

The future of green buildings in a post-Covid-19 world

By [Brett Chrystal](#)

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The Covid-19 lockdown has offered us an unexpected opportunity to reflect on our relationship with the planet, and the insurmountable evidence of climate change and its impact on our everyday life.



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As the lockdown in South Africa forces individuals and families to take stock of what matters most to them, companies similarly have to do a bit of introspection of their own with respect to the impact of the virus on the way they operate, as well as the management of their physical assets.

It has become clear that the retail and hospitality sectors are two of the hardest hit by the Covid-19 pandemic prior to the lockdown, with retailers unable or unwilling to pay rental on retail space where they are unable to trade, and hotel chains completely shut down until travel restrictions are lifted and tourism resumes. Following the Covid-19 lockdown, other sectors such as offices and industrial work places have been similarly impacted with no staff permitted at their place of employment.

Re-assessing operational items

Property owners and developers across the board are, therefore, having to assess how best to make operational savings going forward to minimise the impact on their bottom line. The Covid-19 lockdown in particular has provided companies with the time to re-assess operational items such as waste management, lighting and water and energy efficiency. In addition, the

noticeable improvement in the air quality in a number of cities usually impacted by smog and pollution has brought into sharp focus the necessity to curb emissions and reduce the carbon footprint of building stock.

Antiquated service facilities, poorly conceived shutdown procedures, and the opportunity to undertake long overdue maintenance while buildings stand mostly vacant during the Covid-19 lockdown have highlighted operational inefficiencies in buildings. Energy efficient facilities which can be remotely operated and monitored will probably receive increased attention, together with designs that will enable optimal efficiency of services depending on the occupancy of the buildings at any given time.

Specific technologies such as heat pumps (air source heat pumps for cool climates and ground source heat pumps for heating) solar arrays, battery banks, variable refrigerant flow HVAC systems, heat exchangers, building management systems (BMS) for gas, water and electrical services will become standard.



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Time saved on commuting

From a building-user perspective, the time saved on commuting has been one of the unintentional benefits of Covid-19 and the ensuing lockdowns worldwide. Rather than merely being a supplementary service, video conferencing applications such

as Skype, Zoom and Microsoft Teams have become ubiquitous, replacing the necessity to drive or fly to meetings, and saving valuable time for staff to enjoy a better work/home dynamic.

Staff members have also for the large part been ensconced in their own homes with access to facilities, comforts and ease of access which are not always readily available at work. Building owners may have to invest in customising the user experience of their buildings to enhance comfort and promote productivity. Investments may include seamless connectivity between their personal phones, wearables and the equipment in their offices to replicate the connectivity experienced in fibre-linked homes.

Space planning

Space planning may, therefore, also be impacted with staff not permanently desk bound, and 'hot' desks becoming the norm. Far more diverse and flexible spaces will need to be designed more in keeping with co-work spaces, which facilitate a multiplicity of uses and users. Smaller more efficiently serviced buildings occupied by multiple companies with shared facilities may become the norm, rather than entire office blocks devoted to single, large corporate entities which frequently have unused space for 'expansion' purposes.

Access to natural ventilation as well as sunlight by building users are elements which house-bound workers have also become accustomed to. This is in stark contrast to most offices which often operate as hermetically sealed environments using mechanical ventilation, and which often have deep floorplates allowing only those lucky enough to be allocated a seat on the periphery with direct access to sunlight.



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Working in healthy environments

Requests for design changes to existing and new buildings by corporate clients and owners of buildings would not purely be a goodwill gesture towards their staff – many studies have proven that staff working in healthy environments are more productive and efficient than those in uncomfortable or 'sick' buildings. The evolution of buildings into sustainable engines for the optimised well-being of the users is, therefore, a win-win situation for all.

Architects and designers will need to be cognisant of the clear impact that the Covid-19 pandemic has had on the built environment as highlighted, and engage in a more critical and meaningful dialogue with property owners, developers and potential future users of the buildings to ensure that their designs are flexible, energy efficient, inter-connected and user friendly enough to adapt to the changes that have been wrought by the Covid-19 pandemic.

ABOUT THE AUTHOR

Brett Chrystal, is associate director and head of sustainability at Bentel Associates International. He is one of the founder members of the Parkhurst Go Green Initiative pioneering green technology implementation within his neighbourhood, and he 'walks the talk' by boasting a 95% off the-grid green building solution for his own home.

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