

# CONSTRUCTION MANAGEMENT

MARCH 2022

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WOMEN IN CONSTRUCTION



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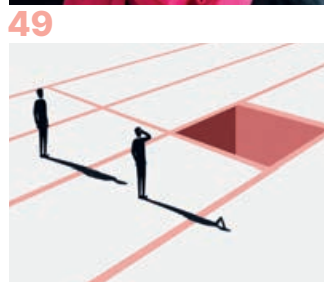
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# 03/22

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### ▲ Braces in action at Great Yarmouth crossing

Heavy-duty hydraulic braces and props from Groundforce Shorco are being used to support two large excavations on opposite banks of the River Yare in Great Yarmouth, where a new lift bridge – the Great Yarmouth Third River Crossing – is being built by the BAM Farrans joint venture.

### ◀ Minister meets Mace apprentices at Paddington

The UK's minister for skills, Alex Burghart, began National Apprenticeship Week last month by meeting apprentices at Paddington Square, where Mace is the main contractor. Mace has five apprentices on the project, which will provide 350,000 sq ft of office space over 14 floors and will feature west London's highest rooftop restaurant.



Taylor Wimpey has appointed Jennie Daly as its first female chief executive, following the departure of Pete Redfern



◀ **Flood storage area to act as outdoor performance space**

A bespoke steel cover created by Wrekin Products forms the centrepiece of a new flood storage area in Sidmouth, Devon, that doubles as an outdoor performance space. The cover was left ungalvanized meaning the surface would oxidise quickly due to the surrounding seawater environment. The project was built by South West Highways and designed by Jacobs.



▼ **Hospital building goes modular**

Offsite construction firm Premier Modular has installed the final modules for a new 3,450 sq m outpatient services building at King's College Hospital in London. The £21m contract is Premier's largest single offsite healthcare project. On site, 133 steel-framed modules weighing up to 11.5 tonnes each have now been installed using a 500-tonne crane.



SIMON GANNON

◀ **Beard discovers 'lost' university college**

A 'lost' Oxford University college has been unearthed during construction firm Beard's development of 30 student flats. The former St Mary's College was founded in 1435 but fell into disrepair 100 years later. The site of the college was unearthed during development of the flats at Brasenose College's Frewin Annexe.

▼ **Jenner's Folkestone seafront build takes shape**

Kent-based contractor and CIOB Chartered Building Company Jenner's project to build 84 beachfront homes in Folkestone is taking shape. The £44m build marks the first phase of billionaire Sir Roger de Haan's masterplan for the area, which will involve the construction of 1,000 homes.



MATT ROWE

# Construction's gender pay gap 'to widen again'

Construction bosses committed to diversity and inclusion but many will be taking stock after four years of gender pay gap reporting.

**Neil Gerrard** reports



**Construction's gender pay gap will widen again after the pandemic, as the industry gradually returns to more normal operating conditions following the Covid-19 lockdowns.**

Analysis by law firm Pinsent Masons in July last year showed that construction's gender pay gap for the 2020-21 reporting period was 12.6% in favour of men (based on 10,142

businesses), down from the 15.5% recorded in the period a year before.

The gap narrowed as site-based staff on furlough, the majority of whom are men, lost out on overtime and other pay allowances. Meanwhile, office-based roles, where representation of women tends to be higher, were less affected. People at executive level, who are also predominantly male, took pay cuts, further reducing the gender pay gap.

However, when construction firms next report their gender pay gap (the deadline is 4 April for private employers), it is expected to increase once more. That's because as construction workers returned from furlough and to the office, the pay of male workers is expected to have increased again relative to their female counterparts.

Susannah Donaldson, co-head of Pinsent Masons' equality law practice, told CM: "A few employers we work with, many of whom haven't actually reported yet, have said that they expect an uptick in their gender pay gap this coming year. And that certainly seems to be what is playing out."

While the effects of the pandemic have made it more difficult to determine the real trend in construction's gender pay gap over the last couple of years, Donaldson said it was clear that diversity and inclusion (D&I) had to be a priority for contractors.

Donaldson said: "The industrialisation of construction means that they are going to have to try and target talent with tech capabilities and compete with big players like Google. So they are going to have to make their businesses and cultures a lot more attractive."

**Contractors are going to compete with big players like Google for tech talent. So they are going to have to make their cultures a lot more attractive**

**Susannah Donaldson,**  
Pinsent Masons



She added: "Surveys have shown that diverse businesses are more profitable. For the construction side of things, the public procurement fair work criteria need to be met when contractors are bidding for public sector contracts, many of which are linked to D&I."

Donaldson said that for many businesses, 2022 would be a year of taking stock as they examine four years' worth of gender pay gap data.

"The first thing they need to do is to understand the make-up of their workforce. You really need to know what is going on in the specific areas of your business, what the pipeline and potential succession planning are looking like," she said.

"A lot of construction businesses are taking stock of how their pay gap has developed over the last four years. Everyone hopes for a sustained downward trend. Unfortunately for many, that is not the case and a lot of them are frustrated by the fact that there has only been a marginal change despite intensive efforts and investment."

Kath Moore, managing director of Women Into Construction, said: "To attract more women into this creative and innovative industry, we must also build inclusive workplaces. Not all women remain and build their careers in the industry once they have gained employment. We need the entire supply chain to work together to improve the sector's culture." ●



▼ A quarter of Morgan Sindall Group's workforce is female

Galliford Try has seen a 30% increase in female appointments at Grade A level (senior management/regional director)

30

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# Balancing gender at construction's big employers

Five major contractors tell **CM** how they are faring when it comes to encouraging women into construction

## 1 Galliford Try

Galliford Try saw a small improvement in the proportion of women it employs but that was offset by the acquisition of the NMCN water business last year. The proportion of women in the group remains flat at 24%, but 41% of its graduate intake is female.

The company has focused on smart and agile working methods that allow for people from more diverse backgrounds to enter the industry.

The gender balance on its board and executive have remained the same over the past 12 months but there has been a 30% increase in female appointments at its Grade A level (senior management/regional director).

The company expects its 2021 gender pay gap figures to show an improvement. Meanwhile its early careers pay gap is actually 10.7% in favour of women.

## 2 ISG

ISG recruited 163 women last year – nearly a quarter (24%) of all of its hires over the period. Its international workforce is now 25% women, while its early careers intake (apprentices, graduates and industrial placements) last year was 37% female and 63% male – a slight improvement on 2020.

With three women and four men, its board gender split is unchanged from last year. The business expects an improvement in its gender pay gap when it reports in April.

## 3 Kier

Kier, which recently launched a drive to recruit 1,200 people, has hired 634 women over the past year at all levels, says group HR director Helen Redfern. Meanwhile, in the last two cohorts of its Raising Leaders talent programme, there has been a 50/50 split of men and women.

Redfern said: "We haven't set a figure on how many women we want to join us but we are committed to attracting a diverse workforce and a key part of that is breaking down barriers to entry. As a result, we now have more part-time roles than ever before, and we offer agile working and new family-friendly policies, including a pregnancy loss policy and menopause guidance."

Sophie Timms (corporate affairs director) and Alpna Amar (corporate development director) joined its executive committee in May 2021.

Redfern admits that Kier's 2020 gender report, "was not where we wanted [it] to be". But under its new Performance Centred Leadership framework everyone at Kier has open conversations with their line managers twice a year about career progression. This has resulted in 628 women being promoted over the past 12 months.



**“We haven't set a figure on how many women we want to join us but we are committed to attracting a diverse workforce**

Helen Redfern, Kier

## 4 Morgan Sindall

A quarter of Morgan Sindall Group's workforce is female. The business has launched initiatives to encourage more women into construction, including school workshops, work experience plans, apprenticeship and earn-as-you-learn schemes, and graduate programmes. The business has also developed policies to welcome women back after maternity.

The company's board gender balance improved in 2021 as compared to 2022, following the appointment of Kathy Quashie as a non-executive director.

But the business said reducing its gender pay gap remained a "challenge" which needed longer-term solutions to encourage future managers and senior leaders to remain within the industry.

## 5 Willmott Dixon

At December 2021, 29.1% of Willmott Dixon's workforce were women and during the past year, 46% of new recruits were women. The company is targeting gender parity across all grades by 2030.

The company's management trainee intake in 2021 was 49% women. Nearly half (48.5%) of all management trainees are now female, compared to 26.6% in January 2018.

Sally Cleaver, group diversity manager, said: "We have changed the wording in adverts to attract more applications from a diverse range of people, such as 'project manager' rather than 'construction manager'."

Last year saw the launch of a CITB-funded Women's Leadership Programme. Each of the 15 women on the first cohort was assigned a mentor from Willmott Dixon's executive leadership team, and five have now been promoted to senior positions. The company aims to support 100 women through this programme by 2030.

Willmott Dixon also expects to narrow its gender pay gap for 2021, when it is published in April.

80

Percentage rise in the cost of wholesale forward contract gas between May and November 2021, according to Ofgem – putting pressure on the steel, concrete and cement industries

# Construction price pressure may persist as inflation subsides

While general inflation is expected to recede, the industry's measure is likely to remain higher, writes **Kris Hudson**



The unprecedented effects of the pandemic have helped general UK inflation to hit its

highest rate in three decades, up 5.4% month on year in December 2021. The pressure is expected to continue in the short term on the back of rising energy costs, changes to regulated rail fares and increasing wage pressures. But the Bank of England is optimistic that interest rate rises will bring inflation down from a possible high of 7% in spring this year towards the target of 2%.

For construction it could be a different story. To understand why, we need to look at the data, and the different measures of inflation.

The Consumer Price Index including owner occupiers' housing costs (CPIH) is the Office for National Statistics' (ONS) preferred measure of general inflation, while for construction the industry standard is the Building Cost Information Service's (BCIS) All-in Tender Price Index (TPI).

Both measure inflation using different 'baskets of goods'. Bread and water are not comparable to bricks and mortar. So, rates of change can differ, with the CPIH tending to be less volatile and usually exhibiting shallower growth.

**Firms should take a forensic look at their domestic and global supply chains to identify weaknesses and plan for them**

While both indices typically move in the same direction of the business cycle, as evident during the global financial crisis, they can also diverge significantly.

With an ageing workforce and reduced access to migrant labour placing pressures on wages, one big driver for pressure on TPI is the persistent skills shortage in construction. Interest rate increases, while beneficial for general inflation, can hamper the ability to pay loans and reduce cashflow availability, potentially leading to insolvencies and diminished capacity.

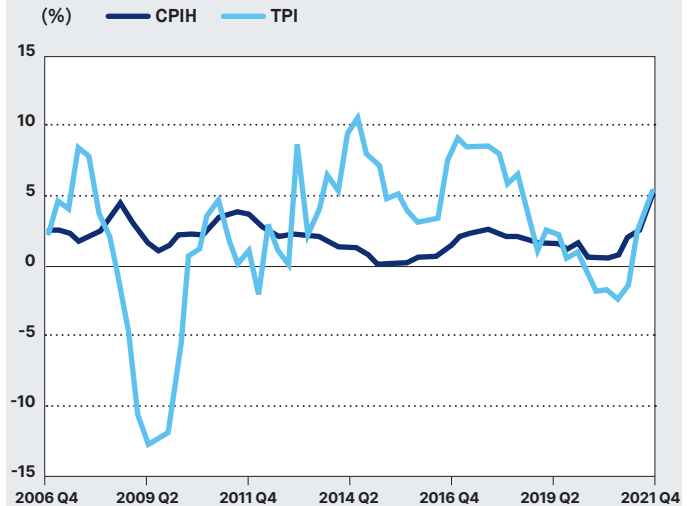
So the Bank of England's measures to reduce CPIH may not help TPI. TPI is forecast to be lower than the CPIH in 2022, due to a higher base level in 2021 as commodity and material escalation was felt more keenly in construction than in the wider economy. However, it will probably remain elevated for longer – with Turner & Townsend predicting a TPI rate of 4% in 2024, by which time CPIH is forecast to have returned below 2%.

Construction businesses looking to navigate this landscape must act to increase resilience and manage inflation long term. Firms should take a forensic look at their domestic and global supply chains to identify weaknesses and plan for them.

Looking forward, industry leaders should focus on boosting productivity and resilience – through digitalisation, adoption of modern methods of construction (MMC) and longer-term thinking about the power of major projects to build skills and capacity across the sector as a whole.

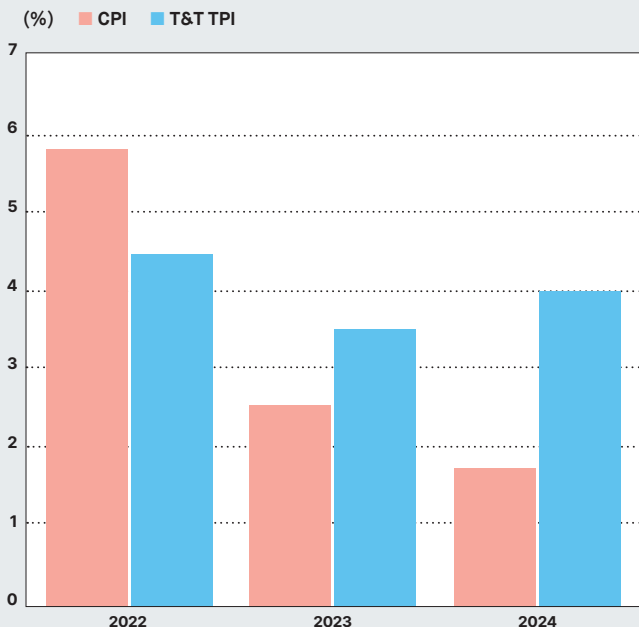
Kris Hudson is an economist and associate director at Turner & Townsend.

## TPI and CPIH quarter on year growth rates over the last 15 years



SOURCE: OFFICE FOR NATIONAL STATISTICS AND BUILDING COST INFORMATION SERVICE

## TPI and CPIH forecasts, annual



SOURCE: BANK OF ENGLAND AND TURNER & TOWNSEND





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Crown Commercial Service

# Want to work with government? Time to do your homework

Suppliers who have government contracts in their sights need to check they're up to date with significant changes to delivery strategy, says **John Welch**



▲ Recent government publications have set out strategies for transforming infrastructure

**2021 was a year of intense activity in** government as we continue to design the future of public infrastructure.

In September, the government published the *National Infrastructure and Construction Pipeline*, forecasting a mammoth £650bn investment over the coming decade. Alongside, it also published its *Transforming Infrastructure Performance: Roadmap to 2030* policy paper. This brings together a number of key government plans and strategies published over recent years, including *The Construction Playbook*.

I was pleased to note that the Playbook again sits at the heart of delivery of this strategy – and that there is a recognition that its implementation will be essential for delivering on our plans around efficiency, capability, carbon net zero and social value.

To round off the year, Professor David Mosey's *Constructing the Gold Standard: An independent review of public sector construction frameworks* was published in December. Professor Mosey challenged the government to deliver a streamlined infrastructure procurement landscape, capped by a new Gold Standard of framework.

What does this mean for suppliers? Quite simply, the construction market needs to do its homework and make sure it's ready to demonstrate how it is set up to deliver against these priorities.

Behaviour and leadership is key – suppliers have to want to be part of building back better, and public sector customers have to recognise where more innovative arrangements will bring benefits.

**Suppliers have to want to be part of building back better, and public sector customers have to recognise where more innovative arrangements will bring benefits**

Suppliers also need to consider the societal benefits they can bring to the table, demonstrating how they'll deliver against carbon net zero targets, supporting social value and health and safety, and tackling modern slavery.

The next decade will see transformative changes to the UK's infrastructure. With the right strategy, and in a spirit of collaboration between public sector partners, buyers and suppliers, we can help the country to build back better, greener and fairer.

## Find out more



Use the interactive guide to *The Construction Playbook* at [www.crowncommercial.gov.uk](http://www.crowncommercial.gov.uk) to find out how to implement the 14 key policies. If you're interested in using any of

the government's construction frameworks, you must become an Alliance Member. Visit the website to learn more and register. ●

**John Welch is deputy director, construction, at the UK government's Crown Commercial Service.**





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**Caroline Gumble**  
CIOB

# Construction's culture won't change without real diversity

Construction must be clear that it wants people from different backgrounds if it is serious about culture change, says **Caroline Gumble**

## In the *Construction Management* issue

for International Women's Day, I want to share a couple of key points from the diversity and inclusion session at the first ever Global Construction Summit.

First, a shout out to those who sat alongside me on the 'Diversity and inclusion – the way forward for construction' panel. It was a pleasure to spend time, albeit virtually, with Alison Mirams, Stacey Barkley and Sandi Rhys Jones, while they shared their experiences, insights and wisdom with the audience. A recording of the session is available – look at the CIOB's social media for the link.

Secondly, it is incredibly important to talk about changing the culture of the sector. We need to recognise the culture won't change until we have embraced some real diversity. We must be clear that we need and want an industry with people from different backgrounds, different experiences, different perspectives – the whole spectrum of 'different'. Diversity, to me, goes beyond the protected legal definitions. Different is good and will deliver better buildings for all of society if all of society is represented in the industry creating those buildings.

I also want to touch on something which is timely and relevant to the debate on opportunities to improve inclusion.

There are changing working patterns emerging as a result of most of us having to work remotely or in a socially distanced way. Clearly there are only certain roles within construction for

**We must be clear that we need and want an industry with people from different backgrounds, different experiences, different perspectives – the whole spectrum of 'different'**



which remote working is an option. But there are many who see this as something which has accelerated the shift in culture towards more inclusive working practices. If ever there was a time to rethink perceptions around caring responsibilities, work-life balance and how to work remotely effectively, it is now.

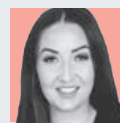
Despite assumptions to the contrary, there can also be positive effects for some onsite teams. With the need to stagger working patterns to enable socially distanced working, this is not just a woman's issue – many male construction workers commented on how much they have appreciated more flexibility and regained time with their families.

My call to action is, therefore, to help us present a better image of this important industry and to encourage a diversity of people to come into it – and thrive within it. It's a fantastic sector, with lots of opportunities for individuals and lots of opportunities to deliver for society. But it needs to be openly and visibly accessible to everyone. ●

**Caroline Gumble is CEO of CIOB.**

## Highway to safety

**Sophie Hamilton** on what construction needs to know about the new Highway Code



The construction industry needs to ask itself how it can work together to be proactive in implementing recent

changes to the *Highway Code*, to reduce collisions and create leaner and greener logistics throughout projects across the whole of the UK.

Construction Logistics and Community Safety (CLOCS) welcomes the increased focus on protecting the most vulnerable road users, recognising that many of the measures were already in the *Highway Code*.

One of the most significant introductions is a 'hierarchy of road users' which allocates greater responsibility to those who can cause the most harm. This means the lorry driver has most responsibility to those cycling, walking and on motorbikes.

CLOCS has always acknowledged that those who pose the risk are best placed to manage the risk. In the vast majority of collisions involving an HGV the driver states they have not seen the victim. This is why CLOCS has campaigned on improving direct vision for cabs, increasing driver competence and advancing leadership, management and planning of construction logistics.

While the old *Highway Code* said motorists should allow the same passing distance for a cyclist as they would for a car, this was often ignored. The new rules provide more specific advice: "Leave at least 1.5m when overtaking cyclists at speeds of up to 30mph, and give them more space when overtaking at higher speeds."

CLOCS, at the time of inception, called for on-bike driver training, now in the form of the very successful Safe Urban Driving course, which helps HGV drivers empathise with fellow road users.

Sophie Hamilton is business development manager at CLOCS.





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# New direction

With flexible hours and virtual meetings, there are signs the pandemic has made construction a more inclusive workplace for women. **CM** hears the experiences of female professionals since Covid-19 changed everything two years ago





◀ From top left: Sandi Rhys Jones, Fabienne Viala, Nicola Jones, Zoe Price, Rachel Bell, Sam McCabe, Nicola Gourlay

I am 4ft 11in. I would often be stood at a meeting or event with people around me who were all over 6ft. For some people that can be difficult and intimidating. But we all look the same on screen. Virtual meetings have been a great leveller."

The experience of Rachel Bell, director at architect Stride Treglown, may chime with many women in the built environment sector. With the old construction culture of presenteeism impossible to enforce during the Covid-enforced lockdowns, a more flexible and inclusive work culture has emerged. And the female professionals CM spoke to all feel that the construction workplace is far better for women compared to before March 2020.

"We've talked about flexible working for 25 years, but it took a pandemic to bring it into construction," says Sandi Rhys Jones, CIOB vice president and leader of national mentoring programme at Women in Property.

"It is important we recognise that a more inclusive workplace can be a big win for a business. The industry has 217,000 vacancies to fill. And by drawing on a greater variety of people, we draw in different ideas, perspectives, innovations. Being inclusive will help construction become sustainable; it's a virtuous circle."



**We all look the same on screen. Virtual meetings have been a great leveller**  
Rachel Bell,  
Stride Treglown

### Virtual working

Zoom and Teams were relatively unknown technologies two years ago, but they have become crucial facilitators of remote working for many in the industry.

Fabienne Viala, chair of Bouygues UK, believes the pandemic "has been an accelerator of trends: flexible working and digital transformation".

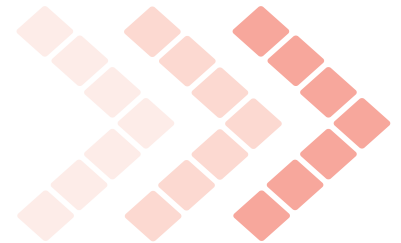
"Virtual meetings have allowed better communications and with more people. Junior colleagues feel less intimidated and can come into their own. In an online meeting, everyone gets their turn to speak. Whereas in physical meetings, you do need a louder voice as a woman."

Sam McCabe, sustainability director at architect Oberlanders, feels the new virtual meeting room has been "a long time coming".

"It has created an environment that has settled our industry into some healthier behaviours – inclusion, less travel, more flexibility and acceptance of life outside work!" she says.

Zoe Price, chief operating officer for UK construction at ISG, thinks that "remote working gave us all an insight into other people's lives".

"We understood how everyone is trying to balance work and family, and I think people in the industry have become more emotionally intelligent as a result, and more considerate about the challenges people face outside of work," she says.



Stride Treglown's Bell points out: "You can actually reach out to more people now – internally and externally – because you don't have to spend the time travelling. And people want to connect more. I joined Stride Treglown's board of directors in January 2020. And through virtual meetings, we have been able to gel quickly."

Nicola Jones is national chair of Women in Property and a senior project manager at Gleeds. She feels the pandemic has forced the built environment sector to change attitudes to people management.

"Construction companies had to learn to trust their people pretty quickly when the pandemic struck," she says. "I believe there is now that trust in people to get on and do their job without someone having to keep an eye on them."

That is reflected in how companies are changing their workplace policies.

### Flexible working policies

ISG now has an official hybrid working policy. "There is no minimum number of days you have to be in the office or at site, though if you want to work remotely full time then we need to have a conversation," Price says.

"Now, if I'm picking up the children, as long as I balance that with my work commitments, that's fine for me to plan in; I don't feel ►



**Networks are important to help women from feeling marooned, maintain confidence, provide reassurance and support**

Sandi Rhys Jones, CIOB



▲ Sandi Rhys Jones, CIOB vice president and leader of national mentoring programme at Women in Property

like I'm escaping early," she explains. "From my own experience, both of us are involved as parents, but when you have a young family, as a woman, pre-pandemic, you definitely would feel there was more pressure to compromise on work.

"I also think it's important to show, at a senior level, that we're balancing our parental responsibilities with work. That then cascades down through the company and normalises this behaviour."

Flexibility in site roles is "more of a challenge", Price says, but adds: "We are running pilot projects to help us understand what's important to people on those teams: how we can get the best out of them and

how they can give their best. It's all about understanding and balancing individual needs and looking afresh at site roles with an open mind. The feedback is positive. The idea is to move away from having rigid rules on site hours and be flexible where we can be."

Bouygues introduced one day a week working at home (for certain roles) in 2016. "During the pandemic, we changed our policy, introducing flexible working and the possibility to increase this to two days a week, if that suits your role and the team's objectives," says Viala. "On site, it is different, flexible working is more difficult, but it is possible."

Stride Treglown has reduced 'core hours' from 10am-4pm to 10am-3pm. "It allows everybody to find a better work/life balance and helps parents – women and men – to meet caring responsibilities," says Bell. "We're seeing lots of people changing their working hours and some going part time as a result."

Nicola Gourlay changed jobs during the pandemic and is delighted with the flexible attitude of her new employer, Glencairn Properties, where she is architect and development manager.

"I was furloughed at the outset of Covid but became increasingly fed up, so I used my network to find a better opportunity," she explains. "I now work four days instead of five, the working atmosphere is more rewarding, and my quality of life has improved dramatically. In short, a good news story for my path through Covid."

But with the positives of flexible working, there are challenges too.

One is the concern that line manager engagement may drop off. Gleeds has countered this with a structured reporting system.

"We have brought in an 'auto check in' system for line managers and anyone who reports to them, which occurs fortnightly," Jones explains. "And all line managers have to log this."

"To anyone who feels their line manager is not engaged, I would say: reach out to them. Volunteer your services. Ask what's in the pipeline, and where you can help. With working from home meaning less travel time, ask if you can sit on project meetings that previously you might have been excluded from."

Stride Treglown's Bell feels the last two years have been "extremely intense".

"Work is in your dining room or kitchen or wherever you are working," she says. "It can be difficult to step away. That puts a strain on wellbeing."

Oberlanders' McCabe observes: "A lot of the learning via osmosis – from being surrounded by colleagues – disappeared and was difficult to replicate virtually. It's therefore great that we are back in the office and able to spend face to face time with our teams."

For that reason, Viala says that Bouygues will "encourage people to return" to the office.

"That social interaction and the collective intelligence you get from bringing everyone together is valuable, both to the company and employees," she says. ►





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by **EASYFAIRS**



◀ Zoe Price, chief operating officer for UK construction at ISG

### The key to changing attitudes towards women in this industry is getting more women into senior roles

Zoe Price, ISG



#### Hurdles for women remain

For all the positives Covid-19 has forced on construction, the hard numbers from the Office for National Statistics show that women have still borne the brunt of the pandemic in terms of furlough and household responsibilities. At peak, in July 2020, there were 200,000 more women on furlough (2.9 million) than men, while women did almost two-thirds more minutes of unpaid housework (163.6) in an average day compared to men, in October of that year. Inherent prejudices are still widespread in construction, believes Gourlay.

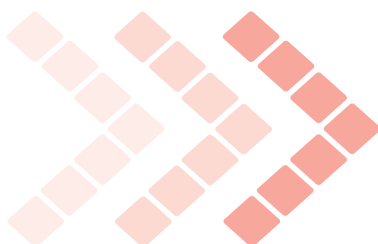
"We received a tender from a consultant recently, and on the onogram of their company,

there were around 50 professionals, only three were women, and then there was a row at the bottom of admin staff who were all women," she recalls.

Viala thinks the perception of construction as "a pale, male and stale industry" is still true to a degree, but adds, "It's our job to showcase the opportunities for our female colleagues".

"I have four mentees, and three of them are female. A number of our females have navigated their way around the business successfully despite mainly working remotely; they have progressed and expanded their roles with five of them moving up into senior leadership teams."

Price says: "The key to changing attitudes towards women in this industry is getting more women into senior roles. The new talent is coming through – 37% of ISG's intake this year is female, graduates and apprentices – what we also need are more female role models for them to aspire to." ●



## Female networks thrive

Technology has been an invaluable way of connecting women who might never have otherwise been able to share information

The widespread adoption of virtual tech has also helped female networks take off.

"Networks are important to help women from feeling marooned, maintain confidence, provide reassurance and support," says Rhys Jones. "As someone in one of my network groups said: 'We're all in a storm, but some of us aren't even in a boat'."

She runs a Women in Property network of typically 10-12 boardroom-level women, every couple of months, which moved online after the pandemic struck.

"We talk about topical issues and anything else anyone wants to bring to the table," Rhys Jones explains. "For example, one meeting took place just after Sarah Everard's murder, which prompted a discussion about safety by design and, more generally, how can we make it a given that everyone we manage is safe. Another topic we discussed was 'reward' and how to ask about pay, which is not something women are always comfortable with."

Price says that networks are great for connecting women who may not have confidence in a male-dominated environment and she encourages females in the industry to join or set up a group.

“Reach out to people and find that opportunity with your name on it”  
Nicola Gourlay,  
Glencairn Properties

"Suzannah Nichol at Build UK has been brilliant in this respect," she says. "Early in lockdown, she created a support group with six senior female construction professionals – including myself – and from that we have all gone on to set up our own groups of six."

Bell feels that females tend to be more self-critical than men and can suffer from imposter syndrome, "even when they are 100% able to do their job". This is where networks can be invaluable. "Talk to other people who have had the same experiences and found solutions," she urges. "It's good to know you're not alone."

Virtual networking can also open up new work opportunities, says Gourlay, speaking from her own experience: "The new way of working means you can broaden your support network – reach out to people and find that opportunity with your name on it."





## architectural acoustic finishes

Herbal House offices, London.

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# Great Technique

Making a beautiful new office from two decrepit buildings is no mean feat. But both developer and contractor insist the pain is worth the gain. By **Kristina Smith**



KAREN HATCH PHOTOGRAPHY

building technology – which is at the heart of this rebirth.

“We wanted to use what was there,” says General Projects’ development director Frederic Schwass. “To celebrate what’s there and to extend it.” So, the existing concrete has been sandblasted to expose the aggregate, with missing lumps and formwork joins now features to be admired.

By using a combination of cross-laminated timber (CLT) and glulam for the third and fourth floors of the building, General Projects has boosted the floor area to 74,000 sq ft of top-notch space with 5,000 sq ft of small, affordable units in the basement. The timber members are left exposed, lightly whitewashed, promising biophilic benefits to workers on the upper floors – as do the blue-green roofs around the stepped-in upper floors.

CLT and glulam also worked wonders for the building’s sustainability, with the timber embodying around half the carbon that a steel frame would, according to structural engineer Heyne Tillett Steel (HTS). Occupiers won’t look at less than BREEAM Excellent, says Schwass.

There is a downside to timber frame though: the cost of construction insurance, which Schwass says is 2.5 times higher than for steel or concrete (see p26 for more on this). And the frame did require a little help from steel just here and there.

## Who gets the risk?

Though not the first project on site, Technique was the first project the developer won, after it was set up in 2016 with a mission to breathe new life into ageing buildings. Had General Projects not been approached by the owners – private investors based in London – the two 1960s buildings could very likely have been razed to the ground.

“Knocking a building down is miles easier, miles quicker but you won’t have the same characteristics,” comments Tombs.

One of the thorniest issues for General Projects and Graham in agreeing a contract back in 2019 was how to apportion the risk of working with an existing structure. “One of

Once a bank HQ and gin distillery, the new Technique building in London’s Clerkenwell is now a high-quality office space, light and airy with environmental credentials to die for. Walking round site, it is impossible to imagine how this dream environment emerged from the scenes revealed in construction photos from the two-year build.

As Graham Construction project manager Jamie Tombs talks though some of the issues he and his team have dealt with, he frequently punctuates his account with “but it was worth it”. And he genuinely means it. Because what he and developer General Projects share is a love of buildings and

▲ Technique joins two 1960s buildings, extending them upwards and adding a grey brick lobby

▶ Opposite: The timber members are left exposed, promising biophilic benefits to workers

▶ Automatic blinds installed by Waverley will come down automatically at 8pm to limit light pollution



KAREN HATCH PHOTOGRAPHY





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## HTS made assumptions on the size of the columns based on history and drawings, but we had to open them

Jamie Tombs,  
Graham Construction



the biggest issues is always structural risk, and how much the contractor is willing to accept," says Schwass. On Technique, Graham was able to shoulder the risk, but only after carrying out extensive investigation work to assess the state of the frame, which is steel wrapped in concrete.

"Some of the steels inside the frame were not strong enough," says Tombs. "HTS had made assumptions on the size of the columns based on previous history and drawings, but we had to open them up to see what was there and what we needed to do to take the CLT and glulam frame."

The buildings sit on an 'L' shaped plot, with the ex-bank HQ fronting Goswell Road and the old distillery – which has also been a printworks – running perpendicular to it along Pear Tree Street. The corner spot, once a pub that was bombed during the Second World War, was a car park.

The two buildings had been joined together after a fashion, but the Technique project sees a new, three-storey concrete-framed linking lobby built on the corner plot, the footprint extended in two areas with steel frame structures, and two new timber-framed storeys added to the top of both buildings. That may sound relatively straightforward, but it wasn't. There was demolition, repair, structural modifications, old and new and some interesting materials. "This project is a tricky one," says Tombs, who has over 40 years' construction experience. "It has everything."

If Tombs had to pinpoint the biggest technical challenge, it would be the forensic work required to protect the existing building as the structural changes were made to it, he says: "It's understanding what you are going to do to the building and how that's going to affect the building. If you have to cut out a column that's 80 tonnes, how do you support it and replace it with a load-bearing structure?"

It was the position of the new lift shaft that required the removal of that 80-tonne column and a large portion of the pile cap below it, with loads transferred onto a goal post frame. "That required extensive temporary works," says Tombs.

Before that operation, Graham had to remove some of the buildings' load while adding foundation support. With structural investigations done and preliminary sums tightened up, Graham started work from the top and bottom simultaneously, with mini piling in the basement. Meanwhile demolition of some of the upper floors was underway to create a level base for the CLT frame. Floor screeds were removed throughout to make way for lighter precast planks on the lower floors.

There are also new piles for the lobby, which has a jaw-dropping two-storey gallery above, requiring the sacrifice of 800 sq ft of lettable space. "In creating an interesting space, we lose the value of the floor space, but it adds value to the rent of the whole floor," explains Schwass.

In Clerkenwell, where creative and tech firms rub shoulders, buildings need some arty 'wows'. So, parts of the lobby are clad in tiles made from volcanic ash from Mount Etna and designed by Amsterdam-based Formafantasma, design darlings of the moment. The tiling, which adorns parts of the reception area,



▲ One of Graham's first tasks was demolition of the roof and upper floors

▲ New connections for the timber frame on existing columns



# 80

If you have to cut out a column that's 80 tonnes, how do you support it and replace it with a load bearing structure?



showcases the craft of the tilers too, who worked from a picture only.

The bricklayers are also to be admired. In a move agreed by the planning authority at the 11th hour, General Projects specified StoneCycling bricks, hand-thrown in the Netherlands from recycled materials. The tolerance on the bricks was huge, says Tombs, but no one would know, looking at the wall now.

Strengthening works to the existing frame took a variety of forms. Some columns were stripped of concrete so that steel plates could be added before the concrete was replaced; some gained additional rebar; a few were wrapped in carbon fibre with a concrete-coloured grout applied on top.

The design of the timber frame, which Graham subcontracted to specialist B&K along with the steel frame for the extended areas, wasn't plain sailing either. When B&K did the detailed design and calculations, it discovered that a few of the members were not strong enough; they had to be beefed up with steel, which was then encased in timber.

With modifications made to the top of the existing columns to create connections, B&K installed the frame in 12 weeks. "It was just like a big Meccano set," says Tombs. While B&K did its Meccano, M&E specialist Michael Nugent was busy on a 3D puzzle. General Projects wanted clean lines for the upper floors, which meant drilling holes through

▲ Detailed design showed some of the CLT frame members were not strong enough; they were substituted with steel which was then encased in timber

the existing steel beams. "Extensive design work was required so the frame could take the penetrations," says Tombs, with Michael Nugent creating a model in Revit.

Heating and air conditioning for the upper floors is housed in a plenum, which makes the space more flexible too, explains Schwass. Achieving air-tightness for the plenum was another challenge, says Tombs, requiring patience and many smoke tests before all the gaps were found and plugged.

## Ready for tenants

Technique's technical hurdles were complemented with some logistic and community ones too. The risk of Brexit impacts meant ►

## Project team

Client: General Projects  
 Contractor: Graham Construction  
 Architect: Buckley Gray Yeoman  
 Structural engineer: Heyne Tillett Steel  
 Gross Development Value: £80m  
 Construction cost: £20m  
 Form of contract: JCT Design and Build  
 Programme (on site): January 2020 to February 2022  
 Key specialist contractors:  
 • Piling: GSS Piling  
 • M&E: Michael Nugent  
 • CLT/glulam frame and steel structure: B&K  
 • Lifts: Stannah  
 • Glazing and curtain walling: Anglian Architectural



KAREN HATCH PHOTOGRAPHY

► Formafantasma designed tiles made from volcanic ash from Mount Etna to create a unique lobby

Graham had to bring in its final CLT and glulam consignment early, causing a storage headache. For General Projects, the project had a very long gestation period as it worked to keep its residential neighbours happy. Tombs says relations with neighbours have been good. Graham has kept them informed of what's happening when, stuck to agreements such as limiting noisy works to two hours with two-hour breaks, and modified the agreed closure of Pear Tree Street so residents could use it in the evenings.

Having happy neighbours has helped General Projects secure later planning consent for two roof terraces on the upper floor among

the blue-green roofs. Post-pandemic, outside spaces are ultra-desirable. There are also outside terraces at the back of the building on the second floor and basement levels, where the removal of part of the floor above has delivered a small courtyard and natural light for the affordable units.

When CM visited site in early February, Schwass was hoping that there would soon be news of a tenant for the building. Practical completion was planned for the end of the month, with Graham inviting General Projects' landscaping and IT contractors in to work in parallel with them, rather than after handover as was programmed.

The project has run longer than planned, in part due to Covid

absences and disruption which caused four weeks' delay. There have been additional works too. The original programme was 20 months, but it has stretched to 24.

For Schwass, quality is everything and this goes for the building's owners too.

"Given that they are looking to hold onto it for a long time, the most important thing for our client and for us is that we get a beautiful building that it is high quality," he says. "There are too many developers who only care about returns. I personally would never develop or manage a building that I would not stand for or be proud of." ●



## Construction manager CV: Jamie Tombs, project manager

If there's one vital ingredient for a complex refurbishment like Technique, it's experience. Fortunately, Graham Construction's project manager Jamie Tombs has it in spades.

He began his construction career with Bovis in 1988, gaining bachelor's and master's degrees while working. After 10 years with Bovis, he went on to work for several main contractors, mostly on commercial projects, and has been with Graham since 2018.

Tombs is delighted that his daughter is following in his footsteps, having just started an apprenticeship in construction.



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# Wood work

Timber will play a vital role on the built environment's journey towards net zero. But what's it like working in the sector? **CM** asks a range of timber construction professionals what they love about their jobs, the biggest challenges and how they would encourage wider use of the material

▼ Avi supplied acoustic panelling, timber seating, stair treads and handrails on the Pears Building at the Royal Free Hospital (also below right)







**For a healthcare facility, all that timber creates such a warm, positive environment**

Priesh Vekaria



**The joinery specialist**  
**Priesh Vekaria**, managing director, Avi Contracts

**Timber is “in the blood” of Priesh Vekaria’s family; he is the fourth generation to work in the sector. His father worked at Avi Contracts and suggested he call the company about getting some work experience there. After a three-month trial, he was taken on as a trainee surveyor and, 14 years later, is now the managing director.**

“Although I did a degree in commercial management, my timber education was hands on. You learn from everyone around you: the architect, main contractor, the other trades. You have to get to know every element of timber – softwood, hardwood, engineered wood – and what they’re used for, from staircases to doors to cladding. And be passionate about your product, that will take you far.

“Seeing the building come to life is something I really enjoy. When you start with the 3D model, and work through the design, costing and problem-solving, you don’t always appreciate what the finished building will look like and its impact on the end user. On the Pears Building at the Royal Free Hospital in London, we supplied acoustic panelling, bespoke timber seating pods, oak stair treads and handrails. For a healthcare

facility, all that timber creates such a warm, positive environment.

“The biggest challenge for us is fire. With building regulations changing, there is far more scrutiny, particularly around fire doors. We’ve just invested in two new fire door certifiers to help us address those challenges.

“Timber’s big selling point is its sustainability, but there’s more we could do. For example, we only really use reclaimed wood on listed building projects, but we could use it more widely rather than buying new timber on other projects. We should also consider other types of wood, like bamboo: it’s strong, grows quickly and has compression strength so it can be used structurally.”



KAREN HATCH PHOTOGRAPHY

**The client Frederic Schwass**, development director, General Projects

**With a belief that buildings don’t have to be new to be beautiful, Frederic Schwass’s mission is to find properties that other developers might demolish and reinvent them. Invariably this involves adding space – which is where structural timber comes in.**

“I am Swedish and in Sweden we build whole cities with timber. It’s a beautiful material to be working with.

“We take misunderstood, unloved properties and reposition them. One of our newest projects is Walworth Town Hall at Elephant and Castle which was built in the late 19th century and then suffered major fire damage in 2013. The building’s council chamber and viewing gallery will be rebuilt with the help of a CLT and glulam structure.

“Because timber is lightweight, it means we can add extra space without adding too much extra weight to the existing structure and foundations.

“Developers and investors now have to meet net zero requirements from their investors. That is one

**In Sweden we build whole cities with timber**

Frederic Schwass



of the reasons why there’s so much interest in CLT and glulam structures, which have far less embodied carbon than traditional materials.

“With any building now, tenants won’t look at it if it’s not BREEAM Excellent. We achieved a BREEAM Outstanding rating for 242 Marylebone Road, which is very difficult to do with a refurbishment. Like Technique (see project report, p20), it uses CLT for an extension.

“The biggest struggle with CLT is the insurance. It’s extremely difficult, especially if you are doing a full timber structure. The insurers say they don’t know how the buildings will perform with age or in the case of fire. But there are libraries of information in other countries. CLT and glulam have pretty much the same fire performance as other structural frame materials.”

STÅLE ERIKSEN



AGNESE SANVITO



**The engineer**  
**Ella Warren,**  
structural engineer,  
Heyne Tillett Steel

A graduate in structural engineering and architecture, Ella Warren has worked at Heyne Tillett Steel for eight years and leads discussions on timber-frame projects. Her recent work has included Battersea Arts Centre, notably the rebuild of the Grand Hall after a fire, and Hannington Farm, a new-build private residence using CLT and glulam frames.

"I love the fact that timber is a natural material that can be grown. It is by far the most sustainable material to build from – and the material with the longest history.

"Timber can be incredibly beautiful, but it comes with quirks that need

to be overcome. Don't try to shoehorn it to solely achieve a sustainability agenda. Think about why you are using timber and why it's suitable, then use those aspects to your advantage.

"Probably the most important aspect is understanding how connections work in timber; they often dictate the whole design.

"There are perceptions about timber's shortcomings when it comes to fire, acoustics, durability, and dynamic response – and those are the biggest challenges we face when proposing a timber solution. It would be great to see more investment into fire testing, dynamics and acoustics to provide reassurance to clients and insurers when considering mass timber."

**Wood is the most sustainable construction material – and also the oldest**  
Ella Warren

◀ Warren was project engineer on Hannington Farm, a private house constructed in pitched glulam portal frames and CLT

ROBIN CLEWLEY



**Wood is warm, smells great and is easy to fit together. The mood among workers changes**  
Andrew Waugh

**The architect Andrew Waugh,** founder and director, Waugh Thistleton Architects

**After setting up his practice straight from college 25 years ago, Andrew Waugh has become a pioneer in engineered timber design. He put together the UK's first CLT structure, a 45 sq m three-storey house extension, in 2003 and went on to design Murray Grove, the UK's first large-scale residential scheme built from prefabricated timber, and Dalston Works, the world's tallest CLT building.**

"Let me tell you a secret about timber: it's really easy to build with. Take a lift shaft. When our current supplier first came to one of our sites, and saw the timber structure, their reaction was: 'What do we do this?' Now they give us a discount. With a concrete lift shaft, you have tolerances of +/-20mm, and workers using power tools and face masks in a confined space. With timber, the fixings are within +/- 2mm and you can put it together with a cordless screwdriver.

"If you work with timber, it's important to prioritise timber from day one of planning a project. You need an understanding of engineering; a completed timber-frame building is 65% lighter than one with a reinforced concrete

frame, so you have to consider wind load and design efficiently, otherwise you use too much timber and the project becomes expensive.

"All our projects are about incremental improvement. The best building I've ever done is always the one I'm doing right now. On the Black and White Building in Shoreditch, we've got a great client who are really open about the process. The contractor, Mid Group, are building their first major CLT project, and they've been positive and keen to learn.

"Construction treats its workers pretty badly – we expect them to work on muddy sites with grinders and jackhammers. We wonder why there are few women in the industry. But with timber buildings it's different; wood is a warm material, smells great, the components are accurate and easy to fit together. The mood among workers changes.

"Unfortunately, we have an industry that prices on risk, which thinks about failure as a constant. But if you can make something in a factory that is millimetre perfect, you take out that risk."

▶ The Black and White Building will be central London's tallest mass timber building







**The timber frame manufacturer Joss Davies-Wood**, design team leader, Taylor Lane Timber Frame

**After studying architectural technology and design at university, Joss Davies-Wood worked for an insulation company, but realised her ambitions lay elsewhere. Then, “fate played a hand” when Herefordshire timber frame manufacturer Taylor Lane placed an advert for a designer in her local paper. She was offered the job, and is still there, seven years on.**

“Until very recently there were no dedicated courses in timber frame technology. Taylor Lane trains

individuals in the skills required to become a timber frame designer. You learn on the job, developing a breadth of material knowledge, construction methodology and implementation of engineering. We use specialist software to produce drawings, manufacture and erection information.

“In this career, it’s important to make the most of the experienced people around you; understanding all the trades involved in a project will make it run more smoothly. This is never more important than on large-scale projects. On Salisbury Plain, for example, we have recently completed 450 homes with six house types for main contractor Lovell and the Defence Infrastructure Organisation.

“I also enjoy our self-build projects; the difference being you know you are often helping someone fulfil their dream.

“Education is the key to encouraging timber’s wider adoption. Awareness promotes change. By informing people of its many benefits, it will become the obvious choice.” ●



TOM GLENDINNING

**Learn from the experienced tradespeople around you**  
Joss Davies-Wood

▲ Taylor Lane delivered 450 homes on Salisbury Plain for services personnel



**The construction manager Emmett Holmes**, contracts manager, Gilbert-Ash

**A keen advocate for building with wood, Emmett Holmes has spent 16 years in project management roles at main contractor Gilbert-Ash, which has become a timber-frame specialist. He is working on two timber student accommodation projects in Cambridge: at Emmanuel College, using a glulam structure; and Croft Gardens for King’s College, a full CLT project with 60 bedrooms and 24 family apartments, which aims to achieve full Passivhaus ‘Classic’ standard and a 100-year design life.**

“Structural timber allows for quick, clean installation which is great for construction project managers. By clean, I mean it is a dry process compared with wet

trades where you have multiple disciplines coming to site. By quick, I mean that everything has been manufactured precisely within a controlled factory environment, which eliminates human error 99% of the time when the subcontractor erects the structure.

“The components are also easier to handle. For example, on a concrete-frame project, installing precast concrete stairs can be restrictive due to their weight and geometry, whereas CLT timber stairs come in smaller, more manageable sizes.

“The main challenge is the British weather! CLT can’t be left out in the wet for too long; you need to get the panels installed quickly

and put in place measures to prevent moisture getting in.

“That said, steel and concrete frame construction can leave the building envelope open, so you’re constantly fighting against the elements. Compare that to the CLT project at Croft Gardens, where we had four buildings constructed to roof level with a VCL (vapour control layer) membrane applied within 14 weeks. A comparable concrete frame would have taken six to eight months.

“Our industry needs better understanding of the benefits of timber. The materials are sustainable, the supply networks are established, and the speed of construction is far superior compared to concrete and steel.”





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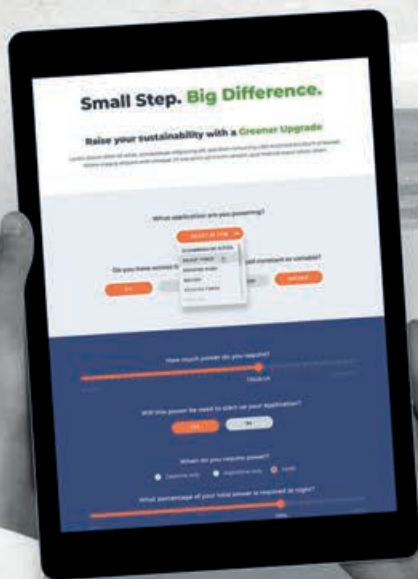
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Stage V



# Mitigating fire risks with timber

Timber will be important as the construction sector strives to meet zero carbon targets, but how can it address concerns about safety? By **Sam Liptrott**



**The most meaningful incentives would be the development of knowledge for guidance and a framework for timber to be used safely**



is a great, regenerative material that will help the construction sector, not to mention offsite and modern methods of construction, which will help reduce the sector's carbon footprint.

Creating buildings off site, for example, in precision-manufacturing environments equals less waste and less site traffic – fundamental changes which en masse would decrease the sector's carbon impact.

The most meaningful incentives would be a significant investment in experiments and the development of knowledge for guidance and a framework for timber to be used safely. If we can substantiate research with scientific support, then we can counter the current arguments.

This could then lead to setting out a path to meeting the building regulations and concerns of the building control and fire services, bringing more interest from developers to use timber. ●

**Sam Liptrott is director and co-founder at OFR Consultants.**

**W**e need more homes and we need homes to be created in a sustainable way, using materials that will safely stand the test of time.

For many, timber is the obvious solution, but it's come under much scrutiny, albeit for very valid fire safety reasons. Uncertainty, largely due to a ban from central government and local authorities on its use in residential development – has led the insurance sector to largely withdraw its willingness to cover it.

But right now, we are in a difficult position in the UK. Construction is negatively contributing to the climate crisis, accounting for 40%

of all global carbon emissions – with UK builders responsible for 25% of the total UK carbon footprint.

Current restrictions on timber take-away mean that clients often swap out timber for concrete and steel. These materials perform nowhere near as efficiently as timber, but their perceived reliability means they are widely accepted by approvers and insurers.

But there are downsides: on account of their weight, steel and concrete buildings can't be built at the same scale as timber developments.

There are, however, determined developers trying to lead on change. They identify that timber

▲ Timber frames have come under scrutiny for fire safety reasons



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# How to deliver cleaner power to construction sites

This CPD, in association with Aggreko, examines how construction companies can deliver cleaner power to sites as they attempt to reach their net zero carbon targets



**N**oise around net zero is getting louder. Thousands of businesses across the UK have pledged to eliminate their carbon footprint by 2050, or earlier, and construction is no different.

Most major organisations have some plan in place, though often more ambitious when compared to other sectors, reflecting the need to tackle the high level of emissions generated across the built environment. According to the National Engineering Policy Centre, UK construction now needs to decarbonise more urgently so it can keep pace with national targets of 68% by 2030 and 78% by 2035.

The path to this goal, however, still remains unclear for many businesses. Not least those that have to manage investor expectations against the kind of bold, sweeping changes that net zero demands. But far from having to wait for newer, emerging solutions, experts believe that existing technologies and practices are more than capable of delivering progress today. It's just a matter of testing them.

◀ The trials showed how emissions can be lowered in crane use



In association with **aggreko**

# 78

UK construction now needs to decarbonise urgently to keep pace with a national target of 78% by 2035

## The power challenge

Generators are perhaps the best place to begin decarbonising construction in line with net zero targets. They typically run off diesel yet there are now alternatives available that can limit fossil fuel use to all but the most demanding or mission-critical phases of a build.

This is especially important given government plans to restrict use of red diesel for heavy plant from April 2022. Data also shows that generators are often oversized for their chosen application, leading to inefficiencies that could otherwise be easily avoided.

Construction managers will be well aware of the difficulties when specifying power for a project. The situation on the ground may change unexpectedly and there's always the threat of dramatic or unseasonal weather. Demand can also change with short notice, leaving organisations stuck without sufficient power.

The natural response here is to overestimate how much power will be needed, opting for a larger generator or temporary substation that will be more than capable of handling whatever is thrown at it. But this brings its own set of problems.

Firstly, more power generation capacity means using more diesel and therefore a bigger carbon footprint. Secondly, organisations that habitually oversize their

**Once running equipment drops down to around 10% capacity, for example, it's essentially wasting up to 60% of the diesel per kWh of energy being used**

generators will be consuming fuel very inefficiently. Once running equipment drops down to around 10% capacity, for example, it's essentially wasting up to 60% of the diesel per kWh of energy being used. Besides being needlessly wasteful, adopting this practice across a typical construction project could easily send budgets into the red without providing any real benefits in return.

To run efficiently, a generator should work between 40%-80% of its total capacity. Running a high-capacity generator beyond these limits can lead to 'wet stacking', where horsepower suddenly drops and performance

becomes erratic. In the worst cases, this can lead to equipment failure and another unit will need ordering to complete a job.

Oversizing is commonplace but it can be avoided with the right knowledge. Organisations are now beginning to recognise the importance of testing, especially when introducing greener upgrades, such as hybrid generators and those running on biofuels like HVO. Planning of this kind can not only save money but also lower fuel consumption and an organisation's emissions penalty – critical in a time where wholesale carbon reductions are now necessary across the entire industry.

## Coordinating suppliers

It's this idea that provided the rationale for a series of field trials between Aggreko and Sir Robert McAlpine (SRM) in 2021. The project looked to understand which of Aggreko's generator packages would be most efficient for powering two ►

▲ Martin Mitchell, plant procurement manager with Sir Robert McAlpine, and Aggreko sector team leader Tom Adlington at the trials in Kettering



## Results

The fuel and emissions savings listed are projections based on an average project window of 26 weeks

Emissions calculations are estimations and based on the assumption:

- 1,000 litres of diesel (based on EN 16258 standard, ISO conditions and IPCC 2006) would result in 3.26 tonnes of CO<sub>2</sub>e
- 1,000 litres of HVO (based on Neste 8g/MJ) would result in 275kg of CO<sub>2</sub>e
- Diesel burns at roughly the same rate as HVO.

### SCENARIO 1

#### 200kVA (diesel) to 100kVA battery hybrid (HVO)

Fuel savings: from 52,416 litres to 27,757 litres = ~ 47% decrease  
Emissions savings: from 170,876kg of CO<sub>2</sub>e to 7,633kg of CO<sub>2</sub>e  
= ~ 95% decrease

#### 200kVA to 100kVA battery hybrid (both running on HVO)

Fuel savings: from 52,416 litres to 27,757 litres = ~ 47% decrease  
Emissions savings: from 14,414kg of CO<sub>2</sub>e to 7,633kg of CO<sub>2</sub>e  
= ~ 47% decrease

### SCENARIO 2

#### 320kVA (diesel) to 200kVA (HVO)

Fuel savings: from 96,096 litres to 52,926 = ~ 45% decrease  
Emissions savings: from 313,272kg of CO<sub>2</sub>e to 14,554kg of CO<sub>2</sub>e  
= ~ 96% decrease

#### 320kVA to 200kVA hybrid (both running on HVO)

Fuel savings: from 96,096 litres to 52,926 = ~ 45% decrease  
Emissions savings: from 26,426kg of CO<sub>2</sub>e to 14,554kg of CO<sub>2</sub>e  
= ~ 45% decrease



▲ Aggreko site generators were used in field trials

different sized cranes on site, in turn giving both organisations the practical knowledge needed to make more sustainable decisions at other builds across the country.

SRM has joined the Science Based Targets initiative (SBTi), which requires businesses to actively search for methods to reduce their emissions. Part of this involves looking for energy-intensive processes that can be made more efficient, known as 'hot spotting', as well as identifying areas where fossil fuels can be swapped out completely for greener sources. These efforts are then submitted to the SBTi for assessment and verification. Aggreko's power expertise and

focus on sustainability made it a natural partner for this project.

The work was also carried out in the knowledge that net zero cannot be achieved in isolation, and even the most ambitious businesses will struggle to make lasting changes without cooperating with partners and other supporting organisations across the supply chain.

### Trialling greener upgrades

The field trials were based on lifting applications using two different types of tower crane at full working capacity (hoisting and slewing 12.5 tonne weights). Both cranes are used in SRM's yard and in the field. All tests were run on HVO fuel.



### Scenario 1: standard crane

The first scenario involved a 200kVA generator, which already represented a downsizing from SRM's request for a 250kVA. This smaller model ran comfortably.

Aggreko also applied a 100kVA model, which was also able to handle the job without any loss in performance, then introduced batteries to the generator's control mechanism to see if fuel consumption could be avoided entirely. This also met the crane's demands, with SRM able to load materials onto three lorries for over two hours without the generator firing up.

● Data showed a maximum power of 94kW and an average

fuel consumption of 37 litres per hour at this load.

● The 200kVA had a max output of 160kW, so only ran at 58% of its total capacity, leaving 42% extra power unused.

● Maximum readings never exceed 100kW, proving a smaller set up is better matched than the 250kVA generator originally specified.

### Scenario 2: luffing crane

The second scenario used a bigger crane, at first running on a 320kVA generator to establish baseline data. Aggreko then introduced a 200kVA model, which could easily handle the crane's demands. A battery hybrid was again introduced afterwards,

and able to support the job, though greater care was needed from operators to avoid spikes in demand.

Depot engineers operated the crane at full working capacity, lifting a 12.5 tonne weight while luffing and hoisting, so accurate loading could be determined.

● Data showed a maximum power of 121kW and average fuel consumption of 18 litres per hour at this load.

● The 320kVA model had a maximum output of 256kW, meaning 53% extra power was unused.

For the full results of the trials, see the box on p36. ●

**For more information about this project, please visit:**  
<https://tinyurl.com/4m7x3bwt>.

## What do these results mean for construction managers?

There are practical moves that can be made to reduce emissions – here is our checklist

The results show construction managers can make practical swaps that deliver a significant drop in emissions, while also reducing the amount of fuel used and money spent on plant. Even tower cranes are capable of running on hybrids and HVO fuel, clearing the way for a wider phase-out of diesel on construction sites.

Arguably the most telling finding can be seen in the continued oversizing of generators. The plant that SRM originally used was still too large for powering the cranes, and a large percentage of the power was left unused. Aggreko has long been aware of this idling issue, and it serves to show how even minor changes can bring about profound improvements for the sustainability of UK construction.

### Checklist for managers

● Identify suppliers that can provide access to greener upgrades and more sustainable power solutions.

● Determine where you can make immediate changes to save on fuel and emissions – can hybrid generators or HVO fuel be used instead of diesel?

● Question if the generators you currently use are too big for a job – the results of the project in this CPD suggest all but the most demanding applications now require diesel generation.

● Carry out thorough testing to establish what kinds of generators are best matched for each job on site – this will ensure they are always correctly sized and running optimally.



**Construction managers can make swaps that deliver a significant drop in emissions, reducing fuel used and money spent**

To test yourself on the questions above, visit [www.constructionmanagement.co.uk/cpd-modules](http://www.constructionmanagement.co.uk/cpd-modules).

### CPD Questions

- At what percentage rate does UK construction need to decarbonise by 2030 and 2035?  
a) 70% and 80%  
b) 68% and 78%  
c) 45% and 60%
- When is the use of red diesel expected to be restricted for heavy plant?  
a) November 2024  
b) 2023  
c) April 2022
- What is the ideal capacity operating range for an onsite generator?  
a) 40%-80%  
b) 30%-90%  
c) 20%-60%
- How do you avoid 'wet stacking' when running a high-capacity generator on site?  
a) Move the generator out of the rain  
b) Maintain ideal operating capacity range at all times  
c) Match up the generator with a low-powered application
- What percentage of fuel per kWh is wasted when a generator runs at roughly 10% for an extended period of time?  
a) 80%  
b) 30%  
c) 60%

# Sea change

Ian Williamson is responsible for delivering the vast Red Sea Project. He tells **Rod Sweet** why worker welfare and technical innovation are central to his construction planning



ALL IMAGES COURTESY OF THE RED SEA DEVELOPMENT COMPANY

**W**hen complete in 2030, The Red Sea Project will comprise 50 resorts on Saudi Arabia's pristine Red Sea coast, including some 8,000 hotel rooms and more than 1,000 residential properties across 22 islands and six inland sites. Complete with its own international airport, the scheme will include luxury marinas, golf courses, entertainment and leisure facilities. Work is on track to welcome the first guests by the end of 2022, when the first hotels will open. Phase one, which includes 16 hotels, will complete at the end of 2023.

"Progress at The Red Sea Project has been continuous; with plans laid

to welcome guests by the end of this year, slowing down has not been an option," explains Ian Williamson, chief projects delivery officer for The Red Sea Development Company.

"One of the key routes to achieving speed while not sacrificing quality has been our willingness to be flexible. We're attempting something that has never been achieved before, so there is no established road to follow. The process has required calculated risk taking, but on countdown to welcoming our first guests, it's an approach that has proven considerate construction can happen at pace."

Building a luxury destination in a remote location poses many interesting challenges, one of

▲ The Red Sea Project on Saudi Arabia's Red Sea coast is made up of 50 resorts on both island and inland sites

► Inland, luxury accommodation will be integrated into the dramatic desert landscape

► The Red Sea Project aims to become a top global luxury tourist destination

them worker welfare – which Williamson is uncompromising on. "Our main priority is the wellbeing of our workforce – keeping our workforce safe in close proximity to the site," he says.

The company has established a 'Basecamp', providing a home and HQ for onsite personnel and a construction village with housing for 10,000 workers.

"To ensure we had a happy and healthy team, in the best possible position to deliver on our vision and ambitious timeline, we made the choice to set a new benchmark in employee living conditions," he adds.

"We provide privacy, personal safes for belongings, computers for



The Red Sea Project will comprise 50 resorts including some 8,000 hotel rooms and more than 1,000 residential properties across 22 islands and six inland sites

22

## We champion offsite manufacturing methods to minimise the environmental impact of construction while maximising efficiencies

Ian Williamson, The Red Sea Development Company



checking emails and wi-fi available in all areas so that staying in touch with friends and family is easy. We also included cricket pitches, gyms and a cinema to ensure workers enjoy their downtime."

Williamson takes conservation very seriously. "We recognise the huge responsibility of protecting this pristine region, home to some of the world's last thriving coral reefs, and preferred nesting sites of the critically endangered Hawksbill Sea Turtle," he explains. "We know we can do more than protect – it's in our power to enhance this natural environment too, so that our actions leave a positive imprint."

The Red Sea Development Company partnered with King Abdullah University of Science and Technology (KAUST) to conduct a marine spatial planning exercise.

"Through this study, we were able to map our development area, identifying important habitats and creatures including several species of global conservation importance," Williamson says. "The results of this exercise allowed us to take steps at the earliest stages to minimise our environmental impact, from setting a cap on visitors in line with the maximum number of guests the destination can safely accommodate, to leaving 75% of the archipelago's islands untouched.

"It also helped us to set our commitment to deliver a 30% net conservation benefit by 2040."



### Ian Williamson CV:

- Since October 2017: Chief projects delivery officer for The Red Sea Development Company, responsible for The Red Sea Project and Amaala
- 2015-2017: Managing director, Arcadis Middle East, based in Dubai
- 1999-2015: Various roles at Aecom, latterly senior vice president, Aecom Middle East
- 1990-1999: Senior development team member, Sainsbury's
- Education:
  - MBA, Cass Business School, London
  - BSc Electrical Engineering with Mathematics, University of Reading, UK

Digital technology and innovation has been central to Williamson's delivery planning.

"Our use of a delivery management system integrated with BIM ensured everyone on the project was in sync, as well as avoiding any materials being under or overstocked," he explains.

"We also champion offsite manufacturing methods to minimise the environmental impact of construction while maximising efficiencies. Units are built elsewhere in Saudi Arabia and beyond, and then shipped to the destination for assembly and installation.

"As a result, the human impact of construction activities on site has

been significantly reduced, while speed of construction has increased."

Williamson adds: "We have shown that an open mindset and willingness to take calculated risks, when coupled with experienced experts in their fields, can ensure speedy construction with quality and sustainability built in.

"We have developed new ways of working and ensured we avoid a situation of endless planning and over-designing. We are on the ground, making this vision a reality. We are leading the way in responsible development, and there's a lot the industry can take from the lessons we have learned along the way, both here in the region and globally." ●



# Digital Construction Awards: enter now

The built environment's premier awards for BIM and digital construction have opened for entries – get yours in as soon as possible

**T**he Digital Construction Awards are now open for entry. The awards celebrate best practice and reward innovation in the application of BIM and digital technology in the built environment sector. There are 13 categories and the deadline for entries is 25 March. The shortlisted entrants will be revealed on 9 May, and the winners revealed at the awards ceremony on 12 July 2022 at The Brewery in London.

Partners for the awards are Digital Construction Week, the

Chartered Institute of Building, and media titles *Construction Management* and *BIMplus*. The first sponsor to support the Awards is Revizto.

Will Mann, editor of *Construction Management*, said: "Many of the categories are open to all parts of the built environment's supply chain – clients, architects, consultants, contractors, specialists, manufacturers, suppliers and technology firms. We look forward to celebrating the great work the industry has done in the past year."







## Many of the categories are open to all parts of the built environment's supply chain and address many key topics

Will Mann,  
Construction Management



Justin Stanton, *BIMplus* editor, added: "Our categories address many key topics – health and safety, data, the drive to net zero and modern methods of construction to name a few. And there are two suitable for SMEs or those working on projects valued at less than £10m. Key to success in the Awards will be evidence."

Ollie Hughes, co-founder of Digital Construction Week, concluded: "To ensure the best of the best receive the recognition they deserve, we have created a robust judging process. Our judging panel comprises more than 20 well-known experts drawn from across the built environment sector. Our intent is that the awards will ultimately become the Oscars of the sector." ●

**To find out more about the awards, including who the judges are, head to: <https://digitalconstructionawards.co.uk>.**

**To become a sponsor of the awards, email Dave Smith at [dave@atompublishing.co.uk](mailto:dave@atompublishing.co.uk) or contact Ollie Hughes at [ohughes@divcom.co.uk](mailto:ohughes@divcom.co.uk).**



## The categories

With 13 categories to choose from, there are plenty of opportunities for most projects and businesses to enter the Digital Construction Awards. The entry criteria may vary slightly from category to category, so please review the criteria in detail online. The deadline is 25 March. Good luck!

### ● Best application of technology

This category will recognise the application of a specific technology or process. The manufacturer or vendor should not be the focus of your entry, rather it should focus on how the associated technology has been applied to a particular challenge or solved a specific problem.

### ● Best use of data on a project

This category recognises the use of data to enhance design, construction processes or asset management on a building or infrastructure project.

### ● Delivering net zero with digital innovation

Entries should focus on how digital tools, methods and skills are improving the performance of projects and leading to lower emissions. This may include, but is not limited to, DfMA, material selection, construction plant, equipment, labour and transport and the role of technology and digitalisation in these areas.

### ● Digital construction project of the year – major project (sponsored by Revizto)

This category celebrates what can be achieved through the successful implementation and adoption of digital technologies and processes on a project. This is about how a digital approach has enabled better outcomes for a project overall. A major project is defined as one that is worth more than £10m in value.

### ● Digital construction project of the year – small project

This category celebrates what can be achieved through the successful implementation and adoption of digital technologies and processes on smaller projects. This is about how a digital approach has enabled better outcomes for a project overall. The definition of 'small project' is any project below £10m in value.

### ● Digital excellence in a construction business (sponsored by Autodesk)

This category will award a business that demonstrated excellence in the way they work through the adoption of digital processes or technologies. This category is about the steps taken by an organisation to change the way it works and the positive impact this has had on its business.

### ● Digital excellence in a construction SME

This category will award an SME that has transformed, elevated, or demonstrated excellence in the way they work through the adoption of digital processes or technologies. This category is about the steps taken by an SME organisation to change the way it works and the positive impact this has had on its business.

### ● Digital partnership (sponsored by Bluebeam)

This category recognises how digital technology has enhanced a partnership between organisations.

### ● Digital innovation in design

This category recognises the use of digital technology to enhance the design process of a project.

### ● Digital innovation in offsite construction

This category recognises the use of digital technology to enhance modular, offsite or modern methods of construction techniques on a project.

### ● Digital innovation in on-site productivity (sponsored by Procure)

This category recognises the use of digital technology to enhance the productivity of site-based workers.

### ● Digital innovation in health, safety and wellbeing

This category recognises the use of digital technology to enhance health, safety and wellbeing among construction workers on a project.

### ● Digital construction champion of the year

This category recognises an individual who has played a key role championing digital transformation on a project, in an organisation, or an industry sector, during their career.



**Bill Bordill**  
Decipher

## THE QUESTION

A key subcontractor involved in our adjudication has gone into administration. What are the implications?

## THE ANSWER

An important question here is whether the insolvent subcontractor is one of the parties to the adjudication or involved in some other, less direct way. There are three likely scenarios: where the subcontractor is the referring party, the responding party, or plays an indirect supporting role in either the claim or the defence.

### Referring party

Cases involving an insolvent referring party have been well documented recently: *JDC v Erith; Meadowside; Bresco*; and *Bouygues v Dahl-Jensen*. They illustrate the complexity of the issue and why the position has ebbed and flowed over time and between different courts.

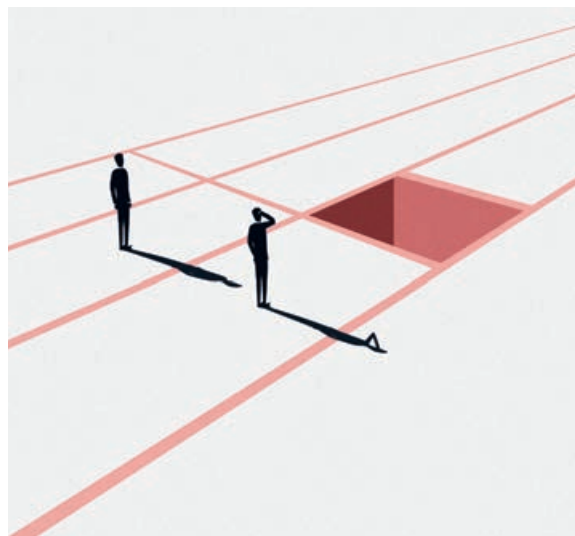
In summary, the current position is that the administrator of an insolvent company is entitled to seek an adjudicator's decision. However, there is a relatively high bar to success, to achieve enforcement by the courts.

Insolvency rules impose 'mandatory set-off'. Therefore, any determination in a dispute must settle the 'net balance' between the parties. This may not necessarily be the case in an adjudication for a single dispute. Also, the insolvent party is required to provide 'security of payment'. This is to protect the solvent party in the event the enforced decision is ultimately overturned on appeal.

In this instance, one implication of a subcontractor in administration is that adjudication is now less attractive. Litigation, by the way, is more expensive and takes longer and so offers no olive branch.

# 'A subcontractor has gone bust during our adjudication'

A reader contacted CM's 'Contract Clinic' to say a subcontractor has gone into administration during an adjudication their firm is involved with. **Bill Bordill** looks at what may follow



### Responding party

So, what if the responding party has gone into administration? You may well ask, "What is the point of pursuing a company with little or no means to pay?" Well, you may want an end to your dispute, simply to establish your position in the event the administrator successfully turns around the insolvent subcontractor. Also, your dispute may not be

The inevitable implication of a key subcontractor going into administration is that your job has just become a lot harder



financial. You may have a dispute over specifications or products. Certainty may assist with the resolution of other disputes with other parties.

### The crux

The answer lies in the evidence required to support your claim or defence. If a key subcontractor has gone into administration, you may no longer have access to the staff you require to substantiate your claim (witness statements) or to records needed to evidence your claim.

There are 'four corners of a claim': cause, effect, entitlement, substantiation. Like a jigsaw, if any one corner is missing, it cannot be completed. Without adequate records to substantiate the amounts claimed, that element of your claim will fail.

It may also be the case that your contract restricts entitlement to recovery of the costs incurred. You could end up in a situation where you cannot settle with the administrator and so this element of your claim may fall away as you have not, at that point, actually incurred extra costs. However, you retain a liability to the subcontractor. Not a good place to be.

The inevitable implication of a key subcontractor going into administration is that your job has just become a lot harder. Not impossible, so don't necessarily give up, but definitely harder. Get some help, seek professional advice and act swiftly. ●

**Bill Bordill is a director with Decipher Consulting.**



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**This much I know**  
**Jennifer Bradfield**  
 Project director, John Sisk & Son

## 'Don't be afraid to ask questions and proactively challenge the norm'

Good communication is the key to working in construction, Sisk's project director tells **CM**

### What made you go into construction?

I was always curious as to how things came together to create something new – whether I was building Lego, taking apart old radios and attempting to put them back together (albeit not very successfully) or watching my grandfather update the home.

By the time I was in secondary school, having watched my mum manage our home being built, I was drawn to construction, technical drawing and physics to learn more about the built environment. This led me to studying architecture, then construction and project management.

### What do you remember from your first project?

For my first onsite project I was a site manager on refurbishment work in a pharmaceutical factory in Donegal Town. Coincidentally this was a factory my father had once worked in and I had visited. So it was exciting, and humbling, that the factory corridors I once walked through as an inquisitive little girl were now the corridors I walked as a young woman starting her journey in construction.

### What was the best advice you were given?

Be able to talk to everyone equally and effectively. The ability to communicate is one of the most important skills you will ever learn. Having lived abroad for 10 years, working with international teams, it is vitally important to learn how to effectively communicate with everyone, which sometimes involves more listening than talking.

### Is there anything in your career you would do differently now?

I would have learned to stop doubting myself and my capabilities and encouraged myself to take more risks from an early stage in my career.

### The immediate benefit of a more inclusive industry is that it widens the spectrum for innovative ways of working and delivering projects

Jennifer Bradfield,  
 John Sisk & Son



### What advice would you give to someone starting in construction?

Don't be afraid to ask questions and proactively challenge the norm. People will do things the way they know works, which may not always be the best way.

### How would you make careers in construction more appealing?

The industry is on an upward trajectory for diversity and inclusion, but we need to be visible with it. There are endless opportunities and we need to make that visible. The immediate benefit of a more inclusive industry is that it widens the spectrum for innovative ways of thinking, working and delivering projects.

### What has changed most since you've been working?

The industry is becoming more dependent on technology – which in many ways is beneficial, however there is a balance to be made. People are forgetting that sometimes having an onsite discussion in front of the problem is 100 times better than looking at it through a computer screen. Conversely bringing technology on site in effective ways is changing the way we work.

### Do you have a motto that applies to your work and if so, what is it?

Grace Hopper once said: "It's easier to ask forgiveness than it is to get permission." If you have an idea that will help the project or business, don't be afraid to bring it to the table. ●



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**Job spotlight**  
**Maggie Chandler**

Head of customer experience, Skanska UK

## Customer service

A newcomer to the industry, Maggie Chandler is driving a new focus on customers

### What is a typical day in your role?

Skanska UK is embarking on an ambitious plan to transform the experience we provide to our customers. I spend a lot of time listening to better understand our customers' strategic priorities and ultimately what's most important to their customers: road users, passengers, landlords, building occupants and so on.

I'm also building a new team, so I'm spending lots of time with them. We're all getting to know each other, our key strengths and development areas. The concept of customer experience is relatively new in this industry. I'm also working right across our organisation to help people understand how great experiences can help deliver better bottom-line performance and improved employee engagement.

### What does customer experience involve? What are the key skills? What is the most challenging aspect and the most rewarding?

It's a wide-ranging role covering the account management of our strategic customers, customer engagement, driving awareness of customer experience, business improvement, culture-change and overseeing public affairs activity.

But at its heart there's a simple task. It's about ensuring Skanska's end-to-end experience makes it easy for our customers to do business with us. You need to be a good listener, able to empathise with other people's perspectives, and demonstrate that feedback has been listened to and will be actioned.

As far as challenges go, as a newcomer to construction, I've had to learn the lingo of the industry pretty quickly – but I think I can tell my BIM from my BOQ by now!

### I spend a lot of time listening to better understand our customers' strategic priorities and ultimately what's most important to their customers

Maggie Chandler,  
Skanska UK



The most rewarding aspect is when people realise how a positive customer experience can transform a business's performance and deliver tangible benefits all the way through the organisation.

### You joined Skanska from outside the construction industry. What can construction learn from other industries in this area?

Customers are human beings. Regardless of sector, they want similar things: to work with an organisation that understands their objectives and can help them deliver them with expertise, quality outcomes and value for money. If all that can be done with minimal effort on their part and within agreed timescales, then all the better.

### What plans do you have for Skanska?

So many plans! An early enabler is a toolkit that will help our people deliver a consistent experience and we're also using feedback from our customers to review our current ways of working. Watch this space. ●

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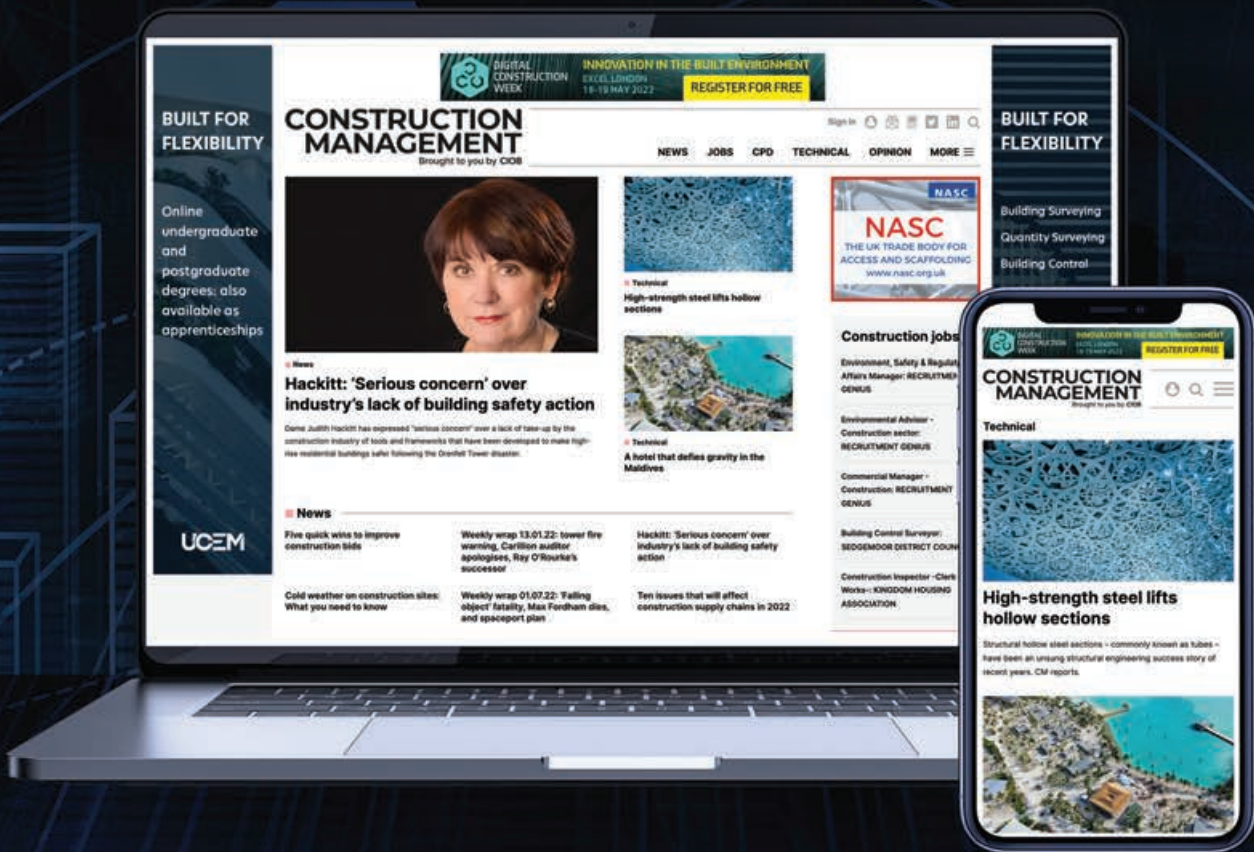
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- Student wellbeing – looking after number one
- Networking – making professional contacts, building likeminded connections from across the globe and getting ahead. ●

**See what happened at the CIOB Student Festival 2021 at <https://vimeo.com/showcase/8491404>. Register for the festival by visiting [events.ciob.org](https://events.ciob.org).**

## CIOB's virtual festival brings student members together

Two-day gathering offers technical insights and practical careers advice for students worldwide

**The CIOB Student Festival** is taking place on 9 and 10 March. This two-day event, now in its second year, brings CIOB student members from across the world into one virtual space. The purpose is to inspire, inform and celebrate student members.

Those attending can expect to take away meaningful messages from a diverse community at varying points of the career spectrum. They will be able to benefit from technical and practical insights, professional points of view and personal wisdom relating

▲ The event aims to inspire, inform and celebrate student CIOB members

## University offers BIM placement opportunity to businesses

Work with students on implementing case studies

The CIOB-accredited University of West of England is looking for companies to participate in its BIM consultancy initiative.

Businesses will work with MSc students from the university's BIM in Design Construction and Operations course to develop and implement a BIM case study of their choice.

The placement consists of two stages: first, the students will help to define and determine the feasibility of the case study and establish a 'roadmap' for implementation; then each student will develop an in-depth aspect of the case study, as agreed with the company.

The next intake is in June and involves eight contact days over a seven-month period.

Interested companies should register at <https://infohub.uwe.ac.uk/employers/Form.aspx?id=42561291> or, for more information about the scheme, contact [clare.barber@uwe.ac.uk](mailto:clare.barber@uwe.ac.uk)



# New scholars embark on research programme

Selected candidates for Sir Ian Dixon Scholarship get started on 12 months of research



▲ Claire Mullen was one of 2021's scholars

## This month sees the start of the

2022 Sir Ian Dixon Scholarship. The scholarship, named after CIOB's president from 1989 to 1990 and head of Willmott Dixon, is designed to provide an opportunity for companies to develop the potential of their staff through a research programme.

Each successful scholar will be awarded £3,000 to carry out a research project while continuing to work. The subject of the research is proposed by the applicant, addressing topical challenges and opportunities facing the industry.

At the beginning of the process, the candidate is invited for interview and gives a presentation to a panel

of representatives from CIOB and the Worshipful Company of Constructors Charitable Trust.

Once selected, the candidate will then meet with experts every few months to receive support and mentoring and at the end of the 12-month scholarship period presents their research findings. The scholar must also produce a report or other suitable outputs which detail the findings of the work.

Last year's scholars were Claire Mullen and Jamie Tong. Mullen is chief engineer for Sir Robert McAlpine and the chair of its Gender Equality Network. She was an award-winner at the National Association of Women in Construction Award 2012. Her research explored gender equality in the construction industry.

Tong is an apprentice building services engineer at Sir Robert McAlpine. He is studying for a Bachelor of Engineering one day per week at London South Bank University. His research explored the implications caused by utility strikes during construction and their potential mitigation.

Tong presented his findings at an event in January which was followed by a round-table discussion attended by CIOB president Mike Foy and vice president Sandi Rhys Jones, with other industry professionals. ●

**View Jamie Tong discussing his research and how the scholarship helped his career at <https://lnkd.in/e6DrRgMJ>.**

## Obituary: Roy Rodda

Roy Rodda has passed away aged 74.

A stalwart supporter of CIOB in Cornwall throughout its many different management structures for 35 years, Rodda carried out various voluntary managerial roles within the institute – sometimes more than once – to ensure there was a management structure in Cornwall that members could rely on.

He encouraged and supported many individuals within the institute and was influential in many construction careers.

A CIOB associate said: "We were lucky to have such a kind and considerate man within the ranks and he will be sorely missed."



## CIOB fellow's work ethic recognised with global award

Velux rewards contribution of Barbara Entwistle

Barbara Entwistle, a CIOB fellow and the chair of the Preston Hub, was presented with an award by her employer Velux in January.

The Velux Board of the Employee Foundation awarded Entwistle, an area manager in the north west, the global Villum Kann Rasmussen Award for her significant contribution to the VKR Group's objective of being a model company.

Entwistle was one of only 14 people in the Velux global organisation given the award for 2022. She was presented with a Longines watch and a gold necklace at a presentation in Scotland.

The award is named after the founder of the VKR Group – Velux's parent company – who formulated the company objective. Employees contribute to the realisation of this in many ways – through exceptional commitment, a high degree of loyalty, a substantial, high quality work effort, and the ability to show initiative and develop ideas.

Velux said: "Barbara does her day job to an extremely high standard, she works tirelessly, and supports all at work, and in her community. She is an accomplished manager, yet a very down to earth and helpful and approachable person.

"She has always coached and mentored less experienced work colleagues and always has time to teach and mentor others with her wealth of construction and Velux experience. Barbara's skills and compassion have always been part of her persona."

Barbara told *Construction Management* she was "absolutely delighted" with the award, saying it was "a great honour for me".

# Training partner's MD sets out to follow in Mallory's footsteps

Forshaw Group's Liam Hanlon celebrates climber's centenary with attempt to climb Mount Everest



**This month Liam Hanlon, the** managing director of a new CIOB training partner, the Forshaw Group, will be heading to Nepal with a group of lifelong friends from Wirral in readiness for their attempt in May to climb Mount Everest.

The Tri-4-life team will be retracing the famous steps of

George Mallory in a centenary celebration of the 1922 British Mount Everest expedition.

This was the first mountaineering expedition with the express aim of making the first ascent of Mount Everest. This was also the first expedition that attempted to climb Everest using bottled oxygen.

▲ Tri-4-life Centenary Challenge Team: Liam Hanlon, Phil Walton, Martin Pritchard Howarth, Steve Hayes, Jonathan Fairhurst and Paul Cubbins

The 1922 expedition attempted to climb Everest from the northern side out of Tibet, as the south side out of Nepal was closed to Western foreigners. But in a twist of fate, the Tibetan route has just been closed, so the Tri-4-life team will attempt the summit from the southern side out of Nepal.

As young boys the Tri-4-life team played on the Merseyside streets walked by their Everest heroes Mallory and Andrew Irvine. Hanlon, the team director, said: "It will be a huge honour to follow in their footsteps exactly 100 years since their pioneering endeavour."

The 2022 team has self-funded four years of preparation and will be supported by Adventure Peaks while raising funds for Community Action Nepal, the Wirral University Teaching Hospital and the Countess of Chester Hospital NHS Foundation Trust.

The team have completed five weeks high altitude training in the Himalayas at the end of last year as they tested themselves in preparation for their attempt.

The team said they feel confident in their preparation, discipline, fitness and ability, and feel well prepared for Everest. The expedition will be raising funds for a Sherpa museum in Nepal as well as shelters for the mountain porters. ●

**To follow the team's progress or donate, visit: [www.facebook.com/Tri4LifeEverest2022](https://www.facebook.com/Tri4LifeEverest2022).**



## CBC moves into modern new home

Bradford firm JB Langley continues to grow

◀ JB Langley's new Bradford premises

CIOB Chartered Building Consultancy JB Langley has expanded into new premises. The Bradford-based architectural and structural engineering services firm opted for a modern fit out for its new home.

The move is the next step in growth for the firm, which gained its chartered consultancy status last year.

Director Christian Richards MCIOB said that gaining chartered status

was a logical development. "The accreditation demonstrates the skills and competences that we hold. This is a globally recognised standard for professionalism," he said.

"We feel that this reassures our clients that they are in good hands. In addition, being a member of the CIOB opens up fantastic opportunities for networking and CPD progression."





▲ Claire Bruce's Dungeness cottage with its new cedar cladding

## Finding the ingredients for a MasterChef semi-finalist

CIOB member Chris Lamb helped Claire Bruce to put everything in place to upgrade her Dungeness cottage

**Invvu project manager and CIOB** member Chris Lamb has helped a recent client – 2021 MasterChef semi-finalist Claire Bruce – make her plans for her cottage in Kent come true.

In 2020 Bruce wanted to transform 300-year old Lloyds Cottage in Dungeness, but was struggling to find a builder to undertake the works.

Invvu Construction Consultants conducted a measured building survey, drew out the existing layouts and got to work with Bruce – sketching ideas, discussing budgets, changing layouts and suggesting energy efficiency options. Invvu then prepared a tender pack and invited various companies to bid for the works, which were won by Addison Construction and Civils.

The new sunroom at the rear of the cottage offers panoramic views of Dungeness's unique landscape. The new cedar cladding was carefully sourced and the previous cladding used to create a one-of-a-kind bespoke kitchen/diner floor with the old Lloyds Cottage lettering still visible underfoot. ●

**The new cedar cladding was carefully sourced and the previous cladding used to create a one-of-a-kind bespoke kitchen/diner floor**

### NEWS IN BRIEF

#### Site visit shows best practice waste management

CIOB members can attend a site visit to Queen Elizabeth Place Retirement Living in Alton, Hampshire, on 3 March to learn how McCarthy Stone is managing waste.

As part of the tour senior site manager Jeff Blackman will explain how McCarthy Stone has managed to go 21 weeks without a general waste skip.

#### Excellence awards

Four University of West of England students have been awarded Certificates of Excellence for achieving the highest marks on a CIOB-accredited degree course.

The high achievers are: Olivia Hull, for her BSc (Hons) in Quantity Surveying and Commercial Management; Francis Mascarenhas for his MSc in Construction Project Management; Levi Jones for his BSc (Hons) in Construction Project Management; and Richard Moore for his BSc (Hons) in Building Surveying.

#### Welsh CBC closes

Lloyd Building Services, North Wales's first chartered building company has closed its doors for business following the retirement of partner Tony Lloyd.

Established in 1987, Lloyds became the first CBC in North Wales in January 1994, soon after the inception of the Chartered Building Company scheme.

Lloyd was also heavily involved with the CIOB during his career. He joined the CIOB when in college in 1977 and became more actively involved with the Chester & North Wales centre in 1992 when he became MCIOB.

He also served as chair of the Chester & North Wales centre and from 2001 to 2003 served as chair of the Liverpool, North Wales and Cheshire branch. He continued to serve on the centre committee until very recently.

#### Update on new building regs and clerk of works role

An event covering building regulations and the importance of the role of the clerk of works will take place on 10 March in Southampton.

Neil Ferris, building control partnership manager at Southampton City Council, will provide an update of new Parts F and L, Part O (Overheating) and Part S (Electric Vehicle Charging).

Rachel Smalley, technical policy division department for Levelling Up, Housing and Communities, will explain Part M of the government building regulations and Jerry Shoolbred, clerk of works at Shoolbred Site Inspections, will be speaking on the importance of the clerk of works role for both safety and quality on site.

Register for the event at [events.ciob.org](https://events.ciob.org).



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## One to watch

**Jack Bennion**

Designer, Redrow Homes

DAVE BAGNALL PHOTOGRAPHY



**You have a degree in architectural technology – what made you choose construction?**

One of the benefits of being a member of CIOB is it is multi-disciplined. Meaning there are members who are site managers, quantity surveyors and, in my case, designers. So I am very much bringing my architectural training to the forefront of my work and adding my technical knowledge to the build progress.

**What are your career ambitions?**

I love my job and I am passionate about design. I am happy with the way my career is progressing, although my ultimate goal is to be in a position to be making the important decisions. My dad runs his own business so I suppose that sense of leadership has rubbed off on me. I am ambitious enough to say that one day I would like to be a manager or director of a large team.

**You gained MCIOB status really early in your career? Why did you want that?**

When I graduated from university I knew I wanted to gain my chartership. It surprises me more people are not chartered or working towards their chartership. That is why I stay heavily involved with CIOB – to inspire the next generation of our industry.

**What would you say to any student looking to enter construction sector?**

Construction has so many myths surrounding it. We get a poor reputation for having only low-skilled and low-paid jobs. In reality, these make up a small minority of our industry. There are many highly intelligent, highly skilled people in the industry – site managers, engineers, quantity surveyors and trades.

Ultimately, working hard and being dedicated is the advice I would give to any student or graduate. In any industry, not just ours, your aspirations and ambitions can only be met if you work hard.

**What do you do in your spare time?**

In my spare time I volunteer as both a Beaver and Scout leader. As a former Scout, this is my way of giving back to my local community. It's also good fun. I am also a huge Manchester City supporter and regularly attend games at the Etihad.

## Ex-soldier builds castle to help people

Mike Allen's 'therapy fort' will host wellbeing days for CIOB Wales

▼ Mike Allen in his self-built castle



**CIOB Wales Hub is planning to**

organise wellbeing days at a stone castle built into the side of a Welsh mountain by a former soldier.

Over the past three years, ex-lance corporal Mike Allen, 41, has hoisted stones up a steep hill on Mynyddislwyn mountain, near Wattsville, Gwent, to build a 'therapy fort' to help veterans, NHS staff and others rebuild their mental health.

The site is now home to his charity Endex, which supports the rehabilitation of veterans and others suffering with their mental health. It provides skills-based courses, offering qualifications in areas including mental health, first aid and dry stone walling – as well as 'wellbeing experiences', including

yoga, meditation and fitness classes, adventure training, animal care and family-oriented activities.

Allen, who was previously homeless, first hit the news when he built a wooden hideaway as a way of dealing with his PTSD – only to see it bulldozed in 2018 because he didn't have planning permission.

But a year later a local landowner gave him permission to build his stone castle with a wooden roof as a safe space for struggling veterans.

Construction was helped by the Dry Stone Walling Association of Wales, which, along with some veterans, taught Allen the right technique.

The structure is made from over 100 tonnes of stone that Allen collected and logs he chopped from damaged trees. "For every one hour of building, you have five hours of collecting stone. It's small steps every day that make the biggest difference," he said in an interview.

CIOB Wales Hub is planning wellbeing days at the castle as well as supporting the Dry Stone Walling Association courses.

The castle itself can sleep six people and comes complete with a gym area, cooking facilities and a giant chessboard. So far, more than 2,500 people have visited, including children and adults with special needs, local community walking groups and fitness enthusiasts. ●

**See photographs and footage of the build at [www.facebook.com/endexcommunity](https://www.facebook.com/endexcommunity).**



# Outstanding performance

**Harry White**, project manager at Morgan Sindall, shares his experience working on Ash Manor School – a new £4m stand-alone purpose-built Performing Arts Centre



**The Performing Arts Centre (PAC)** at Ash Manor School in Ash, Surrey, is a new 10,763 sq ft building – a combination of both single and two-storey – that will primarily house a theatre. Alongside the performance space, Morgan Sindall Construction has delivered a control room, stage seating and lighting areas.

As project manager I was responsible for the scheme from the start to completion. My role included project planning and communicating with the client to minimise disruptions and delivering the school on schedule to a high quality.

I also looked after site safety – ensuring all members of the team were adhering to health and safety rules and identifying risks and

concerns, liaising with the team to prevent any issues.

The centre also contains six new classrooms, including two drama rooms, two music rooms and two science labs. To futureproof the investment, all rooms feature flexible interior design features, allowing them to adapt to activities, group sizes and individual pupil needs.

The project was procured through the Orbis Partnership framework, a shared services partnership managed by the local authority with Brighton and Hove City Council and East Sussex County Council.

Solar panels were installed to provide a more sustainable source of energy and reduce carbon emissions. A tree protection zone was also



▲ Stairwell and entrance of Ash Manor's PAC



▲ Harry White of Morgan Sindall led the project

established to ensure trees in the school's grounds were retained for wildlife protection purposes.

The build delivered a great deal of satisfaction for all on site. Throughout the project we established core values regarding the supply chain and procurement of key suppliers which supports the local economy and provides jobs.

Communication about the project enabled us to maintain a good relationship with the client and local area. We also avoided overcrowding on site and disruptions by timing deliveries to suit the school.

It wasn't without its challenges, of course. Working during the pandemic caused issues within the leading time and supply chain which had to be managed throughout our procurement. Through constant communication with the suppliers, we were able to mitigate this.

We also had to manage sites through strict Covid procedures to ensure a safe working environment. This included additional site cabins, one-way systems, face coverings and strict cleaning of facilities.

Thanks to everyone pulling together, we managed to avoid any significant outbreaks and site closures.

Throughout the project I learned about key engagement within our supply and material suppliers, and built relationships with stakeholders such as the community and school. ●

**Harry White is a project manager for Morgan Sindall.**

# Building on our heritage

The return of the CIOB Conservation Conference heralds support opportunities



▲ Detailed carving on Church House, Westminster, where the conference will be held

**CIOB's popular annual Conservation Conference** celebrates its 15th anniversary this year with a return to a face-to-face event after a two-year virtual break. The conference will take place on Tuesday 26 April at Church House, Westminster, London, in partnership with English Heritage. The theme for 2022 is: Our Built Heritage – Lessons for Resilience.

The event will be chaired by CIOB CEO Caroline Gumble and president Mike Foy, joined by guest speakers including Dr Robyn Pender (Historic England), Graham Bell (Cultura Trust), Professor May Cassar (UCL Institute of Sustainable Heritage), Rob Woodside (English Heritage) and Professor John Edwards (University of Wales Trinity St David).

Participants will learn how key organisations in the UK and Europe have responded to recent events – with Covid and climate change at the forefront. Typically, governments the world over are reacting to the consequences of climate change by imposing knee-jerk legislation which is inappropriate for traditional buildings – causing problems which will need to be resolved in the near future.

A series of case studies will explore how we can ensure that our built heritage remains fit for future generations without undue drastic compromise, as well as what training, education and standards there should be, and how we need to learn to adapt to meet requirements now and in the future.



**Participants will learn how key organisations in the UK and Europe have responded to recent events**

This highly thought-provoking conference will provide invaluable CPD for anyone in the heritage sector and we very much look forward to welcoming everyone back.

Refreshments will be served in the exhibitor hall, giving delegates the opportunity to catch up. Discussions and networking continue with a post-conference drinks reception.

## Support options

If your organisation works in the heritage sector, you may wish to get noticed in one of the following ways:

- Gold sponsors enjoy a plenary presentation as part of the main conference agenda. Feedback tells us that delegates particularly enjoy case studies that bring the topic to life. Equally, you might choose a more detailed technical piece where the audience will be inspired with new ways of working. Speakers are also invited to participate in a live discussion panel. The opportunity to exhibit in a prime location is included in the package, as well as 10 x day delegate passes, for £12,000 + VAT.
- A silver sponsor hosts the drinks networking session at the end of the conference – an informal but welcoming setting. Other benefits include branding across the event and two free delegate passes, included in the cost of £3,000 + VAT.
- There are also a couple of limited spaces to exhibit at the conference, designed for companies whose products and services are relevant to this audience. A bronze sponsorship at £850 + VAT gives the opportunity to showcase with a tabletop exhibition stand and two free delegate places. ●

**Further information on sponsorship opportunities and tickets are available at [events.ciob.org](https://events.ciob.org) and from [sponsorships@ciob.org.uk](mailto:sponsorships@ciob.org.uk).**



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## Diary dates

Highlights of the CIOB Calendar for the coming month. All events are online webinars unless otherwise stated

### Equality, Diversity and Inclusion: The benefits of a commitment to inclusion and accessibility in the built environment

► 1 March, 12-1pm

The built environment is for everyone – and the more inclusive and diverse the industry can become, the more it will serve the needs of our communities.

The first part of this webinar is presented by Mark Harrison, head of EDI at CIOB, on the state of diversity and inclusion in the UK construction industry, why EDI is so important, what the CIOB is doing about it and what employers and employees can do themselves to further this important issue.

The second half, led by Sarah Sorrell, surveyor and access consultant for Oakley Estates, will look at the need to be inclusive, how to be an accessible business, designing with access in mind

and will cover the legislation and obligations driving this.

We will also look at the specific challenges of renovating and developing historic and regulated buildings and will discuss the positive outcomes of improving accessibility and inclusion within a heritage setting.

Please register for a link to join the webinar nearer the date.

**Contact:** [vcoxon@ciob.org.uk](mailto:vcoxon@ciob.org.uk)

### Birtley to Coal House ecology presentation

► 2 March, 9-11am

Join the Newcastle Hub for this live webinar presented by Mark Wilson, senior ecologist at Costain.

He will give a synopsis of the detailed design and pre-works ecological survey undertaken to mitigate against impacts to protected, priority and invasive species, focusing on the A1 Birtley to Coalhouse road improvement scheme near Gateshead.

**Contact:** [dtorpe@ciob.org.uk](mailto:dtorpe@ciob.org.uk)

### New National Children's Hospital project

► 16 March, 12.30-1.30pm, Ireland

Join CIOB Dublin Hub for a CPD with Howard McDonagh, construction director for BAM Building and project director for the New Children's Hospital in Dublin.

McDonagh's presentation will give an introduction to the project, with information about the team and the challenges of the project, a progress update on its current status and handover rates metrics.

**Contact:** [uhennigan@ciob.org](mailto:uhennigan@ciob.org)

### The Entopia Building retrofit

► 16 March, 4-6pm, Cambridge

It's now just over 10,200 days until 2050 – the date when over 110 countries have committed to a legally binding agreement on net zero carbon emissions.

ISG is blazing a trail when it comes to the built environment's carbon impact by transforming a 1930s telephone exchange in central Cambridge into a world-leading example of ultra-sustainable retrofit. The building will become Cambridge Institute of Sustainability Leadership's (CISL) home in Cambridge.

In this face-to-face CPD session, join ISG and CISL as they take you through the challenges they faced in designing and constructing against these sustainability requirements and outline the solutions they adopted to ensure success.

There will be a presentation with the ISG and CISL team, followed by a tour of the building and light refreshments.

**Contact:** [hhosking@ciob.org.uk](mailto:hhosking@ciob.org.uk)

### Newcastle Annual Dinner

► 18 March, 6.45pm-1am

Join your industry colleagues and fellow professionals for an excellent night of fine dining, entertainment and networking in Newcastle. John Barnes will be the guest speaker.

A table for 10 is £700 + VAT, while individual seats are £75 + VAT. Sponsorship packages are available.

**Contact:** [dmoore@ciob.org.uk](mailto:dmoore@ciob.org.uk)

### Maidstone Construction Professionals' Dinner 2022

► 31 March, 7pm-12.30am, Maidstone

The Maidstone Construction Professionals' Dinner, now in its 17th year, is accepted as one of most prestigious construction dinners in the south east.

The event is supported by construction professionals across a wide range of disciplines with a restricted guest list of 180.

With its diverse guest list, this event will provide a unique opportunity for like-minded professionals to meet in a sociable environment for an enjoyable evening.

**blawrence@ciob.org.uk**

**For a full list of events and to register visit [events.ciob.org](https://events.ciob.org).**



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**Circulation:** Net average 31,275

Audit period: July 2020 to June 2021

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Construction Management  
Published for the Chartered Institute of Building by Atom Media Partners,  
26-27 Bedford Square, London  
United Kingdom. WC1B 3HP  
[construction-management@atompublishing.co.uk](mailto:construction-management@atompublishing.co.uk)

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