

Green building trends in 2023 and beyond

By [Alison Groves](#)

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As the importance of sustainability grows and is given greater attention, there are a few green building trends that are similarly gaining momentum.

Decarbonisation

One such trend is decarbonisation which entails the removal of carbon from all stages of a building's construction. With decarbonisation, reducing a building's carbon footprint depends on it being designed with sustainability objectives in mind. It further considers how readily its materials can be recycled and re-used when the building comes to its end of life which is typically 20 years in South Africa.

While the carbon used in the operations of the building will, over time, supersede the embedded carbon emissions used in its construction, it's best to try and start with a lower base right from the outset. However, it is essential to get decarbonisation right from the outset - once the building has been completed, no further decarbonisation to the building structure can be done. This makes carefully considering usage of materials essential from the beginning of its construction.

There are a few ways this can be accomplished. Firstly, we can reduce the amount of materials that comprise a building, as well as choosing materials that have a lower carbon footprint. Additionally, we can use techniques like coffer slabs rather than flat slabs, or using timber instead of concrete and steel, for example.



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The latter is controversial, since timber, even when it is laminated and engineered, is often erroneously considered to be a greater fire hazard than its metal counterparts. It is worth noting however that steel will melt at high temperatures – softening at 425°C and losing half its strength between 600°C and 650°C. At that level, a building's structural integrity is compromised, which is what happened in the Twin Towers of the World Trade Centre. In fact, when timber is subjected to fire, it can char on its outside while still retaining its structural integrity. Timber also has a considerably lower structural weight than steel.

Another plus in timber's favour is that it has much lower embodied energy than carbon or steel. Additionally, it is renewable in the sense that it can be continuously grown - and captures carbon during its life span too. For these reasons I would encourage those considering extending their property to look at using timber as a viable alternative.

Achieving net zero

Another trend, and the one that has already garnered a great deal of exposure, is towards attaining net zero, which looks at the operation of the building throughout its lifecycle and how it is powered, whether this is from coal or renewable energy sources.

The aim of achieving net zero is to have buildings that are ultimately wholly run using renewable sources. However, attaining net zero is a journey, and different countries and industries vary on how far along they are towards that end.



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Green financing

A third green building trend that I see is the usage of green financing. For example, Nedbank is looking at offering green bonds for residential homes as well as commercial developers, and some of the other banks are similarly following suit.

Green financing goes hand-in-hand with Excellence in Design for Greater Efficiencies (Edge) Certification. Residential buildings that attain Edge certification can qualify for financing through a green bond, which has a lower interest rate and is thus more affordable. This is becoming an attractive proposition for capturing a well-populated residential market.

Edge certification follows a two-step process. First, the building design is appraised and certified in a preliminary phase. Then, post-construction certification requires on site auditing to ensure that the plant installed actually achieves the targets set in the preliminary stage. Both steps need to be completed to achieve Edge.

Buildings that are certified for using less water and less electricity are not only easier to finance, but they also mean residents will likely spend less on their monthly utilities, which reduces the risk for banks.

Across Africa, South East Asia and South America, [green financing is growing](#).



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Shared accountability

A final trend is the push towards greater and shared accountability. By December 2025, buildings will need to display an Energy Performance Certificate (EPC), affirming they have taken steps towards ensuring their sustainability and increased efficiency.

Currently, it is simply a declaration with no punitive action if a building performs badly. However, if applied to non-compliance with EPC requirements, the [National Energy Act, 1998 \(Act 34 of 2008\)](#) stipulates steep potential penalties of either a fine up to R5m, imprisonment for up to five years, or both.

In short, property owners have been put on notice that they have three years to demonstrate that they are taking steps towards green building practices.

While a lot of work still needs to be done in South Africa to instil a culture of sustainability and energy efficiency, the EPC is certainly a step in the right direction. The common thread running across each of these trends is the undeniable move towards incorporating greater sustainability in our buildings in the years ahead.

ABOUT ALISON GROVES

Alison Groves is regional director at WSP in Africa. Groves has been involved in the 'green' movement in South Africa since its inception in 2007 and is a Green Star accredited professional.

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