

Pillars

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HARNESSING KNOWLEDGE FOR A GREEN FUTURE

Singapore Green Building Week 2012

Pillars

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HARNESSING KNOWLEDGE FOR A GREEN FUTURE



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BUILDING A BETTER TOMORROW

Dear Readers,

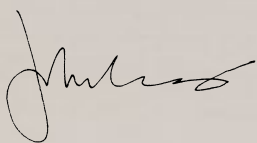
The graduation ceremony for this year's batch of BCA Academy graduates held last month at the University Cultural Centre was a grand and memorable occasion for many of us in the built environment industry. We are pleased to have influenced and groomed so many bright young minds for the construction industry, many of whom will move on to make their mark on the built environment.

We are also pleased to see that the green building movement has taken root in Singapore after seven years of hard work. From its humble beginnings of 17 green building projects in Singapore when the Green Mark scheme started in 2005, the number has grown to about 1,400 projects and close to 40 million square metres of green floor space today. Our continual effort to engage construction industry players and experts is one of the key reasons for the rising popularity. It is heartening to know that more and more building practitioners are stepping up to play their part in creating a sustainable built environment for the community.

The Singapore Green Building Week in October is one such effort. The International Green Building Conference (IGBC), organised by the Singapore Green Building Council and supported by BCA, brought together building professionals, experts, and policymakers to share ideas, collaborate, and learn from one another to achieve a shared vision of a sustainable planet through the green building movement. During the Week, several new initiatives were launched – a new training programme for regional policymakers and industry stakeholders as well as new Green Mark Schemes. In this issue, learn about these new initiatives and glean insights from our expert speakers at the IGBC.

Meanwhile, the 2013 Construction Productivity Awards are now open for nominations. In appreciation of the hard work that our industry partners have put in for our nationwide productivity drive, we invite outstanding built environment professionals, consultants, and builders to send in their applications. We are very eager to recognise your good work and share them with the industry.

Creating a sustainable built environment and improving productivity would not be possible without the commitment and participation of our industry partners. As the year draws to a close, we would like to thank everyone for the strong support. Looking ahead to 2013, we'll continue to work closely with the built environment sector to explore other approaches to create the best built environment for Singapore, our home and a distinctive global city. **P**



Dr John Keung
Chief Executive Officer



HARNESSING KNOWLEDGE FOR A GREEN FUTURE

SINGAPORE GREEN BUILDING WEEK BRINGS LEADERS AND COMMUNITY TOGETHER TO DISCUSS SUSTAINABLE IDEAS FOR A BETTER WORLD



Into its fourth run this year, the Singapore Green Building Week (SGBW) 2012 held from 8–12 October at Marina Bay Sands saw Singapore play host to international green building experts, policymakers, and built environment practitioners. They congregated at the event to share ideas, collaborate, and learn from each other in order to achieve a shared vision of a sustainable planet through the green building movement.

Such transnational dialogue is key to furthering the green building agenda worldwide. The BCA Centre for Sustainable Buildings (BCA CSB) also had this common goal in mind when it convened its regional and United Nations Environment Programme (UNEP) networks at SGBW 2012. This event, which included the International Green Building Conference (IGBC), encouraged multi-level collaboration locally and internationally.

What is BCA CSB?

Established as a Centre collaborating with UNEP on September 2011, BCA CSB strives to groom Singapore into a regional hub for green buildings by working towards policy advice through policy development, capacity building, and knowledge transfer as well as outreach activities through awareness raising and by broadening regional networks.



DEVELOPING CAPABILITIES – INTRODUCING A TRAINING PROGRAMME FOR REGIONAL POLICYMAKERS AND INDUSTRY STAKEHOLDERS

First up during SGBW 2012 was a capability building programme (8–10 October) initiated by BCA CSB, in partnership with the Singapore Green Building Council (SGBC). The inaugural Senior Executive Development Programme on Sustainable Buildings for Asia Pacific was a three-day training programme for regional policymakers and industry stakeholders to discuss, explore, and accelerate the development of expertise in governance, public administration, and implementation of green building projects in Asia Pacific.

The Senior Executive Development Programme leveraged on 15 experts from UNEP, UNEP's Sustainable Buildings and Climate Initiative (UNEP-SBCI), the Royal Melbourne Institute of Technology (RMIT), and various Singapore agencies and institutions. It created an excellent platform for 30 senior executives from nine participating Asia Pacific countries (India, Indonesia, Malaysia, Pakistan, Singapore, Sri Lanka, Thailand, The Philippines, and Vietnam) including Director-General and Directors from the government sector, project managers, and Presidents or CEOs from the Green Building Councils.



“We really enjoyed the programme in Singapore, and [the Green Building Council of Sri Lanka] highly appreciate BCA CSB’s assistance to improve our knowledge base in going green.”

RAVIHANSA CHANDRATILAKE, PROJECT MANAGER, GREEN BUILDING COUNCIL OF SRI LANKA

Top | Green Leaders in the Asia Pacific region.
Bottom | Knowledge exchange by participants.



“I would like to express my appreciation for BCA CSB’s well-prepared Senior Executive Development Programme, which I found to be very informative and useful.”

MRS AMARAPORN ACHAVANGKOOL, DIRECTOR OF TECHNICAL AND ENERGY EFFICIENCY PROMOTION, DEPARTMENT OF ALTERNATIVE ENERGY DEVELOPMENT & EFFICIENCY, THAILAND



KNOWLEDGE SHARING – BRINGING TOGETHER INTERNATIONAL STAKEHOLDERS AT THE UNEP-SBCI FALL SYMPOSIUM

Another event during SGBW 2012 that encouraged international dialogue on climate change mitigation was the UNEP-SBCI Fall Symposium on Sustainable Buildings (9–10 October 2012). Organised by UNEP-SBCI and co-organised by BCA CSB and SGBC, the symposium was attended by over 100 international stakeholders from more than 100 companies, across 20 countries and six continents, including participants from the Senior Executive Development Programme.

The symposium provided a unique opportunity to engage international stakeholders, experts, and UNEP partners in Singapore in a discussion about strategies and solutions for mitigating climate change, championing sustainable buildings, and greening the supply chain. Prominent speakers included Ms Elisea Bebet Gozun, Presidential Advisor on Climate Change, Office of the President, Government of the Philippines, and key UNEP representatives such as Mr Stefanos Fotiou, Senior Regional Coordinator, Regional Office for Asia Pacific, UNEP.



Remarks from UNEP-SBCI Fall Symposium Delegates:

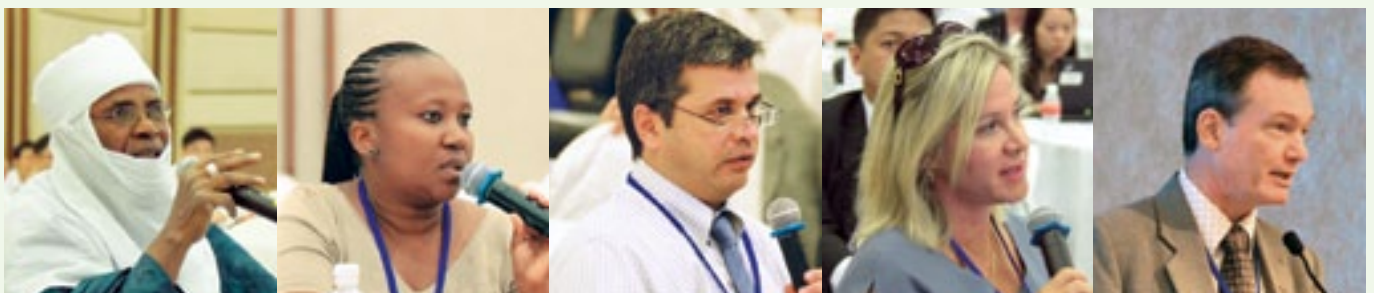
“It was a quality event with fantastic organisation. Thank you, and congratulations to the BCA Centre for Sustainable Buildings and the Singapore Green Building Council.”

“It was an inspiring event that was very well organised.”

“It was very informative and a great introduction to the work of the UNEP-SBCI.”

Top | Knowledge exchange by participants.

Bottom | Stakeholder dialogues on issues relevant to the sector and the region.





Senior Minister of State for National Development and Acting Minister for Manpower Mr Tan Chuan-Jin launched the second series of the BCA Green Building exhibition on 11 October 2012 at Lot 1 Shoppers Mall. The exhibition, which was part of SGBW, aims to educate users on green buildings and homes.

“Ensuring that a building uses energy-efficient equipment is not enough. We also need to raise awareness among homeowners, business owners, and tenants on the importance and benefits of energy conservation, and how they can contribute to reducing energy consumption.”

SENIOR MINISTER OF STATE FOR NATIONAL DEVELOPMENT AND ACTING MINISTER FOR MANPOWER MR TAN CHUAN-JIN

A CALL FOR COLLECTIVE ACTION – IGBC 2012

The region’s premier International Green Building Conference 2012 (IGBC 2012) was held on 10–12 Oct 2012 at Marina Bay Sands. Organised by the SGBC this year, with the support of strategic partners, BCA, and International Enterprise Singapore, the event was held alongside BEX Asia, a regional building expo focusing on eco-friendly products and solutions.

The IGBC 2012 focused on the twin themes of Green Leadership and Green Community. Leadership demonstrated by the government and the industry (championed by developers, building owners, and green consultants) has created the impetus for rapid green building development in many countries. But the engagement of the community—the building tenants, homeowners, and consumers—is equally critical.

The events provided a platform for some 10,000 experts and participants from more than 20 countries to discuss strategies and policies that will help to harness the tremendous potential of the green community to take the green building movement to the next level.



WHAT A GREEN BUILDING IS WORTH

The last day of the SGBW 2012 saw the launch of the new valuation guidelines on green buildings at the CEO’s Breakfast Talk. There has been greater awareness that sustainable developments can have a significant impact on property values in recent years.

Studies have shown that green buildings can achieve cost-effectiveness, energy efficiency, improve occupant health and productivity, and lower environmental impact.

The valuation guideline on green buildings will assist valuers in valuing green or sustainable buildings. It helps them determine the areas where an enhancement in value may occur when buildings are certified green.

The valuation guideline on green buildings is published by the Singapore Institute of Surveyors and Valuers (SISV) in its revised edition of Valuation Standards and Practice Guidelines.

BUILDING A KNOWLEDGE ECOSYSTEM – IGBC 2012

An anchor event of the SGBW, the IGBC brought together global industry players, practitioners, and academics to share the latest ideas and best practices. About 1,000 participants benefitted from the nine tracks and six workshops which offered crucial insights on the green economy, new solutions, and innovations for a sustainable built environment.

Besides talks and presentations by distinguished experts from the green industry, IGBC provided participants with practical learning experiences through workshops and tours of local Green Mark buildings—where participants gained first-hand knowledge of how Singapore developed its reputation as a front runner in the green building industry.

When asked about the conference, Mr Stefan Datcu, an Energy Manager from BYME Singapore commented, “I found the conference presentations of high engineering standard, relevant for green building solutions in Singapore.”



Delegate Profile

This year’s delegate profile showed an increase in PMEBS (professionals, managers, executives, and businessmen) in the building industry, especially from developers, building owners, and policymakers.

“The increased participation by PMEBS—especially the developers and building owners—indicates that they are now more aware of the economic and socio-environmental value of green buildings. Beyond the building industry, we also observed growing interest by other communities such as tenants, retailers, facility managers, and financial institutions. This shows that we have adopted the right strategy to reach out to a wider target audience this year,” said Mr Tai Lee Siang, President of SGBC.

The majority of foreign delegates were from Asian countries such as China, India, Indonesia, and Vietnam—Asia’s biggest developing markets where green issues now figure prominently in development plans.

Did you know?

The world’s total urban area is expected to triple between 2000 and 2030 with urban populations set to double to around 4.9 billion during the same period. Over 60% of the land use projected has yet to be built, which presents a great opportunity for policymakers and developers to embark on appropriate urban planning through sustainability development in order to ensure efficient use of limited resources.

“IGBC 2012 is a showcase of synergy of government, industry, and community leadership in influencing green action towards sustainable built environments.”

MR TAI LEE SIANG, PRESIDENT OF SGBC

During the three-day conference, BCA officers actively engaged industry players on topics relating to Singapore’s green building movement. BCA delivered presentations to an international audience on pertinent topics in going green including government leadership, a case study about green buildings going beyond platinum as well as on the BCA-IDA Green Mark (GM) for Data Centres, showcasing Singapore as a information hub for the region.

Through in-depth workshop discussions, BCA connected with industry stakeholders and professionals over BCA’s latest Green Mark occupant-centric schemes such as the GM for Supermarkets and Retail and new carbon abatement initiatives such as the Carbon Management Tool for building sectors. BCA officers also gave industry updates on the revised GM (New Buildings) Version 4, GM (Existing Buildings) Version 3, and GM District Version 2.

The track presentations and workshop discussions received excellent responses from close to 1,000 international participants throughout the conference. **P**

DAY 1



Mr Toh Eng Shyan
Director, Green Mark Department
(Existing Buildings)

Presentation title:
The Next Challenge – Greening
Existing Buildings in Singapore

Track 1:
Government Leadership and
Green Building Development

Key takeaway message:
The opportunity to retrofit our existing buildings comes only once
in 15–20 years. We should take this opportunity to retrofit to high
energy efficiency standards.



Mr Wong Ngian Chung
Principal Manager, Research
Group, R&D Programmes

Presentation title:
Pushing the Frontiers in Green
Buildings through Research

Track 3:
Going Beyond Platinum: Pushing
the Frontiers of Energy-efficient
Green Buildings

Key takeaway message:
One of BCA's initiatives in pushing the frontiers in green buildings
through research is Green Mark Incentive Scheme for Design
Prototype (GMIS-DP), which encourages the project team to adopt
an integrated design approach at an early design stage to deliver high
performance buildings that go beyond Green Mark Platinum.

DAY 2



Mr Jeffery Neng
Director, Green Mark Department (New Development)

Presentation title:
BCA-IDA Green Mark for Data Centres

Track 6:
Green IT (Data Centre)

Key takeaway message:
BCA is honoured to partner with IDA, LBNL, and NTU to jointly develop Asia's first Green Mark for existing
Data Centres (DC). The scheme incorporates internationally recognised best practices in environmental design and performance to encourage
DC operators to adopt green and energy efficient practices. A Green Mark certified green DC is estimated to achieve potential energy savings of
up to 30% compared to a non-green DC.

DAY 3



Workshop 3: Green Mark Beyond Buildings

Speakers:
Mr Benjamin Towell
(top left)
Executive Manager,
Green Mark Department
(New Development)

Mr Lim Chan Boon
(top right)
Senior Manager,
Green Mark Department
(New Development)



Mr Kong Jia Hng
(bottom left)
Executive Manager, Green Mark
Department (Existing Buildings)

Ms Yew Wey Ling
(bottom right)
Senior Manager,
Green Mark Department
(New Development)

Key takeaway message:
There is only so much that a building and technology can achieve. It is
the people (users and tenants) who through their behaviour and the
choices that they make, make a large impact on the sustainability of
the built environment.



Workshop 4: Singapore's Carbon Management Tools for the Building Sector

Speakers:
Dr Edward Anggadajaja
Deputy Director, Research Group, Centre for Sustainable Buildings & Construction

Key takeaway message:
As we move towards sustainable development, the availability of local carbon management tools will
help industry stakeholders to understand the potential carbon emissions reduction associated with their
projects, and to play an active role in creating low-carbon buildings for Singapore's building sector.



Workshop 5:
Green Mark (New Buildings) Version 4 and Green Mark (Existing Buildings) Version 3

Speakers:
Mr Jeffrey Neng (top left)
 Director,
 Green Mark Department
 (New Development)

Ms Grace Cheok-Chan (top right)
 Principal Manager,
 Green Mark Department
 (New Development)



Mr Yong Siew Hwa (bottom left)
 Principal Manager, Green Mark
 Department (Existing Buildings)

Mr Thomas Pang (bottom right)
 Senior Manager, Green Mark
 Department (Existing Buildings)

Key takeaway message:
 GM (New buildings) Version 4 and Green Mark (Existing Buildings) Version 3 have revised their criteria, in line with the requirement for owners to conduct the three-yearly audit on their building cooling systems. This workshop provides updates on the latest revisions to these GM schemes and educates owners on how to use these latest versions for green buildings assessment and certification.

SELECTED IGBC SPEAKERS



Ms Hilary Beber
 Policy Advisor, New York City
 Mayor's Office of Long-Term
 Planning and Sustainability

Presentation title:
 New York's Greener, Greater
 Buildings Plan

Track 1:
 Government Leadership and
 Green Building Development

Key takeaway message:
 Regulatory initiatives, supplemented by extensive jobs training and a financing entity, are key to transforming New York's existing buildings.



Mr Ram Bhaskar
 Director (Energy Efficiency
 & Conservation), National
 Environment Agency

Presentation title:
 Performance Contract in the
 Public Sector

Track 1:
 Government Leadership and
 Green Building Development

Key takeaway message:
 Energy performance contracting is a useful and equitable way to bring about energy savings in buildings.



Mr Santeri Suoranta
 Director, High Rise Platforms,
 Major Projects, KONE

Presentation title:
 Pioneer eco-efficiency for
 elevators and escalators

Track 7:
 Innovations in Energy Efficiency
 Solution

Key takeaway message:
 KONE's machine room-less elevator, MonoSpace®, is up to 28% more energy efficient than KONE's previous industry-leading elevator platform. This helps to reduce the carbon footprint of buildings to an even greater extent.



Dr Uma Maheswaran
 Vice President, Sustainable
 Development Unit, Jurong
 Consultants

Presentation title:
 GM-Pro: A Green Mark
 navigator tool

Track 7:
 Innovations in Energy
 Efficiency Solution

Key takeaway message:
 GM-Pro is a tailored, one-stop software solution that aims to provide comprehensive support to professionals using the local Green Mark rating system.



Mr Marlon Kobacker
 Senior Sustainability Consultant, Arup Singapore

Presentation title:
 Minimising the cost of green rated buildings

Track 2:
 The Cost, Value, and Valuation of Green Buildings

Key takeaway message:
 There are techniques available to minimise or eliminate additional costs to achieve high performance, green-rated buildings.



ENGAGING HEARTS AND MINDS

YOUNG LEADERS AND UNDERGRADUATES SHARE THEIR VIEWS ON REBRANDING THE BUILT ENVIRONMENT INDUSTRY

On 5 October 2012, 25 young leaders and 14 undergraduate scholars participated in a half-day retreat graced by Guest of Honour, Senior Minister of State (SMS) for National Development and Trade and Industry, Mr Lee Yi Shyan.

The local built environment industry has an aging workforce and firms are facing challenges in attracting new entrants in the tight labour market. While BCA has collaborated with the industry in its new manpower development programmes, more needs to be done to revamp the industry’s image and attract more locals. In this light, the theme of this year’s Young Leaders’ Retreat was “Rebranding the Built Environment Industry and Careers”. Through the retreat, participants gained insight into BCA’s current career promotion outreach efforts and brainstormed new initiatives.

The participants held group discussions on ways to enhance the industry’s image and practices in order to attract more local talent and retain existing professionals. While the industry young leaders provided suggestions based on their wealth of experience and passion for the industry, the industry and BCA undergraduate scholars contributed students’ perspectives on pertinent rebranding issues, especially efforts aimed at attracting students to take up related courses.

A dialogue session with SMS Lee saw the young leaders participate in a lively exchange of views on ways to tackle the challenges faced by the industry. Publicity efforts to highlight technological advancements and school curriculum restructuring to include new development areas such as the Building Information Modelling (BIM), were some of the ideas discussed.



Top | Mr Eugene Seah from Langdon & Seah Singapore shares his views on the development of the BIM.

Bottom | SMS Mr Lee Yi Shyan encourages the participants to have foresight, be decisive, and be open to opportunities to improve the industry.

SMS Lee shared his thoughts on harnessing the prestige generated by iconic building projects, and revealed his opinion on how the industry should progress. He also encouraged the participants to think ahead, take charge, and make changes within their spheres of influence.

The retreat provided a platform for young leaders and undergraduates of different disciplines along the value chain to network. Many participants remained engaged in absorbing dialogues even as the retreat came to a close.

Since 2009, the Young Leaders Programme has been a key BCA initiative that nurtures young professionals with the potential to become industry leaders. The programme helps engage young leaders in charting the advancement and growth of the built environment industry. **P**



REACHING OUT FOR BETTER DESIGN

ON 15 AUGUST 2012, BCA'S SPECIAL FUNCTIONS GROUP CONDUCTED A CIVIL DEFENCE SHELTER DESIGN WORKSHOP AT THE BCA ACADEMY. THE EVENT ATTRACTED A RECORD NUMBER OF 62 PARTICIPANTS, COMPRISING REGISTERED ARCHITECTS AND PROFESSIONAL ENGINEERS FROM THE PRIVATE AND PUBLIC SECTORS

The workshop, conducted by Senior Principal Engineer Neo Seng Hai from the Civil Defence (CD) Shelter Engineering Department, offered participants:

- A comprehensive understanding of the ability of household and storey shelter design to withstand weaponry attacks
- Increased competency in the design and construction of shelters from the start
- Knowledge of how to exercise quality control and achieve timely delivery of public housing developments with household and storey shelters

Several case studies were highlighted to illustrate the adoption of good design and construction practices for household and storey shelters in public housing projects. The changes and enhancements in the revised "Technical Requirements for Household Shelters 2012" to facilitate design and raise construction productivity of household shelters were also explained.

Due to the overwhelming response to the workshop, BCA organised another iteration of the CD shelter design workshop on 19 October 2012. **P**

Top | Participants at the CD Shelter Design Workshop.

TAKING CARE OF OUR BUILDINGS

BCA CONDUCTED A "SAFETY OF EXISTING BUILDING AND SLOPES" SEMINAR ON 12 OCTOBER

The response to the seminar was overwhelming, with more than 350 participants comprising building owners, engineers, property managing agents, and government agencies.



Key takeaways from the seminar include:

- Be proactive in regular inspection and maintenance.
- Stay vigilant and make remedial measures promptly.
- Consider access during the design stage for future maintenance purposes.
- Geometry, loading, and water table conditions affect slope safety. Geosynthetics reinforcement can enhance slope stability and provide a green solution.
- Asbestos can be a silent killer and has to be properly managed at all times. **P**

"We all play a part in ensuring a Safe Built Environment. The stakeholders including the owner, Professional Engineer, and managing agent should remain vigilant and practice due diligence when carrying out Periodic Structural Inspection. This seminar is important to nurture a healthy maintenance culture among building owners."

ONG CHAN LENG, BCA'S SPECIAL FUNCTIONS GROUP DIRECTOR

HIGHLIGHTS OF THE SEMINAR

Safe and Authorised Building: Do it Right



Speaker Mrs Ho-Chan Yun Ching, Principle Engineer, BCA

Design for Maintainability: Experiences from MBS and SkyPark



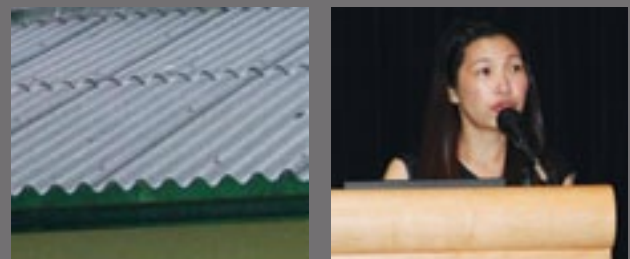
Speakers Er Wijaya Wong, Senior Associate, Arup Singapore Pte Ltd and Mr Jose Silva, Senior Associate, Aedas

Innovative Solutions for Enhancing Slope Safety



Speaker Mr Chew Soon Hoe, Assistant Professor, National University of Singapore (NUS)

Management and Removal of Asbestos in Buildings



Ms Evelyn Koh, Senior Specialist, Ministry of Manpower (MOM)

BUILDING A KNOWLEDGE ECOSYSTEM

BCA HOSTED A THREE-DAY INTER-JURISDICTIONAL REGULATORY COLLABORATION COMMITTEE (IRCC) MEETING AND WORKSHOP FROM 8 OCTOBER 2012 AT MARINA BAY SANDS. THIS MARKS THE FIRST TIME THAT THE BIENNIAL EVENT IS HELD IN SINGAPORE, PROVIDING A PLATFORM FOR INTERACTION BETWEEN MEMBERS FROM AUSTRALIA, AUSTRIA, CANADA, CHINA, JAPAN, NEW ZEALAND, NORWAY, SPAIN, SWEDEN, UK (ENGLAND, WALES, AND SCOTLAND), AND USA



The event allowed members to share recent changes to their regulatory regime and requirements as well as experiences in the implementation of new initiatives such as the new Eurocodes for building structure design.

Members were particularly impressed with BCA's recent measures on mandating minimum environmental sustainability standards for existing buildings when buildings undergo major change in energy use (see sidebar). They also provided valuable feedback on the Singapore Civil Defence Force's fire safety guidelines for mega underground developments.

As part of our continuing efforts to engage stakeholders to help identify areas for further strengthening of our building regulations and to facilitate wider adoption of structural steel systems for buildings in Singapore, BCA also took the opportunity to hold a half-day workshop for the industry on 9 October 2012, covering compliance issues relating to structural steel system for buildings. This is part of our continuing stakeholder engagement efforts to share best practices and strengthen building regulations.

Distinguished speakers Er Associate Professor Chew Sing Ping, Dr Rainer Mikulits, and Dr Yoshihiro Iwata spoke at the workshop, exchanging views on product conformity issues pertaining to the use of structural steel products in buildings. A lively panel discussion chaired by Er Ong See Ho, Commissioner of Building Control and Deputy CEO of BCA, followed.

The workshop was a fruitful learning experience for our stakeholders, who benefitted from the international perspectives provided by the IRCC members on regulatory initiatives. Good practices implemented in their jurisdictions

to ensure the quality of structural steelwork such as product conformity certification, traceability documentation, and industry surveillance were discussed.

The sharing sessions also presented an opportunity for BCA to benchmark our structural steelwork regulatory requirements against international best practices. This helps us to identify areas where we could enhance our regulatory framework to make sure it stays current and robust. **P**

From the second half of next year, building owners will have to fulfil three environmental sustainability requirements under the Building Control Act:

- Achieve minimum Green Mark standard for existing buildings when a cooling system is installed or retrofitted
- Carry out three-yearly energy audit on building cooling systems
- Submit building information and energy consumption data annually

Top | Participants at the IRCC meeting and workshop.



GRADUATES, REJUVENATE!

THE BCA ACADEMY (BCAA) GRADUATION CEREMONY WAS HELD ON 31 OCTOBER 2012 AT THE UNIVERSITY CULTURAL CENTRE AT NUS. FRESHLY ARMED WITH THEIR DIPLOMAS AND CERTIFICATES, THE 680 GRADUATES WILL MOVE ON TO REJUVENATE THE BUILT ENVIRONMENT INDUSTRY WITH THEIR NEW IDEAS AND ENTHUSIASM

GOOD PROSPECTS FOR BCAA GRADUATES

In his speech, Guest of Honour Senior Minister of State for Trade & Industry and National Development Mr Lee Yi Shyan noted an increase from 468 graduands to 680 this year. This number includes the pioneering cohort from the Diploma in Strategic Facilities Management and the Specialist Diploma in Building Information Modelling (BIM).

This year's BCAA graduate employment survey showed that most diploma graduates found employment with remuneration comparable to those of their peers from local polytechnics. These positive career prospects show that the Academy's diploma programmes prepare students with the necessary skills to kick-start their careers.

According to a recent study conducted by the National Academic Recognition Information Centre (NARIC) in the United Kingdom, BCAA's diploma is comparable to those received from local polytechnics, equivalent to the Australian diploma, and closely aligned with a first year UK degree.



Top | NUS University Cultural Centre was filled with BCA Academy graduands.

Bottom | SMS Mr Lee Yi Shyan with one of the graduates.

TWO NEW DIPLOMA PROGRAMMES

SMS Lee unveiled two of BCAA's new diploma programmes to be launched in April 2013. Diploma Plus in BIM and Diploma in Quantity Surveying (QS) are industry-led to meet the increasing demand for BIM-skilled workers and quantity surveyors.

Covering more advanced concepts and topics within BIM, the new Diploma Plus certification in BIM will be offered to final year full-time diploma students at the BCAA. The new three-year full-time Diploma in QS will prepare students with a strong foundation in QS and include an industry practicum to help them gain work experience.

SMS Lee also spoke on how technology is transforming the construction industry and how its use can improve efficiency. With the rising trend of BIM technology use, many have acknowledged its importance. With 1,000 people attending BIM courses at the Academy and 2,500 trainees with other BIM software vendors, technology literacy in BIM is on the rise. To strengthen BIM expertise in the industry, BCA has so far committed \$9 million of the BIM fund (under the Construction Productivity and Capability Fund or CCPF) to helping 370 companies adopt BIM in their projects.

LAUNCH OF CONQUAS 8TH EDITION

At the event, SMS Lee launched the CONQUAS 8th edition, which aims to ensure higher built quality with the adoption of new construction materials and technologies.

Additionally, the CONQUAS mobile application has been available for download on iPhones and iPads since September 2012. It consists of an e-calculator and a CONQUAS checklist that allows builders to check on the workmanship of housing units. **P**

The Construction Quality Assessment System (CONQUAS) is a voluntary scheme introduced in 1989 to measure the quality level achieved in a completed project. The 8th edition of CONQUAS caps scores at 95 points to discourage inefficient use of resources. It also features an increased weightage on architectural works to better align quality standards with homeowners' expectations.



Top | Mr Chong Weng Soon delivering his valedictory speech.

Bottom | A proud moment for our graduates.



MR CHONG WENG SOON, VALEDICTORIAN

GOLD AWARD, DIPLOMA IN CIVIL ENGINEERING

Mr Chong Weng Soon was born in Kuala Lumpur, Malaysia. His father is a chef, and his mother, a housewife. After completing his secondary school education, he came to Singapore when he was 18 years old. Upon completing his National Service, he chose BCAA for his further studies. Following a friend's recommendation, he applied for the Diploma in Construction Engineering at BCAA. He cites as reasons for this choice the Academy's comprehensive teaching methods and established reputation in the construction industry.

He enrolled into BCAA, and became part of the 2009/2012 Diploma in Construction Engineering batch. Throughout his three years with BCAA, he consistently achieved academic excellence, finishing at the top of the cohort every semester. He received the Academic Achievement award and was on the Distinction List for his achievements in year one and two. He graduated as the top student for the Diploma in Construction Engineering in 2012.

As part of his Industrial Attachment, he worked with Dragages Singapore Pte Ltd, one of the leading contractors in Singapore and was involved on the project The Pinnacle Collection, a high-end residential project at Sentosa Cove. During his attachment, he assisted the project manager in the monitoring of the work progress on the facade. He left the company at the end of his attachment to continue to pursue his degree.

Currently, he is an undergraduate at the Nanyang Technological University (NTU), working towards a Bachelor of Engineering (Civil). In the future, he hopes to join the government sector and serve the public.

DATA CENTRES GO GREEN

ASIA'S FIRST THREE GREEN DATA CENTRES AWARDED GREEN MARK CERTIFICATION




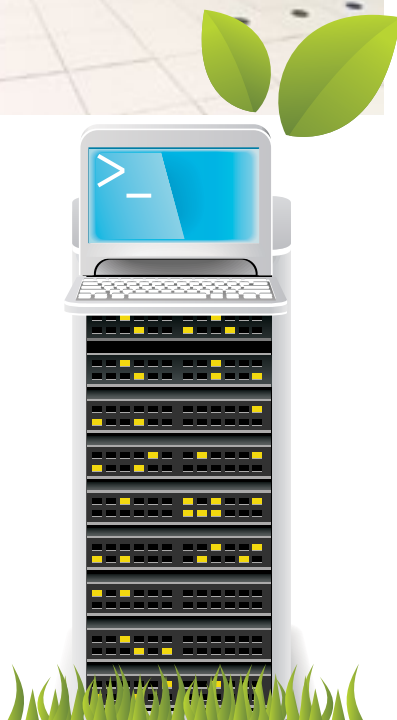
The new Green Mark for Data Centres was launched on 10 October 2012 by Ms Grace Fu, Minister in the Prime Minister's Office, Second Minister for Environment and Water Resources, and Second Minister for Foreign Affairs, at the opening of the International Green Building Conference and BEX Asia—anchor events of the Singapore Green Building Week.

This timely scheme acknowledges the projected increase of Singapore's commercial data centre space by 50% from 2010 to 2015, and the necessity of developing greening measures in parallel with technological advancements. Currently, the energy consumption of an average large data centre in Singapore is equivalent to that of 10,000 households, making up 50% of operating costs. Thus, a reduction in energy consumption would be beneficial for both businesses and the environment.

To promote this compatible green mindset, the new Green Mark for Data Centres scheme assesses data centres for energy efficiency, water efficiency, sustainable construction and management, indoor environment quality as well as other green features. Based on a combined score of these five criteria, the data centres are awarded accordingly. The Green Mark for Data Centres also reflects a shift in attention to individual occupants, notes Dr John Keung, CEO of BCA. He remarked, "Placing greater emphasis on users will help instill in them a sustainability mindset and allow them to play a greater role in Singapore's green building movement".

The pilot Green Mark for Data Centres scheme saw Credit Suisse Regional Data Centre awarded the Platinum, Equinix SG2 Data Centre winning the Gold^{Plus}, and Singapore Tourism Board Data Centre taking the Gold.

The BCA-IDA Green Mark for Data Centres is a collaboration between BCA and the Infocomm Development Authority (IDA), with supporting partners Energy Research Institute @ Nanyang Technological University (ERI@N) and Lawrence Berkeley National Labs (LBNL) in the USA. It is an extension of the successful BCA Green Mark for buildings scheme launched in 2005. 





SHOPPING FOR A GREEN PHILOSOPHY

NEW GREEN MARK SCHEMES FOR SUPERMARKETS AND RETAIL ANNOUNCED

On 11 October 2012, BCA launched its new green building exhibitions at Lot 1 Shoppers' Mall. At the event, which was graced by Mr Tan Chuan-Jin, Acting Minister for Manpower and Senior Minister of State for National Development, the new Green Mark schemes for Supermarkets and Retail were announced. These new schemes recognised four green supermarkets and three green retail outlets for their adoption of an environmentally-friendly outlook and practices.

The BCA Green Mark for Supermarkets promotes and acknowledges green and sustainable practices in supermarket operations, where refrigeration often makes up to 50% of the total energy consumption in a supermarket with a floor area of between 90m² to 4,500m². Based on pilot studies that show that 10–30% of total energy consumption can be reduced with energy saving design or features, this scheme provides recognition to supermarkets that make the concerted effort to decrease energy usage.

Under this scheme, FairPrice Finest at Zhong Shan Park was awarded Platinum, FairPrice Finest at MyVillage won the Gold^{Plus}, and FairPrice at Ang Mo Kio 712 earned the Gold, while Cold Storage at Jelita was rated Certified.

Similarly, the BCA Green Mark for Retail was developed to encourage reduced operating costs, energy consumption, and cooling load as well as promote a commitment to reduced environmental impact. This is especially important given that the retail sector is among the highest consumers of energy per floor area, consuming around 50% of a building's total energy.



Top | Refrigeration showcases fitted with doors help to save energy compared to open display cases.

Bottom | J's hair salon is designed to let in a good level of daylight into the retail area, thus reducing energy consumption.

Receiving accolades for their sustainability efforts were J's Hair Studio, winner of the BCA Green Mark Gold^{Plus}, and Dressaday and Royal Silver, both of whom were Green Mark Certified. J's Hair Studio minimised material wastage by retaining a large portion of the flooring, ceiling, and light fixtures while Dressaday, an apparel boutique, replaced the store's halogen decorative lights with LED lights and achieved a 23% reduction in annual electricity bills.

The new BCA Green Mark schemes were introduced to encourage tenants in supermarket and retail operations to green their businesses and work towards incorporating environmental awareness with their daily practices. **P**

GUIDING SUSTAINABLE CONSTRUCTION

LAUNCH OF GUIDEBOOK ON CONCRETE USAGE INDEX (CUI)

On 10 October 2012, GOH for the Singapore Green Building Week (SGBW) opening, Ms Grace Fu, announced the launch of a new guide titled Sustainable Construction—A Guide on Concrete Usage Index (CUI). Part of the series of Sustainable Construction publications, this guidebook promotes the optimisation of concrete usage during the upstream process of building construction design.

In the new publication, exemplary methods and technologies to achieve a low CUI are introduced. To further inspire industry practitioners, several building projects that have achieved good CUI without resorting to steel construction are also featured. These projects also achieve good buildability scores, demonstrating the general alignment between CUI, productivity, and buildability.

The electronic version is available for download at the BCA website: http://www.bca.gov.sg/SustainableConstruction/sustainable_series.html

“BCA has teamed up with academia and industry to develop a guide on Concrete Usage Index, which will be shared here at this conference to raise awareness and to share best practices among industry practitioners.”

MS GRACE FU
MINISTER, PRIME MINISTER'S OFFICE
SECOND MINISTER FOR THE ENVIRONMENT AND WATER RESOURCES,
SECOND MINISTER FOR FOREIGN AFFAIRS



LOOKING BEYOND CUI SUSTAINABLE CONSTRUCTION (SC) FRAMEWORK

The Sustainable Construction (SC) Masterplan aims to reduce the use of natural aggregates in concreting works for building during the upstream and downstream processes. The use of building materials and natural resources is optimised upstream by advocating design for optimal usage of concrete. Recycling, upcycling, and the use of SC materials are encouraged downstream.

Other supporting initiatives put in place to anchor these measures include SC scoring under the Green Mark Scheme to encourage the adoption of SC practices as well as the Sustainable Construction Capability Development Fund, which develops the capabilities of key industry stakeholders. **P**

TACKLING CHALLENGES IN BUILDING UNDERGROUND STRUCTURES

BUILDING STRUCTURES SUCH AS TUNNELS, BASEMENTS, AND FOUNDATIONS IN DIFFICULT SOIL CONDITIONS POSE MANY CHALLENGES TO ENGINEERS AND GEOTECHNICAL PROFESSIONALS. SOIL SETTLEMENTS AND GROUND WATER INFLUX MAY CAUSE THE COLLAPSE OF SUCH STRUCTURES AND ADJACENT BUILDINGS IF NOT ENOUGH CARE IS TAKEN IN THE DESIGN AND CONSTRUCTION PROCESSES

BCA Academy (BCAA) and the Geotechnical Society of Singapore (GeoSS) organised a seminar titled “Recent Developments, Construction Challenges and Forensic Investigations of Geotechnical Works” on 24 and 25 October 2012 at BCAA. At the seminars, speakers shared how geotechnical engineers overcame various challenges on complex projects and difficult soil conditions. The sharing of these experiences prepares engineers for future challenges, especially when working in different parts of the world.

Prominent geotechnical international experts Prof Pedro S. Pinto from Portugal, Prof Askar Zhusupbekov from Kazakhstan, Dr Wei F. Lee from Taiwan, and Prof Charles W. W. Ng from Hong Kong were invited to speak at the seminar. All four speakers are key appointment holders of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE). Each speaker related his experience of handling complex geotechnical engineering projects using real-life case studies. Local experts Prof C. F. Leung from NUS, Dr Poh Teoh Yaw from BCA, and Er Chua Tong Seng from KJS Pte Ltd also addressed current topics ranging from forensic investigation to regulations pertaining to geotechnical structures.

More than 100 structural and geotechnical engineers, contractors, and geotechnical specialists attended the event. **P**

Prof Pedro S. Pinto

Professor,
Geotechnical Engineering Department,
University of Coimbra, Portugal

Prof Pinto shared new developments in the design of pile foundations including jet-grouting plug and combined pile raft foundations with case studies on the Guadiana and Tagus Bridges and the Kilamba Building Project at Luanda, Angola.



Prof Charles W. W. Ng

Chair Professor,
Department of Civil and Environmental
Engineering

Director,
Geotechnical Centrifuge Facility,
Hong Kong University of Science and Technology

Prof Ng explained three-dimensional centrifuge and numerical investigations of pile foundation performances.



Prof Askar Zhusupbekov

Professor,
Civil Engineering Department

Director,
Geotechnical Institute Eurasian National
University, Astana, Kazakhstan

Prof Zhusupbekov spoke on foundation systems of mega-structures challenging ground conditions, and the Chernobyl nuclear power plant disaster's impact assessment on geotechnical and structural issues.



Dr Wei F. Lee

Associate Research Professor,
National Taiwan University of Science
and Technology

Dr Lee discussed the geotechnical impacts of “close construction” works on safety and maintenance of subway tunnels and lessons learnt from the Kaohsiung MRT tunnel construction failure in Taiwan.



Dr Poh Teoh Yaw

Senior Executive,
Geotechnical Specialist,
BCA

Dr Poh explained regulatory and other requirements for bored-tunnelling works in Singapore.



Er Chua Tong Seng

Deputy Managing Director,
KJS Pte Ltd

President,
GeoSS

Er Chua shared lessons learnt from the analysis and supervision of the Kallang-Paya Lebar Expressway (KPE), the longest road tunnel in Singapore.



Dr C. F. Leung

Professor,
Civil and Environmental Engineering,
NUS

Prof Leung talked about his experience of how forensic analyses are conducted for geotechnical works and the role of expert witnesses.



ADVOCATING CHAMPIONS IN PRODUCTIVITY

CONSTRUCTION PRODUCTIVITY AWARDS 2013 IS NOW OPEN FOR NOMINATIONS

The annual Construction Productivity Awards (CPA) is now open for nominations. Introduced by BCA in 2010, the CPA recognises outstanding built-environment professionals, consultants, and builders for their achievements in improving construction productivity at both the project and firm levels.

This year, the CPA is enhanced to recognise productivity achievements in two specific categories:

- CPA – Projects: A project-level award that focuses on the productivity contributions of various stakeholders.
- CPA – Advocates: A new category that focuses on firm-level achievements, combining two previous awards, CPA – Best Practices and Innovations and CPA – Value-Added Productivity (VAP).

For more information on the CPA and the nomination process, visit www.bca.gov.sg



CPA Categories Open for Nominations

CPA – Projects are awarded to project teams that have demonstrated productivity in their construction development projects from the design to the end of the construction chain.

The award aims to:

- Encourage designers to come up with labour-efficient designs
- Encourage project teams to adopt labour-efficient construction methods
- Recognise project teams for their excellent project planning and coordination in enhancing productivity

CPA – Projects will be given out in nine sub-categories:

- Residential Landed Buildings
- Residential Non-landed Buildings (for projects with Gross Floor Area of less than 25,000m²)
- Residential Non-landed Buildings (for projects with Gross Floor Area of more than or equal to 25,000m²)
- Commercial and Office Buildings
- Institutional Buildings
- Industrial Buildings
- Mixed Development Buildings
- Additions & Alterations/Upgrading Buildings
- Civil Engineering Projects

Building projects will be assessed on project buildable design score, constructability score, construction simplicity, design and construction integration, and aesthetics.

Civil engineering projects will be assessed on design for ease of construction, construction technology and site management, design and construction integration, and innovative design and products.



Ginlee Construction Pte Ltd is one of the winners for BCA's CPA 2012 – Best Practices and Innovations.



CPA – Advocates are awarded to organisations (developers, consultants, or builders) that have demonstrated effort in initiating high productivity solutions towards design, construction methods, processes, or technologies adopted, and have translated these into a significant productivity impact on their projects.

In addition, the actual productivity performance, both in terms of value-added productivity or physical productivity of their projects, will also be considered.

The award aims to:

- Encourage developers to promote and encourage high productivity ideas and solutions on projects
- Encourage consultants to be proactive in creating innovative ways to make designs more productive
- Encourage builders to increase productivity by taking ownership of their own productivity monitoring

CPA – Advocates will be given out in three sub-categories:

- CPA – Advocates (Developer)
- CPA – Advocates (Consultant)
- CPA – Advocates (Builder)

Entries will be assessed on buildable design score, constructability score, productivity performance (physical and value-added productivity), and productivity initiatives. **P**

Top | The Residences at W Singapore Sentosa Cove, a winner of BCA's CPA 2012 – Projects.

Bottom | Re-engineering of the installation method for precast concrete wall panel systems by SH Design & Build Pte Ltd, a winner of BCA's CPA 2012 – Best Practices and Innovations.

EVENT LINE UP

Code of Practice on
Buildable Design

7 DEC

BizSAFE Workshop for
Company CEO/Top
Management (18th Run)

11 DEC

Refresher Course for
Licensed Electrical Workers
(Electricians) (20th Run)

13 DEC

Risk Management Course
(BizSAFE Level 2) (63rd Run)

13 & 14 DEC

Supervision of Piling Works
for Engineers and Supervisory
Personnel (16th Run)

18, 20, 26 & 27 DEC

Certification Course in BIM
Management (15th Run)

7-10 JAN 2013

Refresher Course for Licensed
Electrical Workers (Electrical
Technicians/Electrical
Engineers) (15th Run)

8 JAN 2013

Certificate in Construction
Productivity Management
(6th Run)

8 JAN-28 FEB 2013

BCA-REDAS Construction
Property Prospects 2013

16 JAN 2013



Course on Building Control
Regulations for Site
Supervisors (12th Run)

16 JAN 2013

Behavioural Safety for the
Construction Industry (9th Run)

28 FEB & 1 MAR 2013

The Singapore Certified
Energy Manager (SCEM)
Programme 2013 (Batch 1)
– Air-Conditioning &
Mechanical Ventilation System
(ACMV) (CORE)

4-6 MAR 2013



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BCA-REDAS

Built Environment and Property Prospects Seminar 2013

16 January 2013 • 8.30am - 5.00pm • Orchard Hotel, Singapore

Against a backdrop of global economic slowdown and uncertain sovereign debt crisis, Singapore is projected to achieve a modest growth of 3% for 2012, based on forecasts by the Monetary Authority of Singapore. As one of the best performing sectors in 2012, the construction industry promises to be exciting over the next few years, given the infrastructure and building activities in the pipeline. However, faced with a tight labour market and global uncertainties, how would Singapore's built environment and property prospects look like in 2013?

As one of the main engines of growth for Singapore's economy, the construction and the real estate industry need to respond and adapt quickly to changes in the ever-changing economic and business environments. Against a headwind of challenging global economy and outlook, what lies ahead for the various property markets? What will be the key opportunities, challenges and prospects for the built environment and property sectors in Singapore and the region in the coming years? These pertinent questions would be addressed by renowned speakers at this seminar.

PROGRAMME HIGHLIGHTS

Welcome Address

Dr John Keung, Chief Executive Officer, Building and Construction Authority

Opening Address by Guest-of-Honour

Economic Outlook for 2013: Risks and Opportunities
Mr Song Seng Wun, Regional Economist, CIMB Research

Singapore Construction Prospects

Ms Lo Yen Lee, Director (Economics Research Department), Business Development Group, Building and Construction Authority

Singapore and Regional Construction Cost Trends

Mr Seah Choo Meng, Director, Langdon & Seah Singapore

Commercial Market Update & Outlook

Mr Chris Archibold, International Director, Head of Markets Office Leasing Singapore, Jones Lang LaSalle

Investment & Outlook of REITs

Mr Michael Smith, Managing Director, Head of Asian Real Estate, Investment Banking Division, Goldman Sachs

Is The Residential Property Market Heading Towards A Perfect Storm?

Mr Donald Han, Special Advisor, HSR Property Consultants

Singapore & Regional Property Investment Trends

NORMAL REGISTRATION

\$425.00 (incl GST)

EARLY BIRD / GROUP REGISTRATION

\$350.00 (incl GST)

- Early bird rates for participants who register before 21 Dec 2012
- Group registration rates for participants registered in groups (min 3 per group)