OFFICIAL REPORT
AITHISG OIFIGEIL

Local Government, Housing and Planning Committee

Tuesday 3 October 2023

Session 6

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LOCAL GOVERNMENT, HOUSING AND PLANNING COMMITTEE
23rd Meeting 2023, Session 6

CONVENER

*Ariane Burgess (Highlands and Islands) (Green)

DEPUTY CONVENER

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

COMMITTEE MEMBERS

*Miles Briggs (Lothian) (Con)
Pam Gosal (West Scotland) (Con)
*Mark Griffin (Central Scotland) (Lab)
*Ivan McKee (Glasgow Provan) (SNP)
*Marie McNair (Clydebank and Milngavie) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

David Baird (West Lothian Council)
Stephen Booth (Aberdeen City Council)
Peter Drummond (Royal Incorporation of Architects in Scotland)
Stephen Garvin (Scottish Government)
Professor Chris Goodier (Loughborough University)
Paul Jones (City of Edinburgh Council)
Martin Liddell (Institution of Structural Engineers)
Paul Livesey (Collaborative Reporting for Safer Structures UK)
Ailsa Macfarlane (Built Environment Forum Scotland)
Iain Morris (Scottish Fire and Rescue Service)
Sam Piplica (Royal Institution of Chartered Surveyors)
Shirley-Anne Somerville (Cabinet Secretary for Social Justice)
Peter Watton (City of Edinburgh Council and Society of Local Authority Chief Executives and Senior Managers)

CLERK TO THE COMMITTEE

Euan Donald

LOCATION

The David Livingstone Room (CR6)

Scottish Parliament

Local Government, Housing and Planning Committee

Tuesday 3 October 2023

[The Convener opened the meeting at 09:00]

Decision on Taking Business in Private

The Convener (Ariane Burgess): Good morning, and welcome to the 23rd meeting in 2023 of the Local Government, Housing and Planning Committee. I remind all members and witnesses to ensure that their devices are on silent and that all notifications are turned off. We have received apologies from Pam Gosal. Mark Griffin is joining us online.

The first item on our agenda is to decide whether to take items 4, 5, 6 and 7 in private. Do members agree to do so?

Members *indicated agreement.*

Reinforced Autoclaved Aerated Concrete

09:00

The Convener: Agenda item 2 is to take evidence from two panels on reinforced autoclaved aerated concrete, which is otherwise known as RAAC.

The first panel will be in round-table format. We are joined in the room by David Baird, property service manager for West Lothian Council; Peter Drummond, chair of practice committee for the Royal Incorporation of Architects in Scotland; Paul Jones, strategic asset improvement manager for the City of Edinburgh Council; Ailsa Macfarlane, director of Built Environment Forum Scotland; Iain Morris, acting director of asset management for the Scottish Fire and Rescue Service; and Peter Watton, service director for the City of Edinburgh Council, who is representing the Society of Local Authority Chief Executives and Senior Managers.

We are joined online by Stephen Booth, chief officer of corporate landlord at Aberdeen City Council; Professor Chris Goodier, member of the senior leadership team at the school of architecture at Loughborough University; Martin Liddell, chair of the study group for the Institution of Structural Engineers; Paul Livesey, scheme manager at Collaborative Reporting for Safer Structures UK—CROSS-UK; and Sam Piplica, senior specialist in building for the Royal Institution of Chartered Surveyors.

I welcome our witnesses to the meeting. I want to begin our conversation by inviting everyone to introduce themselves very briefly. I will begin: I am an MSP for the Highlands and Islands.

Willie Coffey (Kilmarnock and Irvine Valley) (SNP): I am the MSP for the constituency of Kilmarnock and Irvine Valley.

David Baird (West Lothian Council): I am the property services manager for West Lothian Council.

Marie McNair (Clydebank and Milngavie) (SNP): I represent the Clydebank and Milngavie constituency.

Paul Jones (City of Edinburgh Council): I am the strategic asset improvement manager for the City of Edinburgh Council.

Peter Watton (Society of Local Authority Chief Executives and Senior Managers): I am the service director for sustainable development at the City of Edinburgh Council, but I am here on behalf of SOLACE.

Miles Briggs (Lothian) (Con): I am a Conservative MSP for Lothian region.

Ailsa Macfarlane (Built Environment Forum Scotland): I am the director of Built Environment Forum Scotland.

Iain Morris (Scottish Fire and Rescue Service): I am the acting director of asset management for the Scottish Fire and Rescue Service.

Peter Drummond (Royal Incorporation of Architects in Scotland): I am a practising architect and I am representing the Royal Incorporation of Architects in Scotland.

Ivan McKee (Glasgow Provan) (SNP): I am the Scottish National Party MSP for Glasgow Provan.

Stephen Booth (Aberdeen City Council): I am the chief officer of corporate landlord at Aberdeen City Council.

Professor Chris Goodier (Loughborough University): I am a professor of construction engineering and materials at Loughborough University. I have been leading research into RAAC for the past two years.

Martin Liddell (Institution of Structural Engineers): I am a regional director at Sweco UK and I am here because I am chair of the RAAC study group for the Institution of Structural Engineers.

Paul Livesey (Collaborative Reporting for Safer Structures UK): I am a chartered structural engineer and the manager of Collaborative Reporting for Safer Structures UK—CROSS-UK, which issued the industry-wide safety alert on RAAC panels in 2019.

Sam Piplica (Royal Institution of Chartered Surveyors): I am a chartered building surveyor by trade and am now at RICS looking after professional practice and developing guidance and standards for our chartered building surveyors.

The Convener: Thanks very much. We turn to questions from members. Usually, a member will direct their question to somebody in the room or online, initially. If you want to respond to a question or to something that someone else has said, those in the room should indicate that to me and those online should type R in the chat function. There is no need for those of you in the room or online to manually turn your microphone on and off; that will be done automatically.

This round-table session is intended to be a free-flowing conversation rather than a question and answer session. There are quite a lot of us, so do not feel that you have to respond to every question, but come in and add points as and when you feel that it is important that something be brought to light.

I will begin by asking a fairly general question, which I will direct to Chris Goodier to start the conversation. Given that the concerns about RAAC's limited lifespan and the potential for catastrophic failure have been known about since the mid-1980s, why has it taken until now for significant action to be taken? Has remedial action been going on away from the media spotlight?

Professor Goodier: First, the idea that RAAC has a limited lifespan is a bit of an urban myth. In the media, it is said that it has a 30-year lifespan and the impression is given that, at year 31, things fall down. Such claims are unsubstantiated—there is no decent evidence or testing to show that that is the case—but that belief is out there. A lot of RAAC planks out there are 40 or 50 years old, and most of the ones that we tested and investigated are performing very well. The majority of RAAC planks, even after 50 years, are performing extremely well, are very safe and will last another few decades.

I come back to the question. In the 1980s, the Building Research Establishment did some testing that showed that RAAC planks were probably a little less robust, and could deflect and creep more over time, than traditional reinforced concrete. RAAC planks were not banned in this country, but the BRE sent out a warning to take care, because RAAC planks perform differently from how traditional reinforced concrete does. The guidance was that there might be better ways of building out there, so the industry stopped using RAAC in the 1980s.

However, other countries carried on. Countries such as Germany have been using RAAC since the 1950s or 1960s and have not stopped. We gave what I would call a gentle warning—it was not a hard and fast stop—so the industry here stopped using RAAC, but other countries did not.

Peter Drummond: I hesitate to clarify that answer but, although the 1986 BRE paper did, indeed, come back with relatively relaxed results, is it not the case that the 2002 BRE paper highlights the potential for problems in a minority of slabs as a result of a combination of issues with construction quality and, in some isolated cases, original component quality?

Professor Goodier: Yes, I agree. However, every building that was built 30, 40 or 50 years ago is showing signs of wear and tear and should be surveyed and looked after appropriately. Whatever material old buildings are made of, they need to be surveyed and looked after, and they might perform slightly differently from how they did when they were originally designed.

The industry looked at the matter and thought, “This is 30 years old, so we’ll keep an eye on it.” That is what some asset owners have been doing, particularly the national health service, which is probably the leader in this field. A lot of its buildings contain RAAC, so it looked at the issue. There are 10,000 RAAC planks in some hospitals, and the NHS has been successful in monitoring and keeping an eye on them.

Martin Liddell: To pick up on the subject of what has been going on, the Standing Committee on Structural Safety report was issued in 2009 following the failure of a panel in a school. That raised general awareness and was how I got to hear about it. We have been doing some low-level slow research or studying with the BRE on RAAC at two hospitals work for about 10 years from about 2009. When the SCOSS report was issued in 2009, the Institution of Structural Engineers put together a study panel, which I have chaired since then.

The NHS in England picked up the baton, largely because it has quite a lot of hospitals that are built entirely of RAAC and a lot of investigations and research was done on the back of that. That led to the instigation of the major research project by Loughborough University that has now been going on for two or three years.

During the intervening period, the Institution of Structural Engineers and the panel that I lead issued two updates. One was issued at the beginning of last year to raise awareness in the engineering profession of some of the findings that were coming to light during the investigations into the hospitals that were being looked at. We then issued a second paper in April this year that was intended to extend the ability of engineers to assess the condition to RAAC and go beyond the small pool of people who had hands-on experience of RAAC.

The processes to identify the hazards and risks around RAAC have been set out so that any competent—I use that word advisedly—engineer can pick up on a RAAC situation, assess it and come up with a red, amber or green rated classification that will, I hope, have some form of uniformity across the country.

Paul Livesey: Although the BRE report from 1996 suggested that the planks that it tested were safe, it also suggested that RAAC planks should be located and inspected regularly. That was the first shot across everybody’s bows in 1996. As Martin Liddell said, CROSS—or SCOSS, as it was then—issued the industry alert in 2019 following the collapse of the school roof in 2018 in Kent.

The question was about whether the industry knew about the situation. I would imagine that a lot of private buildings have RAAC and have undertaken repairs, strengthening and replacement in the background that has not been widely reported. I undertook replacement of a number of RAAC planks in 2010 in a shopping centre that had RAAC roofs over the storage areas and they had deflected to such an extent that the roof was leaking on to stock. The owners of the shopping centre took the view that they would replace the planks. I imagine that there are other buildings where RAAC has been replaced or strengthened, but we just do not know.

The Convener: Thank you. I will bring in Ivan McKee.

Ivan McKee: Thank you, convener. I am interested to understand the extent to which RAAC is significantly different from other building materials.

Our briefing says that if RAAC is not manufactured, installed or maintained correctly, that can lead to problems, but I suspect that that is probably true of any building material. I would like to understand, from your technical perspective, the extent to which RAAC is fundamentally different from other materials that are used in building. Does it need a different approach to what you would normally expect with buildings? As has been said, there needs to be good maintenance and monitoring of the condition of the fabric. Perhaps Chris Goodier can start on that.

09:15

Professor Goodier: I will start on the material, and then pass over to Martin Liddell to talk about how it impacts on structural design, which is a different field.

The name “RAAC” is a good one, bar the “concrete” bit, which is misleading. For something to be called concrete, you need aggregate in there, which is the big 10mm or 20mm stones. RAAC does not have those, so it is not really concrete; it is really a mortar. It has fine sand in there. It is aerated, which means that it has air in there, which is fine, because that means that it is a very good insulator. For a builder, it is lightweight and great to build with, and it is cheaper and easy to transport.

The “autoclaved” bit is just about how the material is manufactured, which is in a pressure cooker. You literally cook this stuff at temperature and under pressure, which means that it gains strength more quickly and can be manufactured more quickly. It is reinforced, which back then involved mild steel bars, which I will come back to.

Then there is the kind of fancy ingredient. It has cement in there, just like normal concrete and mortar, but it also has aluminium powder that, under temperature, creates hydrogen gas and the

material expands. I remember that, at school, we dropped aluminium into water and found that it fizzes and gives off a gas. The underlying chemistry is very basic and is similar to that of normal cement and concrete. There is nothing too fancy and there are no magic ingredients.

However, from a materials property point of view, the big difference is that the AAC—the concrete bit—is very low strength, at about 3 or 4 megapascals, whereas normal concrete is around 30 to 40 megapascals. Therefore, we could say that is about 10 or 15 per cent of the strength of normal-strength concrete. However, before you get scared and think, "How could this be possible?", I point out that that is okay, because the structural engineers type those numbers into their calculations. We know its strength, and that is fine. For me, it is similar to wood, which is really weak—you can snap a pencil or a ruler in your hand. That is fine, because those are the numbers that we use for the design.

The reinforcement is the basic mild steel that is used in traditional reinforced concrete. However, it has a coating on it, because one problem with the aerated nature is that water can get through it quite easily. The material can soak up water, which adds to its self-weight. That is a problem, but the water can also get to the steel in the middle, and I guess that we all know that steel, water and oxygen are not a good combination and can create rust. The bars are coated with a fine waterproof coating when they are manufactured. In most cases, we have found that the coating is still pretty intact after 40 years or so but, in some cases, it has deteriorated, cracked and come away a bit, so the bars can rust a little.

I will pause there and pass over to Martin Liddell, who can maybe comment on how that affects the structural engineering or the design.

Martin Liddell: The low-strength nature of the material means that it behaves very differently, in two ways. The first is to do with the way that the reinforcement gets anchorage at the end bearing of the plank. Normal concrete does that by bond between the steel and the concrete, but the very weak nature of this material means that it cannot achieve that. That was known in the 1950s and 1960s. A transverse bar therefore needs to be welded on to the end of the reinforcing cages to anchor the reinforcement, and the transverse bar needs to be positioned over the support for the panel.

One of the biggest risks associated with RAAC goes back to the time of construction, when panels were allowed to have 45mm end bearings. In other words, they had only a very short bearing length, and the transverse bar had to be positioned over the top. The biggest risk that we are finding is that, due to manufacturing control in the 1950s, the 1960s and even the 1970s, those transverse bars were sometimes not positioned correctly; indeed, in rare cases, they are not there at all.

Moreover, during the same period in construction control, the panels were not given the end bearings that they were meant to have, which means that, in some instances, the transverse bar can be in front of the bearing rather than over it. According to the research, that does not affect the panel's strength very much, but if the panel fails, the failure is not a ductile failure, where it just slowly sags and deflects until it fails, but a brittle failure mechanism. It can therefore fail very suddenly and that is what instigated the SCOSS report. Someone has corrected me; that report came out in 2019—I think that I might have said an earlier year—after a failure at a school. Subsequent to that, a handful of failures have been identified; in some cases, the panels crashed to the floor, while in others, they were caught on something below them that stopped them actually failing. That is the biggest difference between RAAC and concrete and the biggest risk associated with RAAC.

The other thing that affects RAAC is how it ages. As Chris Goodier pointed out, RAAC does not protect the reinforcement from corrosion as normal concrete does. That was taken care of during manufacture—the issue was known about at the time of manufacture—with a coating that was put on to the reinforcement before it was cast into the panels. With time, however, that coating is breaking down and we are finding in quite a lot of locations that that is allowing corrosion to develop.

Corrosion has two impacts on panels. First, it can actually push out the cover concrete and lead to the panels spalling, which is where parts of the cover concrete over the reinforcement fall away from the rest of the concrete. That, in itself, presents a risk to people, but the spalling process can affect the bond between the reinforcement and the concrete, too. Where the bond strength might be very weak to begin with, that reduction in bond can lead to concerns about reduction in strength of the panels.

I am sorry—that was quite a long answer. Does it help to answer your question?

Ivan McKee: It does. Does anyone else wants to comment?

The Convener: I see that Paul Livesey wants to come in online, and then we will come to others in the room.

Paul Livesey: As Professor Goodier said, some planks are absolutely fine. However, what we have here is a perfect storm of contributory factors for a number of planks. As Martin Liddell pointed out, some planks were poorly manufactured, with critical transverse bars being put in the wrong

location; we have had poor construction with reduced end bearings; we have had deterioration of the protective coating, which can lead to corrosion of the reinforcement; and we have long-term creep issues on some planks, which can move the bearing position in such a way that, as a result of the stresses, the transverse bar is no longer in the correct location. Moreover, poor alterations have been undertaken and there has been poor maintenance. All of those contributory factors working together have led to a perfect storm for some planks.

Unfortunately, such a failure can, as Martin Liddell said, be a brittle shear failure, which can happen without warning. You will not necessarily get the cracks and deflection that you will with a bending failure.

Ivan McKee: If I am hearing you correctly, the catastrophic nature of the failure is at least as significant an issue as the fact that the stuff can fail—as we know, most materials can fail. It would be interesting to seek confirmation of that, and to understand whether there is data on how many failures there have been and how RAAC compares with alternative building materials.

The Convener: Who wants to pick that up?

Ivan McKee: I think that Martin Liddell wants to come in.

Martin Liddell: That is absolutely spot on—it is the brittle nature of the failure that is the concern for the engineering industry. As engineers, we design buildings so that they fail in a ductile way, by a multitude of methods. That ductility gives one warning of problems coming. The brittle nature of the failure of RAAC is the most concerning aspect, because it can fail with very little or no warning.

Perhaps I should have added earlier that because RAAC is, by its nature, very soft, it is much easier to modify it, especially in buildings that are subject to a lot of variations, which is why the NHS in particular has a problem with RAAC. It is relatively easy to cut or drill holes and form openings in it. Concrete does not particularly like having holes cut in it in any case, but RAAC, because of the reduced bond strength and some other factors that are associated with it, can be critically weakened in that process. That issue perhaps affects schools less, as they tend to be built as schools and remain so, but hospitals are subject to constant change.

In addition, the typical trimming details that are used in cutting out a bit of concrete were often used in the past with RAAC—including, in some instances, by my own practice—for forming openings and trimming them, without realising that RAAC behaves differently. That process does not work with RAAC; it is not as effective as it is in normal concrete. Modifications have therefore, either unintentionally or intentionally, created defects within panels.

Ivan McKee: I think that we will come to this later, but does the issue come down to how effectively we are able to monitor the condition in order to give advance warning if there are any problems that need to be addressed?

Martin Liddell: That is another good question. The end bearing issues are very difficult; I would go so far as to say that one cannot effectively monitor for the end bearing. One has to investigate, assess and appraise that, and then, if necessary, do some strengthening. Once that strengthening is in place for the end bearings, the other factors in deterioration can be monitored. One can monitor that by looking at the deflections, looking at cracking and looking for water ingress that causes problems, so there is a way to effectively monitor the situation, and the condition of RAAC, going forward.

One issue that we might come on to concerns research. The Loughborough University research has been phenomenally successful, but it has barely scratched the surface. That research has been going on for just two years, whereas most other materials that we look at have been the subject of research for decades, so my plea to Governments in this country generally is that funding for further research is necessary.

One aspect of that research—in my view, one of the most important aspects—is to start looking further at the deterioration mechanisms so that the monitoring that will need to be put in place for buildings that are not fully remediated can be effective and economic. We are currently having to hit things with almost an uneconomical level of monitoring, and further research would help us to target that more effectively.

Ivan McKee: A relatively small spend on research would save a much larger number when it comes to monitoring and evaluation.

09:30

Martin Liddell: Absolutely—yes. For instance, for most of the hospitals that are being monitored, the cost is hundreds of thousands of pounds a year so, although research has a cost, you are still going to win. So far, the research has been funded to the tune of about three quarters of a million pounds, so that gives you an idea of quantum.

Ivan McKee: My last question is about the alert that you mentioned—in 2019, the Standing Committee on Structural Safety advised that all pre-1980 RAAC panels should be considered for replacement. How did Scottish local authorities react to that alert? What work was done? That question goes initially to Peter Watton.

Peter Watton: There have probably been various responses. At the minute, local authorities are still inspecting their properties. It is probably important that we acknowledge the challenge with identifying RAAC. Some of that is referred to in your papers. A lot of RAAC is in inaccessible places and is typically covered in something, such as plasterboard, wood or, in some cases, asbestos paint. The buildings that we are dealing with are typically from the era when asbestos was used as well, so we have that additional challenge.

Time is an issue, and all local authorities are probably at different stages. I think that West Lothian, which is represented on the panel, is probably most advanced because it identified an issue very early on and took the initiative to accelerate inspection. In Edinburgh, the learning estate has been inspected, and we have now moved on to other buildings to get that full picture. Local authorities are well placed to deal with it, but time and resource will always be an issue.

The advice that we have, particularly from a technical point of view, is very good and consistent. The approach is informed, evidence based and risk based. Every local authority is equipped to deal with it, but the challenge is in identification and then remediation—in particular, diagnosing what that remediation is. That is not something that can happen quickly. Every local authority has building surveyors who can identify RAAC but, in some cases, as I said, scaffolding towers are needed to get at it. However, the building surveyors cannot diagnose the remediation, and that is where the structural engineers come in. They are more difficult for a local authority to find because, typically, we do not employ structural engineers, so they are in big demand.

Once we identify the RAAC, there is the remediation. Some local authorities will be dealing with it for five to 10 years, given the nature of what they have, where it is, and the fact that, in a lot of cases, it is in poor condition. During that period, there is disruption, particularly to learning establishments and, ultimately, there is the cost of the work. We are grappling with one scenario where a primary school has RAAC in the roof, which needs to be replaced. However, when we start to look at the cost of that, we are better looking at a best-value assessment. When it comes to replacing a roof on a 50 or 60-year-old primary school that is not in good condition, the best-value assessment might say that it is better to replace the whole school. That might be an outcome in some cases as we move through the process.

The situation is being monitored through the Scottish heads of property services, or SHOPS, network and through Scottish Futures Trust progress. As I said, most local authorities have moved on to the rest of the estate. For example, Edinburgh has found RAAC in one library but, over the past couple of weeks, although teams have been out every day, we have not identified anything further. That is an update from a local authority's point of view.

The Convener: Does anyone else want to come in on that?

David Baird: I am happy to come in.

West Lothian was mentioned by Peter Watton. When the 2019 advice came out, we were looking at one of our schools and had found planks that had deflected. That led us to carry out a full appraisal of all our public buildings to try to identify RAAC in them, and we identified it in nine of our buildings. At that stage, we got structural engineering advice, went into our buildings to determine their condition and carried out regular inspections. In some of our buildings, we were able to put remediation and mitigation measures in place to keep them safe and operating.

Thereafter, where the condition warranted it, we went through a process in relation to our capital plan of trying to replace the roofs. We certainly took the same risk-based approach that has been suggested by colleagues of assessing the condition of the RAAC and following best engineering practice right through that, which has changed as more has become known about the panels. That has led us to replace all but one of our roofs—or, at least, we are going through the process of replacing all but one of our roofs—mainly due to the manufacturing issues and the condition of the planks, and the deterioration in the condition of the planks.

As has been suggested by colleagues, we have found that planks that we find in poor condition can deteriorate quickly. That has led to decants of some primary schools and one of our secondary schools at very short notice. We have been able to do that with the best engineering advice. We have an inspection regime in place with structural engineers. We also have weekly inspections of our premises by our building surveyors, particularly in the one building where the planks are in good condition, to make sure that we are keeping a very close eye on any water ingress issues or other matters that come along.

It has been quite a problem. As Peter Watton also alluded to, the age, condition and structure of those buildings means that asbestos is present. We had to do a huge amount of asbestos survey work just to be able to do proper surveys of the condition of the planks, which was onerous and time consuming and quite a disruption to our education estate. Our education colleagues have been very good at handling and adapting to that

and we have been able to support them through that, but we are having to decant schools into decant villages and portakabins and the likes, and pupils are going to other schools as well. The condition of the buildings in the West Lothian cases has deteriorated quite quickly, but we at least have one building whose condition merits only our continuing to monitor it, rather than anything else.

Of our nine buildings that had RAAC, there were five schools, three community centres and what we term a partnership centre. The partnership centre was a large games hall, which has been replaced. Work is on site at two of our community centres, and we are working through one of our primary schools at the moment to replace the roofs, with the other two due to be done in the coming weeks and months.

Our main problem remains our high school. Taking Peter Watton's point again, when we were looking at the assessments, it quickly became evident that, in best-value terms, there was no point simply replacing a roof in an old and inefficient building; we are now looking to demolish and replace the affected area of the building. Other areas of the school will remain, but we will certainly replace the RAAC area as a better means of coming up with a solution that is good for educational attainment in the school and achieving best value. Although it is a challenge to do that, we are content that, with the best engineering advice, we can put proper monitoring in place and adapt as circumstances change.

The Convener: Stephen Booth, you indicated that you wanted to come in.

Stephen Booth: It is probably fair to give the view across all local authorities. I would not disagree with anything that my local authority colleagues have said. As Peter Watton mentioned, different local authorities are in different positions. In speaking to David Baird, the committee is probably speaking to a local authority that is further ahead on that journey.

In Aberdeen, our response in 2019 was to conduct desktop reviews of all our estate. That identified around 30 properties on which we needed to got further structural engineer advice, and that identified nine buildings across our estate—seven of which were schools—that contained RAAC. We put in place a mitigation and monitoring system and carried out remediation work around roof loadings. My colleagues have highlighted some of the issues in moving from visual inspection by structural engineers to more intrusive testing, and where there may be gaps in the market.

Aberdeen City Council has been quite lucky in having some long-established relationships with engineers who know our properties, but I know that some other local authority colleagues in rural areas have found it difficult to get that kind of support.

That said, with regard to the ability to access RAAC and asbestos survey work, a particular difficulty for us in Aberdeen has been a lack of supply in the asbestos market, rather than the engineering market, not just to get surveys done quickly but to get testing turned round quite quickly. In Aberdeen, we have had seven schools being tested over the past few weeks; that number has been reduced to three, all of which are academies, and we are working on mitigation plans, with further survey and investigation work being carried out at the moment.

My response, then, is that we are probably behind David Baird, but I think that David is ahead of other local authorities.

The Convener: Thanks very much. I will bring in Paul Jones now.

Paul Jones: As for where our council is in identifying RAAC, there are the common cases where you would expect to find it—mid-century buildings, for example—but we have also identified it in some less-expected areas, including pitched roofs. We have identified it in a property from 1877 that had been subject to fire and had had its roof replaced in the early 1970s, and we have also found it used inside depots to create fire corridors. At this point in time, therefore, we are looking at everywhere across our estate. We expect the probability of finding it to be low but, given the many different ways in which we have seen it used, the possibility exists, and we are just trying to gain assurance about all areas.

The Convener: That is great—thank you. David Baird wants to come in, and then we will come to Ailsa Macfarlane.

David Baird: Just to go back to what Stephen Booth has said, I do not think that West Lothian is necessarily ahead of anyone else; it is just that, when we looked at our buildings, we found that these surveys were required and that, because of the condition of the planks at that time, we had to take more intrusive measures. It is not that our colleagues have been tardy—not at all. Perhaps we were unlucky with the manufacturing and suchlike, but it was necessary for us to do the work, because in certain roofs, the planks were not quite right. I am confident that our colleagues across the country have been just as diligent—it is just the particular set of circumstances that we had in West Lothian.

The Convener: Thanks for the clarification.

Ailsa Macfarlane: I want to make a parallel but, I hope, quite pertinent point.

We have been hearing from a lot of local authority colleagues about difficulties with surveying, identification and discovery, but the issue is not specific to RAAC itself. We have a significant lack of knowledge about our buildings, our building material, our building condition and our building age. Without any holistic centralised data on our buildings, we cannot continue to keep people safe; we cannot meet future net zero goals and aims; and we cannot plan effectively for future skills and material needs. It is a well-known issue in policy contexts, and we are spending an awful lot of time and resource on getting the basic data that we need to find out what is where and how we can deal with it.

There is no fix for the current situation, but there are significant fixes that would pay dividends in the future if we had the sort of holistic building data that everybody could access effectively. Making lists and having specific registers that are short term and have time-limited access are just patches for much greater problems. Such activity is necessary, but everybody dealing with these buildings should be able to get on with mitigation and other measures that enable far greater and far better solutions instead of their having to deal with a constant stream of surveying, identification and discovery. That sort of thing should not be necessary now and should definitely not be necessary in the future.

The Convener: Thanks—that was very helpful. I call Martin Liddell.

Martin Liddell: The point that I want to make is about the presence of RAAC. Most of the conversation about RAAC both here and in general is about roofs, as that is, by far, the most common situation in which it has been used. However, as an earlier speaker said, it can be everywhere; indeed, that is the experience of most people. It can be and has been used in floors and in walls, both in load-bearing situations and in non-load-bearing cladding-panel situations. I have put out an appeal that, when people are looking for RAAC, they should not just look for it in roofs. They need to look for it in the whole of the building structure.

The Convener: Thanks for pointing that out for us. Ivan, do you want to come back in?

09:45

Ivan McKee: Yes, very briefly. Ailsa, given your comment, I have another question to ask you, although you might not want to answer it. If we were to have such a register, who should be responsible for holding it?

Ailsa Macfarlane: BEFS has commented on that in the past. There is a natural home for it in Scotland's land information service. In 2015, the Scottish Government suggested that ScotLIS should become the repository for such information. That was the stated ambition from 2015 onwards. It has not come to pass, but that is our solution. Other excellent work is being done by Professor Sean Smith at the University of Edinburgh on a national buildings database. There are solutions out there if people are willing to grasp the nettle on this.

Ivan McKee: That is very helpful. Thank you.

The Convener: Great. Thanks very much for that.

I now bring in Mark Griffin, who is joining us online.

Mark Griffin (Central Scotland) (Lab): Thanks, convener. Good morning, everyone. I was going to ask a question about the staff and resources that local authorities need to do the identification and remediation work, but our local authority colleagues reflected on that under the previous question. Instead, I ask Sam Piplica and Chris Goodier to comment for their professional bodies on whether we have the numbers of surveyors and structural engineers that we need to do the identification and remediation work that is required. I have heard that, because of the way in which the UK Government has reacted, it has perhaps acted as a magnet and pulled skills down to the rest of the UK. I ask Sam and Chris to comment on the availability of skills in Scotland to do the identification and remediation work.

Sam Piplica: On the availability of surveyors, it all depends on the appointing client and whether it has any barriers or limitations as regards the skill set that it requires surveyors to have. For example, the Department for Education in London produced an identification guide that limited appointments of chartered building surveyors to those with one year's experience of surveying for RAAC. Because we have many surveyors with significant experience—they may have been in the industry for 30-plus years—who have never worked on a property with RAAC, we are trying to get that guidance updated. We have said, "Surely we can include more surveyors if we provide training courses on this specific building material and how to survey for it." The requirement for a year's experience could be removed where surveyors can demonstrate competence through specific training.

There are competent chartered surveyors out there. It just depends on the requirements of the appointing client, whether that is a local authority, another public sector organisation or a private company. As others have said, it is not all about RAAC. The knee-jerk reaction to the need for surveyors and engineers to come in and carry out the surveys is creating a bottleneck. That is

causing issues. However, as we learn more about the material and find out where it is located from in-house surveyors who are already monitoring their buildings, our surveyors will be able to meet the demand. Does that answer the question?

The Convener: Yes. I will bring in Professor Chris Goodier and then Martin Liddell.

Professor Goodier: Apart from when we are in a recession, the construction industry nearly always has a capacity issue with having enough qualified people in the right place to deliver. Projects such as high speed 2 and the Olympics suck up local talent in their regions, and that means that, when there are national crises such as this one, for which we suddenly need a lot of expertise in a particular subject, we have a capacity issue.

There is also a regional issue. We do not know exactly where all the RAAC is in the country, but we know that there is a lot of it in Essex. It is in a lot of schools there, because RAAC was very popular in the 1960s in Essex, so I imagine that there will be a capacity issue round there. The right people need to be in the right place at the right time.

I would also like to talk about being qualified to inspect RAAC. I have 20 to 30 years of experience doing research on and building in traditional concrete. That is where all of my experience has come from, and that is where the majority of the industry's expertise is. We teach traditional concrete at universities, and RAAC is different—it performs differently and the materials are different—so even if an experienced engineer or surveyor opened the very good guidance that I, Martin Liddell and others have written, we will be fighting against 20 or 30 years of embedded experience. All of us around this table occasionally think that we know what we are doing—I hope—so we think, "I know this. I know what I'm doing, because I've been a surveyor for 30 years." However, this is different. We have a capacity issue with having expertise in the right place, but I am also a little bit cautious about the experience that we bring to bear, because it took me and Martin a while to understand this material; it cannot be understood only by reading a book. That is a concern for me.

Martin Liddell: What Chris Goodier said is true, but the study group predicted that capacity would become an issue more than a year ago, and that is why the paper that was published in April last year was intended to allow competent—I will come back to that term in a moment—engineers to appraise the risks that are associated with different elements of the defects in RAAC and come up with a uniform approach.

Taking onboard Chris Goodier's point, the institution would say that we should be looking first at chartered or incorporated membership of the Institution of Structural Engineers as a professional qualification threshold, but we should also consider people who have experience in the appraisal of buildings, and—as Chris pointed out—people who will not just look at a building and say, "I know concrete; this is the same." We need people who are aware of the differences with RAAC.

Chris is still producing some papers and output from the research to respond to that, and the study group will update those. We did a very high-profile well-publicised review on whether our guidance needs to change following the actions of the Department for Education during the summer, and we have decided that it does not, because the instances that led the department to make its decisions would all have been identified as high risk or critical risk in the assessment criteria that were set out in the latest paper.

I will add to that that the engineering community is now beginning to be able to identify the hazards that are associated with RAAC, but we need to work out whether those hazards are acceptable and, if so, where they are acceptable. The degree of risk that is acceptable for any building will depend on its use. For example, one might decide that a particular set of panels is perfectly safe for a little-occupied storage building but not for what we might call a more emotional circumstance such as a school.

The Institution of Structural Engineers is also pushing hard for the health and safety community—whether it be the Health and Safety Executive, the new building safety regulator or a combination of the two—to get involved with the national dialogue. What is currently missing from that dialogue is determination of the levels of hazard and risk that are acceptable. For instance, when the NHS first started to be aware of the issues associated with RAAC, which were then seen largely in hospitals, its approach had to reflect common sense. If you shut a hospital, people will die, but if you keep it open, someone might die. That is a balance of risk that one can manage. That is an extreme circumstance, but a very different risk balance is associated with school or library buildings, housing and offices.

It would be good if Governments could get the health and safety industry and the professions involved with that dialogue.

The Convener: Thank you for that. I will bring in Iain Morris.

Iain Morris: As I sit here listening to the evidence, I am conscious that I do not have a structural engineering background—that is not

where I come from. I will set out the lessons that the Scottish Fire and Rescue Service has learned.

When the SCOSS report came out in 2019, we were in the process of refurbishing McDonald Road fire station here in Edinburgh. We had identified that the RAAC in its sizeable roof looked dubious, and we found spalling, cracks and various other elements. When we removed the roof coverings, the failure of the planks was visible—they were basically being held on by those coverings.

We then carried out surveys across 357 sites and identified a further 14 fire stations that had RAAC in their roofing. In 2019, we had surveys done by very good inspectors under the competent roofer scheme, and we put in the required mitigations, including crash decks, props and various other elements.

I agree with Martin Liddell that RAAC is a different substance from normal concrete. As part of our survey process, we found that in buildings dating from the 1950s and 1960s that had previously had roof leaks that had been repaired, the roofs could look perfectly good on top. We started doing drone surveys using thermographics, which identified faults underneath the roof coverings that we were not aware of and which were not visible.

To go back and look at the methodology of how we inspect roofs and maintain the safety of our firefighters who use the buildings, we put in mitigation measures, and we run weekly and quarterly checks. As I said earlier, there will be a significant cost for the monitoring of such roofs as we move forward.

We have also carried out options appraisals for the removal of such roofs. As Peter Drummond said earlier, those fire stations do not warrant the investment that would be involved in replacing their roofs when we already have problems with providing dignified facilities and various other elements. Let us face it: when those stations were built in the 1950s we had a very male-orientated workforce, and we have since transitioned to being much more modern and inclusive.

Turning to the construction methodology and what we need to do with the affected stations, I think that we would need to rebuild about 12 of them. With our partner agencies, we need to consider new options for moving forward, which is what we are doing at the moment. Clearly, raising the capital for that will be a challenge.

To reiterate what Martin Liddell said, RAAC is an unusual material. It is not always obvious where it has failed or where work has been done through the organic growth of the buildings that we have had since the 1950s and 1960s. Our concern is always for the firefighters who operate those stations. I just wanted to add that.

The Convener: Thank you very much for sharing your experience. I will bring in Peter Drummond and then we will move on to further questions.

Peter Drummond: We have, rightly, focused on the professional sector's capacity to identify affected buildings and design solutions. We have not yet touched on the industry's capacity to deliver temporary solutions.

Rather predictably, the figures for skilled structural contractors are no better than they are for the other sectors that we discussed. Even if we have a solution for a building, whether it is temporary or permanent, we do not have contractors hanging about at the bus stop waiting to make a start on it. There is a procurement lead-in period, and it will do us no good to have a perfectly well-designed remediation solution if we are waiting three or four months for a contractor to do that work. We cannot just throw any old contractor at this kind of work, for exactly the same reason as we have discussed in relation to other professionals. To put this in context, the RIAS has been unable to find a single architect who has ever worked on a RAAC building, presumably because of the age of the material. We have spoken to contractors, and we have found gey few of them outside the hotspots that have been identified to date who are familiar with the techniques required. That has an impact on pricing, on lead-in and, therefore, on our ability to deliver timely solutions to what is, we all acknowledge, quite a high-risk situation in some cases.

10:00

The Convener: Thank you very much for highlighting that part of the issue.

Marie McNair: I put this question initially to Chris Goodier. Do we have any understanding of how extensively RAAC was used in house building, particularly in social house building from, say, the late 1950s into the 1970s? Do you have any data on that?

The Convener: Can we get Chris Goodier's audio on? He is waiting for his mic to go on.

Professor Goodier: I hope that you did not think that I was being slow, convener—my mic was not on. That is a good question and we have been asked it a number of times. I understand the concern. We are aware of very few examples in housing, although there are a few examples in Essex of Siporex manufactured by Costain or another manufacturer used in housing. It is not as common in housing as it is in hospitals, schools or

maybe commercial buildings, but it can exist. As I mentioned, we also have to be careful about change of use. RAAC might exist in a building that has been changed into housing but was previously another type of building.

We have not yet mentioned AAC blocks, which is good because they are very different. Millions of our homes are made from AAC blocks, which is the same material as RAAC, except for the reinforcement and the structural properties. There are no concerns whatsoever about AAC blocks here or anywhere in the world. That is why I am glad that we have not mentioned them.

The Convener: Thank you very much for clarifying that.

Peter Drummond: I would hesitate to mention any locations, but the RIAS is aware of RAAC in a small number of domestic premises, including some now in private ownership across Scotland. It seems to be relatively rare. In advance of a full survey, I hesitate to give any figures, but it does not seem to me to be of the same order as the Dorlan and Orlit problems of the 1970s and 1980s. However, they exist and, indeed, some of them have been well publicised in *The Herald* in the past.

Marie McNair: Thanks for that. Finally, we do not really have an understanding of the detail at the moment, but do you have a rough figure of how much action to remediate the issue would cost?

The Convener: Stephen Booth wanted to come in on the previous question, Marie, so I will bring him in before people answer your next one.

Stephen Booth: I apologise for being a little slow there. I can give the committee some reassurance on housing. Aberdeen City, like many other local authorities, is conducting exactly the same review of our social housing stock as we are of our public buildings. In Aberdeen, that involves more than 22,000 houses. We are going through that process at the moment. We have identified RAAC in a small number of properties, and we are working through those issues.

Just to make the committee aware, there are some housing issues. For example, the right to buy will not help in that conversation. There is RAAC in some of our social housing stock, and individual local authorities are working through that.

The Convener: Thanks. We will go back to Marie McNair's question about the likely cost of mitigating or replacing defective RAAC. David Baird has some expertise in that.

David Baird: Yes, I think so, because, as I said, the circumstances of our portfolio mean that we are a wee bit further ahead. We are progressing through a replacement programme in a number of buildings, and we reckon that our benchmark is about £2,500 per square metre to replace RAAC roofs. That is an early indication but it will vary in every project, depending on the circumstances. We are in for about £53 million so far, and there will be more costs to come because we are still working through these things. As I said, West Lothian is a bit of an epicentre in that regard. However, that is our current position.

Iain Morris: The mitigation costs are around £100,000 a year. That is what we are paying to monitor the buildings, to ensure that the safety systems are working and that the crash decks and so on are in place and monitored weekly and quarterly.

As I said earlier, it is not straightforward to replace a roof, and the cost would also depend on the fire station. We have small fire stations in rural areas, so the cost of replacing those roofs would be much smaller. However, the figure that we are looking at across those 14 sites is in the region of £70 million.

Peter Drummond: It is a very difficult question to answer with any degree of certainty because the buildings that are affected are so disparate. Comparing the cost of repairing a large classroom or library roof—strangely, that might be quite a straightforward exercise, because it is one space with easy access—with the cost for smaller buildings or private houses is to compare apples and giraffes rather than apples and oranges.

However, to put that in perspective, it does not surprise me in the slightest that it could be £2,500 per square metre for certain installations. You will remember that, in the evidence that I gave on boilers a few weeks ago, I pointed out that you could build a house for that kind of money. Therefore, we will quickly reach a point where it is more expedient, sensible and better for the public purse to replace the structure and, with that, improve environmental standards in the building.

Paul Jones: We are seeing significant costs for providing the decant accommodation, and we are at an early stage in getting cost information for replacement roofs for some of our properties. With regard to our other buildings, one high school is scheduled for replacement. However, the identification of RAAC where there are high ceilings, the amount of scaffolding that we have to put in place and the monitoring, mean that the costs, including for structural engineering and surveying, are significant for us.

Peter Watton: I asked the 16 local authorities that have RAAC in their properties what they would like to be raised at this evidence session, and the answer from all 16 local authorities was the same, and that was funding. It is difficult to

estimate the cost at this time, but we do have a benchmark in West Lothian of the magnitude that we are talking about. Local authorities have not budgeted for this, so they are having to look at their capital programmes and decide what to sacrifice. That goes back to my earlier point about best-value assessments. If there was a chance of funding, that might make some of the decisions easier, and we would achieve better outcomes.

I fully respect that it is difficult to say, "Here is some funding" when you do not know what the actual issue is. That is going to be the challenge. However, to go back to my earlier point, it will be some time before we get to the point at which everything is covered. Rightly, the focus has been on the learning estate. That element of authorities' estates, which would typically represent 60 per cent to 70 per cent of their estates, is where decisions could come earlier to achieve better outcomes.

The Convener: Thank you. I move to questions from Willie Coffey.

Willie Coffey: Colleagues, I want to ask a question that constituents have been asking me. Can you distinguish between RAAC and breeze block? Is it the same material, or is it different?

Peter Drummond: Breeze block is, to use the shorthand, very different, although there are similarities in the process. As Chris Goodier has helpfully identified, the way in which we use the materials is completely different. I will not go into the science, but, essentially, a masonry block wall is all in compression and does not tend to flex very much. It is tied together by the roof and the floors in much the same way as a traditional masonry wall made of stone or brick would work.

The problem with the concrete slabs that we are talking about is that they span from side to side, and the role played by the reinforcement and the covering of the reinforcement is very different. I would imagine that most of your constituents and my neighbours will have very little to worry about in respect of their own houses.

Willie Coffey: It is good to get that on the record, as people have probably never heard of RAAC, and probably neither had we, until recently. However, we have all heard of and seen breeze block being used in construction, so it is good to know that it is a different material and that there are no concerns about it.

Another question arises from an issue that Ailsa Macfarlane touched on earlier. Why is there no requirement to record what a building is made of? Now that we suddenly find ourselves having to run around, inspecting and surveying, to figure out what is in buildings, the question must be: why was it never made a requirement in the industry—or wherever—to record what something was made of?

Ailsa Macfarlane: It is a very good question, and one that I would put back to legislators. It seems entirely logical that we should do that, particularly with public buildings, and you would think that it would be incredibly useful for all buildings. Nationally, we are not putting ourselves in a position to meet the challenges of the future, and I suggest that legislators raise the matter at every opportunity, as having such information can only be of benefit.

Iain Morris: Just to pick up on that point—and I am speaking for my operational colleagues in the fire service—I think that such a database would be of immense value to us. Whenever we enter a building, we have to consider every risk, such as whether there are sandwich panels, whether there is a RAAC roof and so on, so a database that we could draw on and work with to inform crews entering a building about its construction methodology would add value. We do that at the moment with our own internal surveys by logging on to data systems in our vehicles and appliances, but access to a central database would also be invaluable to our operational colleagues.

Peter Drummond: As members will be aware, the Scottish Government is proposing to introduce a compliance plan system for future construction work, and that will require the assembly of a detailed portfolio of information on new buildings and, to a certain extent, any existing buildings that are being altered. Building on what Ailsa Macfarlane has said, such a move offers us opportunities not only with regard to build quality and significantly improved site standards, but in relation to the creation of a very robust archive.

We probably need to look at how we join up the compliance plan system with other bits of the portfolio in order to have complete files as well as ensuring that we meet the requirements of the construction design and management regulations to record what we have more accurately. We are very close to the point at which we could, with very little additional effort, have a proper catalogue of what we have on our sites.

The Convener: Thank you for that. I will bring in Chris Goodier.

Professor Goodier: I want to mention a few things. First of all, for any significant building or structure, you will have the drawings and designs. Back in the day, they would have been on paper, and they will exist somewhere. We have dug out many original designs for buildings with RAAC, which are all on paper.

The question is where the information sits. Some structures are required to have a building register, especially in relation to asbestos. We

know where there is asbestos and we manage that risk. In the case of RAAC, the issue is partly to do with the sheer number of buildings that we are talking about. After all, we have millions of buildings across the UK. Where does that information sit? Do I keep it in my house? That will not help the fire service if my house is on fire. Does the fire service have it? That would seem to be a good idea. Post-Grenfell, it has become very important to know what our buildings are made of and what the risks are. The inquiry has been looking at that, and the term "the golden thread of information" is used to describe that.

10:15

Nowadays, technology is available to store such data, so it is not kept only on paper. Members might have heard of BIM—building information modelling. We now design things on computers and the designs will sit there. With digital twins, which are more recent, every building can have a digital twin on a computer that shows exactly what it is made of.

On one hand, it is easy to store such data on a laptop, but software and IT go out of date in a few years—as you will all know, because you have to update your phones and laptops. It seems to be simple to put things in the cloud, but that could go out of date. We have the questions of where the data sits, who owns it and how we can access it, and there are issues to do with privacy, the general data protection regulation and security. If all that data is held somewhere, people who we do not want to have it could get it.

The holding of such data is a great idea—as I said, the Grenfell inquiry has looked at the matter—but it has its challenges as well.

Ailsa Macfarlane: I agree that there are challenges with that, but we have got round them for His Majesty's Revenue and Customs, the Driver and Vehicle Licensing Agency and health records. This is important enough for us to put the effort into it. Given that there is an awful lot of information, there is a question about how we join it up, but we could do that with, for example, unique property reference numbers. Many mechanisms are available, and there are fantastic examples of it being done. Denmark has done it very effectively, and other countries have already done it. It is not necessarily groundbreaking; it is just necessary.

Willie Coffey: In response to the question about surveys, Iain Morris gave us extensive information on what is happening in the fire service estate, which I was glad of and thankful to hear. When the fire service is looking at a building for whatever reason, does it routinely check for RAAC? Has it done that in the past? Will it do so from now on?

Iain Morris: The short answer is no. We would not look at RAAC as a risk. We have put out awareness briefings to all our stations on how to deal with a material if it is known to be RAAC. However, that is about increasing the knowledge base so that firefighters know whether, say, a roof is made of RAAC when they turn up at an incident. We are putting out awareness briefings for crews, and the National Fire Chiefs Council is also putting out briefings about how we will go forward.

We do surveys of high-risk buildings such as hospitals so that crews know the flow of buildings when they arrive. They will know where corridors and doors are, and they will also know about high-risk areas where there are, for example, oxygen tanks on site. However, construction methodologies have not been looked at. There have been a few incidents where firefighters have been injured in commercial buildings because of the collapse of sandwich panels, so that has been built into our databases. If it is known that such panels exist in a building, that will be considered in the future. However, we do not do inspections for RAAC. That is not part of our fire-prevention processes.

Willie Coffey: I presume that the fire service would support having more knowledge about what is in a building before firefighters go in.

Iain Morris: Yes—absolutely. Chris Goodier alluded to the fact that a lot of knowledge has come from the Grenfell inquiry, and a lot of the learning about building construction that is coming out of that is being adopted by the fire service.

Willie Coffey: Is it permissible to build with RAAC today? It has not been banned.

Peter Drummond: It is permissible, and there would be no reason to worry if we did that, in some cases. As I think Chris Goodier will confirm, there have been significant changes to the standards for the manufacture of RAAC since—I say this off the top of my head—1990. Both BRE reports highlight concerns about slabs that predate 1980.

Reinforced autoclaved aerated concrete and its equivalents are used extensively abroad. I am not suggesting for one moment that RAAC is used frequently in the UK today or that designers or their clients will be rushing to use it. However, if one had a comparatively recent building that had been built in that material or one of its derivatives, it would not necessarily be a cause for concern. If a new structure meets the certification requirements under building regulations, there will be no reason for concern.

This is perhaps something for Mr Garvin to speak to later, but I see no reason for us to worry about having pre-notification for the material in the way that we have, of late, in other cases, such as

for certain types of cladding, sprinkler systems and conversions.

The Convener: Chris, do you want to comment on that?

Professor Goodier: Yes. I will reflect on the international aspect. Three weeks ago, I was at a conference on AAC, which was attended mainly by manufacturers from around the world who make aircrete blocks and thermalite blocks, as well as RAAC. It is fair to say that I was mobbed. I have never been mobbed at a concrete conference before, but there is massive fascination from the industry around the world as to why the UK is worried about its RAAC when everyone else is not.

There are still major manufacturers in Germany, Europe, India, China, North America, Mexico and Indonesia, and many in the middle east because of RAAC's thermal properties—it keeps you cool as well as warm. They all say that they have no problems with their RAAC, which makes me think. I cannot see many issues being reported online or in papers, but I see it in two ways. First, it could be that they have not found problems because they have not gone looking in the way that we have. I am confident that, if you look at 50-year-old buildings that are made of anything, you will find problems. Do not tell me that they are all built perfectly.

In this country, as was alluded to earlier, we have a very good policy on reporting problems and failures in buildings, acting on them and issuing warnings. It is probably one of the most mature and sophisticated systems in the world. Many other countries have an acceptance of failure. They accept that stuff falls down occasionally and that that is just how it is, so not much changes, whereas here, if anything falls down, we are on it. I think that we lead the world on that, and that other countries will look at their RAAC and find some issues, although whether they will report them publicly is a different matter.

Secondly, although Germany is probably the nearest European economy to ours, the European construction industry is slightly different from ours, particularly as regards contractors and trades. It is not the case that just anyone can be a builder in Germany. The German industry is more regulated than ours, so I think that, in general, it has better quality and it might not find as many problems as we have. However, I am sure that, if you look at Mexico and other countries, you will find some poorly constructed RAAC. I use Mexico as an example because I think that it is okay with the odd thing falling down. That does not make the news as it would here.

Willie Coffey: That has perfectly answered my next question, Chris, which was on the international experience. Do other jurisdictions and countries record what their buildings are made of, or does no one do that?

Professor Goodier: That is a good question, but I am afraid that I am not an expert on that point.

The Convener: We heard from Ailsa Macfarlane that Denmark does it. Does anywhere else do it?

Ailsa Macfarlane: I am aware of a few other places that do it, but I am happy to get back to the committee with further details on that, rather than try to pluck the information from the reaches of my memory.

Willie Coffey: Okay. Many thanks for that, everyone.

Miles Briggs: My question is on an area that we have touched on already. Are there other widely used building materials and techniques that might pose a problem and which the committee should be aware of? Peter Watton, you touched on asbestos paint earlier. As you look at the issue, are you seeing other examples starting to come forward?

Peter Watton: We have found none of the situations where we have identified RAAC to be identical with regard to where the material has been found or the physical condition. The main barrier to identification—and, ultimately, remediation—is typically location; in a primary school gym hall, for example, RAAC will be at a high level.

In my comment about asbestos, I was making the link between the age of the buildings and the era when asbestos was also used. It is very typical to come across asbestos; indeed, when you do intrusive surveys to get to the heart of the matter, you will typically need an asbestos survey before you drill into anything. That is the main challenge.

The second challenge is location. We are finding that, over time, a lot of things have been added to the panels. For example, you might have plant and machinery behind them, which might be either the ventilation or heating system, or schools might have attached overhead projectors to them.

Those factors have to be taken into account when you assess the risk. Because we have not, as I have said, found two identical examples, remediation in a lot of cases has had to be bespoke, and that, as somebody commented earlier, is putting the cost up, too. That is the experience that we have had.

Peter Drummond: I am very glad that you have asked that question. In the 30 years that I have been in practice, there has been a succession of what I can describe only as wonder products,

marketed with all the regularity of Scotland's sporting defeats. Some of them have proved to be quite successful, while some have proved to be disasters. For those, like me, who do expert work, we can see some that are disasters in the making.

I will not highlight any particular products right now, but you all know my views on cladding and insulation. The trouble is that, for an extended period of time across Scotland and the wider UK, we have, in essence, been experimenting with novel forms of construction. As a result, we are finding ourselves, with alarming regularity, having to pick up the pieces. It is easy to justify things such as RAAC or—dare I say it?—the pre-cast reinforced concrete houses of the post-war period as being forced on us by economic exigencies, but the fact is that this sort of thing happens time and again and stands in stark contrast to more—dare I say it?—traditional and tried and tested forms of construction.

Thirty years ago in Scotland, timber-kit housing was very experimental; it has proved to be a huge success, and I do not think that any of us would disagree that it has been a good tactic. In contrast, certain kinds of insulation have proven disastrous, in all meanings of the term. Hitherto, we could rely on bodies such as the Building Research Establishment, which previously was publicly funded, to provide us with impartial test regimes. Those bodies have largely been privatised, largely focus on commercial interests and—I would suggest, with the notable exception of academia—no longer provide the same depth of assurance that we require. I have the greatest of respect for the BRE and use its work regularly, but it owns an awful lot of the other certification bodies.

I am afraid that I am therefore going to answer your question at a tangent, Miles. Yes, there are other problems out there as well as other things that are merely potentially risky, because we do not quite understand how they work yet. In many cases, even if the individual product is a problem, it might not be mission critical to the building but something that we pick up in the normal 20 or 30-year cycle of maintenance. What we might want to learn from the early days of RAAC, and from other cases that we have discussed, is that we might want to be a little more cautious with these wonder products so that we do not simply give our next generation yet another hospital pass, as we did with the large concrete-built systems of the 1950s and 1960s, which are now largely vacant from our city centres because of the defects that we have found.

To finish off that Ben Eltonesque meander, I would say that we need to gang a bit more canny with our procurement policy across Scotland, stop focusing on short-term magic fixes and look at long-term solutions not only to avoid this happening again, but because it serves our environmental outputs well.

Sam Piplica: Without answering the question directly, I will repeat—or emphasise—bits of what Peter Drummond has just said.

This is all about understanding how such materials perform in buildings before modifying them. We need to understand from the start how existing materials in buildings will interact with any new materials that are used—for example, in insulation. We need to ensure that we do not end up in a nightmare situation, just because the understanding was not there or because the application of the existing materials was incorrect right at the start.

Before we work on any buildings—say, before we attach a projector to an RAAC ceiling—we must consider whether any thought has gone into whether such work is appropriate. We need to make sure that whoever is working on a building is competent and understands how it has been put together, from the individual materials through to how all the materials interact with each other.

10:30

Miles Briggs: I have one more question. We have already talked about a potential building register to give us knowledge about what is being built through our public services as well as individual homes. The committee has already done work on the poor quality of new-build homes and flammable cladding systems, and now it is looking at RAAC. With regard to the public sector and the procurement teams that will manage the procurement process in the future, what do you think needs to change in that particular model? I am thinking, for example, of some high-profile cases involving new-build hospitals. Why are we getting that wrong?

When I was on the Health and Sport Committee, I suggested the establishment of a central body to oversee those health projects. The health secretary took the suggestion forward, and I think that it is making a difference. We have to be honest: as we have heard, we are a small country, and sometimes our public services do not have the expertise that is needed. What would such a central body look like? Are there any suggestions that we should take forward? Ailsa, I will bring you back in, as you mentioned the building register that you had started.

Ailsa Macfarlane: I do not think that I can add anything to what I have already said, but I will say that there are always areas to consider about where responsibility sits and where things can fall between two stools. There is something to be said about having an overarching sense of responsibility for and understanding of our

buildings from before procurement stage right through to the maintenance schedule and beyond. For a start, it would help give more continuity. However, other witnesses might want to say something more.

Peter Drummond: I hate to batter on about procurement, but over the past 30 years, there has been a substantial deskilling in large parts of the sector, with a move towards semi-skilled tradesmen rather than more traditional forms of trade. At the same time, there has been a move to things such as design and build. I appreciate that the design-and-build sector will write to me with vituperative correspondence if I say this, but the approach tends to remove from the process much more independent scrutiny by consultants, clerks of works and others. When we look at forms of procurement in mainland Europe, and north-west Europe in particular, we see much more emphasis on quality throughout the procurement process than I would suggest there is in Scotland or in any of the other home nations. Lest I get another nasty letter from the Scottish Futures Trust about that, I should say that I know that there is a workstream on that at the moment, and I believe that the committee and others are due some reports on that work fairly soon.

Now, more than ever, budgets are difficult—we have heard how the budgetary implications of addressing RAAC will create problems—but we cannot, as a result of that, allow ourselves to take our eye off the ball again by opting for less-than-robust solutions. It would be unfair to call them bargain basement solutions; "less than robust" is the fairest way that I can put it. As we revise our procurement policies across the public sector with the Scottish Futures Trust and others, and as that work is cascaded to the private sector, we need to return quality to the front of the agenda. We cannot keep throwing up shoddy buildings in this country or else we will just face yet more cladding, more RAAC and more Dorlan debacles in the future.

The Convener: We have reached the end of our questions. We have a few more minutes left if anyone has anything else to say that has not already come to light.

Peter Drummond: For the record, I should point out that I keep saying Dorlan houses when I mean Dorran houses. I apologise for that.

RIAS would like to highlight the potential predicament of private owners of houses that, it now transpires, have RAAC in them. Through no fault of their own, they have buildings that will be very expensive to remediate. The original design errors, if I can call them that, were made by the public sector; in the vast majority of cases, people will have bought the properties in good faith. Those few of you who, like me, are old enough to remember the right-to-buy policy of the 1980s and 1990s will know fine that there was not necessarily a requirement for a full survey, and as a result, RAAC will not have been picked up. However, exactly like the people in PRC houses—the Dorran and Orlit ones that I talked about earlier—these people are now in a disaster that was not in the slightest of their own making.

Government has faced this challenge on a number of previous occasions. As I mentioned earlier, I do not think that we are looking at anything like the number of houses that we were looking at with PRC, which was about 15,000 in Scotland—I suspect that the number will be a small fraction of that—but you might wish to consider whether Government should put in place a scheme of assistance to help that small number of people and get them back on track. In saying that, I do not want to detract from the significant challenges that the public sector faces. However, the public sector has other avenues and other ways of funding this work, while Mrs McShuggity in her poor, badly built house, wherever it might be in West Lothian, does not have those opportunities. Such people might now find themselves stuck.

In some cases, there might not be easy remedial solutions for those houses, particularly the ones with RAAC wall panels as opposed to just ceilings and roofs. Therefore, the scope of any assistance would have to be considered carefully; in some cases, it might involve buying people out. That might seem disproportionate for what I am hoping will be a handful of people—and one of my handfuls at that—but I do not think that we should leave them high and dry. We have not left people high and dry with flammable cladding, and there is no reason to take a different approach here.

Professor Goodier: Earlier, Martin Liddell mentioned the research on and knowledge of RAAC. As a country, we have spent about £750,000 on that. That might sound like a lot, but the RAAC bill is going to run to hundreds of millions of pounds, while, for comparison, tens or hundreds of millions of pounds have been spent on understanding other materials. There is an urgent need to get some of that work started now. I can list a number of topics, including durability, degradation, how the material changes over time and, indeed, climate change. One of the reasons for our finding more failures now is that our buildings are getting battered more and more by temperature and rain, so we need to consider the effect of that.

We have mentioned global data a few times. There is real knowledge to be captured by collating and analysing the global national data on RAAC. We survey individual buildings, but a lot could be learned from aggregating that data. We

need to study all the systems that we are putting in place for remediating, serving and looking after these buildings to see which of them are good and most cost effective. A little bit of money spent now will save millions over the next few years as we address the problem.

The Convener: Thank you, both, for highlighting those points, and thank you all for coming in or joining us online for what has been a very useful, enlightening and insightful discussion.

I briefly suspend the meeting to allow for a change of witnesses.

10:38

Meeting suspended.

10:46

On resuming—

The Convener: On our second and final panel this morning, we are joined in the room by Shirley-Anne Somerville, the Cabinet Secretary for Social Justice; and by Sam Anson, the deputy director of workforce, infrastructure and digital, and Stephen Garvin, head of building standards—both from the Scottish Government. I welcome our witnesses to the meeting. We were due to be joined by representatives from COSLA this morning, but it was not able to field anyone because of illness.

I invite Ms Somerville to make a short opening statement.

The Cabinet Secretary for Social Justice (Shirley-Anne Somerville): Thank you, and good morning. Thanks to the committee for the opportunity to give evidence today. I hope that it can build on the written evidence that I have already provided to give context for the issues that face the public sector.

Everyone with responsibility for building safety takes RAAC very seriously. We have been working at pace with local authorities and other public sector organisations in Scotland as they have conducted reviews of RAAC in their properties. That allows us to understand the extent of the issue and for mitigations or replacement work to be carried out when required.

Although the issue of RAAC has been on-going for some time, the UK Government's Department for Education changed its approach to RAAC in schools on 31 August. It did not seek to engage with the Scottish Government before that change, nor did it, it appears, seek to engage with others in UK Government departments. We repeatedly requested that further information that supported DfE's decision be made available, and the Cabinet Secretary for Education and Skills has written several times to the Secretary of State for Education about that.

As committee members heard from witnesses on the first panel this morning, the Standing Committee on Structural Safety sent out its alert on RAAC in 2019, and the Institution of Structural Engineers published guidance on RAAC in March 2022, with a revision in April 2023. The guidance was written from an evidence base of research and engineering assessment of failure. Once the Institution of Structural Engineers published authoritative guidance, appropriate advice could be given by engineers to building owners. Although action was taken during the period following 2019, particularly by the SFRS, the clarity that the guidance gives means that proper assessment of risk can be undertaken. Local authorities, the NHS and police all acted on RAAC during 2022.

Work was already under way to deal with RAAC in the school estate in Scotland prior to the UK Government's announcement. As building owners, local authorities have a clear responsibility to manage their estate and ensure that buildings are safe for all users. As a result, I am reassured that COSLA has confirmed that safety is its central consideration and that there is robust guidance, which is followed by every local authority, to ensure that it is safe for young people, staff and the public to be in those settings.

Using that guidance, RAAC has been identified in 37 school buildings across 16 local authorities, including eight early learning and childcare settings that are within primary schools. We previously said that it was identified in 41 buildings, but the committee heard from Aberdeen City Council about four schools there.

Wherever RAAC has been found, mitigations have been put in place. The affected local authorities have also been communicating with parents and carers, and have published information on their websites. We are working with COSLA, SFT and local authorities to ensure that the entire school estate is fully assessed as quickly as is practicable.

Although the focus in local authorities was initially on schools, councils are continuing to investigate the extent of RAAC in their wider estate, as the committee heard earlier. A major study is under way on NHS buildings in Scotland, so that risk can be assessed and managed, and NHS Scotland Assure and its partners are assessing 254 NHS Scotland properties that have been identified as potentially containing RAAC. Site surveys have started, and necessary mitigation actions have been taken in parts of 14 buildings that have been confirmed as containing RAAC.

We are currently in the discovery stage for the housing sector. My officials remain engaged with COSLA, the Scottish Housing Regulator and housing and local authority organisations to understand the extent of RAAC in social housing. We anticipate that initial reporting on current activity and timescales will be received in October.

The First Minister has been clear that we will spend what we need to spend to ensure that our buildings are safe for those who use them. However, we need the UK Government to realise the seriousness of the situation and to provide devolved Governments and its own departments with funding. The Deputy First Minister wrote to the Chief Secretary to the Treasury of the United Kingdom about that in August, but only received an unsatisfactory response some weeks later. The UK Government cannot simply put its head in the sand. New capital money has to be made available, rather than the continual cuts to capital budgets that we have seen in recent years, and that we will continue to see.

The cross-Government working group on RAAC continues to meet, and it will do so until we are sure that any risk across the public sector is managed. I trust that the committee is reassured by the on-going actions the Government is taking along with our public sector and industry partners on RAAC and any risks that it might present.

The Convener: Thanks very much, cabinet secretary. It is good to hear that we will get more details of the picture beyond the learning estate, which you said will be available in October.

As you are aware, a number of things came up with the previous panel. I am interested to hear your response to a few things that were mentioned. We heard from West Lothian Council that it has calculated that it will cost about £2,500 per square metre to take remedial actions, and I hope that I am right to say that it said those actions would come to a total cost of £53 million. During this morning's conversation, the fact that the 16 identified local authorities have not set aside funds to cover those costs was discussed, so there is a question about where the funds for that would come from. Could the Scottish Government provide support for that?

Shirley-Anne Somerville: Because of the sheer extent of the work that is being done across the public sector, it is not possible to do genuine modelling on the potential scale of the financial commitment. Therefore, perhaps it is not helpful to speculate until all the work has been done on that.

Although those figures were mentioned, other panel members said that it was difficult to put an overall figure on it, given where we are with the discovery work and the fact that it very much depends on the type of building that is involved and on what the issue is with the building. The committee heard some examples this morning about how that varies from example to example.

At this point, it is not possible to put a final figure on the work, but we recognise that it is of concern across the public sector. That is why we are working very closely with COSLA and other parts of the public sector so that we are alerted to the issues as they are found by building owners, who are responsible for the monitoring and upkeep of their buildings.

The Convener: Towards the end of the earlier session this morning, another issue came up, which focused more on private home owners and the suggestion that, because the original errors were made by the public sector, there should be a Government scheme of assistance. It was even said that, potentially, it should buy people out. The number of people remaining who might have been involved in the right-to-buy scheme was identified as small.

Shirley-Anne Somerville: We are at the discovery phase. As I mentioned in my introductory remarks, we are working with the regulator and councils to establish the scale of the issue in social housing. That will also ensure that we have a greater awareness of what might affect certain schemes in which people have exercised their right to buy in previous years. We are already conscious of the issue. I have asked officials to look at it, and to ensure that we discuss it with the local authorities.

We are also conscious that, as we sit here and talk about these things in the round, we are talking about people's homes and concerns. We are keen to be able to reassure, wherever possible. One of the most important ways of doing that is for councils and registered social landlords to work, as they are doing, to ensure that we have a greater awareness of the extent of the problem.

As I have said, I have already tasked officials to work with COSLA and others to see what we can learn from previous examples in which there has been a right to buy in areas of non-traditional construction methods.

The Convener: I call Ivan McKee.

Ivan McKee: My point has been covered.

The Convener: Do you not want to cover anything about risk?

Ivan McKee: No, I covered that enough in the earlier session.

The Convener: Okay. I will bring in Willie Coffey.

Willie Coffey: Good morning, cabinet secretary and colleagues. You might have heard a wee bit of the discussion with the first panel about whether a

register is needed of what buildings in this country are made of. We do not have such a register. From time to time at the committee, the question comes up whether people are entitled to know what their buildings—their homes—are made of. Would the Government take that forward? I realise that it cannot be done overnight but, looking ahead, would the Government support that as part of this process, or of a wider process?

Shirley-Anne Somerville: We listened carefully to the previous session, so I will bring in Stephen Garvin, who can go through some areas of work that have already been looked at and say where the discussions are at this point.

Stephen Garvin (Scottish Government): At present, we have building standards registers. Those are held separately by the 32 local authorities, which are the building standards verifiers. Some of that information is available, but it is not easily interrogated. People who have an interest in a building can get access to the information that is held, but it is in different formats. Through our building standards futures board work, we are looking at a potential national building standards register for higher-risk buildings, but that is a work in progress.

When it comes to developing something for new buildings, it makes sense to regard digital technology as a possibility. Building standards is part of the digital planning programme, which might develop in such a way that information can be retained and interrogated for specific materials or construction.

A much more enormous task is to address the current housing stock and other buildings in Scotland. There are more than 2 million homes and probably more than 200,000 non-domestic buildings. Bringing together information on those, in a sensible way, is quite a challenge and would be a significant investment.

We noted the earlier comments on work in Denmark. We can have a look at that. I am not sure whether Denmark is looking at a specific aspect or whether it uses building models that it has built up, but it is certainly something to look into.

11:00

Willie Coffey: That is a helpful response.

When people are buying a house or a home, if they are interested in understanding and knowing what their house is made of, who would they ask? Would it be the builder or the selling agent? Who would have the information?

Stephen Garvin: If they are buying from a house builder, the house builder should have that information. As a party that has an interest in the building, they are also entitled to get the relevant information from the building standards register, if they are minded to do so. Primarily, however, information on the form of construction, the materials used and the design would come from the builder.

Willie Coffey: Is there a requirement to record that information so that, when the house is sold on and on, new owners can access it?

Stephen Garvin: There is no requirement to do that in the building standards system.

Willie Coffey: Okay. That is probably something that we will choose to follow up.

Ivan McKee: Just to clarify, does the home report not provide some or much of that information? Could it be a basis for providing more information to address the point that Willie Coffey raised?

Shirley-Anne Somerville: You raise an important point. There are the aspects around new build, which I think is where Mr Coffey was going with some of his questioning initially. However, when the initial buyer sells, the home report will be there. If there are lessons to be learned about how the home report process needs to be improved or adapted, it can be looked at, because none of it is set in stone. There is information in the home report, but those aspects can always be built on, should we feel the need for that.

Ivan McKee: Thank you.

Willie Coffey: Thanks for that, Ivan.

Looking ahead, if the process around RAAC builds up to a degree that requires remediation across the public sector landscape, does the Government see itself as having a role in co-ordinating the procurement of structural engineering and construction services so that we do not see bidding wars? We heard from the earlier panel, particularly from Peter Drummond, about skills shortage issues. Do we see a role in assisting local authorities to deal with that in a methodical and consistent manner?

Shirley-Anne Somerville: We have a degree of reassurance on some of those issues. Stephen Garvin is involved with a group on which that issue has already been raised. At the start of the process, the Government had questions on capacity and capability—Stephen can give more detail on the reassurances that we have already attempted to receive.

One of the key aspects is the level of expertise and knowledge that already exists in our 32 local authorities, which is very important. We should compare that with the rather disparate nature of the situation down in England, particularly in education, where schools do not have the ability to

access local authority knowledge because of the different way in which the system is set up.

We are very close to the fact that we need to keep an eye on the issue. Whether there is a role for Government or whether it is a role for someone else, we are already asking questions about that.

I will bring in Stephen Garvin, as he is on the group that has discussed that issue.

Stephen Garvin: We set up the RAAC cross-sector working group, which met for the first time in August and met several times over September. The issue of the capacity and capability to service the market has been raised. So far, stakeholders from the public sector in particular are not reporting any significant issues with access to the expertise of engineers, surveyors and so on. However, we are aware that there could be issues as the work ramps up, and that is an on-going discussion. The Institution of Structural Engineers has talked about training and developing the existing cohort of experienced engineers on RAAC. That would be of clear benefit for the servicing of the whole market.

Willie Coffey: You might have heard Peter Drummond say that there are no architects in Scotland with experience of working with RAAC, because of its age. Is that a worry or a concern?

Stephen Garvin: Architects are the same as engineers, surveyors and so on in that there is now an awareness of RAAC, and we would expect the professional bodies and institutions to be working with their memberships to develop appropriate training materials and so on. There is no evidence of anyone in the UK designing new buildings in which RAAC will be used. However, that could be an issue when buildings are retrofitted, particularly when energy-efficient upgrading is carried out, and the awareness of architects, surveyors and so on would be essential at that point.

Willie Coffey: Cabinet secretary, you mentioned in your remarks that the UK Government has changed its approach to schools. It announced whatever the change was on 31 August. Will you outline what that change was? What are the implications for Scotland?

Shirley-Anne Somerville: I stress that, as I mentioned in my original remarks, it was the Department for Education and not the UK Government as a whole that signalled a change. We have not received any evidence that would suggest that we should do anything differently from what we are doing and have been doing for some time, which is to look at the Institution of Structural Engineers guidance. We have not seen compelling evidence that justifies the Department for Education in England's departure from that IStructE guidance. We have asked for all the information that is available to ensure that everyone is sharing that information and that we have full knowledge. However, as I think you heard this morning, IStructE has confirmed that its guidance remains good practice in the area and that it uses the risk-based approach to managing RAAC.

I again point to the fact that there is a very different management model for schools in England, where more than 3,000 bodies are responsible for the school estate. In Scotland, the 32 local authorities occupy that role, each of which has a professional estate management team. That is one of the many reasons why we do not feel that it is necessary or, indeed, would be wise to follow where the Department for Education has gone. The change relates to that one department in the UK Government; it is not UK Government-wide.

Willie Coffey: My last query is on funding. Has there been any indication from the UK Government about potential funding to address the issue as it develops?

Shirley-Anne Somerville: No. There has been a disappointing response on that so far. We have sent letters to the UK Government on the specific issue, asking that that be looked at and that additional funding be made available to the devolved Governments, as it should be made available to departments in the UK Government as they seek to deal with the issue. It is fair to say that the letters that we have had back on that have been disappointing. There is no sign that the UK Government has recognised that there is a need for mitigation funding for RAAC for the Scottish Government or the Welsh Government. That is clearly a concern, and we will look at that.

As I think someone mentioned earlier, local authorities are not sitting with an unallocated pot of money to deal with the mitigation of RAAC, nor is the Scottish Government. Our capital funding is allocated and it is under pressure, given the great increases in construction costs that we have seen over recent years. I will not go into the reasons for that, but it is a fact about the context that we are in. At this point, it is clearly concerning if there is an expectation that the Scottish Government should assist all public sector bodies with the situation without UK Government support coming in to assist with that process.

Willie Coffey: Many thanks for those answers.

The Convener: I bring in Mark Griffin, who is joining us online.

Mark Griffin: Good morning, cabinet secretary. What work has been done in Government to minimise closures of public buildings due to RAAC-related concerns, which we have seen across the local authority estate in the rest of the

UK? I am thinking of things such as schools, social work services and one-stop shops. What work is under way to keep those buildings open? Are you aware of any related work across the wider public estate, including in the NHS and general practices?

Shirley-Anne Somerville: The responsibility for decisions about the decanting of services or the closing of buildings would lie with the local authority or the responsible building owner, and not with the Scottish Government. In the case of local authorities and schools, decisions would be taken on a school-by-school basis. Your previous panel went through some details of the discovery work and the more intrusive surveys that can go on within a building, which may lead to the building owner taking a decision either to put mitigation measures in place or to decant and close part or all of a building. That really is a matter for the building owner—quite rightly, as they have the information about the survey.

I can give examples from the school estate—there are others elsewhere—of where RAAC may affect an exceptionally small part of a building and full closure is therefore not required, or where the matter can be dealt with through mitigation measures and no part of the building needs to be closed. However, that will be an issue for the building owner.

Mark Griffin: We heard from the previous panel that the cost of some of those mitigation measures is pretty huge in comparison with potential research that might be undertaken. Rather than having continuous mitigation or monitoring of some buildings, an alternative avenue would be to invest in research to make sure that it is managed at a more appropriate cost level. What work has the Government done on that? Will you reflect on the opinion of the experts on the previous panel on that subject?

Shirley-Anne Somerville: A really significant part of the evidence that the committee heard earlier this morning was about how knowledge about and expertise on the situation with RAAC has developed over time. Research is, of course, a very important aspect as we learn more about RAAC. It is already being discussed at the UK-wide level and Scottish Government officials are involved in those discussions. The Scottish Government is not looking at the issue alone.

With the possible exception of the Department for Education down south, we are trying to work collaboratively and jointly to discuss research, the capacity in professional organisations and so on. I recognise that the previous panel discussed that and I reassure the committee that it is being discussed across Governments, including the devolved Administrations, to see what more needs to be done in that area.

The Convener: Another aspect that was raised with us was that the cost of some repairs might be so high that, under a best-value assessment, a council might decide that it is not worth replacing a roof because a new building could be built for that amount. What are your thoughts on that?

11:15

Shirley-Anne Somerville: That is certainly a very important aspect that the building owner would need to be cognisant of. Witnesses on your first panel gave some examples to do with schools, although not just about the school estate, and best value was mentioned. There can be an advantage to replacing a whole building rather than just the roof, because we can look to improve environmental standards. Best value is an important aspect of that, but I stress that the decision would be for the responsible building owner to make, having looked at how much the mitigation measures would cost and what the capital costs would be if they were to go through major building improvements rather than a completely new build. Such decisions will be for responsible building owners to make on a case-by-case basis.

The Convener: Is getting an infusion of money in order to allow decisions not just to do remediation but, potentially, to replace buildings because that represents better value within the scope of the discussions with the UK Government?

Shirley-Anne Somerville: All Governments should be working on the concept of best value. We have to work very closely with our local government colleagues. I give them as an example because, to date, most of the discussions have been about schools and local government analyses of whether building work or completely new buildings will represent best value.

To be frank, convener, I would settle, as a first step, for the UK Government recognising that there is a need for all the Governments across the UK to work on that—and that there is a requirement for additional capital funding for departments and the devolved Administrations—so that, once the discovery work is at a more substantive point, we can get into discussions about what that will actually look like.

The Convener: Thanks for that. Marie McNair is next.

Marie McNair: My questions have been covered, convener.

The Convener: Okay—thank you. Miles Briggs is next.

Miles Briggs: One of my questions has been covered—it was about not being able to put a

figure on the funding—but I will ask some more detailed questions with regard to how we take change forward.

NHS Scotland now has NHS Scotland Assure, which is looking at new buildings. I know that that is not a perfect science and that, as a new organisation, it will often be looking at buildings as they move towards their completion rather than when they were on the drawing board, but is the Scottish Government looking at what that will mean for local authorities and considering a new model? We heard from the first panel some suggestions about a public register of what buildings are made of. Is any work going on around that to consider what needs to change?

Shirley-Anne Somerville: One aspect of that was, I hope, answered by Stephen Garvin when we talked about the register. I or Stephen can perhaps help if Mr Briggs would like further information on that.

However, there is another aspect, which is about ensuring that things work closely together. Although the building standards system is devolved, construction products are a reserved matter. To have good building standards, we also need to have good construction products and a good system of reassurance around them. We are keen to work with others, including professional organisations, to see whether they have any concerns about how building standards and construction methods work together. We want to ensure that the devolved bits and the reserved bits work together as effectively as possible. If there is anything that we can do in a devolved setting, or if there are any concerns about aspects that are reserved, we want to work with the UK Government to design a solution that will deal with any concerns that professional organisations have about construction products or non-traditional methods.

Miles Briggs: The committee has considered flammable cladding systems and we are now discussing RAAC. Are you satisfied that our public building procurement is fit for purpose and that it is looking not only at best value but at the long-term sustainability of the buildings and at live information from around the world when concerns are expressed? It is interesting that the members of our first panel, by and large, seemed to think that, as a country, we are very good as regards the health and safety element but that, rather than public services doing procurement work on their own, there might be a need for more specialist services.

Shirley-Anne Somerville: That is an area about which concern has been raised. There must be a level of public trust in the processes that are in place, whether in relation to procurement, building standards or construction methods, which I mentioned earlier. We must always ensure that public trust is maintained and that people have the reassurance of knowing that those who procure buildings do so in the right manner and for the right reasons. Mention has been made of best value and energy standards, and all those aspects need to be looked at during the procurement process.

At this point, I am reassured, but if there are any areas where lessons need to be learned, the Government stands ready to do that. We have processes in place in the Government for such concerns to be raised directly with ministers through officials, for example through their work with professional bodies, so that we can act accordingly.

Miles Briggs: When it comes to cladding, we know that we do not have the workforce to do all the inspections. It was revealed last week that more than half of NHS buildings that might contain RAAC have not been inspected. Where is the Government as regards the provision of support with that to public agencies, especially councils and the NHS? We will not be able to magic up such people overnight. What are ministers' expectations of the timescale for completion of those inspections, so that we know what the risk is, which is currently unknown?

Shirley-Anne Somerville: I will take the NHS as an example. Of course, bodies in other parts of the public sector are working to different timescales. In the NHS, based on the progress that has been made to date, we expect the surveys to be completed by the end of November. The work that is on-going is looking first at buildings that are perceived to present the highest risk, to ensure that the necessary work is undertaken.

When it comes to the school sector and the small number of buildings—it is a very small number—on which more invasive work is required, we have been reassured that that can be done during the October holidays, when staff and students will not be in situ, and completed by the end of October.

There is a variety of works teams in place for different sectors. I have given the examples of the NHS and schools and have explained where we are as regards the speed with which that work has progressed to date.

Miles Briggs: That is helpful. In the interests of transparency, I hope that that information can be shared with the committee or published, so that we are aware of the individual buildings that we are talking about and the number of council buildings involved.

Shirley-Anne Somerville: Forgive me for interrupting, but the issue of transparency is

important. We have been very keen to work with local authorities to ensure that the information relating to the school estate was published and that information was given to parents about the extent of the issue in a particular building and the mitigations and other measures in place. Clearly, the naming of a building could give rise to great concern that the problem is throughout the building when, in fact, it affects only a very small part of it. In some cases, it turned out that the issue affected a part of the school estate that had not been used for years. The local authorities have that information, which will be published, and they will continue to update it.

In the NHS, each health board will publish that data for its area, and NHS Scotland Assure will publish an update for the whole of Scotland. That will ensure that that information is brought together at strategic level for the whole of Scotland. I am very keen to do that, but in such a way that the responsible building owner provides information to, for example, parents and staff and trade unions about where that is a concern within a building, so that context and reassurance can be given rather than just a list of names.

Miles Briggs: Thank you for that.

In talking about homes, you touched on council-owned property and homes that are managed by housing associations. On work with properties where people have bought their homes under the right to buy, is that the model that you see for informing those individuals? How would individual private home owners be part of any inspection regime that councils might do?

Shirley-Anne Somerville: We are working very carefully with COSLA. Ms Gilruth and I have met COSLA a number of times, particularly to discuss the school estate. We are widening those discussions at the ministerial level to the wider estate and, of course, officials have been having those discussions on the wider estate, too. We are keen to learn the lessons about what worked well in the publication on the school estate, and we are working with local authorities to see what could be done, not just for housing but for their other buildings as well. The knowledge is out there with that context, and the councils are working with the individuals who may be impacted.

That work will vary from council to council and from situation to situation. For example, in Clackmannanshire, there was a specific issue in a small number of flats, and that was dealt with by the council, which worked with the individuals involved. We are keen to learn from good practice about what has worked and what we need to improve on. Being able to reassure people is vital to the Scottish Government and, indeed, to everybody who is involved; we want to ensure that we are being as transparent as possible about the information that we have.

Miles Briggs: I have one last question. We do not have COSLA here today, so we will maybe put these questions to it separately. For a lot of councils, given where we are with the funding formula, there will be questions about how they reprioritise potential building replacements, which they will have to bring forward more quickly. We have heard about replacement schools here in Edinburgh, for example. Are ministers having conversations with COSLA about the fact that some councils might be facing a far bigger challenge to fund those replacements? What will it look like for COSLA to be in negotiations over potential changes to that capital funding in the future?

Shirley-Anne Somerville: Clearly, all councils will be affected by RAAC, given that it was used throughout Scotland. The situation will vary from council to council, and it will vary in its severity, depending on the state of the RAAC at this point. I strongly encourage the committee to take particular cognisance of some of the very early evidence that was given about the fact that RAAC being in a building does not mean that it is unsafe or that there is immediate concern. I go back to the point about reassurance. We are keen to work with local authorities to understand the extent of the issue.

The issue affects not just local authorities but the wider public sector. The challenge will be how responsible building owners fund that work. That is why the liaison with the UK Government is so important, because it will not be a small issue. Just as local authorities are not sitting with a pot of money and looking to change priorities, the Scottish Government is also not sitting with a capital allocation that is simply for RAAC. If there is an ask of the Scottish Government, without anything coming from the UK Government, the Scottish Government would have to look at that, too.

Willie Coffey: You mentioned the various mitigations that are under way. Could you explain whether that is replacing the RAAC or reinforcing it with other materials? If it is being replaced, what are we replacing it with?

Shirley-Anne Somerville: That is perhaps something that the first panel could have assisted with, but I will give an overview.

There might be a number of issues. You heard from Scottish Fire and Rescue Service colleagues earlier that some of the work can be done in the building, which can still be used. A variety of things can be done. The work might be to deal with water ingress that is having an impact.

I will ask Stephen Booth to assist in answering that question, and perhaps refer you back to the professional bodies that were on the first panel.

11:30

Stephen Booth: There are several options to address the risk in existing buildings, such as propping and, as the SFRS mentioned, crash decks. It will depend on what is right for that situation. To a certain extent, the question is whether there is a need to keep the building operational, or whether there is an alternative building that people can move to. Sometimes, temporary or even permanent closure of a building might be an option. There are different things that can be done either to manage the situation physically or to change service delivery in the short term.

Where RAAC has been found to be in poor condition or to have been poorly installed, a longer-term solution is needed. In some places, temporary measures have been used to allow the building to continue to operate.

Willie Coffey: If the RAAC is to be replaced, what is it replaced with?

Shirley-Anne Somerville: That depends on the building. A structural engineer and other professionals would go in and assess that case by case.

The Convener: We have got to take a nuanced approach, Willie.

Willie Coffey: Okay.

Ivan McKee: I want to pick up on a point that you touched on, cabinet secretary. You will have heard our discussion with the first panel about risk. The witnesses made the important point that not all RAAC is a problem—the problem is where it has been badly maintained, manufactured or installed, which is an issue in common with many other building materials. Do you think that there is more work to be done to provide reassurance about that? Public dialogue seems to be in a place where everyone assumes that all RAAC is bad and that there is a critical issue. The point was made by one of this morning's witnesses that the narrative is that when it gets to 31 years everything falls down. I think that there is more work to be done to provide reassurance that in the vast majority of cases there is not really an issue.

Shirley-Anne Somerville: You touch on a very important point. I urge colleagues right across the Parliament to be very careful about the terms that they use when talking about RAAC. Members have used terms that would suggest that there is an imminent risk of collapse or that there has been a collapse or structural failure that suggests that we should have closed buildings earlier. We need to be cautious in our use of language in this area.

We are taking the issue very seriously and have been doing so for some time. I hope that the committee is reassured about that. We are happy to provide further evidence of how that work has been taken forward, not just by the Government but by others. However, some of the public discourse has been unhelpful and may cause concern.

We all have a responsibility to ensure that the Government is being held to account and that we are doing what we need to do—and the same is true for local authorities. However, it is not the case that, if people are in a building that has been identified as containing RAAC, they are in an unsafe building, and we must reassure them that the building owner is monitoring the building to continually check that it remains safe. If anything changes and the Institution of Structural Engineers guidance required mitigation to take place or a full building closure, that would happen. Indeed, it has already happened in some areas. It has not come as a surprise. In some parts of the school estate, work had already been undertaken before the summer and areas of the schools were closed.

That aspect of reassurance about the situation is very important, as is the reassurance that we will continue to stay in close contact with the Institution of Structural Engineers, the HSE and other Governments to ensure that, if anything in our approach needs to change or if there is anything that we think should change in the wider public sector's approach, we will be saying that publicly.

The Convener: That concludes our questions. I thank the witnesses for coming in, providing us with their evidence and giving us clarity on the work that the Scottish Government has been undertaking on this topic. I will briefly suspend the meeting.

11:35

Meeting suspended.

11:35

On resuming—

Subordinate Legislation

Local Government Pension Scheme (Remediable Service) (Scotland) Regulations 2023 (SSI 2023/240)

Local Government Investments (Scotland) Amendment Regulations 2023 (SSI 2023/255)

The Convener: The next item on our agenda is consideration of two negative instruments. Do members have any comments on the instruments?

As no members have any comments, does the committee agree that we do not wish to make any recommendations in relation to the instruments?

Members *indicated agreement.*

The Convener: We agreed at the start of the meeting to take the next items in private, so, as that was the last public item on our agenda for today, I now close the public part of the meeting.

11:36

Meeting continued in private until 12:15.

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