

Treasury Committee

Oral evidence: [Infrastructure](#), HC 798

Wednesday 23 September 2020

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Members present: Mel Stride (Chair); Rushanara Ali; Harriett Baldwin; Anthony Browne; Felicity Buchan; Ms Angela Eagle; Mike Hill; Julie Marson; Siobhain McDonagh; Alison Thewliss.

Questions 1-74

Witnesses

I: Sir John Armitt CBE, Chair, National Infrastructure Commission, James Heath, Chief Executive Officer, National Infrastructure Commission, Nick Smallwood, Chief Executive Officer, Infrastructure and Projects Authority, and Paul Sheffield, President, Institution of Civil Engineers.



Examination of witnesses

Witnesses: Sir John Armitt CBE, James Heath, Nick Smallwood and Paul Sheffield.

Q1 Chair: Good afternoon and welcome to this Treasury Committee evidence session on infrastructure. We are very pleased to be joined today by four experts in the area. I will ask them each briefly to introduce themselves, starting with John.

Sir John Armitt: I am John Armitt, chairman of the National Infrastructure Commission.

James Heath: I am James Heath, chief executive of the National Infrastructure Commission.

Nick Smallwood: Good afternoon. I am Nick Smallwood, chief executive of the Infrastructure and Projects Authority.

Paul Sheffield: Good afternoon. I am Paul Sheffield, president of the Institution of Civil Engineers.

Q2 Chair: Thank you very much for giving us your time this afternoon. We will ask questions in sequence, Member by Member. Generally, Members will identify the person or persons to whom they would like to address their questions, but if you are not selected and you feel that you have something particularly important that you wish to impart, please do not hesitate to raise your hand, and I will endeavour to bring you in at that point. For my first question, can I ask John and Nick very briefly to outline the remit of your two organisations, just so the Committee and the public are clear exactly what those remits are?

Sir John Armitt: Thank you. Good afternoon, everyone. The National Infrastructure Commission was established in 2015. It is an agency of the Treasury. Basically, we take our brief from the Treasury and report to it on a day-to-day basis. Our role is to look forward at the country's infrastructure needs. Every five years, we are required to prepare an assessment of that infrastructure need, looking 25 to 30 years ahead—so what is the infrastructure that the country needs in 25 to 30 years' time against a background of economic growth across the nations and regions, and of the environmental obligations that we may have internationally? Our basic remit is to ensure that what we deliver at the end of the day is sustainable infrastructure that enables people to live full and healthy lives.

Chair: Thank you.

Nick Smallwood: The IPA is a group of experts that reports to the Treasury and the Cabinet Office. We provide expert advice, guidance and support to the Government major projects portfolio, and independent assurance of the Government's major projects. We are also the home of the project delivery profession and the project finance profession in Government.



Q3 Chair: Thank you very much, Nick. My next question is for James. Has the National Infrastructure Commission been approached by the Treasury to consult on the whole issue of levelling up, and what kind of activities and targets might that involve? What connections have you had in that area?

James Heath: One of our formal objectives is to support sustainable economic growth across all regions, so it is central to our thinking and our advice to Government. A note that we published a few months ago to the Treasury set out some thoughts on economic recovery and levelling up, which I can happily elaborate on. For us, on infrastructure and economic growth, there are probably two ways in which you might close regional disparities. There is one piece around how transport improvements can meet existing demand and remove barriers to growth in our fastest-growing cities, many of which are in the north and the midlands, where transport investment is needed.

A second role is how infrastructure investment might stimulate local growth and new demand, and regenerate areas. There are examples of that. One that I worked on in the past is Salford Quays and the regeneration around there. The second one is harder to pull off than the first, because transport investment is necessary, but it is rarely sufficient to drive growth. You have to have a whole set of complementary measures in place around skills, quality of labour and so on.

The final thing I would say, in terms of our position and advice, is that when looking where to invest, it is important to look at the underlying strengths of areas and the potential for businesses to transition and connect to high-value sectors. You probably need to intervene and invest at scale to have a real impact, rather than incremental change. That means it is hard to spread jam everywhere, rather than to prioritise, if you want infrastructure to have a real impact on levelling up.

Q4 Chair: You mentioned underlying strengths. Where we are investing in infrastructure, what about value for money when it comes to addressing the levelling up agenda? That would suggest that you would be putting that investment into parts of the country where, all else being equal, if you were just looking for economic return, you might go somewhere completely different with it. What is your view on that? Is that a fair comment?

James Heath: This is an interesting question, because you have to start off with what your strategic objectives are in making the investment. Are you looking to grow overall national productivity, or are you looking to close regional disparities in productivity? Are your objectives primarily economic and value for money or are they broader and social? Clearly, interventions in broadband are about both productivity benefits and making an essential service widely available. There are distribution and fairness questions there as well.

Q5 Chair: In the question that I have just posed, I have taken a very narrow view and said, just in terms of value for money on those investments and



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the return to the economy on what are often very large amounts of money going in, is it the case—it seems to me logically that this would be the case—that if you start to skew it for anything other than purely economic reasons, if I can put it like that, you get less of a return as a consequence?

James Heath: Not necessarily. You have an interesting question here. Investing in areas with higher productivity and higher wages might bring you a greater absolute return, but that is a different challenge from if you wanted to try to close disparities—*[Inaudible.]*—cumulative advantage. That is the distinction I was trying to make. It depends what your strategic objective is.

Q6 **Chair:** I understand. I will go to Nick and then I will come to Paul, who I see is trying to come in as well. What is your view of that, and do you think that the financial cost, if there is such a thing, of going into areas on the basis of levelling up and not purely for economic gain reasons, is substantial? How do you view it?

Nick Smallwood: It is a little bit of what James alluded to; it is a complex position and it is difficult to do a calculation. A business cost ratio calculation is very simple and straightforward, and there is good guidance in the Green Book on how to do that, but how do you measure some of those other elements? Of course, we have the added dimension of net zero coming in on top of that, so it becomes quite challenging and difficult.

To James's point, we need direction and clarity on what the Government's strategic objectives are, and then you can better align the calculation of overall and overarching benefits. You have the added complication that you might have a project delivered in the south but a significant part of the supply chain to deliver that project coming from other parts of the UK, so it is not even as straightforward as where the project is actually built in the end.

Q7 **Chair:** Understood. That is interesting. Paul, do you want to come in?

Paul Sheffield: Nick has probably just covered one of the points that I was going to make, but it is really important, as we look to the future, that we try to put some measure of social benefit on schemes that are built in areas with less employment, lower wages and salaries, and a lower cost base. Otherwise, everything is skewed towards high land values, high labour costs and high wage costs down in the south-east. There are enormous social benefits to be generated by improving the fabric of our society in other parts of the country.

Elaborating on something else Nick said, it is not unreasonable to expect that projects built in the south-east might have significant elements that are built in other parts of the country. Then you are not just supplying labour from other parts of the country into the south-east, but you can provide modular construction units, whether that is modular housing or modular parts of hospitals and schools, which could be manufactured in—dare I say it?—Hartlepool or Wallasey, and shipped down the motorway



network to other parts of the country. That is very possible, and it can be driven by smart procurement that can be led by Government.

- Q8 **Chair:** The question I am about to ask begs exactly what we mean by levelling up, but the Government started a very ambitious, manifesto-backed commitment on this. We have a bit of a way to run until the end of this Parliament, but it is not forever, and certainly not in infrastructure terms. Do you think that there is a real possibility of meeting the objectives around levelling up, or making a big, appreciable difference, in the time that the Government have to deliver on this?

Paul Sheffield: Inevitably, we quite often think about huge mega-projects when we are talking about infrastructure, and huge mega-projects take years to plan and years to build. But there are a huge number of relatively small infrastructure improvements that we can build around the country that can be delivered in a very small number of years. Take, for example, a typical £10 million project, which would probably be delivered in a 12-month period. At my best estimate, a £10 million project would probably employ between 50 and 100 people for a year. We know that there is also a multiplier effect, so if you employ 50 people on a project, you are probably creating employment for another 100 people in the local environment in the supply chain.

- Q9 **Chair:** What would those projects look like? What kinds of things are £10 million projects?

Paul Sheffield: In social infrastructure, it could be an extension to a secondary school or an extension to a hospital. It could be de-bottlenecking a transport network or creating active transport routes through towns and cities. It could be fibre broadband connections. All these things are capable of being planned and delivered pretty quickly. Then there is, of course, the old chestnut of pothole filling—there is an enormous backlog across the whole country to bring our roads up to a really good standard.

Those are all relatively short lead-in projects that can be delivered pretty quickly, and certainly within the term of a Parliament. But even with the construction of a much bigger hospital, which might well take a number of years to build, it will take us a couple of years to design and plan them, and then they will be starting to get under way perhaps towards the end of the political cycle. So there are many, many options to deliver quickly.

- Q10 **Chair:** Thank you. I see that Nick wants to come in.

Nick Smallwood: I think Paul touched on all the projects that could easily be delivered within the period, but I think there is also a commitment within the parliamentary cycle on what else we are going to start. You have seen a start in that area of major investment with HS2 phase 1. I think there is a clear plan to make a decision on the integrated rail plan for the north in this Parliament, and I think getting those longer-term commitments to level up are equally important as delivering on some of the smaller programmes and schemes.



Chair: That is a very good point. Thank you.

- Q11 **Felicity Buchan:** My questions are on the effects of Coronavirus, but I have a quick follow-up question on levelling up. James, often when we think about levelling up, we talk about regional disparities—north versus south—but our most deprived areas are often in our cities and indeed in London. Is part of your remit to think about infrastructure in the deprived bits of London, Manchester and other major cities?

James Heath: Yes, you are absolutely right. There are clearly regional disparities, which in some ways appear to be narrowing a bit, but those disparities within regions and within cities are absolutely significant and equally important. So we do look at both.

- Q12 **Felicity Buchan:** Excellent. Let me move on to Coronavirus, which will have huge implications for our infrastructure priorities. How do you think it will affect our priorities?

James Heath: This is a really interesting area. Significant uncertainty has clearly been caused by Coronavirus, but actually I am not sure it radically changes the infrastructure priorities at the moment. The challenge here is to make decisions that will probably last for 10, 15 or 20 years, not what happens over 12 months, and those big trends that drive infrastructure investment—population growth, economic growth and climate change—will probably transcend Covid. Infrastructure delivery takes time, and if you wait too long for certainty and behavioural trends before you make some decisions, you will extend that timetable, and that will probably result in potential under-provision of infrastructure at a later date.

However, what the uncertainty about Covid reinforces for Government—this is something we have been saying—is the need for a balanced portfolio of investments, so you need some investments that have tangible, short-term impacts. You need some “no-regrets” investments, if you like, which will work in any scenario, such as the things that Paul was talking about on energy efficiency, broadband and electric vehicle infrastructure. Then you need to try to insure against different fund scenarios and different risks.

In all future scenarios, you probably want to invest in at least transport and broadband, and probably both. Therefore, it does not fundamentally change the Government’s approach to infrastructure at the moment, but there are some clear issues that we have to take into account. We have to look at how the behaviour change plays out over the next couple of years.

- Q13 **Felicity Buchan:** Yes, and it seems to me that there are certain no-brainers here—full-fibre digital infrastructure, for instance. John alluded to the move towards net zero in his introductory remarks, so more of a role for electric car infrastructure also seems to be a no-brainer. Apart from those two, are there any other significant trends that you think come out of Coronavirus?

James Heath: The fundamental question is this: what happens to the future distribution and location of work? And then there is the knock-on



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effect that has on transport infrastructure—obviously, public transport we are seeing at the moment, but there is also broadband demand.

I think the question in my mind is this: will the pattern effectively be what has happened to airline travel? After every economic recession, airline travel dips for two or three years and then returns to trend. Or will we see a shift more akin to a technological impact, such as what happened to the Post Office with email, where you just saw 50% of Post Office usage disappear because of a technological shift? Will working from home have that sort of impact?

It is too early to tell, but we will run some scenarios—not trying to predict the future, but running some different scenarios—about how this could play out, and then understanding what the policy choices might be, depending on which scenario materialises over the next few years.

Q14 Felicity Buchan: Paul, you have your hand up.

Paul Sheffield: I just want to make one very quick addition to that. James is absolutely right—the long-term drivers of this are really going to be sustained. The ICE, together with the infrastructure client group, published a white paper just a couple of months ago, which tried to paint a bit of a picture about the short-term and long-term priorities. The only one that I would add to James's list of immediate responses to Coronavirus is in the area of active transport.

Therefore, it is an absolutely yes for 5G and broadband connectivity, because people will work from home far more than they ever did before. But I think that enabling walking and cycling on these shorter journeys will be really critical, and it is something that can be done really quickly. I know that the Government have accelerated some £250 million of funding for that, so that is another area that could be pushed.

Q15 Felicity Buchan: Nick, an awful lot of our big infrastructure projects at the moment are in transport. You alluded to HS2. However, it is difficult to see, especially in the short term, how much commuter numbers will return, and clearly we need to restore public confidence in public transport. What are your projections?

Nick Smallwood: My projections are to defer to the experts, quite frankly. I think it is exactly the challenge you paint. We have a lot of work going into the Department for Transport right now to try and answer that very question. How many road users will we have? Will they move more quickly to electric vehicles versus the traditional vehicles? Are we going to see the same level of domestic airline travel, or is it actually going to positively reinforce investments such as HS2, where transit times will be just as quick by taking a train?

A lot of questions remain unanswered, if I am honest. The IPA does not really play a role in making those decisions; it feeds into Government on how those projects might be delivered. But I think that what we deliver is really for Sir John, James and the Departments to come forward and offer up.



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Q16 Felicity Buchan: Just so I understand, you are looking at how we deliver things, but are you also reviewing the delivery? On Crossrail, for instance, we have clearly seen big delays and we are way over budget—£3 billion or £4 billion over budget. Is part of your role to review the delivery of infrastructure?

Nick Smallwood: For the most major projects in the Government major project portfolio, absolutely. Actually, we intend to strengthen the delivery assurance model that we have, to apply far more rigour at each of the stage gates of the gateway process and be clearer on when projects are ready to proceed. We have seen far too many projects go forward where they were not in a healthy state.

Maybe we can come back to this when we talk about Project Speed, but certainly I am of the view that front-end loading and doing the right level of definition on the project way up front, being clearer on what outcome you expect, and aligning key stakeholders, Ministers and everybody, on what you are trying to do, before you rush to put a spade in the ground and make a promise on the schedule when you don't even know what the scope is, is a learning that we need to take across the whole of Government, and we are doing so.

Indeed, there are plenty of examples of projects that have not gone particularly well. There are plenty of examples that have gone well, by the way. I think the Government actually has quite a good track record overall, over the last few years, of delivering a number of successful projects. But those large linear infrastructure projects are extremely challenging. Typically, they are all unique. Some of them are the very largest and most complex in the world, and they are worthy of more rigour and discipline before we proceed.

Q17 Felicity Buchan: How do you intend to hold the management of HS2 to account so that we do not get the delays that we have seen with Crossrail, and overspend.

Nick Smallwood: HS2 is a great example of where there is far more focus now, as the project has had its notice to proceed, and where additional governance has been implemented, so there is not only a client board, on which the IPA takes a role, but we have a full-time Minister appointed, and we have a ministerial meeting every month to review the project with key stakeholders. Then they have an accountability to report to Parliament twice a year. In addition to that, I have insisted that the IPA gets an opportunity to do an independent assurance review, the scope of which is of our choosing, to assure the key stakeholders that it remains in good shape.

I have the very strong view that you cannot assure goodness into a badly developed project. We really need to get better, early, at setting up projects to be delivered with excellence, rather than trying to fix them after the horse has bolted.

Q18 Felicity Buchan: I think I have time for one final question, so let me come back to James. I understand that in 2023 you will be publishing



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your next national infrastructure assessment, for the next 25 to 30 years. Clearly, this is a challenging time to be doing that, given all the uncertainties that we have alluded to in the last 20 minutes, but what do you think your priorities will be, as of today?

James Heath: As of today, I think we will look at those big drivers: population change, economic growth and distribution of work. Two big things will drive the identification of the big opportunities and challenges; there will be the piece on regional growth and rebalancing regional growth and the piece on net zero and how we decarbonise infrastructure. I think those two will be the big two challenges that are driving the work overall, in addition to trying to understand the behavioural trends coming out of Covid—are they long-lasting and, if so, what might they mean for demand for different sectors?

Felicity Buchan: Thank you.

Chair: Thank you very much, Felicity. We will now go to Harriett, please.

Q19 **Harriett Baldwin:** Let me start by talking to Paul about, “Build, build, build”, which I understand is really more, “Accelerate, accelerate, accelerate”, in the sense that it brought forward some of the existing projects. Is that a correct assessment, and would it have been possible to bring forward more of the pipeline, or was the £5 billion to £8 billion really the most that could have been brought forward?

Paul Sheffield: Yes, I think that about £5 billion has been accelerated, and I think that is largely around the social infrastructure, in terms of school and hospital extensions and improvements and so on. To be frank, I think there is—well, it’s not quite a bottomless pit, but there is a huge amount that could be brought forward, certainly if we looked towards some of the economic infrastructure as well.

Certainly, highways improvements are still going to be vital. If you look at transport use across the country over the last six months, obviously the use of public transport, in terms of trains and buses, has plummeted; car transport is almost back up to pre-Covid levels now. It is pretty critical that we invest in the quality of the road surfaces and in reducing congestion at urban junctions and so on. There is a huge deficit in the funding that is available every year compared with what is needed.

If you look at the faster roll-out of fibre broadband, there are some pretty ambitious targets anyway to try to get full fibre broadband brought into use before 2030—I think the target is 2027 now. There is a huge amount to be done to do that. There is plenty of opportunity to spend that money quickly.

To reiterate something that Nick said a few moments ago, we have to be careful that we do not knee-jerk into spending money on projects that have not been properly thought through before we start. If you dig a hole in the ground and then stop because you have not thought of something, or because you change your mind, that is a complete waste of time and money. We have to be careful to plan properly.



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Q20 **Harriett Baldwin:** *[Inaudible.]* I declare an interest, in that my constituency did well in terms of the “Build, build, build” funding, and it felt like that was pretty much the capacity of the area to deliver in the timeframes required. We got a generous allocation. But you are saying that there would be more capacity in the industry and a range of different projects on the list that could be brought forward.

Paul Sheffield: Yes, I think so. One of the important reasons we need the Government to commit to a long-term infrastructure plan is so that the industry can invest in training and development not only of the staff and management but of the labour force that will deliver those projects. There is nothing worse—

Q21 **Harriett Baldwin:** In the next 12 months, though, because that was the key constraint with “Build, build, build”. It had to be done in the next financial year. You think that the industry could deliver in that sort of timeframe.

Paul Sheffield: I do, yes.

Q22 **Harriett Baldwin:** If you were designing your Roosevelt New Deal plan, what would you put in it in the next 12 to 18 months that was not included?

Paul Sheffield: There has been very little strategic focus on active transport, which I have mentioned a few times this afternoon.

Harriett Baldwin: That is the cycling and walking routes.

Q23 **Paul Sheffield:** Yes, and making sure that pedestrians and cyclists have safe routes through towns and villages. There is a lot of evidence to demonstrate that the footfall through local shops actually increases when you improve the quality of the walking and cycling infrastructure.

Q24 **Harriett Baldwin:** So you think that there would be huge capacity to do more than the £250 million that has already been announced.

Paul Sheffield: Yes, I do.

Q25 **Harriett Baldwin:** Do any of the other witnesses want to add to the points that Paul was making?

Nick Smallwood: Recovering from Covid, it has become clear that the infrastructure sector is a key driver for economic growth. That is what is behind “Build, build, build”. The quicker we can get back into major programmes and projects, the more it will help to build GDP. It is a large sector in terms of employers. Clearly, we do not want a lull where we lose people from the various sectors related to infrastructure. It is important not only to start on the near term, but that we are clear on the national infrastructure strategy and that we can commit to longer-term programmes that will give some degree of certainty to the market. Right now, although public projects are proceeding, there is a bit of a lull with private sector projects. Where those are not proceeding or there is a degree of uncertainty, we have a huge opportunity to step in and accelerate some of the projects that we intended to do anyway.



Q26 **Harriett Baldwin:** What would those specific projects be?

Nick Smallwood: Being clear on which hospitals we want to progress with and which schools we want to build in the near term; being serious about longer-term commitments to the Ministry of Justice; starting some of the longer-term linear infrastructure projects; and being committed to that longer term will allow the supply chain to be much more confident that it can invest in skills, apprenticeship schemes and growing the whole sector for the future.

Q27 **Harriett Baldwin:** John, you put your hand up. Were you consulted on the things that were brought forward in the “Build, build, build” announcement?

Sir John Armitt: We were asked what sort of things might be included, all of which, pretty well, have been covered. In the short term, if you are talking about wanting to get people back into work, you focus, as has been said, on those projects that are not capital equipment-heavy, but more labour-heavy. Digging trenches for full fibre is an obvious one. Improving our network for electric vehicles is absolutely critical. People will not buy electric vehicles until the infrastructure is in place to charge them. That has got to be addressed if we are really enthusiastic about EVs and see them as being the future.

Paul has mentioned road maintenance. We never spend enough money on road maintenance. It’s an opportunity for the Government to support local authorities in doing more on road maintenance. Those are the sorts of things you can do quickly. If you even want to do a significant roundabout, you will not do it in 12 months. These things just do not fall off the drawing board and into production. There is always planning. There are always a lot of things to be considered, and therefore it is only those things that are almost already in train, where you can pick up the pace by showing a willingness to support those projects, where you will see rapid movement.

The other thing that cities need, for example—we are seeing this in Birmingham with the Commonwealth games coming along—is the need to improve the bus networks by having dedicated bus lanes. Again, that is the sort of thing that you can design and develop quite quickly. It reduces congestion in the city in the long term. They are not mammoth projects. They are things that can be got on with fairly quickly.

Q28 **Harriett Baldwin:** John, does your national infrastructure plan show the trade-off for decision makers in terms of the speed with which projects can be delivered? What about the productivity impact that they might have and the number of jobs that they might create? Does your planning show that for decision makers?

Sir John Armitt: No, not really, because that is not really what we are there to do. We are not concerned about speed. What we are concerned with is a long-term strategic policy that looks not just 12 months out, but looks five, 10, 15 or 25 years ahead. Without that, as panellists have mentioned, nobody can plan. Nobody is going to invest in training if they



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cannot see that they are going to get a future workload. The private sector is not going to invest if it cannot see that improvements in broader infrastructure are going to take place.

If you go into the centre of Birmingham at the moment, High Speed 2 is 10 years away from arriving in Birmingham, but people are investing in the centre of Birmingham because they know it is coming. There is confidence that things are really going to start moving in Birmingham in 10 years' time with the introduction of HS2, so commercial investors are investing in Birmingham. They have got that certainty that something is going to arrive.

Harriett Baldwin: Paul, you wanted to add a point there.

Paul Sheffield: Yes, just a couple of key statistics that might help. They're around jobs and value creation out of infrastructure spend. For every 1,000 jobs that are created directly in infrastructure projects, about another 2,000 jobs are created in the wider supply chain. That is a three times multiplier effect. If you look also at the GDP growth, for every £1 that is invested in infrastructure, the GDP growth increases by between £1.50 and £2.70, depending on the sector. So there is a pretty significant uplift in the value to the economy by investing in infrastructure.

Q29 **Harriett Baldwin:** I don't think anyone is going to question the economic value of investing in infrastructure, but we look to experts like yourselves for advice on the issues around the economic impact of speed and so on. Can I move on to something that was foreshadowed there around the private financing of infrastructure? What I am hearing is that having a certain pipeline is very helpful in terms of attracting inward investment. We know that the private finance initiative is kaput and we are not going to get any more of those. How can we get more private finance into achieving the Government's infrastructure ambitions? I will start with Paul.

Paul Sheffield: There is no shortage of private money around the world that is really keen on investing in long-term stable assets like infrastructure. A lot of this money is very mobile. It could go to Australia, South Africa, or anywhere in Europe, so the investors really need to be certain that the pipeline of work that is identified can be fairly certain, that it will happen, and that we have a fairly predictable future. Otherwise, they will just give up on the UK and go invest their money in other European countries or elsewhere. It is really important, therefore, that we get Government support behind the ICE and the pipeline.

Q30 **Harriett Baldwin:** What is the best form of Government support? There has been a consultation that talks about the regulated asset base model, the UK guarantees scheme and the digital infrastructure investment fund. What do you think would be most successful in attracting private finance? I will start with Paul and then go to Nick, who I see has got his hand up.



Paul Sheffield: First of all, just ensuring that we have that confident pipeline, but I also think we need to have some UK replacement for the European Investment Bank, which we are obviously going to lose access to very shortly. Since the referendum in 2016, we have lost about 90% of the funding that was coming from the EIB. The EIB is a bit of a catapult, if you like: it is quite specialist at investing in infrastructure projects. If the EIB, for example, takes the first 10% of investment into a project, it de-risks it for other investors and they see it as a much more acceptable risk profile. The EIB has been a bit like a Trojan horse; it has been a very useful source of first funding, and we will lose access to that.

Harriett Baldwin: You would like to see a UK investment bank.

Paul Sheffield: Yes. I think that would be very useful.

Harriett Baldwin: Nick?

Nick Smallwood: I was just going to highlight that I do not think there is one single solution to accelerating private sector investment, but we are expecting over half the future pipeline to be supported by the private sector. It will be a combination of the contracts for difference scheme, potentially the regulated asset base model for power generation, and then other schemes, including the digital infrastructure fund. We have the charging infrastructure fund to encourage investment in the infrastructure for electric vehicles.

Just to give you an idea, 50% of the total wind capacity installed in Europe last year was installed in the UK, and that was supported through the contracts for difference model, so we are seeing some significant impacts from those schemes. There is about £40 billion of guarantees out right now through the UK guarantee scheme, so I think it is and/and: there is a willing market, but to Paul's point, we have to be at the front there, being clear on what the longer-term plan is and attracting those investments to the UK.

Q31 **Harriett Baldwin:** Thank you. We are doing a different inquiry on green finance as well, and we heard evidence in that session about the fact that petrol duties are effectively going to go to zero over time, and that we ought to move to road pricing. Is that something that would be successful at bringing private financing into infrastructure for roads, or is that something everyone is going to roll their eyes at as being completely unrealistic? John, I saw you put your hand up.

Sir John Armitt: This has been around for 25 years, and fundamentally, it is a political issue. There is no technology now to stop you having very precise road-pricing models. You could price any car on any type of road at any point in the day, and you could charge them differently according to where they were driving, on what type of day, on what type of road. The mechanism is there; the challenge, as you say, is how you—

Harriett Baldwin: But within the specific prism of "would it attract more private finance?" I would be—



Sir John Armitt: Private finance will be attracted by something that is given a political and legal certainty of duration. The private sector is not going to invest in something that does not have a fairly certain return, and therefore it is a balance between Government and the private sector about sharing of risk, sharing of obligations, and the consistency of policy that is going to come from Government.

Q32 **Harriett Baldwin:** What other changes to policy would you like to see to attract more private finance into infrastructure investment?

Sir John Armitt: I think we are getting confused. The only public sector direct investment is in road, rail and flood defence; everything else is private sector. The private sector provides our telecommunications. It provides our energy and it provides our water systems. It invests in those under a regulated structure. There is always a debate in which very often the private sector wants to invest more than it is able to invest, because the regulator is trying to keep prices down. If you were to actually get a better balance between the future needs and the resilience of our infrastructure in the future, as opposed to just constantly focusing on the cost to the consumer, you might have a different level of investment by the private sector.

Q33 **Harriett Baldwin:** There is central Government funding in the digital infrastructure, isn't there, to some extent?

Sir John Armitt: There is not very much. The bulk of it is being done by the private sector. The Government has said that it is willing to support those areas where, if you like, the private sector sees no return, and therefore it is willing to support the private sector in investing in those parts of the country where it is going to cost you more than you are ever going to get as return from the user charges which you are able to put in place.

That is what is happening, and has happened, on digital infrastructure. The same thing is going to have to happen on electric vehicle infrastructure. There has to be a trade-off between Government and the private sector to get the private sector to invest at the scale and speed that is required if we are going to meet—for example, people talk about having a ban on internal combustion engines in the early 2030s; well, if you are going to get to that point then you have got to have an infrastructure in place. You need to work back from that date to today and say, "How are we going to get there? What is the rate of investment? Who is going to make that investment?" If the private sector turn round and say, "Well, we are not able to make that at that rate, because it's not going to give us the return we need," the Government have to get involved in agreeing "What is the balance between what we do as Government and what you do as the private sector?" These are all a balance between investment and risk.

Q34 **Harriett Baldwin:** I don't seem to recall Government having to get involved in building the petrol station network, so can you just talk me through what are the obstacles to private finance into the electric car



charging network?

Sir John Armitt: The electric car charging network fundamentally requires an uplift in the investment and in the nature and scale of the distribution network of electricity. That is a regulated industry, and that industry can only invest at the rate at which it agrees with its regulator it is able to invest. You only have to read the papers in the last month to see the arguments that are going on between Ofgem and the industry about the latest settlement that Ofgem intends to put in place. If you want to see that investment into the infrastructure that is required for electric vehicles, there will need to be some support from Government to the private sector to ensure that that gets rolled out in time and in the right locations.

Q35 **Harriett Baldwin:** This is a really important point. So if Ofgem were to deregulate the price that electric vehicle charging points could charge, private finance would be able to fill that gap: is that what you are saying, John?

Sir John Armitt: It hasn't got as far as regulating the price. That hasn't really hit the streets as an issue yet, in terms of what will the price be. It is the very heavy investment which needs to be made by the electricity distribution companies in their networks, in their substations. If a developer is building a block of flats at the moment and he wants to put electric vehicle charging points into his car park, then he has to go and talk to the local electricity distribution company and say, "Look, this is the capacity I am going to be taking. Can you supply it?" Quite likely, he will say, "No, I can't." He will say, "I can only do that if there is an upgrade to my system, and that requires the substation down the road to be rebuilt. It is going to cost £200,000. Mr Developer, if you really want to see 25 charge points in your car park, then please give me £200,000. Otherwise I am not going to do it." Very often that trade-off is private sector to private sector, but equally it is at times going to be between the regulator and the companies. We made a proposal as the NIC over two years ago now, saying that we felt there was a role to be played by the regulator working with the distribution companies to be sure that we got an efficient roll-out of the infrastructure for electric vehicle charging. And that hasn't really happened yet.

Harriett Baldwin: That is fascinating. I have learned a lot. Thank you very much.

Q36 **Anthony Browne:** I am going to pick up on the point that Sir John Armitt made about speed. I was slightly taken aback when you said that speed is not part of your remit. Clearly, it isn't part of your remit, but it is obviously very important in project delivery. The UK is notorious for having very long, slow infrastructure projects. I was involved with Crossrail, which has been around for about 40 years or so and is still being built. We often compare ourselves with China, in that we do not even have the planning permission through by the time they have finished several projects.

The Prime Minister and the Chancellor have set up Project Speed to try to



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see whether we can accelerate infrastructure projects. It is important from a political point of view, because it reduces political risks if you can do projects quickly. There will also be more political appetite for doing something if you can do it within the period of one or maybe two Parliaments.

What I am really interested in is how we can speed up infrastructure in the UK. If you were the Prime Minister or the Chancellor what would you do to make it quicker to deliver, without reducing the quality and without making mistakes? Nick, you are probably in the best position to answer to start with, but I certainly want to come to Sir John and Paul Sheffield. Nick, how would you speed up infrastructure delivery in the UK?

Nick Smallwood: Obviously, the IPA is at the centre of, and playing a central role in, the Project Speed initiative, which the Chancellor is chairing. We are focusing on a number of key areas, all of which have huge opportunity for improvement and are a reflection on the comment that you made that we simply take too long, and may be taking too long on the wrong things rather than doing some of the right work to be ready to go faster.

Project Speed is about less haste, more speed, and cutting out waste. The focus is on a number of areas. We are looking at planning and regulatory reform, where we have perhaps followed EU legislation and it has led us to take unnecessary time to get approvals through, and whether we have an overly complex process to look at the environmental legislation that is relevant.

We are looking at governance, and assurance within Government. If you look at how long it takes to get approvals and how difficult it is for Departments to progress some of the largest schemes, it is quite complex within their own Departments—getting support from the major projects review board and then going back into the Treasury, and so on—so there is opportunity there.

There is an opportunity to reform the construction sector. If you go on a construction site today it looks pretty much as it did when I started in the industry about 38 or 39 years ago. We are simply not exploiting what is possible in terms of digital technology, modern methods of construction to reduce cycle times, and so on. We can really step up in terms of our capacity and capability. Not only are we short of key resources in central Government—we do not have enough SROs or major programme managers—we think that there are also opportunities for our arm's-length bodies and our local authorities that have large spend to step up.

Also, we are looking at building skills in the supply chain—not only craft skills but leadership and engineering skills to exploit the digital technologies that I referred to. We can also exploit procurement reform. We will no longer be bound by OJEU and some of the EU regulations that really constrain us. With longer-term commitments and a really clear view with the national infrastructure strategy, we will be able to change our



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models of contracting with the marketplace with a much longer-term focus.

All that said, I still maintain that we need to do the right level of front-end loading. You will see that, if you do all that I have described with best practice front-end loading, against an average project you can probably improve the cycle time by 10% to 15% and lower the cost by 20%. If we can shorten the regulation and planning time, be swifter and smarter in how we make decisions, and help the supply chain to become really smart and digital, there is huge opportunity to take substantial time out of these major programmes and projects.

Q37 Anthony Browne: Can I be clear: when you said you would reduce the time by 10% to 15%, you were not talking about the total opportunity here.

Nick Smallwood: No, that is just against how we do it now if we do not change all the other elements—just in terms of how you develop the project.

Q38 Anthony Browne: Do you have an estimate of how much you could reduce the timescale in total? I might be asking how long a piece of string is.

Nick Smallwood: You are, because it is very different looking at how long it takes you to build a house versus building a hospital, a school or rail infrastructure. I can honestly say that I think the range is somewhere between 20% and 40% versus what we do today.

Q39 Anthony Browne: That is a major, substantive difference. You describe a huge range of activity, which you are obviously reviewing at the moment. The trick in all these things will be implementing it and having the political priority to push it through. It sounds like you require legislation, from what you say.

Nick Smallwood: Some will require primary and secondary legislation, but others will not. Better front-end loading can be done tomorrow. We actually need to take a cold look at what is allowed within the procurement regulations today, without any changes, because we are bound by OJEU until the legislation is changed. I think we can change how the Government govern, support and assure projects without any support from Parliament—we can just get on and do it. There are lots of things within our own gift without legislative change.

Q40 Anthony Browne: Sir John, you famously delivered the whole infrastructure of the Olympics a year ahead of schedule. How would you best improve or speed up the delivery of infrastructure projects in the UK?

Sir John Armitt: I remember, many years ago, somebody saying that the average bypass took 14 years—12 years in planning, thinking and all the public arguments on which side of the village it would go, and two years to build it. I describe projects as why, what and how. We do not spend enough time on the why. We rush into projects, as Nick said earlier. As



soon as you start digging, you are fixed; you cannot go back. In fact, we should spend more time and money thinking about what we need and why, being far more open with the public about what we are going to do and why, so that we do not get all the protests and court cases and everything else that goes on that slows down our projects. That largely happens because we are not prepared to take the public into our confidence about what we want to build and why we want to build it.

We need to spend a lot more time on the why, and then what we are going to build becomes easier to define, and how we are going to build it becomes, in many respects, the easiest part of it. There is no shortage of innovation, as Nick has been saying, and ideas about how we can physically build something more quickly; the industry, by and large, is extremely good at doing that. However, if you rush into things, you will pay the penalty later on, in longer projects, more cost [*Inaudible*]. More thought, more time, a bit more money—not a lot—at the front end and we will reap the benefits.

- Q41 **Anthony Browne:** Isn't there a slight contradiction there? You say that we need more why at the beginning—engagement with the public and so on—and that the what will come out of that, and also that a bypass takes 14 years, with a 12-year political process beforehand. How would you speed up the 12-year political process, because is that not the bit where you work out the why and the what?

Sir John Armitt: It is, but a lot of it is because it is not taken forward in a constructive manner. We often rush into building things without thinking what would really solve the problem. If you go back to the Olympics, the question was whether we needed to build anything at all, or whether we could cope with what we had or adapt what we had. We had options—use what we already had, adapt what we already had and improve it or build something new. That was the first question that you had to ask yourself, because that way you kept down your total expenditure and did not build things unnecessarily. You start from that point.

For example, are you going to build a new railway, or are you going to upgrade the existing railway? Those debates need to be carefully thought through, because upgrading an existing railway can be done without any real planning, because you are building within Network Rail's permitted development rights, which removes a whole chunk of activity. On the other hand, it will be disruptive, so you have to take account of the impact of the disruption and offset it against eventually being able to rush across a green field. However, rushing across a green field takes you a very long time, in terms of getting the consents, the agreements and the support to do that. There is no single golden rule, other than, I would argue, that if you spend more time at the beginning, you will save more time and, undoubtedly, money at the back end.

Anthony Browne: Nick, do you want to quickly answer that, and then I will come to Paul?



Nick Smallwood: Just to reinforce, I agree with everything that Sir John said, but it is not additional work; I think there is a lot of effort spent on Government projects that we need to stop. We need to stop keeping multiple options and continuing to work on multiple options—where we take our eye off the ball of those critical activities that Sir John just described—and rather do the right things at the right stages. That is why I am so keen that we reinforce the Government’s stage-gate process and bring the decision makers the key, tough choices to be made and have those “what and why are we doing it?” decisions early, rather than keeping all the engineering going and not actually addressing the stakeholders and closing open switches.

Q42 **Anthony Browne:** What you are both saying is that it is about political failures, ultimately. Failure is a strong word to use—weaknesses.

Nick Smallwood: Weaknesses in the decision making, keeping choices and changing our choices and our scopes of work. We have an incredible number of projects where we reset the schedule because we change the scope. Not surprisingly, the cost and the schedule go out to the right.

Q43 **Anthony Browne:** I now come to you, Paul. Nick and John have given quite full answers, but what would you do, if you were the Chancellor, to speed up infrastructure delivery in the UK?

Paul Sheffield: Do not underestimate the power of Government and procurers of projects to set very clear objectives for the people who are designing, planning and building these projects. If they have a very clear set of outcomes as to what they want, it is remarkable how many hoops the industry will jump through to achieve them.

What do I mean by that? We have the net carbon zero target of 2050. We should not be sanctioning any project today that does not demonstrate its credentials for helping the country get towards that net carbon zero future by 2050. If we leave it for another 10 years, we will be wasting 10 years in getting to that point. Government and procurers of projects can really set firm targets. It is not only net zero; you can actually set those targets on smart construction, which will reduce the time spent in the execution of the project.

We have to make sure, right from the outset, that we embed smart construction in the philosophy of the project, whether it be modular or off-site digital technologies that will reduce the time spent at the back end. They have got to be thought about right up at the front; it is no use trying to retrofit that idea 12 years into a 14-year programme like Sir John was talking about, because then you go back to the drawing board and reinvent it. You need to think about it in year one or two: “How am I going to set this project up to be a success and to be delivered fast?”

Without putting words into Sir John’s mouth, he was not talking about extending that 12-year period to reduce the two. He was probably expecting to halve that 12-year period by making sure that we do the right thinking in year one, not year six.



Anthony Browne: Unfortunately, time is of the essence and I have run out. Thank you all very much for your answers, which are particularly interesting for me given the infrastructure issues that we are having in delivering projects in South Cambridgeshire.

Chair: Thanks, Anthony. Rushanara, please.

- Q44 **Rushanara Ali:** Thank you very much. Apologies if there is any repetition—you have covered quite a lot of ground—but I wanted to start with Sir John. To pick up on the questions about the varying priorities of the Government—levelling up, decarbonisation and, of course, we all want to see a jobs-led infrastructure investment process as well—how do you balance, given your role in the NIC, the role of infrastructure in generating economic growth with those objectives around levelling up and net zero? Obviously, you have the opportunity to think much more long term. Where do you see that trade-off and balance heading?

Sir John Armitt: There is no contradiction between seeking to improve the regions of the UK, and their productivity and economic activity, and Britain being competitive on the world stage and having a productive economy. In overall terms, we are simply required to say what the infrastructure needs in the six key infrastructure sectors over the next 25 to 30 years are, how we think they can be best planned, and what is going to be physically scalable and is going to be required over that period?

The one single ingredient that you have now, in legislative terms, is net zero, as Paul said. I think net zero is a wonderful thing, because it provides clarity of outcome, and without clarity of outcome you are going to struggle with anything. The biggest challenge of all, I think, is our energy policy: how is our energy policy going to deliver a net zero world by 2050, and how do we do that in a way that is successful for the UK? People will say that we can develop new technologies as part of that. For example, Britain could take a leap forward in the development of hydrogen technology, which could address 22% of our carbon emissions in heat, whether it is for domestic use or business use. Addressing that and getting moving on that quickly would give Britain a competitive advantage in the hydrogen sector in the world, but it needs a clear policy very quickly—it needs it now, frankly.

We hope that when the national infrastructure strategy is published by the Government—they are looking to publish, we are told, in the autumn—energy and the energy White Paper are going to be central to that. If we do not make these decisions and are not able to address these issues in the short term—the next five years or so—we will not get to net zero by 2050.

- Q45 **Rushanara Ali:** Right, so we need to see that in the strategy that will be published. Can I press you on the levelling up agenda? You talk about the opportunity set by net zero. I know I am asking you to look into a crystal ball, but you have a long-term focus. What would you say is needed to rebalance the economy, using net zero as the opportunity to do it in parallel, consciously? It does not matter who is in government, because it



is an agenda across parties, and there will be agreement, whether you call it levelling up or something else, about doing that. How do you see the two working in tandem, rather than in competition? Where do you see this going?

Sir John Armitt: There is a natural affinity in energy, hydrogen and carbon capture and storage. Such work as is going on in the UK at the moment on those programmes is being done in the north-west and the north-east. Carbon capture and storage is largely going to be in the North sea, so again it is the industries and businesses that are seeing a fall-back from their oil and gas activity in the north that have the potential to benefit from an intent to develop carbon capture and storage and put that carbon back in the underground wells that we have created by taking out oil and gas over the last 50 years. There is a direct link in that sense.

We have already talked about HS2 and Northern Powerhouse Rail. These are all projects that the NIC has recommended and supported in the past. We were specifically asked to look at rail in the north way back in 2015-16. We did that and gave a report to the Government about the need to improve rail and road connectivity between the major cities in the north to improve the performance, the agglomeration of business and the ease of travel between them.

That is a great example. It has been on the table as an opportunity—people in the north have seen it and we have seen it—for five years, but we are still talking about it. The Government is hoping again to produce an integrated rail plan at the end of this year. It will be another five years beyond that at least before you see any shovels in the ground on those projects. Then eventually in 10 or 15 years' time you will see some of those projects coming through and those benefits flowing through.

It is because these major projects do take a long time that it is so important that we focus on this front-end activity, of deciding the outcomes we want and why it is we are going to build something, before moving on to what we are going to build. We need to have a real focus on that, with a consistent policy. It needs to be a cross-party policy; it cannot be something where one Government introduces something and then, five years later, another Government comes in and says, "We don't want any of that. We're going to change it," and back you go to square one. There needs to be as much cross-party support for these schemes as possible.

Q46 **Rushanara Ali:** On that, do you feel we lost time on things like carbon capture and storage, which the last Labour Government started to think about and invest in, or are we still on track?

Sir John Armitt: No, I do not think we are on track. I do not think any Government has given sufficient focus and support to working with—this is a great case of private and public working together. At the moment, the private sector does not know what Government policy is going to be. Is it going to support this? The Government has allocated several hundred million pounds on and off over the last few years to carbon capture and storage. Again, the worst thing it can do is say, "We're going to put x



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hundred million into this,” and then, three years later, stop the programme and say, “We’re not so sure it’s the right programme.” The Government has enormous influence on this.

Rushanara Ali: Paul, you have your hand up.

Paul Sheffield: I just want to pick up the energy issue that Sir John was talking about. I have two very quick points. If you look at the nuclear industry, we have a huge new nuclear power station being built in Somerset, which is creating massive employment not only in that part of the world, but in specialist engineering companies all the way across the UK providing the specialist engineering services into that project. The next scheme that is planned is over at Sizewell, on the east coast. It is likely that, with the learning the industry is getting from that one project, the costs will come down by about 20%—because of continuous learning and improvement. If that project does not go ahead, all that learning is lost.

If I extend that into the wider nuclear industry in this country, it is an industry that has been on-off, on-off for many years. We all know why—because of the acceptability or not of nuclear—but at the end of the day it is a zero-carbon product for energy and so vital for part of our future mix.

There is another fledgling industry that the UK could take a global lead in if successive Governments are prepared to support it: tidal energy. We have probably got a world-leading developing market in tidal energy based up in Scotland—Alison will be delighted to quiz us on that—and we could take a world-leading position in tidal energy if we focused on it.

Q47 **Rushanara Ali:** Can I interject there? I have one more question. How much weight do decision makers in industry give to whole-life emissions versus financial returns on investment? Do you have any examples? You could submit them in writing if you want, but we want to get a sense of that.

Paul Sheffield: I think not enough time is spent on whole-life emissions these days. It is interesting that, in privately funded deals, the developer of a project is usually responsible for running that building or project for its lifetime—or at least for 25 to 30 years—and, therefore, the cost of running that building is a really significant part of the overall envelope. But, too often, projects are just decided on by the lowest capital cost, and the lowest capital cost will almost certainly use in it some of the least energy-efficient heating, ventilation and lighting systems, so the two are at complete—

Q48 **Rushanara Ali:** Is that an area where Government could do much more, through legal changes or guidance?

Paul Sheffield: I think it probably does not need legal changes; it just needs absolutely clear procurement strategies and targets that say, “I want to buy the hospital that will be the cheapest for me to build and operate for 25 years.” That will drive the industry to provide really low-cost energy solutions.



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Q49 Rushanara Ali: One final question to James: have you talked to the Treasury about how it intends to revise its Green Book guidance to ensure that the environmental implications of its infrastructure investment decisions are properly considered and costed to support its net zero target?

James Heath: That is not a specific area we have discussed with them yet. Their review is ongoing. We have probably had more discussions on how the methodology might apply in terms of levelling up and regional investment decisions than on the net zero piece.

Q50 Rushanara Ali: Who should be having that conversation with the Treasury, if it is not you guys?

James Heath: It is a dialogue; the dialogue on the Green Book is ongoing. It is certainly an area that we will look at in our national infrastructure assessment, and we are certainly open to offering advice to Treasury on it. It is just not an area that we have proactively focused our finite resources on over the past three or four months, certainly since I have been in charge of the infrastructure commission. But it is certainly not an area I would rule out us doing further work in.

Q51 Rushanara Ali: Nick, you had your hand up. There was one issue that came up earlier on the 90% of EIB funding. Would anyone like to volunteer an answer to that? Do you feel the UK Government are compensating, or heading towards compensating, for that 90% of EIB funding? I think Paul mentioned it would be good to have that equivalent. Are we there yet? How far off are we?

Nick Smallwood: Let me briefly touch on that, and then I will come back to the question you just asked James. We have officially left EIB, because we are officially now out of the European Union. There was an infrastructure finance review commissioned in March 2019, which reports in the autumn alongside the national infrastructure strategy, at which point the Treasury will decide on what is the vehicle to replace the EIB. I expect an announcement shortly that will clarify that space for us.

Getting back to how we deal with these levelling-up issues and with net zero, I am aware that the Treasury is working not only on bringing more guidance to the Green Book, where, if you read the detail, it is quite good, but complex. The challenge is to make it less complex as it relates to those social benefit realisations and assessments. They are going to provide what is called a public value framework, which is going to look at setting metrics and guidance on things such as levelling up and net zero and to have four pillars: goals, inputs, engagement and stewardship. I think we will get a lot more clarity on how, across Government, once the NIS is published, we can take the right lens on deciding which projects to go forward with and how they meet the targets and metrics that are to be set.

Rushanara Ali: Thank you very much. I am well over my time—apologies, Chair.



Chair: Thanks, Rushanara. Angela, please.

Q52 **Ms Eagle:** You published your assessment of the Government's long-term need for infrastructure over two years ago, and there has been no Government response to date. Does that mean that quite a bit of your plan has been overtaken by events? Are you disappointed that the Government have not reacted more quickly by producing their plan, Sir John?

Sir John Armitt: Certainly, I don't think the vast bulk of what is in the plan has been overtaken by events; I think the vast bulk of the plan is still as valid today as it was in 2018. Yes, it is disappointing that it has taken a long time, but one has to accept that political attention has been focused on and diverted by, first, Brexit, and then, subsequently, Covid. To that extent, it has clearly been a challenge for that to be a priority for Government to address, and we now look forward to the full response in October or November. But what I would say is that the Government has accepted, in principle, nearly all the recommendations that we have made, either in the NIA or in the various other studies that they commissioned us to do over the last five years.

There has been action taken by the Government—for example, if you look at our report "Preparing for a drier future", the regulator, the private sector water companies, Government agencies and the Environment Agency have all been largely moving forward on the recommendations that we made and are taking steps to address the issues that we identified. Nearly everything that we have said on fibre has been picked up by the Government. Again, between the regulator and the industry, things are moving forward on the roll-out of full fibre.

The two areas where there has been much more silence are energy policy and our recommendation about devolution of funding to cities, which is part of our regional programme, where we have argued that cities should know that they will get regular funding from the Government for them to spend on what they regard as important in their city. They should be responsible for planning what is needed in their cities, and they should then be responsible for spending that money efficiently. In its last Budget, the Government allocated some money to eight cities, which I think they have to bid for, but it is on a five-year programme, whereas we would argue that this needs to be a greater commitment for a longer time.

Q53 **Ms Eagle:** Let us just take energy. We have the issues with nuclear and whether that will actually carry on, because both the French and Chinese—[Inaudible.]

Sir John Armitt: There will be no more nuclear power stations, despite it being Government policy, until there is an understanding that can be reached between the Government and the private sector investors in these power stations as to how the risks will be shared and how they will be funded. We have seen programme after programme collapse in the last two or three years, whereby investors have walked away because they were unable to reach an understanding with the Treasury on how they



were to be financed. Putting it on the RAB—the regulated asset base—is a debate that has been taking place within Government. That is one way in which you could bring down the cost of financing, because you will be charging the consumer while the power station is being built, so you get your money back, in financing terms, earlier on. No agreement has been reached on that. Until an agreement is reached on how they are financed, it is impossible to see any further nuclear power stations being built in this country.

But we have argued, and we have made it clear in our report, that we believe that we could see more than 80% of our energy requirements coming from renewable sources in 2050, without dependency to a large scale on nuclear. Our recommendation to Government was not to order more than one new nuclear power station before 2025. By 2025, you will be in a better position to understand the alternative technologies around renewables, and you do not necessarily need to think about having to build a whole fleet of nuclear power stations.

Chair: I think that, for technical reasons, we have lost Angela, but I'm sure she will be back. Let's go to Siobhain.

Q54 **Siobhain McDonagh:** I would like to look at the work of the National Infrastructure Commission. When you last appeared before the Committee, Sir John, you told us that the Government did not want you to focus on social infrastructure, as opposed to economic infrastructure. Is it possible to have a holistic approach to long-term planning if social infrastructure sits outside the scope of the National Infrastructure Commission?

Sir John Armitt: Well, that is what we are doing at the moment. If you put it within the scope of the National Infrastructure Commission, the National Infrastructure Commission would have to be much larger. I would argue that it would have to get involved at a local level, which would not necessarily be appropriate. A lot of social infrastructure is determined locally. It is the local health authorities that have the best understanding of what hospital provision they need.

Siobhain McDonagh: I doubt that.

Sir John Armitt: But it would require us to get much more involved at that local level, in understanding those needs. It is rather like asking, "Should we be involved in housing?"

Siobhain McDonagh: That is my next question—don't stray on to it.

Sir John Armitt: Well, there are arguments for and against. At the end of the day, housing is very locally political, and that is a downside when you are trying to do large-scale housing developments, such as on the Oxford-Cambridge corridor, where we identified the need for maybe as many as 1 million new homes by 2050. Now, that would never be delivered by local politics, and it requires more central direction. Clearly, in that case, it is the National Infrastructure Commission, who, interestingly, started out by looking at a transport need and, in taking evidence from the cities of



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Oxford, Cambridge and Milton Keynes, were almost redirected, in a sense, towards saying, "Look, what we really need here are more homes, and affordable homes, for the people who we need to attract to work in these cities."

You cannot separate infrastructure and housing in that sense. But when it comes to the delivery side of it, you need to create the governance structures that enable those two things to be brought together and planned in a way whereby there is sufficient local governance to enable very difficult decisions—let's not kid ourselves; these are really challenging decisions—to be made.

Q55 Siobhain McDonagh: I just wanted to go on to some of your quotes about the whole issue of housing, which those of us in constituencies where there are fairly huge issues were delighted to see. You were quoted in *The Times* recently speaking about the Government's housing target. You stated: "I don't see how we get there in a meaningful way without some sort of Government intervention with local authorities or the housing associations to deliver more affordable homes on a large scale". Can you expand?

Sir John Armitt: Yes. I have believed that for a very long time. In a sense, it is just a simple reflection of the last 50 or 60 years. When I started work, which was 50 years ago, I started on social housing. In those days—in the mid-1960s and early '70s—we were building about 300,000 homes a year. Of those 300,000 homes, 50% were provided by local authorities and 50% were provided by the private sector. By the early 1980s, there was almost zero public housing, and the private contribution stuck for most of the period at somewhere between as low as 95,000 homes a year up to about 150,000 homes a year.

It is not in the private sector's interest to over-supply. That is a simple rule of business: "Don't over-supply your market." Therefore, if you need to pick up the number to the extent that we are identifying, I just don't see how we can do it relying on the private sector. I think it needs some sort of intervention at a public level to provide that scale of affordable housing. That is not an NIC view, because as the NIC we are not required to have a view. That is a personal view, just from my experience in the industry and actually being on the board of one of the housing developers.

Siobhain McDonagh: Thank you. The next question is to you, Paul, but may I just say that if you want to see works done quickly on cycling and walking, come to London and see some of the problems that we are experiencing at the moment.

Paul Sheffield: Actually, I was knocked off my bike in London last year.

Q56 Siobhain McDonagh: Yes. The Government have announced that planning laws will be eased to speed up infrastructure delivery. To what extent do you think reform is needed in this area?

Paul Sheffield: It is probably not an area of expertise of mine or of the ICE's, in terms of the planning side of it; perhaps that might be more for



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Nick. But I think a lot of this requires devolving authority and responsibility to the regions, and Sir John alluded to that in an answer to a previous question.

Clearly, over the last decade, Transport for London and the Mayor of London have really transformed the way that London operates and the number of people who use bikes around the city. There are growing bodies of teams of people in provincial towns and cities around the country to try to replicate that. I really think this has to be driven at a local level. It has to be driven ideally by some of the devolved authorities, so that people genuinely know what they want and what is going to work in their town and their city. I do not think that it is something that any of them would welcome having done to them by Westminster or another planning authority outside. It absolutely needs to be owned locally.

That is one of the reasons why the suggestion of further devolved funding for towns and cities is really important. We know that the mayoral towns and cities have significant devolved powers, but there is a need to recognise that through the national infrastructure strategy, which is hopefully going to be rubber-stamped early this year. If it is given to the local authorities to take ownership and have their own budgets, they should be able to drive through those plans to create the space for housing and for local transport networks.

Q57 **Siobhain McDonagh:** Nick, do you have anything to add?

Nick Smallwood: I would just make you aware of some significant work that the MHCLG is doing in that exact space now as part of Project Speed, looking at where we can take some pragmatic steps forward where we have been constrained by EU legislation. My personal view is that there is an opportunity to simplify the regulations and to simplify planning. It is pretty noticeable that you can design one and build many, but you still have to go through all the building regulations approvals again for the same kind of building. That does not seem sensible. We should be able to get that ticked off and then just look at local location issues and get the relevant planning for that. There are a number of opportunities to simplify, not just on building regs and approvals but in the environmental space, and indeed what we devolve to local authorities to speed up the process.

Q58 **Siobhain McDonagh:** Following on from that, when it comes to planning reform there is always much furore about the green belt, but fascinating research from Paul Cheshire at the London School of Economics finds that there are 19,394 hectares of non-green and unbuilt green belt land within 10 minutes' walk of a London train station—scrublands, waste sites and even carwashes, where not a blade of grass can ever be seen. In the heart of a housing crisis, is it time to have a proper conversation about the non-green green belt?

Sir John Armitt: One of the things that you have to address in the first place is who owns the land. Clearly, if that land is publicly owned, the Government have more ability to potentially direct how it might be used and how it might be freed up for other uses, which, as you say, could



include housing. If it is private sector land, there will be a commercial negotiation, at the end of the day, to be had about whether or not the person who owns that land is prepared to release it, unless you change the whole structure and allow more opportunity for the Government to intervene in those situations and take that land at some sort of preordained price, or compulsorily purchase it.

Clearly, the land that you describe should ideally be used, whether it is for housing or whatever else it might be, such as sports facilities. There are all sorts of uses to which that sort of land could be put before you then have to examine whether or not some elements of the green belt itself should be looked at. That is another issue. I heard the Prime Minister earlier today make his views fairly clear on that.

As you say, as long as we are trying to protect as much as we can of the green belt, using that existing scrubby, brownfield land, some of which will be sitting in the hands of all sorts of different Government agencies and organisations, you simply have to start by saying, "Where is it? What is it? Can it be released? How might it be released?" Somebody needs to sit down, probably in MHCLG, with those bodies in the first place and say, "What's required to make sure this land gets released?"

In a way, all of these things are a little bit about something that all of today's witnesses are involved in, which is, "How do you deliver a project?" If you can turn some of these challenges we are talking about into projects where we say, "What is the outcome we are looking for? What is the timeframe in which we need to try and deliver that outcome?" and then work back and say, "What decisions do we need to take today? What actions do we need to take today in order to achieve the programme of events that gives us the outcome we need?" you will make some progress.

To my mind, a lot of these things are relatively simple. You say, "What is our outcome? When do we want to achieve it? Now, what do we need to do to get to that point?" and, as Nick was just saying, "What things could be changed to speed up some of those processes to enable those delivery programmes to be met, in order to meet those outcomes?"

Q59 **Siobhain McDonagh:** Have I got time to let Paul in, Chair?

Chair: Yes, let's hear from Paul.

Paul Sheffield: I think brownfield infilling is a really valuable addition to communities wherever you are in the country. Unfortunately, a lot of the brownfield areas that are still left to develop are some of the most difficult sites: they are either contaminated or hemmed in by railway lines, and, inevitably, they are going to be more expensive to develop than some others. There perhaps needs to be a political will to assist in unlocking some of that planning, even if it is owned by a private individual or a private organisation.

I have been involved in looking at some of these in the past, and sometimes you cannot make the commercial case for the contaminated



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ground clean-up and the extensive cost of building something so close to a railway line without some level of help or subsidy. It might be a relatively cheap and expedient political intervention to help some of these sites come to fruition. That is more of a personal view than a corporate view, but it could be something that should be looked at to help unlock some of these.

Chair: I am very pleased to say that we have Angela back. Angela, would you like to pick up with your questions, please?

Q60 **Ms Eagle:** Yes. I don't think I will be mentioning broadband again, because as soon as I did it completely disappeared; apologies for my sudden disappearance. Sir John, do you think there is an ideological distaste for planning that has meant that over the past 40 or 50 years, the state has lost the skills it needs to take that forward, because people simply did not think that was what the Government should have been doing?

Sir John Armitt: Gosh, that is a big question. Most people, philosophically, would say that ideally, you start with a spatial plan. Spatial plans have not really featured that strongly in our country. When I was involved in looking at the Thames estuary, two or three years ago, we were asked to look at how the Thames estuary corridor could be improved. One of the key recommendations we made—this was not the NIC; this was another commission—was, "You need to produce a spatial plan as to how you envisage this land on either side of the Thames being developed, because otherwise you run the risk of everybody being in competition."

Everybody believes that they should have the latest technology being developed in their town. We all want to be into high-tech pharmaceuticals or some other fashionable technology, but that would be a waste of resource and a waste of effort. You need to bring more focus to saying, "Where are the current skills?" You would say, "We've got lots of logistics skills in this part of the country, so let's make sure that it becomes a centre for logistics", like Tilbury and its surroundings.

Q61 **Ms Eagle:** It sounds like you are saying yes, in a longer way. If we had realised that in order to remake prosperity in the 21st century, we had to have much more planning and a strategic approach to how we do our infrastructure—which is what your report was about—then surely we would already have developed that, but the Government do not seem to have responded in that way. Departments are too siloed, and there does not seem to be that cross-departmental working. Am I being unfair on them?

Sir John Armitt: No; I think there are a number of things that go together. We have not talked about the industrial strategy. Clearly, the industrial strategy has a direct impact on what your infrastructure strategy may well be. Indeed, if you are saying, "We want to try and rebalance the economy," that is another series of factors that need to be taken into account. So those big-picture things—what is our industrial strategy? What is our spatial strategy around the country? Where do we see the best



opportunities? Where, rationally, would we put different industries?—all lead into an infrastructure strategy. Yes, as always, we need a more integrated approach in our thinking, rather than a siloed one. Every company and organisation has this debate: “Are we too siloed?”

Q62 Ms Eagle: I am not even sure that the Government have that debate. In the small amount of time I have left, Nick, do you think the civil service has the skills? When I was involved with procurement as a Treasury Minister, all of Whitehall was far too siloed. The people who ended up leading major projects were often not really qualified to do so, and so they hid behind experts and consultants, could not make their minds up about what they wanted to be in the project, kept changing their minds all the way through and almost invariably messed it up. Have we made any progress since then?

Nick Smallwood: I believe we have, but there is clearly more to do. Let me start by just reflecting that the national infrastructure strategy is going to be a once-in-a-generation opportunity to get a strategy to go forward and close down those open switches that we have had in the past. I think that is very positive and proactive. That then leads you into a pipeline and a clear plan in the different Departments, in which they need to build further skills.

The good news is that we have an established project delivery profession now—it is the third largest function in Government, with 14,500 people in it. We have implemented the major projects leadership—

Q63 Ms Eagle: Is there quality as well as quantity?

Nick Smallwood: Let me get to that. We got the training and education of our most senior delivery professionals—the senior responsible officers and programme directors—through the major projects leadership academy. We have got just over 500 of those people through the academy, but it does not assess how competent they are; it just says that they went through, got the t-shirt and attended. Similarly, with the project leadership programme, we have got almost 800 people through. I have an ambition to take it to the next level now and build capability at all levels of project professionalism across the civil service—starting as the fast streams come in—and to assess and accredit at four different levels, of which the MPLA is one.

I do think that we have scarce few really strong people, and they are typically deployed to more than one project. I believe that when you are setting off with some of these massive programmes, you need to afford appropriate time and not just define it as 15%, 20% or 30%. It needs to be sufficient time to do the kind of work that Sir John described earlier in our conversation.

We are busy with that, and in order to do it, we will have to recruit more SROs and more project and programme delivery professionals, probably from the private sector with proven expertise, because to grow them in-house is going to take precious time that we probably do not have.



Ms Eagle: Thank you.

Chair: Thanks, Angela. Let us go to Alison.

Q64 **Alison Thewliss:** I was going to talk about the resilience of infrastructure in the UK and the spending on maintaining existing infrastructure versus building new things. Sir John, putting in new infrastructure is likely to require not only an increase in capital expenditure, but higher current spending commitments for those future operating costs. Does the National Infrastructure Commission consider the need to maintain existing infrastructure when it considers the affordability of the Government's infrastructure investment plans?

Sir John Armitt: No. We are given a remit by the Government—James will help me out if I get this wrong—of 1.2% of GDP. The programmes that we recommend are required to fit within that 1.2% of GDP, which is essentially capital spend and not maintenance spend. We would make the general point that, in fact, proper and adequate maintenance is absolutely critical. If you do proper and adequate maintenance through the lifecycle of infrastructure, you may not have to build new as often. As an engineer, I have a strong belief that proper maintenance is an essential ingredient in maintaining any system, whether it is an infrastructure system or anything else. At the NIC, we are focused more on capital spending.

Q65 **Alison Thewliss:** Do you think it would be useful to have that as part of your remit?

Sir John Armitt: Then, again, we are into a totally different area, aren't we? Current expenditure is probably even more intensely political, both at national and local levels. Paul can help me out here, but you do not really need to be a genius to work out what you would ideally spend on maintaining your infrastructure, whatever sector it is in. The regulated sectors have an advantage here, in that the regulator works with the private sector to look at that on a regular basis and calls the private sector to account. For example, on the leakage of water mains, let's reduce the leakage in order that we do not have to build more capital, because if we can keep the water we already have, we will not have to supply as much in the first place. There is a direct linkage there. That is one of the benefits of the regulated structure that we have.

Q66 **Alison Thewliss:** Paul, did you want to come in on that?

Paul Sheffield: There is a really interesting conversation around maintenance and resilience, because they are slightly different things. With the inevitable climate change that is happening around us, improving the resilience of our infrastructure is absolutely critical. That actually means investing not only to maintain it but to strengthen and improve it. Just recently, we saw the floods near Stonehaven that derailed a train. Obviously, a big flood defence scheme is being built in Stonehaven now, which I had the pleasure of walking through with the team building it some six months ago, but it was not finished quite early enough to avoid the flooding that happened two weeks ago because of the storms.



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With climate change, tides and rivers are rising, and the frequency of flooding is increasing. Drought is increasing at the same time, so we have the dilemma of having to provide more water for more people with scarcer resources. However, when it does rain, it rains too hard. This whole issue around climate change, resilience and maintenance is a subject that we cannot afford to ignore. It will cost UK plc a lot of money to improve resilience to deal with it all in the coming decades.

On the water industry, which Sir John alluded to, there is a buried network of pipes underground. The average age of those pipes, a lot of it in the London area, is probably 60, 70 or 80 years old; a lot of it is older than that, but the average age is 60 or 70 years. That is way beyond any design life, so it is no surprise that when you increase the population and increase the burden on those networks, they burst every now and then. There is a need for more and more money to be spent on repair and maintenance than ever before. It is a similar story right the way across the country, to be frank. It will cost UK plc a lot of money, and regulators actually need to allow that money to be spent, otherwise it will just get worse. It is a little bit like the pothole filling that we were talking about an hour ago—there is a huge backlog.

Q67 Alison Thewliss: On the back of the incident in Stonehaven, Network Rail say they have set up a taskforce to look at the infrastructure they have—the cuttings, the embankments, the structures and things like that. Clearly, there will be a cost at the end of that. They acknowledge that they have largely Victorian infrastructure, in many cases, which would not meet modern design standards and certainly was not designed to deal with climate change. Do you think it would be responsible for all the organisations who hold similar structures to undertake such an assessment, and do the Government need to respond with additional funding to deal with that?

Paul Sheffield: I would be very surprised if they were not doing it, because it should be part of any organisation's risk mitigation strategies and risk control measures. For example, there is a legal requirement for every dam and reservoir in the UK to be inspected on a regular basis by a qualified chartered engineer. Despite that, we have had some near failures. Last year, Toddbrook reservoir in Yorkshire nearly failed. That had been inspected. A number of recommendations had been drawn up and were being activated, but the storms came earlier than people expected. It should be compulsory, or a legal requirement, for people to continually assess the performance of their structures, but as I say, the changes in climate change will put far more pressure on those in future.

Q68 Alison Thewliss: Thank you. Can I ask James about the recent NIC report on the resilience of infrastructure systems that recommended new resilience standards for infrastructure? Have the Government responded to the recommendations in the report and if they have, what have they said?



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James Heath: The Government have not responded to them yet. It is our most recent study. I hope it is something that the Government will respond to in the national infrastructure strategy.

It plays to the point that you made before about having a proper framework of resilience standards that the Government set every five years with advice for regulators alongside an assessment of the changes needed to deliver them. Then the infrastructure operator, whether that is water, rail or telecoms, should carry out regular stress tests, akin to what we have seen in financial services to address previous problems there, overseen by the regulators, to ensure that their systems and services meet the resilience standards that have been set and to address any vulnerabilities.

That should be built into the regulatory cycle. Clearly, it will have a cost, as you said, so you have to build it into the regulatory cycle. Our view is that once you spread the cost of proper resilience across the full farebox or the full pricing structure of those utilities, it will be manageable. Clearly, however, they are important investments that need to be made to get a more resilient system and to be resilient to the problems that Paul talked about that are coming down the track.

Q69 **Alison Thewliss:** Thank you. Paul, you mentioned Scotland earlier. Do you have anything further to add on the potential for infrastructure spending in Scotland? I realise we have not really covered that today, but I am interested in whether there are particular things that you think would be worthy of additional focus.

Paul Sheffield: Renewable energy in Scotland is clearly a massive opportunity for Scotland to take a global lead in a few areas of green energy. Sir John, or maybe it was Nick, mentioned the huge amount of wind energy that we generate around the UK, and a huge proportion of Europe's wind turbines were built in the UK last year.

I come back to tidal energy. There is capacity for a UK industry, currently based in Scotland, to steal a march on the world because, strangely enough, tides come in and out on a very regular basis. Tidal energy, if you can harness it, is infinitely predictable. If you can harness it with storage and battery capacity—technology that is improving by the year—you will have a very predictable future energy source, far more predictable than solar or wind, because the tides come in and out to a timetable. There is a huge opportunity for Scotland particularly, and the UK generally, to pick up on that.

Q70 **Alison Thewliss:** Are there particular barriers to developing that?

Paul Sheffield: There are full-scale trials in the seas off Orkney at the moment. They have been in the water for well over a year. It is a question of getting embryonic technology up to commercial capacity, as with all these things.

Sir John mentioned the contracts for difference mechanism that was set up many years ago to support solar and wind farms, and other



technologies as well to some extent, and that has enabled, effectively, a subsidy to be put in place for those new renewable technologies. That is a powerful way to get fledgling technologies up to mass production, at which point you will see the costs plummet.

The cost of photovoltaics has probably dropped by about 90% in the last decade and the cost of wind power has probably come down by 60% or 70% in the same period because of mass production. If we can support embryonic technology where we might have a global leading opportunity, that does help economies. And if you bear in mind something like marine technologies, it tends to support coastal communities, not a big city centre, so it is very sustainable, in terms of providing jobs in places where there is none today.

Alison Thewliss: Thank you very much. That is very helpful.

Chair: Thanks, Alison. And finally we go to Mike, please.

Q71 **Mike Hill:** I declare an interest, in so far as I have a station in my own constituency and I am a co-chair of the nuclear energy APPG. I am pleased that Paul mentioned nuclear energy in terms of future strategy. It is important, but it is an example of the kind of industry that develops and requires highly skilled jobs, so this section is really about the lack of skills that we have here within the workforce to support and enable infrastructure projects.

My first question is to Nick. With labour shortages in the construction and engineering sector and the UK's reliance on importing labour from the EU and other places to plug the gaps, do we have the skilled workforce required to build and deliver infrastructure projects, and if not, what can be done?

Nick Smallwood: There is no doubt that we have an ambitious agenda going forward; that is very clear. We have a window of opportunity, I think, Mike, given that the private sector investments have switched off. In the coming one or two years or so, we have an opportunity to reset and restart the economy and the construction sector, publish the pipeline, which will give long-term certainty to the sector, and then really drive serious investments in apprenticeships and skills. I think there is a once-in-a-generation opportunity really to get serious. We have not done that in the past. We have not given the marketplace the certainty that they really need in order to invest. You will see that, before the pandemic started, the construction tier 1 contractors' balance sheets were not particularly strong. They have worked really collaboratively with the IPA through the pandemic and have expressed a deep interest in this in saying they don't want to go back to the world they have left; they really want to have some certainty, and they want to be able to invest in skills and technology.

So on one hand, it is about getting the right resources in place; on the other hand, it is about what I commented on earlier—productivity. There is a real opportunity, through moving to modern methods of construction, using digital technologies, to take costs out of our projects and hours out of our projects and then redeploy those skills to the other projects that we



want to do in parallel. So it's an and/and answer. We have to work on the skills. There are clear examples of where we have done that and it has been successful. The apprenticeship scheme is really successful at Hinkley Point; it is also successful at Thames Tideway. And the Chancellor has committed to that apprenticeship scheme going forward. So I think we have to really get serious, and I think it will be a real enabler to publish the NIS and make it public to the construction sector.

Q72 Mike Hill: So you are saying that we have to have those long-term projects secured, in place, up and running, to give confidence to the market to get those skill bases built up and developed.

Nick Smallwood: Yes. If they know the work is coming, they will be more than happy, I think, to sustain their investment in people, because it is people who deliver the projects at the end of the day.

Q73 Mike Hill: I think that is an important message.

Paul, could I ask you a question? Philip Hammond told us that the constraints on infrastructure development are much more in the real economy than around the amounts of financial availability. For example, the UK does not have big construction companies as they do in Asia and other European countries, and we don't have enough domestic skills in infrastructure delivery, as we have already said. Do you agree with that, and will supply-side constraints slow down infrastructure delivery in the UK?

Paul Sheffield: One of the reasons why we don't have any mega-companies—and I think you're probably thinking more about the contractors than the consultants within the industry, so the ones who actually do the hands-on building work rather than the design, because certainly in the design and consulting arena, we probably have some of the biggest consultants in the world and ones whose skills are exported all over the world, but on the contracting side, we probably have one of the most competitive contracting environments in the world. It is not dominated by any one, two or three companies, as other parts of the world are. That is a strength and a weakness, because clearly it improves competition and drives prices down, but it also means that organisations do not make enough money to be able to truly invest in modern methods of construction and invest in the future. A contracting organisation that is doing reasonably well probably struggles to make 2% profit margins on a good day, and 2% profit margins in quite a risky industry don't leave you a lot of money to spend on training, investment and employment.

That in itself has driven organisations to sub-contract a lot of their activities because they cannot guarantee that they will have enough work coming through the books every month of the year to sustain a specialist workforce. That is how we have got to where we are, but I completely agree with Nick that the opportunity that we have to get confidence in a long-term pipeline of activities through the national infrastructure plan will really help. It will certainly help the owners of these companies to invest in training.



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I absolutely agree that if we are strategic and focused on modern methods of construction, we can encourage or force contractors to use modern methods of construction that will make them more efficient, and diversify the locations where things are made. There is no reason why a school that is delivered to a project in the south-east cannot have classrooms that are made in Hartlepool, Wallasey, Heysham or wherever around the country.

There is a clear opportunity to improve skills right the way across the country. If every project has an objective of diversifying its work across the country, that will, first, help the levelling up agenda and, secondly, spread the burden on skills. There are ways we can help ourselves, but we have to be long-term and strategic.

Q74 **Mike Hill:** That is twice that you have mentioned Hartlepool in this session. I feel very lucky. So, again, it is about long-term investment to bring those skill bases back up for the longevity of the project and the workforce, just as Nick was saying.

My last question is to Paul. We saw that report by HM Treasury in 2015, which highlighted that the growth in infrastructure investment would create demand for over 250,000 construction jobs and over 150,000 engineering jobs by 2020. Why do you think the Government and industry have consistently failed to plug the skills gap faced by the industry?

Paul Sheffield: That is a really good question.

Mike Hill: I can supplement it by asking whether the Government's latest initiatives are likely to be successful in providing the skills that industries need. If not, what does it need to do? That is probably a better way of framing it.

Paul Sheffield: At a professional level, for engineering and supervision, we are seeing sufficient flow-through from technical colleges, colleges, universities and so on to provide the quantity of young people coming into the industry to populate the projects that we can see. There has been a real hiatus in apprenticeships over the last few years, but I think the current plans, if they are genuinely acted on and invested in, should really help to get the apprenticeship levy and the apprenticeship programme back up to speed. It takes 10 years to train an apprentice from the age of 17—maybe a bit less than 10 years, but it takes a long time to train them up into a fully-fledged worker—so it is a long-term programme.

Post Covid, we have a fantastic opportunity to retrain people from other sectors who might actually be quite enthusiastic about coming to join our industry. It's not the smelly, dirty, mucky industry that I joined 40 years ago. Even 40 years ago it was probably cleaner than the one that John joined 50 years ago. A lot of it is technology-driven and can be very appealing to young people and even middle-aged people who want to retrain, because there are going to be other industries across the country that are absolutely decimated whether you are in travel and tourism or other walks of life. I think there are fantastic opportunities to grab a workforce and retrain it in our industry if we take the opportunity.



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Mike Hill: That is exactly it. Take the opportunity. Thank you very much, Chair. That was my last question.

Chair: Thanks, Mike. That brings us to the end of this session. I thank all four of our panellists for their excellent contributions. We all know that infrastructure provides much promise, economic growth, an element of skills and levelling up productivity and all of those things. As we have demonstrated today from the answers, there are a huge number of challenges as well, not least around which projects you select. There was the point about early and effective planning and of course delivering ultimately on time, if not early, and on budget, if not under budget, so there is a lot for us to digest. We await that national infrastructure strategy with great interest in the autumn. It will give a much clearer steer as to the Government's seriousness and intention on issues like levelling up and closing the productivity gap across the country. You have helped us very much in the meantime to think more deeply with the insights you have provided about those particular issues, so thank you all very much for joining us today. That concludes our session.