

The grass is greener... helping SA go green



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As the green building movement gathers momentum in South Africa, so more buildings are being certified by the Green Building Council of South Africa, and more rating tools are being developed to cover the spectrum of different facilities that require rating. As anyone who has done it will know, designing and planning a green building – especially if it is going to be submitted for official certification by the GBCSA or other official body – is no small task. The need for specialist expertise in the field has given rise to a whole new generation of professionals to assist in the design and execution of a green building, and in preparing the documentation for a formal rating.

Marloes Reinink, founder of Solid Green Consulting, has been practising as a sustainable building consultant and Green Star SA Accredited Professional since 2008. Originally from the Netherlands, Marloes studied technology and innovation policies for developing countries. Her study programme required that she spend six months at a foreign university. She spent six months at the University of Pretoria in 2002, and fell in love with South Africa. She returned for her Master's Degree thesis, spending a further eight months working for the Council for Scientific and Industrial Research, where she became involved in their Sustainable Schools Programme and their Green Building for Africa programme. She then went on to complete a second Master's Degree at the University of the Witwatersrand, continuing her work with the CSIR at the same time.



Marloes has had a lifelong interest in sustainability and the environment. She tells **Asset** that her father has always been very environmentally-minded, and that he inspired her from a young age to want to make a contribution to protecting the environment. Fortuitously, she came to South Africa at a time when the green building movement was still in its infancy. The Green Building Council of South Africa (GBCSA) was formally established in 2008, with its Green Star SA rating system being based on the Australian Green Star model.

Having spent some time in the world of research and academia, Marloes felt it was time to gain some experience at the coal face, and went to work for Eric Noir at Green By Design (which was subsequently acquired by WSP Consulting Engineers). She became one of South Africa's first Green Star SA Accredited Professionals, and had the privilege of working on the rating submission for the Nedbank Head Office Phase 2 in Sandton – the very first building in the country to obtain a Green Star SA certification.

She started Solid Green Consulting approximately five years ago, seeing that the market was growing and that there was an increasing need for her kind of expertise. Her first two clients were Menlyn Maine and Melrose Arch – projects with which she is still involved – and she has grown her client base and her staff complement over the years to the point where Solid Green is now able to offer a comprehensive range of sustainability building consulting and analysis services.

One significant project that Solid Green has consulted on just recently was the refurbishment of Standard Bank's office at 3 Simmonds Street in Johannesburg. Standard Bank, which was the main sponsor for the development of the recently-finalised Green Star SA Interiors Pilot rating tool, felt that it was only appropriate to demonstrate a level of green leadership by undertaking this refurbishment – which focused predominantly on the interior of the building. The first to seventh floors of the building achieved a 5-Star Green Star SA Interiors rating. It is only the second interior project in the country to be rated using the rating tool, making it a landmark

achievement for design and interior fit-out in South Africa.

The building now features energy and water sub-metering, occupancy sensors for all light fittings, daylight harvesting and dimming of fluorescents lights and an energy-efficient, water cooled chiller plant. Under-floor air distribution via fan coil units has been put in place and a full economy cycle fresh air plant has also been provided. This has ensured that the quality of internal air provided is operating at a rate 33%, greater than the requirements of SANS 10400-O-2011. The building also makes use of Energy Star rated appliances and all printers and photocopy equipment are certified as having low emissions. Low volatile organic compounds paint, adhesives, sealants and carpets were also used throughout to reduce the internal air pollutant levels, and innovation points were achieved for the reuse of an existing building. [See Standard Bank story on page 94.](#)

Solid Green's team also had the exciting task of working as the energy modelling consultants for the recently-opened Hotel Verde, which was the first hotel in the country to achieve a six-star rating. "While we weren't the main green consultants on the building, we had the chance to use our energy modelling skills to optimise the energy consumption of

the building," says Marloes. Part of this involved the installation of a sophisticated geothermal system which was carefully integrated with the other energy efficiency measures implemented in the building. This works particularly well for a hotel, which has almost constant energy use throughout the day.

Although a building doesn't have to have a Green Star SA rating to be green, commercial developers in particular are increasingly recognising the long term value of having an official certification. "Most developers, when they first approach us, are looking for some form of rating for their buildings. We do, however, offer expertise on the energy and thermal comfort aspects and we try to achieve as much as we can in those respects, too," she explains. These aspects really go hand in hand, but it often takes a little extra effort to explain why they are worth looking at as part of an entire package.

While the owners of office buildings are increasingly looking to build Green Star SA rated buildings – probably in the knowledge that they will start to command premium rentals, as they have elsewhere in the world – other categories of building are proving a little more tricky when it comes

to convincing their owners and developers to 'go green'. Shopping centres, for example, do not seem to have been big players in the green arena to date. Marloes speculates that this may be because landlords don't necessarily see the direct benefits of energy savings, for example, and the majority of retailers around the country aren't currently at a stage where they are demanding green stores.

Nevertheless, the means are in place for shopping centres to become greener by using the interiors rating tool – either as a guideline for being a bit greener, or for the purposes of certification. The V&A Waterfront, for example, has put in place a policy that all future developments in the precinct will be Green Star SA rated, including the retail areas. Solid Green recently helped Standard Bank to design a banking branch in Century City shopping centre, which received a four-star interior rating.

Because the interiors tool is still fairly new, Marloes says that there have been some challenges with ensuring that the various products and materials used in interior specifications meet the requirements to be considered green. Certain manufacturers and suppliers of



products such as paint and flooring are more familiar with environmentally friendly requirements, but many other suppliers are not. “In many respects – such as furniture, partitioning, cabinetry and kitchen fittings, for example – people have simply not asked environmental questions before,” Marloes comments.

Suppliers often had to go back to manufacturers to request the relevant information about products in order to ascertain whether they could be considered green or not. Aspects such as this will take a little time before people are more familiar with what the requirements are.

What is clear is that the technology that enables sustainable and environmentally friendly buildings to

keep moving forward is becoming extremely interesting. One only has to do some research online to discover technologies that seem beyond one’s wildest dreams – like bricks that eat smog, and organic concrete that includes a biological layer to absorb water and encourage plant growth on its surface. “We have to keep advancing, because otherwise we aren’t going to get greener,” says Marloes. “Even though we have good green buildings, they aren’t yet green enough for us to make a real difference to climate change.”

And this, ultimately, is still the goal of green and sustainable building – to mitigate the effects of climate change and to reduce the impact of the built environment on the natural environment. **A+**

