



# SAFMA

## Convention & Exhibition

# Green Building Insights

Manfred Braune, Technical Executive, GBCSA

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Johannesburg, 24 August 2011

# Presentation Overview

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1. Intro to GBCSA

2. Green Building Benefits

3. Facilities Managers – a key profession

4. Benchmarking performance

5. GBCSA update



# VISION

**The Green Building Council of South Africa will lead the transformation of the South African property industry to ensure that all buildings are designed, built and operated in an environmentally sustainable way that will allow South Africans to work and live in healthy, efficient and productive environments.**

# Green Building Council of South Africa

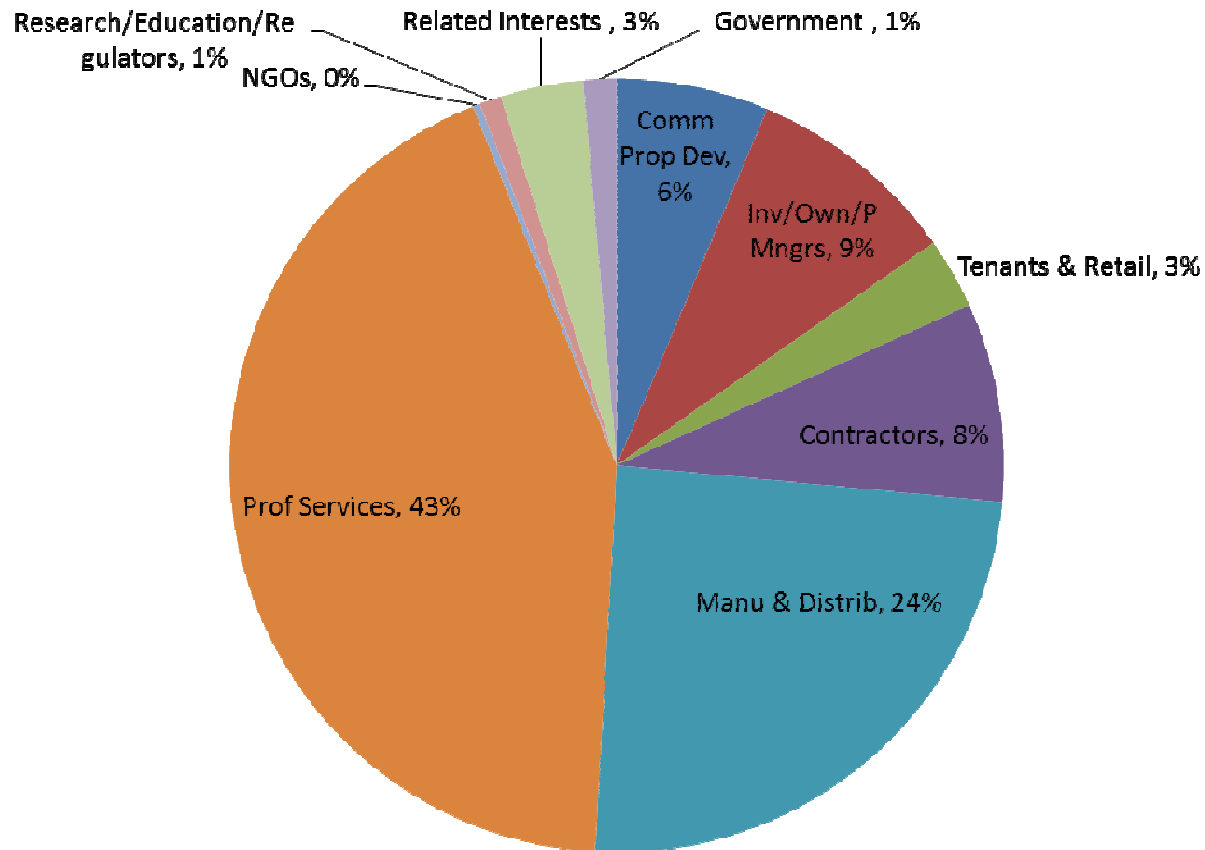
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## The Green Building Council of South Africa:

- Formed in 2007
- Membership based organisation
- Independent
- Is a 'Not-for-Profit' (Section 21) company
- Promotes market-based solutions
- Full member of the World Green Building Council
- 12 staff based in Cape Town

# Green Building Council of South Africa

## GBCSA membership:



870 members as at August 2011.

# World Green Building Council

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## Purpose:

- Provide a support network for new Councils
- Facilitate information transfer/learning
- Develop standard metrics
- Ensure minimum standards for rating tools



WORLD GREEN BUILDING COUNCIL

20 'established' & 62 'emerging' councils world-wide

# Green buildings: Why the focus?

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## Key drivers:

- Uncertainty of the current path – is it sustainable?
- Stressors in the natural environment (climate, biodiversity etc.)
- Finite resources – fresh water, “easy” oil, etc.
- Global population growth – 9 billion @ 2050
- Rapid urbanisation – growth of ‘megacities’

# Green buildings: Why the focus?

Globally, the built environment is responsible for:



**40%**  
solid waste  
generation



**12%**  
fresh water  
consumption



**40%**  
end-use energy  
consumption

Source: UNEP, 2011, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*, [www.unep.org/greeneconomy](http://www.unep.org/greeneconomy)

Source: IEA, 2010, *Energy Performance Certification of Buildings: A Policy Tool to Improve Energy Efficiency*, International Energy Agency, [http://www.iea.org/publications/free\\_new\\_Desc.asp?PUBS\\_ID=2295](http://www.iea.org/publications/free_new_Desc.asp?PUBS_ID=2295)



# BENEFITS OF GREEN BUILDINGS



	
Office Design v1 ★★★★★ 5 STAR RATING - SOUTH AFRICAN EXCELLENCE GREEN BUILDING COUNCIL OF SOUTH AFRICA	

# Green buildings: The Benefits

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## For Owners or Managers:

### Benefits:

- Lower operating costs (energy, peak tariffs, water, waste)
- Reduced life-cycle costs
- Attract the RIGHT tenant, QUICKER for LONGER
- Higher returns on assets and increased property values
- Reduced liability and risk

GBCA “Dollars and Sense” ...read it...



THE  
DOLLARS  
AND  
SENSE  
OF GREEN  
BUILDINGS

# Green buildings: The Benefits

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## For Tenants:

### Benefits:

- Lower operating costs
- Attract the RIGHT talent, QUICKER for LONGER
- Reduced churn costs
- Increased productivity
- Reduced absenteeism

GBCA “Dollars and Sense” ...read it...

THE  
DOLLARS  
AND  
SENSE  
OF GREEN  
BUILDINGS

# Green buildings: The Benefits

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## For Developers or Contractors:

### Benefits:

- Enhanced brand value
- Improved marketability
- Improved public profile and community relations
- Increased tender competitiveness

GBCA “Dollars and Sense” ...read it...

THE  
DOLLARS  
AND  
SENSE  
OF GREEN  
BUILDINGS

# Green buildings: The Benefits

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## Other benefits

Future proofing:

- Utility cost escalations (urgent reality in SA)
- Market shift...are we entering a period of rapid change?
- Changing consumer & investor sentiment
- Are you building into obsolescence?

GBCA “Dollars and Sense” ...read it...



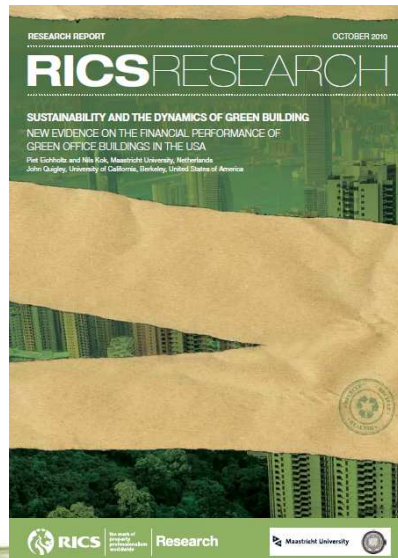
THE  
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AND  
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# Green buildings: The hard evidence

## Recent hard evidence

### Key research:

- Sustainability and the Dynamics of Green Buildings: New Evidence on the Financial Performance of Green Office Buildings in the USA (RICS Research, 2011)
- Green Investment Index - GII (IPD, 2011)



# Green buildings: The hard evidence

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## Recent hard evidence

### RICS - Current US market:

- Significant increase in “green” space between 2007 & 2009
- Energy Star certified: 2.1% higher rents, 6.6% higher effective rents and 13% higher transaction price
- LEED certified: 5.8% rental premium, 11.1% higher transaction price
- “Label decay” evident – premiums decrease over time

*Source: RICS Research, 2011, Sustainability and the Dynamics of Green Buildings: New Evidence on the Financial Performance of Green Office Buildings in the USA, Royal Institution of Chartered Surveyors*

[http://www.rics.org/site/scripts/press\\_article.aspx?pressReleaseID=421](http://www.rics.org/site/scripts/press_article.aspx?pressReleaseID=421)

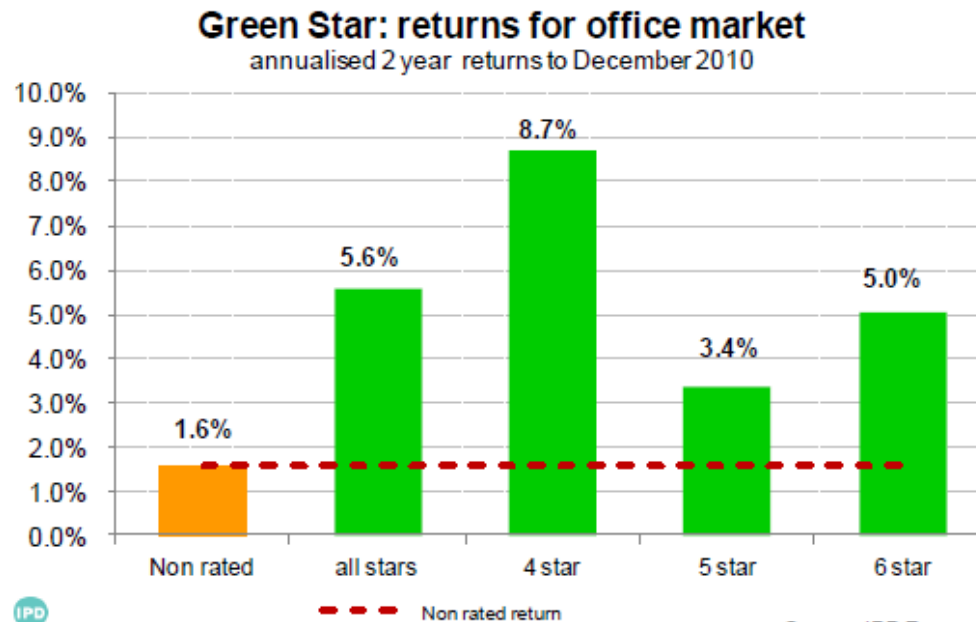


# Green buildings: The hard evidence

## Recent hard evidence

IPD – Australian market (Melb & Syd):

- Green Star – Variance of returns between rated and non-rated assets is 4%



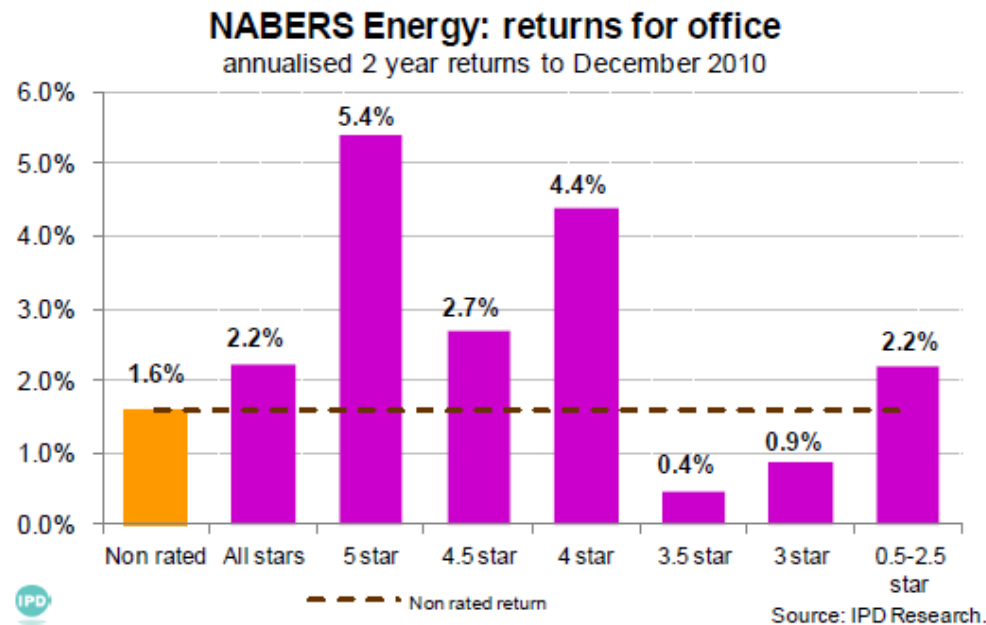
Source: IPD Research, 2011, *Introducing the PCA/IPD Green Investment Index*, presented at GBCA Green Cities Conference 2011

# Green buildings: The hard evidence

## Recent hard evidence

IPD – Australian market (Melb & Syd):

- NABERS – Variance of returns between rated and non-rated assets is 0.6% (ave)



Source: IPD Research, 2011, *Introducing the PCA/IPD Green Investment Index*, presented at GBCA Green Cities Conference 2011



**FACILITIES  
MANAGERS  
A KEY PROFESSION**

# FACILITIES MANAGERS: a key profession

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## Role of facilities manager in terms of greening?

### UNDERSTANDING & IMPROVING BUILDING PERFORMANCE

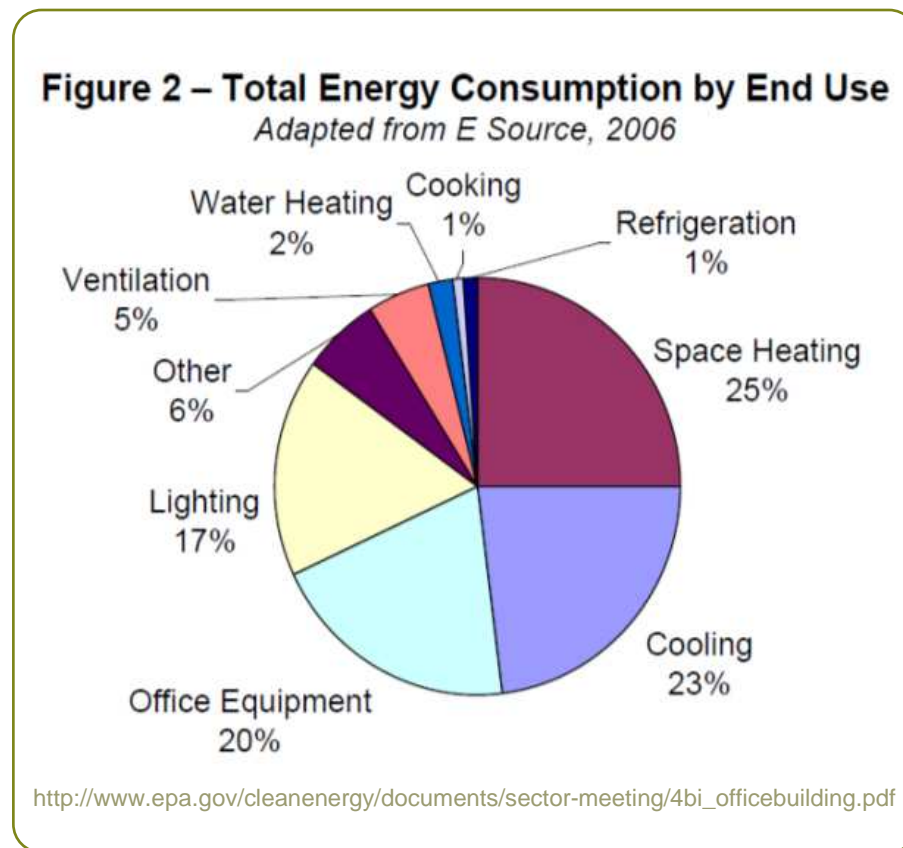
#### Energy, water & waste

- Document/track existing performance of building (**baseline**)
- Compare performance to established benchmarks (**target**)
- Investigate hard and soft changes, budget and propose (**plan**)
- Implement changes (**action**)

# FACILITIES MANAGERS: a key profession

## Energy, water & waste

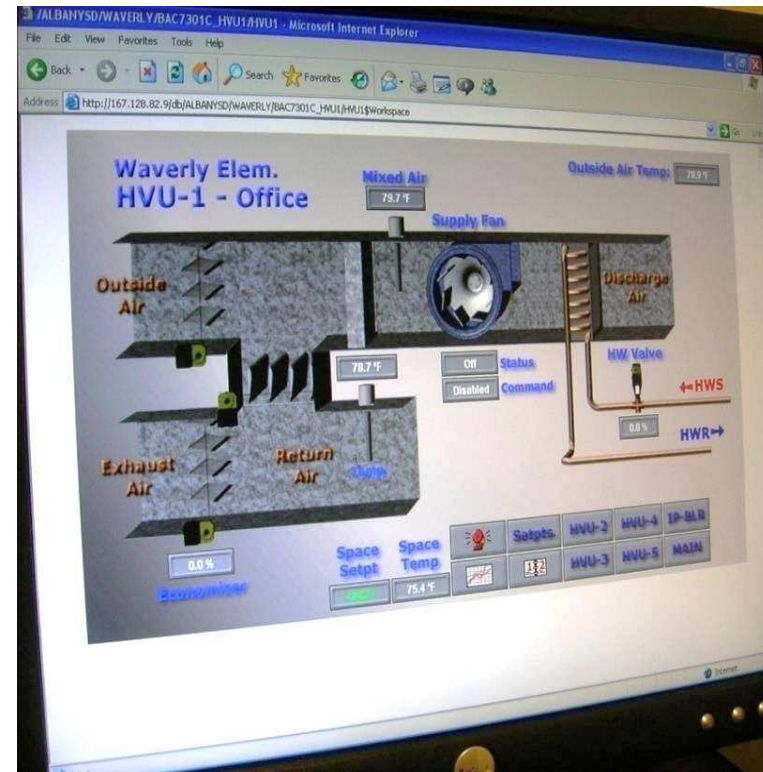
- **Baseline** – understand energy & water consumption, & waste streams



# FACILITIES MANAGERS: a key profession

## Energy, water & waste

- **Baseline** – sub-metering & monitoring is vital



# FACILITIES MANAGERS: a key profession



What exactly *is* energy auditing?

An investigation of **building energy use** and identification of **efficiency and cost-reduction opportunities**.

# FACILITIES MANAGERS: a key profession

What exactly *is* commissioning?

Verification that the building's energy related systems are **installed, calibrated and perform according to the intended design** and based on construction documents.



# FACILITIES MANAGERS: a key profession

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## Role of facilities manager in terms of greening?

### Indoor Environment Quality

#### *(Health & Productivity of Occupants)*

- **Fresh Air Assessment** – determine fresh air provision
- **Thermal comfort** – determine if occupants are comfortable
- **Toxicity of materials** – paints, carpets, furniture
- **Lighting** – over lighting, old magnetic ballasts

# FACILITIES MANAGERS: a key profession

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**Establish targets, plan, budget & implement**

## **Considerations:**

- Age of building systems and equipment
- Owners Goals
  - Equipment Replacement
  - Improved Operations
- Target low/no cost measures or capital investments



# FACILITIES MANAGERS: a key profession

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## Green Star SA credits that should include input from FM:

- Commissioning
- Independent Commissioning Agent
- Building Tuning
- Indoor Environment Credits – HVAC, lighting,
- All Energy credits
- All Water credits
- Emissions – Refrigerants, generator emissions

# FACILITIES MANAGERS: a key profession

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## Elevate the facilities manager's position:

- Critical knowledge of the assets
- Key to understanding where problems are
- Understand which solutions are practical
- Direct link / contact with tenants
- Should be involved in refurbishment decisions
- Should be involved in design

# PERFORMANCE

## BENCHMARKS / RATING TOOLS

greenstar

Office As Built v1



4 STAR RATING - BEST PRACTICE  
GREEN BUILDING COUNCIL  
OF SOUTH AFRICA



greenstar

Office Design v1

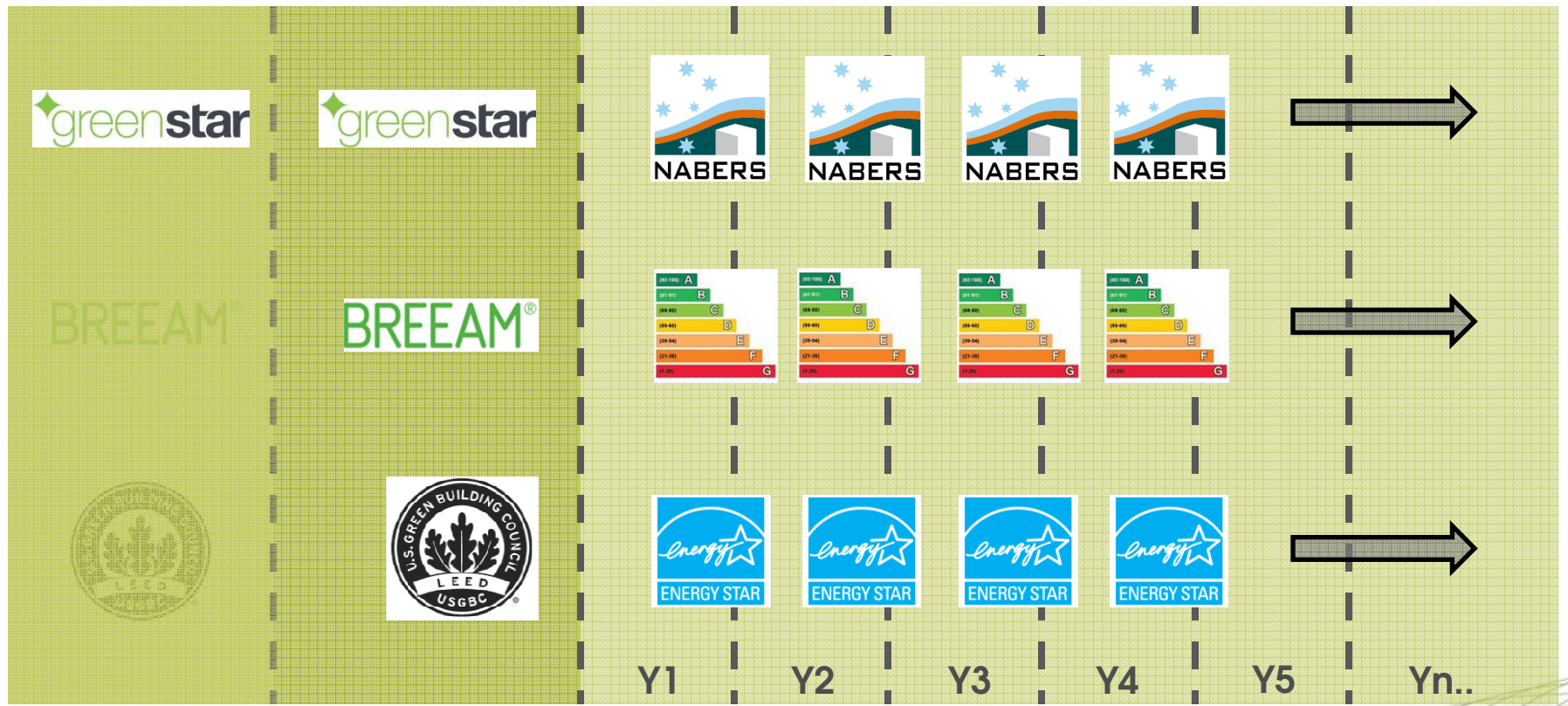


4 STAR RATING - BEST PRACTICE  
GREEN BUILDING COUNCIL  
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# Green buildings: Rating & benchmarking tools

## Ideal outcome for green building benchmarking



Design Phase

Construction Phase

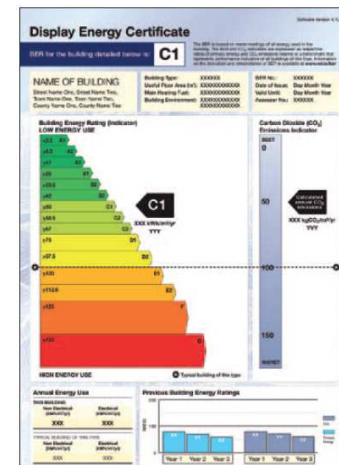
Operation Phase

# Green buildings: Rating & benchmarking tools

## Operational Performance tools

### Purpose & Advantages:

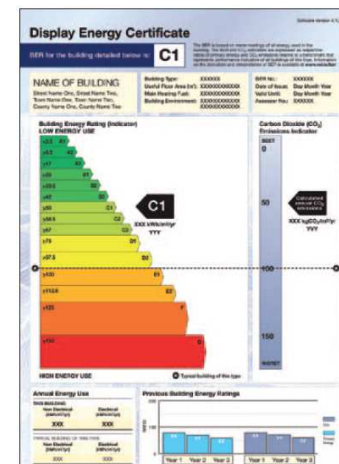
- To compare operational performance to national norms
- To allow asset and facility managers to track performance
- Create transparency in the market for buyers/tenants
- Allow portfolios to be assessed equitably



# Green buildings: Rating & benchmarking tools

## GBCSA developing an operational Energy & Water benchmarking tool and certification scheme:

- Over 400 buildings are being surveyed
- Data statistically analysed & benchmarks established
- Online tool to be developed – free self assessment & paid certification
- To be launched mid 2012





**GREEN BUILDING COUNCIL**  
OF SOUTH AFRICA

# GBCSA update

# GBCSA update on rating tool development

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- Multi Unit Residential Tool v1 – Oct 2011
- Public Assembly & Education Building Tool PILOT – Oct 2011
- Energy & Water Operational Performance Tool – mid 2012
- Commercial Interiors – start 2012?
- Existing Buildings – start 2012?

# GBCSA upcoming courses & events



## 22 Sept CPT

**Official Building Tour - Aurecon 5 star Green Star SA rated building**

Member only event - a tour of the first Green Star SA 5 star rated building in celebrati...

**Venue:** Aurecon Centre, 1 Century City  
**Date:** 2011-09-22 to 2011-09-22  
**Time:** 8.30am - 11 am

[BOOK ONLINE](#)



## 29 Sept JHB

**Greening Existing Buildings - Jhb 29 September 2011**

Join the Green Building Council of South Africa and expert trainers from the local propert...

**Venue:** The Venue, Melrose Arch  
**Date:** 2011-09-29 to 2011-09-29  
**Time:** 8:30 - 17:00

[BOOK ONLINE](#)



# GBCSA Convention & Exhibition 2011

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# Thank You

Manfred Braune, Technical Executive, GBCSA

Johannesburg, 24 August 2011