

Half a century of sleepwalking towards climate change

15 April, 2019 By Bill Bordass



The need for sustainable architecture has been known for years, yet time and again the profession has ducked any responsibility, writes *Bill Bordass*

'The Sleepwalking Profession' – the print headline of the [AJ's leader](#) in its 'Wake Up' Climate Change issue couldn't be a truer description, though it may apply to all building professions.

In 1963 the RIBA published the first edition of its *Plan of Work*, including a Stage M – Feedback. Here, the architect would collaborate with client, engineers, quantity surveyor and contractor to study the building in use, its construction, and the management and performance of the project. In 1972, however, the RIBA removed Stage M because clients wouldn't pay for it and the RIBA did not want to suggest that architects should do it for nothing. So society constrains what we need to do, but shouldn't it have been made a professional duty instead? Surely it should now.

Most building professionals still know little about how their projects perform in use

It took 35 years for Stage M to return, as L2 and L3 in 2007, superseded in 2013 by a poorly fleshed-out Stage 7. Twelve years on, most building professionals still know little about how their projects perform in use. They remain happy to follow Design for Compliance rituals in spite of massive performance gaps, with energy use and carbon emissions commonly two or three times the design estimates. To me, 'we were only following orders' doesn't look like discharging a duty of care to the public and planet. Do we deserve our professional status?

Twelve years – no, actually, over 50 – to do far too little. Now, as the AJ leader says, the IPPC gives the world the same 12 years to transform the energy system and limit global warming to the 1.5°C tipping point. We must save energy and carbon in a hurry, and do it well at the same time.

Buildings – the key to energy conservation

In 2007 the US assistant energy secretary, Andy Karsner, said: 'In the 20th century ... we built a really inefficient environment with the greatest efficiency ever known to man.' It could have all been very different. Following the 1973-74 oil crisis, in 1975, the American Institute of Architects published a policy document *A Nation of Energy-efficient Buildings by 1990*. In 1979, exactly 40 years ago, the RIBA Energy Group produced a 96-page free book *Buildings the Key to Energy Conservation*, edited by George Kasabov. He and his research assistant Ian Hogan were paid for a year to put it together. Its total production cost would have been at least £250,000 today. Who paid? The then nationalised fuel industries.

The book included 12 pages of technical introduction (on buildings, energy scenarios, economics, comfort, controls and users) and 50 case studies of innovative projects inspired by the energy crisis, including passive measures, solar energy, mechanical ventilation, combined heat and power, heat pumps, heat recovery, and better and more user-friendly controls.

I provided one case study: the Hereford and Worcester County Hall. The brief for this, prepared in the three-day week of 1974, said: 'we don't want to send people home when the power fails'. This put passive design, daylight and solar shading on the menu, while the HVAC system combined seasonal strategies of mechanical ventilation, openable windows and emergency cooling – what we now call mixed-mode.

Five years after the energy crisis, most of these case studies were new buildings already in use or nearing completion. The rest were studies, refurbishments and energy-saving projects. Did things go faster then? Maybe, with the remains of the 'can do' wartime spirit, and building professionals in government helping things along. But 1979 also saw the Thatcher government take power, with little time for public service professionals or indeed professionalism, the public interest generally, or the nationalised fuel industries, whose research labs did useful building-related work on technology, comfort and energy, including post-occupancy studies.

So what now?

How can we make up the lost ground extremely rapidly? Current practice gave us Grenfell Tower and the performance gap. Let's adopt some better principles and processes. Here are some suggestions:

1. **Professionalism** Will the 2020 RIBA Code of Conduct contain an obligation to do Stage 7? How can you claim to be practising professionally, if you don't understand the consequences of your own actions?
2. **Design for performance**, not just compliance. All buildings should be procured like this – rather than drifting off design intent as they approach completion, they need to zero-in on in-use performance.
3. **Adopt soft landings** so teams maintain the 'golden thread' from design intent to

performance in use.

4. **Keep it simple and do it well** Australian experience shows that better buildings are often simpler and cheaper: you make the most of what works, and don't make things complicated with unnecessary bling.
5. **Benchmarking** The UK has failed to invest in a good benchmarking system from inception through into use. Without it, how do you know what you are getting, and how can policymakers and the market value it?
6. **Learn from your experience** Make better connections between practice, policy and academe.
7. **Publish the results** Maybe we don't need another 1979 printed publication – though something like it could well be useful. But we definitely need the right kind of internet resource, with resilience to keep it going in the public and professional interest and survive inevitable policy and economic ups and downs.

Bill Bordass is a building scientist, specialising in the technical and environmental performance of new, existing and historic buildings

Readers' comments (7)

- [Ben Derbyshire](#) 16 April, 2019 8:41 am

I share Bill's frustration that the clock is ticking towards an irreversible and existential threat, and there are not enough signs that the industry or policy makers are taking the problem seriously enough.

This is why, later this year, the RIBA will fully embed sustainability into the Plan of Work and provide the way in which teams can target sustainable outcomes in the brief, manage the delivery of them through each stage and undertake meaningful analysis up to 3 years after handover.

This is not the only action that we are taking. Only last month, RIBA Council approved updates to our Codes of Professional Conduct and Practice requiring members to promote and support the value and benefits of monitoring and reporting on how a building operates and performs in accordance with design intent. The Codes also include a note to say that clients should be informed of the value and benefits of post-occupancy evaluation.

It's a shame, but we do not think an obligation to do POE is yet possible. In my own experience even professional clients such as Housing Associations fight shy of doing the obvious thing.

However, I made a commitment during my election campaign that by the time I leave office, there would be a basis upon which any architect and client can agree to undertake post occupancy evaluation of a meaningful kind. Next week, when I meet Kit Malthouse, I shall make the case to that POE should be compulsory on any project involving the use of public money.

There's always more that can be done. But, at RIBA, we're not sleeping on the job.

Ben Derbyshire PRIBA

- [Murphy](#) 16 April, 2019 8:54 am

Ben Derbyshire says that the RIBA code of practice requires architects to promote and support the value of monitoring a building in use. There are two little difficulties here. One - someone has to pay for it. Who? The client? They certainly won't.

Two - if the building doesn't perform to its design (often due to the users' lifestyle or business operations) does the architect get sued?

- [PDP London](#) 17 April, 2019 9:28 am

Excellent article from Bill summarising the state of the industry and the urgency for action.

To help with energy efficiency imperatives, the performance gap issues and POE, a precise building standard already exists (no need to try and re-invent the wheel, there isn't enough time...).

The standard has been in place for more than 20 years and has been implemented over thousands buildings (close to 1,000 in the uk alone). I can't stress enough how much of the issues listed above it ticks off and how much easier it will be to achieve the new GLA energy strategy requirements for example if you apply the principles of the standard. It is a simple and clear strategy that everyone can apply given a little time to learn the recipe steps and ingredients. It's called the PassivHaus standard.

POE is important but in my opinion it's a secondary issue to applying good and reliable design principles first.

Marion Baeli

Helpful links:

http://passivhaustrust.org.uk/what_is_passivhaus.php

<https://www.london.gov.uk/what-we-do/planning/planning-applications-and-decisions/pre-planning-application-meeting-service-0>

- [David Farmery](#) 17 April, 2019 11:48 am

Architects! Stop beating yourselves up? All the time I have been working as an architectural designer, starting in 1972, the emphasis has been on sustainable construction that looked good and more than fulfilled the clients requirements. Site meetings? The architect travelled on the tube or by push bike. The builder in an AUDI, the client in a BMW X5?! If the building didn't perform, the practise was sued using very well paid lawyers. The U values required by the building regs were always out of date, or so badly written as to be irrelevant to man or beast in the real world.

He who pays the piper calls the tune. I am now trying to get the GLA, TfL, London Local Authorities and property developers to build sustainable infrastructure and accommodation. They don't even want to talk about the problem and the obvious solutions. We have 10 years, with Green Bonds and Carbon Credits to cover the costs, and still the powers that be are doing next to nothing. No wonder the Climate Change Activists are blocking Waterloo Bridge and Oxford Circus!

Perhaps a "No Deal Brexit" will demonstrate the realities, when there are no East Europeans to harvest the crops next year? And Customs Officials delay the Transfesa delivery of food from Spain and Portugal? Prices will go up, and the less well off will go hungry? Then we will see real riots, not just the polite young and old middle class activists!

- [Murphy](#) 18 April, 2019 12:46 pm

There are plenty of people sat around on the dole who could harvest next year's crop. There are also plenty of students looking for summer or casual work. It wasn't a problem when I was a youth - I was out there with everyone else from my village, picking fruit for what seemed to me to be a huge amount of easy money. And no, it wasn't that long ago.

- [Number Five](#) 18 April, 2019 7:45 pm

Sound wisdom in this article, but blaming architects for it is like blaming barristers for the crime rate. Western society did not wake up during the nightmare of the oil crisis in the seventies, when this should have been tackled. Instead we dreamed on that we could continue as usual. It is now too late and we must face the music and pay the price, which could well be the extinction of our species, unless Mr Attenborough can save us at 9pm tonight on BBC 1.

- [Justin Bere](#) 4 May, 2019 6:46 pm

I'm sorry to have to say that I am appalled at the complacency of Ben Derbyshire's response and most of the others who have commented. Bill Bordass is trying to wake architects up to their professional responsibility to carry out careful checks on the performance of their buildings to ensure they aren't destructive of this precious planet, and the response is basically 'well I care so little that I'm not going to recognise that I have a duty of care to carry out these checks myself. I'll take my money and run.' Sorry but that way of thinking is unworthy of someone with all the privileges that go with being a professional in a rich and highly polluting country that owes a lot for the consequences of 300 years of damage.
