Greening the built environment

Buildings consume an estimated 40 to 50% of the world’s energy through their construction and ongoing operation, a fact which led to the launch in 1998 by David Gottfried of the World Green Building Council (WGBC) to promote “green” building throughout the world.

Green buildings are characterised by their energy and resource efficiency and by their reduced environmental impact. They provide healthy and more productive environments through design, construction and operational practices that reduce or eliminate negative impact on the environment. Accredited green buildings can reduce their energy consumption, potable water usage and runoff to sewer and solid waste to less than half of those of conventional buildings.

In September 2008, the Green Building Council of South Africa (GBCSA) was admitted to the World Green Building Council as the thirteenth full member council and began to address matters such as excess energy consumption and consequent CO₂ emissions; air, water and land pollution; the depletion of natural resources, and the disposal of waste from buildings in South Africa. The GBCSA is an independent, membership-based, non-profit organisation made up of members from all sectors of the commercial property industry.

Specific green building measures include careful design to reduce heat loads, maximise natural light and to promote the circulation of fresh air. This is accomplished through energy-efficient air-conditioning and lighting; the use of environmentally-friendly, non-toxic materials; waste reduction and the use of recycled materials; water-efficient plumbing and water harvesting; renewable energy sources, and sensitivity with regard to the impact of the development on the environment. In its drive to facilitate green building in South Africa through market-based solutions, the GBCSA develops and operates a green building rating system to enable objective measurement of green building practices. It also provides training and education to improve the country’s green building skills base.

Green building rating tools set standards and benchmarks for green building and enable objective assessment of projects’ “greenness”. They employ a system of points awarded to projects according to the green measures taken in their design and construction.

Several rating systems are employed around the world, including the Leadership in Energy and Environmental Design (LEED) system in the USA, the British Research Establishment Environmental Assessment Method (BREEAM) and Green Star in Australia. The South African rating tool is based on the Green Star model and adapted for local use.

The Green Star SA rating tools are used to establish a common language and standard of measurement for green buildings; promote integrated, whole-building design; raise awareness of green building benefits; recognise environmental leadership, and to reduce the environmental impact of development.

The tools are developed through a consensus-based process involving GBCSA staff, paid consultants and volunteer technical working groups. Working groups are formed for each separate rating tool and consist of technical experts and industry practitioners from a cross-section of the relevant market sector.

The first tool developed by GBCSA was Green Star SA Office V1 which is for use by new office construction projects, major base building refurbishments and retail centres. Two different certifications are awarded through the same tool: Green Star SA Office, which allows a project to market itself as a Green Star SA certified building. Green Star SA Office As-built may be awarded after practical completion. This certifies that all green building strategies were in fact incorporated
How to obtain certification

Step 1
The first step in the certification process is to register a project with the GBCSA. Registration declares the intent to pursue certification under a specific rating tool. Upon registration, the first 50% of the certification fee is payable to the GBCSA. A certification agreement document is signed and returned to the GBCSA to finalise registration.

Step 2
After registration, the project team prepares documentation, drawings and calculations to comply with Green Star SA credit requirements. Documentation for all claimed credits must adhere to the documentation requirements outlined in the relevant Green Star SA Technical Manual.

Once all relevant documentation has been gathered, it is submitted to GBCSA in the form of one hard copy and four digital copies.

Step 3
To ensure receipt of the assessment results within six weeks of the submission date, the applicant must inform the GBCSA of the date of submission at least two weeks prior to the anticipated submission date.

Due to the costs associated with arranging an Assessment Panel, any late submissions are subject to a penalty fee of R1000. Once an initial submission date has been forfeited, a new date must be scheduled with the GBCSA.

The second half of the certification fee is payable to the GBCSA on or before the submission date. In cases where credit interpretation requests (CIRs) have been submitted, assessment cannot take place until the CIR has been resolved. The GBCSA reserves the right to conduct a pre-assessment review of a project prior to the commissioning of a review by the assessor. Should a pre-assessment review suggest that the quality of a submission would result in an excessive number of credits denied, a project may be required to resubmit. There is no fee associated with this additional pre-assessment.

Step 4
The GBCSA commissions an assessment panel consisting of one or more third party assessors and an independent chair, who will review the submission. Recommendations will then be made to the GBCSA, which reserves the right to question the findings of the certification assessment panel.

The GBCSA will forward the results of the “Round 1” assessment to the project team, who may either accept the results as the final rating or request to resubmit the documentation for a re-assessment.

Step 5
Upon receipt of the results of the Round 1 assessment, the project has one opportunity to resubmit documentation for credits that were not confirmed during the initial assessment. Resubmissions must include:

- Additional or revised documentation to demonstrate compliance with GBCSA’s credit criteria,
- Alterations to the project design that will result in compliance with the criteria, and
- CIRs to clarify alternative compliance.

To ensure receipt of the Round 2 assessment results within four weeks of submission, the project team must inform the GBCSA of the date of submission at least two weeks prior to submission.

Experience has shown that, in most instances, projects will need to utilise both rounds of assessors as it is very rare for a project to achieve a rating after just one round.

Step 6
The resubmission is now appraised by GBCSA-appointed assessors.

Step 7
The project team is notified of their score based on the recommendation of the assessment panel and, if applicable, of the innovation credits awarded by GBCSA.