrums. Again, Chris Morgan is probably better placed to discuss that than I am.

**Chris Morgan:** The easiest way to answer the question is to highlight what we have done at Niddrie Road. We want to retain the public space—the street and the public-facing elements—as far as we possibly can. That limits our ability to reduce energy consumption, so we have compensated for that by insulating at the back. The way in which we have approached the Niddrie Road project, which is to protect the public space visually but to work hard on all the unseen aspects such as insulation and covering up, makes sense strategically.

There are also issues with renewables and where we can put them, and with how we deal with windows. The way that we did it at Niddrie Road is the way forward—we keep the front relatively similar, but we work on the back. From a heritage point of view, we accept defeat at the back of buildings, in the rear courts. That approach is a reasonable compromise and, in general, it could be applied more widely.

**The Convener:** Are you aware of any other EnerPHit projects that are tackling other types of housing stock in Scotland? It is not just about tenements, because there will be other housing stock.

**Professor Gibb:** We showcase that work in the film that we made. A multistorey Queens Cross Housing Association development has been EnerPHit improved by Collective Architecture and it seems to have been highly successful. That project is radically different from what we are doing, but the principles are exactly the same.

**The Convener:** I represent the Highlands and Islands region. Are you aware of anything that is happening in more rural areas, or have we not gone there yet?

09:45

**Professor Gibb:** Again, I defer to Chris Morgan on that.

**Chris Morgan:** We are working on a number of EnerPHit projects and you will be pleased to hear that they include a domestic retrofit in Fort William. It works at any scale. We are also working on retrofitting to other standards, some of which are less onerous. I draw your attention to the Association for Environment Conscious Building retrofit standard, which is less onerous than EnerPHit in terms of energy efficiency and has a broader remit in relation to maintenance, heritage, health, moisture and so on. We will, I hope, be undertaking a similar retrofit project to that standard in Govanhill, just 200 yards away, with Govanhill Housing Association. The AECB standard may have broader applicability than the EnerPHit one, because it is slightly easier and has a broader remit.

**The Convener:** It is good to know that other things are happening. It feels as though we have so much work to do, so it is good to hear that there are examples out there. Thank you for drawing our attention to that other standard as well.

That is all that we have time for this morning. Clearly, we could talk more, but it was very good to see the building and the work that was being done, and I hope that people will have great homes when the project is done. Thank you for arranging the visit. It was good to meet you both.

I will suspend the meeting to allow a changeover of witnesses.

09:46

*Meeting suspended.*

09:48

*On resuming—*

**The Convener:** Welcome back. We continue to take evidence on retrofitting housing for net zero. We welcome our second panel. Bruce Cuthbertson is the chairperson of East Ayrshire Tenants and Residents Federation, Aaron Hill is

director of policy and membership at the Scottish Federation of Housing Associations, Bryan Leask is the chief executive of Hjalmland Housing Association Ltd and Derek Logie is the chief executive of Rural Housing Scotland. Thank you for joining us.

If you wish to respond to questions or to contribute to the discussion, please put an R in the chat box to indicate that. Unfortunately, we only have 45 minutes together, so we will probably direct our questions to specific witnesses. If you feel that something has not been said in response to a question, please come in, but do not feel that you all have to come in on every question. Clearly, we could speak to you all day on the issues, but we have a time limit.

I will start on costs and financing. I direct my question to Aaron Hill. Do you believe that the Scottish Government is sufficiently aware of the costs of retrofitting homes at the national level?

**Aaron Hill (Scottish Federation of Housing Associations):** Housing associations themselves are still working to understand the costs of retrofitting and reaching the new energy standards.

The second version of the energy efficiency standard for social housing—EESHS2—is currently on the table and, according to some work that the SFHA did with Changeworks, the cost of that will be about £2 billion, which fits with the Scottish Government's cost estimate of about £6 billion for the whole sector, including local authorities. When we did that work with Changeworks, we estimated that that £2 billion investment would reduce fuel poverty by about 25 per cent. Having looked at the funding and the standards that are driving that funding, I say that it is important to align those two things a bit better.

Funding for energy efficiency measures will be a partnership effort between the Government, housing associations and private lenders, as it is when we build homes. However, collectively we have not fully grasped yet what the balance will be between the three partners. It is a fairly well-established principle, when it comes to new development, that lending is incumbent on the additional rent that will be made as a result of the new homes being built. At this point, it is not obvious where revenue will be made from energy efficiency to service the additional lending that will be needed.

The zero emissions social housing task force—ZEST—which the SFHA co-chaired, published a report earlier this year. It pointed out the need for a sector capacity assessment to look at the issues, including the need to understand the balance of funding. How much can we bring in from private lenders and how much can the

Government afford? We need to match the Government's ambition with the appropriate level of funding.

The short answer is probably that we have not seen the level of funding that we need to match the ambition. There is still work to do to understand better where the funding is coming from and what the exact bill will be, to inform that review of the standards. It is also really important to align the standards better with fuel poverty targets, as well as with energy efficiency.

**The Convener:** Thank you for that. How can local authorities and housing associations prepare for the scale of the work and the investment ahead? Could Bruce Cuthbertson respond to that?

**Bruce Cuthbertson (East Ayrshire Tenants and Residents Federation):** The work has to happen in order for us to reach zero emissions in social housing. There are examples of local councils, local housing associations and people in the private sector working together to do certain types of retrofit—getting houses enveloped, for example. We have been doing that in East Ayrshire for quite a while and there are other examples of that system working in areas throughout Scotland, but it needs to be a wee bit more robust and, maybe, better defined.

**The Convener:** Thank you. The next question is for Derek Logie. Please put an R in the chat box if I skip over anyone who wants to come in.

Are there specific cost implications for retrofit projects in rural and island areas? I am sure that there are, so I would love to hear more about those. How do the costs compare? Are the implications recognised sufficiently in existing funding?

**Derek Logie (Rural Housing Scotland):** By and large, there are two main differences between property in rural Scotland and that elsewhere: rural property is older and more of it is in the private sector. About 85 per cent of buildings are owner occupied or in the private rented sector. Social housing makes up just 15 per cent of the total, so very welcome measures such as EESSH are reaching only 15 per cent of the population in rural Scotland.

Older buildings that are stone built, that are more exposed and that face more challenging weather conditions require more extensive measures to tackle the issues. It is interesting that although the level of loft insulation in homes in rural Scotland is quite high, the level of extreme fuel poverty in rural Scotland is still extraordinarily high. Something like a third of households in remote rural areas are in extreme fuel poverty. That points to the fact that measures beyond increasing loft insulation are required. More expensive measures are required, including

external wall insulation, which has its own problems in relation to planning. Internal wall insulation also has problems regarding restrictions because of room sizes; a lot of older properties are not big properties. Those are all very expensive measures.

I was speaking to the Isle of Ulva development manager yesterday; six homes are being renovated there. The developers are aiming just to get to a D rating, but their ability to do that is limited by the physical constraints of the buildings and the costs that are associated with trying to overcome them. For example, many older properties have no space beneath the floors in which to put underfloor insulation. The joists in the ceilings and walls are narrow, so the developers cannot put a lot of insulation in them. Some properties have an existing concrete floor; people will not go to the expense of breaking that out and putting a new floor in, and they cannot put insulation on top of the floor, because they would not be able to get into their homes through the door.

Therefore, a number of more extensive measures that require a lot more funding are needed. A lot of navigation is needed for that funding; at the moment, getting hold of funding and knowing who to get it from is a bit of an alphabet soup. Agencies such as Tighean Innse Gall, Allenergy—Argyll, Lomond and the Islands Energy—or the Lochalsh and Skye Housing Association's energy advice service are important for pointing people towards the funding that they require. Those services are essential. My impression is that we have until now been able to spend a lot of money on picking the low-hanging fruit—the stuff that is easier to do. By and large, those homes have been in towns and cities.

**The Convener:** Thank you for that. That is possibly the case. Bryan Leask would like to come in.

**Bryan Leask (Hjaltland Housing Association Ltd):** I want also to comment on the previous question on funding, but the two issues are linked.

There is no question but that it is more expensive to build in rural areas. That is recognised through the new build standard. When we do a new build scheme, the Scottish Government sets a target within that and indicates, on a locational basis, what the increase in cost will be, based on tenders from the past. In Shetland, our cost is acknowledged to be 34 per cent higher than the cost on a national basis. We think that, in realistic terms, the cost is closer to 40 per cent to 45 per cent higher, but 34 per cent is the figure that the Scottish Government has recognised.

This comes back down to funding, which the first question was about. The underlying issue with availability of funding is that, although zero energy and zero carbon are now clearly seen as strategic priorities by the Government, the funding is not being allocated strategically. Funding is still allocated through a bid process, which means that we are competing against other organisations.

10:00

The point that Derek Logie made about low-hanging fruit is absolutely right. The Scottish Government can get a bigger bang for its buck by investing in urban areas, where, according to Scottish Government figures, it is 34 per cent cheaper to build than it is in Shetland. In Shetland, we have the highest wind speeds and the highest level of fuel poverty in the country, but it is more expensive to do the work.

We are competing against other organisations for funding, whether it is provided through the energy company obligation fund, area-based schemes or the warmer homes scheme; we are in a competitive environment. The Scottish Government needs to make not just the targets that it sets but the funding element a strategic priority.

**The Convener:** Thank you for that. It is good to hear the perspective from Shetland, with its high wind speeds and higher costs.

We move on to the just transition, which Elena Whitham will ask about.

**Elena Whitham:** My first question is for Bruce Cuthbertson. I know that you love to scrutinise the housing revenue account and how the housing improvement plan fits into that. Locally and nationally, given your role with tenant improvement services, do you fear that tenants are unduly bearing the cost of retrofitting social rented homes?

**Bruce Cuthbertson:** At this stage, I should say that I am part of a national HRA group and a rental affordability group with the Scottish Government.

The situation differs from place to place, but the system for the individual is slightly flawed. At the moment, although the rent-setting process varies slightly from area to area, it basically involves a proposal being put to the tenants that says, “We will do this much capital programme work—we will fit so many kitchens and bathrooms, so many central heating systems, so many roofs, and upgrade so many envelopes on buildings.” This year, tenants will have a choice of whether to pay 1.5 per cent or 2.5 per cent more than last year’s rent. That means that individuals are paying for the upgrades to other people’s houses and that it

could be 10 to 15 years before they make a saving from their own house being upgraded.

EPCs are relevant here, too. I do not want to jump the gun, but however we decide to look at the issue, there must be some sort of saving. If we are to insulate the outside of a house, make sure that the rest of the house is insulated and so on, we must be able to say, “If we spend £X and increase your rent by £2 a week, we will save you £3 a week in your power bills.” That cannot happen in the present system.

Therefore, I think that poverty will get worse before it starts to get better. I do not really like that the review is happening at the moment, but I might be wrong.

**Elena Whitham:** Thank you for that.

I turn to Aaron Hill for the SFHA perspective. Bruce Cuthbertson and Derek Logie mentioned fuel poverty. To widen the discussion, how can retrofitting and housing for net zero be delivered in a way that is consistent with a just transition?

**Aaron Hill:** I do not want to talk exclusively about funding today, but I think that the issue that you raise comes back partly to funding. There is no question about the commitment of housing associations that I speak to when it comes to making the level of investment that is required to deliver the energy efficiency measures that we are talking about. That is the right thing to do for the environment, for communities and for tenants, but we have to find a way to fund it. We can do so through increases in rent or increases in grant funding.

We must make sure that that balance is right because, as Bruce Cuthbertson said, we cannot end up in a situation in which energy bills come down slightly but rents increase astronomically as a result of energy efficiency measures. That is not a position that any housing association wants to be in. We need to get the balance of funding from the Government right and ensure that there is enough grant funding to allow housing associations to make the decisions while keeping rents as low as possible.

The impact on energy bills is important. People often assume that investment in energy efficiency will result in lower energy bills, but we know that it does not always do so. One of the assumptions around retrofitting is that we move tenants from gas boilers to electric heating systems, but we know that electricity costs more.

One way to get round that is the fabric first approach. People absolutely have to invest in the fabric of the home first and ensure that properties are as airtight and energy efficient as possible before they address the heating systems. We have seen in previous iterations of funding from

the Scottish Government that the investment has been in heating systems. That is true across the UK and parts of Europe, as well; it does not happen exclusively in Scotland. We have seen incentives to fit heating systems that might not work with the footprint of the property or the energy efficiency of the property as it stands.

We need to look at the whole system in order to be able to deliver a just transition, and we need to get the funding, the standards and the incentives right in order to keep rents low and to genuinely reduce energy bills.

**The Convener:** We go to my colleague Willie Coffey, who joins us online, for questions on the next theme, which is public engagement and local communities.

**Willie Coffey (Kilmarnock and Irvine Valley) (SNP):** Good morning. I want to broaden the discussion to consider the wider issue of public awareness and public engagement. Where are we with that?

We have a target to get a million houses to zero emissions over the next 10 years; that is more than 100,000 houses a year. I turn to Bruce Cuthbertson first. What is your perspective on the public's awareness of the whole agenda that we are embarking on? Are the public aware of and signed up to it? Do they expect that target to be met? Do they anticipate needing help and assistance to get there? What do we need to do to raise public awareness of the agenda?

**Bruce Cuthbertson:** I think that the agenda is at the forefront as a result of the recent 26th United Nations climate change conference of the parties—COP26—events in Glasgow; I talked to somebody yesterday about that. There are similarities with what we are trying to achieve with the Covid vaccination programme. Some people say that it does not affect them; some say that they will sign up for the vaccine; and others say that there are various other options. There are definitely parallels in that regard.

On public engagement, there has been plenty of talk, especially around COP26 on the television, but we need to have conversations area by area. Local organisations such as mine, as well as national organisations, have talked about the issues for quite a while. The word is getting out there, but it is time that we got a lead on what will happen. We have to lay out the journey and where the stops are.

I am aware of the figure of one million houses. To some people, that is not achievable. During the summer, I was part of the zero emissions social housing task force—ZEST—working group. I think that the target is achievable, but the approach must be Government led. I include the Westminster Government in that, because a lot of

the discussion is about affordability. The gas and electricity tax system has to be looked at. If we are trying to move away from using gas, electricity has to be made cheaper. Something else that came up in the ZEST discussions was the fact that all the retrofit work has VAT on top of it.

On the one hand, organisations are looking for grant funding, but on the other hand, they are paying a lot of it back in VAT. Something has to be done with the tax system to make it more affordable. It is not so much that we have to achieve the target as that the just transition has to take place, and the issue is affordability.

**Willie Coffey:** I turn to the other witnesses. How do we take the public with us on that journey? The Government intends to set up a national public energy agency to co-ordinate a lot of that work. How can we engage more directly with the public to ensure that they participate in that agenda?

**Aaron Hill:** Bruce Cuthbertson was spot on. We have seen a peak in public awareness of climate change and the need for action, but I am still not convinced that the public at large has fully understood what that means in terms of consequences for individuals and their homes. We are still on a journey there.

The Northern Housing Consortium did an interesting piece of work in the north of England earlier this year; it ran a social housing tenants climate jury. The jury's recommendations are really interesting. The number 1 recommendation is that work on energy efficiency in homes needs to be done more quickly. People are anticipating that work, and they want it to be done well. The majority of the other recommendations are about communication. Housing associations can play a unique role in communicating with their tenants.

To be honest, I think that we will probably need a slightly different model of tenant engagement. In the past, we often saw the same people engaging, but the retrofit agenda will have an impact on everybody's home. Housing associations will have to think about how they can deliver slightly different models of engagement, and how they have conversations about what the agenda means. A degree of education will be needed—for example, people might need to be shown how their home's new heating system works.

One of the previous witnesses talked about tenant behaviours in the context of Passivhaus. For example, in homes that are particularly airtight, opening the windows is—[Inaudible.]—for heating homes. The role of local authorities will also be important. Local heating energy strategies have been mentioned, and there is a duty for local authorities to consult locally and widely with communities. That journey will also be important in relation to other types of energy system such as

local heat networks. There is a long way to go, but the issue is at the forefront of all our minds.

**Willie Coffey:** Do Bryan Leask and Derek Logie have any comments on how we could improve on wider public engagement?

**Bryan Leask:** In general, we need to be honest with the public. We need to have an honest conversation, because moving one million homes, as you said, off gas and on to zero carbon heating—*[Inaudible.]*—would, in effect, mean moving to an electric or district heating system. We have all read about the increase in the cost of electric heating—people would be looking at 25p to 28p per kilowatt hour for electricity as opposed to 4p per kilowatt hour for gas. Even if there is an increased coefficient element from the heat pump, it would not bridge the cost gap between the two systems. As it stands, the average cost difference between running a house on gas and running it purely on electricity is around £1,600 per year. We need to be honest about that.

The other point that we need to raise is, again, a question for the Government. What are we trying to achieve? Is it zero carbon? If we move a million homes off gas and on to district or electric heating, our performance against the targets that we, as social landlords, have to meet by 2032, will, as things stand, get worse in respect of those one million homes, because it is based on an EPC rating, which is based on the cost of heating. If we move away from very cheap heating to expensive heating, the EPC rating will get worse. An increase in funding will be required to bring us up to the previous level, which will make the housing more expensive for either landlords or the Government, or however that funding—*[Inaudible.]*—comes back into it.

10:15

**Derek Logie:** It is important that we invest in local information provision. Some of the most successful areas of engagement with the public on energy efficiency and fuel poverty have been those where there is local provision, as is the case in the Kyle of Lochalsh, with the energy advice service that the Lochalsh & Skye Housing Association runs. It does things such as persuading people to change suppliers and helping them with that, or paying for electricity usage from a new supplier for a month to prove that it is viable. It will also help people to navigate the alphabet soup of energy measures and the numerous schemes that are involved.

I stay in an old house in a rural area, and we have received money to help us put in a biomass system and other things that will help us move away from oil. However, that takes a lot of time, effort and energy, and you really need someone to

hold your hand through the process. The local agencies such as Tighean Innse Gall and the Kyle & Lochalsh Housing Association have been important in that regard.

**The Convener:** It was good to hear those responses.

Meghan Gallacher will ask the next question. I note that we have only 14 minutes left for this evidence session, so I ask for succinct and to-the-point answers, although people can come in if they feel that a particular issue has not been raised.

**Meghan Gallacher (Central Scotland) (Con):** Before I ask my question, I refer everyone to my entry in the register of members' interests, which states that I am a serving councillor on North Lanarkshire Council.

My question is about the relationship between retrofitting and protecting the distinctive characteristics of individual places. How do we protect the character of a community?

My second question is similar to one that Willie Coffey asked earlier. How do we involve communities to ensure that their views are represented in that regard and that there is an element of protection for them? I would like Aaron Hill to answer those questions first.

**Aaron Hill:** I am sorry—I lost my connection briefly, so I missed the question.

**Meghan Gallacher:** The question is about the relationship between retrofitting and protecting the distinctive characters of individual places. How can we protect the character of our communities? How can we get members of the public and those communities involved so that their views are heard and the communities that they love are protected?

**Aaron Hill:** One of the previous witnesses talked about how they had achieved the protection that you are talking about with regard to tenement buildings. That is a classic example of protecting the public realm while looking for innovative solutions to the tricky problems that people cannot easily deal with when they are retrofitting buildings, such as issues with insulation.

There is also a cultural issue with regard to the approach of planners and local authorities—*[Inaudible.]*

**The Convener:** We have lost the connection. Perhaps someone else can answer the question until we get Aaron Hill back.

**Meghan Gallacher:** It would be good to hear from Derek Logie about the rural perspective, given the make-up of rural communities.

**Derek Logie:** With regard to rural neighbourhoods, settlements and communities, we have already talked about how the stock is



older and stone-built and requires different insulation measures. However, some of those measures will compromise the look of vernacular buildings; you cannot put external wall insulation on them, and internal wall insulation is also problematic, because the rooms can be small and the insulation itself can take up a good bit of the space. The older properties present a real challenge, and it will take a lot of experience, and perhaps even technological innovations such as thinner and more effective insulation, to deal with them.

It is important that we work with communities, as they can be at the forefront of helping other people in their areas to get hold of the measures to which they are entitled. An awful lot of people are sitting in cold, damp homes, unaware of everything that they are entitled to or all the support that is available to them. That is partly why I emphasise the need for local community-based approaches.

**Bryan Leask:** We need to protect the community aspect. From a rural perspective up here in Shetland, we are looking at how we ensure that we have sufficient contractors, labourers and so on to maintain properties and carry out the work that needs to be done. Part of the issue, though, is whether people are interested in doing that type of work. The amount of retrofitting work that will need to be done on properties over the next 10, 15 or 20 years is incredible, and the value of that work will be incredible, too. Local contractors have an opportunity to take advantage of that, but unfortunately the barriers to their achieving the standards required to carry out that work because of the funding mechanisms that are in place make it an unattractive option. From a rural perspective, I worry about big national contractors coming in to carry out that local work for us, and the loss to the local community of any benefits that might come from the level and value of that work. We must ensure that the local community aspect is not lost, and we therefore have to engage with not just the community but the contractors in it to find out what the barriers are that might prevent them from carrying out the work, and whether we as a group can do anything to improve the situation.

**The Convener:** I believe that Aaron Hill is back with us, so he might like to respond to the question, after which we will move to Paul McLennan.

**Aaron Hill:** Thank you, convener. I apologise again for the connection issues.

To go back to the question about planning and preserving local heritage, I was talking about the culture of planning departments and the local leadership that will be required. That will be enormously important in responding to sustainability—[*Inaudible.*] It is important that we

protect the heritage of local communities, but there needs to be compromise on both sides. I am not sure whether I got to this point in my earlier response, but there are stories of planners saying that solar photovoltaics should be on the other side of a roof to protect a property's local characteristics, when putting it there might mean losing the solar gain. That sort of thing prevents us from getting the sustainability and energy efficiency benefits that we want from some of those developments.

Education is needed in every part of the sector, because we will need new ways of working and new technologies that we will not have seen before and will not be familiar with. As I have said, though, there will have to be a bit of compromise on both sides. We realise that we will not always get the perfect development or the perfect retrofit, but we need a bit of give from both planners and local authorities.

**The Convener:** Thank you for that response. Paul McLennan will now pick up on skills and supply chain issues, which we have already started to touch on.

**Paul McLennan:** I will build on the important point that Bryan Leask made. As he said, the scale of what we are looking at over the next 10 to 15 years is huge. Nevertheless, it is important to reiterate that there are massive opportunities on the back of that.

Do we currently have sufficient skilled labour to scale up that work? What do Government and councils—and housing associations, as Bryan Leask mentioned—need to do to ensure that we do that? I come back to the point about whether we have a pipeline of work to attract business in.

Finally, there have been discussions—we had one with the previous panel—about local heat and energy efficiency strategies. Would it be easier for each local authority to plan for those as part of a broader national picture?

I will come to Aaron Hill, and then to Derek Logie for a rural point of view; Bryan Leask has already touched on the matter.

**Aaron Hill:** On the supply chain more widely, there are issues with both skills and materials. On the point about skills, we have known for a long time that the opportunity is coming, but we do not yet quite know exactly what it will look like. That means that colleges, as the local education providers, have not yet been able to make the commitment with regard to the skills that we will need. The opportunity is on the horizon, but we have not quite got there.

Whatever heating system or retrofit method we land on, we will need fundamental skills—for example, those of plumbers and electricians. We

must ensure that we plan for those skills, invest in that education and get people on to those courses as soon as we can. There will also be accessory jobs. We do not yet know what those will look like, so we will need to be fleet of foot and agile in responding to the issues as they come up.

There is a specific issue around skills. I see that Bryan Leask wants to come in—I am sure that he will cover it. It concerns PAS 2035, which is, in effect, the standard for assessing the energy efficiency of a whole house and our response to that. That qualification is not always available everywhere, and it is expensive, which could potentially create a blockage in delivering some of that work. We therefore need some investment in the short term to get people PAS 2035 qualified, so that the understanding is there.

I will not go into too much detail on the wider supply chain. At present, things are really difficult with regard to the supply of materials—not just because of the costs, which are up by about 20 per cent to 25 per cent, year on year, over the whole market, but because of issues with access. Suppliers are not now able to provide the materials, and lead-in times are being extended, so taking action to ease those issues is really important. There will be demand for new materials and new technologies, and things are only going to get worse if we do not shorten supply chains and invest in bringing materials into the country where we need them.

**Paul McLennan:** You mentioned skills and workforce. Do we need a national workforce planning strategy to deal with that particular issue? You touched on everybody's being aware of it, but do we need a national strategy?

**Aaron Hill:** I have been working in Scotland for only a couple of months, so I do not feel that I know the education system well enough to comment on that; however, it needs to be driven by both national Government and local government.

**Bryan Leask:** The PAS 2035 issue that Aaron Hill raised is important. I touched on it in my previous answer. PAS 2035 is now the standard to which we have to do all retrofit works, as of June 2021. Government funding schemes are now all linked to PAS 2035, requiring that any staff who are carrying out retrofit works to that standard be fully qualified.

Training to qualify for PAS 2035 became available in Scotland only in October, despite the requirement having come in from June. We are therefore well behind, to begin with, in getting the staff up to speed and accredited to carry out that work.

There is a requirement to get staff up to what is classified as Scottish vocational qualification level

6. The Government believes that it will take up to 200 hours per person to get to that level of qualification. That is a significant amount of time for us, as a company, to lose somebody, given that they might, basically, have been doing such work for the past 20 or 30 years. There is an allowance of one accredited person for every four on site but, in rural areas, most of the contractors who are carrying out such work are one-man or two-man bands. That means that both members of staff are required to do the work and, if they are doing 200 hours-worth of work, they are not able to work as a company during that period. That is putting people off. Contractors who used to do retrofit work are leaving the sector and not doing it anymore. It is too complex, is too expensive and they cannot afford to do it so they are picking up cheaper and easier work—fitting kitchens or building extensions, for instance—and moving away from the retrofit market. We really need to get on top of that and determine how to support contractors and make it an easier route.

10:30

We have also seen a massive drop-out rate from applicants—the home owners—because of PAS 2035. If you are doing any kind of fabric insulation or airtightness work to your house, including draught proofing or cavity wall insulation—all the stuff that the witness from John Gilbert Architects touched on—there is a requirement to increase the ventilation from the property. Each window—I am getting technical now—needs to have a minimum of 10,000mm<sup>2</sup> of ventilation. If you are doing any such work, you also need to ensure that there is through ventilation in the house, so there needs to be a minimum of a 15mm to 20mm air gap below each internal door.

In areas such as Shetland, if you are punching holes in your outside fabric, you are creating air movement into the house. By cutting down the internal doors, you are creating draughts within the house. You can insulate the wall as much as possible and do as much draught proofing as you want but, if you punch any kind of hole into the fabric of the building in an area such as Shetland, you are simply increasing the draught measures that are required in the property. A lot of the public are saying that they do not want that. They are not accepting it in their houses and dropping out at an early stage.

There is a massive reduction in people who want to take part because of PAS 2035 but there is also a huge drop-off in contractors who are carrying out the work.

**The Convener:** Thank you for that stark reality check, Bryan.

The next and final theme is infrastructure, which is fitting. We will spend about five minutes on that and, if the witnesses need to tuck something into their responses because they were not able to come in earlier, they are welcome to do so.

**Miles Briggs:** Good morning. I will ask a couple of questions about infrastructure.

The witnesses might be aware of the statutory repairs scandal that we saw in Edinburgh in previous times. What problems might arise when trying to retrofit mixed-tenure blocks of flats? Do the witnesses believe that the heat in buildings strategy provides sufficient clarity on the Scottish Government's approach to the mix of tenure in buildings throughout Scotland, especially tenements? I ask Aaron Hill to start.

**Aaron Hill:** I do not feel entirely well placed to comment on the mixed tenure and I am not fully aware of the previous Edinburgh issue, but the Government's focus in the heat in buildings strategy—certainly, the early years of the strategy—is on social housing. That is an admission that social housing is the easier bit of the market to address because the Government has the levers, the funding mechanisms and the relationship with social landlords.

I have highlighted a few challenges that, I hope, articulate just how difficult that bit of the market will be. If that is difficult, retrofitting the properties of home owners, leaseholders and others will be even more challenging. We have not at all grasped that nettle yet. There will be lots of learning from what social landlords do, from the engagement with tenants and from engagement with communities and local heat and energy efficiency strategies that needs to inform the approach but there is a lot more to do.

We must acknowledge that there will be times when work that is done will not be perfect and it is important that the Government has mechanisms in place to address that. We need emergency redress schemes for instances in which technologies fail, for example. Such measures will be really important but there is a lot of learning to do before we get there.

**Bryan Leask:** The heat in buildings strategy recognises the complexity around multitenure blocks. The target that has been set to achieve most of the standards is 2033. The Government has recognised that that might not be possible in multitenure blocks and has extended it through to 2045. It has also said in the document that they will develop a bespoke regulating standard for mixed-tenure, mixed-use buildings. There can be a push for that. The earlier that we can get that, the better, because, as Miles Briggs alluded to, one of the most complex areas around zero carbon is dealing with mixed-tenure blocks of flats.

We need regulation in order to do that, and we need it sooner rather than later so that we can start planning.

**Bruce Cuthbertson:** Mixed-tenure blocks are a problem today, and they have been a problem for the past 10 years. I am sat looking out my window, and I can see a housing scheme that has been done up except for maybe 12 or 14 houses, which creates a problem. I am talking about blocks of four where the council does not have the owners' details. That is the problem. The tenants who are living in those houses cannot get the upgraded work done to save them money on their fuel bills, because to replace the insulation in the building, they have to tie in to a neighbour's house, and the neighbours are not in.

There needs to be a scheme that is similar to the missing shares scheme. In a lot of cases, the reason why work is needing done is that people cannot afford it, so there needs to be some sort of grant funding or something else that means that, in a private residence, people can get the work done and at a later stage claw back the money. Maybe the Government could cover a certain amount of that and get a share of the house value. That would make the communities look better and I think that it would be an opportunity to bring communities closer together—earlier, someone mentioned bringing communities into it. There are technical problems and there will always be technical problems, but we should allow the community to be part of the solution to the problem.

**Miles Briggs:** That is really interesting and is something that we all want to pursue—especially the point about the potential for interest-free loans for people who own their properties.

I want to ask Derek Logie to cover that question and answer this one. Are the current planning and building standards systems helping to facilitate the retrofitting activity?

**Derek Logie:** I would like to shoehorn in another answer to the previous question, regarding support for the rural private rented sector. It is very important that we deal with that issue, and we have not talked about it at all. The level of available support is minimal, and that is having consequences. Private land owners and landlords are unable to afford the work that is required to bring properties up to standard, and they cannot recoup the costs through rents, so rents are becoming unaffordable and older stock in remoter areas is being sold off or converted into short-term lets. We have a hollowing out of the rural private rented sector.

The advent of Airbnb and short-term lets is encouraging that anyway, and, from the other side, there is pressure on the rural private sector

to bring properties up to standard, when something like 63 per cent of properties in that sector have EPC ratings of F or G. It is essential that they be brought up to standard, but the owners need support to do it. If they do not, all that will happen is that the properties will move out of that sector, and it is a vital sector in rural Scotland, where social landlords account for a lower percentage of households than anywhere else. We need the provision that the private rented sector brings in, because employees of local businesses, school teachers, doctors and even chief executives of housing associations need to find somewhere to live. That is the point that I was trying to shoehorn in.

**Miles Briggs:** You did it well. Does anyone else want to come in on my second question? If not, I have a tiny final question in relation to unintended consequences. I want to go back to some of the points that Derek Logie raised about rural fuel poverty. He mentioned that 15 per cent of the rural population in Scotland lives in social housing, which makes addressing issues more difficult. The recent decision that ministers have taken to halt the installation of energy-efficient oil and liquefied petroleum gas heating systems will clearly have an impact and does not present many alternatives for people who are off grid. Do panel members have any concerns about that or any other issues that they want to touch on?

**Derek Logie:** For a while, I sat on the rural fuel poverty task force, which spent a lot of time talking about transmission charges for electricity in northern Scotland. That is a big consequence of moving towards more electric-based heating systems. By the same token, we should not install oil boilers anymore; we should look to alternatives, either biomass boilers or air-source heat pumps, although those depend on high levels of insulation to work effectively. Supporting the installation of oil-based systems is a retrograde step; we need to make electrical systems more cost effective for the people who use them, which demands better building insulation and more investment in that.

**Bryan Leask:** It is a pertinent question. Somebody previously asked a question about the just transition, which underlines that we need to be conscious of whether it is just that people in rural areas cannot access a relatively cheap form of fuel, while people in urban areas are still allowed to install gas boilers. Miles Briggs is right—we cannot have only oil and LPG systems in rural areas, which is where about 50 per cent of installations are being carried out. In an urban area that has oil and gas, we can still install gas boilers. Where is the justice in that? Gas is currently 4p per kWh and, as I said before, electricity is about 25p to 28p per kWh. The equivalent price when using oil is about 6p to 8p per kWh. It is right that we should not allow access

to oil-based systems but, unless we can deal with the cost, we are putting in systems that are simply not affordable for people to use. While we are still allowing gas to be used, why are we not allowing the other systems? It is unconscionable that one system is not being allowed in rural areas, where there is no choice, and people there are not being allowed the same choice as people in urban areas.

Following on from that, another issue to be conscious of—I understand that this is not within the Scottish Government or Scottish Parliament's purview—is the cost of tariffs. As I said, about 25p per kWh is currently the cheapest electric tariff that people can get. If you look at your electric bill, you will see that 24 per cent of the bill goes towards what are called environmental and social costs—that part of the payment comes off and goes towards funding eco projects. If you look at your gas bill, you will see that 1.8 per cent of the bill goes towards environmental and social costs. We already recognise that 97 per cent of Scotland's electricity is renewable, yet we still apply a 24 per cent charge against electric systems for their decarbonisation. Gas is recognised as being a high carbon cost heating system, but it gets only a 1.8 per cent charge applied to it. If we remove that element from the cost of electric heating, we would knock 6p to 7p per kWh off electric bills. That still would not bring the cost of electricity down to the cost of gas or oil, but it would bring it down to something a bit more affordable than it is at the moment. A conversation with the UK Government is needed to make the position more equitable, recognising that electric is the future in relation to zero carbon heating.

**The Convener:** Thank you very much for that answer, Bryan—I had made a note to get a bit more detail on exactly that point. As you say, it is not within our powers to handle that, but we need to start pressing the UK Government to look in a different direction on that.

We have come to an end, although we could clearly chat for a lot longer about this really important and challenging issue. I thank our witnesses for joining us. I briefly suspend the meeting to allow for a changeover of witnesses.

10:45

*Meeting suspended.*

10:46

*On resuming—*

**The Convener:** Welcome back. We continue taking evidence on the important issue of retrofitting housing for net zero. I welcome our third and final panel for this morning: Stephen Good, who is chief executive of Construction

Scotland Innovation Centre; Elizabeth Leighton, who is director of Existing Homes Alliance Scotland; and Professor Lori McElroy, professor of architecture at the University of Strathclyde. Thank you for joining us.

We will move straight to questions. Witnesses, if you would like to respond or contribute to the discussion, please add an R in the chat box. We have about 45 minutes. We will try to direct our questions to someone in particular, but do come in if you would like to do so, although I might not always take you, in the interests of time.

I am not sure whether witnesses saw the evidence of the previous panellists, but we will run through the same themes, starting with cost and financing. I am interested to hear whether you believe that the Scottish Government is sufficiently aware of the costs that are involved in retrofitting homes at national level. We will start with Stephen Good.

**Stephen Good (Construction Scotland Innovation Centre):** From the conversations that have already taken place today, and from the work that we are aware of, we can see that there is a growing body of work around the costs that are involved in retrofitting. However, there is still a lot to do to understand—for example, from the Niddrie Road project that you heard about earlier—exactly how the more complex aspects, such as those that are impacted by planning requirements, will be considered in the round from a cost point of view.

The other cost aspect that the innovation centre is focused on is skills and upskilling, and how we develop competencies and capabilities across what will have to be a much broader workforce in that area in the future. There are costs involved in building that capability across the industry, and we need significant investment in that.

Other witnesses will be better placed to address some of the issues, but a lot of the practical project activity that is currently under way needs to be complemented by a more strategic approach to the pilot projects, such as the early pathfinder projects that are coming online at the moment.

We need a really comprehensive review process of domestic and non-domestic premises to build a much clearer picture of where the costs will actually sit, as opposed to the current perception of where they sit.

**Professor Lori McElroy (University of Strathclyde):** I agree with Stephen Good, and I sat in on the previous session, too. One of the main funding issues is that there is a lack of co-ordination between what happens with private homeowners and renters and the social sector. I think that it was Bruce Cuthbertson on the previous panel who said that the situation often

ends up with one household blocking a whole set of four-in-a-block flats, for example, or other houses from being retrofitted. We need to put some effort into looking at those blockers and bottlenecks.

It is important that we go in once and do a full, whole-house retrofit, and do it well. A problem that we have had in the past is that there is pressure on local authorities and social landlords to do as many as possible, as quickly as possible. We then have the unintended consequences of things not being done well, or being partially done so there is a need to revisit, which is a really inefficient way of doing it.

Although there is awareness in the Scottish Government of what the real cost is, there is a lack of co-ordination of activity to ensure that retrofitting happens in a logical manner. Getting fewer properties done well is more important than getting as many done as possible, as cheaply as possible, which is where a lot of our efforts are focused at the moment. Elizabeth Leighton might perhaps pick up on that.

**The Convener:** I believe that we have lost Elizabeth Leighton for the moment, so I will ask another question, staying with Lori McElroy. I am curious to know what you think about private financing. Will that be required to roll out retrofitting on a national scale?

**Professor McElroy:** Yes, it definitely will be required. When we look at all the figures, we see that the Government is quite open about the fact that it has a certain amount of money available and that retrofitting will cost very much more. I do not have the figures to hand at the moment, but the funds require to be increased by a factor of 10 or even 100 to do the full job. Therefore, we will need to look at private financing.

There is a lot of talk about green finance, but we do not seem to have all the ducks in a row, so to speak. If we are going into an area with mixed tenure, it will be really important to look at all the housing together and to be able to offer ready-made packages for owner-occupiers to make it as easy as possible for them to opt in. At the moment, it is too easy for them to opt out, because it is too complex.

There is some nervousness that all this work might not actually save people money, which I think we will come on to later. If we transition immediately to low-carbon heating, it will, in most cases, make people more comfortable in their homes, but it will not necessarily save them money.

**The Convener:** I have another question for Lori McElroy, and perhaps Stephen Good can also answer it while we wait for Elizabeth Leighton to come back in. Given the relatively high up-front

costs of some retrofitting measures, which have long payback periods, do you believe that the financial support that is currently in place is adequate? If not, what further support is required? We have touched on that already, but the missing piece is what we need to signal for things to move—to get the ducks in a row, as you said. What should we be doing?

**Professor McElroy:** I am sorry—I have lost the thread of the question because it kind of morphed into something else. Would you repeat the first part of the question?

**The Convener:** The question was about the high up-front costs of retrofitting measures, which have long payback periods. Given that, do you believe that the financial support that is in place is adequate?

**Professor McElroy:** I do not, really. A change is coming to some schemes that will reduce the money that is available for retrofitting measures—that results from changes that were made at Westminster. Instead of being a percentage of the cost, the contribution will be reduced to something like £5,000 towards the cost of installing heat pumps, for example.

We are throwing everything at one or two technologies, when what we should do first and foremost is improve energy efficiency. New innovations and technologies will not work unless housing is insulated to a level at which it requires the minimum of energy.

We need to focus on getting insulation done. I am not saying that we should do that first and then look at heating systems but, by retrofitting homes when they are in the best condition that they can be in before we install new energy systems, we can avoid unintended consequences.

Bryan Leask compared the cost of gas with that of electricity. The difference is massive, which is partly because of tax. Westminster could deal with that at least in part, as Bryan Leask said. We must reassure the public that their energy costs will not escalate, and we must make homes as energy efficient as possible in the first place, if that makes sense.

**The Convener:** Absolutely. There is the fabric-first approach, but we should not deal just with fabric; we must address everything together, as you said.

I welcome back Elizabeth Leighton—the technology still needs to be finessed. I asked whether, given the high up-front costs of retrofitting measures, which have long payback periods, the financial support that is in place is adequate. What are your thoughts from the Existing Homes Alliance's experience?

**Elizabeth Leighton (Existing Homes Alliance Scotland):** I apologise for the connection issues. The Government is aware in the round of the costs, which are massive. A big challenge is ahead of us. There is some support for the self-funding market, which is welcome and is much more than is in place south of the border.

Such support will have to increase over time if we are to achieve the required numbers—as has been said, an average of about 100,000 homes a year will have to be upgraded. The Government has a target of having net zero emissions heating in 1 million homes by 2030.

Support should increase in the fuel-poverty programme—warmer homes Scotland—and in area-based schemes, because they must deliver a whole-house approach to fabric as well as zero emissions heating, which means more cost per property. The heat in buildings strategy contains the principle—I like to call it a promise—of no detriment, so that nobody will be worse off as a result of the upgrade to their property. People should not be worse off; they should be in a warm home that is affordable to heat and which is healthier for them.

We need new models that will accelerate the pace of retrofit. We have been working with Changeworks on a report about models of collective purchase such as bulk buying, payment plans, community ownership and third-party ownership. They are different ways of taking forward neighbourhoods of homes as a group in a faster, more efficient and more cost-effective way for everyone. Those are a few ideas for looking at who pays and making the transition fair.

**The Convener:** After Stephen Good responds, we will move on to our second theme, which is a just transition.

**Stephen Good:** I will make two brief and related points. I agree with Lori McElroy's position on the strategy. It is key to have a whole-house retrofit plan. That plan might be implemented in stages, but it would be consistent with what needs to be done to that property or collection of properties.

11:00

Managing the progress towards that plan would help with affordability. It is not necessary to do everything at once; the plan must be delivered in a way that is affordable.

The two factors that are relevant to affordability are the up-front costs and the long-term payback. The previous panellists touched on the issue of VAT. There is a need to balance the seesaw. At the moment, new build is incentivised instead of retrofit, and the seesaw has to swing back towards more equitable and adequate support for retrofit.

The issue of surveyors carrying out house valuations should be considered. Whether the property belongs to a housing association, a private landlord or a private owner, they are going to invest in decarbonising that home. That should be recognised in the valuation of the property. If there is a street where one property has been retrofitted at a cost of £20,000 or £30,000, that should be reflected in the value of the property. If that was factored in and understood and was recognised further down the line when the home owner came to sell the property, that would encourage more people to make the investment. They would recognise that they might get some return on their investment.

**The Convener:** Thank you for raising that interesting point.

We move on to the theme of a just transition.

**Elena Whitham:** Quite a few of the questions that I was going to ask have already been answered, so I will change my questioning a little to reflect that. My question is for Stephen Good. We have heard that the burden of costs might fall on owners or social rent tenants, that there is a long payback period and that some measures might not reduce bills for individuals. What opportunities and innovations for a just transition does retrofitting offer to the country?

**Stephen Good:** It will not come as a surprise that a person who runs an innovation centre is going to say that innovations in retrofitting offer huge opportunities in a number of areas. Local supply chains would be developed. There would be development and innovation relating to new materials and processes. Members have already heard about EnerPHit, Passivhaus and other recognised standards, and that quality control can be delivered through measures such as PAS 2035, and PAS 2038 for non-domestic buildings.

There are huge opportunities to invest in building capability in our built environment workforce. We have a huge task ahead of us in retrofitting our existing buildings so, in the context of a just transition, other industries that are transitioning away from what they do will find the built environment, the construction industry and its related supply chain to be a hugely attractive place. They might recognise that there is a real opportunity in the built environment. We need the transferable skills that will come from industries such as oil and gas to help us to innovate our products, processes, systems and finance models.

We already have a lot of good innovations available to us; we just need to deploy those innovations at scale. As previous witnesses have said, we have to prove that those systems are capable of delivering the improvements that we want. We must not have a constant cycle of pilot

projects. There will be a point at which we need the pilot programme to end all pilot programmes—that is the simple way of thinking about it—so that we can move to mass deployment at scale.

In relation to a just transition, that mass deployment will create a huge number of opportunities to develop the workforce and attract new talent into the sector, because people will see it as a sector that is upping its game on tackling the climate crisis and providing solutions. The built environment, as a big part of the problem, needs to be a massive part of the solution, too.

**Elena Whitham:** Does Elizabeth Leighton have anything to add from the perspective of the Existing Homes Alliance?

**Elizabeth Leighton:** We have done research that shows that tens of thousands of jobs—up to 20,000 a year—could be created by a large-scale programme that involves retrofitting for fabric and zero-emissions heat. That is definitely a huge opportunity, but with it comes the issue that we have to plan to support the reskilling and upskilling of the workforce so that the people involved are not just in the central belt or do not just come from south of the border. We need jobs to be created and sustained all over Scotland so that we win in having a just transition. The heat in buildings strategy has a plan for the supply chain, but that needs careful monitoring to ensure that we match the demand that will build up with jobs and skills in the right places.

I was pleased to hear what Stephen Good said about innovation. We now have a lot of the solutions that can be deployed, and we have manufacturers in Scotland that can expand, such as Mitsubishi. Other manufacturers of heat pumps are considering moving their operations up here for manufacturing, as well as installation. That is evidence that they see the opportunities in Scotland, because we are further ahead than England on the retrofit agenda.

Part of that story has to be about getting regulations in place. Until the supply chain is convinced that the Government will regulate for standards of fabric and zero-emissions heating, businesses will not make their move. I believe that the heat in buildings strategy promises a consultation in the summer of 2022. Until businesses are certain that the standards are coming, it is difficult for them to make investment decisions. I would like the Government to be much more forthcoming about the targets that it has set in the strategy and to work with businesses on how they can invest to meet the projected demands, alongside the standards that will come for all housing sectors. Those standards should be for not just the social and private rented sectors but the owner-occupied sector. That would be a huge game changer.

**The Convener:** Thank you for those responses.

We will move on to our third theme, which is public engagement and local communities. I bring in Willie Coffey, who is joining us online.

**Willie Coffey:** Good morning, everybody. I want to ask for your perspective on the wider issue of public engagement and awareness of the agenda. If you were listening to the previous panel, you might have heard me mention the target to deliver zero-emissions heating systems in 1 million homes in the next 10 years, which is about 100,000 homes per year. Where are we on public awareness of that? What might be the role for a national public energy agency in helping us to meet that target over those 10 years?

**Stephen Good:** We are at an interesting point. On the back of COP26 and the awareness of it in the couple of years leading up to it, and the focus on Scotland through that experience of hosting a big international event, we have a time-bound opportunity to engage the public and to capitalise on their interest in this space. There is significant increased awareness of the climate and wider natural crises that we face.

It would be a missed opportunity if we did not capitalise on that engagement with communities and individuals to raise awareness, knowledge and understanding of the issues and build the appetite across communities to really think about the innovative ways of progressing, which Elizabeth Leighton talked about, and to turn that appetite to do the right thing into mechanisms that we can use to deliver the right impact at a scale and pace that we have never seen before. Some of the things that have happened recently have sparked an interest in this area that we have never seen before, which is hugely positive.

The proposed agency will have to play a vital role in the transformation. It will need to show what a good outcome might look like, address the challenges that we face and set out how we, as citizens, can all get involved and contribute.

I should maybe refer you back to my previous answer, for context, but the commitment that people will have to make in terms of their own contribution to solving the climate crisis is important. There is an individual aspect, but there is also an aspect around what we can do as citizens and members of communities, because we can work incredibly well together when we are given a framework that enables us to do so.

The proposed agency could set up good frameworks that could enable communities and interested people to have conversations. Some people are not interested in this topic—I know that from talking to family members, despite me boring them about it at every opportunity. Some people are just not as engaged as others, and that

conversation needs to happen. Public awareness campaigns and such things are important. We have just come through 18 months of massive campaigning around Covid, and I think that we should take that approach to ensure that no stone is left unturned in ensuring that people can have those conversations.

**Elizabeth Leighton:** I am excited about the issue. The Government has given a commitment to have a public engagement strategy, but it needs to go big. We have called for the Scottish budget to include a significant dollop of cash for a large-scale engagement programme that is not just a top-down mass communication effort but is tailored and supported by the local advisory organisations that the previous witnesses talked about. They are critical in making this happen, because they are the trusted and credible communicators on the ground who will convince people that retrofitting is a good thing to do and will tell them how to do it.

We are in a great position in that we already have Home Energy Scotland, with a network of partners on the ground providing an independent national advice service, but that work needs to be hugely scaled up. Gaps need to be filled so that every part of Scotland is covered by that partnership network, and multiyear funding is needed so that the organisations do not subsist in a hand-to-mouth way, depending on grants here and there from charities.

We need to take customers on a journey from the start of engagement right through to making sure that they know how to use their system and, if it is not working, where to go to get redress. That will ensure that there is trust in taking forward the retrofitting work and that, in relation to Stephen Good's point, they know that they are adding value to their house.

We think that the proposed agency will play a part in that, but we cannot sit back and wait for it to be created. We have to take that work forward in tandem with our existing advice and delivery infrastructure, so that the activity ramps up in the coming year and we get people excited about the fact that their home can be a nicer, warmer and more comfortable place to live.

**Professor McElroy:** I agree with everything that has been said. There is general awareness that we need to do something, but people expect other people to do it for them, and those who want to push ahead are not always clear about where to go. I know that Home Energy Scotland does a great job but, even as someone who works in the industry, I do not find that organisations such as that one are accessible enough to the general public.



If someone wants to put a heat pump in their house, they do not know where to go or what funding is available. We need a much wider and more general campaign on the matter. The proposed national public energy agency could even set up some network of local champions in communities as a way of spreading the word.

11:15

We have to make it as easy as possible for people to get involved. I know that this is an anecdotal example, but my mum lives in an former local-authority house and saw for herself what sort of upgrade those in her street who were still with the local authority were getting and how long those who owned their own homes were having to wait to join the party. It seems to be ridiculous to me. One company and then another was brought in; my mum's house was upgraded eventually, but it should all have been done seamlessly. She should not have known that there was a difference between what was happening with her and what was happening with others.

We need to make things easier but, as Elizabeth Leighton has said, we also need to raise awareness—not, I should add, from the top down—in order to take people with us. I know that that will not be easy. Funding plays a big part, too. If people get worried about funding and about being asked to do something that they think they cannot afford, they will just back off. We have to get them through the door so that they can find out what the opportunities are.

**Willie Coffey:** Thank you for those interesting and helpful answers.

**The Convener:** Meghan Gallacher will ask about the theme of local communities.

**Meghan Gallacher:** Good morning. You might have heard from my questions to the previous witnesses that I am quite interested in the relationship between retrofitting and protecting the distinctive characters of individual places. How do we protect the character of a community while we retrofit properties, and how do we involve those communities in the planning for retrofitting?

**Elizabeth Leighton:** First of all, by retrofitting, we avoid demolition and the destruction of communities. Going back to previous conversations about the cost benefits of doing a whole-house retrofit and taking a whole-life approach, I think that that approach saves money in the long run, with all the co-benefits of wellbeing, community cohesion and resilience. That is the first benefit of retrofitting and taking a whole-house approach to ensure that properties are fit for purpose as far as our net zero future is concerned and that that investment is well made.

Many area-based schemes offer lessons about how to involve communities. Research shows that, with such schemes, communities become proud of their neighbourhoods; the place looks good, people want to live there and people say that their health and wellbeing improve as a result. The local heat and energy efficiency strategies, if they are resourced well enough, should allow local groups, local development trusts and community organisations to involve people in the decision making on the right approach to be taken in a community, the models for paying for it and whether a project should be taken on, say, as a community asset or through a collective purchase. Allowing the community to find the right solution for itself would engage people in the transition in a much more positive way.

On that word “resource”, I point out that local authorities will need the resource and capacity to develop and implement local heat and energy efficiency strategies, and, as we are all aware, resources are pretty thin on the ground. That is why we called for that resourcing to be provided in the budget.

**Professor McElroy:** I agree with Elizabeth Leighton. We have been working with some local authorities that have taken that very approach where there is a strong community that they do not want to uproot. They are focusing on improving the existing area, even when the homes are in quite a poor state. If they can retain social cohesion in that community in any way, they are doing that.

One way of doing that is for whoever owns the housing to speak to tenants and home owners in the area and look at different approaches that are appropriate to their lifestyles, taking a much more engaged approach. One of the lines about the retrofitting of existing homes that we hear a lot is that the occupants need to be taught how to live in their home. I would not say that that is a ridiculous statement, but it shows a bit of misunderstanding. If people are having the home that they have lived in for 20 or 30 years retrofitted, whoever does the work should learn about how the home is used and how people are living in it so that it is as easy as possible for them to get the most out of their retrofitted home. Some local authorities are already doing that.

Quite a bit of work is being done in Ayrshire and Dumfries and Galloway on health benefits. That is another thing that can be used as a lever. Clear records are beginning to emerge of the health benefits of living in a warm and dry home compared with the state that people were living in previously. An example is a reduction in the number of hospital admissions. The word on those community benefits needs to be spread more widely.

**Meghan Gallacher:** Thank you.

**The Convener:** We move to questions from Paul McLennan on skills and the supply chain.

**Paul McLennan:** We have already touched on local heat and energy strategies, and I will come on to a question on that.

How can the Scottish Government and councils, in addition to industry, support the development of the necessary skills to upscale retrofit work? I suppose that it is also about establishing a pipeline of retrofit work. We heard from the previous witnesses about some contractors moving away, so we need the supply to make sure that there is that pipeline.

**Elizabeth Leighton:** Earlier, I talked about the need for certainty through the regulations, but the local heat and energy efficiency strategies will tell people what the destination is. Until they know that, people and the supply chain are often reluctant to move. The faster we can get the strategies done, the better. We have encouraged the Government and local authorities to start implementing the strategies that have already been developed, and some are in the early stages.

On the supply chain, there is an interesting example—[*Inaudible*.]—heat pump sector deal, in which the Government has been working with industry people on preparation to meet those targets. What do they need from the Government in that conversation? The working group's interim report is out and the final report will be out soon, and it will be interesting to hear how the Government responds to it—whether there is scope to make similar sector deals or informal arrangements with other parts of the industry—and to find out how programmes such as the area-based programmes could be improved to allow more investment to be made. I am sure that multiyear funding arrangements for those schemes that are being delivered would help the situation and give the industry security.

**Paul McLennan:** Lori McElroy, do you want to come in? Stephen Good, do you want to say anything about how to develop the pipeline from your point of view?

**Professor McElroy:** A lot of good work on skills is going on at the moment so that colleges can upskill the existing workforce while ensuring that young people coming into the construction industry have the right skills.

I return to something that we have touched on already: if things become more regulated, with regulatory requirements for retrofit, that might even increase the attractiveness of it. I think that the work that is currently going on is already having an impact, but the biggest problem seems to lie with supply chain availability. I know, from

speaking to a number of social housing providers with large area-based schemes, that very few providers are able to do large-scale retrofit programmes. Many of them come up from down south—not that there is anything wrong with that, but we do not seem to be building capacity in Scotland at the speed that we need to build it. That is perhaps something that Stephen Good can pick up on. The situation seems to have been exacerbated through materials shortages post-Brexit.

I know of one scheme up here that was purportedly going to be funded by the Department for Business, Energy and Industrial Strategy—BEIS. The supplier came in and told the local authority what it would do, instead of adopting the approach that the local authority had requested, and the scheme fell apart because of that. Because there is a dearth of competition, the people who are out there have one way of doing things, which is not always the best way, but that is all that is on offer. We need to ramp things up there very quickly if we are to move forward.

**Paul McLennan:** As you have suggested, Stephen Good can come in on the issue of the supply chain and the pipeline. For me, the key thing is that there are big opportunities. I know that there are challenges, but there are big opportunities for industry here. I would like to hear your comments on that.

**Stephen Good:** The opportunities are immense for the entire sector. Referring to some points that have been made previously, the opportunity to develop local capability is massive.

I have a couple of things to say about the pipeline. We contribute to the Scottish construction leadership forum, which is a partnership between industry leadership and Government that has been developing over the past 18 months, with a restart plan for industry post-Covid, the recovery plan for industry and now, moving forward, the transformation plan, which is very much focused on the opportunities around zero carbon.

Within that, we now have pipeline tools, so public sector organisations are able to share their programmes on what is effectively a dashboard, hosted by the Scottish Futures Trust. That gives contractors, clients and supply chain partners the opportunity to see a bit more clearly what is coming down the road and round the corner. That can help to build more confidence regarding decisions to invest in skills, technology or innovation—whatever it may be. There is real value in having such tools, which get more sophisticated, with more content. There is always a slight degree of uncertainty, but it is good to see what the pipeline looks like to a contractor, an architect or whoever. That gives confidence to businesses on the pipeline aspect.

The other aspect concerns the opportunities for businesses on the materials innovation side—and we work with quite a number of them. They are developing new circular products—perhaps those using recycled materials and products that are locally manufactured from natural resources, timber being an obvious resource that we should be doing a lot more with in a sustainable way.

Those businesses are more confident that the direction of travel will be more obvious now, with the move towards net zero and circular, sustainable and embodied carbon as an important aspect. Industry partners and organisations such as the Scottish National Investment Bank are spotting opportunities to invest in and create local supply chains to support local pipelines and deliver innovative solutions that are not just suitable for our challenges in Scotland but eminently exportable. Those represent huge opportunities for Scotland in an economic development sense.

We have great capability. We need to scale it up, but, when we do that, we have the opportunity to do things in the reverse way to what Lori McElroy touched on. Instead of having contractors coming north of the border to deliver solutions, we would have the capability to export south of the border and elsewhere, and that should be a key part of the proposition.

11:30

**The Convener:** Thank you for those responses. We will now move on to the final theme, which is infrastructure.

**Miles Briggs:** Good morning. I will ask you a question that I asked the previous panel, on problems with mixed-tenure blocks and properties and on how retrofitting can be pursued in such cases. Could you outline your views on that, and could you tell the committee about any experience that you have already had with that as a barrier that we are likely to encounter in meeting the targets?

**Elizabeth Leighton:** That is a big blockage, and the obvious solution is to have a cross-tenure standard, so that every property has to meet a high standard with energy efficiency and zero-emissions heating. I would include holiday lets in that, which would help to solve the problem of people shifting their properties to holiday lets to avoid regulation.

We are aware of the difficult legal issues regarding tenements. A comprehensive report with recommendations was produced by the cross-party working group on tenement maintenance in the previous parliamentary session, and the Scottish Law Commission has been asked to look into it. We would recommend that additional

resource be provided to the Law Commission so that it can pursue that work at speed rather than take several years—in which case, it could even take five years before we would have recommendations on how to address those legal issues, which I think would be unacceptable. That would be our approach to that.

The other aspect is engagement. With more of a voluntary basis, more of the type of community engagement that we have been talking about—*[Inaudible.]*

**Miles Briggs:** I have a question regarding the current planning and building standards systems that we have in place. How can they help to turbocharge and take forward retrofitting activity? Is there anything from your experience that you think is also preventing us from moving forward at a faster pace?

**Professor McElroy:** There has always been a view within building standards that the focus should be on new buildings, but the recent discussion around building standards reforms has included a clearer view of what constitutes a major retrofit. We are beginning, at last, to move in the direction of existing homes coming into the fray regarding requirements for upgrading, change of use or any major works. The relevant level is around 25 per cent of the value of the home, and the same goes for non-domestic buildings. We are beginning to move in the right direction on that, but we should be firmer and clearer on it.

One way of dealing with that relates to the issue that you asked Elizabeth Leighton about—triggers and encouraging people in mixed-tenure accommodation to get better engaged if, at change of tenancy or ownership, there is a requirement to upgrade to a certain standard. That could be built into building standards more explicitly—for example, if the house needs to be rewired or if the roof needs to be repaired. That is automatic at the moment; it would not be possible to sell a house in that state of disrepair. The same could apply to the energy efficiency of a house when it changed occupancy.

As I said, we are beginning to move in the right direction, but we have not quite managed it yet.

**Miles Briggs:** When it comes to financing, what do you think is needed, especially for private residents? We are expecting people to meet significant costs. Other than boiler scrappage schemes and interest-free loans that are backed by the Government, do you have any suggestions about how we could enable private residents to meet some of the future costs?

**Stephen Good:** Successive Governments have struggled with the challenge of how to incentivise people to do things that they do not feel overly

incentivised to do. Some of the things that Lori McElroy talked about are part of the answer.

Historically, there are lessons to be learned from the experience of the green deal. We need to start thinking about the issue in a very systematic way. One of the big challenges is that people would be much more inclined to invest in their building to deliver savings if they had a much higher degree of confidence that such investments would actually deliver those savings. Historically, we have had a fair number of challenges there.

Chris Morgan from John Gilbert Architects made the point that there is a risk that we will ask people to invest in solutions that will, on the surface, deliver the benefits—that is the design intent—but that, in reality, do not deliver those benefits. Pilot projects such as the Niddrie Road project will be good pathfinders. If we build them and gather the evidence from them appropriately, they will help to inform decisions about where we can and should make such investments and what incentives will work.

I cannot remember the name of it, but, in a global context, I believe that there is a German version of the green deal that has been in play for the past 20 to 25 years. As I understand it, it is one of the most well-used—and most confidently backed up by certification—approaches that we are aware of. We should be looking at international best practice models from countries that have been doing such work for a lot longer than we have, so that we can learn from and perhaps adopt those. There is no sense that a new system needs to be invented here; if there are good ideas and good solutions elsewhere, we should be open to those and willing to adopt them.

**Miles Briggs:** We have all scribbled down “German system”, so we will go away and investigate that.

Would anyone else like to comment?

**Elizabeth Leighton:** I will comment on planning and building standards. If the new-build standards could be brought forward and implementation could be accelerated in publicly funded projects, that would be a huge boost from the point of view of the pipeline that Paul McLennan asked about. It would also bring down the cost for everybody, because it would involve a huge investment in heat pumps and a changing of people’s mindsets with regard to what is good in a new property.

On planning, I think that a promise has been made to look at permitted development restrictions. We should be making it easy for people to install renewable technologies. In relation to traditional buildings, it was asked how we can do that in a way that preserves their character but that also gets us to zero emissions. After all, there is no point in preserving the

character of those buildings if they will not survive the impacts of climate change. We must keep our eye on the prize.

On financing, there are ways that we can design regulations to ease the costs and the pain, in a sense, at the point of sale. Costs can be picked up in the sale price, as refurbishments are being done when it would be more cost effective to do them, and in the support mechanisms that we talked about earlier. There are loan, cashback and boiler-scrapage schemes. There are schemes to make things easier for people so that the costs are less of a burden and people can see a return on their investment when they sell their house.

**The Convener:** I want to explore something that I have become aware of, to see whether the approach would be useful. It relates to the 44,000 empty homes across Scotland—I think that that is the number. I began to think about intervention points in the retrofitting initiative. Obviously, we want to have a whole-building approach, so looking at an empty home in a tenement would not work. I am beginning to wonder whether, in rural areas, we could bring empty homes back online and retrofit them before people are housed in them, so that people go into retrofitted houses. I would love to hear your thoughts on that.

**Professor McElroy:** In the past, a fair amount of work has been done in considering that. I suppose that it depends on who owns the home. There has been quite a lot of resistance from rural private landlords to some of the retrofitting agenda because of the huge costs. However, as you have said, demonstrator homes could be created across the country. There is a risk of there being another pilot scheme, but that is a way of spreading knowledge and benefits. There should be a requirement for homes to be in a fit state to be occupied, so it should not be possible for a home to be let unless it comes up to a certain energy efficiency standard. That might also be a way of testing innovations in energy systems and materials across the country and allowing small and medium-sized enterprises to test the territory in a small-scale way.

**Elizabeth Leighton:** It should be a point of principle that, if public money is supporting bringing empty homes back on to the market, as has happened in the past, that money should be invested in meeting our wider goals on fuel poverty and climate change, as well. Homes should therefore be brought up to the standards that are proposed in the heat in buildings strategy. That would be a very welcome initiative to bring more homes on to the market in rural areas, but that is a problem in urban areas as well.

**The Convener:** We have come to the end of the discussion. Unfortunately, we never have enough time, but it has been very helpful to hear from this

panel and the other panels this morning—I think that all committee members agree with me on that. As I said at the beginning of the meeting, this is not the only time that we will take evidence on the issue. In January, we will lead a debate in the Parliament on retrofitting, and we will see what comes out of that. Your contributions have been very helpful.

I suspend the meeting to allow the witnesses to leave.

11:44

*Meeting suspended.*

11:44

*On resuming—*

## **Subordinate Legislation**

### **Ethical Standards in Public Life etc (Scotland) Act 2000 (Register of Interests) Amendment Regulations 2021 (SSI 2021/397)**

**The Convener:** The third item on the agenda is consideration of the Ethical Standards in Public Life etc (Scotland) Act 2000 (Register of Interests) Amendment Regulations 2021, which is a negative instrument. As such, in the absence of a motion to annul, there is no requirement on the committee to make any recommendations on it.

As members have no comments to make on the regulations, the committee agrees that we do not want to make any recommendations in relation to them.

As we agreed earlier in the meeting, we will consider agenda items 4 and 5 in private.

11:45

*Meeting continued in private until 12:15.*



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