

CIBSE JOURNAL



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KEEP IT SIMPLE
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Technical Symposium

UNDERGROUND CONNECTIONS
The importance of mapping
buried pipes and cables

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How smart grids can transform domestic power networks

GREEN SKY THINKING HIGHLIGHTS

THE SKY'S THE LIMIT

Professionals from across the built environment discussed how sustainability could be integrated into design at Green Sky Thinking Week. CIBSE's **Sara Kassam** picks her highlights

Green Sky Thinking Week included a programme of more than 40 London-wide events that focused on how sustainability can be designed into the built environment. Hosted by a variety of organisations, the events were broadly grouped under the themes of green infrastructure, social sustainability and intelligent design. I attended four stimulating sessions on my current interests of post-occupancy evaluation, resilient cities, people in buildings, and integration of green infrastructure.



Sky Green Farms, Singapore

this by saying we can't treat people as components with predictable properties that can be incorporated into a system.

People simply don't behave in the ways that designers expect. Rather than looking at needs-orientated design, perhaps we should be looking at practice-orientated design.

These are great observations, but how can we incorporate them into our work? We need to design to some kind of standards; otherwise, where would we even begin on a project? I think the

first step is at least to be aware of the complex interactions between buildings and people, and work out how to manage expectations. If humans are so unpredictable, we can't design and operate our buildings to cater for every eventuality, but we can be flexible and

Green wall by Biotecture at New Street Square in London




remember that we should be working with people, rather than for people.

4. The role of living walls within sustainable cities, Biotecture

With a view out to a stunning living wall at 20 Fenchurch Street, comprising 52,000 plants of 20 species, we discussed the future of such walls in the wider context of green infrastructure.

Traditionally, living walls have been aligned to the horticultural industry. However, when their interactions with heating, cooling, air quality and wellbeing are considered, there is an argument for green infrastructure to be closely aligned with building services. Plants are more variable than the usual building components, and the design, implementation and maintenance of living walls is intricate – but then the same can be said of successful HVAC systems.

It will take time for living walls to become the norm, and there is a need for their performance and benefits to be quantified. This data is now being produced and the experience of firms such as Biotecture is being shared, but we need to shift our mindset and think about green infrastructure as an essential component of buildings. 



Sustainable drainage system in Portland, Oregon

1. POEs, ECD Architects

Performance gap is a widely recognised phenomenon, in terms not just of a building's energy consumption, but also of its usability and occupant satisfaction. It's great to see a company making very visible, practical efforts to redress this. ECD Architects has invested in post-occupancy evaluation (POE) of the offices it has been in since 2005. It used different tools, including the BUS Methodology questionnaire, monitored temperature data, staff focus groups, and energy consumption analysis. By going through the process itself, ECD has helped to demystify POE for the practice and foster a better understanding of building performance, while looking at ways of improving user satisfaction for its own staff.

We need to learn from all buildings – 'good' and 'bad' – because proper understanding of how they are used will help prevent repeating mistakes and improve performance.

2. Making cities work, Arup

Arup brought together 12 speakers to provide a concise and fast-paced presentation of their insights into a range of topics, from more holistic, city-wide energy infrastructure to rethinking

building briefs to focus on delight.

The idea that stood out for me was building language translation. Buildings are increasingly filled with technology, but the assumption that this leads to better performance clearly isn't true in practice. Reams of data from environmental sensors, half-hourly energy-consumption data from sub-meters and a reliance on BMS just aren't doing the job.

We need simple, intuitive, open-source software that makes it easier for users to understand and operate their buildings – an Esperanto for the built environment



We need simple, intuitive, open-source software that makes it easier for users to understand and operate buildings – an Esperanto for the built environment. This was created as an easy-to-learn, politically neutral language that could transcend nationality and foster peace and international understanding. Perhaps we need something that can transcend disparate systems and technologies in buildings, to foster excellent performance and improve understanding among users.

3. Social engineering, Max Fordham

This event provided some real brain food on how designers can integrate insights from sociology and psychology into architecture and engineering. Professor Elizabeth Shove, from Lancaster University, focused on how people and buildings shape each other, so it's a mistake to talk about 'users' as a completely different entity. For example, comfort is a dynamic configuration rather than a finite achievement.

It's an outcome of many social practices, so there's no optimum answer, no uniform temperature, despite our attempts to set out guidelines or recommend ranges. Designer and researcher Dr Dan Lockton reinforced