

Capitalising on Energy Efficiency in the Built Environment, the Singapore journey

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Long-Term Planning for Environmental Sustainability

Singapore's Sustainability Blueprint & Green Building Masterplan



A sustainable & liveable city



80%

of buildings
Green Mark
certified by 2030



Green Mark Scheme



- **Certification** scheme
 - Emphasis on Energy Efficiency
 - Tailored to tropical climate
heat gain and cooling of spaces
 - High standards of verification
controls & measurement



- Energy and water efficient
- High quality and healthy indoor environment
- Integrated with green spaces;
- Constructed from eco-friendly materials.

BCA Green Mark for New & for Existing Buildings

*BCA Green Mark beyond Buildings:
Parks, Rail Transit Systems*

BCA Green Mark for Districts

BCA Green Mark for Occupant-Centric Spaces



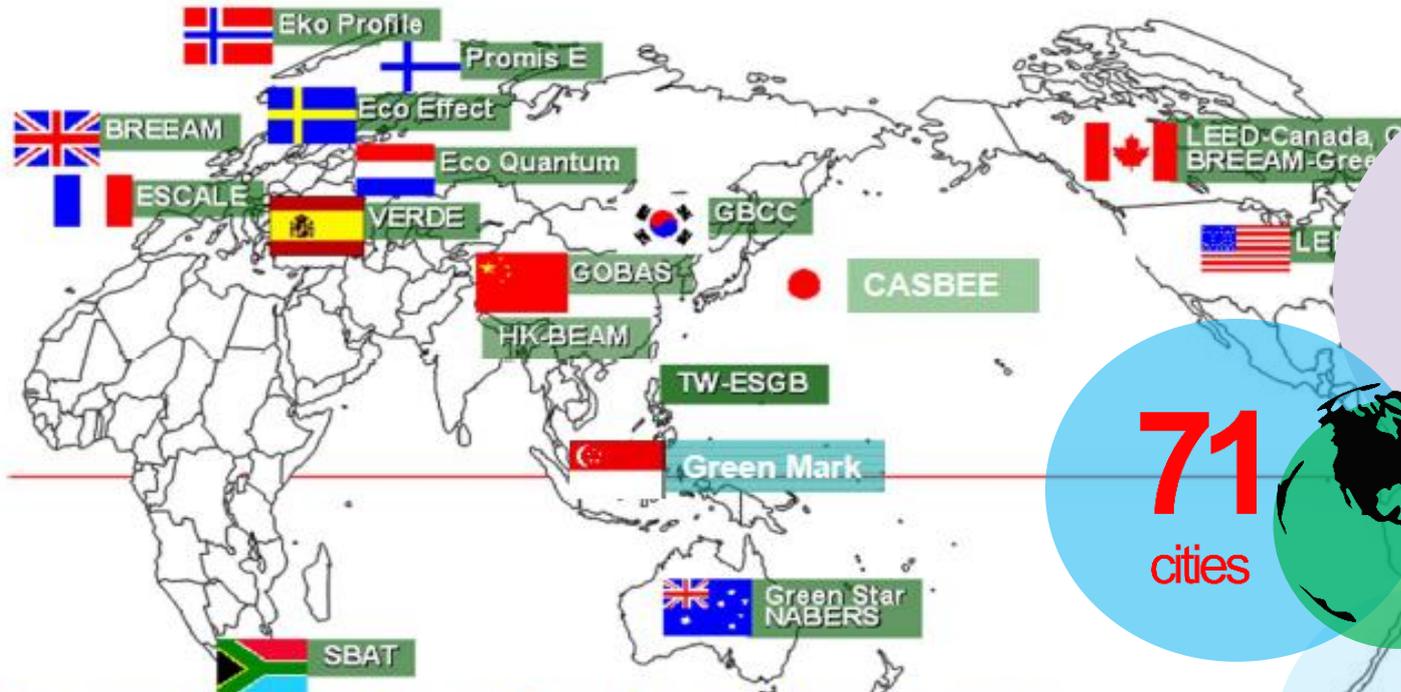
17
Green
Mark
schemes

Green Mark Scheme

Green GFA (%)



Singapore, leading the way in Green Buildings in the Tropics



15
countries

71
cities

233
applications

GFA
1 billion

Green Building Rating Systems Around the World

Building and Construction Authority
We shape a safe, high quality, sustainable and friendly built environment.

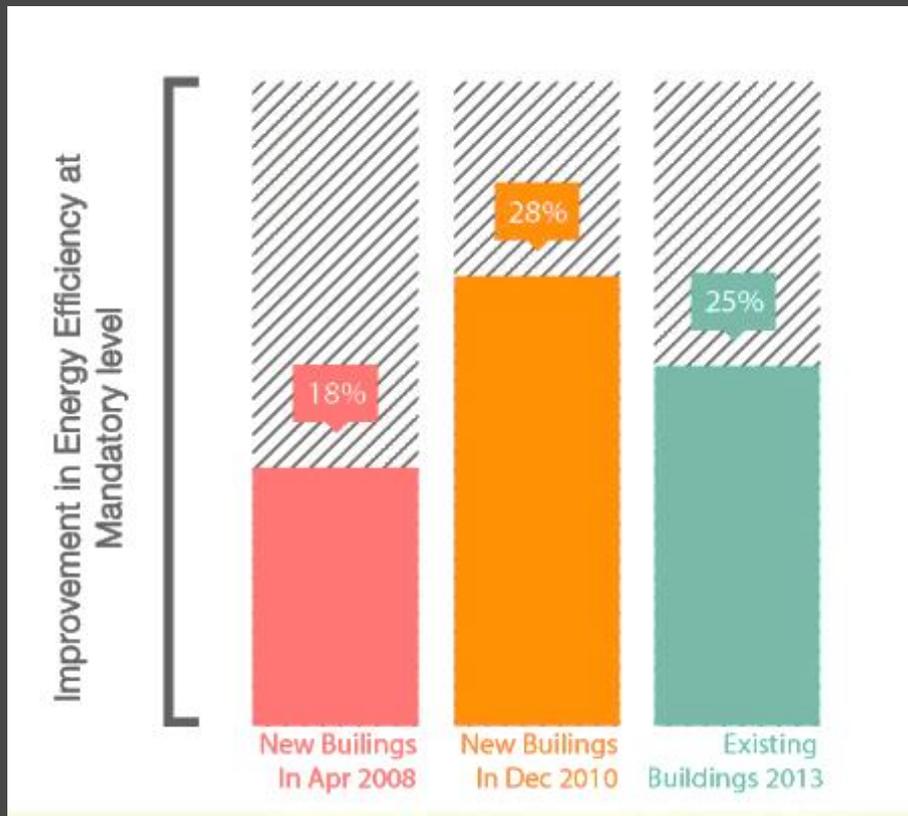
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Mandating Minimum Standards

Building Control Act Environmental Sustainability Regulations

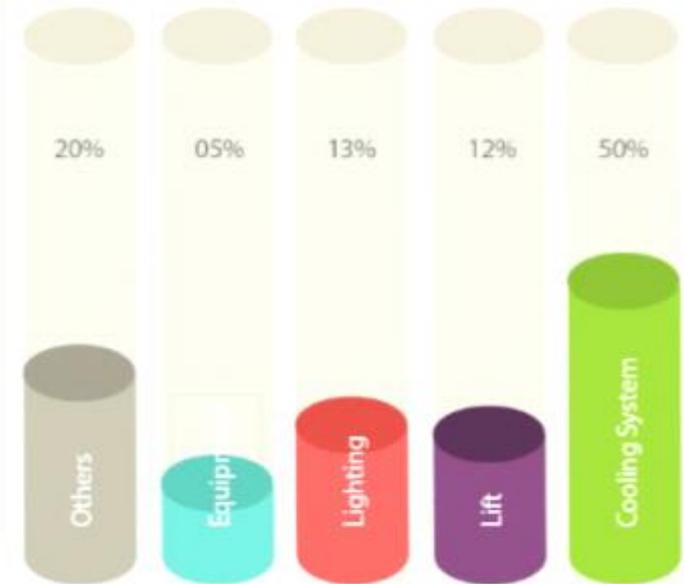
Raising Minimum Energy Efficiency Levels



Mandating Periodic Energy Audit & Compliance of Building Cooling Systems

Regular maintenance and optimisation of the cooling system is critical to ensure that it continues to operate efficiently

Energy Consumptions in Buildings



Continued operations at optimum levels

Public Sector Taking the Lead

New Buildings



- **New public sector buildings** [$>5000\text{sqm}$ of A/C area] to attain **Green Mark Platinum** rating

- **All large existing public sector buildings** to attain **$>$ Green Mark Gold plus** rating by 2020 [75% certified/on-going]

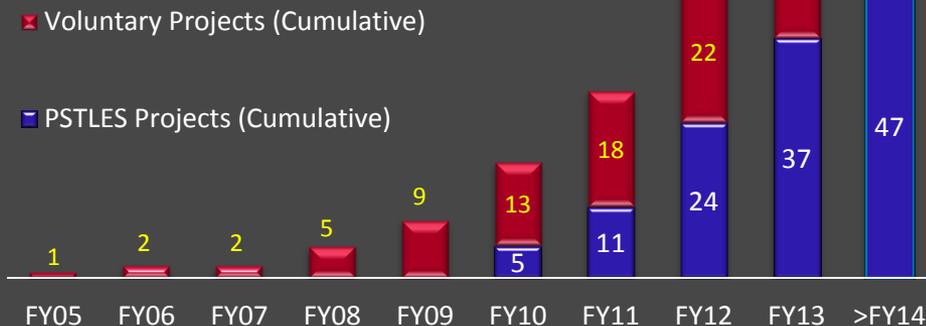


GM Platinum
National University of Singapore

Existing Buildings



New Public Platinum Building Projects
(Cumulative)



GM Platinum
Ng Teng Fong
Community Hospital



Spurring the Private Sector-Incentives

New Buildings



- **S\$20 million** Green Mark Incentive Scheme for New Buildings **[101 projects]**
- **S\$5 million** Green Mark Incentive Scheme for Design Prototype
- **Bonus Gross Floor Area** for Higher Tier Green Mark ratings

Fully Committed

\$1.6M Committed

47,000 sqm Committed

Existing Buildings



- **S\$100 million** Green Mark Incentive Scheme for Existing Buildings **[83 projects]**
- **Building Retrofit Energy Efficiency Financing (BREEF) Scheme**

Fully Committed

5 Pilot Projects

International Partnerships

Strategic Alliance



BCA
Centre for Sustainable Buildings
Singapore

A Centre Collaborating with UNEP

Policy Development & Capacity Building



Collaborations amongst SEA countries on SB initiatives



Connectivity into International Network

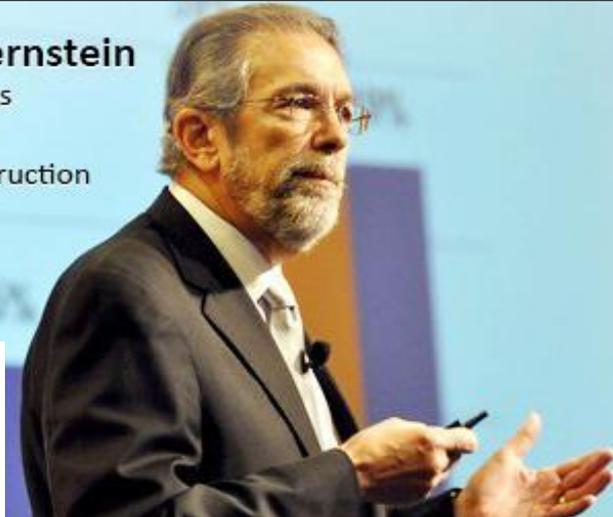


Information Sharing & Outreach



Mr Harvey Bernstein

VP Industry Insights & Alliances
McGraw Hill Construction



Policy Collaboration



International Green Building Conference 2013
Singapore

International Network



Key Takeaways

- **Long-term planning** for Environmental Sustainability
- Tailored **Certification Scheme** to assess performance
- **Mandating** minimum standards
- **Public Sector** taking the **lead**
- **Incentives** to spur Private Sector
- International **Partnerships**



Thank you...