



Built Environment Committee

Corrected oral evidence: Meeting the UK's housing demand

Tuesday 7 September 2021

9.30 am

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Members present: Baroness Neville-Rolfe (The Chair); Baroness Bakewell; Lord Berkeley; Lord Best; Lord Carrington of Fulham; Baroness Cohen of Pimlico; Lord Grocott; Lord Haselhurst; The Earl of Lytton; Lord Moylan; Lord Stunell; Baroness Thornhill.

Evidence Session No. 3

Virtual Proceeding

Questions 25 - 33

Witnesses

I: Charlotte Bonner, National Head of Education for Sustainable Development, Education and Training Foundation; Mark Enzer, Head, National Twin Programme, Centre for Digital Built Britain, and Chief Technical Officer, Mott MacDonald; Stephen Radley, Director of Policy and Strategic Planning, Construction Industry Training Board.

Examination of witnesses

Charlotte Bonner, Mark Enzer and Stephen Radley.

Q25 The Chair: Thank you all very much. I will, for the record, welcome you all and our witnesses to the House of Lords Built Environment Committee's third public evidence session in our inquiry on meeting the UK's housing demand. This inquiry will investigate the demand for new housing in the UK and how barriers to meeting it can be overcome. It will examine a range of challenges to meeting that demand, which includes skills shortages in the construction industry and some specific aspects of the planning system.

Today's session will focus on skills shortages in the construction industry as well as on green and digital skills. A discussion of skills in the planning and design sectors will be covered in our October programme. We will then make recommendations to the Government later this year on the whole issue of housing demand.

We are very fortunate this week that our witnesses are Charlotte Bonner, Mark Enzer and Steve Radley. A full transcript of this session is being taken and will be made available to you to make any corrections shortly after the session. Please will Members and witnesses keep their questions and answers brief, as we have a lot to cover.

Q26 Lord Stunell: Good morning. It is good to meet you. The first question is a very straightforward and basic one. Do skills shortages act as a barrier to building more homes? In which sectors are the skills shortages most acute? It might be one for Stephen Radley to start with, but I would like to hear from all the panel in due course.

Stephen Radley: Yes, it probably is sensible for me to kick off. The very short answer to your question is yes, but obviously there is a lot more detail behind that. If you look at the current situation across construction, but particularly in homebuilding, we have seen a real acceleration of activity over the last six months. More recently, if you look at the last two or three months, we have seen signs of activity slowing in construction.

There are a variety of reasons for that and some of these are to do with issues in the supply chain and materials shortages, but one factor that has been in play is shortages of labour and skills and labour costs rising significantly. If you saw yesterday the monthly indicator of the Chartered Institute of Procurement & Supply, I think the cost increases indicator was the second highest on record. There clearly is evidence that shortages of skilled people are starting to constrain activity in homebuilding, but I do not think it is just about constraining the rate of growth. When we see a shortage such as this, we tend to see other problems associated with it as well, such as increased levels of fault and the need for rework, which causes problems further down the line.

Most of the greatest immediate pressures are in the key trades such as bricklayers, carpenters, ground workers and general labourers. In terms

of making improvements in the industry, there is a need to invest in skills across the board. That particularly includes leadership and management.

Mark Enzer: I would like to build on that and take it up a level to consider not just the skills to build more homes, but the skills to build the right homes and in the right places. That becomes very important if we are going to ensure that the homes people live in help us achieve net zero and that they will be resilient to climate change. There are skills shortages in those bigger systems areas as well.

Charlotte Bonner: I completely agree with what Stephen and, particularly, Mark have just said. The only thing I would like to add is, looking at the pipeline for skills shortages, one of the key enablers of that is making sure that the workforce is equipped and able—so delivering the right training and education for the right skills for the sector. Therefore, if the workforce, the education sector and the training sector are not invested in it, it creates a bottleneck.

We need to make sure that they too have the right skill sets to teach modern construction skills, to teach about net-zero construction and to teach effectively about the digital transformation of the construction industry. In addition to thinking about the skills shortages in the workforce pipeline, we need to consider the skills shortages potentially within the education and training sector, particularly in new areas that are now of increasing importance to the sector.

Lord Stunell: Can I pick up one part of that? Clearly, we need a supply of people coming into the industry. It is one of the least diverse industries that we have. Female participation is very low and BAME participation is not good either. Do you have any views about how the industry can become more attractive to people to enter and be part of that skilled workforce?

Stephen Radley: I do not think there is any single simple solution. This has been an issue with us for a long time. There are things that we can make a difference on. One is making the roles in construction more visible. Across the industry, there is a key investment in a portal called Go Construct, which is very widely viewed. There is increasing evidence that people are getting a better understanding of what the opportunities are. First, that is important.

Secondly, it is about making it easier to join the industry. There are some initiatives, such as one of the government-funded things, the construction skills fund. That gives people a two- to four-week experience of working in construction before they join. That has shown to be very successful in attracting underrepresented groups and getting them prepared to go into construction.

A lot of this is probably about how the industry recruits. It tends to do recruiting in a very informal way. It recruits people who people know—their relations and other contacts. That gets in the way of attracting a more diverse workforce. We are working with the industry at the moment

to make those opportunities more visible and give people the chance to have tasters of construction that will actually get more people to come in.

Beyond that, the key thing is making the industry more attractive. Some of the things we are probably going to be talking about today, such as modernisation of the industry and digitalisation, will create a better environment, which will make it more attractive for a range of people to join. More immediately, it is about changing the culture of the industry. We support the industry, through many thousands of employers, through a fairness, inclusion and respect programme. This is something that employers need to lead on, but it is a very important supporting role for CITB, in terms of getting the culture right, so that people want to stay, but, most crucially, they also want to join.

The other factors that generally get in the way of attracting and retaining people are creating the right environment and supporting mental health more effectively, where, again, there is evidence of the industry making strides. There is a hell of a lot to do, but there are some promising things to build on as well.

Charlotte Bonner: Steve is broadly right that there are two elements. One is attracting people in the first place and the second is retention. That is where there is quite a gap at the moment. There is quite a lot of attraction into education and training routes into the construction industry, but then there is a significant drop-off in that translating into long-term employment.

The importance of careers advice, information and guidance should not be underestimated. Yes, we are looking today particularly at construction within the built environment, but, if you look at the recommendations from the Green Jobs Taskforce as well, there is quite a lot in there about how to attract people into the green jobs of the future. A lot of those sit within the built environment.

There is a lot of research that shows that young people particularly want to work for organisations that are positively contributing to sustainability outcomes. Linking some of that attraction work to the values that young people hold dear is important. To the second bit about retention and how you retain people within the sector, what Stephen said about making sure that workplaces are inclusive once you get there is important.

There is probably more that could be done to enable SMEs to provide good opportunities for people training. At the moment, some of the incentives, particularly around apprenticeships, still pose barriers for SMEs to engage. I have heard a number of people say, "Yes, we get a £3,000 incentive for taking on an apprentice, but, as a small business, that doesn't really even cover the bureaucracy of learning how to do the paperwork and to do the paperwork". There are still quite a few barriers within the system to attract people into the workforce that could be resolved.

Mark Enzer: I agree with what both Stephen and Charlotte have said. A large part of why we have what we have is because it is a traditional industry, which therefore has a traditional workforce. As we anticipate the transformation of the industry, we can anticipate the transformation of the workforce. In the area I work in, the digital area, I see a much more diverse group of people working together. As we look forward and consider an industry that is more green, that addresses more modern methods of construction and is more digitalised, that transformation itself will help transform the workforce.

Q27 **Lord Grocott:** A number of the issues have already been addressed in the first question. I would like to drill down a little into the attractiveness, or otherwise, of a career in the building industry. I am particularly interested in the careers, if you like, at the coalface. For all the digital developments, green technologies and the rest of it, for the foreseeable future we need people who will put one brick on top of another, or fit a door or a window frame. We have heard that bricklayers and joiners are among the significant areas of skills shortage. We also know that young people are not coming into the industry.

First, what would a bricklayer or a joiner expect to be earning at age 25? Secondly, what would the same person be earning at 65, assuming he is still in the role? What is the career progression available to people in those fundamental building trades? That is my question.

Stephen Radley: It sounds like that one is aimed at me, so I should certainly kick off. I completely agree with Mark's comments. As jobs transform and the industry transforms, a lot of these roles will become more attractive, but we also have to focus on the here and now.

Apologies, I do not have those figures to hand in terms of the earnings, but I can certainly go away and get those figures for you. There is evidence that people can be coming into the industry and earning very high wages very quickly in those sorts of roles. That can be a plus for attracting people, but it also can be a negative because it sometimes means that people end up going straight into roles without the more structured training that will benefit them later in life, in terms of things such as apprenticeships.

The issue of progression is something that we are working with the industry to tackle in a much more structured way. The issue at the moment is that there are opportunities to progress, but it is often not clear how to go about them. The routes to get there are not that structured. One of the things we are looking at, at the moment, is how people can progress from trade roles to being a site manager or site supervisor. This has a crucial impact on levels of quality and productivity, the culture in the industry, how well mental health is addressed and things like that.

At the moment, the industry often lacks a structured programme. You often see people who are good at a trade role going straight into other roles. It is critical for the success of the industry, but also in terms of

attracting and retaining people, to make those progression routes much more transparent, make them more structured and make sure the right training is in place to do it.

Beyond that, apart from the key cultural issues we have talked about already, one thing that is going to be key to attracting people into construction, into these traditional roles, is emphasising the contribution people can make. We would want to start emphasising more the contribution that construction can make to meeting the net zero challenge. A lot of the construction contribution here is going to come from retrofitting existing buildings—homes but also other public spaces. It is going to be critical to retrain people and make sure they have the right qualifications and skills to deliver on those retrofit challenges. That could make a significant contribution to making the industry more attractive for people to come into these traditional roles as the industry transforms.

Lord Haselhurst: This is a very interesting line of discussion, which more or less all our speakers so far have circled round, clearly in accord. It seems to me, from what I know of the construction industry, that we have to do something to inculcate pride in it as an overall worthwhile sector of the nation's economy. It has already been said that there is a widening range of skills that now come under the construction industry.

Perhaps youngsters have to see that it is not just a matter of wielding a shovel, however much that may be necessary in part, but there are so many other opportunities, which, I hope, would appeal to young people. There has to be an image of the industry that attracts because of all its possibilities and building back better, if one wants to borrow that term. People may be excited about that and think it is worth doing. There needs to be a sort of uniform, almost, that people would wear with pride.

One example, which may be a lone example—I do not know—of drawing people into a particular sector exists in Stansted Airport College. A large employer, the airport operator, together with an academy trust in Harlow and Essex County Council, has created this college, which is a runaway success, showing young people all the various possibilities and types of work that might flow from that if they are benefited with skills within the framework of the engineering industry and so on. Why can we not have that with the building industry and shake off this image: "If there's nothing else you can do, pick up a shovel; you'll get some money that way"?

Baroness Bakewell: I would like to ask Charlotte about this question. If a schoolgirl, a young student, a woman, wanted to enrol in the construction industry, would she be expected to behave and have the same rewards and the same career trajectory as a man, or would special, different circumstances prevail?

Charlotte Bonner: I feel I have probably been asked that because of who I am.

Baroness Bakewell: I am so sorry. It is a sexist question, is it not?

Charlotte Bonner: There is a lot we can learn from the work that has been going on in STEM to promote STEM careers and STEM education routes to, speaking from a gender perspective, a more diverse audience. There are probably some parallels there with the issues we have been talking about. Some of that has been very successful and could be replicated.

In terms of the perceptions of the industry, from my perspective it is less about the training route and more about the working culture once somebody has been trained—where they are going to work. To go the issues that Lord Haselhurst raised, working for a sector that takes pride in its work and is contributing positively to society is very attractive to young people, regardless of their gender, ethnicity or other diverse characteristics. That could be explored. Professionally, this is not my area of expertise, but I will go and do some digging, if it is helpful.

Stephen Radley: There are a number of issues there. Charlotte talked earlier about careers advisers and they have an important role, but role models, particularly from underrepresented groups such as women, will probably be more transformational. We support a programme of STEM ambassadors who go into schools. These are often people who are on an apprenticeship or have just completed one, so people can see people who are like them thriving in the industry and think, "This could be an opportunity for me". That is crucial.

We have already covered to some extent the issue of culture on-site. We are seeing a lot of progress by large companies in addressing these issues. We now need to see more large firms working very collaboratively with their suppliers to make sure that these changes in culture are embedded right down the supply chain.

It is also going to be addressing barriers about why people then do not stay in the industry; for example, the long hours culture. We have been encouraged very recently to see some leading employers in the industry start to take concrete steps to provide more flexible working opportunities in construction. That will be critical to making it more attractive to join and to stay in the industry. Beyond that, some of the points that Mark was making earlier about changing the industry and introducing significantly different working practices through things such as digitalisation will be critical to creating the right environment for a range of people to be attracted in.

If you will indulge me for a second, I would like to pick up Lord Haselhurst's question, because what he talked about was a very good example of much greater collaboration between employers and training providers. We are starting to see signs of that now. A really helpful development recently has been the Government starting to work with colleges and with the CITB on construction traineeships for people who are in further education.

Thousands and thousands of people go into FE and study construction courses, often with very little in mind about what they are going to do in

terms of a career. This is creating a traineeship where you have a period of structured work experience and some learning, which then allows you to go on to apprenticeships. We have seen very early stages of a pilot, working with one college, that looks very promising.

There is a real opportunity to build that better bridge between further education and employment in the industry. At the moment, only 25% of FE students who do construction go on to a job in construction. Another 15% go on to an apprenticeship. Some 60% are then lost, but there are encouraging signs of closer collaboration between employers and FE that we can build on, to get that pride and better understanding of construction and more people coming into the industry.

Lord Grocott: Could I reinforce a point to Stephen? Could he give us an indication of income of people who remain in the industry? It is an obvious point to me, but I would like to see it reinforced, that nearly every youngster expects their income to rise during their career, so that they will be earning more when in their 50s than in their 20s, and that they will have career progression. It seems to me, if you are a very good bricklayer and you remain in that profession, the chances are, if anything, that your income will drop as you progress. No one wants to be putting bricks on top of one another on a freezing cold day when they are 65. This seems to be such an obvious point.

Stephen Radley: I completely agree with you. Apologies, I do not have those figures to hand, but I will dig them out. You are absolutely right. If you are doing a traditional role and you have not progressed, the risk is that your earnings go down because you become physically slower at doing that after a time. The crucial thing is making sure that we provide more structured opportunities for people to progress. That could be to a supervisory or management role, or it could be in time that people become instructors and assessors, because we have a real shortage of people available to train people to go into the industry. We have to look at those opportunities for progression and make them more structured and visible.

The Chair: Steve, thank you for offering to follow up. All three of you might want to follow up a little bit on this second question about how we address the skills shortages, because I do not think we have time to give it the detail that we should, so please send in some more information.

Q28 **Lord Berkeley:** What witnesses have already told us indicates that there is a massive skills shortage. I understand that there has been a 42% reduction in EU workers in the last four years. My recollection of working on a site in my 20s was muddy boots, rain and people shouting and swearing; it was wet and sometimes not very safe. I can understand why not so many people want to go into that career.

To me, modern methods of construction mean putting things in a factory and building things in a much better environment, with better tolerances, better employment prospects and, I hope, a more consistent way of working. You do not have to be driving around to a different site every six

months or even more frequently than that. It will need extra new skills, I would have thought. What kinds of skills are needed? This remote construction, if you like, must include what you might call the digital as well as the brick panels, door panels or roof panels. Is that going to solve some of the problems at least of the skills shortage?

Stephen Radley: I am happy to go first. I think Mark has a lot of expertise in some of these areas as well, so I will try not to cover ground that he will probably cover. I absolutely agree with you. I do not think it will immediately save the need for the number of people working in the industry; it might do that in time. What it will do is help the industry address its skills problems for some of the reasons that you talked about.

I think we will see better planned and run projects and probably further improvements in safety, but also improvements in productivity, profitability and quality. There is still a high level of faults and reworking in the industry. That is very wasteful. It is a bad experience for people who are buying homes. It is also clearly very wasteful, in terms of use of people's time.

Lord Berkeley: You mentioned reworking and faults. Is that confined to what happens on-site, or can it equally apply to what is built in a factory and does not fit properly?

Stephen Radley: It could apply to what is built in a factory, although manufacturing has shown massive strides in productivity and quality over the last two decades. The problems of faults and rework are much more common on-site than in a factory environment, but not exclusively on-site.

If you have those sorts of changes, it means that you have a better working environment; you will start to address some of the underlying problems with mental health and things such as that. It will allow you to attract a greater range of people. Although it may not save the number of people who are needed, it means that you have a better chance of attracting and keeping people and using them more effectively.

A range of skills are required. A lot of this is about the management and leadership skills to drive change. We are also looking at a lot of skills in terms of data proficiency—people in trade roles being able to use and share data effectively. Collaboration and communication become more important, and a lot more skills associated with planning and running projects are critical. There is a range of skills that will be required to actually embed it. I am sure Mark will have a lot more to say on this as well, but those are some of the key things that we are looking at, at the moment.

Mark Enzer: I have a couple of things to add. It is clear that those jobs that can be moved off-site, not just on-site, can be seen as better-quality jobs, so that is an important thing to pick up, going back to what you were saying about muddy boots and swearing on-site. That can make it more attractive. Those jobs, not being on-site, can be anywhere we want

to put them, so can be an important part of levelling up. You can put the factories where the jobs are needed, which then means that you have better-quality jobs in the location that you want.

It may be an issue that, when these jobs move into factories, they do not then get counted as construction. If we are talking about improving the productivity of construction, as soon as you move it into a factory, it no longer gets counted as construction, so construction does not look like it has improved its productivity, whereas clearly it has. Maybe there is a big picture view as to how we count that matters in this.

There is a huge opportunity to be moving more work into factories. As I understand it, at the moment there is a shift of something like 40% to 55% of premanufactured value. There is opportunity to drive this move to better-quality jobs in the right place, but we still need to recognise it as part of construction.

Stephen Radley: I will add one point to what Mark said. Mark made a really important point there that, by building in a factory environment, it creates the opportunity to put the jobs where they are needed and where the skilled people are. That is really important, because one reason why we have problems with attracting and holding on to people, and issues with mental health, is that at the moment people are required to spend lots of time away from home, on their own. That is very unattractive to people and often very detrimental to mental health. If we can actually do the work where people are, rather than requiring them to travel around the country to where the projects are, that could make a real difference to that issue.

Baroness Bakewell: Can I intercede here? What you both say is heartening, in terms of the possibility of recruiting more women for careers in construction in factories. I would like to push that further and ask who trains the people in the modern skills. How do you train the trainers? Who is going to keep them up to date, at the cutting edge of development? How is that factored into your schemes?

Charlotte Bonner: It is really important that educators have a symbiotic relationship with industries and employers, so that the educators have almost a dual professionalism. They are excellent-quality teachers and trainers, but they also have the right knowledge, skills and behaviours to represent what is needed in their industry right now. If you have an FE lecturer of bricklaying who has not been on a construction site for 20 years, obviously there will have been huge progress in that industry during that time. Some of the modern methods of construction we have talked about today will only make that increasingly the case in the coming years.

We have given quite a lot of thought to what that symbiotic relationship could look like and what the characteristics of that are. Steve, I think you were talking about placements and relationships between providers to give learners experience of the workplace. That is important for educators too. For example, through the T-levels programme we have been

providing industry insights and placements for educators, so that they get mentoring, on-site visits or continuing professional development opportunities with industry, so they can stay at the top of their professional game.

We also need to think about curriculum design and the mechanisms by which educators, awarding bodies and industry can come together to look at the needs of the industry, not just now but in the longer term, and how we make sure there is enough flexibility within the curriculum for educators to contextualise the content to modern-day practices, and that the revision cycles for curricula are strong and rapid where they need to be.

We have just completed some research looking at curriculum specifications, not specifically in construction but in the most popular FE routes. For example, we found that only one in 200 learners will get explicit sustainability, green, net zero content through their training, unless their educator contextualises that for them. There is quite a lot to be done around the curriculum itself and how educators are able to contextualise that.

There needs to be an investment in training from the sector and industry. We are talking not just about skills gaps in young people and the potential skills gaps in the workforce pipeline, but about the existing people who work in the construction sector and how we make sure that they are upskilled and have the skills that they need now.

Again, it is about looking at the relationships between employers and education providers, and making sure that the incentives to get people into education are applicable for people who want to upskill or reskill. For example, that could be looking at changes to the apprenticeship levy or the adult education entitlement. At the moment, that is available to you only if you do not already have a level 3 qualification. If you have a level 3 qualification but you need to upskill or reskill, it is not available to you.

There is a whole host of things that could be done to make sure that educators have what they need, in terms of the ability to teach what is needed, but also to build those relationships between educators and industry, so that the pipeline works well and the needs of the sector are being replicated in the classroom.

The Chair: Thank you very much for that comprehensive answer. I am afraid we are running very short of time. We have only about half an hour left for the last three questions. I would like to move on, and I ask everybody to have shorter conversations than would perhaps be ideal, with follow-up as need be.

Q29 **The Earl of Lytton:** We have touched on this already, but this question is really drilling down to the sorts of digital skills in specie that the current and future workforce will need and how we can close that gap. We talk about new homes, but it is also retrofit and dealing with new homes that are of what you might call conventional construction, not

necessarily modern methods. It could be conversions under permitted development, greening of existing stock, alterations and that sort of thing.

Where are the particular skills that we need to start training people in? I am thinking particularly of modern methods of construction. Also, there is an on-site element that you cannot avoid that involves people on sites, doing things, and particularly supervising things in areas that they may not be terribly familiar with. How do we deal with those? How do we make sure that we do not replicate mistakes that we know have been made in the past, in terms of construction quality?

Mark Enzer: I will start by talking very briefly about a broader digital transformation, which I think is required across the whole industry, because the skills that are required then fit within that context. If we look at digital transformation, it is possible to see it under four headings. Mainly, it is about enabling people. It is really important to keep people as the focus, so digital transformation as an enabler of people to do things better. Crucially, it is to use information better, to make better decisions more quickly and to have a free information flow through the processes. It is also to improve those processes themselves, so not just to take the old processes that we are very familiar with and kind of digitise them, but to be open to changing the processes themselves, so it is digitalisation. Then, finally, it is to do with technology and being able to apply it wisely.

If we see digital transformation in those terms—people, information, processes and technology—each one of those requires some skills. It is not just to do with data processing or with being able to use models. It is across the board and it needs to be interconnected. It is no good just to train people up in isolated spots of light. We need to join the whole picture up. That is why it is the whole industry that needs to have that transformation.

The good news in that is that the good practice already exists. We do not have to invent this from scratch and there is some fantastic research happening that is pushing the front edge forwards. For the bulk of the industry, we are talking about adopting the good practice that already exists. Increasing skills comes under that heading. It is effectively across the board. I could delve into details of specific types of digital skills, but I hope my answer has given that broad picture.

The Earl of Lytton: It might be useful if you could follow up with a comment perhaps later on about the particular skills. What do our other witnesses feel about this? Charlotte, would you follow that as well?

Charlotte Bonner: There is a lot of discussion at the moment about green jobs and there is a risk that we assume that green jobs are different from other jobs. If you look at the scale of transformation needed for us to meet the sustainability challenges that the UK has set itself, all jobs need to be green jobs.

As a result, the skills that need to be developed for all learners are to help them make informed decisions and responsible actions that help environmental integrity but that are relevant to their life and future work. It is all very well going on a construction course and a sustainability course, but how do those two interrelate?

Green jobs cannot be seen as additional to other jobs, because we need all jobs to be green jobs and be contributing positively, and therefore we need all the pipelines into those jobs to have sustainability embedded within them. Again, that is a very broad answer and I can follow up, as you asked Mark to, in terms of specific skill sets, but that broad picture is very important when thinking about education for sustainable development.

Baroness Cohen of Pimlico: I want to address my question specifically to Mark Enzer; I think he is the right chap. Mark, listening to this, it is plain that we depend on improvements in digital skills for an awful lot of things. By the way, it is a real aperçu that, once you get into a factory, it does not count as construction any more, so we have some skewed data. We are depending on digital skills to improve the uptake by women and minorities. Have you a view on that?

Mark Enzer: Yes, I do. As I mentioned briefly earlier, in the part of the industry that I work in, which is largely around digital, I see a much more diverse population. It is very clear to me, from that, that these digital skills are open to everyone and are not exclusionary. A move towards something that is more digital, picking up on Charlotte's point that it is also green—same thing—will be more attractive to more people and will be more diverse. I see it as being entirely positive that way.

As I mentioned in relation to digital transformation, if it is focused on people, and it really needs to be, a large part of that means that it is making people's jobs better and easier. We are not talking about a digital transformation somehow being harder—you have to go and get a degree in something digital to be able to work here. It is not like that at all. It is much more a case of people being able to do whatever they are doing, tap on an iPad—sorry, that is a specific one—or tap a mobile device and update a central database. It just makes things easier and better, rather than somehow more difficult. For me, it is a really important point that, if we go digital properly, it will make things easier, not harder.

Baroness Cohen of Pimlico: I think you are going to have to accept that site work is always going to be difficult to fulfil. I did the original research on what happened to building workers. Despite the enormous improvement in behaviour on sites, anybody above 50 is on the long-term sick if they stay in the trade. They are down with bad backs. They are on long-term disability. How do you reckon to ease those people—the chaps who are coming off sites—into digital skills, because they must as they get on?

Mark Enzer: In some ways, this goes back to what Stephen was talking about on progression. If those workers really want to keep doing what

they have always done, that does not look like progression; it will be difficult to get paid more for it; and it will end up being difficult and they will get bad backs. It really is tied in with offering different and better ways of doing things and enabling that progression. Part of that progression can be being open to more digital ways of doing things. If our mothers can use mobile devices and be quite comfortable in pressing icons, it is entirely imaginable that those people on-site who you are talking about can do that too and move into a better place.

Stephen Radley: The key issue is not just addressing the people who have those problems but making sure that we minimise the number of people who have those physical problems in the first place. Some of the transformations that Mark and others were talking about will mean that we can manage people a lot more efficiently, reduce the long hours culture and reduce the amount of time wasted on rework, so that we are making fewer demands physically on people.

To make that happen, picking up the question about avoiding repeating the mistakes of the past, we are looking to make sure that people in key management roles are all trained to consistent standards. We are very soon going to launch an industry-wide standard for training in key site-based roles in management. If we can get everybody working to those common outcomes, we can see a consistent approach to how people are managed and embed some key modules associated with digitalisation, so we can start to see that and have a common understanding and progression of that.

Q30 **Baroness Thornhill:** After your last answers, which were encouraging and frustrating in equal measure, I am going to slightly change the focus of the question that you think I am going to ask about retrofitting. It is clear from everything you have said that we all agree there is a problem and looking at green jobs and retrofitting is part of the solution. From my experience in local government, if you got a group of mayors and leaders together, the skills arena was the one where they all expressed frustration and felt it could be done better.

In view of the levelling-up agenda and all the other issues, from your experience, I am interested in how much the central-local balance—or imbalance—is an issue. In particular, the evidence seems to point to the fact that SMEs are underutilised in realising the aspirations that the Government, and I hope all of us, have in this regard, and that they can and must contribute more. For example, they take up very little of the apprenticeship levy and do not know how to access it.

I am wondering how much more localised we need to be and what kinds of shifts there need to be to make this happen, or is that just one of my hobby horses? I am particularly interested in the mayor's Greater Manchester Retrofitting Task Force, if you have any feedback on how that is going as a particular localised approach to solve this problem.

Stephen Radley: I will try to be brief. Localised approaches are really important in this. Ultimately, we are going to be seeing some technological solutions and a lot of innovation is going to be required to

deliver on the net zero ambition commitment. In the short term, we have to also look at what can be done. We see a very key role played by retrofit co-ordinators. We are now starting to work with local authorities to develop action plans about what practical steps need to be taken to deliver on net zero. This could also be picked up by the recent government initiative of local skills improvement plans.

You are absolutely right to stress the key role played by small firms. Over the coming years, if we are to really start seeing progress in retrofit on homes, the majority of the work done there is going to be done by very small firms. It is about getting them to understand the skills and retraining that are going to be needed there. The very small firms will tend to act quite late. We need to spur action by them and get training providers to provide the courses that will be needed.

We need to see a very firm commitment from the Government now, in terms of a pipeline of work. If we do not see that, it is going to be very hard for training provision to respond or for the very small employers that are going to need to deliver a lot of this work in the short term to take the actions that they need to.

Baroness Thornhill: Charlotte, what are your thoughts on the balance between local and central in terms of roles, training and things?

Charlotte Bonner: Some of it has to be top-down and centralised. I have already talked about the curriculum and the role there. Recognising and developing relevant competences in initial teacher education and ongoing teacher CPD, and working with national professional and trade bodies to look at their CPD requirements and how to encourage ongoing development of skills in the existing workforce—all of that is easier and more efficient done from a top-down perspective.

From a localised perspective, it is about building good relationships between education providers and local employers. That can be incentivised and invested in, in terms of people's skills, those long-term relationships and making sure that people recognise that dual professionalism, and the opportunities that SMEs and other employers have to inform what is being taught. Taking on an apprentice or a T-level work placement may be too much too soon. It is about how you start to build those relationships and see them as long-term relationships for mutual benefit, and giving teachers and education provider leaders the capabilities and skill sets to develop those long-term relationships. That all happens better locally, so it is a balance of the two.

Baroness Thornhill: Do you have a last word, Mark?

Mark Enzer: I do not have anything to add on this. If there were time later on, I would love to go back to one of the points that Lord Haselhurst made, but not on this one, thank you.

Q31 **Lord Best:** Consolidating these issues, the biggest use is going to be retrofitting, not building new homes, in terms of a skilled workforce. We

have 29 million homes to retrofit when we turn off gas; 85% of homes are affected. This is a huge enterprise and it is going to be done mostly by SMEs, because the big firms find it very difficult to do the one-to-one individual properties in streets. Every house is different.

It is going to be the small-time SME builders that do it, and they are not well equipped to bring in apprentices, to give them three years of security and to pay the costs. I think it is about £25,000 for the employer over a three-year stretch. It is worrying that we have a dependency on these small firms, which are going to find it quite difficult to bring on the skilled workforce that is needed. I absolutely go with Baroness Thornhill's view that one must localise this. This gets down to understanding small, local firms and not dealing at a national level.

I draw your attention to a report that came out in 2014, looking at creating construction jobs for young people. In 2014, there were only 7,200 apprenticeships that completed. There were quite a lot more started, but people failed to complete their time. I am wondering what has changed since 2014. I chaired this thing with Nick Raynsford, who was Minister for Construction, and we were critical then, although it sponsored us, of the Construction Industry Training Board, which we thought was rather expensive and bureaucratic.

I want to know what has changed structurally over the last few years that will reach the SMEs and make them the engine house for bringing in more young people and getting those skills up. Stephen, to put you on the spot for starters, is the organisation at the centre the same as it was in 2014? Have things changed for the better?

We have lost him. Charlotte has spoken very eloquently about the need for SMEs to be brought on board and to be helped and supported. Is the structure that we have, with the Construction Industry Training Board as it is, well equipped to achieve this?

Charlotte Bonner: I do not really feel it is my place to pass judgment. I am not close enough to the work of the CITB to do so in an informed manner, so it is one for Stephen, I am afraid.

The Chair: Why do we not come back to it if Steve manages to reconnect? Perhaps we could move on to our final question, and then we can come back to Steve once he is back online.

Q32 **Lord Moylan:** I thank all the witnesses, whom I have found extremely interesting and valuable in their contributions. Due to the pressure of time, since we are approaching the end, could I make this a very quick tour de table? What are the three practical incentives each of our witnesses would propose for drawing more young people into construction and related green and digital jobs? It might be a little unfair and there might be some overlap between you, but it would certainly help point us in a practical direction going forward.

Mark Enzer: Perhaps I might use this as an opportunity to wrap in what I was hoping to say to Lord Haselhurst's earlier point about trying to get some pride into the workforce, because this will be part of what attracts

people. This is a very big-picture piece. It is not a detailed, localised answer. It really matters for us to see the whole built environment, to see how important it is to us as a society and a nation, and to have a broader vision for the built environment in order to understand how it affects all our lives and how it needs to have a clear, identified purpose to drive better outcomes for people, society and nature.

If we have that bigger vision for our built environment, where we all live—we all depend on it—those of us who work within the built environment can feel part of something bigger and something that matters. Particularly as we face some huge generational challenges, such as achieving net zero, protecting ourselves in relation to climate resilience and maybe addressing the circular economy, we need to see that these are huge, systemic challenges that demand systems-based solutions. We have to see the whole. We have to see the system.

It is very useful in that context to see the built environment as an amazing system of systems that we have been building over hundreds of years. We have been connecting it up. We have ended up with an amazing, complex, adaptive, emergent system. We can run it better. Because we have not been looking at it in those ways, we do not run it in those ways and we look for small solutions, rather than big solutions. Given those challenges I mentioned, we have to see the system and address it. That is where things such as the national digital twin come in, to help us understand and manage systems.

Having said all that as context, it is possible for us to help to show how every job that is contributing to the built environment is contributing to better outcomes for people, society and nature. It is something that is worth being part of. It is something that makes people's lives better. An awful lot of people, and certainly I am included in this, are highly motivated by that. It can draw people into the industry. I am sure you are aware of that apocryphal story of the cleaner at the Kennedy Space Center, who, carrying a mop, was asked what he was doing and said that he was putting a man on the moon—maybe I should say "person on the moon".

We can have that approach in the built environment, because it matters and, if we do not address these things, we will suffer. That is my principal answer. It is for us to see that bigger picture and to have a narrative that works for people and draws people into the industry, because it matters and we can make a difference.

Lord Moylan: Do you want to take the opportunity to add two more practical things that could be done to draw young people in?

Mark Enzer: We need to drive the digital transformation, because the whole industry needs to be transformed, as we have discussed. Digital transformation is a key part of that. We should see it as an enabler, rather than a thing in itself, but, if we intentionally drive that digital transformation, it will help in the ways that we have discussed upstream of this.

Charlotte Bonner: You could probably see me nodding, quite enthusiastically, throughout everything that Mark said. I could not agree more, particularly about that systems thing. We have talked a lot today about building homes, but of course homes are part of a much bigger system and we need to look at the whole picture.

My three practical things are: first, continue to invest in the development of excellence in education, so that teachers and leaders of education providers are not just excellent at teaching but are also excellent at building those relationships with their local industry and working in partnership with what industry needs. Secondly, look at curriculum reform and how modern skills can be embedded across the curriculum as cross-cutting themes and principles. Thirdly, make sure that there is sufficient investment in ongoing professional development from industry and employers, and there is support for industry to engage with education.

My number one was about investing in education to be able to interrelate with industry, but we also need to make sure that industry is interrelating with education proactively. Those are the three things that I would say.

Lord Moylan: There is no time to follow up in detail now, but it may be that we come back to you and ask you to translate those into some sort of programme in a sense.

Charlotte Bonner: Yes, I would be very happy to do so.

Stephen Radley: Apologies, I disappeared for a few minutes. I completely lost sound, so I missed some of the previous questions. On practical steps to attract people in, trying not to repeat what others have said, I would say making the opportunities more visible, making it more accessible to join the industry by providing more experience and taster opportunities, and, finally, working with employers across the industry to change the culture, and make it a more attractive and flexible one that fits in with people's values, the way they work and the other demands on their time.

Lord Moylan: Thank you very much. I found it very helpful.

Lord Carrington of Fulham: It has been a fascinating evidence session. One of the things in attracting young people into the industry is going to be the difficulty of the structure of the industry itself, it seems to me. We have an industry that is still structured with some very big companies but, essentially, is run by the subcontractors, by very small companies. Indeed, a lot of the work that has to be done is going to be done by the small companies, operating on their own. It is probably unrealistic, as we have heard, to think that they are going to be able to do the training themselves. It is even more unrealistic to think that they are going to be able to do the continuing professional development that will be required in an increasingly technologically advanced industry.

Is the structure of the industry a problem? Should we be thinking—on the

big picture, as Mark was saying—about how this industry is structured going forward and whether the model that we have always traditionally had is the one that is really going to be able to deliver in the future? Ought we to be thinking about the relationship between the big companies and the small companies and changing that?

Stephen Radley: Structure is important. Some of the changes we have talked about, in terms of moving off-site and digitalisation, may well start to address that. We could see a more planned industry with a clearer pipeline of work and more well-established supply chains that would start to create the level of collaboration between the main contractors and suppliers that you see in other industries across the economy. That could start to address it.

In the short term, we can make sure that everyone is training to common outcomes and, if we agree those common standards, that facilitates much closer collaboration between larger firms and smaller ones in terms of the skills investments that are required. In the short term, we can address the symptoms of the problems. That is quite a lot of our focus, which is about helping companies identify the training they need to do and to make it more accessible.

One of the promising developments in the pandemic, which we are now starting to see going on, is that there has been much more focus on online learning. That makes training more accessible to smaller firms and individuals by allowing them to do it in a convenient way, in order to fit in with the rest of their working lives. Yes, focus on the structural changes and work to common outcomes to encourage more collaboration across the industry, but there are some things that can be done in the short term to address the practical barriers that small firms face in identifying the training they need to do and then doing it.

Lord Carrington of Fulham: Okay, because one of the problems is that, at the moment, the big companies do the training and they then lose the trained staff to the small companies.

Stephen Radley: That is not entirely true. The majority of apprenticeships are delivered by small firms. About two-thirds of apprenticeships are delivered by firms with fewer than 50 employees and a lot of them are delivered by firms with fewer than nine employees. To go the points that Charlotte was making earlier, addressing the bureaucracy associated with investing in apprenticeships and making it easier to invest in the training that companies need to do will start to address some of those problems in the immediate future.

Q33 **The Chair:** Thank you very much indeed. I would just like to ask one question, probably of Mark. Is our construction level and its sometimes stop-start nature in housing and in civil engineering a problem? Is that reflected in a poorer level of skills development and innovation than you see in somewhere such as Germany or Denmark, bringing in this comparison, which nobody has really mentioned, between the UK and other countries in skills development? Mark, Mott MacDonald operates

internationally. I do not know whether you have a view on that.

Mark Enzer: Yes, I do. That stop-start nature is a problem, yes, for sure. It actually relates to the previous question and looking at the wider structure of the industry, because we tend to see construction as an industry that somehow exists by itself, but it really does not. It exists in relation to everything else that is going on in the built environment. Some of the earlier questions were talking about what already exists. That really matters because we already have something like 99.5% of the infrastructure and built environment that we need, and then each year we add 0.5% to it, in very rough figures, so what we already have really matters, but that does not get counted in.

If we are taking that bigger picture view, we see construction in relation to all the other built environment processes, and then we can see how the whole thing can work better, not just construction. For example, in relation to housing, we have not talked very much about land ownership and planning, how the value is generated there and how planning has such a huge control over value. Very little of that value works its way through into the construction industry. Maybe if we were taking a bigger picture, we could see that it is part of the same overall process and we could see some value translated from one of those into the other, so not seeing construction in its own little box.

With that bigger picture, we can also see with the built environment that the operation, maintenance and use of the built environment is really where it is at. That is where we get the services from that provide us as a society with what we need. Construction is a very important part of that. What I would argue for is that bigger picture view that sees construction as part of all the related processes, which can then optimise construction in relation to the rest of the processes. If we keep seeing it in its own little box, we cannot solve all its problems.

The Chair: That is a very good note on which to end and I hope others may follow up on these wider questions, including the best practice. Actually, we have heard about some of that today, within the UK and in other countries. We have another session starting at 11 am, so we need to wind up. You have kindly promised to follow up on earnings levels, to the point made by Lord Grocott. Steve, we lost you and, therefore, you did not hear Lord Best's question, but we would like to give you the opportunity to answer that offline, if you do not mind.

It has been a very useful session. Thank you all so much, Charlotte, Mark and Steve. The public evidence session on the housing inquiry now ends. Thank you for your time and we will start again at 11 am on rail fares. Thank you very much indeed.