

SUSTAINABILITY: HALCROW

SUSTAINABILITY: AND YOU

Sustainability is a popular word, but what do engineers think it means? We asked staff at consultant Halcrow to give their views, starting with the company's new technology and innovation director **Tim Broyd**.

These days, "sustainability" is a standard part of vocabulary, but a few years ago, when Halcrow adopted the phrase "sustaining and improving the quality of people's lives" as its purpose, the word was only just entering people's consciousness.

So what made the consultant nail its colours to the sustainability mast, and what does the word mean to Halcrow today? "I think people who work here really are driven to do a good job," says Tim Broyd, who recently joined the company as group director of technology and innovation. "Sustainability seems to be almost in the DNA of the place."

Broyd's remit includes heading up Halcrow's new sustainability taskforce, which has pulled people in from across the business (and around the world) to formulate and drive the company's sustainability strategy. "We've got a number of islands of absolute excellence, and we're doing a lot of things that other people aren't even talking about," he says. "My job is to pull that all together, to get Halcrow to a point where it is not just aware of current regulations and requirements, but also involved in developing those regulations and, eventually, influencing them."

Before joining Halcrow, Broyd was chief executive of industry research organisation CIRIA. He says he has developed a "growing personal interest in sustainability", but "not in the tree-hugging sense".

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Halcrow has a strong code of business ethics, and Broyd thinks it likely that the company will



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Tim Broyd, Halcrow

eventually take the same view of sustainability, but in the short term "we should be looking to provide clients with the best set of options, and an understanding of the issues".

Sustainability issues are far from black and white, as debates on airport expansion and nuclear power demonstrate, and Halcrow hopes its expertise will help clients find a way through some of the more complex and controversial topics. "You can't look at airport expansion without looking at the impact on local travel and the impact on the economy," says Broyd. "You've got to try to sort out these things together in a holistic sense." The work of the new sustainability taskforce may formalise the company's approach to this issue, but Halcrow staff already have a high level of awareness, according to Broyd.

"When we bid a job we look at the overall risks," he says, "and that increasingly involves looking at the sustainability fit."

What's your view?



Scott Armstrong
Building structures

Scott Armstrong has recently taken on the role of manager of Halcrow Yolles' sustainability group in Toronto. "I'm thankful that my corporate position has positioned me so that I can put my own personal beliefs into action," he says. "My family and I choose to live downtown, I bike into work, and we buy renewable energy. We're very invested in the community in which we live."

Professionally, one of Armstrong's specialisms is making existing buildings more sustainable. "We're stuck with a lot of buildings that we need to make more efficient," he says. "They far outnumber new construction."

The company has a strong reputation among developers in Toronto for the physical assessment of existing buildings, and has recently found that clients are asking for that to be supplemented by performance assessment. "If an owner is looking to buy a building, it may be more interesting for them to know what they can do to make it more efficient," explains Armstrong. "Or if they are selling, they will be trying to position it in the market, so it's in their interest to demonstrate that it's sustainable in the wider context."

Armstrong is accredited to carry out assessments under the Leadership in Energy and Environmental Design (LEED) green building rating system, an initiative from the US Green Building Council that is similar to the UK's BREEAM system.

"We don't have an existing building version in Canada yet, but they do in the US, and it will soon migrate to Canada. We're at the leading edge, so that will put us at the top table."

What does sustainability mean to you? Let us know at nce.co.uk. Or email mark.hansford@emap.com.

This survey is being produced in association with Halcrow. See the back page for more information on the company, or visit www.halcrow.com



Shaunette Babb
River engineering

A two-year stint on Halcrow's Broadlands flood defence PFI for the Environment Agency on the Norfolk Broads has emphasised assistant engineer Shaunette Babb's belief that "nature knows best". "We've been designing flood defences that don't need much maintenance or input in the future," she explains. "That means using natural and recycled materials and staying away from piling because it is unsustainable."

The new defences tend to be embankments built with soft edges and fringed with local reeds. They are designed with stable, wide bases so they can be built up without too much difficulty in the future if water levels rise.

"The older defences were built on narrow bases, so if you needed to raise them, they had to be completely rebuilt," says Babb. "And piles would have to be replaced after 25 or 30 years."

"We won the Broadlands PFI on the fact that our bid was more sustainable," she adds. But sustainability in this case also means lower lifecycle costs, proving that the two often go hand in hand.

Babb says the Broadlands experience has made her think automatically about sustainability on other projects. "I'm aware that we want solutions that give longevity and reduce maintenance," she says, "but some things don't naturally lend themselves to that type of thinking and you have to consciously look at it and ask yourself if there is an opportunity to use a sustainable solution."



James Best
Bridges

Bridge engineer James Best has worked on high profile structures in both the UK and overseas, including a 3.5km long segmental viaduct on the Gautrain Rapid Rail Link project in South Africa and the Docklands Light Railway. He thinks sustainability is something the industry has been leading up to for many years through issues like CDM and environmental assessments.

"Bridge engineers have been looking for some time at wider aspects, like the safety of bridge users over the whole life of the bridge, the environmental impact of the products we use, and how it fits into the urban environment," he says. "These things have all been around for a while."

He adds: "We've all got a responsibility to make sure a society can grow economically, in sympathy with the environment and with the aspirations of the groups within that society."

But he is concerned that sustainability is still not a major factor for clients.

"At the moment, the key selection criteria for clients may not include sustainability issues. I suspect clients have aspirations, but it's not as high on their agenda at the moment as other issues – especially cost."

"At the moment," he continues, "knowledge of sustainability is a differentiator between the good and the best, but what we need to do as an industry is target clients and their advisors to bring sustainability to the fore. In terms of heavy civils we've got a little way to go, but the background is there, and it's not a quantum leap."



Claire Corcoran
Ports and terminals

Assistant engineer Claire Corcoran joined Halcrow in September 2006, and is currently working towards her ICE professional review in the company's Glasgow office.

"I work on maritime projects, so my idea of what sustainability is, is how we look at projects as we're designing them in terms of their environmental impact – not just now but in the coming years," she explains.

"We have to balance the needs of the project now and what might be needed a few years down the line in terms of materials, use of the structure etc. If you're designing a new port you've got to consider the future – for example if they are likely to be using larger vessels in future."

Corcoran says that when she graduated five years ago there was not the same focus on sustainability that there is now. "It's coming to the forefront now, so it's something I'm building an awareness of. As my career develops it will be something that's more taken into account. If you look at things like health and safety and environmental regulations, they've built up over the years to the point where they just become a regular part of the job. It will be the same with sustainability."

Much of Corcoran's work involves feasibility studies for new maritime facilities, and it is at this early stage, she says, that sustainability issues are best considered. "At the feasibility and initial concept stages you get to look at the long term issues and build sustainability into a project. Once you get to the detailed stage it's a bit too late."



Helen Samuels
Water and power.

Working with two of the most sustainability-aware clients in the UK has given water business regional operations manager Helen Samuels a keen awareness of the standards that can be attained. "We do a lot of work for the Environment Agency and the South West Regional Development Agency (SWRDA)," she explains.

"They are both trailblazers in sustainability, and that in turn influences us and gives us knowledge that we can take to other clients – particularly in the private sector, where there is a perception that sustainability means spending more money."

Samuels is project director for SWRDA's ambitious wave energy hub off the coast of Cornwall. Wave Hub gained planning approval two months ago, and earlier this month won the sustainability award at the Institution of Engineering & Technology's annual innovation awards.

"What we've learned from clients like that has enabled us to consider sustainability very early – always having it on our minds, not coming along as some sort of add-on at a later stage," she says. "It's become a habit for us now, and I genuinely believe that we're able to influence those clients for whom sustainability is not one of their core values, and demonstrate that it doesn't automatically mean spending more money."

Knowledge transfer underpins Samuels' understanding of what sustainability means. "It's important that we pick out the parts of the world where there is excellence in different areas. We can learn a lot from other parts of the world," she says.