

Physical review

A review of the actions we've taken this year to enhance the quality, efficiency and long-term sustainable performance of our physical infrastructure.

Climate change

Context

During the year, two important reports were released showing how climate change is affecting the UK and what the projected impacts are likely to be.

The UN Intergovernmental Panel on Climate Change report of October 2018 showed how the limiting of global warming to 1.5°C above pre-industrial levels is unlikely to happen. The current trajectory is towards 3°C of warming by 2100, which will cause unprecedented changes to the world's natural systems and to society. Globally, average temperatures have already risen by 1°C and the likelihood and severity of extreme weather events is increasing every year.

Launched by the Environment Secretary, Michael Gove, in November, UK Climate Projections 2018 showed us what our climate and weather might be like in future. By mid-century, the likelihood of a summer as hot as 2018 will go from 10-20% to 50%, with extreme summer temperatures rising as much as 5°C. Rainfall will decrease by up to 47% in summer and increase by 35% in winter. Hotter, drier summers and warmer, wetter winters would have physical impacts on property, logistics and agriculture. Disruption from extreme weather and heatwaves could have unforeseen effects across society.

Although the UK has achieved significant emissions reductions over the past decade, it's crucial that businesses continue to lead the way. While the UK has world-leading legislation and regulation on designing for low-carbon and energy efficiency, it isn't sufficient to drive emissions down year on year. This is the

responsibility of business, and every tonne of carbon and kWh of energy saved provides a financial benefit. For the benefit of customers and our investors, addressing carbon emissions and increasing energy efficiency is the sensible thing to do. Strong progress from business can also give government confidence to set more aspirational policies and regulations, which drive improvement across every sector and business. So, through our commitments and targets, we're supporting the transition to a low-carbon world, creating benefits for our bottom line, reducing our customers' costs and bringing our partners along with us.

Strategy

The Task Force for Climate-related Financial Disclosures (TCFD), launched in 2017, encourages businesses to build resilience to the possible outcomes of climate change. We're committed to acting on the recommendations of TCFD. This means analysing how our portfolio can become more efficient, so we're ready for a low-carbon economy. It also means knowing how our assets and customers could be affected by the impact of shifting climatic conditions. By assessing various scenarios and the possible impacts on our portfolio and our stakeholders, we can ensure our strategy is relevant and effective.

Transition

We continue to focus on portfolio quality. Our assets should support the changing needs of customers, which means investing in low-carbon and energy efficient buildings and technology. New assets must move from dependence on gas towards all-electric solutions like air source heat pumps. We've begun this transition within our developments, scaling back fossil fuel-dependent boilers in favour of electric heating and cooling. This means our assets will be powered by cleaner energy as the volume of renewable energy resources on the grid increases.

Resilience

Part of becoming more resilient is being aware of the physical risks of climate change, like flooding, sea level rise and overheating. As the climate becomes hotter and wetter, we need to be sure our assets still deliver the same quality of experience to our customers. At present the percentage of our portfolio at high risk of extreme weather in the lead up to 2030 is 1.4% when measured by value. As climate change will gradually increase the level of risk over time, it's important we continually reassess the risks.



Energy transition

We're making big progress on carbon and energy. This year we're almost half way to our 2030 energy reduction target with over £4m of avoided costs for our customers.

£4m

Costs avoided for our customers through our energy efficiency projects

18.2%

Reduction in energy intensity compared to a 2013/14 baseline

We mitigate climate risks through physical measures, insurance and business continuity planning. At present, the level of residual risk to our assets is low up to 2030. In our development pipeline, we're designing and constructing high-quality buildings and spaces capable of delivering operational resilience over their lifetime, taking into account how the UK's climate will change in the coming decades. We're confident our focus on energy transition and mitigating physical risks means our business will continue to be resilient to the impact of climate change.

Advocacy

We need swift and deep decarbonisation of the world's economies. We are advocates for climate action and this year we worked closely with the World Business Council for Sustainable Development to promote the adoption of long-term, ambitious targets within the buildings and construction sector. We've also contributed to the UK Green Building Council's Advancing Net Zero programme, joining the Steering Group to create a nationally agreed definition of 'zero carbon buildings' – a definition that may shape the industry for years to come.

See our full response to TCFD, and our Resilience commitment, in our Sustainability Performance and Data Report at landsec.com/sustainability/reports-benchmarking

Efficient use of natural resources

Carbon

In 2016 we became the first commercial real estate company in the world to have its carbon emission target approved by the Science Based Targets Initiative, linking our carbon reduction targets with the science of climate change. This year we achieved significant progress against those targets. We've reduced carbon intensity in the portfolio by 39.8% since 2014 and have almost surpassed our goal of reducing emissions by 40% by 2030. We're now in pursuit of our longer-term ambition of reducing carbon intensity by 80% by 2050.

Energy

Using less energy is fundamental if we're to meet our long-term emission targets and keep making our spaces affordable for customers. Since 2013/14 we've reduced our energy intensity by 18.2%. This equates to a total of £4m per year of avoided costs for customers. To do this we've continued to work with facilities management partners to harness the vast amounts of data our building systems produce. Doing this helps us drive energy efficiency and proactive maintenance, and optimise the customer experience within our spaces.



Refill me

In 2018 we launched the 'Refill Me' campaign to help tackle the issue of single-use plastics. This enables visitors at our retail destinations to request a free refill of water – in their own bottles – from our customers, without an obligation to make a purchase. Not only does this encourage people to refill reusable bottles, it also provides an opportunity for brands to engage with people on sustainability. 100 customers are now signed up across 12 of our assets.

7.7bn

Plastic bottles of water are purchased each year in the UK

We're working in close partnership with our customers to deliver energy, carbon and cost savings. At 7 Soho Square, for example, we've partnered with the building's largest customer to install LED lighting on its floors. We've forward funded over £234,000 for the project and will recover this investment via the savings delivered to the customer. The new lighting reduces the building's electricity usage by 13% and saves 47 tonnes of CO₂ per year, while improving the look and feel of the offices. At Bluewater shopping centre we replaced all car park lamp posts with LEDs, delivering a saving of 832.5 kWh and £101,000 in the first six months. We're looking for similar opportunities across the portfolio.

This year we joined with a group of pioneers in an industry-wide initiative called Design for Performance. This aims to ensure buildings perform as well in operation as by design – a challenge we face as an industry. The initiative is led by the Better Buildings Partnership, a collaboration between leading commercial property owners who are working together to improve the sustainability of commercial building stock.

Design for Performance should help give customers visibility of their potential energy costs. This is a significant change from current practice. This year we worked closely with our building designers and contractors to better model and test the energy performance of our 21 Moorfields development. This will benefit both our customer, Deutsche Bank, and us by ensuring the base building and customer spaces work together efficiently.

Physical review

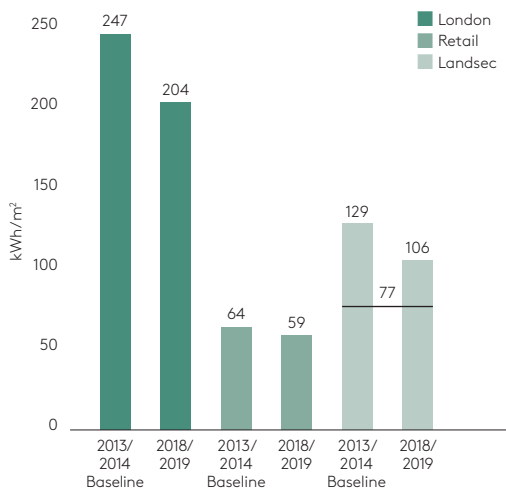
continued

Renewables

The UK electricity grid is becoming cleaner. Since 2016 we've played our part in supporting this decarbonisation by purchasing 100% renewable electricity. We also continue to procure 15% of our annual gas demand as green gas, further reducing carbon emissions. Our on site renewable energy installations have performed well and we continue to look for opportunities to add to our existing 1.5 MW of solar PV capacity.

Landsec energy intensity

Chart 28



Waste management

In 2018 public and government pressure to act on single-use plastics and waste management reached new heights. Although we've long-taken waste management seriously, we understood that more must be done. That's why, last summer, we launched our Refill Me campaign, bringing together over 100 retailers to offer shoppers free refills of water (see highlighted story on previous page).

This year we also worked with charity Hubbub at Trinity Leeds as part of the #LeedsByExample recycling campaign. That's seen us engage visitors at Trinity Kitchen with our recycling reward machine, which offers diners discounts in exchange for them recycling their bottles and cans. Through this initiative we've now collected and recycled over 4,000 items.

100%

of waste diverted from landfill

74.7%

of waste is recycled or reused

We've also been trialling coffee cup recycling campaigns at Gunwharf Quays and Bluewater, working with our customers and supply chain partners to find a solution for this notoriously hard-to-recycle product. We'll be sharing what we learn across all Landsec destinations and the wider industry.

Fashion and textile waste is an emerging and increasingly high-profile problem. We aim to show that action can be taken to protect the environment without placing retailers under financial strain. In particular, we're responding to calls from the government to place a levy on fashion items by mobilising an alternative plan focused on collaboration rather than taxation.

For additional information on our corporate commitments and the definition of our corporate target boundaries see our 2019 Performance and Data Report at landsec.com/sustainability/reports-benchmarking

Sustainable design and innovation

Innovation in development

The design for our scheme at 21 Moorfields supports the building from a bridge over an Underground/Crossrail station, rather than building up from foundations in a conventional way. By applying our experience to develop new construction processes and techniques, we've responded to the technical challenges involved. For example, we've been taking a fresh approach to procurement and partnership. Instead of appointing the main contractor and then they contract with key partners, we first spent a year working with specialist suppliers in steel, cladding, lifting and mechanical and electrical services. This gave us much deeper insight into the design and cost of 70% of the project. We then used this knowledge to shape the main contractor tender.



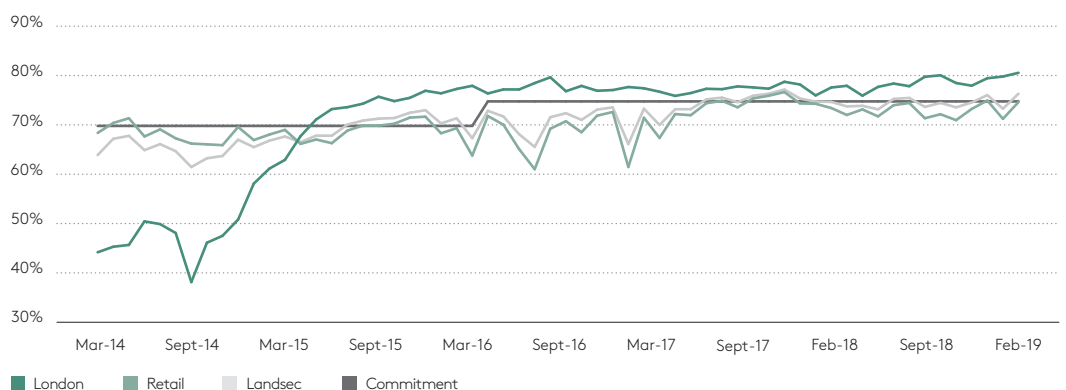
Tackling textile waste

Our first response to the textiles issue was a trial scheme, 'spring clean, think green', launched in March 2019 at Westgate. During that time, we invited guests to

drop-off used clothes and shoes for recycling, gave them information on the possibilities created by recycling and incentivised them through competitions.

Landsec monthly portfolio recycling rates 2014-19

Chart 29



This approach has similarities to proven manufacturing processes and we expect it to reduce complexity, cost, unpredictability, waste and time on site for us. We're already applying knowledge gained at 21 Moorfields to our schemes at One Sherwood Street and Nova East. And we're looking at further ways to apply new techniques – including innovations in offsite construction and 3D printing – to improve our developments.

Well-established technologies can also have a big impact when applied in new ways. For example, we're now using building information modelling to create a multi-dimensional model of a building, accurate to every last detail inside and out. We are progressing towards creating a digital twin for each building, which enables us and our supply partners to review any component or system during construction and operations. This capability will help our partners get work right first time, reducing cost and avoiding delays. It's also set to enhance how

we operate the asset. Repair, replacement and upgrades to everything from lighting to lifting can be improved. And with greater use of sensors, scanners, data management and artificial intelligence, we can now automate even more maintenance activity – improving the customer experience and reducing cost.

Wellbeing

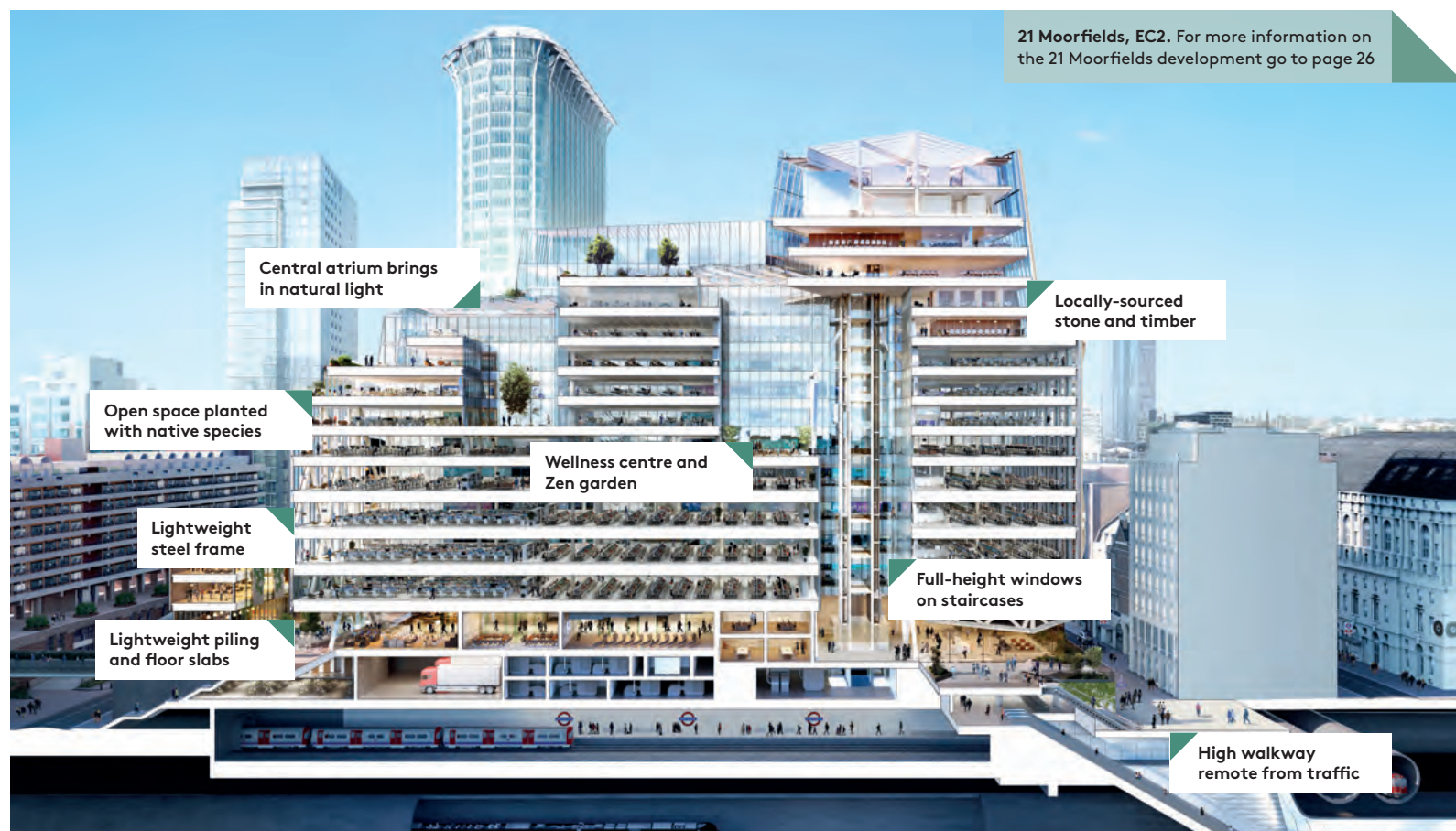
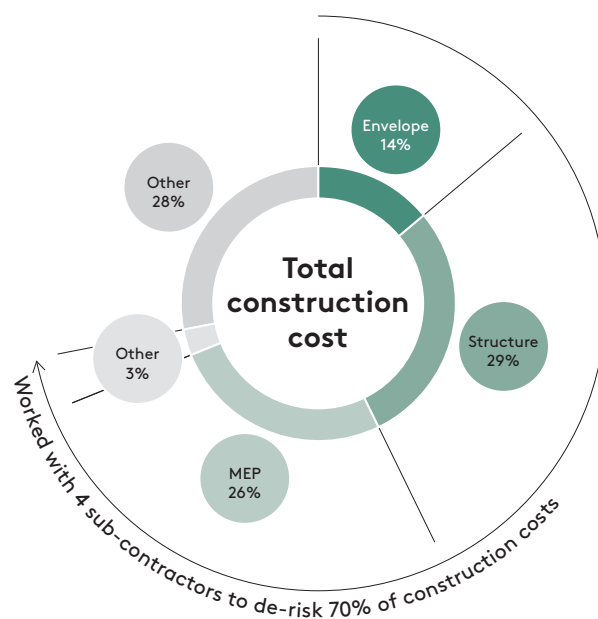
We design and manage our assets to enhance our customers' physical and mental wellbeing, and to support their productivity. This year much of our work focused on 21 Moorfields. The design of the building responds to Deutsche Bank's desire to create a modern and sustainable workspace focused on the wellbeing of its employees.

The development features an airy high-walk away from London's traffic, creating a focus for human interaction. An atrium passing all the way through the building will bring natural light into the centre of the floors, while the building will have seven west-facing roof terraces providing greenery and afternoon sunlight. Staircases with full height windows will bring in daylight and encourage staff to use stairs rather than lifts. Externally, over 50% of the open space will be planted, benefiting occupants and local communities, while also supporting wildlife and biodiversity. A wellness centre and Zen garden will be created, supporting staff and acting as a foil to the busy city beyond.

De-risking construction costs

Chart 30

Adopting an innovative approach, we worked in partnership with four specialist suppliers to gain greater insight into the design features and construction costs of 21 Moorfields – before we engaged the main contractor. This gave us better understanding and more control over 70% of the build.



21 Moorfields, EC2. For more information on the 21 Moorfields development go to page 26

Physical review

continued

Materials

Work on 21 Moorfields has demonstrated our well-considered and innovative approach to materials. The selected material palette for key spaces revolves around natural materials such as stone and timber. The project team has set out to source all materials from manufacturers in the UK and Continental Europe, reducing both emissions from transportation and the risk of ethical issues in manufacture and extraction. For example, Irish limestone has been chosen for external stone paving instead of granite typically extracted in China.

The building's steel frame is designed to be as light as possible, as it sits above a very busy railway station. This means structural elements such as concrete piling and floor slabs also need to be lightweight, so we've used recycled aggregates and cement replacement. These materials have lower impact compared to traditional steel and concrete solutions, saving 2,400 tonnes of CO₂. A timber finish has been designed-in for internal areas, including lift lobbies. This is an important feature, not only as natural materials support wellbeing but also for the sustainability credentials of timber, which naturally sequesters carbon.

Biodiversity

In support of our commitment to enhance biodiversity across the five retail assets that offer the greatest potential, this year we planned and secured budget for enhancements which will deliver a biodiversity net gain of between 5% and 25%. We've also recognised the need to increase biodiversity in urban areas, so we've extended our biodiversity commitment to our assets in London and are developing a strategy for all future developments to deliver net gain.

If we deliver more and better green spaces we'll also see other benefits. For example, having more soft planting helps to maintain cooler temperatures in public spaces, soak up rainwater after a storm and enhance the atmosphere within a building, enabling occupants to relax. We believe this is good for nature, good for business and good for our customers.

21 Moorfields shows how we can deliver net gain in urban spaces. Previously a vacant site, we will create a new green open space where 50% of the area is planted with native species. More than 20% of the total site area – including its elevated walkways and roof terraces – will be biodiverse.



Sustainable Development Goals

In September 2015, the United Nations General Assembly adopted 17 Sustainable Development Goals (SDGs) for 2030. The SDGs or Global Goals are an urgent call to action for all countries to address the environmental, economic and social imbalances that affect the world's population and its institutions.

The SDGs are a blueprint of what is needed to create a sustainable future for all, but to deliver them will require productive partnerships between business, government and society. We mapped our sustainability commitments to the SDGs and we know if we choose to run our business in the right way we can contribute to meeting the goals.

Structuring our activities and our reporting to support the goals gives us two things. We know we are addressing global issues, which makes what we do relevant and important at a global scale. It also gives us a common language of 17 simple goals, so investors, partners, customers and communities can assess our progress in a familiar way.

UN Global Compact

This year we've become a signatory of the UN Global Compact. This voluntary initiative brings together leading businesses ready to commit to universal sustainability principles and take steps to support UN goals. Key commitments include doing business responsibly, aligning with key principles on human rights, labour, environment and anti-corruption. It also asks companies to take strategic action to advance broader societal goals.

You can find more information on our UNGC action, and how we're addressing the SDGs, in our Sustainability Performance and Data Report at landsec.com/sustainability/reports-benchmarking



2019 Sustainability Performance and Data Report

For a full update on our progress against our sustainability targets, see our Sustainability Performance and Data Report at landsec.com/sustainability

