

TARGET 2050:

A COMMON GOAL

Legislation has catapulted the race to achieve net zero carbon emissions to the top of the sustainability agenda. **Martin Read** reports on a refreshingly collaborative environment with investors, developers, agents, operators and tenants all focused on the same goal – that is, before the pandemic struck

From the wearing of seatbelts to smoking in buildings, it is remarkable the extent to which government legislation can drive the kind of decisive behavioural change that might otherwise occur only half-heartedly or in disconnected fits and starts. Certainly there is no doubting the impact of recent legislation on the future sustainability of the corporate built environment. Since the UK government's boast of becoming "the first major economy in the world to pass laws to end its contribution to global warming by 2050" the sustainable design of buildings has found its way to the top of boardroom agendas. Immediately pre-Covid, the market for corporate real estate

was adapting to these new realities, investors and developers forcing sustainable design in both its environmental and social elements.

We've already seen how the Public Services (Social Value) Act has materially influenced the way public sector organisations procure service contracts, with the private sector increasingly concerned to do similar. While the social value debate continues to evolve – an IWFM framework seeking to better define all aspects of the topic is in the offing – the shift in focus towards the net zero carbon agenda suffers no such lack of clarity. Investors are now demanding that new builds come with life-long sustainability credentials. It's all the result of government policy that has put clean growth at the heart of its Industrial Strategy plans,

with its aim of adding two million so-called 'green collar' jobs and seeing the value of exports from the low-carbon economy grow to £170 billion a year by 2030. Investors thrive on stability, and they now see that the UK's position, as with that of the wider developed world, is steady progress towards its net zero goal – and that if they themselves do not decarbonise their buildings, they'll be the ones to lose out.

What's more, the facilities management service sector is making decarbonisation of its own activities an agenda item.

For Carl Brooks, head of sustainability, property management at CBRE, "decarbonisation is now the objective and is among the biggest issues faced by business and society today given the urgent need to tackle the climate crisis. There ▶

TARGET 2050: PRIORITISING ENERGY REDUCTION PROJECTS

For existing buildings, what projects should facilities managers focus on? Hilson Moran's Marie-Louise Schembri explains:

● **Survey operational energy (and user perception):**

Engage with an energy consultant for an evaluation of the building's performance – such as BUS (busmethodology.org.uk), a post occupancy evaluation, ideally with an operational energy model to profile and align energy use to metered consumption and test improvements before committing to investments.

● **Fine-tuning, phasing:**

Over-consumption (or occupant discomfort) can

typically be managed centrally through an adjustment of control, or where plant energy efficiency is the culprit, a phased replacement strategy could be funded by a payback from savings.

● **Lighting + smart, wellbeing benefits:**

Improving the energy efficiency and quality of lighting or investing in smarter, finer-grain controls could have a big impact on energy savings and enable better management / more attractive workspace.

● **Plant replacement:**

Ultimately, all engineering services will have to be evaluated during plant

replacement life cycle planning to identify opportunities to reduce energy use and improve carbon performance.

Whether it will be possible to apply the principles that are being used in new build to plant replacement projects in existing buildings will remain to be seen, particularly when considering existing funding models. These solutions may have to wait for full refurbishment. These are questions that with our joined-up approach to projects and operation, we in Hilson Moran are actively considering.

infrastructure for its operations that works independently of the national grid, thus maximising its sustainability impact.

“We’re making sure that when we work on our operations as a company that we are making sensible choices from the whole lifecycle common perspective. We wanted to make sure that any reductions we made were genuine reductions,” Kennelly explains.

Vinci is a member of the Supply Chain Sustainability School's climate action group, whose sustainability tool allows providers to collect data and benchmark their activities against industry peers.

“It’s pulling in information from our clients and suppliers to give us a better understanding of what’s going to allow us to make better decisions in putting sustainability into our procurement process”.

For many, including Interserve's Mike Sewell, any exercise to decarbonise FM should first focus on decisions concerning routine facilities service delivery. Take cleaning for example. “There’s this idea that cleaning should be unseen,” says Sewell, “but why do we need to be cleaning buildings in the evenings, extending the time we need to be lighting and heating those buildings, when the evidence is that cleaners operating during the working day build relationships with workers who then make less cleaning work for them to do?”

Electric dreams

Sewell also sees opportunity in the movement of FM personnel. Companies typically outsource FM when they can't justify having the fixed resource on site, so outsourced service firms are in constant movement between clients and their sites. Understandably, Sewell thinks remote management of more capable onsite systems will reduce overall travel and the emissions it incurs. (“The more we can do remotely is the key thing.) But where it remains inevitable, this ▶

have been some useful clarifications over the past year or two about what this means, but whichever way you look at it the challenge is huge and will need a collaborative effort to even get close to achieving it. I believe this will accelerate progress towards understanding the performance gap between the design and operation of buildings and taking those first steps toward closing it, while looking at what is possible to drive efficiency further.”

Pre-Covid, Mace announced it would aim for net zero carbon emissions by the end of this year, looking at both its energy use and embodied carbon, including decarbonisation of heating and cooling systems, business travel and water and waste.

“Leading a sustainable approach to facilities management at Mace has always been our top priority,” said Ross Abbate, CEO of Mace Operate.

Mace is not alone. The broader facilities service sector is responding.

For Cara Kennelly, social sustainability manager at Vinci Facilities, the shift to decarbonised

FM operation is one that demands careful consideration. Her company is undertaking research to understand what its decarbonisation priorities should be. It is looking at ways that it can, for example, install an EV charging



40%

ESTIMATED PERCENTAGE OF CARBON EMISSIONS ATTRIBUTABLE TO THE BUILT ENVIRONMENT

is why there is currently so much emphasis on providers replacing diesel vans with their electric vehicle equivalents. As well as more complex job scheduling – “getting the maximum value of a service engineer’s time on site”, says Sewell – any move to electric vehicles by FM firms fits an emerging theme with the buildings they serve: do what’s possible to switch to electrical operation, and benefit from a national grid that is rapidly decarbonising. As the grid becomes cleaner, so all-electric operation becomes more attractive. And that’s the key to decarbonisation of buildings themselves.

“An all-electric building is probably the faster route to zero carbon in the short to medium term because of how rapidly and how much easier it is to decarbonise than gas,” argues Hilson Moran’s design director Marie-Louise Schembri. “But gas-based systems may make a ‘come-back’ as the technology of the day in the future as we invest in looking for alternatives such as hydrogen, carbon capture ... or synthetic gas.”

For existing stock, more effective and integrated building management systems making use of the new generation of sensors is vital, and a key area of investment.

“Historically there’s been lot of investment in equipment that doesn’t necessarily do a lot,” says Sewell. “Take a building management system; if it’s not set up properly, it’s just an expensive time clock. What you need is a BMS that works seamlessly with the building energy management system.”

Schembri agrees. “The challenge of decarbonising existing buildings should not be underestimated. In existing buildings, probably the most effective investment is in the level of control that would enable optimised and smarter operation.”

Considering historical issues over the sustainable operations of new builds, Schembri emphasises the importance of FM: “The so



THE FIX IS OUT - COVID'S POTENTIAL IMPACT ON ENERGY CONTRACTS

While energy consumption targets are addressed, shorter-term cost priorities are likely to focus building operators’ minds as a result of the uncertainty brought about by the Covid crisis.

As energy suppliers struggle to predict consumption patterns and attempt to insulate themselves from risk, fixed-price energy contracts could become an expensive proposition.

“Over the next few years, a typical fixed contract will look very different,” says Chris Hurcombe of Catalyst Digital Energy Consultants.

Hurcombe notes that ongoing uncertainty around home versus office working, combined with suppliers having to recoup commodity losses and deferred non-commodity costs, such as balancing and network charges, is already starting to bite.

“Post-Covid, there are too many unknowns for suppliers to price them accurately, so they are doing everything possible to de-risk contracts. Credit requirements are going up and some suppliers are not pricing for certain industries without an upfront deposit or a significant price premium,” he continues.

“Suppliers have been badly hit by Covid. For business customers, it means any wriggle room in terms of under or overconsumption is quickly becoming a thing of the past.”

Hurcombe says fixed-price contracts currently carry a 10 per cent price premium compared with flexible contracts. He predicts that will rise next year to 15 - 17 per cent.

called performance gap is not only the result of poor prediction of energy use, but poor handovers and unchecked building operation. So the FM professional – and their valuable knowledge to support the project briefing and delivery – is probably the lowest cost, fastest win in the race to reduce carbon emissions.”

For new builds, decarbonisation of the National Grid is likely to see buildings moving to electric rather than gas-driven solutions for heating, while heat pumps are likely to continue being favoured for their positive impact on air quality within buildings. Energy storage devices, with their ability to allow buildings to avoid spikes in demand from the grid and optimise on-site renewables, are undoubtedly part of future solutions too.

CBRE’s Brooks says: “Smart building technologies will become standard within new builds and the extent of the controls more complex. There will also be greater transparency around specific aspects of building performance, particularly relating to the various

indicators of air quality. Low and zero carbon technologies will also become more prevalent; heat pumps, renewables, and battery storage systems, both static and mobile.”

Planning ahead

Net zero legislation has had knock-on effects everywhere. The forthcoming London Plan will force the disclosure of operational energy consumption on all new building projects in the capital. Planning applicants will be ‘required to report on the energy performance of their developments for at least five years post construction’.

Schembri says that some London projects already well advanced are reevaluating design to respond to fresh tenant demand – “I’d say it’s 10 per cent [of projects] in the Central London market now, but the Greater London Authority (GLA) is going to push the number up by encouraging the Design for Performance approach for commercial building with a net internal area greater than 5,000 square metres.”

Design for Performance (DfP) is a project run by the Better Buildings Partnership to design a process that predicts energy consumption more accurately at design stage and

encourages better engagement with FM to check predicted assumptions about controls and maintenance. It is based on the Australian NABERS scheme, which for more than 20 years has led, via the transparency of its energy performance ratings, to better performing buildings. Like NABERS, DfP seeks to create energy performance ratings that are reported annually. Says Schembri, “The priority for the FM profession is to engage with the Better Building Partnership so that knowledge is exchanged both ways and to ensure decisions are not design-biased.”

Along came Covid...

Brooks believes that the FM industry’s response to the pandemic has been “immense” – and that pre-Covid project priorities have not been affected.

“Early stages of lockdown were focussed on crisis management, but it really didn’t take long for the focus to return to sustainability, net zero carbon, and the need to build back better,” says Brooks. “Many of our clients have committed to long-term objectives around energy and carbon reduction and these ambitions have not been dulled.”

The major concern that Covid has introduced is uncertainty as



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to office layout and occupation as tenants seek to minimise their exposure to lease commitments while contemplating new ways of working. Some companies have gone from reviewing their energy plans to reconsidering the very existence of their property portfolio.

Sewell accepts that uncertainty over office occupation will make future energy calculations more difficult. However, an enduring focus on future environmental benefit is now intrinsically linked to reduced operational cost. “We shouldn’t be afraid to let economic drivers be drivers of environmental improvement; they’re actually good bedfellows.”

So what now in the wake of Covid? It is ironic that a pandemic, which has had the effect of stripping a majority of workers from their workplaces, has done so at just the time that a new and collaborative focus on sustainability has come into being. Notwithstanding the mass uncertainty that the pandemic and resulting recession will surely bring, there’s a real sense that work being done in social value has chimed with end-users, and, in turn, end-users have been feeding back up the chain to management on environmental sustainability as well. Essentially, those actually using buildings are joining with local authorities, developers, planners, operators and tenants in support of a government-mandated goal to fundamentally change the way buildings are designed, commissioned and operated. From a corporate real estate perspective, this is new thinking indeed – with FM looking well placed to gain. **f**



185TWh

APPROXIMATE AMOUNT OF ENERGY THE UK'S INDUSTRIAL AND COMMERCIAL BUSINESSES CONSUME EACH YEAR

(SOURCE: CATALYST COMMERCIAL SERVICES)