

Green light for carbon-neutral Lanseria estate

Report hails plans to recycle, use natural lighting and plant trees

INDUSTRY is often a red rag to the green movement, but one industrial hub is so environmentally aware that a new report on the carbon footprint of Lanseria Corporate Estate shows it has offset its carbon footprint for the next 15 years.

This is a conservative estimate, according to a comprehensive environmental assessment by global construction and management consultants Turner & Townsend.

The ultimate goal of developers is to create a platform for sustainable working environments which facilitates the use of natural light in an aesthetically pleasing surrounding with verdant planting.

Lanseria Corporate Estate is to be planted with indigenous vegetation, including 4 900 trees, not only to please the eye but also to pay the development's carbon debt.

Using South African specifications for the absorption of carbon by trees, the annual carbon emissions of 78.73 tons from the estate's activities will be negated by the 96 tons a year of carbon dioxide sequestered by the lush landscaping.

"This is after taking into account the likely 272-ton carbon content of the grassland typifying the area before development," says Jurgen Erhart, of Lanseria Corporate Estate.

These figures are based on research conducted by the University of Pretoria, which concludes that the average urban tree will gain 500kg of carbon over a 15-year period, with a

60 percent survival rate, according to the Turner & Townsend report.

Then, when the gardens are pruned, the estimated four tons of trimmed foliage will be composted or recycled, as will all suitable waste from the estate.

"However, carbon sequestration levels can vary, so we are not using these figures as the sole means of offsetting our emissions, but also creating a sustainable environment using multiple disciplines and resources," says Erhart.

"Our green ethos is all-encompassing; we are determined to reduce our impact on the environment."

Although the gardens are the most visible feature of environmental planning, behind the scenes lies the most modern waste water works in all of Gauteng – a joint venture between neighbouring Lanseria International Airport and Lanseria Corporate Estate.

Treated water is returned to the environment for irrigation and other grey water uses, which should result in substantial water savings at the estate.

The owners of Lanseria Corporate Estate are investing R200 million in basic infrastructure, but investment is estimated to increase to R2 billion as development takes place over the next six years, all of it spent with a keen eye on minimising impact.

"The estate's proximity to the Cradle of Mankind heritage site is a constant reminder of the environmental sensitivity we face, and the

importance of being true to our ecological values," says Erhart.

"Companies and entrepreneurs can either rent or own premises here, knowing they're making a sound, principled choice for the future of their business, as well as the planet."

Lighting accounts for about 55 percent of the estate's footprint, so natural lighting is to be used extensively.

A recent study by the School of Planning, Design and Construction at Michigan State University found that a green-certified work habitat meant a 60 percent decrease in allergies and asthma in staff, and a 30 percent drop in absenteeism due to depression and stress.

Greater access to daylight proved to be a major factor.

Albedo (the reflectivity of a given surface) has been taken into account throughout the estate, with light-coloured roofing materials enhancing the improvement in albedo.

Overall, the Turner & Townsend report estimates the positive change in albedo brought about by the estate will substantially reduce its cooling requirement, with a reduction in air-conditioning needs.

The resultant lower emissions will equate to offsetting an equivalent of 2 970 tons of carbon dioxide a year.

Changes to albedo are not recognised as a legitimate offset strategy so these figures have not been used in the carbon-neutrality calculations.

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