

The future of the built environment

The built environment of the future will be bigger but also greener

For centuries people have conjured up visions of the cities of the future. Many of them technical and monstrous like the dystopian Metropolis portrayed in Fritz Lang's 1927 film. But that frightening vision of modernity came from a time when just 10% of the global population lived in cities. Today more than half of us live in urban environments and that is set to rise to over 70% by 2050 as the global population approaches the 10 billion figure the UN is predicting for the end of the century.

Where once this prospect might have been worrying, the visions of our future cities are greener and more sustainable than ever before, with lessons being learned from ecologists and environmental experts. They can provide the data and expertise to contextualise and enhance the sustainability of planners' and architects' ideas. As a result, cities are evolving to be happier healthier places that use natural forces to provide energy, cleaner air and richer ecosystems to create inspiring surroundings. They are also being designed with the ability to flex and transform to meet changing social needs, economic demands, and climates.

The cities of the future are already being built today

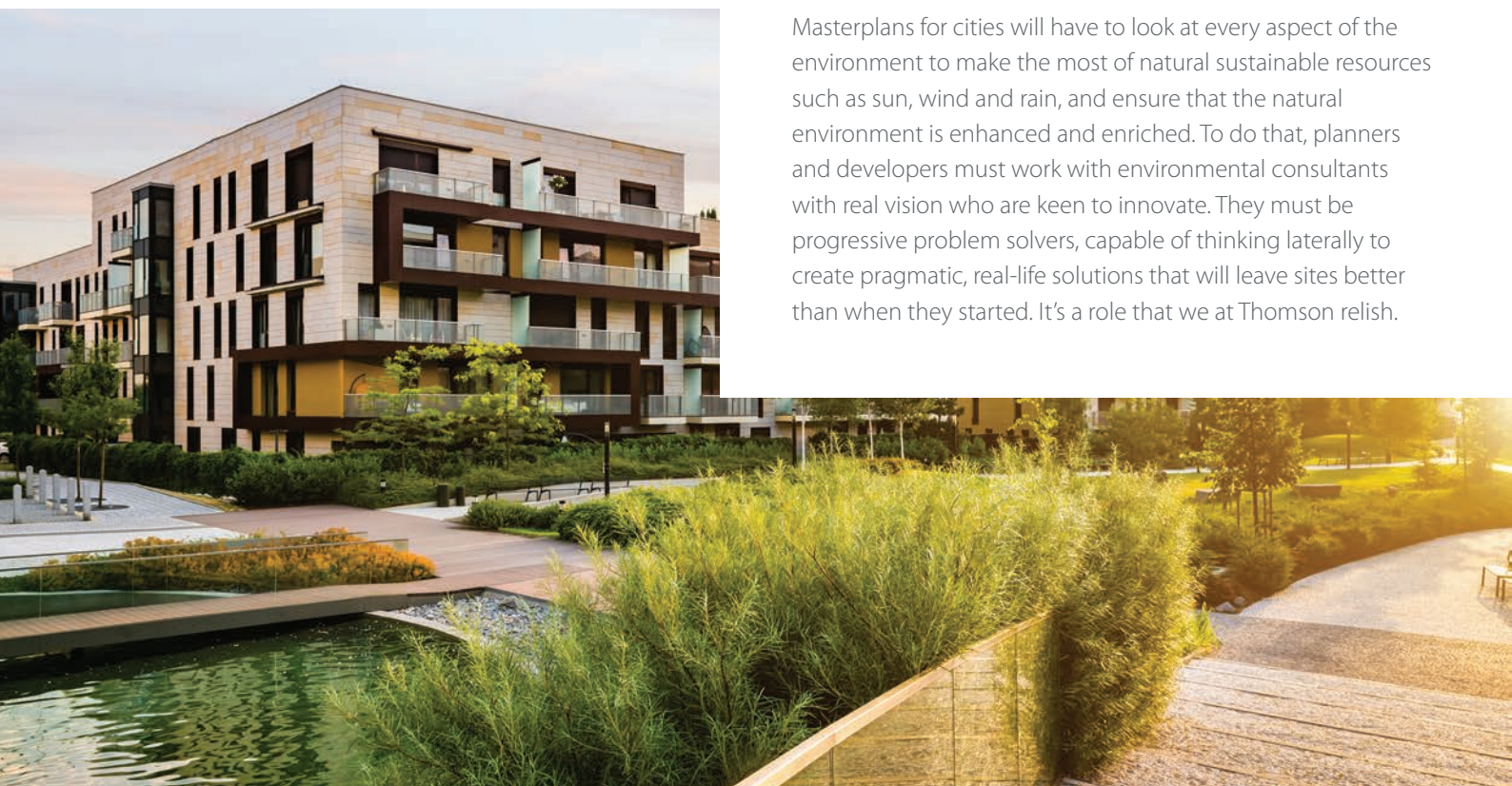
We are seeing radical visions of cities coming to life all around the world. Sustainable cities are springing out of the desert, using the natural environment to cool the city and deploying traditional local building techniques alongside zero carbon solutions to address rising temperatures. There are "forest cities" using natural ecosystems as integral elements of the infrastructure. Other cities are building precious marine ecosystems such as mangroves and seagrass meadows into their planning. There is one city being built in China which is being constructed entirely from sustainable wood and bamboo, reducing its embodied carbon, and creating a massive carbon store. Even more ambitious plans are afoot, including an entire floating town designed to address issues of rising sea levels and work in harmony with the surrounding marine ecosystem.

The scale of the challenge is unprecedented

Accommodating the biggest growth in urbanisation in human history will be no mean feat. Emerging economies in South America, India and Africa will see extreme levels of urban growth. It has been forecast that Africa will need to construct as many buildings in the next twenty years as Europeans built over the past 200 years. Across the world, we are now creating buildings equivalent to a city the size of Paris every week.

As a result, construction currently accounts for 38% of the world's emissions. That equates to 14 gigatonnes of Greenhouse Gas Emissions (GHG). To reduce this, we need to fully understand the impacts and implications of every project and find innovative, ground-breaking solutions that will empower us to look after our people, local ecosystems and the wider environment.

Masterplans for cities will have to look at every aspect of the environment to make the most of natural sustainable resources such as sun, wind and rain, and ensure that the natural environment is enhanced and enriched. To do that, planners and developers must work with environmental consultants with real vision who are keen to innovate. They must be progressive problem solvers, capable of thinking laterally to create pragmatic, real-life solutions that will leave sites better than when they started. It's a role that we at Thomson relish.



It's not just about construction

While it might be tempting to believe we can build our way out of the climate and biodiversity challenges facing our planet, it is important to remember that new builds will only ever be part of the story. 80% of the homes that exist now will still be here in 2050 so transforming existing cities and structures is vital. New builds use vast amounts of raw materials with high levels of embodied carbon so the lowest carbon building will always be the one that is already built.

By saving buildings from demolition and using and reusing existing elements to create spaces for new uses, we can massively reduce the impact and expense of new materials. This is particularly salient at a time when demand for and prices of new materials are skyrocketing.

Older buildings, which contain timber, are also effectively storing carbon. Finding innovative ways to make them operate more sustainably through refurbishment will deliver positive results simply by preserving that carbon storage.

Building nature into cities

Redensification of inner-city populations is one of the key trends that has widely been acknowledged as a step towards more sustainable lifestyles. Repurposing existing retail and office buildings is seen as being a progressive way to repopulate urban centres and create 15 minute neighbourhoods. These will enable more active travel and reduce the need for cars as they are replaced by shared and autonomous transport systems. This will free up streets and car parks to create natural corridors, waterways and new parks – making urban centres greener and richer in biodiversity.

Green walls and roofs can also be used to transform and enrich existing urban spaces along with other biophilic architectural solutions. Building nature into urban projects and city plans is just one of the areas you can deliver biodiversity net gain and configure greener more sustainable places from our existing urban areas and why it is vital to work with innovative and inspiring environmental consultants.





Building obsolescence out

Retrofitting and reuse projects are often challenging and require clever compromises and workarounds. This reinforces the need to design new buildings to be more adaptable in the future so that they can be readily reconfigured and even reconstructed and reused elsewhere. Modular designs with uniform panel sizes will allow for easier change of use and help constructors take a more circular approach to projects with clear routes for materials at the end of the building's life. The positive carbon impacts of this approach will be huge – reducing the need for processing, manufacture and transportation – but reducing the need to extract raw construction materials from other environments will also lessen our impact on the biosphere and help preserve the world's natural capital.

Staying on top of rising standards

Every industry is having to work to constantly improve Environmental, Social and Governance (ESG) standards and the real estate sector is no exception. With 38% of global emissions being placed firmly on its doorstep, the environmental element is widely acknowledged to be the sector's biggest challenge. The trend toward ESG with investors is set to increase as we near deadlines for global environmental performance. A recent Building Research Establishment (BRE) BREEAM survey revealed that 77% of respondents put the Environmental element of ESG at the top of their list of priorities. BREEAM's own accreditation standards are continually rising and a building that might have been rated excellent five years ago would probably not make the cut now.

Working with environmental consultants who are fully aware of the latest criteria and the positive environmental potential for your project will help you achieve the best possible rating.

To talk to our experts about how we can help you prepare your projects and plans for a greener, more sustainable future, get in touch.

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