Time to Ditch BREEAM?

If we want to fight the climate emergency we need think about ditching BREEAM

When BREEAM came out in the early 90s it was a bit of a game changer, making environmental performance a commercial matter. The Building Research Establishment's assessment method has been used to evaluate the sustainability of countless commercial, retail and leisure projects since its inception. 30 odd years later however and with multiple and interconnected crises to address we need better ways to incentivise more urgent action on reducing carbon, building in future resilience, designing with nature and improving human health.

It's strange – and we aren't the only ones saying this – that it's not really being used as an assessment method at all, but more like a pseudo-specification method in lieu of both clear legislation and project specific ambition. Planners and design teams alike are unwilling to think what is best for their communities and what can be achieved most effectively on projects. Instead we have a one size fits all approach where someone has decided what is both appropriate and valuable.

It has made it possible for some very odd projects to obtain the highest ever ratings and others still dealing with the tyranny of credit accumulation.

What's gone wrong? When it was first devised it was encouraging that clients and designers could refer to an increasingly recognised standard linking design decisions, mainly related to energy reduction, with building market value. It helped complete the jigsaw that is the sustainability "triangle". For this alone it should be applauded. And even when it wasn't being strictly applied, it served as a project checklist of "things to remember to think about" when designing buildings.

However – and after decades of applying and refining this standard – it isn't producing the outcomes we all craved. A BREEAM Very Good could be literally building regulations compliant[1], and the next generation only needed to achieve 10% improvement for the one mandatory credit. If one of the supposed benefits is that it "raises all boats" then that should surely be the role of legislation.

Why has this happened? Planning authorities seem to have decided that the way to show being diligent about the environment is to insist on a given level of BREEAM certification rather than define their own targets or what borough-appropriate measures are. And similarly ESG (Environmental, Social and Governance factors) fund managers: there is no need to get to grips with the fundamentals of making society work within planetary boundaries when we can just tick another box, the BREEAM rating, and call it "Feel good investments"…

Design teams have found the low hanging fruit over the years and quick wins to achieve whichever "class" is being targeted, to disastrous effect. (We say disastrous, because we now have considerable building stock that could have been so much better performing: we would now need to retrofit them – if that's at all feasible – to make them anywhere near climate-positive or resilient.

> **"It's a closed system with weighting that seem at odds with what we need to prioritise."**

The Ene credits (energy) for instance focus on improvements over our inadequate building regulations and therefore for years only related to "regulated energy" (lighting, heating, ventilation and cooling, hot water), ignoring what in some buildings makes up 50% of energy use[2], namely lifts and escalators, small power loads, catering, server rooms and other plant and equipment ("deregulated energy"). An attempt to address process loads has been the introduction of "Energy Efficient Laboratories" credits, but still largely ignore IT and other energy uses across all building types.

And has the well-known phenomenon of the "performance gap" been closed and demonstrated through the application of BREEAM? We see no evidence of this, even after the introduction of pre-construction CIBSE TM54[3] modelling and post-construction Post-Occupancy Evaluation (POE).

1 https://www.breeam.com/BREEAM2011SchemeDocument/Content/03_ScoringRating/minimum_standards.htm

2 CIBSE Journal article (May 2018)

3 CIBSE TM54 Evaluating operational energy performance of buildings at the design stage

How does this process ensure good workmanship on site: it's difficult to rectify pierced membranes, wonky frames, buried structure and poor junctions after handover.

The Materials section is all so convoluted and opaque. It has underemphasised the significance of embodied carbon - that is more like 50-70% of whole life carbon in the reference period - and done little about virgin and non renewable material use for years and their effects on biodiversity and resource scarcity. We have made little progress in terms of understanding or assessing provenance, the sustainability of the supply chain, upfront and end of life carbon.

The new requirement to undertake an LCAs is certainly welcome but it's far too little (too late), doesn't follow the rest of the industry standards (RICS, RIBA, LETI) as it ignores building services and fixed fittings, and the protocol insists on a BRE accredited, or their own tool; a paid-for black box with unknown benchmarks using information from built projects but results from this don't appear to be fed back to the industry.

"The targets for embodied carbon would be much better served by the suggested new Part Z as a legislative minimum."

Its use on speculative office development has left us with a legacy of buildings that are heavily glazed glary facades that are sealed up and highly carbon intensive, with no occupant control, with some pretty miserable workers as a result whose health is impacted by poor indoor air quality. There is no scope for allowing natural ventilation in the mid seasons and reducing consumption in that way. There is no feeling of control of their own environment. There is no plan B when the AC breaks down or a plan for more extreme weather events as these weren't part of the original design basis and the credit system.

If avoiding energy emissions is the end goal, it's pretty simple: the architecture starts with the needs of those inside and those choices are limited by our planetary boundaries for which we need proven standards with quality control. Glass lets out ten times the amount of heat compared with the insulated part of the façade, and full height glazing daylights a perimeter strip that's of no benefit. In the mid-season and summer it increases air conditioning loads. At this time, with the tipping points we are now facing, the aesthetic should fit the badge: a heavily steel, concrete and glass building can't in any context be described as "Excellent" or "Outstanding" when it comes to future-proofing our built environment. And extravagant timber shading structures or internal finishes should not be allowed to skew the material embodied carbon calculation.

In fact, our planet is screaming we shouldn't be building new: retrofit should be our first choice, and life cycle needs to be the first evaluation for good-decision-making. But BREEAM is applied only after the decision has been made to build, with the appropriate version of the assessment.

But an acceptable building built now should adopt all the best-in-class standards, be that Passivhaus for comfort, fabric and ventilation, 2030 RIBA targets for embodied energy with an eye on circular economy and end of life biodegradability, as well as nature positive solutions from first principles. The trouble is these broad design ideas have been sub-contracted out to an assessment method rather than developing these judgement skills for ourselves to address the major considerations of social value, climate change, climate resilience, and loss of the natural environment.

Transitioning to a wellbeing economy is the only way to really get to the nub of what makes buildings fit for our future: taking the 100-year view for each aspect of design, and where it fits within a complex system. If other standards (like WELL) are needed – and all associated costs – to address all the crises we are facing, it's clear that BREEAM doesn't stand up to scrutiny.

Perhaps we need to go back to something like the Code for Sustainable Buildings that was mooted but then watered down to Code for Sustainable Homes (which was actually a decent framework) and then scrapped by our "greenest ever government" amidst the bonfire of green "rubbish" (we paraphrase). Oh the irony.

It's time to stop trying to fool folk. Even this government is waking up to the fact that greenwash is a problem with new legislation coming in that aims to avoid misrepresentation (thank goodness for our civil service)[4]. If we are serious about addressing these planetary crises then we'll need to rethink how we value building. A good start would be to ditch BREEAM. It just isn't up to the job we need to now do.

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