



2022 Greening the Supply Chain

England, Ireland and Wales



#SmarterGreenerFaster #BuildingNewFutures

Balfour Beatty

Foreword

Summary of key findings

1. The sector understands the scale of the challenge and is investing in new products and solutions to help deliver Net Zero by 2050.
2. Net Zero by 2050 is achievable but not a foregone conclusion.
3. There is an acute shortage of those with the skills needed to measure and record carbon, develop alternative solutions and operate and maintain lower carbon solutions, which risks holding back efforts to decarbonise the sector.
4. The lack of lower carbon materials and products that are price competitive and available at scale - particularly concrete and steel – remains a major barrier to the sector decarbonising.
5. Engagement and collaboration are central to decarbonisation - including bringing supply chain partners in at an earlier stage in projects so they can advise of the best, low carbon solutions before the design is locked down.
6. Robust measurement and up-to-date reporting standards are key for consistency and to drive forward progress. This is an area that needs more focus.

With 2050, the date by which the UK economy should, by law, have reached 'net zero', approaching, it is becoming increasingly important to understand how our supply chain is decarbonising, the barriers it faces, and where it needs more support. We know that the majority of the construction and infrastructure sector's carbon emissions stem from the supply chain - for Balfour Beatty, c.80% of carbon emissions from our activities are generated by our supply chain partners - which is why we have jointly undertaken this second annual survey of the construction supply chain.

One of the most important survey findings is that there is a clear commitment among supply chain partners to decarbonising their businesses. **79%** of those who responded view the transition to a low carbon economy as a positive opportunity for their businesses (2021 data: **74%** saw it as a positive opportunity). For many of those interviewed especially, the passion and dedication with which they are approaching this challenge really shone through. The majority of companies (**70%**) have firm targets and strategies in place and are investing in low carbon materials, products and approaches (**59%**). There is a clear sense from both the qualitative responses and the interviews that the sector has moved from strategy-setting to action.

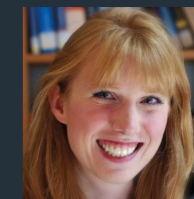
Despite clear commitment and prioritisation, we found that a significant number of respondents were concerned about the speed of progress towards 2050. Net Zero is by no means a foregone conclusion, with **68%** saying the sector is not well enough prepared (a slight increase on the 2021 figure of 64%); **53%** saying that the development pipeline for low-carbon materials is not sufficient to meet demand; and **81%** indicating that construction practices (and subsequent demand from customers) are changing too slowly. Some of that sluggishness may be due to the turbulent economic environment at the moment, with customers and contractors juggling the need to control costs in the face of increasing energy, material and labour prices, with reducing their carbon footprint. **53%** of respondents told us that these current challenges have impacted their decarbonisation plans and activities.

While more work needs to be done to find viable alternatives to cement and steel in particular, the survey results show that there are market solutions already available that can move the sector significantly closer to delivering low or zero carbon infrastructure. However, these products come with a higher upfront cost, which many customers remain unwilling to pay, while a lack of availability at the scale required and the need to improve building standards, also both remain barriers.

Another clear theme was the need to engage the supply chain at the design stage to allow low carbon solutions to be understood, designed in and costed: by the time construction begins, the majority of decisions affecting the project's carbon and other greenhouse gas emissions are locked in. Although this year's survey did not ask a specific question about bringing the supply chain in early, this theme backs up the 2021 data, where 92% of respondents agreed that bringing in the supply chain as early as possible and considering carbon from the outset delivers the best carbon outcomes.

A striking feature of this year's findings was that of persistent skills shortages in many areas relating to carbon, sustainability, digital and other related roles, in spite of real potential for green job creation in a wide range of roles from engineering and project management, to hydrogen installation and commissioning technicians, carbon management experts, sustainability managers and maintenance. **96%** of those who responded said that they are experiencing a shortfall in access to skilled people. However, the results from this year's survey also highlighted how the sector is taking a proactive approach to investing in their own skills pipeline, with many citing partnerships with universities or internal skills programmes.

Overall, the clear view from this survey is that the construction supply chain recognises the pivotal role it plays in addressing climate change and is stepping up - but that there are several areas where it needs more support. We welcome the insights these survey results provide. Our hope is that by sharing the results of this survey freely across the sector and using them to shape our own approaches, we will help to ensure that the whole sector can move forward more quickly to achieving net zero. On behalf of Balfour Beatty and the Supply Chain Sustainability School, we would like to thank all those who responded to the survey, with particular thanks to those who were interviewed and agreed to be quoted in this report.



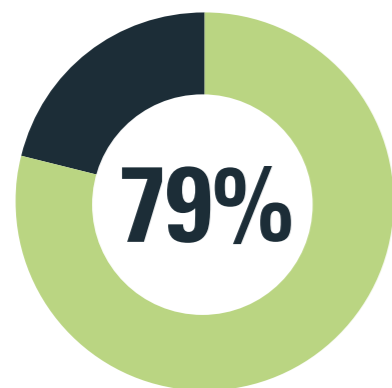
Jo Gilroy
Group
Director of
Sustainability,
Balfour Beatty



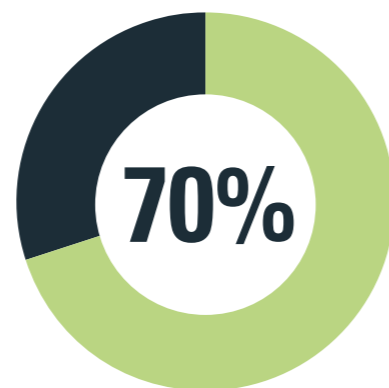
Shaun McCarthay
OBE
Chair,
Supply Chain
Sustainability
School

Separate Scotland focused paper available on our website*

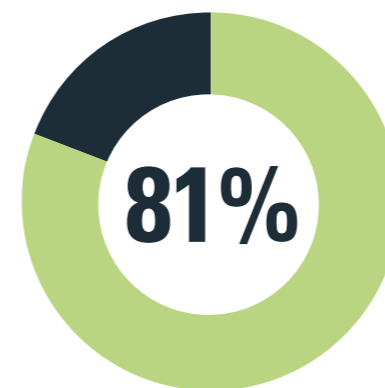
Top-line findings



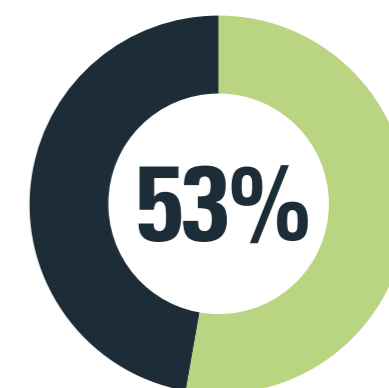
79% say that the Government's push to Net Zero by 2050 is a positive opportunity for their business.



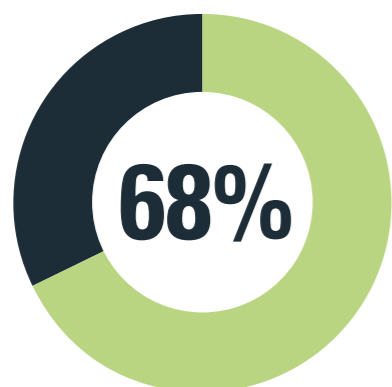
70% of businesses have a net zero or sustainability plan in place to help decarbonise by 2050.



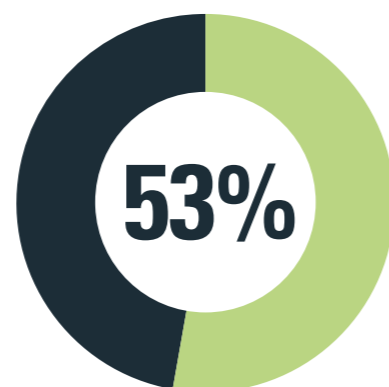
81% say that construction practices are changing too slowly in utilising low-carbon technology and methods.



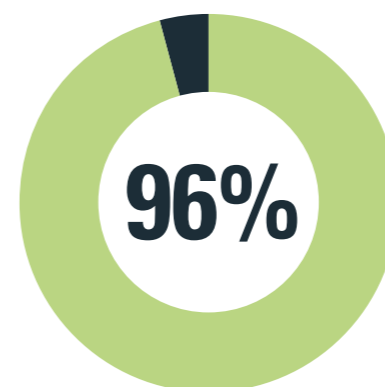
53% say that these current challenges have impacted their decarbonisation plans and activities.



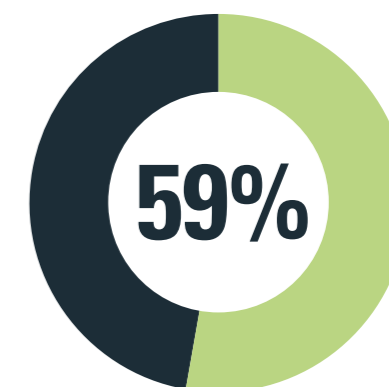
68% say the sector is not well enough prepared to meet the Government's 2050 net zero target.



53%, say that the development pipeline for low-carbon materials is not sufficient to meet demand in order to meet net zero targets.



96% say that they are experiencing a shortfall in access to skilled people in the construction sector to meet Net Zero by 2050.



59%, of businesses are investing in new, low or zero carbon products, materials or services.

Survey results key themes

- > The cost of Net Zero
- > The value of collaboration to driving decarbonisation
- > The role of regulation and data
- > The price of economic instability
- > The viability of Net Zero 2050
- > The need for alternative materials and methods
- > Behavioural drivers of green behaviour
- > The importance of R&D investment
- > The need to develop a specialist skills base

Littlebrook substation project



50% believe that the sector must do more to meet the Government 2050 Net Zero target.

The cost of Net Zero

The survey revealed that the construction supply chain is largely supportive of the net zero target and understands the direction of travel, with 79% of those who responded saying the transition to a low carbon economy as a positive opportunity for their businesses. However, in both the quantitative and the qualitative elements of the survey, the cost of decarbonising businesses of all sizes was a recurring theme. Many are proactively investing in innovation and new approaches and are meeting a reluctance from customers to pay the higher cost that can be associated with low carbon solutions. Others spoke about the supply chain 'shouldering the lions share of the burden' and needing more support in the form of grants and incentives, as this selection of quotes demonstrates:

"We realised 4 or 5 years ago that this was a massive issue for us, so we went out and invented some new, battery-powered machines - working with Innovate UK, but at significant cost to our business. As yet we've had no return as we're prototyping, but it will drive the overall operational costs up. We want to reduce our carbon emissions but we can't afford to absorb that cost on our own - but no one wants to pay the increased costs."

Bob Browning
Corporate Strategy
Quattro Plant Limited

"When we go to customers with the new products, operational teams are really excited, it's exactly what they need, but commercial teams don't want the product at that price – there is a lot of policy confusion – how much of a priority is decarbonisation? We're getting mixed signals from the customer."

Bob Browning
Corporate Strategy
Quattro Plant Limited

"We're trying to think big and challenging ourselves to think outside the box, exploring alternative energy solutions such as solar farms. It would be a big statement of intent for our industry to get one of our main manufacturing sites run off solar. We know that if we're really serious about net zero, we have to put real clout behind it. Our carbon targets are not linked to offsetting and we keep a close eye on any possible greenwashing. We'd rather be net zero through tangible change than offsetting or spin."

Ashley Bell
Head of HSQEP
Polypipe

"We're funding a lot of R&D and innovation ourselves and we're getting some grants through Invest NI and Queen's University. We would still do it without the grants because it's so urgent. The weight of customer expectation means that we have had to put our money where our mouth is and pick up the pace."

Andy Cooper
General Manager
Precast UK, FP McCann

"It's all about risk and where the risk sits. It's almost that the risks should be shared between the parties, rather than sitting with the supplier. People tend to stick to specifications they already know, which have been around for years – and that isn't the way to move forward."

Mark Flint
Technical Director,
FM Conway



London Underground Track Renewals

"Some organisations such as government agencies are open to sharing the risk associated with trialling new products and materials and some even have development funding available, which is really positive, but in general, there is often an aversion to solutions involving increased risk or higher costs."

Karen Hills
Head of Carbon and Sustainability Programme,
Atkins Global

"Most of our work is on rail, so everything we do has to go through a rigorous testing process for safety and product acceptance. It takes us around two years to get a product accepted. Machines have a lifespan of about 20 years, but we have to get them recertified every 7 years to the latest standards – which costs us about £100,000 per machine. Essentially, they don't start paying for themselves until the last seven years, so we can't afford to bring out a whole new fleet every few years, or to do more upgrades unless we get help with those costs."

Bob Browning
Corporate Strategy
Quattro Plant Limited

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I don't think things have changed much in the past year in terms of the struggle to get customers to adopt the lower carbon options. It's not just cost – it's got an awful lot to do with the infrastructure on site – site set up, layout and provision. We haven't yet got the holistic high-level understanding of what needs to be done to make this work. For example, electrification isn't just about putting a plug somewhere. You need to have the approval – it doesn't take very many machines to take you over the amount of electricity your site is approved to draw from the grid. Sites haven't been designed with that in mind.

Megan Adlen, Group Sustainability Director, Travis Perkins plc

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The value of collaboration to driving decarbonisation

Collaboration, and the need to take sustainability and decarbonisation beyond the realms of being merely something businesses compete on to a priority focus that companies are encouraged to work together on, was also a theme which came through from the interviews and written responses to the survey. Many referred to climate change as being 'too important' or 'too big' for companies to work on solutions independently, with some of the challenges requiring investment from multiple stakeholders to resolve, as these quotes highlight:

"We're working on early design engagement, so customers come to us with a project and we'll advise on cost and carbon, putting proposals forward quantified in terms of carbon savings and financial savings, reducing material usage, water flow and storage and so on. It started with us leading the charge and proactively going to the main contractor and offering those solutions, but now people are coming to us."

Andy Cooper
General Manager
Precast UK, FP McCann

"Early Contractor Involvement on schemes with suppliers is massive – the Tier ones are starting to be brought in, but the suppliers are still too far down the line. We aren't brought in until beyond design stage where you realistically can't have any influence over the specification on any particular scheme, which means you can't offer the solutions you know will make a real difference because it's already all locked in."

Mark Flint
Technical Director
FM Conway

"A massive thing for the supply chain itself is the collaboration piece. We can't do some of this as single companies because the problems are too big and the possible solutions too expensive – and in a way it isn't efficient for us all to be trialling the same things. We need to drop the competitor barrier just in terms of sustainability – we're all edging towards the same thing. It would make more sense if we did it together."

Katie Atherton
Environment and Sustainability Manager
William Hare Limited

"Realistically, aggregates and waste are not even in the top ten of emissions within a lot project, especially not compared to raw materials such as cement and steel. So, in terms of engagement with us, what we can offer is often assumed by Tier ones and then we are engaged at the procurement stage which doesn't allow us to showcase some of our better offerings. The benefits we could make are often lost because we're engaged too late."

Andy Regan
GRS Roadstone

33% say the Government has most influence in driving decarbonisation behaviours.

M4 Smart Motorway



Following our ten-year contribution to the 2019 publication of the European Earthworks Standards, in 2021 we commenced a similar role for the preparation of a European Code of Practice for Sustainable Earthworks, due for publication in 2023, sharing UK best practice with our European peers and learning from the best practice they share with us. It seems really important to me that we share best practice like this, so everyone moves forward together rather than one company, or country, racing ahead and everyone else lagging behind.

Niall Fraser, Managing Director,
Blackwell Earthmoving Limited



The role of regulation and data

The role of regulation in driving change, setting the target and helping businesses of all sizes operate on a level playing field was referenced frequently by respondents. However, even more significant a theme was that of the bureaucracy surrounding data collection and reporting. In spite of an appreciation of the importance of data to guiding targeted change, many of those who responded highlighted that they are asked for the same data in multiple different formats, which can act as a distraction to their businesses. Some questioned the value of the time they spend cutting the same data into these different submissions, some for contractors working on the same scheme with the same ultimate customer, as these quotes show:

“What ‘good’ looks like is not necessarily clear. Sometimes it’s sufficient to tick a box saying we have a carbon reduction target and other times clients want more: some desire PAS2080 certification, others evidence of Science based targets and detailed carbon reduction plans. Whilst we are addressing all of these, standard reporting and data formats would be helpful.”

Karen Hills
Head of Carbon and Sustainability Programme
Atkins Global

“We run around 500 lorries ourselves. Every project over the past couple of years has had a new standard because everyone wants to be seen to be driving the standard upwards and to be making waves on carbon even though that isn’t necessarily how things really work. That’s really frustrating – there’s a lot of time and energy wasted about everyone trying to reinvent the wheel to be seen to be leading and the expense of actually driving sustainability.”

Andy Regan
GRS Roadstone

“Two of the larger elements of our business are trading in aggregates and waste. In terms of aggregates, we’ve always promoted and offered sustainable options, and we’ve always done diversion of waste away from landfill – initially driven by cost, for example by the Landfill Tax, which goes to show that regulation can have a really big impact.” In the past, a lot of construction waste was put in a hole somewhere when it could have been used elsewhere. Over the past ten years, we’ve now got a much better understanding as a sector of how to manage waste in the correct way. The sector’s come a long way.”

Andy Regan
GRS Roadstone

“We have 6,500 products, so to get an Environmental Product Declaration for each one will take time and then we don’t know whether the information being asked for is useful. Sometimes we’re asked for the same information for different companies working on the same job, but in different formats. Are they using the data or filing it away? If all the Tier 1s were to agree to ask for the same information in the same format, that consistency would really help and would allow us to focus our energy elsewhere.”

Ashley Bell
Head of HSQEP
Polypipe



There needs to be one, clearer message from Government that goes beyond the overall net zero target. There will always be those customers who are early adopters and who want to do the right thing, but others won’t engage until they have to.

Bob Browning, Corporate Strategy, Quattro Plant Limited



“We’re on an agreed pathway targeting net zero by 2035 and we’re determined to stick to it. We will surpass it far sooner than 2035 for our scope 1 and 2 emissions. Scope 3 is far harder: for example, it is actually not possible for me to measure the embodied carbon in an excavator – no one has that data, so it feels like our own onward supply chain is somewhere near the beginning on this journey.”

Chris Matthew
Strategic Manager
Flannery Plant Hire

“Generally, Tier ones and Government need to be really clear with the regulations and also need to stop chopping and changing. We were told that ISO50001 would negate the need for certain other audits, so we pursued that, but the year after then had to do a ESOS audit. That’s a big burden on our business and it sucks up energy that we should be expending elsewhere.”

Chris Matthew
Strategic Manager
Flannery Plant Hire

“One of the challenges for us as a global organisation is that the priorities, legislative and governance drivers vary by country and collating and analysing the data required, especially around Scope 3 emissions, becomes incredibly complex.”

Karen Hills
Head of Carbon and Sustainability Programme
Atkins Global

“The bit I’m really worried about is that every one of my clients is going to ask for different things. For example, at the moment, I have different clients working on the same scheme who want different types of lower emission fuel, so I’m stocking six different fuels on the same site. This massively increases our costs, so in my view, there needs to be more guidance around what the ‘best’ low emissions fuel is.”

Bob Browning
Corporate Strategy
Quattro Plant Limited



Bulldozer and dumper truck fleet

The price of economic instability

On the big question of whether the sector is on-track to meet the 2050 target, 68% of those who responded to the survey felt that the sector is not prepared. Only 12% felt that the sector will meet the target. However, the interviews and written responses revealed a more nuanced picture. Many respondents feel that the sector wants to achieve the target and is investing significant amounts of time, money and effort in doing so, but there remains a number of barriers to overcome:

“Things are skewed in terms of pricing at the moment because of the energy crisis. The perception is that because a company is recycling, things should be cheaper, but that can’t be the case if you’ve made a huge capital investment in equipment and people and so on. We need to get used to paying a fair price for innovation that delivers low carbon.”

Mark Flint
Technical Director
FM Conway

“Investing in innovation costs a lot of money and that’s scary, especially in the current financial climate and given the untested nature of some of these things.”

Katie Atherton
Environment and Sustainability Manager
William Hare Limited

“Probably the biggest barrier is the upfront costs due to the scale of our site and the level of our power consumption. We’re thinking strategically around our operations and trying to be proactive in the procurement of new, energy efficient machinery, for example. But to change everything to the most energy efficient solution would cost about £100m of capital investment, so we have to structure it in a way that supports what our business can afford and what our customers want.”

Ashley Bell
Head of HSQEP
Polypipe

The viability of Net Zero 2050

The past two years have been challenging for business, with COVID-19 and the war in Ukraine driving shortages of some products and materials, increasing energy prices and causing inflation to rise. Only 43% of those who responded said that this had not had an impact on their sustainability or net zero plans in the last year.

“Is the sector on course to meet net zero by 2050? A guarded yes. That’s 28 years away. I can see automation of equipment being the norm by 2030 and then, really, it’s a case of looking at the raw materials, cement and steel and finding viable alternatives, so I think it is possible if we stay focussed.”

Niall Fraser
Managing Director
Blackwell Earthmoving Limited

“In my view, the big clients are on track, but the second tier of the supply chain is nowhere near ready.”

Bob Browning
Corporate Strategy
Quattro Plant Limited

“2050 is far enough away that there are new technologies that will come online that could make a real difference and push the sector as a whole over the line, combined with what’s already happening. However, the 2030 / 2035 targets for plant seem far-fetched because they don’t take account of the lifecycle of plant. The machinery I am buying this year and next year will still be running in 2030 and will be powered by diesel. They are company and stakeholder led targets which perhaps aren’t necessarily bringing the supply chain along or include offsetting, which we don’t think is the best way forward.”

Chris Matthew
Strategic Manager
Flannery Plant Hire

“Construction has come a really long way and the level of ambition is actually incredible. I think the sector is on target – SMEs need more support, but they are trying. Everyone is pulling in the same direction.”

Katie Atherton
Environment and Sustainability Manager
William Hare Limited

“We’re reliant as an industry on big heavy bits of kits that rely on huge amounts of fuel. Until we sort out fuel and energy - and raw materials on top of that - we’ll really struggle as a sector to get to net zero by 2050.”

Andy Regan
GRS Roadstone



Battersea Power Station

The need for alternative materials and methods

Only 48% of those who responded to the survey said that the development pipeline for low-carbon materials including concrete and steel is sufficient to meet demand in order to meet net zero targets, while only 20% said that construction practices (and subsequent demand from customers) are changing quickly enough to low-carbon technology and methods:

“The key barrier for us is that none of the current specifications allow the use of concrete without cement because high cement content drives durability. The solution is to develop a new specification and to run it alongside the existing one until everyone gets up to speed, but we aren’t there yet - there’s an element of biding your time, which can be frustrating.”

Andy Cooper
General Manager
Precast UK, FP McCann

“Managing our supplier sustainability performance so our supply chain sustainability emissions come down at the same rate as scope one and two is a key focus. Some of the technologies just aren’t mature enough yet. We have introduced a wide range of electric, battery and solar powered solutions as we have transitioned large segments of our fleet over the last 2 years to more sustainable solutions for our customers. However, there is much further to go as both technology and cost continue to moderate the desired pace of change. Even if all the technology was available, the solutions need to be cost effective. There are currently limited viable EV options for our commercial van fleet. The technology is slowing us down. It’s all part of the process though. It can’t all be done at once.”

Fred Pilkington
Sustainability manager
Vp plc

“Specification is a real bone of contention that stands in the way of us decarbonising – customers ask for a lower carbon option, which we know we can deliver, but there are specifications that stand in the way of it happening. It’s too bureaucratic and at some level these things slow down capital expenditure and the supply chain’s desire to push the envelope – because why would you invest millions of pounds in something you may not be able to use?”

Mark Flint
Technical Director
FM Conway

“In terms of transport, the big barrier standing in the way of decarbonising HGVs is that the electric charging infrastructure isn’t there yet and in terms of solutions like hydrogen, they aren’t ready yet: somebody has to put the money into making hydrogen a reality. There’s also a lot of risk for subcontractors in undertaking trials and the supply chain takes on most of the costs. Trialling alternative fuels for example can void the warranties for the engines, so we have to then foot the bill if anything goes wrong. That’s a big pot of money to set aside and a big risk to take.”

Katie Atherton
Environment and Sustainability Manager
William Hare Limited



The technology is there to deliver, but the raw material isn’t, so the suppliers of the raw materials are where the Government needs to focus its support – on some of the start-up technologies in particular that will be used as cement replacements.

Andy Cooper, General Manager,
Precast UK, FP McCann

“The speed of progress all comes down to the availability of alternatively powered equipment. If you look at alternative fuels to diesel for example, HVO (Hydrotreated Vegetable Oil), there are huge sustainability questions about where that amount of HVO would come from, so you’re realistically looking at electric or hydrogen power for example, but because of the size and mobility requirements of earthmoving equipment, the technology isn’t there yet.”

Niall Fraser
Managing Director
Blackwell Earthmoving Limited

“Ultimately, the clients are setting the pace and manufacturers are beginning to embrace new technologies and approaches. The thing that’s missing is the raw materials in the volumes needed to make low carbon products on an industrial scale – there simply isn’t the availability that we’ll need. Solving that will take heavy investment.”

Andy Cooper
General Manager
Precast UK, FP McCann

“We all need to play our part to help SMEs and bring everyone up to the same level of carbon literacy. That’s where the organisations like the Supply Chain Sustainability School comes in, making sure those resources are available to everyone for free.”

Fred Pilkington
Sustainability manager
Vp plc



Hinkley connection project

67% think that construction practices are changing too slowly in utilising low-carbon technology and methods.



The development of new fuel technology will be big for our industry and needs to happen more quickly – the heavy kit we use to move materials around would struggle to be powered on electric. If we go out and try and find an electric truck, we're prohibited on the basis of both price and weight capacity.

Andy Regan, GRS Roadstone



We don't know where the help is to take the new machines we've designed and built to the next level. We need them to go into production so we can get a return on the money we've invested. That needs a clearer pathway from the Government. More clarity.

Bob Browning, Corporate Strategy, Quattro Plant Limited



Behavioural drivers of 'green' behaviour

Some businesses are moving more quickly than others on the journey to decarbonise. In terms of what is behind the changes in those that are moving most quickly, the most-cited responses were that customer expectation, senior level ownership from within the business itself and Government targets are the key factors driving change:

"I wonder if there's more Tier 1s could do to find out about and flag funding, to push their supply chain partners towards it and help them with trials. At the moment, they use their procurement process to drive the supply chain to decarbonise, which is good, but just saying we want this, that and the other isn't going to move us forward fast enough – there's a lot more Tier 1s could do proactively to accelerate progress."

Katie Atherton
Environment and Sustainability Manager
William Hare Limited

"Client expectation in terms of being able to deliver net zero projects is really driving the move to net zero. We've had in our agenda for about 3 years as a research and development project since everyone was net zero by 2050. The big thing that's changed is that some of our customers are now looking at being carbon free by 2030 and some are asking for zero carbon by 2025. That's the challenge, so we've really had to sit up and take action."

Andy Cooper
General Manager
Precast UK, FP McCann

"Senior leader ownership has really helped drive the importance of decarbonisation within the business, and of course legislation and then the changing public perceptions – our employees and our supply chain's employees are all on board and challenging the way we operate as a business. Net zero is part of the public consciousness now. All of that has helped."

Ashley Bell
Head of HSQEP
Polypipe

"In terms of how we fund low carbon options, it's all self-funded out of the bottom line. Typically, we go out and do the R&D ourselves, which is one way of doing it, but I think if we want to move the whole sector forward more quickly, we need to find a better way of pushing and funding innovation. So, for example, the government needs to put in place more tax incentives or designated funds for trials."

Mark Flint
Technical Director
FM Conway

"We're a global business, so the net zero commitments of various Governments and legal drivers have had a role in driving how we're aligning ourselves, but there's also a pull from clients, so it's a two-way thing. It really goes to show the power of legislation when it comes to driving change."

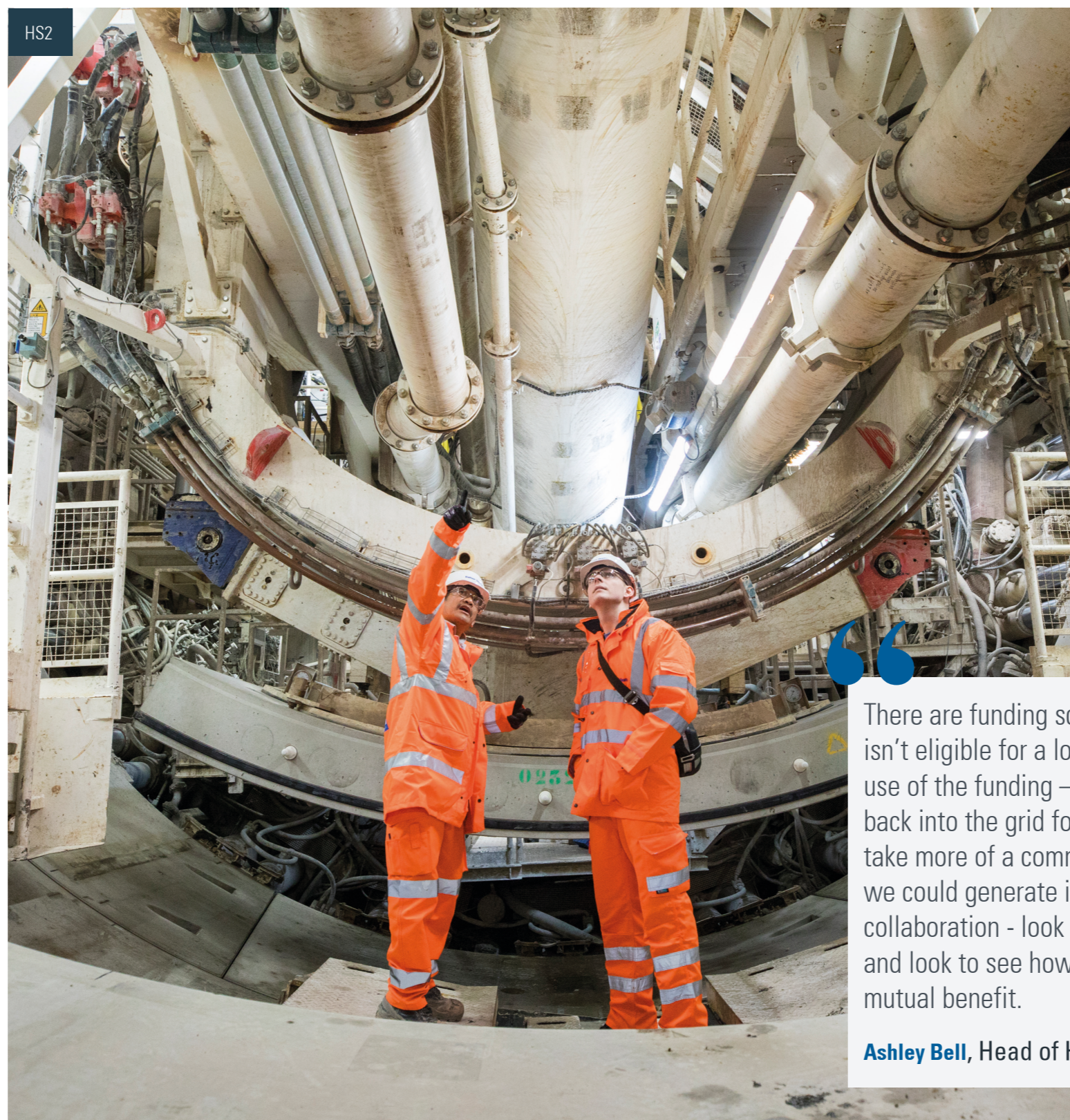
Karen Hills
Head of Carbon and Sustainability Programme
Atkins Global

The importance of R&D investment

R&D is essential to delivering the innovation that will help the sector meet net zero targets. 59% of businesses that responded to the survey are investing significant amounts in new, low or zero carbon products, materials or services. However, many also highlighted that they could do more if they had funding, suggesting solutions such as ring-fenced funding for R&D from Government and other stakeholders, less prescriptive grants available to fund innovation, or incentives via the tax system which could stimulate more R&D:

“More funding for R&D into alternatively powered vehicles would really accelerate progress. The trial of an automated articulated dump truck on the A14 was fully funded by what was then Highways England. Without that funding it’s unlikely it would have happened. But it was a giant leap forward in terms of decarbonising the sector because it proved that you can make it work. Another thing that would help would be for some of the big customers to allow field-scale trials of these new pieces of equipment. Field trials are important to help prove that they are a viable, safe way of, ultimately, cutting emissions.”

Niall Fraser
Managing Director
Blackwell Earthmoving Limited



HS2

“There is always a focus on short-term cost from the customer – it’s never far below the surface. Having designated, ring-fenced funds for R&D, to help with the development and testing of lower carbon options would make a real difference.”

Niall Fraser
Managing Director
Blackwell Earthmoving Limited

“The Government could reduce corporation tax, that would make a difference as would accelerating the availability of a comprehensive public access EV charging network. Introducing more incentive schemes would help too. The EV workplace charging scheme, for example, that’s helpful and goes some way. More schemes like that could start to make a difference.”

Fred Pilkington
Sustainability manager
Vp plc

There are funding schemes out there, but a company our size isn’t eligible for a lot of the support. We could make really good use of the funding – we could actually generate some power back into the grid for the local community. Government needs to take more of a common sense approach and look to the benefits we could generate if there was more joint-working and collaboration - look beyond us as a standalone manufacturer and look to see how we could join up and to fund projects for mutual benefit.

Ashley Bell, Head of HSQEP, Polypipe

59% of businesses are investing in new, low or zero carbon products, materials or services.

The need to develop a specialist skills base

A skilled workforce that is able to design and deliver the technologies, construct and maintain the infrastructure and capture, analyse and interpret the carbon data is one of the critical elements of achieving net zero. Yet a shortage of these skills across the piece was one of the striking themes of this survey. While many of those who responded to both the qualitative and the quantitative surveys highlighted that their businesses are investing in developing the necessary skills themselves, 96% say that they are experiencing a shortfall in access to skilled people and others highlight that they struggle to find enough people to train:

"We're investing in training programmes to get everyone's carbon literacy up to a certain level and equip our workforce to better understand details around the circular economy, how we can start asking our suppliers more detailed questions, understanding the quantity of recycled materials within products and their ease of repair and disassembly."

Fred Pilkington
Sustainability manager
Vp plc

"Experienced carbon professionals are really hard to come by and there's huge competition in the market. We are developing a Carbon Academy to upskill staff and widen carbon capability; we then hope to share access to this resource with clients and other partners."

Karen Hills
Head of Carbon and Sustainability Programme
Atkins Global

"We do a Knowledge Transfer Programme with Queens University of Belfast, which gives us a pipeline of talented, knowledgeable people coming into the business – you have to take a front foot approach."

Andy Cooper
General Manager
Precast UK, FP McCann

"We recruited new engineers to do the research and development of the new, battery-powered machines, but we don't have a Sustainability Manager at the moment as it isn't something we can afford, so a number of us have had to upskill to understand the issues."

Bob Browning
Corporate Strategy
Quattro Plant Limited



There's a skills gap across all different types of roles, digital, carbon reduction, processes – there's a massive skills gap across the piece, which will slow down how quickly we can make progress.

Chris Matthew, Strategic Manager, Flannery Plant Hire



"Our biggest challenge in skills is in finding enough people to drive our equipment. If you can automate more, you need fewer people: earthmoving equipment is very large and that overwhelms battery technology. Therefore, the only way you can power it on electricity is to make the machines smaller. So automation helps solve the environmental challenge and also the skills challenge."

Niall Fraser
Managing Director
Blackwell Earthmoving Limited

"There's a lot of behaviour change needed in the wider construction workforce. There is resistance to change which is partly down to human nature, but it's slowing down the progress we could be making. There are still people who can't understand why the money is being put into sustainability or that we need to do things in new ways. We need to change the outlook and become more used to collaborating across businesses. That's something we haven't done before, so it takes time."

Katie Atherton
Environment and Sustainability Manager
William Hare Limited

"Sustainability is a major differentiator for Flannery, which does draw a certain number of people in. But we have a significant number of openings, especially for technicians, and filling those vacancies is hard. We need more people across the board with the enthusiasm to take on the new technology. These are new skills. You can't poach those people, especially not in the numbers we need them - you have to invest in training."

Chris Matthew
Strategic Manager
Flannery Plant Hire

"There isn't enough of a focus on behaviour change. It's one thing giving someone a modern machine, but the impact an operator can have if they are displaying the right behaviours can far outweigh the 15% efficiency a manufacturer might advertise – we need to invest more time and effort in training operators in how to use the assets more efficiently and in thinking about the actual amount of time the machines are working. That is still really low, and idling is also a problem. The biggest carbon output is me delivering it and then it sitting onsite doing nothing – it means I have to buy more kit."

Chris Matthew
Strategic Manager
Flannery Plant Hire

"There's definitely a skills shortage in roles relevant to sustainability in the broadest sense. Engaging with the Supply Chain Sustainability School, of which we're a partner, is one of the ways we're showing commitment to the agenda and making sure we have access to resources and information. Having someone who can measure and monitor carbon and can do something about that will be a priority going forward, but we're not there yet."

Andy Regan
GRS Roadstone

53%

think challenges facing the construction supply chain (i.e. materials, skills etc.) have disrupted sustainability or net zero plans in the last year.

About the survey

Balfour Beatty and the Supply Chain Sustainability School jointly undertook a survey of members of the supply chain in August, September and October 2022. This included a representative sample of 270 companies of all sizes, based across the England, Ireland and Wales, with a separate survey carried out in Scotland. The survey was based on questionnaire responses and qualitative one-to-one interviews.

Our aim was to understand the barriers, perceived or otherwise, issues and opportunities faced by the sector in achieving Net Zero by 2050 in order to identify key recommendations for policy makers and others to support the sector in achieving Net Zero by 2050. The long-term outcome we seek is for the built environment sector to be capable, confident and have the capacity to reach Net Zero by 2050, if not before.



Littlebrook substation project



Derby street lighting maintenance

About Balfour Beatty

Balfour Beatty is a leading international infrastructure group with 24,500 employees (c.12,000 in the UK) driving the delivery of powerful new solutions, shaping thinking, creating skylines and inspiring a new generation of talent to be the change-makers of tomorrow. We finance, develop, build, maintain and operate the increasingly complex and critical infrastructure that supports national economies and deliver projects at the heart of local communities.

Over the last 113 years we have created iconic buildings and infrastructure all over the world including: the £1.5 billion A14 improvement scheme - Britain's biggest road project; Hong Kong's HK\$5.5 billion world-class harbour theatre project for the West Kowloon Cultural District Authority; and the 12.5 mile \$429 million North Metro Commuter Rail line in Colorado, US.

Balfour Beatty prides itself on being a responsible, sustainable business. Our Sustainability Strategy, Building New Futures¹ embodies our ambition to go further to reduce our environmental footprint and to have a positive, sustainable impact wherever we work.

In the UK, Balfour Beatty has a supply chain of around c.12,500 valued partners, many of which we have worked in partnership with for over a decade, and some of which we have worked with for over 30 years. They include large multinational companies, micro businesses and social enterprises. We spend two thirds of our revenues in procuring goods and services from our supply chain. In 2020, our UK net spend with these partners was over £2.7 billion: over 30% of this spend is with our top 100 partners. Balfour Beatty is proud to be a partner member of the Supply Chain Sustainability School.

About the Supply Chain Sustainability School

The Supply Chain Sustainability School is a multi-award-winning initiative which represents a common approach to addressing sustainability within supply chains. Its vision is an industry where everyone will have the skills to deliver a sustainable future.

With more than 50,000 registered users, the School provides free practical learning and support in the form of sustainability training, events and networking, e-learning modules, tailored assessment plans and a library of over 3,000 online resources. The School is part-funded by CITB and over 180 industry Partners. It is delivered by an independent third-party consultancy, Action Sustainability. Leadership is provided by a School Board comprising of an elected representative of Partners responsible for fiscal governance and strategic direction.

A Code of Ethics is signed by all Partners as part of the School Constitution and Partners lead the direction of the School content and activities through leadership groups.

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