DRIVING GREEN BUILDINGS IN THE RESIDENTIAL SECTOR THROUGH RATING TOOLS

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South Africa pre-2007

GREEN BUILDING?
MY BUILDING IS THE GREENEST
GREEN BUILDING?
GREEN BUILDING?
GREEN BUILDING?

How can we avoid these self-proclamations & green wash?
How green is green?
How to compare buildings?
now we can compare (we have a standard)
Ernst & Young, Johannesburg, 4 Star

Design & As Built Rating

Interiors Rating?

Existing Building Performance Rating?
GBCSA is launching new rating tool in residential: EDGE
GBCSA has partnered with the World Bank (IFC) and the NHBRC to offer a green building rating tool for homes – contact manfred.braune@gbcsa.org.za if you’re interested.

The journey of greening your own home.
EDGE is a simple online rating tool with 3 categories:
1. Energy,
2. Water
3. Embodied energy of materials

http://www.edgebuildings.com
Green Star SA:
- residential projects with full professional team
- Project wanting to target leading form of certification (4, 5 or 6 Star)
- more exclusive marketing proposition
- covering more, including waste, transport, management, emissions (8 categories)

EDGE:
- residential projects with small professional team
- Project wanting to target basic form of certification – certified or not certified
- not exclusive marketing proposition
- covering only energy, water and embodied energy of materials (3 categories)
EDGE certification process:

1. Self Assessment
2. Design submission Certificate
3. Site Inspection
4. EDGE Certificate

Project → EDGE AP → EDGE AP → GBCSA

Certificate
EDGE tool launch next steps:

- IFC finance for GBCSA start-up costs
- GBCSA appoint project manager
- Final adjustments to EDGE tool: Technical Working Group – do you want to get involved?
- GBCSA board approval & final tool launch
- Pilot projects register
How do rating tools transform the market?
1. FIND LEADERS

2. FOLLOWERS WILL COME

3. VALUE CHAIN IMPACTED
Green buildings will become standard practice.

make today’s good practice tomorrow’s standard practice

No. of buildings

Building regulation requirements

standard practice 70%

market leaders 20%

innovators & risk takers 5%

Illegal

Green Building best practice

Leaders
MARKET TRANSFORMATION

CASE STUDY: PROPERTY OWNER
REDEFINE
2010 – did not see value of green buildings

Redefine: 2014 Annual Report: p86 “In the South African context sustainability has reached a stage of maturity where by few (if any) premium grade buildings are developed without seeking a benchmark green rating”

“green buildings in the Redefine portfolio are envisaged to have a positive effect on asset value while reducing multi-tenant vacancy rates”
2014 – Mike Ruttel, Executive Director for Development says:

“Redefine aims to design all our new build developments to achieve a minimum 4-Star Green Star SA rating”

Property Wheel 2014/09/09

R 30 Billion property fund

Redefine Properties

Green Building Council South Africa
MARKET TRANSFORMATION

CASE STUDY: PAINT INDUSTRY
LOW VOC PAINTS
2008 – first Green Star SA project: in SA: Nedbank, Johannesburg

Dulux changed processes to produce one low VOC range locally.

No local VOC free paint!
2015 – multiple low VOC paints locally available, no premium

All because of one Green Star project
COUNTING THE GROWTH & IMPACT
GREEN STAR SA CERTIFICATIONS PER ANNUM

2009  2010  2011  2012  2013
1  4  8  15  22

TOTAL CERTIFICATIONS TO DATE
50

keep counting & celebrating each building

April 2014
**50 Energy Buildings Savings**

34\% more energy efficient

76 million kWh energy saved per year

Which is equivalent to

The energy needed by 5,300 houses per annum

The energy needed to boil 1.4 million kettles of water per day for a year

Predicted energy savings if the 50 certified projects are operated as their design intended (numbers rounded off):

- 76 million kWh per annum of energy predicted to be saved by these buildings.
- 1.7 million kWh predicted to have been saved to date by these buildings since they were built.
- The average predicted energy savings of these projects is 34\% more energy efficient than the reference case, which is based on SANS 10400 Part NXA - the legal standard for energy use in buildings.
- 76 million kWh per annum of energy saved is equivalent to approximately:
  - The energy needed by 5,300 households per annum.
  - The energy needed to boil 1.4 million kettles of boiling water per day for a year.
  - 1.2\% of what a large scale power station might produce in a year.

**50 Reduced GHG Emissions**

57\% more savings on GHG emissions

115 million kg CO₂ predicted to be saved per annum

256 million kg CO₂ predicted to have been saved to date

Approximate kgCO₂ savings from the 50 certified projects:

- 115 million kg CO₂ predicted to be saved per annum.
- 256 million kg CO₂ predicted to have been saved to date.
- The average predicted kgCO₂ emissions savings of these projects is 57\% more than the reference case, which is based on SANS 10400 Part NXA, the legal standard for energy use in buildings.

Note: The kgCO₂ numbers are not cumulative and do not account for energy generation from renewable sources. The kgCO₂ emissions numbers include on-site generation.

115 million kg CO₂ is equivalent to:

- 6,000 Full Boeing flights from Cape Town to Johannesburg (one way)
- Taking 28,000 cars off the road per annum
- Equivalent to 6000 km/year for a small car with annual mileage of 15000km
- 4,000 full Boeing fights from Cape Town to Johannesburg (one way)
CERTIFICATIONS BY APRIL 2015 ??

100
The journey of one family...
A short video of how one family did it...
SAVINGS – energy, water & waste

29% energy saving – behaviour change only
ESTIMATED SAVINGS FOR ONE YEAR

THE NGEWANA FAMILY
EIGHTEEN THOUSAND RAND
R. 18,000

Green Home Savings.
Install a low-flow shower head

Your shower may be so wasteful that it’s actually illegal. Some municipalities ban shower heads that use more than 10 litres of water per minute. To check yours, do the “Bucket Test.” Hold a bucket under the shower spray for 12 seconds and see if you collect more than 2 litres. Replacing an inefficient shower rose with a low-flow version could save you hundreds of rands a year. Modern low-flows are aerated, so you feel a blast of water, not a trickle. And replacing a shower rose is surprisingly easy. This YouTube video shows you how.

Connect a timer to your geyser

A programmable timer can help your budget and the nation, by keeping your geyser off during certain periods like Eskom’s peak hours of 5 to 9 pm. Timers are essential for solar geysers. Prices start at around R350 plus electrician, but consider paying for a Geyserwise, for thermostat control without having to climb into the roof to adjust the temperature on the geyser.

Keep your geyser and its pipes snugly insulated

Give your geyser a hand, place your palm on top of the cylinder and on adjacent pipes. If you feel heat, it’s being wasted and you paid for it. Buy a geyser blanket and insulation for the first few meters of outlet pipe from one of Eskom’s approved suppliers. Blankets cost about R200 – R400; and pipe insulation usually less than R100.
In summary – Why a Green Rating Tool for Homes?

• Rating Tools transform the market upstream & down
• Rating Tools can be used as a design guide
• Rating Tools provide a means for independent verification of green credentials by a trusted body
• Green homes will cost less to live in, and save you money
• Green rated homes will sell for more
• Banks will provide preferential finance to homes that are green rated – lower risk customer
SAVE THE DATE
GBCSA Convention
3 – 6 NOV 2015
THANK YOU

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