

THE USABLE BUILDINGS TRUST

(A company limited by guarantee and not having a share capital)

REPORT OF THE TRUSTEES / DIRECTORS

- Promoting social, economic and environmental stewardship through our own example, and by encouraging and assisting others.
- Helping younger professionals and researchers to make progress in the field.
- Having core activities in the UK but global outreach, drawing on and extending to an extensive network worldwide. This is based mostly on virtual contacts, allowing us to keep the direct environmental impact of our activities can to a minimum.

Our specific activities

UBT's work falls into four main areas:

- 1 Research and policy
- 2 Development
- 3 Networks and capacity building
- 4 Education and Dissemination

Since these areas overlap strongly, the Summary of Progress below is organised by topic.

Summary of progress in 2014-15

NEW PROFESSIONALISM

UBT has been encouraging design and building teams to become much more involved in understanding how the buildings they design and adapt actually work, to carry forward their insights, work with occupiers and management, improve the performance of the buildings they have created or adapted, and learn from the feedback. UBT sees this *new professionalism* as integral to the responsibilities many professional institutions already place on their members to understand and promote principles of sustainability. UBT sees professionals as an antidote to markets, which do not explicitly address the public interest and tend to take too short-term a view.

UBT were also guest editors of the 2013 Special Issue of *Building Research & Information* on New Professionalism, which included ten principles developed with *the Edge*. Following a debate hosted by Edge when the issue was launched, the Edge (with financial support from the Arup Foundation) then set up a Commission of Inquiry into Future Professionalism, chaired by Paul Morrell, the Government's Chief Construction Adviser from 2009-13. The Commission's report *Collaboration for Change* was published in May 2015 and can be downloaded from the Edge website www.edgedebate.com. The report identifies key themes for the Institutions:

- Ethics, the public interest and a shared code of conduct.
- Education and competence.
- Research and a body of knowledge.
- Collaboration on major challenges including industry reform, climate change and eliminating the gaps between anticipated and actual performance.

The Edge is planning a series of follow-up actions in 2015-16, including meetings with the institutions and a series of regional events around the collaboration theme. UBT welcomes the report and plans to complement this work at the institutional level by advocacy to individuals and organisations.

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BUILDING ENERGY AND CARBON PERFORMANCE

In *Flying Blind* (Association for the Conservation of Energy, 2001), UBT identified a chronic lack of awareness by clients, designers, occupiers and policymakers of the performance in use of non-domestic buildings, leading to large discrepancies between policy and design expectations and actual outcomes, now known as “the performance gap”. The report drew attention to risks of fragmentation in policymaking and technical support for buildings and energy arising from the government’s dismemberment of the Department of the Environment from 1997 onwards. It also hoped the requirement for building energy certification in the European Union’s Energy Performance of Building’s Directive would make in-use performance visible and actionable.

UBT then put considerable effort into developing the technical infrastructure for certifying in-use energy performance. *Onto the Radar* (2005) illustrated how a progressive approach could allow Display Energy Certificates (DECs) based in actual annual energy use to be phased-in, helping to persuade a number of countries to adopt DECs, including DCLG for England & Wales. To dovetail with DECs for rented commercial buildings, in 2006-08 UBT went on to develop the Landlord’s Energy Statement and Tenant’s Energy Review with the British Property Federation and the Carbon Trust.

DECs were introduced in England and Wales in 2008 for certain public buildings over 1000 m², but their true potential has not been realised, owing to poor integration of policy measures and a lack of technical support. In 2015 we co-authored a paper on this in the Special Issue of Building Research & Information on closing the policy gaps.

As an antidote to these problems, UBT also advocates an independent Technical Platform to support government and industry in relation to buildings and energy. Sadly, government saw no need for such a thing, feeling that things could be left to the market – even though the market players themselves said they were looking for a strong guiding hand from government. UBT’s efforts continue.

One of UBT’s many disappointments about DECs was that the proposal to extend them to public buildings, proposed in the Energy Bill 2011, disappeared at the last minute from the Energy Act (reportedly on instructions from the Treasury), in spite of widespread support from leading organisations including the Confederation of British industry.

One consequence was the Better Buildings Partnership - a collaboration of leading office portfolio managers, owners and occupiers – sought instead to develop a Landlord’s Energy Rating (LER) for rented office buildings, to which UBT provided technical assistance. The LER went beyond the low-cost LES (the UBT/BPF Landlord’s Energy Statement), to a more sophisticated (and much more expensive) investment-grade rating. Sadly, as with the LES, the initiative was hampered on the technical side by the lack of a clear metered boundary for landlord’s services in rented offices (which made authoritative benchmarking difficult) and on the political side by the absence of government buy-in (which, as for the LES, made it difficult to attract investment to support the necessary infrastructure to support the system both technically and operationally).

One encouraging outcome from our activity on energy reporting and benchmarking was an offer of a donation to match funds UBT raised to work with major players on a suitable project to improve in-use energy performance. In 2014 we prepared a bid to the Arup Global Research Challenge 2014’s offer of £50,000 funding (to be doubled by our donor) for research into approaches to resolve the “energy trilemma” (availability, security, environment).

The Arup/UBT proposal was on better communication of information on energy performance and convergence of policy and industry measures internationally. Sadly, the bid was not successful, but it led to UBT joining another team, this time seeking funding from the government body Innovate UK (formerly the Technology Strategy Board). The new proposal is to develop a UK Commitment Agreement, in which the developer of a building and their design, construction and management team agree to achieve a specified level of

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energy performance in use. A system of this kind has been particularly successful for rented offices in Australia, for which UBT provided an expert reviewer at its time of inception a decade ago. The bid was submitted on 28 May. We await the results with great interest: the UBT contribution will be matched by our donor.

AN INSTITUTE OF BUILDING PERFORMANCE?

UBT continues to explore options and support for IBP, an Institute of Building Performance that would help to develop and promote the knowledge domain of building performance in use on a much broader scale than UBT has been able to. We envisage IBP as being independent of commercial interests (e.g. the construction, property, or support services industries), instead giving an evidence-based voice to a poorly-represented constituency: everybody, in their role as building users.

We had hoped to start IBP with a substantial philanthropic donation or donations from individuals, but have not yet been successful. National donors either feel that the politics are against us at the present time; push us in the direction of the construction and property industries (while we regard independence as vital); or want the comfort of support by others before making up their minds. Overseas donors would like to see national support (and preferably a national Institute) in place first: only then might they be interested in investing in spreading the word more widely. This year UBT approached London South Bank University, which is bringing together its various Departments related to the build environment, and suggested a proposal to the Leverhulme Trust for a research centre into building performance in use. The University has recently submitted an outline proposal, which we hope will be shortlisted.

BUILDING PERFORMANCE NETWORK

Discussion about the IBP also led to progress on a narrower front, the Building Performance Network, BPN. In 2008-09, UBT recommended something similar to the Technology Strategy Board (TSB, now Innovate UK, IUK), to provide technical support to its proposed Building Performance Evaluation (BPE) programme – which this year completed evaluating about 50 domestic projects and 50 non-domestic buildings.

In the event, TSB preferred to appoint individual evaluators. However, in the course of the programme, a *de facto* group emerged from those appointed. UBT worked with them to see if the legacy of the BPE programme could be improved, in particular by extracting tacit knowledge from the projects before the evaluation teams disbanded, and by leaving a network behind after the programme ended in 2015. Sadly, after much discussion and several proposals, the IUK budget that might have been available was taken back. However, a group of universities, including UCL, Salford and Leeds is developing a proposal to EPSRC for an academic network. If successful, the challenge will then be to use this to build better connections to practice as well.

SOFT LANDINGS

Soft Landings provides practical support to the new professionalism with an approach any team can adapt to help organise itself and its work to improve briefing, engagement with users, and design and building team management with an emphasis on outcomes. It can be used to make follow-through and feedback routine on any building project, with any procurement system. It also relates closely to establishing realistic expectations for in-use energy performance, and managing them through the procurement process and into use. Having helped to develop Soft Landings initially, UBT's role is now one of advocacy and support.

Government Soft Landings (GSL) is also progressing, and is intended to become mandatory in 2016. The British Standards Institution has also developed a draft Standard BS 8536, a

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Code of Practice for *Facilities management briefing for design and construction*, which essentially underpins GSL. UBT has commented on the draft, which at the time was not fully coordinated with the *Soft Landings Framework* UBT helped to write in 2009.

We welcome these developments. However, there is a risk that they may have more focus on meeting targets, and overlook the original intent of Soft Landings – which was to change the culture of projects from diverging from design intent to converging onto operational outcomes. Indeed, case studies of Soft Landings indicate that a key issue is commitment (by client, design and building team, and operator) and the key to success is having Champions within the team. Without this cultural overlay, there is a danger that they may become the diseases (tick-box rituals and conservatism about targets) that Soft Landings was developed to cure: process is no substitute for leadership!

HOUSING

The Sustainable Traditional Buildings Alliance's (STBA's) Guidance 'Wheel' for responsible retrofit of traditional buildings was based on a feasibility study and graphic design suggestions by UBT. www.responsible-retrofit.org/greenwheel. It allows users to consider specific retrofit measures, whilst at the same time being reminded of how a particular item may affect other building and operational elements in the specific context and identifying the associated risks and benefits. In our last report, UBT identified opportunities to extend the approach and metaphor to other problems and sectors: this has been taken up by the City of Bristol, which has commissioned a version from STBA that is customised to its housing stock.

UBT continues to support postgraduate students working on housing evaluation surveys in Britain and overseas. This work mirrors the non-domestic evaluation work covered below under student support.

UBT is interested in developing a version of Soft Landings for housing. We were involved in an unsuccessful bid to TSB under its *Construction Process Improvement* call in 2012 with Heriot-Watt University, Sheffield University, clients and construction companies. We are now talking to a developer about the scope for Soft Landings in a mixed use refurbishment and redevelopment in Central London, with the assistance of Sheffield University.

CONFERENCES AND COURSES

In 2014-15 UBT made fifteen presentations, including the remaining four of the series of fourteen half-day Continuing Professional Development sessions for the RIBA. For details see the endnotes. The main subjects were new professionalism, and closing the gaps between design intent and reality. The talks also touched upon many other UBT themes including Soft Landings, energy performance, usability, occupant satisfaction, and the need for much better feedback, e.g. in the form of UBT's proposed Institute of Building Performance.

UBT actively supports postgraduate courses around the world by teaching and by giving informal support to students working on building performance. Our weekend building performance module in the MSc on Advanced Environmental and Energy Studies at the Centre for Alternative Technology (CAT), Machynlleth is now in its eleventh year. UBT also has teaching input to postgraduate courses at a number of universities.

PUBLICATIONS

Due to illness and other commitments, only three written publications were produced this

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year. We have also agreed with RIBA Publishing to write a book on building performance and new professionalism, drawing upon the material used in the CPD courses. This is likely to be published in mid-2017.

WEBSITE AND STUDENT SUPPORT

The information on our website www.usablebuildings.co.uk is freely available. For copyright reasons, some requires a password, but no charges are made. In 2014-15, and in spite of making 80% of our content available without password protection, our website received a further 150 password requests to access the protected material. We now have 5,400 password holder members.

We build capacity by disseminating material from UBT and other authors. We expand our network by responding to queries in some depth, particularly from postgraduate students and researchers around the world. Typically five queries a week receive a considered response from our faculty, or from members of our network, often using Skype.

We also provide more substantial support to student dissertations, especially through free access to, and guidance on, occupant survey techniques and their analysis. In 2014-15, we supported over fifty building studies from twenty postgraduate students in Britain and from around the world – mostly by providing free access to (and statistical analysis of) occupant questionnaire surveys. This is augmented by UBT providing expertise for the supervision and examination of postgraduate students.

Requests for occupant surveys have been growing rapidly and we are not sure how long we can continue to provide this service without financial assistance. This service is made available free to supervised postgraduate students, and as a part of coursework in four British universities. We use the BUS Methodology occupant survey method, by kind agreement with BUSMethodology, the commercial operators.

FINANCIAL POSITION

Our financial position is still difficult, with no core funding and difficulties obtaining project funding for things that do not offer immediate commercial gain. However, we are hopeful that the offer of a matching donation for our work on energy-related Commitment Agreements will materialise in 2015-16, and that the London South Bank University may be invited to prepare a full proposal for a Centre for Building Performance in Use for the Leverhulme Trust. The recent launch of the *Collaboration for Change* report into the building professions may also add impetus.

With income of £ 2260 and expenditure of £ 2619, we have only dipped marginally into our reserves, which are £ 6365. The income and expenditure figures below do not reflect the amount of work UBT has undertaken. Over the period, our faculty members have provided nearly one year's worth of free input - a situation that is proving increasingly difficult to sustain.

FINANCIAL PLANS FOR 2015-16

As we enter 2015-16, we are having to continue our current low-income low-expenditure model. However, if the Commitment Agreement project is successful, it will provide income from Innovate UK and the matching donation, which we hope will allow us to support the project (and in particular its public interest dimension), and to expand our operations once more.

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ENDNOTES

EVENTS AND UNIVERSITY COURSES JULY 2014 to JUNE 2015

Bill Bordass & Adrian Leaman, RIBA Continuous Professional Development Series: *Design Intent to Reality: closing the performance gaps*

A total of fourteen sessions in calendar year 2014. The final sessions were:

11. Cambridge, 11 September 2014
12. Reading, 5 November 2014
13. Crawley, 6 November 2014
14. Birmingham, 27 November 2014

Adrian Leaman, *Design Intent to Reality: Closing The Performance Gaps*, University of Dundee, School of the Environment, Architecture and Planning, 25 Sept 2014

Bill Bordass, *Building Performance in Use: the Great Unknown?* Cathedrals Fabric Commission for England Annual Conference, Keynote, 2 October 2014.

Bill Bordass and Adrian Leaman, *Design Intent to Reality: improving building performance in use*, Oxford Brookes University MSc Course, 12 November 2014.

Adrian Leaman, *Design Intent to Reality: Closing The Performance Gaps*, University of Dundee, University of the West of England, Bristol, 20 Nov 2014.

Bill Bordass, *Sustainable Buildings: Simple not Simplistic*, Ecobuild session on *Future sustainability: from cost plus to cost minus*, London, 5 March 2015.

Bill Bordass and Adrian Leaman, Building Performance sessions Centre for Alternative Technology (CAT), Machynlleth, 14 May 2015

Part 1 *Building Performance in Use: the Great Unknown*

Part 2 *Coming to Terms with Building Performance in Use*

Part 3 *Building Performance Evaluation Case Studies*.

Adrian Leaman, *Deconstructing Building Performance: with emphasis on needs, perceived health and productivity*,

Keynote, Healthy Buildings 2015 Europe, Eindhoven, Netherlands, 18 May 2015.

Bill Bordass, *Building performance in use: the great unknown?* Eric Parry Architects CPD session, London 11 June 2015.

Bill Bordass, *Design Intent to Reality: Achieving better building performance in use*, University of Cambridge, Professional Practice Workshop, 25 June 2015.

PUBLICATIONS 2014-15

B Bordass, P Burgon, H Brough & M Vaudin, *Trees of knowledge*, CIBSE Journal 20-26 (October 2014).

R Cohen and B Bordass, *Mandating transparency about building energy performance in use*, Building Research & Information **43**(4), 534-552 (2015).

A Leaman and R Bunn, *School Buildings: what the users really think*, chapter 7 of P Woolner (ed) *School Design Together*, Routledge, London, 138-142, (2014).

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CITATIONS

Some citations may be found at:

http://scholar.google.co.uk/scholar?q=bordass+leaman+usable+buildings+trust&btnG=&hl=en&as_sdt=0%2C5