

IBP Awards 2019

Architecture writer of the year entry

Will Hurst, managing editor, Architects' Journal

Introduction

The Architects' Journal's (AJ) new campaign RetroFirst calls for co-ordinated government action to promote reuse in construction and has already garnered support from five Stirling Prize winners, the RIBA, the UK Green Building Council and the Town & Country Planning Association among others.

The campaign builds on more than a year's worth of detailed and agenda-setting coverage of the climate emergency across all sections of the AJ, led by managing editor Will Hurst. Well before the UN Intergovernmental Panel on Climate Change's shocking report last autumn, the launch of Extinction Rebellion (XR) and Parliament's own climate emergency declaration, Hurst had identified embodied carbon as being a blind spot in the industry's response to climate change and had resolved to shine a light on this. He and other key members of the AJ team also recognised that while coverage could be questioning and hard-hitting, it had to avoid alienating or lecturing readers. Instead, articles needed to strive to empower

architects and promote the opportunity here for a problem-solving profession to be part of the solution. Since the beginning of the year, the AJ's coverage has also been influenced by an environmentally-focused group of leading architects and engineers informally brought together to advise the editorial team on this technical subject.

The article on concrete sparked a real debate about materials among readers when it appeared in January. While environmental articles are hardly 'click bait', it has had more than 3,300 page views since the start of the year. A month after the article appeared, The Guardian launched 'Guardian concrete week' including a feature by the newspaper's architecture and design critic Oliver Wainwright noting how concrete 'has become more fashionable than ever – at a time when its catastrophic environmental impacts are finally being noticed.'

The feature on the need for architects to wake up to the carbon emergency was the centrepiece of the AJ's dedicated 'wake up to climate change' issue in February and was

accompanied online by an attention-grabbing ticking clock gif created by AJ Art Editor Ella Mackinnon to match her front cover for the print issue. The article has had more than 4,500 page views to date. It appeared three months before the profession responded with the Architects Declare campaign, backed by 17 winners of the Stirling Prize and now supported by more than 600 architecture practices.

Hurst's interest in architects as environmental protestors has led to several articles including the news feature on full-time XR activists who trained in architecture. This came about by getting to know several members of the group and going to meet them at their London HQ. Like the rest of AJ's climate emergency coverage, the feature has been opinion-splitting but very well read on the website with more than 3,000 page views and 10 online comments.

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Supporting material 1/3

Do architects have their heads in the sand over concrete?

17 January 2019

www.architectsjournal.co.uk/news/concrete-do-architects-have-their-heads-in-the-sand/10038937.article

Do architects have their heads in the sand over concrete?

A report showing cement is responsible for 8 per cent of world CO₂ emissions has caused a social media storm and sparked a debate over the profession's love affair with concrete, writes Will Hurst

Daddy Pig is very fond of concrete. The bumbling character in the wildly popular kids' cartoon *Peppa Pig*, a probable architect and father of Peppa herself, even becomes the butt of a joke in one episode because of it.

Scouring around for a suitable bedtime story for herself and younger brother George, Peppa stumbles upon his library book *The Wonderful World of Concrete* and persuades Daddy Pig to read it aloud, a move that instantly sends everyone else in the family to sleep, including Mummy Pig.

It's safe to say that most architects are firmly in Daddy Pig's concrete-loving camp. So the news that the material plays not just some part, but a major part in our lurching progression towards a global warming catastrophe will be uncomfortable for many.

Research by the think tank Chatham House, reported by the AJ earlier this month, found that production of concrete's key ingredient, cement, is responsible for 8 per cent of global CO₂ emissions (see *box*), and called for urgent decarbonisation strategies, but also pointed out the rapidly growing global demand for concrete.

A provocative tweet by this author drawing attention to the story and accusing architects of 'fetishising' the 'planet-killing' material then sparked a debate with members of the profession variously putting forward alternative approaches, defending concrete and even denying that man-made global warming exists.

So why has this news hit such a nerve and just how inseparable are architects and concrete?



Furthermore, what alternatives are there to our current use of this material? And how likely is it that these can lead to a step-change in architect practice in the 12-year window the UN Intergovernmental Panel on Climate Change says we have to substantially reduce carbon emissions?

Concrete certainly has a special place in many an architect's heart owing to its appearance, versatility, tactility and durability and its starring role in the Modernist and Brutalist movements.

For Adrian Forty, professor of architectural history at the Bartlett and author of *Concrete and Culture*, concrete is revered not only because of its historical links with Modernism but because it provides a challenge to designers when used as a visible part of a building.

'It's really difficult to produce a very good exposed concrete building and, for that reason, architects regard it as a virtuous material,' he says.

'If you can do concrete well, you're a good architect. You can show you can do something that

'It's really difficult to produce a very good exposed concrete building and, for that reason, architects regard it as a virtuous material'

equals a Modernist masterpiece.'

In addition to this compelling aesthetic challenge, there's the opportunity concrete provides in terms of the structural feats it can accomplish, something demonstrated as far back as the dome of the Pantheon in Rome.

While acknowledging its high carbon footprint, writer and critic Owen Hatherley lauds it as a 'wonder material'.

He says: 'The interest in concrete is primarily because you can make it do things. So much engineering is reliant on it. It's also extraordinary in terms of texture when you look at the National Theatre or the Walsall Art Gallery.'

Hatherley is sceptical that architects will stop specifying concrete without government intervention, particularly

given the conservatism of the UK construction industry compared with more forward-thinking industries like that of Sweden.

'There's a minority of architects pushing alternatives and I welcome that,' he says. 'But by and large, architects do what the regulations tell them to do.'

Until now, many have also argued that concrete is a sustainable material because of its relative longevity and high thermal mass. When assessed purely in 'whole life' terms, they have a point.

But if you accept the scientific consensus that we have little more than a decade in which to keep global warming to a maximum of 1.5°C, then embodied energy becomes the most pressing requirement for a construction industry responsible for 35-40 per cent of all carbon emissions in the UK.

And there are signs that architects are waking up to this and the latest news on concrete.

Only last July the AJ featured concept designs for a new 300m² in-situ concrete home in rural Hampshire by Highgate-based Coppin Dockray.

But since the Chatham House research was publicised, this small practice has been considering a change of material.

'This really affects how architects think about their projects,' says co-founder Bev Dockray. 'If this project goes ahead, I think we need to do some research about the materials and decide if we do use concrete.'

'Most of our buildings are timber, but on this site there was an existing house made of concrete so there was support for the design echoing what was there.'

The RIBA is also beginning to highlight the importance of embodied carbon. It published a paper last year on the subject by carbon-profiling expert Simon Sturgis and joined a task force aiming to establish a working industry definition for zero net carbon buildings established by the UK Green Building Council.

So what exactly should architects, perhaps inspired to make a change like Dockray, be doing differently?

One of the answers is simply to prioritise refurbishment over new build where possible and to consider how buildings can be taken apart and reassembled and designed with this in mind.

Architect Duncan Baker Brown of BBM Sustainable Design is a strong advocate for the circular economy and reuse and recycling of local construction materials. He argues that a counterintuitive shift is needed away from ultra-low-energy-in-use systems such as Passivhaus to slightly more 'leaky' buildings that are reusable and cheap to produce in energy terms.

Such arguments will surely only strengthen as the National Grid's low-carbon credentials continue to improve thanks to the rapid growth of renewables capacity.

Another way forward is to use concrete and cement much more sparingly.

Structural engineer Chris Wise of Expedition Engineering argues that buildings are routinely designed with more concrete and steel than needed and suggests taxing such materials in the same way as petrol.

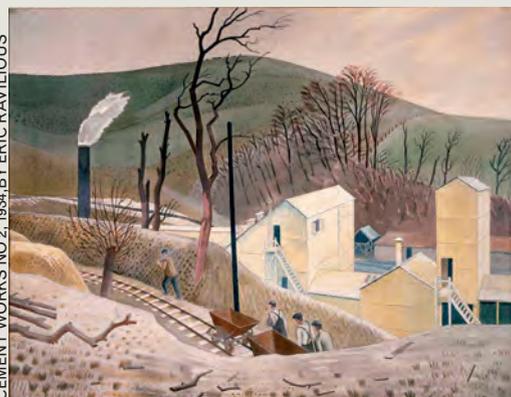
'Lots of people are looking at what to do about carbon



COMMENT

We need to talk about concrete

Fran Williams, technical editor



CEMENT WORKS NO.2, 1934, BY ERIC RAVILIOUS

It's the ingredients used in producing concrete that are the contributors to climate change, with cement the primary culprit. The industry emits nearly 900kg of CO₂ for every 1,000kg of cement produced – primarily the result of its necessary, but heavy reliance on abundant raw materials.

Cement comes in several forms and is generally made up of Portland clinker, gypsum, supplementary cementitious materials, fillers and water. It is then bonded with a composite of fine and coarse aggregate, which hardens the material.

Most of the emissions are intrinsically linked to the process for producing clinker. More than 50 per cent of the sector's emissions are released by the

calcination of limestone to produce this by-product, while a further 40 per cent is generated through the burning of fossil fuels to heat the kilns for the process – emissions that cannot be simply reduced by using alternative fuel sources or increasing the efficiency of cement plants.

And it's not just clinker production that is a problem. The 'binder' used to bond with the fluid cement is made up of a high concentration of sand. The mining, dredging and even stealing of that sand has become a huge problem. No less than 30 billion tonnes of sand and gravel is extracted every year purposely for the building industry, and this is having an extreme environmental impact on ecosystems as beaches and river beds are stripped all over the world.

Given that sand is the second-most used resource in the world after water, and can take thousands of years to form, this is an exponentially growing problem. Beaches are disappearing, farmland is becoming flooded with seawater and riverbeds are drying out – all as a result of such 'sand mining'.

And once sand is extracted from a river, for example, water flow can become more violent, lowering water levels in crucial bankside farming areas. In flood-prone zones where sand is essential in supporting the landscape as a sponge, this is increasing many communities' vulnerability to storm damage.

emissions, but clients ignore this as they're just interested in the money,' he says.

'Lean design principles mean not only are you using less material and less embodied energy, but it's also potentially cheaper, although it does require more collaboration between team members and costs more in fees.'

Wise says architects tend to be interested in this subject 'to a degree' but slams what he sees as examples of buildings where aesthetics have 'trumped' concern about embodied energy impact, such as Zaha Hadid's 2012 London Aquatics Centre.

'Because architects have a controlling hand in buildings, they are prone to misuse that power to produce things that are profligate,' he says.

There is also growing interest in using recycled aggregates in concrete and replacing cement with low-carbon alternative ingredients such as GGBS (ground granulated blast furnace slag) and PFA (pulverised fuel ash), both ironically by-products of heavy industry.

Practices such as Feilden Clegg Bradley Studios and LTS Architects have experimented with such technology, with the latter regularly achieving a 40-50 per cent level of cement



Waugh Thistleton's high-rise CLT project, 6 Orsman Road, London, currently on site

WAUGH THISTLETON

replacement in concrete used in its projects. While this is often cheaper, the downside is such concrete cures far more slowly than conventional concrete and there are not sufficient supplies of these cement alternatives.

So why aren't architects starting to turn their backs on

concrete? Certainly it remains vital for infrastructure projects in our rapidly urbanising world but – foundations apart – is it really necessary as a core part of the projects most architects work on day to day?

Practices such as SOM and Waugh Thistleton are strongly pushing timber and particularly cross-laminated timber (CLT) as a viable alternative, not least because trees absorb CO₂ as they grow. In a recent opinion piece for the AJ, Anthony Thistleton argued that what is needed is a worldwide network of working and sustainable forests and that mass CLT building is the means to create it.

'The simple truth is that we will only create more forests at the scale required if we massively increase demand,' he wrote. 'We also need a use for the harvested timber to ensure that the CO₂ stored is permanently secured.'

Others such as Amin Taha point to the benefits of using

stone in the way his practice did at 15 Clerkenwell Close (see page 26).

'We're now advising all our clients to either go for stone or full CLT for walls and floors with a rainscreen cladding on the outside,' Taha says.

He is particularly evangelical about stone, saying it has only 10 per cent of the carbon footprint of a steel or concrete-frame building 'even if you bring it in from abroad' and is cheaper to boot.

'The problem is lots of contractors are set in their ways,' he adds.

Architects should not imagine that they are the virtuous ones, however. Speak to Taha's engineering collaborator on Clerkenwell Close, Steve Webb of Webb Yates Engineers, and his anger about us sleepwalking towards disaster is quickly apparent.

'It's absolutely outrageous that an architect goes out and buys locally grown tomatoes at the supermarket, gets on their bike to work and thinks they are an environmentally conscious person while designing a concrete or steel-frame building,' he says.

'Architects and engineers are the ones making decisions, so why don't they engage with this?'



The Hive library in Worcester by Feilden Clegg Bradley Studios boasts a concrete frame made with 50 per cent GGBS

HUFTON AND CROW

'Because architects have a controlling hand in buildings, they are prone to misuse that power to produce things that are profligate'

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Supporting material 2/3

Architects, your house is on fire

28 February 2019

www.architectsjournal.co.uk/news/why-architects-need-to-wake-up-to-the-carbon-emergency/10040407.article

News feature

ARCHITECTS, YOUR HOUSE IS ON FIRE

The UN's Intergovernmental Panel on Climate Change has sounded an emergency alert. What can architects do to mitigate the huge impact of construction on climate change? asks *Will Hurst*

Twelve years ago, almost to the week, the AJ published an issue on sustainability and climate change. Looking back at the green-fronted 8 March 2007 issue provides a fascinating insight into how much (and how little) has changed. The issue, which came in the wake of the government's Stern Review on the Economics of Climate Change, featured work by architects who, still today, are among a small handful deeply concerned with carbon emissions and their effect on climate change. There was a retrofit of a 1970s Seifert tower in the City by Simon Sturgis and his practice and cartoons by Ian McKay of BBM Sustainable Design illustrating the principles of eco-design. No less than 20 pages were devoted to the UK Architecture Stand at MIPIM 2007, which had a 'green design' theme.

Things must come in twelves, because that, we are told bleakly by the UN Intergovernmental Panel on Climate Change (IPCC), is how many years we have left in which to limit global warming to 1.5°C above pre-industrial levels or face droughts, floods, extreme weather events and poverty for hundreds of millions of people. As the 16-year-old Swedish activist Greta Thunberg told global leaders at Davos last month: 'Our house is on fire'. If the blaze gets out of control, other parts of the world will be the worst affected. Yet the UK was among those experiencing severe wildfires last summer and one only has to glance at the effects on Europe of the migrant crisis to imagine the consequences of an influx of desperate people on an exponentially bigger scale.

So what has been the response to this metaphorical smoke alarm, ramped up a notch or two by the IPCC report? Some sections of society are beginning to mobilise, such as the thousands of school pupils from the #YouthStrike4Climate movement, who drew attention to the crisis by following Thunberg's

'THINGS MUST COME IN TWELVES ... THAT IS HOW MANY YEARS WE HAVE LEFT IN WHICH TO LIMIT GLOBAL WARMING TO 1.5°C'

Below
School students protest in London earlier this month against government inaction on climate change



#YOUTHSTRIKE4CLIMATE BY SOCIALIST APPEAL, LICENSED UNDER CC 2.0

WHO IS DOING WHAT TO TACKLE CARBON EMISSIONS IN CONSTRUCTION?

LONDON ENERGY TRANSFORMATION INITIATIVE (LETI)

LETI was launched in 2017 by environmental engineers Elementa Consulting. It is a voluntary network of more than 250 built environment professionals (including more than a dozen architectural practices), who have collaborated to develop proposals to revise London's energy policy. It believes that, by 2020, the industry needs to have developed a definition for what 'operating at net zero' means, with defined, measurable targets and a design approach. It estimates five years to sense check, refine and validate the approach to ensure that by 2025, all the buildings that are being designed operate at net zero. LETI's overall ambition is for all new buildings to achieve net zero by 2030.

UK GREEN BUILDING COUNCIL (UKGBC)

The UKGBC has launched a task force to unravel the debated definition of 'zero carbon', now reframed as 'net zero'. Four architects are among the industry heavyweights that make up the 35-strong group with a consultation currently under way until 1 March. The taskforce has recommended principles in five topic areas: disclosure; energy efficiency; renewables; offsets; and whole-life carbon. Recommendations, due in April, will be accompanied by potential policy levers at national and local level. The initiative is in response to a global campaign led by the World Green Building Council (WGBC), which is calling for all new buildings to be net zero carbon in operation by 2030, and all existing buildings to achieve this standard by 2050.

AMERICAN INSTITUTE OF ARCHITECTS (AIA)

In December the AIA penned an open letter to US president Donald Trump, imploring him to address climate change. It follows his decision to withdraw the US from the Paris agreement in 2017

and his recent rejection of a major report on how climate change will impact the economy. The AIA asked architects to sign its call to action; has helped set the federal 2030 net zero energy goals; and updated its code of ethics to address sustainability issues directly. It has also signed up to Architecture 2030, a voluntary disclosure initiative in the USA, which tracks operational energy use and has developed a building standard for new construction resulting in net zero-carbon buildings.

THE COMMITTEE ON CLIMATE CHANGE (CCC)

Last October, the UK government instructed the CCC to advise on whether the UK should set a target for net zero emissions. The watchdog will report back in May but last week published a hard-hitting report, which argued that the UK's housing stock is 'unfit' for tackling climate change (see page 12).

THE RIBA

The RIBA responded to the IPCC report by pointing to its alignment with the UN's Sustainable Development Goals, which, according to the institute, sit 'at the heart of everything we do'. Its newly established Ethics and Sustainable Development Commission recently made a series of recommendations, including drawing up a 'comprehensive plan' to drive the advancement of sustainable architecture. The RIBA's Sustainable Futures Group is also updating its Plan of Work, set to be published in the autumn, which will help project teams aim for meaningful sustainable outcomes in the brief, manage their delivery and undertake analysis up to three years after handover. *EJ*

'AT THIS YEAR'S UK GOVERNMENT PAVILION AT MIPIM, IT IS HARD TO FIND ANY REFERENCE TO CLIMATE CHANGE'

example and going 'on strike' around the country this month. But, even faced with climate change-related events such as the extreme devastation caused by Hurricanes Michael and Florence, dramatic data on the extent of melting ice at the earth's poles and starving polar bears invading towns in the far north of Russia, architects and others in the built environment seem to have lost interest.

Of course, some progress has been made in the past 12 years. New buildings have become more energy-efficient and pioneering architects are exploring radical new ways of using materials. Yet the focus on eco-design we saw over a decade ago has dissipated and, to be frank, so has the AJ's coverage. At this year's UK government pavilion at Mipim, it is hard to find any reference to climate change unless you count a talk about 'health, wellbeing and happiness'. While the government remains legally committed to the long-term goal of reducing greenhouse gas emissions to 80 per cent below 1990 levels by 2050 under the Climate Change Act 2008, there is an abject lack of joined-up thinking within Whitehall and precious little leadership from ministers, especially given the distraction of Brexit. At a design conference held this month in Birmingham by the Ministry of Housing, Communities and Local Government (MHCLG), architect and TV presenter George Clarke was alone in broaching the topic of global warming.

WHY ARCHITECTS ARE KEY

Architects are only a small part of the global system which got us to this point and it would be wrong to single out the profession or berate them for neglecting this subject. If architects are in denial, then so too are most business sectors and the media for that matter.

But what should give us pause for thought is just how carbon-intensive architecture is and, conversely, what impact for the good architects might make if they began to specialise in this subject and tackle it like social entrepreneurs. This is especially true when construction's carbon emissions are considered in the round, according to the principles of 'whole-life carbon' (WLC, *see opposite*).

The 35-40 per cent of UK carbon emissions said by the Green Construction Board to be caused by the built environment is a significant underestimate, because it refers only to the day-to-day carbon emissions of buildings in use. This is the part of the WLC equation that architects and measuring tools like BREEAM have focused on. The profession has commonly ignored the other part – embodied carbon. This relates to the building's physical properties and makes up between half and three-quarters of an individual new building's lifetime carbon emissions. Some of this embodied carbon is expended prior to practical completion – through material sourcing and production, transport and construction – and some afterwards, as a result, for example, of maintenance or replacement of a building's structure, envelope or environmental systems.

There seem to be few reliable statistics indicating what proportion of overall UK emissions come

HOW GREEN IS YOUR BUILDING, MR FOSTER?

Examining Foster + Partners' 2018 Stirling Prize-winning Bloomberg HQ building (*pictured*) solely from its operational energy use, the building does extremely well. The £1 billion City of London block is officially the world's highest BREEAM-ranked office building. A year's worth of in-use data confirm that it remains a highly efficient scheme, even with 4,000 staff working there. In fact, the BREEAM score for the building increased from 98.5 per cent in the design stage to 99.1 per cent post-construction

However, that is not the full story. As the Stirling jury's sustainability adviser Simon Sturgis pointed out while touring the building, the amount of embodied carbon in the project is massive, having gobbled up 'enormous resources used to create it', aimed primarily at 'maximising performance'. The structure includes 9,000 tonnes of sandstone transported from Derbyshire.

Sturgis wrote in the AJ: '[This] building is extraordinary, and indeed a sustainability laboratory; however, in my view it is not a truly sustainable building itself nor is it a model to others for the future.'

Perhaps if the building stands for 200 years – and it is certainly tough enough and flexible enough to last – then this initial environmental outlay may be seen more favourably.

Yet a whole-life carbon assessment would struggle to look beyond the huge volumes of non-renewable materials used. *RW*

from embodied carbon in buildings. However, the government's Technology Strategy Board (now Innovate UK) has estimated that about 45 per cent of WLC emissions in the UK come from buildings – 27 per cent from domestic buildings and 18 per cent from non-domestic buildings. Comparing that 45 per cent with the Green Construction Board's figure would suggest that UK construction is responsible for 5-10 per cent of the country's carbon emissions.

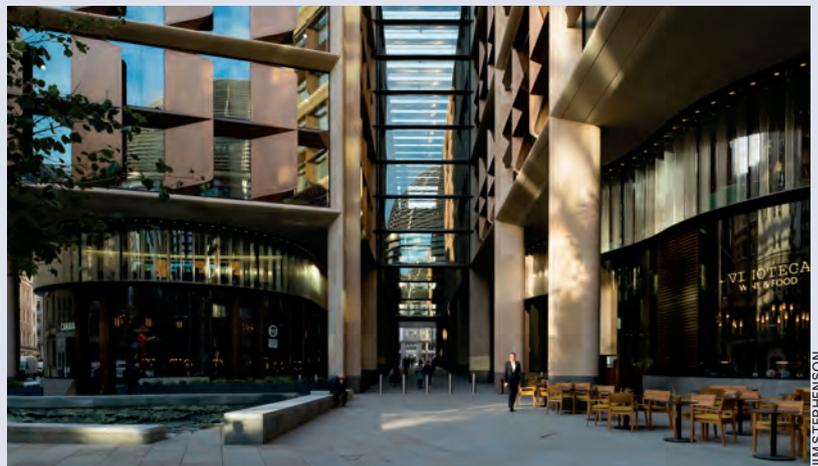
Awareness of WLC is growing, thanks to publications such as last year's RIBA report 'Embodied and whole life carbon assessments for architects', which builds on work by the Royal Institution of Chartered Surveyors (RICS) and aims to integrate WLC assessment principles with the RIBA work stages. Yet architects on the whole are failing to think deeply about the short and long-term carbon impact of the materials they use and the principles of the circular economy. How many were shocked by the recent Chatham House report on concrete, which highlighted the 8 per cent of global carbon emissions caused by the cement industry? How many were surprised by the row over the sustainability credentials of Foster + Partners' Stirling Prize-winning Bloomberg HQ, the world's highest BREEAM-rated major office building, which was nevertheless criticised for its heavyweight construction and high level of embodied carbon (*see left*)?

THE OPPORTUNITY TO GRASP

At this point, it would be easy to feel overwhelmed and question what impact architectural practices, already marginalised in the wider construction industry, can do about this enormous and systemic challenge. Part of the answer is to point out that there is a new role for architects here if they choose to grasp it. The decision-makers may have been slow to act but they can hear that smoke alarm and it is only going to get louder.

Even now, leading clients are looking to adopt WLC principles because they rightly see them as going hand-in-hand with cutting cost and reducing risk down the line. Developers such as Landsec and British Land and infrastructure companies such as Anglian Water are interested in low-carbon materials and the re-use and recycle agenda because they see it as akin to value engineering. They are increasingly concerned with a far more efficient lifetime use of resources and the need to avoid buildings becoming obsolescent.

While some in the industry might see fabric-dominated emissions as the responsibility of the services engineer, this is rightly the territory of the



UNDERSTANDING WHOLE-LIFE CARBON: THE BASICS

Whole-life carbon includes both embodied carbon and operational (in-use) carbon.

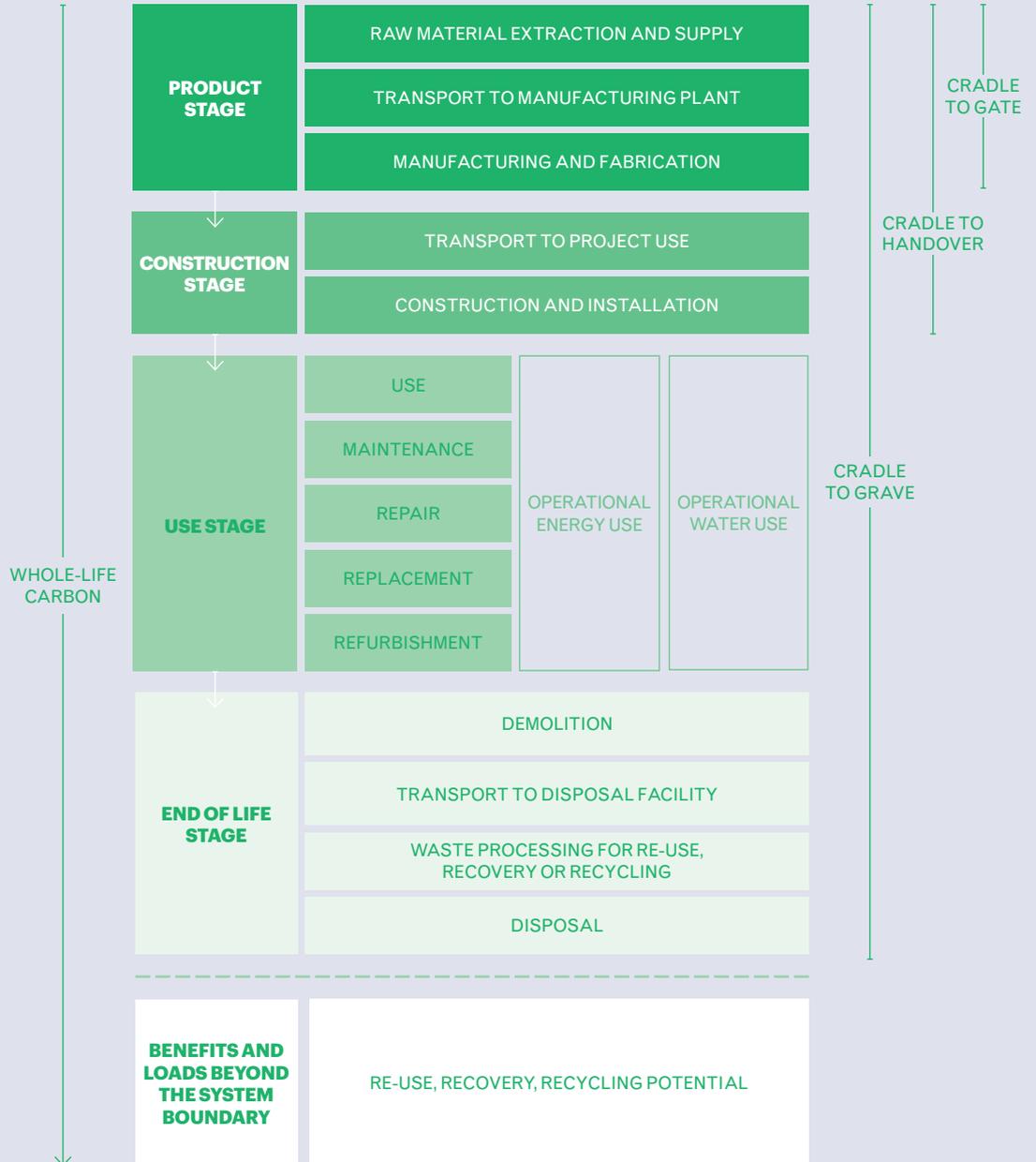
Embodied carbon

Embodied carbon is the carbon dioxide created by a building; during the manufacture and transport of material; during its construction; through maintenance to its fabric; and by its eventual demolition. For most schemes, this starts with the emissions from the extraction of the raw materials, processing in a factory, and taking them to site. Embodied carbon further includes the upkeep or replacement of a building's structure, envelope and environmental systems over time. An element of embodied carbon is also accounted for by demolition and disposal of materials at the end of a building's life.

Operational carbon

This is the carbon dioxide emitted from a building's energy use: heating, cooling, lighting and equipment operation. *RW*

STAGES OF WHOLE-LIFE CARBON ASSESSMENT



Source: RIBA report 'Embodied whole-life carbon assessments for architects', based on the RICS professional statement 'Whole life carbon assessment for the built environment', November 2017

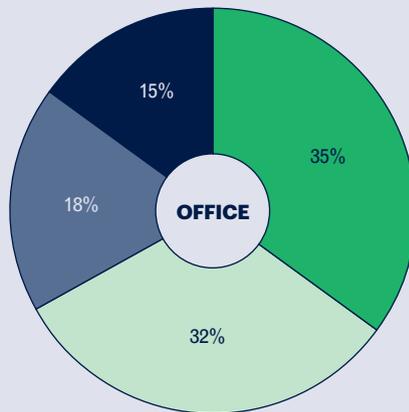
architect, who should be able to make the argument for low carbon construction materials on business grounds, including cost. Think of Amin Taha last month telling the AJ that the use of stone at his project 15 Clerkenwell Close not only reduced the embodied carbon of the overall superstructure by 90 per cent compared with steel or concrete but also cost about a quarter of the price.

But, in order to make the most of the opportunities, architects will need to take the initiative. They will need to bring their problem-solving and creative skills to bear. They will need to better understand materials, help to redefine what 'good' architecture looks like and successfully make the case that ultra-low WLC buildings are simply better buildings. They will have to prioritise the retrofit and re-use agenda and oppose demolition unless the case for it is unanswerable. Above all, they will need to get out of the habit of following and start to lead.

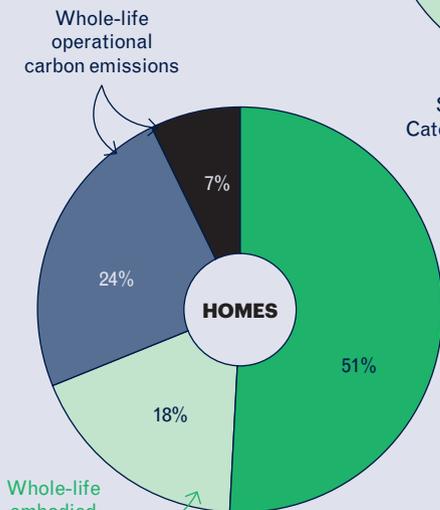
Of course, the profession can only be a part of the solution. It is not going to save the planet on its own in the next decade. Clearly, we urgently need to see innovative and progressive new ways of regulating and taxing carbon introduced to keep global warming below 1.5°C. But architects need to stop waiting for government to act and ask themselves what being a professional means. Concern for others and for the environment is embedded in both the ARB and RIBA codes of professional conduct and here we are staring at a humanitarian and environmental emergency. We do not have another 12 years to waste.

CARBON COMPARISONS

Breakdown of whole-life carbon emissions for two typical building typologies, office and residential, at specific locations over a 60-year life cycle
Source: Sturgis Carbon Profiling/RICS



Speculative office building with Category A fit-out, central London, UK



Residential block with basic internal fit-out, Oxford, UK

Whole-life embodied carbon emissions

- Embodied emissions to practical completion
- Embodied emissions over life cycle

Whole-life operational carbon emissions

- Operational emissions – regulated (from designed-in appliances)
- Operational emissions – unregulated (from occupants' plugged-in appliances)

28.02.2019

CLIMATE CHANGE SPECIAL

Our building studies this week look at three highly sustainable developments



20
Goldsmith Street by Mikhail Riches
Hattie Hartman



36
Climate Innovation District, Leeds by Citu with White Arkitekter
Rob Wilson



50
Virido, Norwich by Pollard Thomas Edwards
Fran Williams

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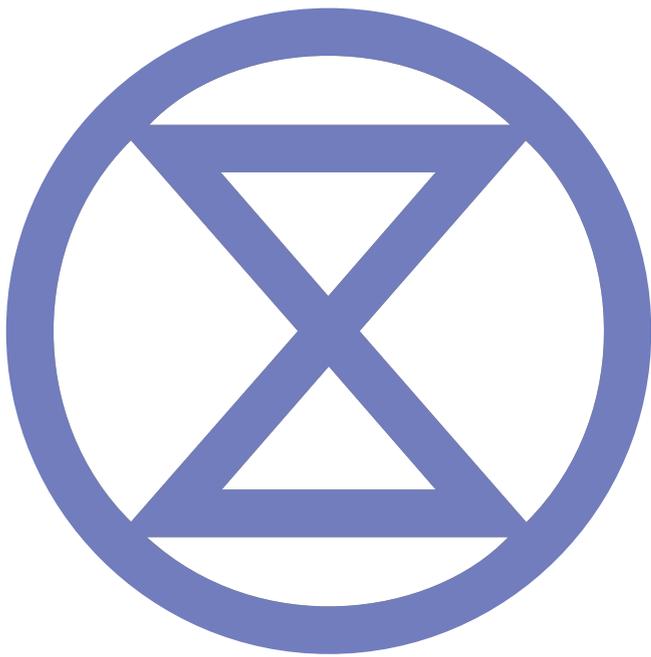
Will Hurst, managing editor, Architects' Journal

Supporting material 3/3

When architects become climate change activists

16 May 2019

www.architectsjournal.co.uk/news/why-did-these-architects-become-full-time-climate-change-activists/10042558.article



News feature

When architects become climate change activists

Street protests are just the most headline-grabbing manifestation of a growing movement calling for drastic action to combat climate change. *Will Hurst* asks what it all means for architects and for the RIBA

Something big has taken place in British public life in recent weeks – and it's nothing to do with Brexit.

Last month, the country witnessed one of the biggest acts of civil disobedience in recent years as Extinction Rebellion (XR) activists blocked roads and bridges in London in protest against humankind's looming threat to the planet. David Attenborough reinforced the point with a powerful new BBC documentary on the climate crisis while teenage activist Greta Thunberg met with political leaders at Westminster to tell them that her generation's future had been sold 'so that a small number of people can make unimaginable amounts of money'.

Some of this activism is

controversial. But it seems to be bearing fruit. The UK Parliament has declared a climate emergency, following the lead set by dozens of regional and local authorities, the Welsh Government and Scottish First Minister Nicola Sturgeon. Meanwhile, a poll commissioned by Greenpeace found that two-thirds of people in the UK recognise there is an environmental emergency, while more than three-quarters say they would cast their vote differently in order to protect the planet.

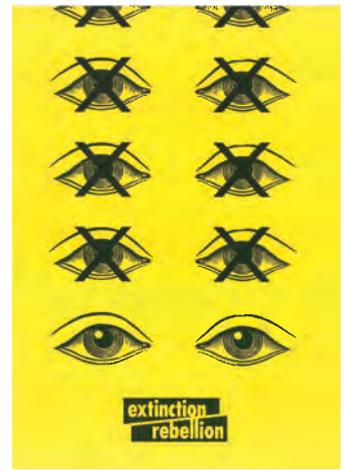
But what does all this mean for architects and for the RIBA?

For many architects, it appears to be business as usual. This is despite the chorus of voices calling for action, Parliament's subsequent declaration and the AJ's detailed coverage, including an issue in February dedicated to the climate threat. Little has been heard from leaders of the big practices and a number of hostile comments greeted a recent AJ online article by Studio Bark's Tom Bennett on his arrest by the police during XR's blockade of Waterloo Bridge (see page 74).

Reader 'Murphy', wrote: 'Stopping people getting to work, hospital, school, and generally going about their business is not making Extinction Rebellion very popular. Wasting police time when they are already very short of resources puts people in danger.'

Another, Ian Cardell, agreed that 'we should be good stewards of the earth,' but added: 'When a brainwashed snotbrat in the person of Greta Thunberg is lauded as a saviour of the planet and given obeisance far above her station by the great and the good then we are in deep trouble.'

Peter Oborn, a former deputy chair of Aedas Architects who headed up the RIBA's recent Ethics and Sustainable Development Commission, is glad that climate change has moved to the top of the political agenda and believes



architects 'have a responsibility to capitalise on the momentum that's been created.'

Yet he says he also understands why many in the industry have reacted defensively or have tried to avoid engaging with the issue, suggesting those who run practices are focused on day-to-day challenges such as paying salaries.

'The profession as a whole hasn't found a way to address this issue particularly well,' he says. 'That's partly to do with the context we work in – the way in which markets and capitalism work – and partly to do with the size and scale of the shift that is required.'

A small minority, though, including Bennett, are bucking this trend. Some have set up practices devoted to cutting-edge environmental architecture. Others have chosen to engage directly in XR's ongoing activism.

Julia Barfield, founding director of Marks Barfield and co-creator of the London Eye, has attended the group's meetings and helped occupy Lambeth Bridge last November as part of what she called a 'rational decision to do whatever I can do'.

'The science is clear and unequivocal,' Barfield says. 'Yet the government is on track to miss its carbon emission targets; has effectively banned onshore wind; is supporting fracking; and, as Greta Thunberg pointed out, is peddling "creative carbon accountability".' Women didn't get the vote 100 years ago by asking politely – as my great grandmother understood as a suffragist.'



'Women didn't get the vote by asking politely – as my great grandmother understood as a suffragist'

'One thing that made me want to move away from architecture was working on property development in London. The economics didn't feel sustainable'

Thomas



MAK GILCHRIST - EDIBLE BUS STOP



Salter

There are also those who have actually given up architecture in the belief that the profession can do little and that mass non-violent civil disobedience is the only way forward in 2019. The AJ met two of them – James Thomas and Jasmine Salter – at XR's London HQ, located a floor above main contractor Wates in a nondescript office block near Euston.

Thomas, who is in his mid-40s, worked as a sole practitioner for a decade following stints at

Burrell Foley Fischer and PTE, but is now a full-time XR activist. He was arrested at Marble Arch last month after helping to design the famous pink boat that was used to blockade Oxford Circus.

'I started off just by showing up to things such as the bridges protest in November,' he says. 'It would be great if architects could recover their agency generally. Architects don't have the power to influence decisions driven by the economics of a client body.'

'I've not been directly involved with the architecture industry for a couple of years but one thing that made me want to move away from architecture was working on property development in London. The economics didn't feel sustainable, let alone the buildings themselves, which were thrown up speculatively.'

'I like the way that XR focuses its energy on the state and on the electorate.'

Salter, in her mid-20s, was studying architecture at the Glasgow School of Art before dropping out to focus on climate activism. During the XR protest

in London she worked to improve the wellbeing of the protesters and on the management of camps and was also one of those arrested.

Salter says she likes the idea of community-building and helping to create a 'regenerative culture'. She adds that she was influenced by people advising her not to finish her architectural studies if she truly wanted to 'make a difference'.

'Architects have lost the power to effect change,' she adds. 'There are regulations that they cannot get around.'

Interestingly it seems that the RIBA may have come to a similar conclusion and is now more focused on lobbying government than telling its members how to reduce their carbon and ecological footprints.

Outgoing RIBA president Ben Derbyshire was recently contacted by leading figures including Steve Tompkins of Haworth Tompkins and Michael Pawlyn of the practice Exploration, who called on the institute to declare a climate emergency (*see right*), something RIBA council will discuss at its next meeting in June, Derbyshire's last.

'This has been a preoccupation of mine since I took office,' he says. 'I personally support the initiative to declare a climate emergency and we will put this forward in a recommendation for RIBA council to consider.'

'But we also need to lobby policy makers to improve the context in which architects work. The fiscal environment is crazily skewed against refurbishment, for example, and there is very little in the way of positive public policy directed towards refurb.'

Derbyshire believes the RIBA should try to bring about change around the world by working closely with international architecture organisations and its fellow membership bodies, given its 'very good' global network and brand.

'If we want the skills and knowledge of our profession to impact on this significantly then it has to be a global impact,' he says.

What is clear is that a declaration of a climate emergency by the RIBA would be largely symbolic. The real challenge will be to devise a far-reaching yet practical plan of action which a divided architectural profession can unite behind.

WHAT ARE STEVE TOMPKINS AND MICHAEL PAWLYN CALLING ON THE RIBA TO DO?

1. Declare a climate emergency, stating what the IPCC Special Report has predicted for the 1.5°C and 2°C scenarios.
2. State that the RIBA requires the government to immediately reinstate zero carbon as a standard for all new buildings and major refurbishments.
3. Name a target date for when the UK needs to achieve zero carbon and confirm the profession's willingness to work towards this.
4. Immediately establish a working group to identify the detailed actions that we as a profession need to take and, importantly, who else we need to bring into the discussions (clients, funders, etc) to deliver what is required.

