SUSTAINABILITY GROWTHPOINT PROPERTIES



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BREAKING GROUND WITH UNDEPOSIT70

CONTACT

OVERVIEW

WHO WE ARE

We are the largest South African primary listed REIT and is well on its way to becoming a leading international property company. It provides space to thrive with innovative and sustainable property solutions in a diversified portfolio of 533 properties it owns and manages, including 473 properties in South Africa, 59 properties in Australia through its investment in Australian Stock Exchange listed Growthpoint Properties Australia and a 50% interest in the properties of the V&A Waterfront, Cape Town. It also owns a 26.9% stake in the €1bn property portfolio of London Stock Exchange Alternative Investment Market listed Globalworth Real Estate Investment, the largest owner of office space in Romania.

LARGEST SOUTH AFRICAN PRIMARY LISTED PROPERTY COMPANY ON THE JSE

- > Listed on the JSE Alsi 40 since 2008
- > Listed on the JSE SRI (Social Responsibility Index) since 2009
- > Listed on Dow Jones Sustainability Index since 2013
- > Moody's rating of Baa2/ Aaa.za (as at 30 December 2016)
- Quality portfolio across retail, office and industrial sectors with high client retention and low vacancies

WHY CHOOSE US

Environmental, social and economic sustainability is at the core of our business imperatives. Green buildings form a major part of our strategy, and resource efficiency is a priority for all of our property assets. In this way, we create places where businesses and communities can thrive.

We have a team of sustainability and green specialists, comprising many recognised industry experts that focus on offering you tailor-made, sustainable office spaces. Our approach is to develop sustainable and green solutions that are designed according to your specific needs.

In addition, we are the recipient of many sustainability and Green Star (GBCSA) awards and accolades within the property industry. We are acknowledged as leaders in our field, with many Growthpoint staff members being spokespeople for our industry and industry bodies – including Rudolf Pienaar, our Office Divisional Director, being appointed to the World Green Building Council's (World GBC's) Board of Directors. He is also Deputy Chairman of the Green Building Council South Africa (GBCSA).

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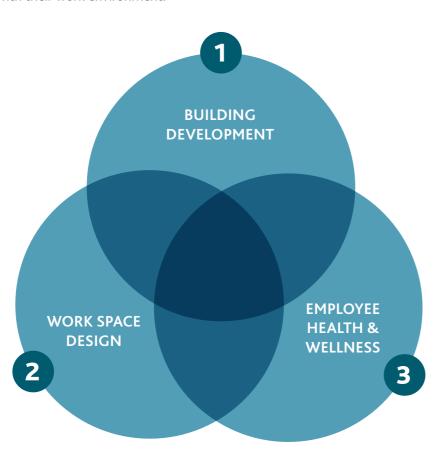
Growthpoint continues to take a lead in re-shaping SA's built environment with the largest Green Star SA rated portfolio of buildings."

Dorah Modise, CEO Green Building Council South Africa

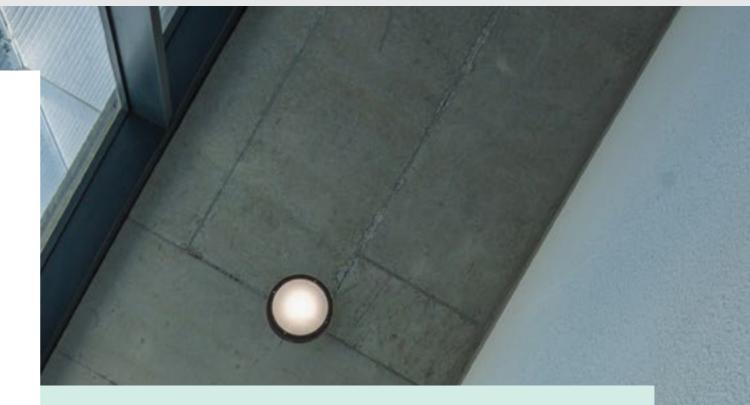


CREATING SPACE TO THRIVE

To create Space to Thrive, we need to combine building development, work space design and employee health and wellness. To do this, we use several tools and certification methodologies, as well as local and global best practices. Once these are in place, we can begin measuring productivity and ensuring that employees are not experiencing frequent health issues, are alert, are willing to exert effort at work and lastly, are present and satisfied with their work environment.



	1. Building Development	2. Work Space Design	3. Employee Health & Wellness
Methodologies and Elements	Indoor air ventilation Thermal comfort Natural lighting and lighting Noise and acoustic	Work patterns: business behaviour Work environment: interior design Change management	Air & water quality Nourishment Light Fitness Comfort Mind
Tools Used	Green Building Council SA: Design As-built Existing Building Performance (EBP) Energy and Water Performance (EWP)	Green Building Council SA: Interiors Certification High level business process mapping Change management frameworks	WELL Building Certification



WHAT DOES GREENX^{5.0} MEAN?

GreenX^{5.0} is our commitment to increase energy and water efficiencies in all our commercial buildings to be on par with the GBCSA Energy and Water Benchmark (EWP rating). The EWP rating was developed on international standards, where 5.0 represents the benchmark on a rating scale between 0 and 10. The benchmarks for both Energy and Water were obtained using consumption data for several hundred properties around South Africa.



OUR COP21 COMMITMENT

As a Platinum Founding Member of the GBCSA, we firmly believe in creating green and sustainable workplaces that reduce their impact on the environment. We are constantly pushing the boundaries of green technologies by offering you energy and water saving options.

In 2015, we made an ambitious commitment to sustainability, energy efficiency and green building, to coincide with Buildings Day at the COP21 in Paris. As a result, measurable environmental sustainability commitments are a vital part of what we do.

We have the largest portfolio of Green Star SA rated properties in South Africa and green buildings and resource efficiency form a major part of our strategy. In this way, we create places where businesses, communities and our world can thrive. We are also committed to increasing the percentage of renewable energy our buildings consume.

By 2020, all of our office investments will be above the Energy and Water Performance Rating Tool benchmark, and all of our long-term office investments will achieve at least a 4-Star Green Star SA GBCSA Existing Building Performance certification.

OUR ACHIEVEMENTS

- > We are a Platinum Founding Member of the Green Building Council of South Africa (GBCSA), the country's official green building authority.
- > We contribute to publications such as "Rands and Sense" and "Green Lease Tool Kit" by the GBCSA.
- We funded (along with ESKOM) the GBCSA's Energy and Water Benchmarking Tool.
- In 2013, we embarked started to address the greening of our existing portfolio stock. This R53 million project involved an energy efficient lighting upgrade (using the latest energy-saving technologies) in our office portfolio. During 2015, we successfully rolled out new basement lighting technology, in order to reduce basement lighting operating hours.
- Member of Dow Jones Sustainability indices which is in collaboration with RobecoSAM 2013-15
- > Global Real Estate Sustainability Benchmark, 2014 participant.
- > Our business remains one of the leading companies in the African real estate sector for carbon disclosure reporting.
- > First Property Company to be included on the JSE SRI (Social Responsible Investment) since 2009

OUR AWARDS

Many of our innovative and sustainable designs have been recognised with awards from our industry peers; including the South African Property Owners' Association (SAPOA) and the Green Building Council of South Africa (GBCSA).

- > SAPOA Overall Green Award 2017 for No 5 Silo (50% ownership)
- > SAPOA Commercial Office Development Award 2017 for No 5 Silo (50% ownership)
- SAPOA special commendation award for innovative development for the Growthpoint App
- > SAPOA Innovative Excellence Award 2016 for Best Commercial Office Development, Ridgeview Office Park, Umhlanga.
- SAPOA Innovative Developments Award 2016 for the Greenovate Awards Programme
- > SAPOA Innovative Merit Award 2014 for Tshedimosetso House in Pretoria
- > SAPOA Overall Green Award 2014 for No 1 Silo (50% ownership)
- > SAPOA Overall Green Award 2013 for Lakeside Office Building in Centurion.
- Nedbank Capital Sustainable Business Awards 2014 for Infrastructure and Renewable Energy-Tshedimosetso House, Pretoria.
- Nedbank Capital Sustainable Business Awards 2013 for Infrastructure and Renewable Energy Lincoln on the Lake, Durban.
- > MSCI ESG Research awarded Growthpoint an ESG rating of an A, 2015.
- Finalist for Energy Reduction category and certificate of merit for the Recycling category for the Eco-Logic Awards in association with SABC 2014.
- World Responsible Tourism Award 2014; Gold for V&A Waterfront (50% ownership)
- Awarded the LUX International Project of the Year award for our 2013 low-energy lighting installation programme over our whole portfolio.







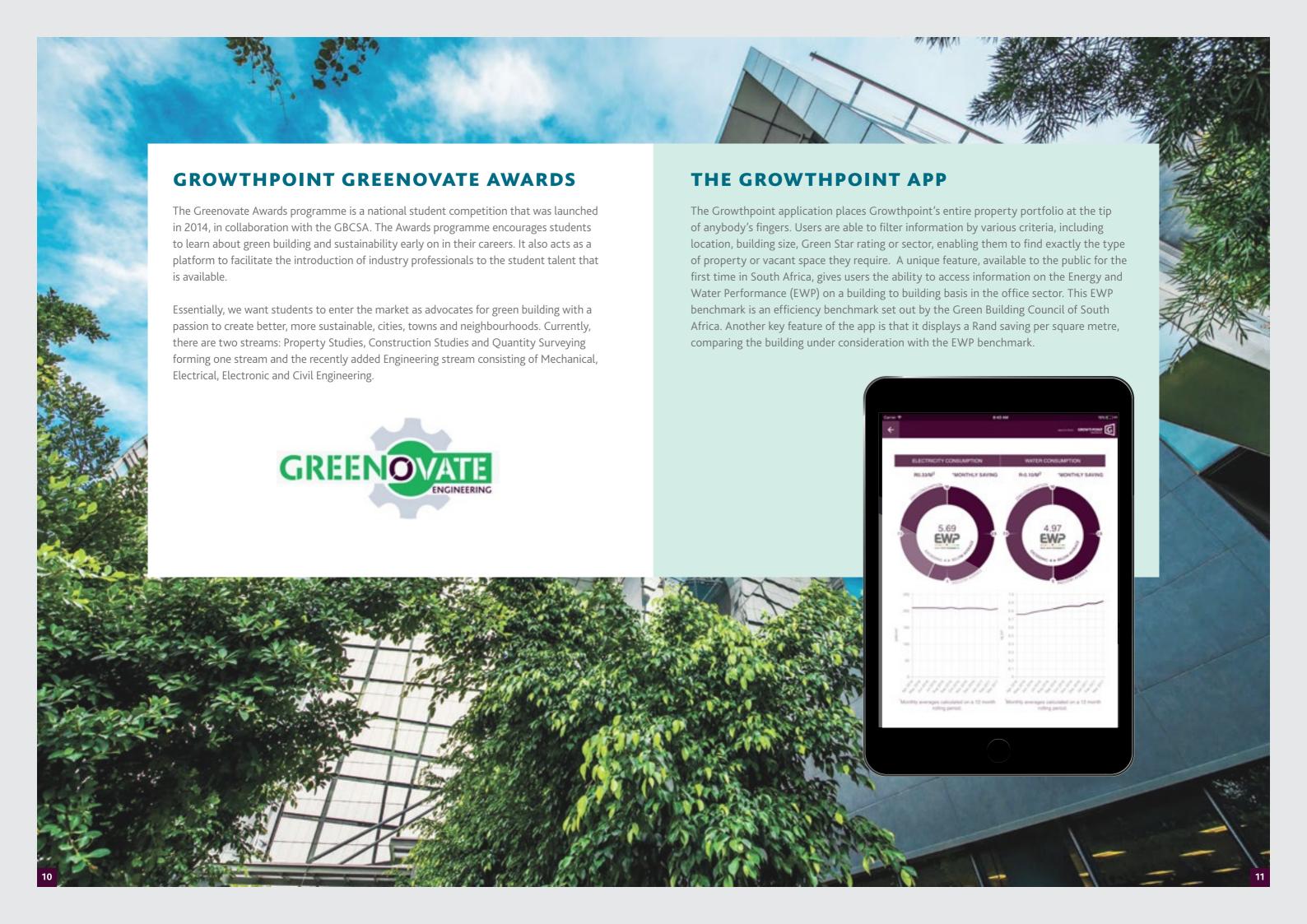












SUSTAINABILITY

OUR APPROACH

A four step process is used for new developments to ensure an optimal green building design for our clients. All buildings are designed to at least have one Green Building Council of South Africa (GBCSA) 4-Star Green Star rating.

A three step process is used for existing properties, to ensure that they are resource-efficient and environmentally responsible. The GreenX^{5.0} campaign is used to improve efficiency in all our buildings (to be at least on a par with the benchmarked performance rating).

A GREEN STAR SA – Office Design Rating

Ensures that environmental impacts were considered at the design stage of the building and the documentation to validate these conditions, is specific to that which can be demonstrated at the design stage only.

A GREEN STAR SA – Office As Built Rating

Assesses the same design initiatives, but the validation documentation differs in that it is retrospective and therefore assesses the promised performance in the design phase.

A GREEN STAR SA - Interiors Rating

Assesses the environmental attributes of interior fit-out projects across a wide range of sectors. It allows for different tenancy fit-outs to have their unique environmental design initiatives fairly and independently benchmarked. The rating rewards high-performance tenant spaces that are healthy, productive places to work, are less costly to operate and maintain and have a reduced environmental footprint.

THE EWP RATING

Constantly benchmarks the performance of buildings, in relation to energy and water consumption. As seen in the graph electricity costs are drastically increasing and reducing operational expenses for our clients is a high priority for our team.

THE GREENX5.0

Our commitment to increase energy and water efficiencies in all our commercial buildings to be on par with the GBCSA Energy and Water Benchmark (EWP rating).

THE GREEN STAR SA - Existing Building Performance Rating

Assesses the environmental performance of existing buildings in operation.

Four step process for new developments

- Green Star

 SA Office

 Design Rating
- Green Star

 SA Office as
 Built Rating
- Green Star

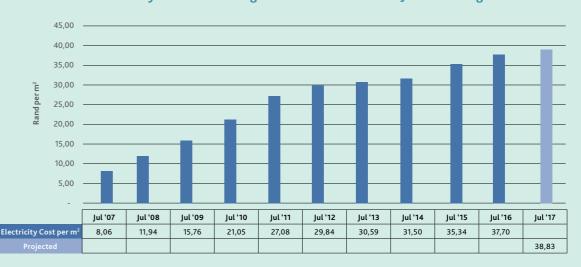
 SA Interiors
 Rating
 - 4 Building Performance
 Managementwith EWI

Three step process for existing buildings

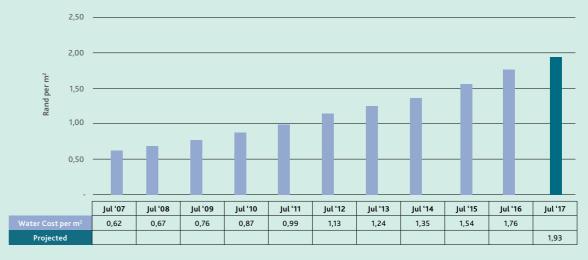
- Constant Building
 Performance management
 with EWP
- Incorporating sustainable initiatives with our National GreenX^{5.0}
- Green Star

 SA Existing Building
 Performance Rating

Electricity Cost/m² for Large Commercial Tenant in Johannesburg



Water Cost/m² for Large Commercial Tenant in Johannesburg





DID YOU KNOW?

A GREEN STAR SA RATED BUILDING TAKES 9 KEY AREAS INTO CONSIDERATION:

- > water
- > energy
- > transport
- indoor environmental quality
- > materials
- > management
- > land use and ecology
- > emissions
- > innovation



WATER

The category of Water aims to encourage and recognise the use of water efficient fittings and appliances that result in reduced potable water consumption.



ENERGY

The Energy category encourages the reduction of greenhouse emissions by addressing energy efficiency, energy improvement, electrical sub-metering, and light switching flexibility.



TRANSPORT

This category encourages tenancies with proximity and good access to public transport networks, utilization of alternative modes of transportation by limiting parking space and providing cyclist facilities.



INDOOR ENVIRONMENTAL QUALITY

IEQ is important for office occupants as they spend a long time in the building. This addresses the ventilation rates, carbon dioxide monitoring, daylight and lighting, external views, personal comfort, noise level & indoor planting.



MATERIALS

The credits reward reduction, reuse and the use of recycled and recyclable materials wherever possible. The credits aim to address and improve the environmental impacts of building products and materials.



MANAGEMENT

The Management category addresses the adoption of sustainable development principles throughout the project development process. It is descriptive, operatable and document based, and does not require much additional time and effort.



LAND USE & ECOLOGY

These encourage the selection of buildings for tenancy that incorporate environmental impact management, have efficient and flexible layout, reduce material waste, and adopt reuse initiatives and efficient management practices.



EMISSIONS

The Emissions category encourages the use of refrigerants that do not contribute to ozone depletion. Additionally, it recognises the use of thermal insulation that is free of ozone depleting substances.



INNOVATION

The Innovation credit is a way of encouraging, recognising and rewarding the spread of innovative technologies, designs and processes for commercial building applications that impact upon environmental performance.

WHY YOU SHOULD CHOOSE ONE OF OUR SUSTAINABLE OFFICE SPACES

One of the biggest benefits of choosing sustainable offices spaces from us, is that we will incur the full capital expense for all green initiatives, while sharing the consumption benefits on a (50/50) basis with our clients.

A SUSTAINABLE SPACE HAS MANY BENEFITS THAT INCLUDE:

- > Lower operating costs as a result of increased energy and water efficiency.
- > Future proofing lower utility bills also provide security in the face of rising energy costs.
- > Increased productivity always a significant factor in the profitability of a business.
- > Reduced liability and risk sustainable buildings minimise the use of hazardous materials and volatile organic chemicals, creating healthier spaces for occupants.
- > Enhanced marketability as the client you can demonstrate, advertise and market your leadership in sustainability.
- > Demonstration of corporate social responsibility to show your company's commitment to the environment.
- > Assist in combating climate change, one of the most significant threats facing the world today.



Green buildings make good financial sense by reducing utility & operating costs, & increasing staff productivity."



We constantly pursue energy and water efficient projects to make your building more economical."

OFFERING YOU GROUNDBREAKING

Our vision is to continuously utilise the latest technologies to increase performance in office monitoring, security and intelligent building interfaces.

The ground-breaking development of smart buildings, has the potential to increase business productivity and, in turn, profitability. This sophisticated and integrated technology will also contribute to lower Information and Technology costs. Smart buildings ultimately reduce the amount of cabling needed, which in turn makes them pro-green.

Growthpoint buildings are currently in the process of being wired for fibre so that clients can enjoy the best Internet connectivity in South Africa. Besides enjoying stable connectivity, Growthpoint clients will also have the freedom to use their service provider (SP) of choice. The shared fibre infrastructure will enable SP's to offer excellent connectivity at lower cost.

MAYFAIR ON THE LAKE

10 Park Drive, Umhlanga Rocks, Durban

SUSTAINABLE BUILDING FEATURES INCLUDE:

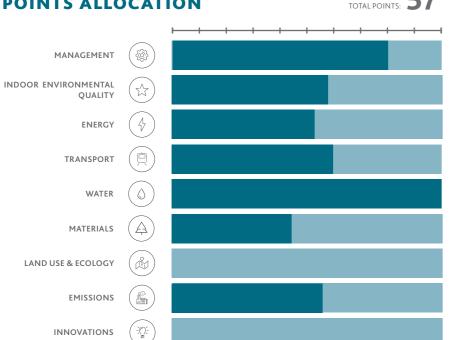
- > Double glazing with a low shading coefficient and high visible light transmittance.
- > High levels of thermal insulation for external walls and roofs.
- Environmental waste management plan during construction and 70% of all construction waste will be recycled.
- Minimisation of the use of Portland cement by 30% and 60% of steel will have a recycled content of at least 90%.
- > Increased ventilation rates to exceed statutory requirements by 50%, to provide higher amounts of fresh /outside air to the building.
- Installation of water meters to monitor water leaks.
- A xeriscape garden which will not require any watering 12 months after installation.





4 Star Green Star SA – Office v1 As-Built Rating Achieved in October 2012

POINTS ALLOCATION





LINCOLN ON THE LAKE

2 The High Street, Parkside, Umhlanga Ridge

SUSTAINABLE BUILDING FEATURES INCLUDE:

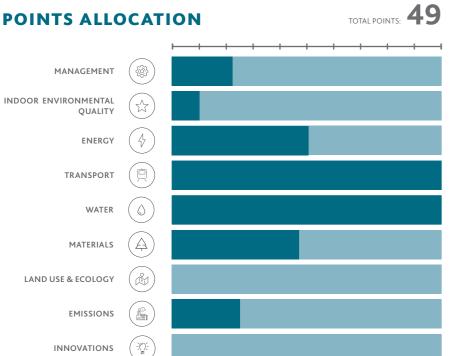
- > Rainwater harvesting (rainwater is used to flush toilets and urinals).
- Energy savings have been achieved through design. The building envelope has been designed to maintain a degree of thermal comfort through high performance window glass and adopting insulation values recommended by SANS 204.
- Internal air quality is maintained by specifying paints with low Volatile Organic Compound (VOC).
- > Over 80% of the Commercial Office Useable Area has a direct line of sight to the outdoors.
- > Locally sourced materials within 400km of site.
- First Green Star SA rated building recognising a solar roof top installation.





4 Star Green Star SA – Office v1 As-Built and EBP Rating Achieved in December 2011

POINTS ALLOCATION





NO. 1 SILO

No. 2 Silo, The Clocktower, V&A Waterfront, Capetown, South Africa.

SUSTAINABLE BUILDING FEATURES INCLUDE:

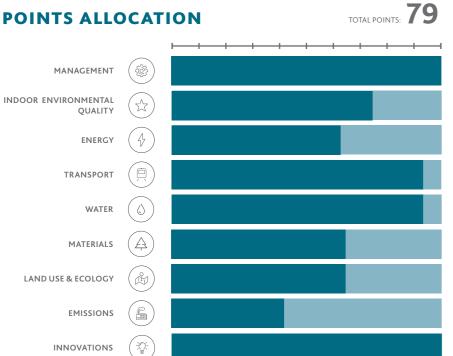
- A sea water cooling system. The heat pump condenser water is cooled using three sea water plate heat exchangers. The sea water cools the condenser water within the heat exchanger, sea water is then collected and pumped back out to sea using a second pump.
- A high performance glazed double skin facade that controls the thermal performance and comfort inside the building and makes use of sea water cooling and displacement ventilation.
- Open plan office floors has underfloor displacement system.
- Energy efficient lighting system with fitting motion occupancy sensors.

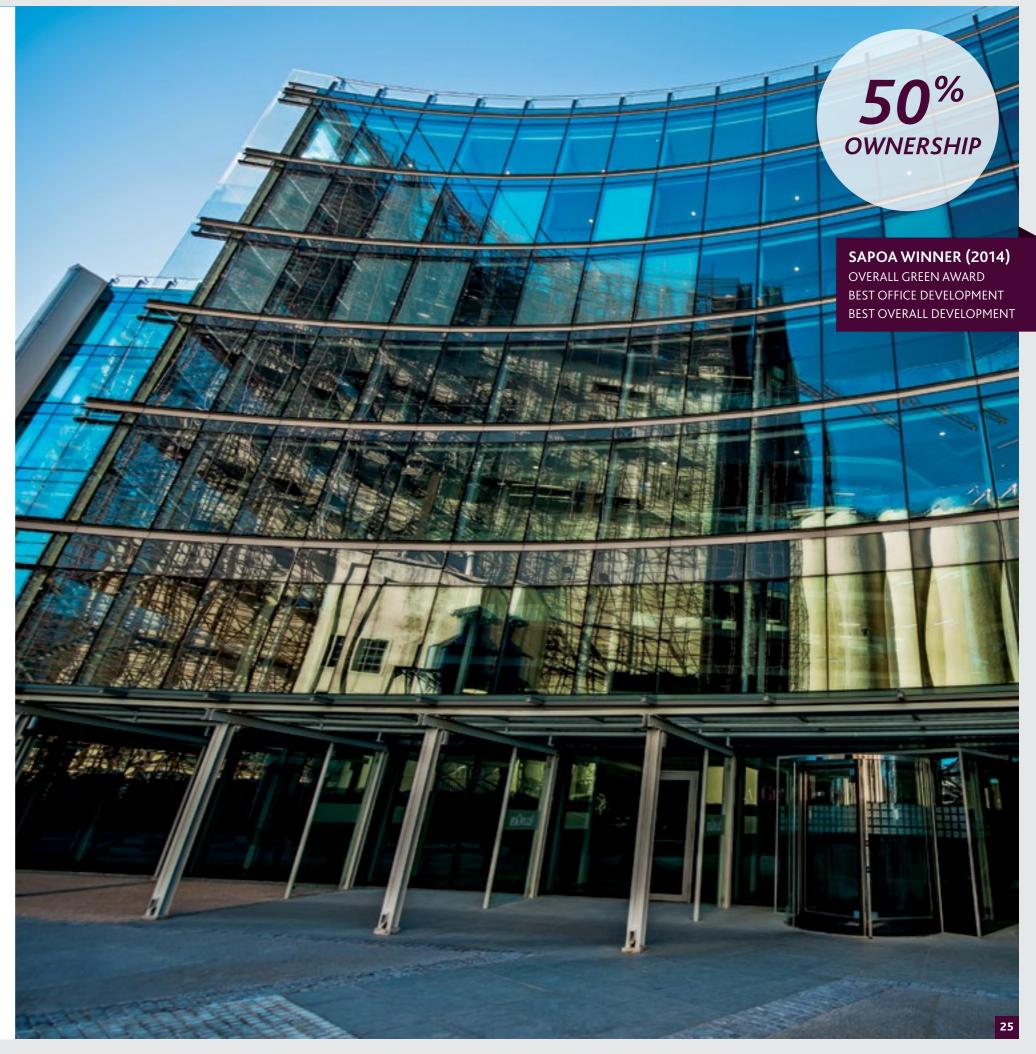




6 Star Green Star SA – Office As-Built Rating Achieved in June 2014

POINTS ALLOCATION





LAKESIDE OFFICE PARK BLOCK 3

263 West Avenue, Centurion, Pretoria

SUSTAINABLE BUILDING FEATURES INCLUDE:

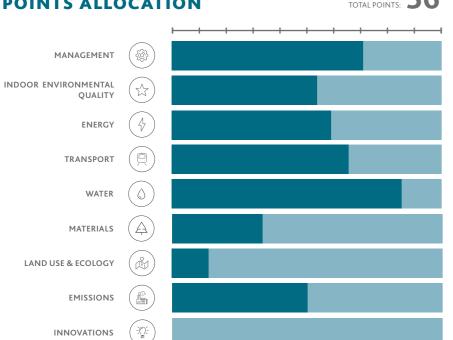
- > Environmental preservation through the reuse of an existing building structure.
- > Energy efficient air conditioning and lighting.
- Products that enhance efficiency, including glazing with thermal properties and composite aluminium panels used in the construction of the new facades.
- > Low volatile organic compounds (VOC) paints and adhesives and cyclist facilities.
- A recycling waste storage facility.
- > Heat pumps and water saving fixtures.





4 Star Green Star SA – Office v1 Design Rating Achieved in June 2013

POINTS ALLOCATION





NO. 2 SILO

No. 2 Silo, The Clocktower, V&A Waterfront, Capetown, South Africa.

SUSTAINABLE BUILDING FEATURES INCLUDE:

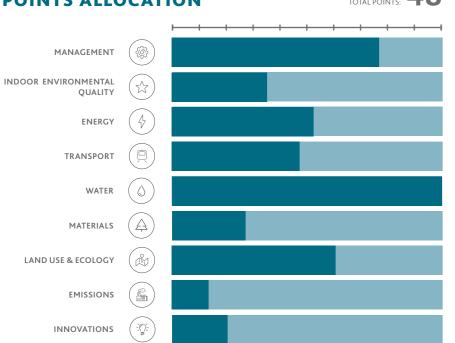
- > All dwellings have been fitted with lowflow fittings, water efficient washing machines and dishwashers.
- > High performance glazing enables good views, while minimising solar gain and optimising natural daylight. External, controllable shutters are provided.
- > Low-VOC carpets, paints, adhesives and sealants have been specified. Timber products have low formaldehyde content.
- > The hot water for No. 2 Silo is supplied from a communal system comprised of solar water heating panels, with a heat pump back up.





4 Star Green Star SA – Multi Unit Residential v1 Design rating Achieved in July 2013

POINTS ALLOCATION





TSHEDIMOSETSO HOUSE

1035 Frances Baard, Hatfield, Pretoria

SUSTAINABLE BUILDING FEATURES INCLUDE:

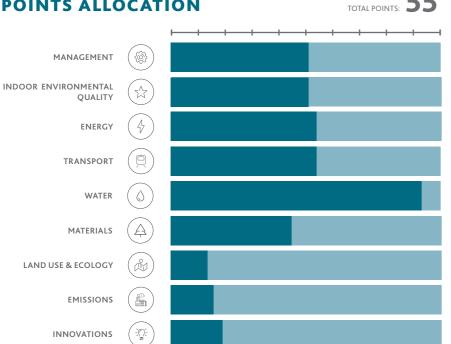
- > Large internal courtyard and rooftop balconies allow in natural light and ventilation in combination with efficient light fittings.
- Water efficient fittings and fixtures, dual flush toilets and waterless urinals have been installed resulting in significant water savings.
- 36 000 litre water collection tank for rainwater harvesting for the use in toilet flushing.
- > Landscape design includes: Moisture sensors, indigenous plant species, irrigation at night, use of mulch and water retention additives.
- Indoor air quality is enhanced by external views and ventilated with fresh air rates of 100%, selected carpets and paints with low VOCs.
- The integration of Solar Photo Voltaic cells within the laminated glass facades is an "African First".
- > Installation of an innovative transparent glass technology called TropiGlas that generates electricity.

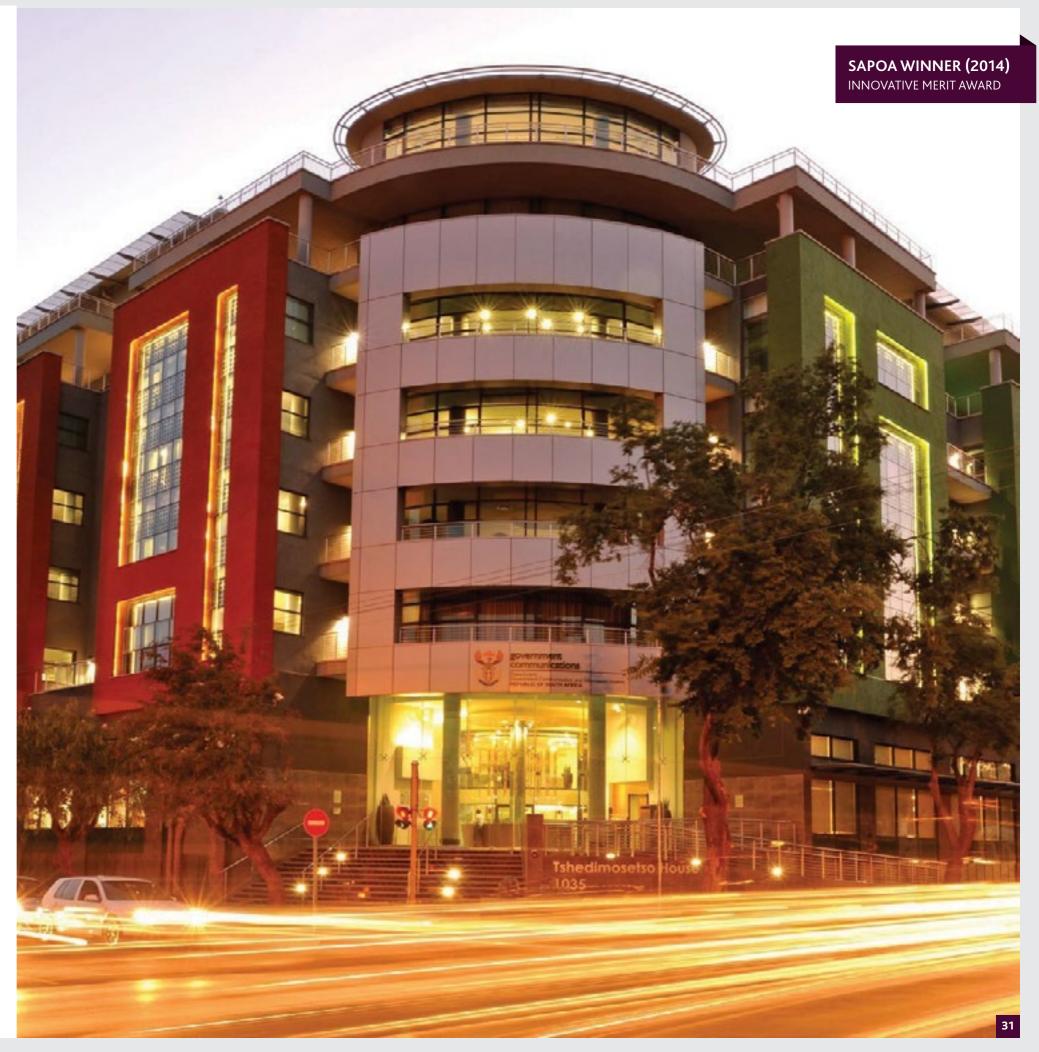




4 Star Green Star SA – Office v1 Design Rating Achieved in November 2013

POINTS ALLOCATION





GRUNDFOS OFFICE BLOCK

12 Lecelles Road, Meadowbrook Ext. 13, Germiston

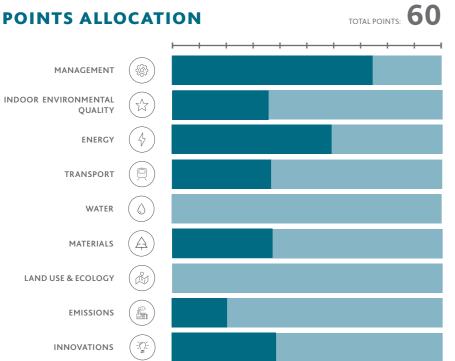
SUSTAINABLE BUILDING FEATURES INCLUDE:

- > A rain water harvesting and filtration system that utilises Grundfos pumps and filtration equipment, purifies water to drinking quality and supplies both the office block and the warehouse. Municipal water is used for top-up only in the dry winter months typical for the Gauteng province.
- In terms of function, it consists of two office levels over a naturally ventilated basement level.
- It offers a gross floor area (GFA) of 3400m² in a fully integrated tenant fit-out. The Office Block is conceptually constructed from two interconnecting blocks around a central full height atrium.
- > The expected amount of occupants is approximately 200 to 250 people.





5 Star Green Star SA – Office v1 Design Rating Achieved in May 2014





44 ON GRAND CENTRAL

44 on Grand Central Boulevard, Midrand, Johannesburg

SUSTAINABLE BUILDING FEATURES INCLUDE:

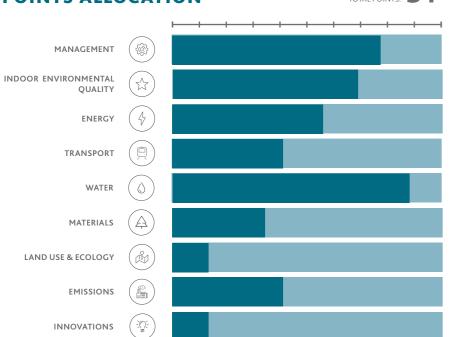
- > The 8 storey office building consists of 3 floors of car parking at the base, 4 floors of offices above and a clear story and roof access floor from the central core forming the 8th storey.
- > The base of the building has been designed to be naturally ventilated and storm attenuation measures have bee incorporated into the design to collect and manage the flow of surface water across the site.
- > Grey water recycling scheme has also been incorporated into the design to supply WC flushing and landscaping irrigation.
- The site is well situated in relation to public transport accessibility with access to the Gautrain and bus services.





4 Star Green Star SA – Office v1 Design and EBP Rating Achieved in May 2014

POINTS ALLOCATION





15 ALICE LANE

15 Alice Lane, Sandton, Johannesburg, South Africa.

SUSTAINABLE BUILDING FEATURES INCLUDE:

- > Rainwater is harvested from the roof and stored within the basement parking levels, where it is recycled for flushing toilets and irrigation uses. This strategy, together with other efficient systems, such as the use of air cooled chillers, thus reduces the building's potable water consumption by 90%.
- The fire protection system has been designed to not expel any water during testing. Water is redirected back into the storage tanks.
- > Motion occupancy sensors detect when spaces are not occupied and switch off fittings accordingly.
- At least 57% of the office area has natural daylight levels sufficient to allow the electric lights to be turned off during the day.

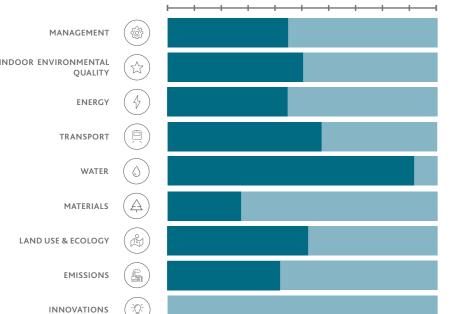




4 Star Green Star SA – Office v1 Design Rating Achieved in August 2014

POINTS ALLOCATION







BRIDGE PARK

No. 5 & 7 Bridge Way, Century City, Western Cape, South Africa.

SUSTAINABLE BUILDING FEATURES INCLUDE:

- > Century City has a treated effluent water supply from the Potsdam Municipal Sewer treatment facility that until relatively recently has been used for irrigation and topping up the canals in the drier summer months. This project is not only using it for irrigation, but also providing a further treatment plant within the building that can provide water of sufficient quality for toilet and urinal flushing as well as cooling tower make up water.
- Potable water demand by occupants is further reduced through the installation of water efficient fittings for occupant amenities.
- Rainwater harvesting from roof areas is also included within the building's design.
- > Heating and cooling is provided by two pipe fan coil units with a central chilled water plant and direct electric heating in the fan coil units.
- Daylight dimming sensors are installed throughout the usable area (UA).
- Domestic hot water is provided by a heat pump for the development.

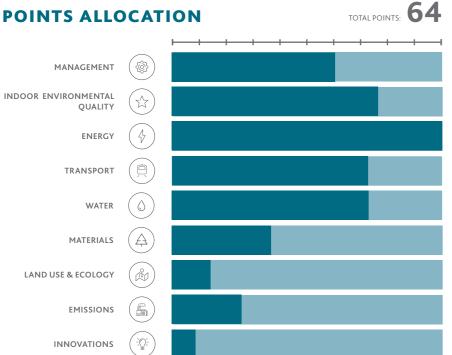




5 Star Green Star SA – Office v1 Design Rating Achieved in April 2015

POINTS ALLOCATION







EASTGATE 20

148 Katherine Street, Sandton, Johannesburg

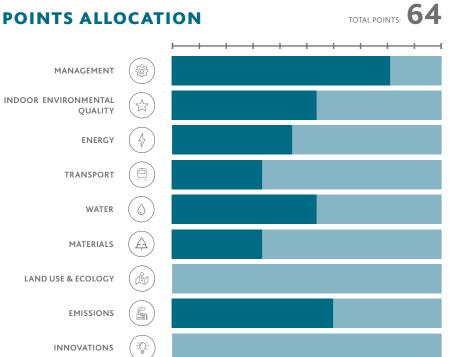
SUSTAINABLE BUILDING FEATURES INCLUDE:

- > Rainwater is harvested from the roof and stored within basement parking levels, where it is recycled for flushing toilets and irrigation uses. This strategy, together with other efficient systems, such as the use of air-cooled chillers, thus reduces the building's potable water consumption by 90%.
- The fire protection system has been designed to not expel any water during testing. Water is directed back into storage tanks.
- Motion occupancy sensors detect when spaces are not occupied and switch off fitting accordingly.
- > At least 57% of the office area has natural daylight levels sufficient to allow electric lights to be turned off during the day.





4 Star Green Star SA – Office As-Built v1 Rating Achieved in August 2015





THE BOULEVARD, UMHLANGA RIDGE

19 Parklane Umhlanga-Rocks, eThekwini, KZN

SUSTAINABLE BUILDING FEATURES INCLUDE:

- Design intent to transfer knowledge, contractor ISO 14001 certification, EMP adhered to and 50% of all construction waste recycled.
- > The fresh air are at rates well above SANS norms with heat recovery.
- > Paints contain low levels VOC's.
- > Lighting is energy efficient-electronic ballasts and motion sensors optimize use.
- > Highly efficiency façade incorporating insulation, double glazing and vertical and horizontal shading.
- > VRV HVAC has occupancy sensing, set-point switching. Rainwater harvesting to flushing and all showers, taps, toilets are efficient.
- > Cycle Facilities and parking electric vehicles, motorbikes, scooters.
- > Storage for waste recycling, concrete mixes less Portland cement, Storm water attenuation.
- > Local connectivity good- close proximity to amenities.





4 Star Green Star SA – Office v1 Design Rating Achieved in February 2016

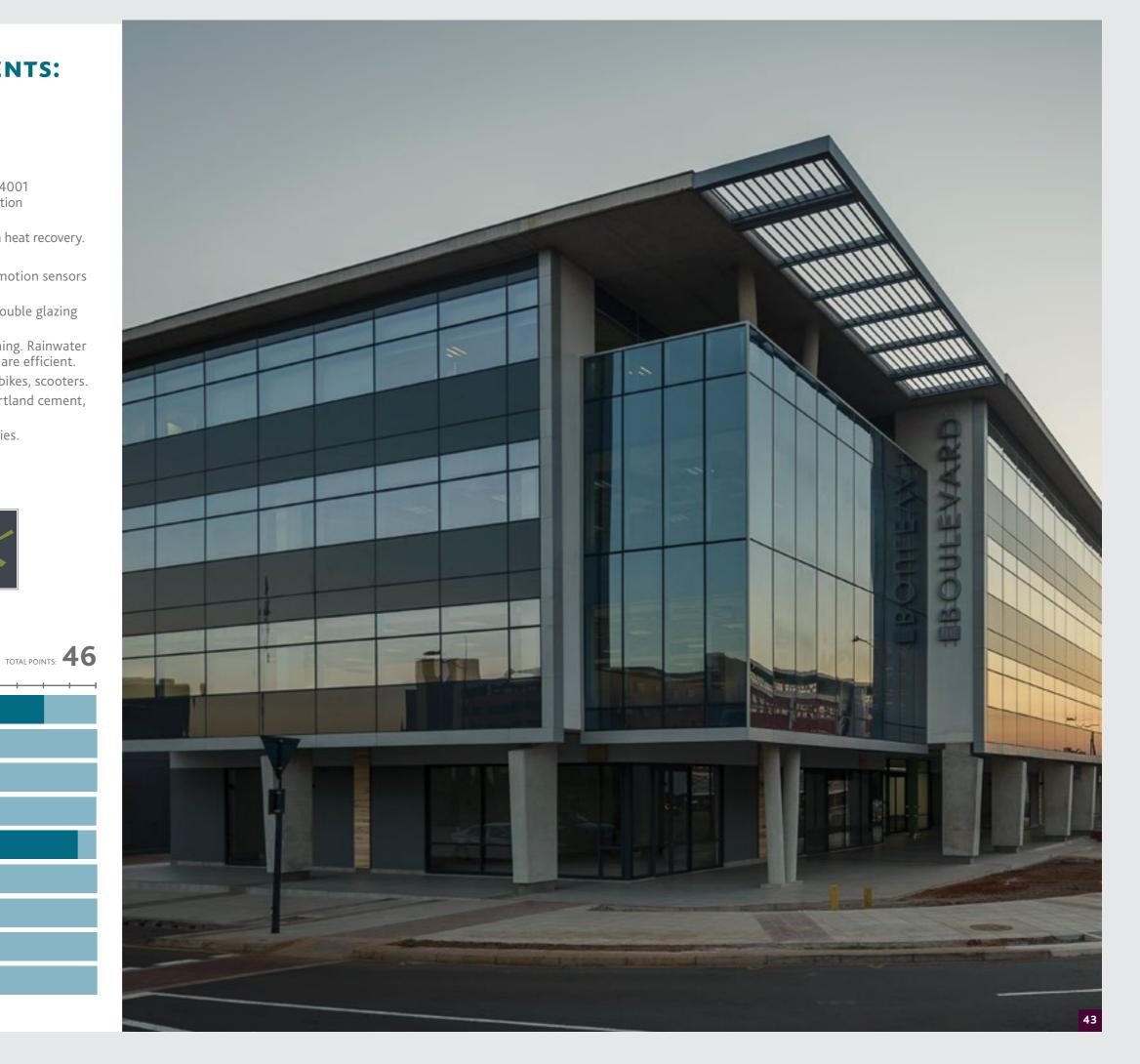
POINTS ALLOCATION

LAND USE & ECOLOGY

EMISSIONS

INNOVATIONS

MANAGEMENT INDOOR ENVIRONMENTAL QUALITY ENERGY TRANSPORT WATER MATERIALS



RIDGEVIEW

26 Ncondo Place, Ridgeside, Umhlanga Ridge.

SUSTAINABLE BUILDING FEATURES INCLUDE:

- Electric vehicle charging infrastructure.
- Extensive rainwater harvesting on site for reuse in toilets and urinals.
- Air-conditioning system that makes use of an air cooled chiller, reduces potable water consumption by over 2 million litres of water annually.
- Highly efficiency façade incorporating insulation, double glazing and vertical and horizontal shading.
- > Xeriscaping is implemented to eliminate the need for irrigation.
- Use of motion detectors in the offices and in the parking area which automatically switches off lighting when areas are not in use.
- Comprehensive network of energy meters which are connected to a BMS and can provide the building owner with detailed information on energy use.

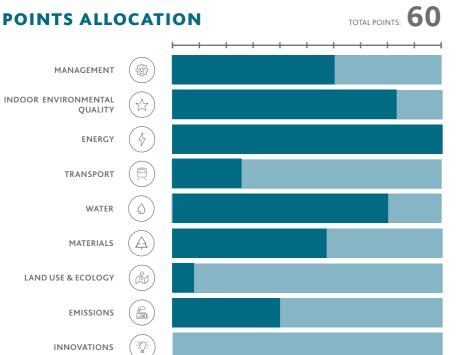


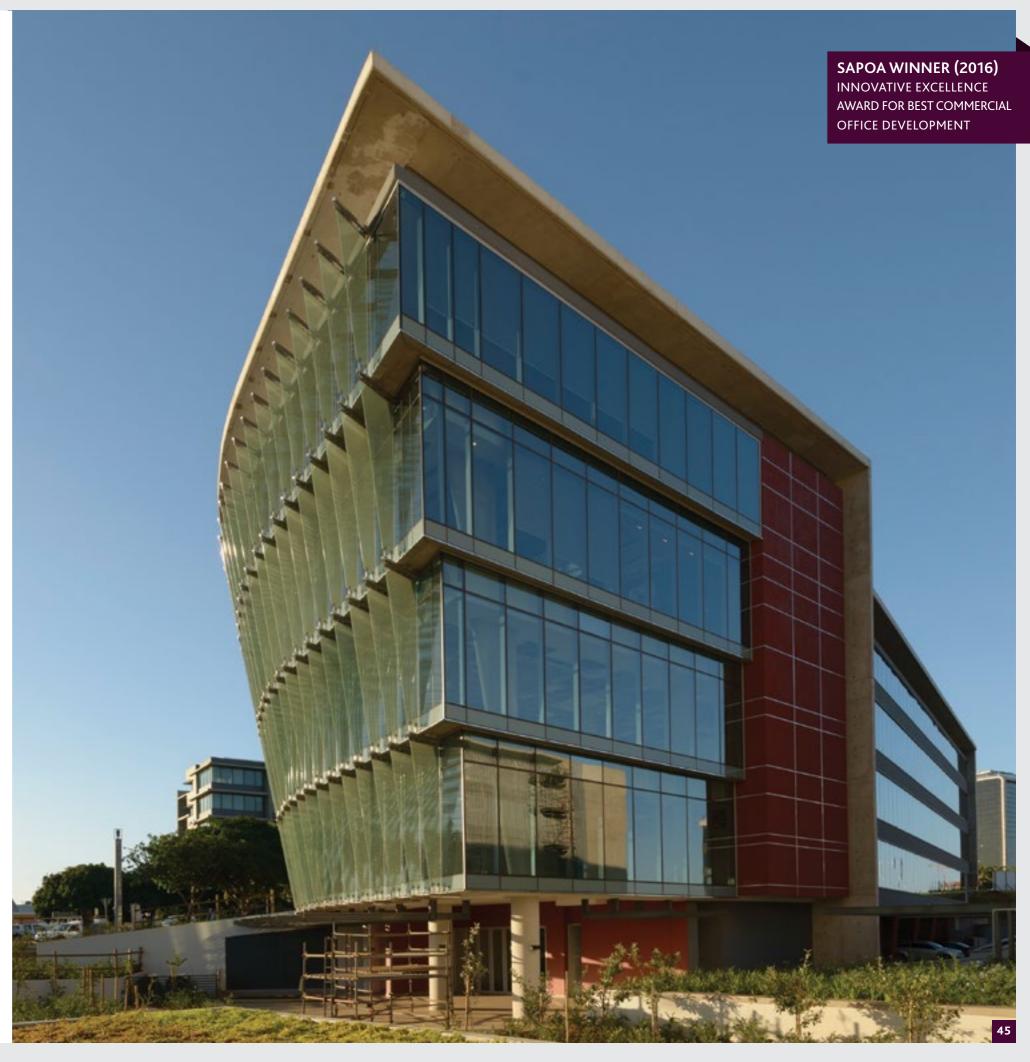


5 Star Green Star SA – Office v1 Design Rating Achieved in April 2016









ANSLOW PARK PHASE II

Anslow Office Park 8 Anslow Crescent, Bryanston, Gauteng

SUSTAINABLE BUILDING FEATURES INCLUDE:

- > Rainwater harvesting, an energy efficient HVAC system, and the optimising of internal daylight levels.
- > 74% reduction of potable water consumption due to water efficient sanitary fittings and the implementation of rainwater harvesting.
- Irrigation system demonstrates a 60% reduction in potable water consumption for landscape irrigation.
- HVAC system utilizes efficient air-cooled chillers and ensures the optimum levels of fresh air is provided for the building.
- Efficient lighting assists in ensuring an energy efficient building operation. Heat-pumps provide hot water to the building.
- Office spaces ensure sufficient daylight, glare control, appropriate maintained internal noise levels and 80% of usable space provided with a view to the external environment.
- Waste recycling facility, a stormwater attenuation and treatment facility to minimise stormwater run-off and the associated run-off pollution, low VOC paints and adhesives, the provision of parking spaces for fuel efficient (Hybrid) vehicles.





4 Star Green Star SA – Office v1 Design Rating Achieved in June 2016

TOTAL POINTS: 46 **POINTS ALLOCATION** MANAGEMENT INDOOR ENVIRONMENTAL QUALITY ENERGY TRANSPORT WATER MATERIALS LAND USE & ECOLOGY **EMISSIONS** INNOVATIONS



GREENFIELD INDUSTRIAL PARK

8 Manchester Road, Airport Industria, Cape Town

SUSTAINABLE BUILDING FEATURES INCLUDE:

- > Energy efficient lighting to reduce the need for artificial lighting.
- > Solar Photo Voltaic system providing green energy to tenants.
- > Plant size is 290.4kWp with 2640 panels installed.
- > Solar generation per annum is 1650 kWh/kWp.
- > Electrical advanced sub-metering.
- > Highly efficient VRV Air Conditioning systems.
- > Water sub metering of all major water uses and water wise landscaping with efficient fixtures such as monition sensors.
- > Installed blinds to reduce glare and heat load on the building.
- > Green spaces have been provided to increase staff productivity and tenant satisfaction levels.
- Paints, carpets, adhesives and sealants have been carefully selected to minimise emissions (Low VOCs have been used).
- > Recycling and waste storage provided on site for tenants.
- > Smoking is prohibited. There are no designated smoking areas.





4 Star Green Star SA – Office v1 Custom Industrial As-Built Rating Achieved in September 2016

MANAGEMENT MANAGEMENT INDOOR ENVIRONMENTAL QUALITY ENERGY TRANSPORT WATER MATERIALS LAND USE & ECOLOGY EMISSIONS INNOVATIONS



WATERWAY HOUSE

1 Dock Road, V&A Waterfront, Cape Town

SUSTAINABLE BUILDING FEATURES INCLUDE:

- > The majority of the building façade is a high energy performance glass system; this is energy efficient as it allows less heat in during the summer and also allows less heat out in the winter.
- > PV panels on the roof will generate carbon dioxide free electricity supply for the building. The panels will not meet the entire energy demand, but will subsidize the building's Eskom energy demand.
- > The building lighting is 100% high efficient LED lighting.
- Rainwater is collected from 90% of the entire site (7334m²), stored in 210m³ tank and used in the flushing of all toilets & urinals and irrigation.
- Where enclosed or open plan offices are unoccupied for an extended period of time, the air-conditioning unit in that space will turn off.





5-Star Green Star SA Office Building Design v1.1 Achieved in October 2016

POINTS ALLOCATION

MANAGEMENT

QUALITY

ENERGY

TRANSPORT

WATER

MATERIALS

EMISSIONS

INNOVATIONS

LAND USE & ECOLOGY

INDOOR ENVIRONMENTAL



NO. 5 SILO

No. 5 Silo, The Clocktower, V&A Waterfront, Capetown, South Africa.

SUSTAINABLE BUILDING FEATURES INCLUDE:

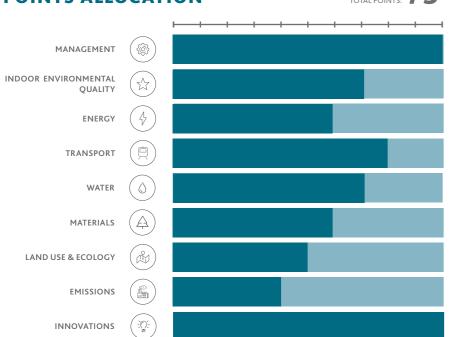
- > High performance unitised façade.
- > Central seawater cooling and heating plant.
- > Pre-cooling function on air handling units which can utilize the sea water directly without need for chillers.
- > Electric car charging points.
- > Usable terraces and gardens on the roof planted with indigenous and water wise species.
- > Water and energy metering systems monitor and manage consumption.
- > Photo Voltaic panels on the roof.
- > Independent Commissioning Agent appointed to ensure that the building is designed with regard to forthcoming maintenance and that the building is commissioned correctly to ensure that the building operates as designed and at optimum efficiency.
- Carbon dioxide monitors in offices and carbon monoxide monitors in basement car park to ensure that optimum amounts of outside air is delivered to the building





6 Star Green Star SA - Office v1 Design rating Achieved in November 2016

POINTS ALLOCATION

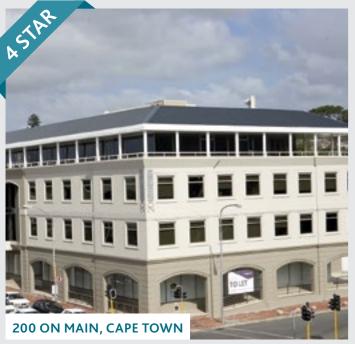




GREEN RATED EXISTING BUILDINGS

The Green Star SA Existing Building Performance (EBP) Tool assesses the environmental sustainability of existing building operations. We are focused on improving the overall performance of our significant portfolio of standing office properties by rating our buildings using this EBP tool.



















































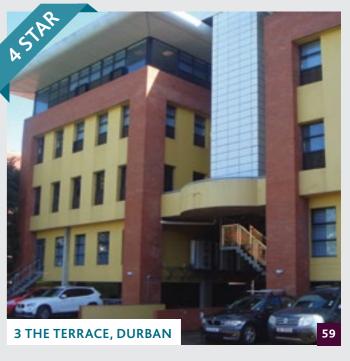
















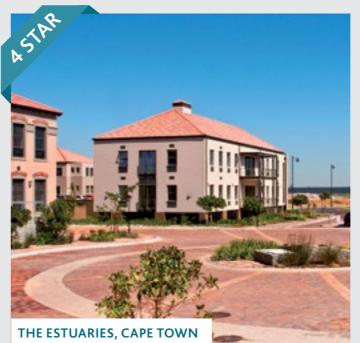


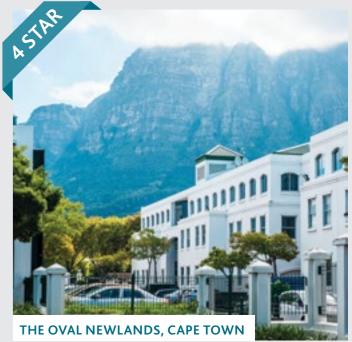




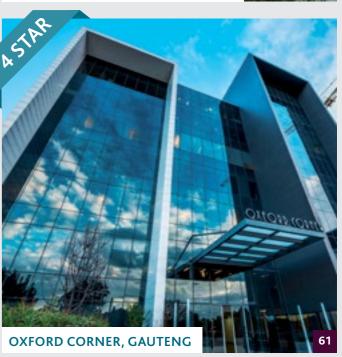




















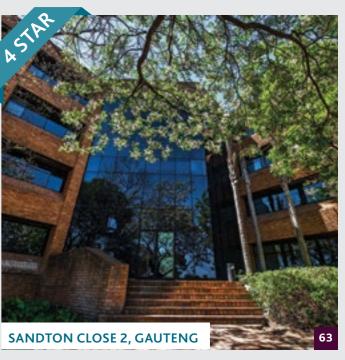










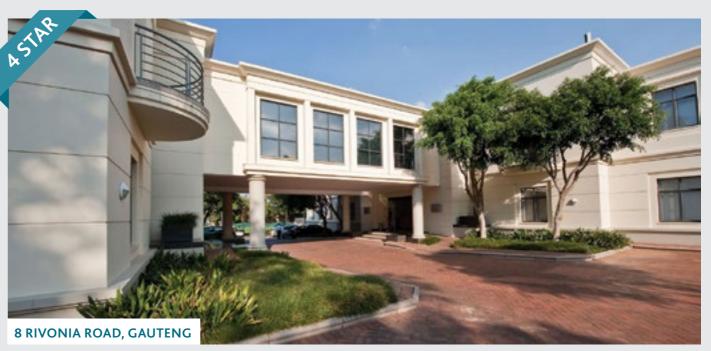








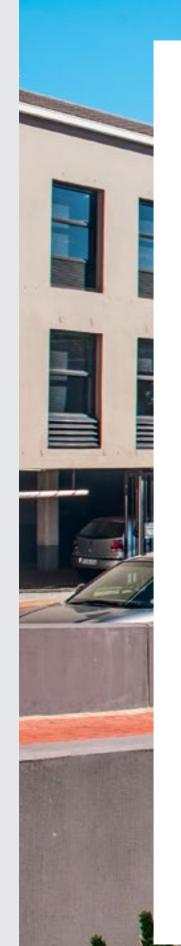












SOLAR INSTALLATIONS

We have completed the installation of a number of solar projects across our office, retail and industrial properties. We are committed to increasing the percentage of renewable energy our buildings consume.



VAAL MALL SOLAR CARPORT

VANDERBIJLPARK

Plant size - 1132.8 kWp (DC)



LINCOLN ON THE LAKE

DURBAN

Plant size - 44 kWp (DC)



KOLONNADE MALL

PRETORIA

Plant size - 290.4 kWp (DC)



BROOKLYN MALL

PRETORIA

Plant size - 1104 kWp (DC)



AIRPORT INDUSTRIA

CAPE TOWN

Plant size - 290.4 kWp (DC)



CONSTANTIA VILLAGE MALL

CAPE TOWN

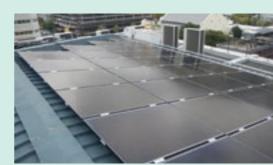
Plant size - 814.7 kWp (DC)



V&A WATERFRONT

CAPE TOWN

Plant size - 1400 kWp (DC)



33 BREE AND DE WATERKANT

CAPE TOWN

Plant size - 108.8 kWp (DC)



BAYSIDE MALL

CAPE TOWN

Plant size - 500 kWp (DC)



