Singapore Green Policies and Experiences

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on behalf of

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Executive Director
Building and Construction Authority
Sustainable Development in Singapore

Innovative, Scalable and Replicable

Land Area: 712 km²
Population: 5.1 million

- City-State with no hinterland
- Accommodate housing, IFC, Ports and Ind. Base, Refineries, Power Plants......

KEY: SUSTAIN ECONOMY AND ENVIRONMENT
A Sustainable Built Environment for All

Live in a Green Home

Work in a Green Building

Study in a Green School

Shop in a Green Mall
NATIONAL SUSTAINABILITY INITIATIVE

Inter Ministerial Committee for Sustainable Development

Formed in 2008
Chair: MND and MEWR
Members: MFA, MTI and MOT

Task: Blue Print for Singapore’s Sustainability Journey
**Sustainable Singapore Blueprint 2030**

**Energy**
Reduce energy intensity by 35%

**Community Engagement**
Nurture an environmentally responsible community

**Capability Building**
Build Singapore into an environmental knowledge hub

**Waste**
Improve recycling rate to 70%

**Water**
Reduce water consumption per capita per day by 10%

**Air**
Reduce ambient fine particulate matter by 25%

**Physical Environment**
Increase reservoirs, parks, waterways, skyrise greenery
Current Status vs Future Goal

12% (2011) → 80% (2030)
The Singapore Approach

**BCA Green Mark Scheme**

- **S$20mil GMIS** for New Building Legislation on Minimum Standard for New Building
- **BCA - CDL Green Sparks** Enhanced $100mil GMIS - EB

**5 Key Assessment Criteria**

1. Energy Efficiency
2. Water Efficiency
3. Environmental Protection
4. Indoor Env. Quality
5. Other Green Features

<table>
<thead>
<tr>
<th>Green Mark</th>
<th>Try Again</th>
<th>Certified</th>
<th>Gold</th>
<th>Gold Plus</th>
<th>Platinum</th>
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<tbody>
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<td>Score</td>
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<td>90</td>
<td>100</td>
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- Estimated Energy Savings
  - 10% to 15%
  - 15% to 25%
  - > 25%
  - > 30%
Pre-2005

- Envelop Thermal Transfer Value (ETTV)

2005

- BCA Green Mark Scheme

2006

- S$20mil GMIS for New Building

2007

- Legislation on Minimum Standard for New Building

2008

- 2nd Green Building Masterplan

2009

- Completed retrofitting of BCA’s flagship R&D project: Zero Energy Building

2010

- Enhanced $100mil GMIS-EB

- BCA-CDL Green Sparks Competition

- BCA Green Mark for Infrastructure

- BCA Green Mark for Rapid Transit System

- CP24:1999 EE Standard for Bldg Services and Equipment

- 1st Green Building Masterplan

- S$50mil R&D Research Fund

- Minimum Standard for Govt Land Sales

- BCA-NParks Green Mark for Parks

- BCA Green Mark for Districts

- 1st Green Building Masterplan

- S$50mil R&D Research Fund

- BCA Green Mark for Districts

- 2nd Green Building Masterplan

- Legislation on Minimum Standard for New Building

- S$20mil GMIS for New Building

- BCA Green Mark Scheme

- Envelop Thermal Transfer Value (ETTV)
Current State of Play

840 Green Mark Building Projects
25 mil m² GFA

Singapore’s Green Building Figures (Cumulative)
Inertia to Green Buildings

- Balance sheet commitment
- What is a green building
- Funding Considerations
- Upfront Costs
- How to Build Green
- Disruptions to operations
- Payback vs lease period
Government Taking the Lead

- New larger public buildings to achieve GM Platinum
- Existing larger public buildings to achieve GM GoldPLUS by 2020

Jurong Gateway
One of the Government Land Sales Sites

Zero Energy Building @BCA Academy
S.E Asia’s 1ST Refurbished Building
April 2008. All New Buildings and Existing Buildings undergoing major retrofitting works *(with GFA ≥ 2000 m²)* to meet at least Green Mark Certified Standard

*Levelling the Playing Field*

**Imposing Minimum Standards on Environmental Sustainability**

[BCA Green Mark]
GOVERNMENT INCENTIVES

- S$20 mil for New Buildings
- S$50 mil Research Fund For Built Environment
- S$100 mil Incentive for Existing Building Retrofits
- S$5 mil for Design Prototype
- Green Mark Gross Floor Area Incentive Scheme

Research Fund For Built Environment

GOVERNMENT INCENTIVES

Strengthening the Business Case

<table>
<thead>
<tr>
<th>BCA Green Mark Award Type</th>
<th>Green Cost Premium (%)</th>
<th>Payback Period (years)</th>
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<tbody>
<tr>
<td>Platinum</td>
<td>2% to 8%</td>
<td>2yrs to 8yrs</td>
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<tr>
<td>Gold Plus</td>
<td>1% to 3%</td>
<td>2yrs to 6yrs</td>
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<tr>
<td>Gold</td>
<td>1% to 2%</td>
<td>2yrs to 6yrs</td>
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<tr>
<td>Certified</td>
<td>0.3% to 1%</td>
<td>2yrs to 5yrs</td>
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BUSINESSES keen to go green may soon receive a boost from financial institutions.

Banks could give out loans for buildings that are designed with the environment in mind, as part of their social corporate responsibility.

This is one of the recommendations from an international panel of experts on boosting sustainable buildings in Singapore.

There are currently more than 130 Green Mark buildings here.

Another 200 are still waiting to be recognised by the Building and Construction Authority as being more sustainable and energy efficient.
Unleashing the value proposition of green buildings

“BUILD GREEN, FROM COST TO VALUE”
A Collaboration – BCA, NUS, Leading Valuation Firms
Spreading the Green Message

BCA Roving Green Building Exhibitions

Green Shots
BCA Green Mark Photography Competition 2011
Reaching out to the Region

International Green Building Conference 2011
Singapore
part of the Singapore Green Building Week

Build Green. Act Now.
13 - 16 Sept 2011 • Suntec Singapore

Register Now @ www.sgbw.com.sg
Thank You

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