

Embracing change at Jacobs

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AFTER THE ELECTION

Can the Tories deliver on infrastructure?

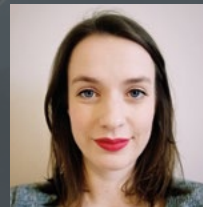
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INDUSTRY BODIES

ACE has a new chair for 2020

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CLIMATE CHANGE

Planning's role in reducing carbon emissions

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I INFRASTRUCTURE Intelligence

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Message from the editor



After months and months of political and economic uncertainty, a general election in the UK has delivered a Conservative government with a thumping majority. The new government has a mandate for not only "getting Brexit done" (which was repeated once or twice during the election campaign you may have noticed) but also for delivering on its many infrastructure promises.

As Scape Group CEO Mark Robinson says on page 6-7, for the first time in a decade, the ruling government party in the UK has a clear mandate to deliver. As the possibility of another referendum is now out of the question, the construction industry will be looking for clarity on the terms on which the UK will be exiting the European Union on 31 January 2020 and we have to hope we get that clarity very quickly.

Boris Johnson made all kinds of infrastructure promises during the election campaign and it is incumbent on construction leaders to hold the PM to account to ensure that his government delivers them and in a way that starts to rebalance the economy after years of uneven development in favour of the south at the north's expense. Notwithstanding his large parliamentary majority, Johnson will need a fair wind and favour to deliver on his pledges. An eager industry awaits.

Finally, it's worth mentioning that this first *Infrastructure Intelligence* of 2020 is a milestone moment, as it's issue number 40 of our magazine. We are delighted to have reached this landmark and we look forward to many more issues in the months and years ahead.

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Amey chief executive Andy Milner leaves the company

After more than a decade with the company, Andy Milner has stepped down as Amey CEO.

Amey's chief executive Andy Milner has stepped down from his role and left the company. Milner leaves after four years as CEO and more than a decade with the company. The firm announced the news on 10 December and said that Amanda Fisher had taken over as acting CEO.

Fisher is the current managing director of Amey's facilities management, defence and justice business and has been with the company since 2017. Previously, she held several senior operational and leadership positions across a number of sectors, including the wider FM market, business services and highways, in companies like Balfour Beatty, Alfred McAlpine and Allied

Healthcare, since leaving the Armed Forces, where she was a commissioned officer.

Commenting on the move, Fidel López Soria, CEO of Amey parent company Ferrovial Services, said: "Through her extraordinary results since joining Amey, Amanda has demonstrated her undoubted ability to assume the position of chief executive. I want to wish her all the best for the new challenges she faces.

"I would like to thank Andy for his dedication and commitment throughout his career in Amey and Ferrovial, and particularly for navigating the business through some very challenging years within our sector. He has helped to create a strong platform for the future, and I wish him every success for his new professional endeavours," said López Soria.

Speaking on her appointment, Fisher said: "I am delighted to have been offered the role to lead Amey through what is both an exciting but demanding time for our industry. Recently the business has overcome many challenges, and my focus will be on ensuring we build on this, readying ourselves for the next phase, delivering what our clients and the communities we serve need."



Amey chief executive Andy Milner (above right) has been replaced by acting CEO, Amanda Fisher.

Work begins on new 7km cycle route in London

Transport for London (TfL) has started construction work at Kew Bridge in preparation for a major project to upgrade pedestrian crossings and create new segregated cycle lanes in west London.

The new roads and junctions are proposed to form part of a major 7km cycle route between Brentford and Kensington Olympia, subject to final approvals from the London boroughs of Hounslow and Hammersmith and Fulham.

New FIDIC subcontract for plant and design-build

International engineering federation FIDIC has launched a new *Conditions of Subcontract for Plant and Design-Build* to add to its popular suite of construction contracts that are used extensively on global infrastructure projects.

The *Yellow Book Conditions of Subcontract* was launched at FIDIC's International Contract Users' Conference being held in London in December and is for use in conjunction with the FIDIC Conditions of Contract for Plant and Design-Build, First Edition 1999.

Commenting on the new subcontract, Dr Nelson Ogunshakin, FIDIC chief executive, said: "We believe that subcontracting deserves greater attention. When a part of the main works contracted based on the *FIDIC Conditions of Contract for Plant and Design-Build, First Edition 1999* is sub-contracted, it is equally important for the successful completion of the project that the terms of the sub-contract are properly addressed and drafted. The *FIDIC Conditions of Subcontract for Plant and Design-Build* should serve this purpose."

FIDIC lead board member for the contracts committee, Aisha Nadar, said:

"FIDIC is known and well regarded for its fair-and-balanced contracts and the new design-build subcontract is no exception. The rights of the contractor under the main contract, as well as the obligations, are passed down to the subcontractor. The general conditions of subcontract are drafted on the basis of pay-when-paid, being the most common commercial arrangement between contractors and subcontractors in general - but not pay-if-paid. The subcontractor will not lose their entitlement to be paid if it transpires that the employer does not pay the contractor under the main contract."

The new *Yellow Book Conditions of Subcontract* is now available for purchase from the FIDIC bookshop price €40.



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Find out more: fidic.org/bookshop

TfL started construction work over the Christmas period to take advantage of reduced traffic on the roads. On average, said TfL, there is about 15% less traffic on London's streets at that time of year.

TfL will also open an arch under Kew Bridge to create step-free access to the Thames Path, which will now run under the bridge, rather than over it. TfL is in final talks with Hounslow Council on the work needed to make this happen, and they say an announcement on the opening date will be made shortly.



Transport for London is investing millions of pounds into safe cycling lanes.

Can the Tories deliver on infrastructure?

With a new government in place with a fresh mandate for its plans, what can the construction and infrastructure sector expect in 2020? *Andy Walker* reports.

There will be many in the construction industry who hope that an uncertain year for the sector in 2019 will not be repeated in 2020 and that the UK general election result will usher in a period of certainty and greater investment in infrastructure. The Conservative's manifesto and the words of its leading spokespersons during the campaign would certainly lead you to believe that infrastructure spending is going to rapidly increase so the focus will now be on how soon the government will deliver on its promises.

Reacting to Boris Johnson's general election win, ACE chief executive Hannah Vickers said: "The majority returned for the Conservatives has finally broken the deadlock in Westminster and will allow government to act decisively on Brexit and other issues.

"Our members will be delighted to see progress on the withdrawal agreement and future trading relationship, equally they will also want to see a return

"The majority returned for the Conservatives has finally broken the deadlock in Westminster and will allow government to act decisively on Brexit and other issues."

Hannah Vickers, chief executive, Association for Consultancy and Engineering

"Voters gave a clear signal, get Brexit done, and for the first time in a decade the ruling party has a clear mandate to deliver."

Mark Robinson, chief executive of public procurement specialists, Scape Group

to 'business as usual' with progress on HS2 and support for new projects like Northern Powerhouse Rail and investment in an ambitious social infrastructure programme to improve schools and hospitals.

"It will also ensure a continuing commitment to the industrial strategy and the opportunity to expand the Construction Sector Deal to deliver for consultancy businesses. We look forward to working closely with the government on helping to make their pledges on housing and vision for a net zero society a reality."

It is clear that the industry expects the new government to deliver on its pledges and also take action on pressing issues like climate change. Richard Robinson, CEO of Atkins UK and Europe, said: "Atkins is looking forward to

supporting the new Conservative government as it delivers the infrastructure needed to drive economic growth across the UK and set us on a path to a net zero future."

Mark Robinson, chief executive of public procurement specialists Scape Group, said: "Voters gave a clear signal, get Brexit done, and for the first time in a decade the ruling party has a clear mandate to deliver. With the possibility of another referendum now out of the question, we need clarity on the terms we will be exiting under on the 31st of January - and quickly.

"Boris Johnson has been given the seats to deliver on key election pledges and MPs must hold him to account on delivering these - the £100bn of additional funding for infrastructure needs to be mapped out based on priorities and deliverability. Availability of labour is a crucial issue that needs to be addressed if we are to deliver on the big-ticket pledges we heard on the campaign trail."

Civils contractors called on the new Conservative government to "turbo-charge" the infrastructure sector in its first 100 days in office. Chief executive of the Civil Engineering Contractors Association, Alasdair Reisner, said:

“Mr Johnson should use his first 100 days to turbo-charge the infrastructure sector by committing to schemes that have been delayed by the election or have had doubt thrown on their future. Subject to the findings of the Oakervee review, we would like to see the new government make a firm commitment to HS2 and progress this transformative project towards delivery.”

Simon Rawlinson, head of strategic research at Arcadis, said: “We know that the government has a budget in draft and we look forward to its publication at the earliest opportunity, particularly announcements on the National Infrastructure Strategy, Road Investment Strategy 2 and with these, much greater clarity on the commitment to an £80bn investment boost. Furthermore, government should act as quickly as possible to finalise decisions on outstanding programmes like HS2 so that the supply chain can plan with greater certainty.”

David Whysall, managing director of UK infrastructure at Turner & Townsend, said that the industry needed certainty to gear up to deliver the government’s ambitious infrastructure plans. “As we start 2020, there is now political consensus that investment in infrastructure delivers economic and social progression whilst also being a critical enabler for the net zero carbon agenda. This has resulted in a strong pipeline, but we need to see the potential realised. The industry will not gear itself up to deliver the infrastructure programmes talked about without greater certainty around when and where the investment will take place.”

The construction industry will be hoping that the election result will prompt a spike in business optimism, which can only be of benefit to the industry as the public and private sector cautiously look to push forward with projects. The first couple of months of 2020 are likely to be crucial, as the decisions the new government takes will be vital to maintaining confidence in the sector.

A key challenge will be making Brexit economically advantageous for the UK economy and the construction businesses that work in it and this will be especially the case in the north, where the government has gained so much new found support as a result of its promises to invest and renew. The new prime minister will be under some pressure to deliver over the coming months.

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David Whysall, managing director, UK infrastructure at Turner & Townsend

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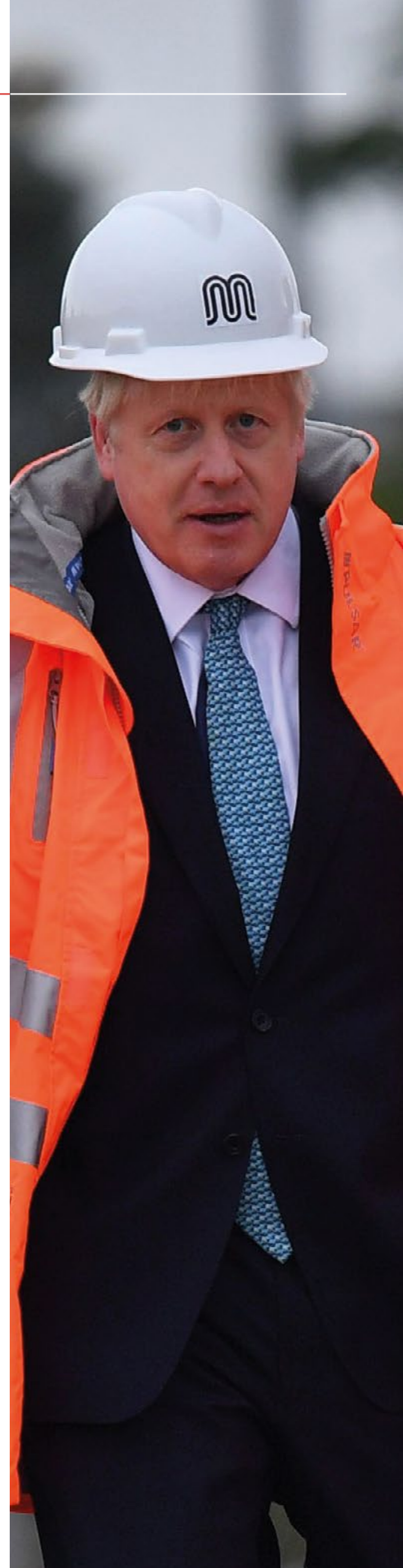
Simon Rawlinson, head of strategic research, Arcadis

“Mr Johnson should use his first 100 days to turbo-charge the infrastructure sector by committing to schemes that have been delayed by the election or have had doubt thrown on their future.”

Alasdair Reisner, chief executive, Civil Engineering Contractors Association

“Atkins is looking forward to supporting the new Conservative government as it delivers the infrastructure needed to drive economic growth across the UK and set us on a path to a net zero future.”

Richard Robinson, CEO of Atkins UK and Europe



Seven steps to getting your contract right

Getting the contract right is crucial to the success of any construction project. Below, Lockton's *David Isherwood* offers seven helpful tips of how to safeguard your firm's interests.

In any construction project, the contract is key. Getting it right can take months of negotiation and, more often than not, it isn't until there is a formal claim that the parties find out whether or not the contract protects them! We see numerous claims notifications from a wide variety of causes, and one of the most common is when the contract's terms are referred to by the claimant's solicitor, in order to make the claim stick against the insured.

We've come up with seven key recommendations to help you get the contract right at project inception, safeguarding your interests in the future.



David Isherwood
is account executive,
global professions, at
Lockton.

1 Get a contract

Although you don't need to have one, it's wise to have a contract on every project. Without one, you still owe a duty of care once services begin but it is more difficult to prove what you did or didn't agree at the project's start. Ideally, a contract would be agreed before work has started.

2 Use a pro-forma

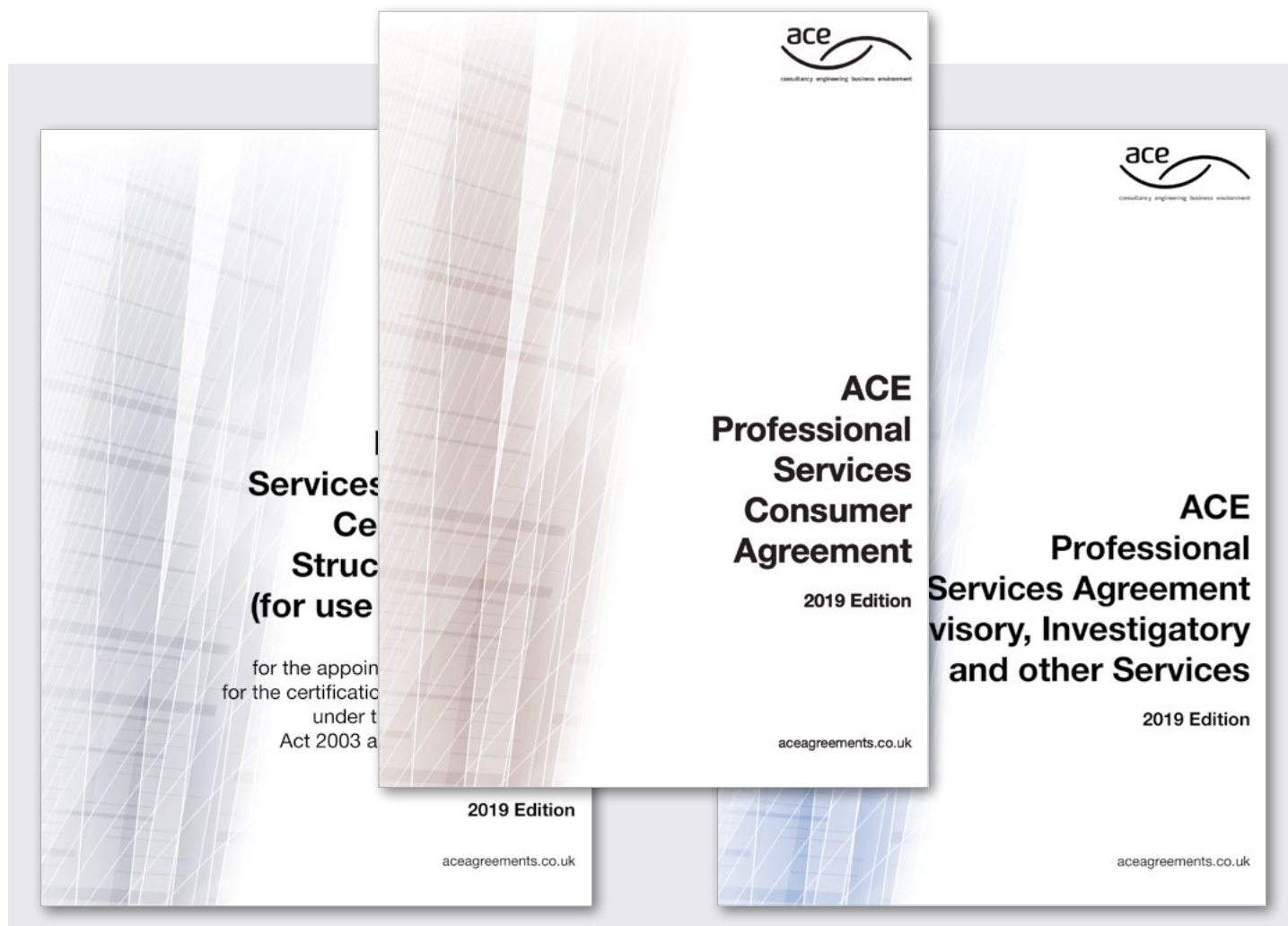
Make sure you are fully aware of what your contract says; that way, you already know what you are signing up to. A set of standard terms and conditions on your own company letterhead is advisable for use whenever possible. Failing that, there are various consultant-friendly documents out there, such as those issued by the ACE, CIC, RIBA and others. Bespoke contracts issued by the employer (or requisite solicitor) are common but will of course take time to read and negotiate.

3 Be wary of absolute obligations such as 'indemnify', 'warrant', 'guarantee' and 'fit for purpose'

Terms and phrases such as 'indemnify', 'warrant', 'guarantee' and 'fit for purpose' are often warning signs that there is an overarching obligation, but that is dependent upon what follows. Do bear in mind though that the professional's requirement at law in the UK is to exercise reasonable skill and care, so it would be wise to resist obligations that are going to make it easier for a claimant. It is also important to bear in mind the scope of your PII policy here as, just because it might be covered, it doesn't mean it should be agreed. Do always speak to your insurance advisor about these matters.

4 Back-to-back means added security

If you are appointing sub-consultants, ensure that the contract is on a back-to-back basis with them. This means requiring your sub-consultants to agree to the same terms and



There are many consultant-friendly documents in the market, such as those issued by ACE.

conditions that you have agreed with your employer. Ideally, this would include any contract specifics such as the PII limit. This will always help if there is a matter later on, where a sub-consultant might be brought in.

5 Collateral warranties can be a positive

Collateral warranties on any project can often safeguard issues later on and streamline any claims procedure. The mechanism of agreeing a collateral warranty creates a contractual link with a third party. If appointing a sub-consultant, it is wise to enforce the signing of a collateral warranty in favour of the employer and funder. This means you may not be brought into a future claim which may otherwise cause costs, time and stress. That said, it is important to ensure that they are all agreed at appointment stage and that they do indeed sit 'collateral' to the appointment, with no more onerous terms.

6 Protect yourself, then protect yourself some more

There are various ways that you can protect yourself further. Where possible, we always recommend adding a financial cap on liability ideally to no more than the limit of indemnity that you are carrying, net contribution and time limitation provision in any contract. For collateral warranties, the addition of an equivalent 'rights in defence' clause is also very useful. Our team is always happy to offer further guidance on these specifics.

7 Stick to your scope of services

Although it is nice to be nice, being overly helpful can be damaging later on. Within any appointment, the scope of services will also be agreed. It is imperative that these are adhered to and not varied without written instruction and appropriate additional payment. We frequently see issues where an insured has been guilty of 'scope creep' resulting in a formal letter of claim which has arisen out of a service that they hadn't originally agreed to provide and, in some cases, were not appropriately qualified to do. There is no harm in sticking to what was originally agreed.

Knowing how to draw up contracts and the best way to enter into them is complex. For further advice and to find out how this interacts with your PII cover, please contact your insurance advisor.



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Innovation in an as

Mott MacDonald's Smart Infrastructure Index[®] enables organisations to assess their digital progress and work out where they need to do better. *Jon Rains* explores innovation in the industry.

Developers, owners and operators have a responsibility to meet social and economic needs in a way that puts safety first, protects or enhances the natural environment and delivers reliable services. They share with government the duty to deliver value for each pound invested.

Exponential advances in digital technology have unlocked waves of innovation across all industries, but infrastructure has been slow to exploit these opportunities. The challenge is how to enable innovation in a way that does not introduce unacceptable levels of risk.

A surprising 27% of those surveyed in the Smart Infrastructure Index[®] feel it is unacceptable to invest in an innovation project that fails. This is worrying – innovation by its very nature can't be predicted in advance and does require investment which may not always see returns. And investing in innovation is essential if technological developments are to deliver improved infrastructure performance. This extends far wider than technology – to processes, procurement and operating models.

Purposeful activity, not organised chaos

While all organisations recognise the need to innovate, 72% said there was limited visibility of outcomes from investment in innovation. Coordinating and aligning that activity with business objectives without stifling new ideas can be challenging.

Innovation is a means to an end, so the business need must first be defined and prioritised. From encouraging and capturing ideas, through to review, challenge and ultimately implementation, a sound support structure is necessary



Jon Rains
is investment director
at Mott MacDonald
Ventures.

to facilitate and foster the right culture. Outcomes must be measurable, whether an initial pilot or full-scale deployment, with target impacts set and results reviewed and communicated.

Different approaches will be appropriate to different parts of your business – maintain high levels of assurance where required but consider where a more agile approach could be taken in order to drive innovation without compromising service. Major infrastructure owners are already doing this - Shell, for example, recently separated hydrocarbon assets from supporting infrastructure, enabling greater innovation in lower risk areas.

To help promote innovation, there are several steps you can take. Embrace a 'build-measure-learn' ethos, allowing ideas to fail without impacting critical areas of the business – the faster that cycle happens, the more value you will get. Develop a physical working environment that encourages informal interactions – these 'corridor conversations' between people in different roles often stimulate new ideas.

Adopt the right systems for knowledge sharing – people across the organisation may have similar ideas and it is important to connect to avoid duplication. Recognise that different skills are needed at every stage of the process – the person who has a great idea may not be the right person to roll it out across the business.

Get serious about partnerships

A diverse ecosystem of suppliers sits at the heart of Project 13,

secured environment



especially in digital. Use hackathons and incubators to find potential partners, but don't let collaboration end at the event. Follow through with meaningful opportunities for suppliers to prove their products and services will deliver value to your business. Embrace open innovation, and don't allow restrictive contracts that demand transfer of all intellectual property to stifle progress. Instead, build trust through long-term partnerships that deliver mutual benefit.

Embrace industry collaboration

Bringing together infrastructure clients and their supply chains, i3P – the infrastructure industry innovation programme – provides a platform for the industry's brightest minds to collaborate and deliver innovations for the future. By fostering a truly collaborative culture, i3P creates a safe space to share ideas and stimulates collaboration on projects that drive increased value across the industry.

Read more online at
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Benchmarking your firm's digital maturity

Richard Shennan,
group digital business
development director
at Mott MacDonald,
comments:



"If you can measure it you can manage it," says Richard Shennan, group digital business development director at Mott MacDonald. "It's a saying commonly used in our industry, and it's clear that having a standard methodology for measuring digital maturity will help infrastructure owners and operators accelerate digital transformation.

"The Mott MacDonald Smart Infrastructure Index® provides that standard. It enables organisations to plan change based on a clear understanding of their current position and provides a methodology for implementation and measurement. It also provides a valuable benchmark with respect to peers."

To access the SI Index® and benchmark your organisation's digital maturity in just 15 minutes visit <https://bit.ly/33ozqGs>

“Future is in our hands,” says new ACE chair

The new chair of the Association for Consultancy and Engineering is *Paul Reilly*, managing director, infrastructure and buildings, Stantec UK. As he prepared to take the helm at ACE, we sat him down to answer a few questions.

What are your priorities as you prefer to take the chair at ACE?

ACE represents and supports around 60,000 engineering and consultancy professionals across all regions of the UK, who work for large international companies and smaller firms, spanning all ages from apprentices to seasoned professionals. It is important that ACE listens to all parts of its membership, hears their views about the challenges that lie ahead and shares their ambitions with our wider stakeholders.

We have an ambitious plan to challenge our industry to broaden our diversity. By welcoming those with different skills and experiences we give more people the opportunity to participate in the delivery of new infrastructure, connecting our communities in new and innovative ways to increase resiliency and create sustainable places that reduce embodied and operational carbon, thereby transforming the quality of life for people in the UK.



Paul Reilly,
managing director,
infrastructure and
buildings, Stantec UK.

How do you view the state of engineering consultancy currently?

Year on year we see our margins fall and we need to work even harder to create and demonstrate more value for our clients through our projects - embracing fresh thinking along the way. We are already reaping the benefits of digital working to reduce cost, time and risk for our clients and we need to keep pushing the envelope. As consultants, we always bear future generations in mind when advising our clients, but we must continue to improve the ways we help our clients articulate the economic and social value their projects will deliver in the years to come.

How will ACE's Future of Consultancy campaign feed into your term as chair?

The Future of Consultancy is an exciting framework for engaging all stakeholders in our industry. Working more closely with the major contractors, government and clients to practically deliver lasting benefits, and challenging ourselves to evaluate the skills we need for the future are just two of the areas I plan to be closely involved with. We have an incredible depth of skill throughout our industry and I think there is more we can be doing to engage the broader supply chain in shaping our future.

You say you want to do more to help ACE's SME members. How will you go about this?

We already have groups actively working to promote the voice of the small and medium sized firms who form the majority of our members. I will start by listening carefully to the membership, spend time with the regional groups, identify more routes for engagement and work with the excellent corporate team at the ACE to put in place additional tangible benefits for membership.

Is the voice of the consultancy and engineering sector heard loud enough with opinion formers? What more can ACE do to increase the sector's profile?

I think that *Infrastructure Intelligence* has become highly influential within government and across the industry. Where we haven't done enough, as individual members or as an industry body, is to create a compelling case which helps the general public understand the work we do with our clients. Increasingly, and rightly so, the voice of the community is looking for net zero outcomes and we can help deliver that. In our work on transport, power, water and buildings we will be



able to make that case, but we need to ensure we are wrapping the important broader social benefits into the story we tell at the same time.

What do you think you can bring to the role of chair?

The ACE is a very collaborative organisation with a strong ethical foundation and a desire for excellence in everything it does. I will support it in any way I can and am eager to encourage the principles that have made it so strong over the past 100 years.

What do you see as the key issues facing ACE members currently?

We cannot be complacent. The scale of the UK infrastructure and development market is going to attract attention from new competitors who will bring different business models, apply technology differently, offer to take risk or control data disruptively, and potentially bring some financial power. As consultants and designers, we have the commercial creativity and client insight to combat these challenges. We have a great track

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record in the UK of being proactive in overcoming obstacles and I am sure we will continue to do so.

How optimistic are you about the future and why?

We are in a great place. The future is in our hands. The younger consultants and designers coming into our industry now are incredible. They are smart, tech-savvy, ambitious and infused with a strong social purpose. We must ensure we are creating an environment in which they can thrive. We have plenty of work ahead of us in meeting the challenges the UK faces in housing, infrastructure, clean water, clean air, developing smarter cities and transport systems and of course clean energy. What could be more exciting?

What is the one thing you would change about the industry if you could?

The mental health issues faced by our industry. Mental health issues at work typically emerge from poor relationships. We could all be more emotionally tuned in to the needs of our colleagues. The stress of time-critical accuracy-driven project working, the challenges of our often-fragmented approach and the constant financial pressures all weigh down on us as we try our best in a complex environment. If we had recognised and addressed these issues 20 years ago, embracing much of the thinking in the Future of Consultancy plan, and worked harder to push emotional intelligence as an important part of professional development, perhaps we would have fewer challenges across our industry today.

Thinking outside the box on procurement



Nick Mansell is a project manager at CPC Project Services.

There's a famous story about a production line worker at the Swan Vesta match factory who one day approached his manager and told him that, in return for a finder's fee, he could instantly save the company thousands of pounds a week.

Management were dubious, confident that their processes were already rigorously efficient but decided that there was no harm in agreeing to the proposal. As soon as the fee was agreed and the deal signed, the enterprising worker told them: "You only need sandpaper on one side of the box!"

It's a story about the dangers of familiarity. Processes and assumptions can become so deeply embedded they seem natural, inevitable even. But once you refuse to accept that the way things have always been done is necessarily the right way to do them, a world of opportunity can open up. It's a lesson that project managers in big infrastructure projects - people like me

- need to start to take more seriously.

Take procurement processes on a large project, for example. So dense and complex are the regulatory requirements that it can take six weeks just to prepare the invitation to tender. Another six weeks can be spent waiting for submissions and then maybe four more weeks assessing tenders and appointing the contractor. That adds up to four months waiting for work to begin. And that's not the worst of it.

The complexity of the process squeezes out smaller, perhaps more agile organisations, narrowing choice and opportunity. Even worse, it means that there is a huge disincentive to changing course if we get it wrong. Long-term inflexibility gets baked in.

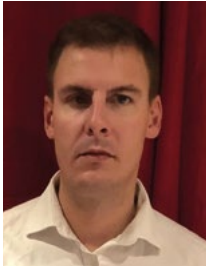
"We can talk about learning cultures, future proofing and innovation all day long, but if every procurement is as slow and cumbersome as turning a supertanker, we are kidding ourselves."

We can talk about learning cultures, future proofing and innovation all day long, but if every procurement is as slow and cumbersome as turning a supertanker, we are kidding ourselves.

Of course, there are good reasons behind some cumbersome practices, but routinely spending four months procuring a new company? That can't be right. So often I hear the old cliché 'if it ain't broke, don't mend it' offered as if it were a piece of eternal

wisdom rather than a recipe for complacency and inertia. Broken things, you know, can sometimes keep moving, if they are rolling downhill.

We can't keep doing it like this, it is not working. We need to say it and say it loud: we don't need sandpaper on both sides of the box.



Andrew Cullis
is a risk analyst at
risk management
consultancy, Equib.

Counting the cost of risk misunderstandings

While it may not always be a message that people want to hear, effectively communicating risk can play a critical role in preventing time and cost overruns on major-scale programmes.

Mega project expert, Bent Flyvbjerg, famously said: “It is not the best projects that get implemented, but the projects that look best on paper. And the projects that look the best on paper are the projects with the largest cost underestimates and benefit overestimates”.

Risk is often a difficult sell, and human nature means that people are often reluctant to dwell on negative elements, assuming that ‘it’ll be alright on the night.’ With this in mind, setting out practical solutions to the risks that have been identified, and clearly communicating how these will be implemented, is vital to help steer projects out of danger.

While each risk can have a range of possible impacts, those linked to money and time are most likely to grab stakeholders’ attention, as these are the metrics most commonly used to measure a project’s success and could

“Risk is often a difficult sell, and human nature means that people are often reluctant to dwell on negative elements, assuming that ‘it’ll be alright on the night.’”

also have an impact on the business’ reputation.

The growing complexity of infrastructure programmes means that risk identification and assessment are not enough – effective risk communication is also crucial in order to optimise project delivery outcomes. By adopting a personal, solutions-focused approach to risk communication, project managers can win the stakeholder support needed to mitigate risks and keep things on track.



Helen Wollaston
is chief executive of
WISE, the campaign for
greater gender balance
in STEM.

Employ more women in STEM roles or get left behind

Having seen the number of women in core STEM (science, technology and engineering) roles reach our target of one million, we now need to maintain the momentum and aim for a target of 30% of women in STEM which is critical mass for sustainability.

Currently, women hold just over 24% of these roles and the number of women in technology is a particular cause for concern, with women representing just 16% of IT professionals; a figure that has remained almost static for ten years.

The fact that women remain so under-represented in tech

is incredibly disappointing. Technology roles account for 25% of core STEM roles and are among some of the most exciting careers to be a part of, and yet companies are failing to attract and retain women.

While technology has remained stubbornly stagnant, other sectors have made progress in recent years.

Engineering has doubled the number of women represented in the profession overall to 50,000. Science has also made significant progress with women now in touching distance of representing 50% of science roles, and the number of women in STEM management roles has increased to 14%.

The progress made by these sectors clearly demonstrates that forward thinking companies can create change, and the business case for greater gender diversity shows that companies are more adaptable, productive and responsive to what their customers are telling them.

Employers need to be clear; to get ahead in STEM, they need to recruit, retain and develop female talent. Failing to do so will mean being left behind.

Embracing change at Jacobs

With a new European flagship office in London and plans to hire 2,400 staff in the UK over the next two years, Jacobs are on the up. *Andy Walker* visited their new offices to speak to company president and chief operating officer Bob Pragada.

Change was in the air when I visited Jacobs' shiny new offices in London Bridge overlooking the Thames. The firm's president and COO Bob Pragada was keen to talk about the pace of that change and the effect it was having on his company and the industry. "Megatrends are accelerating the pace of change and there is a real sense of urgency," he says. "Climate change is having a pronounced effect from everything from sea level rise to drought areas to coastal resiliency and all this is being accelerated so that there has to be a different way of doing things. And I haven't even talked about the political overtones that have complicated things too," Pragada says.

Technology is certainly changing the infrastructure business and the way that organisations like Jacobs are working. "Technology in the infrastructure world means the use of data and where we are trying to go as a company is to use technology to enable more efficient solutions that are more geared towards the outcome," says Pragada. Technology means that the problem of too many people on the tube is not solved by building another underground or adding more lines. It's more about dealing with a capacity issue

of mobility in London and using technology to address that. "We see the future as redefining what the issue really is and then figuring out what the best technology is to enable that solution," Pragada says.

"It's about a true appreciation of the need. What are the needs of the community? What are the effects of climate change? How do we deal with that? Having the best engineer in today's world only opens the door," he says. It's about having

a dialogue with the client and importantly also society. "It's also about trust, certainty and delivering on solutions. Clients' needs are much greater than they were years ago," says Pragada.

Turning to Jacobs' announcement to hire 2,400 staff in the UK, Pragada said that the move would enable the company to become more digitally enabled while still retaining its key skills sets. "We are a user of digital skills, but we are not a digital company. We will recruit plenty of engineers, but we will also bring in data scientists. Above all, we want global thinkers. We are establishing a flagship office for the whole world. Global connectivity means that we have talent around the world delivering global solutions locally. 50% of the work we do today is done with global teams. I can go to the Metrolinx site in Toronto and half of the team is from the UK because our rail experts in the world sit in

"It's about a true appreciation of the need. What are the needs of the community? What are the effects of climate change? How do we deal with that? Having the best engineer in today's world only opens the door."

Read more online at
www.infrastructure-intelligence.com



Professor Brian Cox (third from left) with London students at the Jacobs London office opening.



Jacobs president and chief operating officer, Bob Pragada.

the UK,” he explains.

Technology makes that way of working seamless in a way that wasn’t possible even ten years ago. There have been big shifts in such a short time with firms now providing clients with the right talent wherever it may be in the world. Clients are benefiting from this flexibility.

I asked about the size of the increase in staff Jacobs is undertaking in the UK. Pragada plays down the almost

“The social benefit accrued from infrastructure development is now centre stage and in that light Jacobs’ recent move to acquire a 50% share in Simetrica.”

30% rise in headcount. “It is a big figure when you consider the number that we have in the UK today but it’s not a big figure if you think about the size of the organisation that we have globally. We have about 35,000 in our infrastructure business and then that figure goes to 45,000 when you add on digital and cyber to that. So, 2,400 is not such a big figure in that context,” he says.

As change accelerates in the industry and more and more infrastructure being contemplated by governments around the world, demand is likely to be high for Jacobs’ new arrivals. The social benefit accrued from infrastructure development

is now centre stage and in that light Jacobs’ recent move to acquire a 50% share in Simetrica, a UK-based organisation that specialises in social value measurement and wellbeing analysis, looks to have been a smart one. Under the new partnership, Simetrica will provide its cutting-edge expertise to increase existing capabilities and offerings in the areas of socio-economics, sustainability and environmental services.

“We think this will have a lot of benefit in the infrastructure sector. It’s going to be transformational. It also helps to entice people into the industry and also to retain them. People want to make a difference and change the world they live in,” Pragada says.

I finish by asking Pragada what key changes he expects to see in the industry in ten years’ time? “My optimistic view is that in ten years we have a real opportunity to change fundamentally the way we deliver infrastructure to the world and get it closer in line with those areas making a positive outcome,” he says. “What does that mean? Rapid solutions that rely on technology. Generative design. We are changing the face of our metropolitan areas as well as the globe with our data scientists. All of that points to a world where we have infrastructure that has the ability to change while the world is changing,” says Pragada.



Crowdsourcing the fight against floods

ACE is calling on the next government to create a 'Waze for flooding' to better equip the country in the battle against climate change, reports *Andy Walker*.

The Association for Consultancy and Engineering (ACE) is arguing for the development of an app, which merges crowd-sourced information with data from official sources such as the Met Office and the Environment Agency, to create a real-time picture of flooding and allow everyone to contribute to the fight against floods.

The proposal would sit alongside additional investment in physical flood defences across the country and complement improvements being made elsewhere. ACE chief executive Hannah Vickers said: "The impact of last year's floods in South Yorkshire, the Midlands, and Lincolnshire was even worse because of a lack of reliable information in a rapidly shifting situation. This severely hampered rescue, relief and clean-up efforts."

The government received a barrage of criticism after those November floods, with people affected by flooding in the Midlands and the north of England accusing the government of a "belated response" after Boris Johnson announced a series of measures designed to prevent a repeat of the recent chaos. Johnson announced that £5,000 grants would be made available through local authorities from the end of November, in the wake of severe flooding in parts of Yorkshire and the Midlands.

Meanwhile, council leaders across northern England have called for massive increases in funding to deal with major incidents. The leaders of councils in Doncaster, Rotherham, Sheffield, Barnsley, Bassetlaw and Kirklees warned of "considerable and lasting damage on a wide scale", including to power plants and transport infrastructure and called for funding increases to help them cope with future floods.

Read more online at
www.infrastructure-intelligence.com

"With climate change increasing the likelihood of major floods in the UK, it makes perfect sense to invest in the next generation of virtual flood defences," said ACE's Hannah Vickers. "Using technology to merge data from official sources with crowd-sourced information, it would create a real time picture of what's happening - allowing for homeowners to prepare for, and rescuers to plan routes through, rising waters."

"Over time, we would build up an evidence base which could help predict potential flooding on a street-by-street basis. In the same way that Waze helps drivers avoid congestion through crowd-sourced information, this app would ensure we could with rising waters. This is a modern and cost-effective response to an issue which won't be going away any time soon," she said.

ACE's Waze-style solution is based on the GPS navigation software app owned by Google. It works on smartphones and tablet computers that have GPS support. It provides turn-by-turn navigation information and user-submitted travel times and route details, while downloading location-dependent information over a mobile telephone network.

Applying this technology to combating flooding would enable real-time information to be shared using crowdfunding methods and at minimum cost. It is to be hoped that the next government takes up the idea.



Flooding in South Yorkshire in November 2019.



Infrastructure 2020: better and greener!

If you believe last year's general election pledges, we are heading for big increases in public spending and a step-change investment in infrastructure. But will this actually happen and what does this year have in store? *Ben Marshall* investigates.

What is certain is that culture matters. As the saying goes, it "eats strategy for breakfast". As in other parts of the world - where populists have weaponised infrastructure - UK politicians have used it to talk to regional inequalities, national pride and future prospects. Ipsos MORI has found that the public remain worried about the state of the country as a whole and are among the most negative in the world about the future. In 2019, the climate emergency (Oxford Dictionary word of the year) broke through as a major concern. 78% of us think we are heading for disaster if we don't make major changes soon.

Getting closer to culture, public attitudes and priorities is the motivation behind our annual *Global Infrastructure Index* for which we survey citizens of 28 countries. The value of the Index, conducted in partnership with the Global Infrastructure Investor Association (GIIA), is that international comparisons reveal common challenges, but also uniquely national contexts.

This is evident in ratings of 14 individual infrastructure sectors and

"People are cost-sensitive and much cooler on increased taxation to fund infrastructure investment than they are about borrowing."



Ben Marshall
is a research director at Ipsos MORI.

in our new 'Nimby Index' - Nimby an acronym for a "Not in my back yard" opposition to development. While Britons are relatively positive about wind energy infrastructure, for example, we are downbeat about rail and housing. And levels of support for new local building fall should it require development on greenfield or add to traffic and congestion. Indeed, nowhere else is the public more sensitive to these impacts than in Britain.

Like citizens elsewhere, the British see infrastructure as pivotal to economic progress. But "turning the page" on austerity cannot prevent its legacy living on. People are cost-sensitive and much cooler on increased taxation to fund infrastructure investment than they are about borrowing. This is especially so if they are unsure what 'infrastructure' is. They prioritise the maintenance of existing assets over the building of new ones.

The case for the new must still be made, especially as infrastructure's reputation has deteriorated. Back in 2016, 48% agreed that "Britain has a poor record at getting national infrastructure projects right". This year, post-Crossrail delays, it was 53%. If we are to invest big in infrastructure, we must do so in a way which builds confidence and addresses the multi-faceted problems with its image. We've found a "democratic deficit" in infrastructure but is there also a "delivery deficit"?

The other clear message from our survey is that the environment matters - and increasingly so. Britons prioritise investment in solar energy over 13 other sectors (Labour may be interested that broadband is tenth). Wind energy makes the top five alongside rail, flood defences and local roads. And the proportion of people who put the environment top among seven factors to be considered in future planning has increased from 19% to 28% in two years, making it a clear 'winner'.

The key message from this? The "infrastructure revolution" cannot be confined to a step-change in investment alone. Spending and delivery must be smart, prudent, and green. These are three important goals for 2020 and beyond.



Financing London's infrastructure pipeline

There are big challenges for infrastructure investment in London, with concerns being raised about the environment for domestic and foreign investment, says London First's *Daniel Mahoney*.

We all know that London's population is booming. After hitting a record in 2015, the capital continues to add 120,000 people to its population every year.

This dramatic growth will require massive investment in new infrastructure projects to boost capacity – some of which are, thankfully, near to being delivered. While the delays have been frustrating, the Elizabeth line – currently Europe's largest infrastructure project – is expected to increase central London rail capacity by a whopping 10% when completed. This will certainly alleviate some of the East-West strains in London's transport system.

However, while this enormous increase in the capacity of London's transport network is welcome and will undoubtedly boost the capital's international reputation, it will not be sufficient to cope with growing demands in years to come. Crossrail 2, tube upgrades and expansion, market-led proposals for new railways and aviation expansion are just some of the transport projects that will need to be delivered across London within the next generation. And, of course, other infrastructure sectors will need large investment. For example, London's infrastructure will need to facilitate a booming electric

“For example, a study published by First Economics showed that, in the water sector, the additional cost of capital associated with private investment was more than offset by the avoided inefficiency.”



Daniel Mahoney
is programme director
for infrastructure at
London First.

Read more online at
www.infrastructure-intelligence.com



The Thames Tideway project in London has an innovative funding

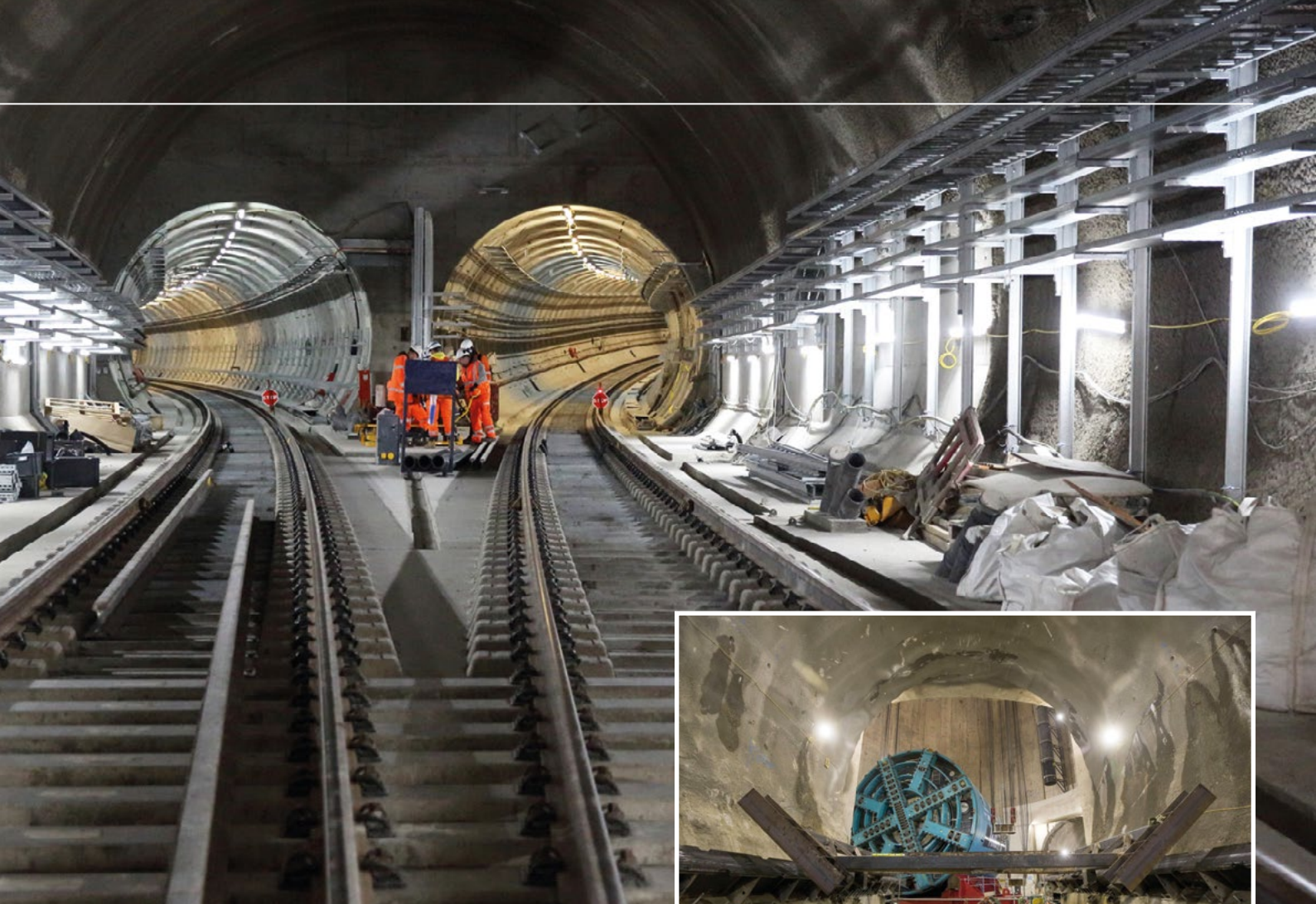
vehicles market and resilience will need to be improved in sectors such as the water industry.

The key question is how will all of this new infrastructure be funded, financed and, in turn, delivered?

Across the UK, the government has announced that there is a planned £600bn infrastructure pipeline over the next decade. Half of this investment will come from private sources, which highlights the importance of private capital in delivering London's future infrastructure.

Despite having a higher cost of capital compared to the public sector, it is important to stress that private capital can bring benefits to infrastructure projects. These can include stable investment streams that are not subject to political cycles, the transfer of risk to the private sector and the promotion of the right incentives that encourage good management of infrastructure assets. For example, a study published by First Economics showed that, in the water sector, the additional cost of capital associated with private investment was more than offset by the avoided inefficiency.

And London has experience in getting private capital to deliver for Londoners.



ing package.

Economic regulation has promoted stable investment into many of London's brownfield assets, including the £12bn of investment flows since 2006 into Heathrow that has transformed the airport from being one of the poorest performing globally to one of the best. Moreover, an innovative finance package involving private capital is delivering the Thames Tideway project at competitive costs for water bill payers. And the sale of the High Speed 1 railway on a 30-year concession exceeded expectations in raising revenue for the Treasury and has successfully transferred operational risk to the private sector.

Of course, while there are clear examples of private capital delivering benefits for consumers, more needs to be done to make the case. The National Audit Office has pointed out that we need more empirical evidence relating to the use of private capital, so further work is needed to inform the public of the rationale behind the use of private investment in infrastructure.

And risks to the delivery of London's infrastructure

“Solving some of these issues, and others, will be critical to delivering London's future infrastructure pipeline – as well as the pipeline across the country as a whole.”



Thames Tideway tunneling machine.

pipeline need to be mitigated. Domestic and foreign investors worry about the signals coming from the UK – which we will be discussing at length at the Building London event in the new year. They perceive a growth in political and regulatory risk – and many believe that, in any case, much of the pipeline is not an investable prospect for the private sector.

There are also concerns about whether supply chains, particularly the domestic construction sector, currently have the capacity to deliver big infrastructure projects. And, as demands for central government resources grow, London's infrastructure will likely require new localised funding streams, potentially requiring the use of land value capture models and greater fiscal devolution. Yet these reforms will be difficult to drive through politically.

Solving some of these issues, and others, will be critical to delivering London's future infrastructure pipeline – as well as the pipeline across the country as a whole. So, London First has set up an infrastructure funding and finance working group to help promote solutions that break down potential barriers in delivering essential infrastructure investment into the capital.

The creation of this group is particularly timely given the National Infrastructure Strategy and HM Treasury's infrastructure finance review are expected to be published after the general election. Whatever form the government takes after the general election, these publications will be a critical test of the government's credibility with business – not just for those looking to invest in Britain's infrastructure, but also those looking to invest in the UK more broadly.

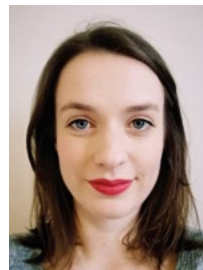
Planning's role in reducing carbon emissions

The planning system needs to adapt and change to help the UK show that it is serious about reaching its net zero carbon target, says Freya Crunden from Atkins.

The infrastructure sector is a major contributor to the UK's carbon emissions. So, if we're to reach the government's net zero carbon target by 2050, the sector will also need to play a leading role in emissions reduction. But without a clear mechanism in the planning system to ensure that future developments are low-carbon, it's hard to see how this necessary paradigm shift will happen.

How do we change this? In 2017, amendments to the Environmental Impact Assessment (EIA) Regulations introduced the requirement for developments to quantify their carbon emissions. This is a positive step. By driving developers to understand and mitigate their impacts on the environment, the process can lead to better projects, and some projects not happening at all.

But we're yet to see carbon assessments for EIA really impacting project design or planning



Freya Crunden
is an environmental
consultant at Atkins.

“Under the current system, it's all too easy to claim a project won't have a significant effect on climate change, and there are no firm policy grounds to argue against that stance.”

The whole construction sector needs to come up with new solutions

decisions. The reason may well be the lack of real assessment criteria - what is a 'significant effect' when it comes to carbon? For many environmental specialisms, there are thresholds for a development's impact.

No such criteria exist for carbon emissions. It's left to the judgment of a developer's consultant to determine at what point the effect on climate becomes 'significant'. But what reason would a developer have to say that their project emits too much carbon? What is 'too much carbon', anyway, and who should get to decide?

Under the current system, it's all too easy to claim a project won't have a significant effect on climate change, and there are no firm policy grounds to argue against that stance. And if an effect is not categorised as 'significant', there's no mandate within the planning system to mitigate it. Finding your carbon emissions to be insignificant essentially means you don't have to do anything to reduce them. This places the potential for reducing emissions entirely on the good will of the developer.



ons to tackle climate change.

Perhaps there's a reason it's so hard to set a threshold for 'too much' carbon, and we're just not bold enough to say it: maybe no carbon emissions are okay. Maybe, the real threshold is zero. To address the climate emergency before it's too late, we need to stop emitting greenhouse gases altogether. It's the reason we need radical targets that we don't yet know how to meet, like a net zero carbon nation within a generation. One thing is for sure: we are not going to achieve this until we dramatically rethink the way we design, deliver and manage our built assets.

We've got our radical targets. So, where are the radical controls within the planning system? The government is consulting on making biodiversity net gain mandatory for receiving planning permission. Will a net zero carbon requirement follow, where carbon-emitting developments are refused permission? It might seem infeasible, but we need a requirement for developers to do more than add up their carbon emissions and then write them off as insignificant. The stakes are too high.

Of course, there are projects where this is happening anyway, where responsible developers have taken it upon themselves to really grapple with the net zero challenge. The new campus at the University of Leeds is a great example. But we need our planning system to encourage more decisions like this, because not everyone will do it on their own.



The University of Leeds campus.

“Some may read this and think: isn't our planning system cumbersome enough? Do we really need to add extra hoops to jump through?”

Some may read this and think: isn't our planning system cumbersome enough? Do we really need to add extra hoops to jump through? I'd answer that with another question: are we serious about tackling climate change? If we are, I don't think we've got a choice. As we design our built environment, we're creating the framework of the future we're all going to live in. If we want that future to be zero carbon, we need to force ourselves to think creatively and apply the ingenuity of a whole sector to come up with new solutions.

And the first step has to be saying: “this development will have a significant effect on climate. Now, what can I do about it?”

Wales infrastructure plans unveiled

The National Infrastructure Commission for Wales has announced that energy, digital communications and transport will be its focus for the coming year, as it called for views and evidence to help shape future plans.

The National Infrastructure Commission for Wales (NICW) has published its first annual report, outlining that energy, digital communications and transport will be its focus for the coming year.

The commission has also issued a call to all interested parties to submit their views and evidence on key issues, ahead of producing its first “state of the nation” report by November 2021.

The NICW was established in 2018 as a non-statutory body to advise and make recommendations to Welsh ministers on Wales’ economic and environmental infrastructure needs over the next five to 30 years.

Its primary objective is to give everyone in Wales the opportunity to improve their social, economic, environmental and cultural well-being by recommending infrastructure to build a dynamic and



John Lloyd Jones, chair of the National Infrastructure Commission for Wales.

resilient economy. Wales is shaped by its scale, history and topography. Once a country of coal, slate and steel, it is now home to cutting edge industries and services and is a key supplier of food and energy to the UK.

In its first year, the commission says it has taken an overall view of the current state of Wales’ infrastructure and gained some understanding of how changes in the economy, the environment and technology will demand new forms of infrastructure.

Assessing the potential value of new infrastructure projects would, says the report, be much more effective if there were better data on the performance of past projects – and the commission will be exploring the future potential for better evaluation driven by solid data.

In the meantime, commissioners have spoken to stakeholders across Wales to understand both the unique characteristics of the country and the variety of ways people live, work and play in its

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diverse urban and rural communities. As a result, it has identified decarbonisation, connectivity and resilience as the key themes which will run through its work.

Although the development of the body's infrastructure plan is in its early stages, the commission has reached some provisional views and has identified ten key issues on which it will focus in the coming year. These include:

Digital communications: The commission's provisional view is that 4G and 5G mobile broadband may be the lowest cost technology to provide superfast connections to some Welsh households and that a greater proportion of public funds should be allocated to mobile rather than to fixed broadband.

Energy: The commission is seeking further evidence on how to rapidly improve the relationship between Wales' energy grid and the future growth of renewable energy, including innovations in energy storage, electrical engineering, the planning system, and other government interventions.

Transport: Transport in Wales poses different challenges and requires different solutions in urban and rural areas, and the commission is working to ensure an appropriate transport strategy for each. The commission is also clear that Wales' road infrastructure must be prepared for the move to zero emissions vehicles, and is interested in evidence of Wales' readiness compared to other parts of the UK – particularly the infrastructure barriers to zero emissions and how they can be overcome, especially in rural areas where the market may not provide the solution.

Looking to the future, the commission is upbeat about Wales offering huge potential to harness renewable energy, with the question of infrastructure resilience growing more important as climate change and rising sea levels bring fresh challenges and the commission will also consider the future development of transport networks, congestion and the switch to electric vehicles.

Once the ongoing research, consultations and evidence is complete, the commission says it will set out a plan for Wales' infrastructure by November 2021, which will enable the Welsh government to develop an affordable strategy for the country's infrastructure needs and help shape a prosperous future in which all can share.

John Lloyd Jones, chair of the NICW, said: "This report sets out our early thinking and identifies priorities for further investigation. But we must stress that this is still early in the process and we will not rush to make recommendations to the Welsh ministers until we have found compelling evidence for infrastructure solutions.

"Commissioners have been eager to engage a wide variety of users and providers of infrastructure to understand their aspirations and concerns for the future. Wales is a diverse country with differing needs. During the year we have visited north, mid and south Wales to hear about the opportunities and challenges in different parts of the country. We are grateful to the many people who have helped us. We will produce our first 'state of the nation' report by November 2021."

The call for evidence is open until 27 March 2020 and further information can be found at the NICW website at <https://gov.wales/national-infrastructure-commission-wales>



Rhyl station.



On-shore windfarm.

New ACE board appointments

Paul Reilly of Stantec UK Infrastructure and Buildings (formerly Peter Brett Associates) is appointed new chair of ACE.

As highlighted elsewhere in this magazine (see interview on page 12-13), the Association for Consultancy and Engineering (ACE) has announced that Stantec UK managing director for infrastructure and buildings (formerly Peter Brett Associates), Paul Reilly, has been appointed chair for 2020.

He replaces Mathew Riley (Ramboll) who held the position for the last two years at the business group and who becomes immediate past chair. Reilly was treasurer for ACE throughout that period.

Paul Reilly, ACE chair, said: "I'm delighted to take up this role at what is an exciting time for our industry. In the medium term the challenge is how we evolve the value proposition we are offering to our clients – the foundation of ACE's Future of Consultancy campaign. Then there is the critical goal of a net zero society and the crucial role we all have to play in achieving that both in our organisations and through our projects.

"These will be the primary issues I hope to champion in my time as chair. I also want to see the ACE better support its small and medium sized members and I look forward to listening to them in early 2020 and working with colleagues and the ACE board to make that happen."

In addition, David Beddell (AECOM) has been appointed ACE vice chair (voice of consultancy), Chris Dulake (Mott MacDonald) chair of the international business group, Margot Day (Buro Happold) chair of the legal and commercial group, and Paul Johnson (Arup) chair of the Northern Ireland group. Chris Young (Tony Gee) was appointed non-executive board member to ACE Emerging Professionals.

Chief executive of ACE, Hannah Vickers added: "The board plays a vital role in



Paul Reilly,
managing director,
infrastructure and
buildings, Stantec UK.

ensuring ACE represents all of its members and guides us to be proactive and impactful in everything that we do. Whether that's representing our members to politicians or helping the industry to deal with the challenges ahead, they bring energy, enthusiasm and a sense of purpose to our activities and I look forward to working with the new appointees soon."

As of going to press, fewer than a handful of positions remain to be filled, including ACE treasurer. Mike Haigh, Clive Anderson and Stuart Mackenzie have all left the board.

ACE board members 2020

- Chair 2020 – Paul Reilly, Stantec UK Infrastructure and Buildings (formerly Peter Brett Associates)
- Vice Chair (SMEs and devolved nations) – Simon Innes, Goodsons
- Vice Chair (Future of Consultancy) – Craig Huntbatch, Royal HaskoningDHV
- Vice Chair (Voice of Consultancy) – Dave Beddell, AECOM
- Immediate Past Chair – Mathew Riley, Ramboll
- Chair of Large Consultancy group – Geoff Hunt, Arup
- Chair of ACE Emerging Professionals – Georgia Hughes, Arcadis
- Chair International Business group – Chris Dulake, Mott MacDonald
- Chair Legal and Commercial group – Margot Day, Buro Happold
- Chair Major Projects group – Dave Barwell, AECOM
- Chair SME group – Steven Hale, Crofton Design
- Chair ACE Business Academy – Mark Naysmith, WSP
- Chair of Wales – Catherine Wenger, Arup
- Chair of Scotland – Mark Arthur, Hurley Palmer Flatt
- Chair of Northern Ireland – Paul Johnson, Arup
- Chair ACE Midlands – Ruth Jeffs, Waterman Group
- Non-Executive Board member, ACE Emerging Professionals – Chris Young, Tony Gee



Nominations now open for #C&EAwards2020

Firms have until 21 February to nominate the best projects, people, clients and companies in annual industry awards.

The annual Consultancy and Engineering Awards celebrate the outstanding achievements of the industry and champion the best people, initiatives and companies from the world of engineering and consultancy.

Taking place at the Royal Lancaster Hotel in London on Thursday 4 June 2020, the ceremony is the highlight of the industry's summer calendar and follows a black-tie three-course dinner.

They are a great way for companies to demonstrate leadership, celebrate performance, recognise and reward staff and pay tribute to clients. As with last year, there are also four Future of



Consultancy awards celebrating pioneers and innovators.

The nomination period runs until Friday 21 February 2020 with entries made exclusively online.

The full award list for 2020 is below, ACE members are encouraged to enter now!

- Best UK Business Performance – Micro-organisation (fewer than 10 employees)
- Best UK Business Performance - Small/Medium sized organisation (10+ employees, but fewer than 250)
- Best UK Business Performance - Large organisation (250+ employees)
- Future of Consultancy - Strategic Planning and Placemaking Champion
- Future of Consultancy - Integrated Project Team of the Year
- Future of Consultancy - Data Led Asset Performance Champion
- Future of Consultancy - Design for Manufacture Champion
- Client of the year - Private Sector
- Client of the year - Public Sector
- Environmental Initiative of the year
- Emerging Professions - Employer of the year
- Emerging Professional of the year
- Apprentice of the year

Preview of Belfast Transport Hub

Members of ACE's group for Northern Ireland get exclusive preview of transformational project.

ACE members in Northern Ireland were given an exclusive preview of the Belfast Transport Hub by Translink CEO, Chris Conway at the annual group AGM in December 2019.

The £200m project will provide 400 jobs and create a major transport facility in Belfast. Eight rail platforms and 26 coach/bus bays will be bought together in this hub which will replace the city's Europa Bus Centre and Victoria Street train station.

Conway shared how local communities have been consulted on the scheme as it progresses, but the idea is for the project to act as a catalyst for regeneration, with around half of the 20-acre site earmarked for business and residential development, alongside community open spaces.

For group members it was a great opportunity to ask questions, make connections and explore potential opportunities for their businesses.

Members interested in joining the Northern Ireland group can contact Bill Taylor at btaylor@acenet.co.uk Find out more about your local ACE group: <https://www.acenet.co.uk/groups/>



Artist's impression of the new Belfast Transport Hub.

Be wary of false assumptions

The Project 13 initiative is not a panacea or one-size-fits-all approach for industry woes, argues *Hannah Vickers*.

In response to early adopters' gathering momentum and being vocal in their praise, I've heard more and more proclaim Project 13 as the answer to the industry's problems. I write this as a huge advocate for the approach. As many of you may already know, in my previous role at ICE I wrote the blueprint and commercial handbook and led the negotiations with early adopter clients. I'm hardly impartial and should declare a vested interest in its success!

You could think of Project 13 as a well-honed Formula One racing car. It will, of course, achieve fantastic things and hopefully break world records. However, stick it on a rally course and it fails. Enter it into an endurance race, like Le Mans, and it also fails. Project 13 is being touted as a winner in all circumstances, but I estimate that it is probably only applicable to between 5-7% of the infrastructure and construction pipeline.

In a sector more than ten times the size of the aerospace industry in terms of jobs and turnover, it's naive to believe a single, one-size-fits-all approach will work with the range of regulatory, funding structures and diverse client capabilities. Indeed, this is why our Future of Consultancy programme has identified not a single, but a suite of business models for the industry to explore in more detail, including Project 13 alliance-type approaches.

However, when exactly should Project 13 be considered? Probably unsurprisingly, there's no simple answer. Criteria revolves around ensuring there's the right governance



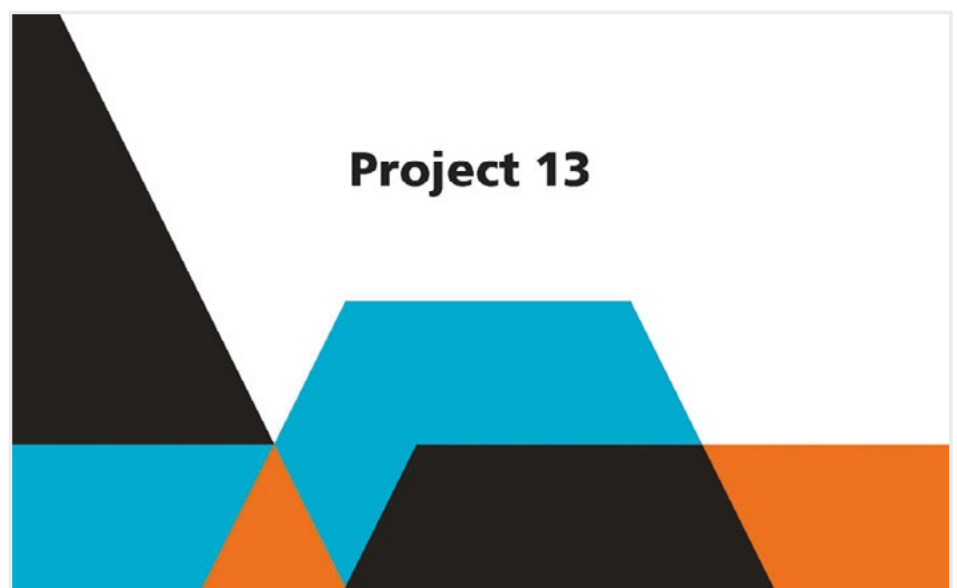
Hannah Vickers is chief executive of the Association for Consultancy and Engineering.

structure in place to give the programme autonomy, a long-term mindset (the @one alliance took over 15 years to perfect), a mechanism to link outcomes to financial rewards, a commitment from leadership, and robust baseline data. Have all of this in place and one can start to consider using it in an alliance between multiple partners.

Yet, even at this stage there are more issues to consider. The overheads to setting up this type of arrangement are significant and developing culture and behaviours as part of the right working environment is key. If clients and businesses are not quite suited to a full alliance, then moving towards buying outputs or outcomes through the use of other models – whether an integrated project insurance, traditional contracting or offsite – might make more sense.

So, how have we ended up here? I think this shows that there's a desire by those in our sector to find solutions to important questions. Those incorrectly pushing us towards Project 13 are looking for clear answers to problems inherent in how we design and deliver our infrastructure. We should be pleased that the issues have, at the very least, been identified. In a nutshell though, be wary of the hype around a single generic solution clouding judgement.

Finally, how do we find the right answers for our specific set of circumstances? Our Future of Consultancy work is a huge part of this and will identify and develop a suite of business models that are flexible, fit-for-future purpose and applicable across the entire sector. As these models are developed, we will need to ensure that the ultimate end-goal of helping clients and industry gain the understanding and awareness of when to apply them is not forgotten too.



When is waste not waste?

The forthcoming general election will see environmental issues high up the political agenda and that can only be a good thing, says *Matthew Farrow*.

Of all the 500 or so EU directives and regulations covering environmental policy, the one that has probably caused more arguments, controversy and frustration than any other is the EU definition of waste. A while ago I came across a councillor who had been elected as an independent but became so enraged by the bureaucracy (as they saw it) forced on the council by this single piece of regulation that they switched to UKIP as a result.

The offending regulation is Article 3(1) of the revised waste framework directive. This defines waste as “any substance or object which the holder discards or intends or is required to discard”. Anyone like me who has spent years involved in waste and resources policy will have the names of the court cases fought over what these words mean in practice etched on their memory – the Tarmac case, (whether material Tarmac were using to restore a quarry near Leeds to comply with a planning conditions was legally waste material or not), the Van Der Walle case (whether soil contaminated with leaking petrol underneath a Texaco petrol station in Brussels was legally waste) and others.

The reason this bit of EU law arouses such strong views is because if material is legally waste then it automatically attracts a vast raft of regulations aimed at protecting the public and environment from harmful effects of waste material. So if you were one of the people who used to take the used coffee grinds sometimes



Matthew Farrow is director of the Environmental Industries Commission, the leading trade body for environmental firms.

given away by coffee shops to use as plant fertiliser on your garden you were technically breaking the law – because the grinds had been ‘discarded’ by the coffee shop they were legally waste which can only be transported by someone with a waste carrier license and an Environment Agency permit.

In commercial business terms, the unintended consequences like this tend to manifest themselves in industrial firms with a process by-product that has industrial value to another manufacturer but can only be transported by a waste management company, which usually leads to landfilling the material instead. In the construction sector, huge quantities of excavated earth are sent to landfill even if not contaminated for similar reasons (though there is a scheme called DoWCoP that EIC helped create that tries to avoid this with the Environment Agency’s blessing).

In fairness to the EU, there is some logic to its approach. You only have to see the piles of used tyres littered around verges and fields to see the need for some control over the habit of the unscrupulous to ‘discard’ things straight into someone else’s environment. But we have had quite a few discussions recently in the EIC’s waste and resources working group about the need to move to a more ‘circular economy’ and the scale of the opportunity to see waste as a resource and free up reuse markets.

All of which means that this is one area where Brexit, if and when it happens, could bring benefits. There is a sense in business that Defra and the Environment Agency post-Brexit would be willing to look at a more pragmatic approach to legal definitions around waste. Let’s hope so.



Cups made from used coffee grinds.

Industry calls for Pledge to Net Zero

We are in a climate and environmental emergency, with time running out to address the many challenges that lie in front of us. *Rob O'Connor* reports on the industry's call for a Pledge to Net Zero.

Environmental experts have launched Pledge to Net Zero, the first industry commitment in the UK requiring science-based targets from its signatories to tackle greenhouse gas emissions within their organisations.

The pledge aims to support the UK's 2050 net zero greenhouse gas emissions target and is aimed at all organisations working in the environmental services sector. The new initiative comes at a time where countries are ramping up their greenhouse gas commitments ahead of the global climate summit in Glasgow in 2020 and aims to provide leadership for the private sector to lend full support.

More urgently, even with organisations playing a huge role in the efforts to successfully meet this target, the UK's commitment comes at a time where more than four-fifths of the world's largest companies are unlikely to meet the targets set out in the Paris Climate Agreement to limit rising temperatures to 1.5 °C of pre-industrialised levels by 2050.

The Pledge to Net Zero has therefore been established to commit organisations from the environmental sector to take a leadership role in the transition to a net zero carbon economy.

The initiative, led by the Society for the Environment (SocEnv), the Association for Consultancy and Engineering (ACE), the Institute of Environmental Management and Assessment (IEMA) and the Environmental Industries Commission (EIC), together with leading environmental consultancies, WSP and AECOM,



Matthew Farrow,
director of the
Environmental
Industries Commission.

seeks to make the sector a leader for taking action on climate change.

All signatories have committed to three pledges:

- 1** Set and commit to delivering a science-based greenhouse gas reduction target in support of the transition to a net zero carbon economy;
- 2** Publicly report greenhouse gas emissions and progress against this target each year;
- 3** Publish one piece of research or thought-leadership piece each year on practical steps to deliver a net zero greenhouse gas economy.

Matthew Farrow, Environmental Industries Commission executive director, said: "All organisations have to step up and take responsibility for their emissions if we are to reach net zero and the environmental consultancy sector is no exception. As well as being a huge force for good in the work consultancies do with their clients, they should lead by example and EIC is delighted to be supporting Pledge Net Zero. We will be encouraging our member firms to sign up."

David Symons, UK director of sustainability at WSP, said: "The environmental services sector is at the heart of delivering a sustainable and prosperous economy through its advice. It's tremendously exciting that the sector has now come together to take action on its own greenhouse gas emissions."

Dr Emma Wilcox, chief executive at the Society for the Environment said: "We are delighted to be part of this initiative. It is so important that the environmental services sector, which stands for professionalism and competence, takes a united leadership role in achieving Net Zero by 2050. We hope it will encourage organisations around





the world to be part of the solution to the Climate and Environmental Emergency.”

Martin Baxter, chief policy advisor for IEMA, said: “The transition to net zero carbon emissions is the defining challenge of our time. We are fully supportive of the environmental services sector pledging science-based emissions reductions which align with the urgency of addressing the climate and environmental emergency.”

David Barwell, chief executive, UK and Ireland at AECOM, said: “The



environmental services industry is home to many of the individuals who will make the road to net zero emissions a reality. It will be the defining work of our careers. But if we are to be convincing champions for our clients, then we must lead from the front and that is why AECOM is kicking the carbon habit and joining hands with our peers and professional institutions to galvanise this effort.”

The pledge is open until 31 January 2020, with organisations asked to report back performance on their commitment by the end of December 2020.

Companies wishing to be part of the commitment can make their pledge with director support at www.pledgetonetzero.org.

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