

Pillars

WE SHAPE A **SAFE**, **HIGH QUALITY**, **SUSTAINABLE** AND **FRIENDLY** BUILT ENVIRONMENT | ISSUE 05/SEP 2012



BRIGHT

LIFE-LONG LEARNING FUELS

FUTURE

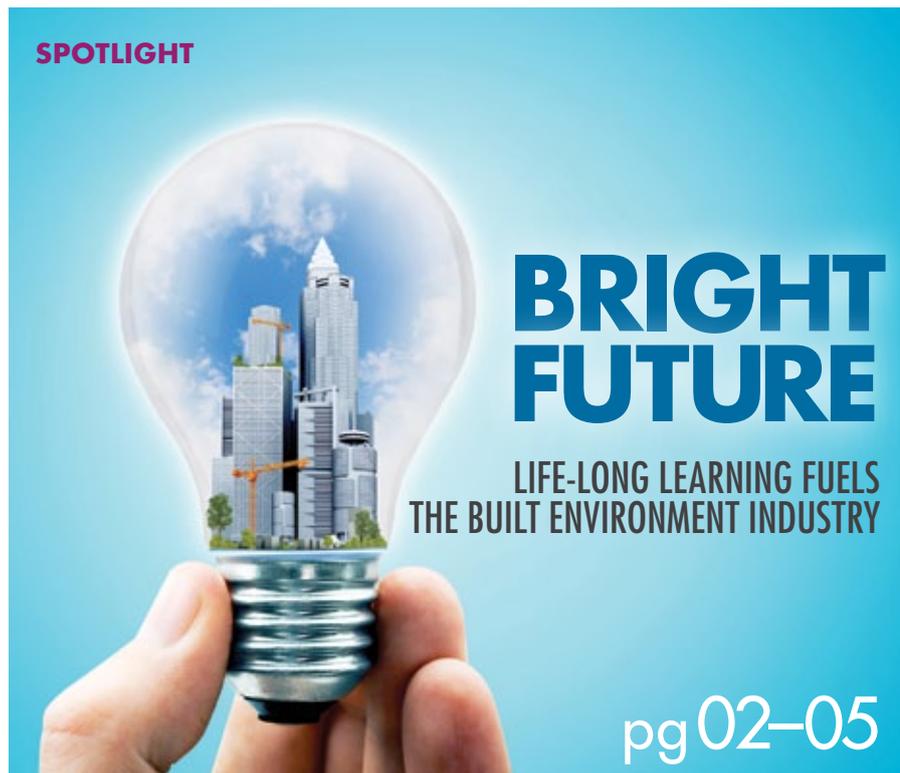
THE BUILT ENVIRONMENT INDUSTRY

Pillars

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SHAPING A BRIGHT FUTURE IN THE BUILT ENVIRONMENT

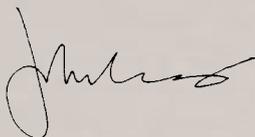
Dear Readers,

"It has always been my ambition to be an engineer, to build structures that are safe for people," stated Wong Weiyu, a recipient of the BCA-Industry Built Environment Diploma Scholarship. This scholarship is one of several presented by BCA and Swee Hong Limited in support of the building and construction industry. His enthusiasm to build a career in the built environment industry was shared by other recipients at the award ceremony, where we presented scholarships to 106 students, the highest number to date. It was a very special occasion for the students and their families.

In 10 years time, we may see Weiyu and his peers receiving awards for the building projects they are involved in, or pursuing further development in their built-environment careers. The latter option has been pursued by established professionals like Rita Soh and Shao Yan, both of who recently graduated with a Masters of Science in Sustainable Building Design that was conferred jointly by the University of Nottingham and the BCA Academy. The Masters' graduation ceremony was like a gathering of friends, as over the past two years, the graduates committed their evenings to classes and assignments even as they continued to practice professionally. Indeed, both were valuable opportunities to share their moments of joy, pride and achievement.

Weiyu's desire to build *"structures that are safe for people"* also reflects the care and consideration that we, as building and construction professionals, invest in our buildings. For example, a clean, safe and good-quality building—be it a shopping mall, office, or home—keeps occupants content. This consideration extends to green buildings as well, where a Green Mark building may be at least 25% more energy-efficient compared to normal buildings. This is why BCA pursues green building initiatives with such vigour. Recently, we introduced regulatory measures to green existing buildings, and enhanced incentive schemes for building owners. These initiatives were the result of in-depth consultations with industry players.

Dr Mohamad Maliki Bin Osman, Senior Parliamentary Secretary, Ministry of National Development and Defence, was the Guest-of-Honour at World Workplace Asia Conference and Exhibition that BCA jointly organised with the International Facilities Management Association. In his speech, he quoted a UN report estimating that in another 13 years (by 2025), seven of the world's top 10 megacities, with 10 million or more inhabitants, will be in Asia.¹ Imagine the amount of resources and energy required to operate buildings in these cities. By then, some of our industry firms might be involved in building projects in the rest of Asia, and it would make more business sense to design, build and operate greener buildings. **P**



Dr John Keung
Chief Executive Officer

¹ Source: 2011 Revision of the World Urbanization Prospects, produced by UN Population Division of the Department of Economic and Social Affairs

BRIGHT FUTURE

WHETHER YOU ARE A FRESH GRADUATE, MID-CAREER PROFESSIONAL, OR VETERAN IN THE BUILT ENVIRONMENT INDUSTRY, EACH ONE OF US HAS A ROLE TO PLAY IN ENHANCING THE GROWTH OF THIS INDUSTRY.

SHAPING THE LANDSCAPE OF THE FUTURE: THE BCA-INDUSTRY BUILT ENVIRONMENT SCHOLARSHIP PROGRAMME 2012

Since the launch of the BCA-Industry Built Environment Scholarship in 1993, BCA has partnered with about 100 firms to provide more than 300 undergraduate scholarships to outstanding youths who aspire to lead and shape the future of Singapore's built environment.

On 3 August 2012, BCA and the industry helped to realise the dreams of 106 outstanding students. This record number of scholarships were given out at the BCA-Industry Built Environment Scholarship Award Ceremony by Mr Tan Chuan-Jin, Acting Minister for Manpower and Senior Minister of State for National Development, and Dr John Keung, Chief Executive Officer of BCA. Among this year's scholarship recipients was the inaugural batch of 45 diploma students who received scholarships either fully-sponsored by BCA or in partnership with industry firms. Another 61 undergraduate scholarships were conferred to students from local universities, an increase from the 55 given out last year.

Let's hear from Ho Ming, one of 2012's scholars who dreams of becoming an architect, and Kelvin Ng, a former recipient of our undergraduate scholarship, who is currently a Director at Langdon & Seah.



Ho Ming 17 years old

2012 BCA-S A Chua Built Environment Diploma Scholar

Currently pursuing Diploma in Architecture, Year 2 at Singapore Polytechnic

HO MING'S PASSION FOR UNIVERSAL DESIGN

Since young, Ho Ming loved to draw, so she developed her flair for the subject by taking "O" Level Art and Design, for which she scored an A2. At the age of 17, Ho Ming had her heart set on a career that would merge her artistic skills with her passion for the built environment. She enrolled in Singapore Polytechnic's Diploma in Architecture, and her stellar academic performance, coupled with strong leadership qualities honed during her stint in the National Police Cadet Corps, won her the BCA-S A Chua Built Environment Diploma Scholarship.

Looking forward to a career that impacts the lives of Singaporeans from all walks of life, Ho Ming is upbeat about contributing to an inclusive built environment through the concept of universal design. She says, "I have always found much joy in helping the elderly. As a future architect, I would have the opportunity to make a positive impact on people's daily lives by designing buildings that are barrier-free and user-friendly. I am glad to have been awarded the BCA-S A Chua Built Environment Diploma Scholarship, which will certainly give me a head start in my career."



Kelvin Ng 32 years old

2001 BCA-DLS Scholarship in Building

Currently Director at Langdon & Seah Singapore Pte Ltd (L&S)

KELVIN NG'S PROGRESSIVE CAREER IN QUANTITY SURVEYING

Kelvin Ng, a Director at Langdon & Seah, recounts his experience of starting out as a young scholar with the firm. Kelvin nurtured his affinity for quantity surveying during his university days when he chose the Bachelor of Science (Building) course. There, he was exposed to a wide range of topics on the built environment. He was among the early batches of scholars sponsored by Langdon & Seah (previously known as Davis Langdon & Seah), where he embarked on a fulfilling career after graduation.

Kelvin's role at L&S has evolved over the last seven years, from a young scholar to a team leader and now, a Director. Kelvin admits that the transition has, no doubt, been a challenging one, but considers himself blessed to have had patient and inspiring mentors who were always open to new ideas and discussions. These are the qualities that Kelvin seeks to emulate now that he helms a team that is responsible for developing a comprehensive training framework for the company.

Having been involved in quantity surveying projects for the first five years of his career, including the sustainable development of Jurong Lake District and Marina Bay, Kelvin is quick to debunk any misconceptions about the profession. More than just figures and calculations, quantity surveying allows practitioners to be actively involved prior to the development of a project, to propose strategies and alternative solutions that are more effective, efficient and sustainable.

Kelvin has seen positive transformation in the industry over the years. There is now better integration in processes, and greater adoption of technology to improve productivity. All these cannot happen without the continuous upgrading of the workforce. Thus, Kelvin is aware that it is necessary to provide adequate training for existing practitioners and build capabilities within the company. This is an area he is actively working on in the next phase of his career at L&S.

BUILDING GREENER MINDSETS

INAUGURAL COHORT GRADUATES WITH MASTER OF SCIENCE IN SUSTAINABLE BUILDING DESIGN OFFERED BY BCA ACADEMY AND UNIVERSITY OF NOTTINGHAM

Busy schedules did not stop 34 graduates from pursuing and earning a Master of Science programme in Sustainable Building Design. The programme was jointly offered by the BCA Academy and the University of Nottingham.

The 34 were the first batch of graduates of a course that involved two years of part-time classes, discussions and assignments. Five students graduated with distinctions. The graduates received their Masters from Professor Christine Ennew, Pro-Vice Chancellor, from the University of Nottingham.

The Master of Science in Sustainable Building Design provides professional development and progression for top-tier green building professionals and specialists. It is taught by academic staff from the University of Nottingham and supported by local professionals and experts.

“This is a milestone achievement in the green training framework put together by the BCA Academy to build a green collar workforce of 20,000 by 2020. With the strong support from the University of Nottingham and the industry, we have managed to groom our first batch of senior local green collar professionals, at a postgraduate level, to anchor our green building movement in Singapore and the region.”

DR JOHN KEUNG, CEO OF BCA

If you are looking to further your studies, do consider the Masters programme, where the modules touch on real and relevant issues that graduates will encounter in their careers such as :

- Principles of Environmental Design
- Environmental Design Strategies
- Tall Buildings, Urban Design, Climate and the Environment
- Architecture, Climate and the Environment
- Energy Efficient Technologies
- Renewable Energy Design
- Energy Efficient Design

Our heartiest congratulations to all the graduates.



“The multi-disciplinary participation in this Masters programme offers unique opportunities for collaborative effort and peer learning, especially through the many group projects undertaken throughout the course. This learning environment reinforces the integrative and interactive approach to design and development, and is very much a reflection of actual situations in our building industry.”

MS RITA SOH, PRESIDENT OF THE BOARD OF ARCHITECTS, SINGAPORE, DIRECTOR OF RDC ARCHITECTS PTE LTD, AND A GRADUATE OF THE PROGRAMME



“The programme allowed me to consolidate my understanding of sustainable building design in a systematic manner. In particular, the dissertation process helped me appreciate the relevance of adopting an integrative design approach to sustainable building design.”

MR TAN SHAO YEN, DISTINCTION GRADUATE AND CURRENT EXECUTIVE VICE PRESIDENT (ARCHITECTURE GROUP) OF CPG CONSULTANTS PTE LTD

STRATEGIC PROFESSIONAL ADVANCEMENT: THE FOURTH COHORT OF THE SMU-BCA-WDA PRODUCTIVITY AND LEADERSHIP DEVELOPMENT PROGRAMME

On 27 August 2012, 21 senior management executives in the building and construction industry graduated from the SMU-BCA-WDA Productivity and Leadership Development Programme, an advanced management programme tailor-made for the built environment industry.

The current batch of students is the fourth successive cohort of the programme. It was introduced to provide industry participants with a broader strategic vision of the fast-changing business environment at a time when the industry is experiencing growing complexities and increased competition.

During the 12-day intensive course, the participants sat through seven specialised modules to foster a better understanding of the complex market and process-oriented issues that drive the industry, but also prepare senior management executives to be dynamic leaders in their field. Subjects such as Managing Professional Work Relationships and Cross Cultural Management, Risk Management and Crisis Management, and Opportunities in Building Innovations and Productivity—all hot button topics in the industry today—were taught.

“The course has helped me to implement operational improvement initiatives involving the assembling and dismantling of temporary access and work platforms. This helps the organisation to improve cycle time, reduce manpower and material costs, and achieve a reduction in inventory.”

BENJAMIN CHEUK, SENIOR PROJECT MANAGER WITH STRAITS CONSTRUCTION SINGAPORE



“The greatest value of the programme is the sharing of knowledge and case studies from various industry professionals, [which] provided real and useful learning points.”

ESTHER WONG CHIA YEEN, DESIGN DIRECTOR AND DEPUTY MANAGING DIRECTOR OF OASES ASIA-PACIFIC

The course is facilitated by SMU, and taught by both SMU faculty and industry practitioners. The Singapore Workforce Development Agency (WDA) has subsidised 50% of the course fees for this programme, since its inception.

Testimonials from the course participants on their experiences during the course were very positive.

To continuously update and enhance the curriculum, new modules covering best practices and case studies on internationalisation strategies will be incorporated in the next intake of the AMP in March 2013. **P**





WORLD WORKPLACE ASIA 2012

THE INAUGURAL FULL-SCALE WORLD WORKPLACE ASIA CONFERENCE AND EXHIBITION 2012, HELD IN SINGAPORE FROM 25 TO 27 JULY 2012, SAW A RECORD ATTENDANCE OF 450 DELEGATES FROM 22 COUNTRIES, REPRESENTING FACILITY MANAGEMENT (FM), PROPERTY MANAGEMENT, REAL ESTATE PROFESSIONALS, BUILDING OWNERS, PUBLIC SECTOR OFFICIALS, AND OTHER DECISION MAKERS

Apart from the attendance from Asian countries, the conference also saw strong participation from the US, Nigeria, South Africa, Poland, Switzerland, Australia and New Zealand.

Themed “Asia Pacific Facility Management: Smart Facilities, Unlimited Opportunities”, the two-day conference commenced with an engaging opening plenary, in-depth educational tracks, and a power-speaker session. It also included the FM Leaders Roundtable Forum, Green facility site tour visits to outstanding BCA Green Mark projects, a product and services exhibition, and an Awards Gala Dinner.

The World Workplace Asia Conference and Exhibition 2012 was graced by Dr Mohamad Maliki Bin Osman, Senior Parliamentary Secretary for Defence and National Development. At the opening ceremony, Dr Maliki announced BCA’s enhanced Green Mark Incentive Scheme for Existing Buildings (GMIS-EB).

As part of its global recognition of quality facility management-related academic programmes, IFMA Foundation presented the Accredited Degree



Top | SPS, Dr Mohamad Maliki Bin Osman

Programme Certificate to two academic programmes—MSc in Facility and Environment Management (co-developed by University College London and BCA Academy) and the BSc in Facility and Events Management (co-developed by SIM University, BCA Academy and Singapore Polytechnic).

OPENING PLENARY

A key highlight of the event, the Opening Plenary, addressed the shift in demand for space and assets towards the Asia-Pacific region in the coming years. Business leaders and professionals shared their insights into opportunities and challenges, cultural issues of sustainability, strategic roles of facilities management, and the changing role of real estate in business strategy.

CONFERENCE SESSIONS

Thirty leading experts and professionals representing eight countries delivered the conference sessions, sharing their insights and experiences through interactive presentations, case studies and dialogues. Some of the key issues addressed were FM outsourcing, high-performance FM, greening of existing buildings, workplace change management, Building Information Modelling (BIM) integration with FM, and building disaster resilience.

An outstanding power-speaker session was delivered by Professor Steven Sosino (Founder and CEO of Tomorrow Leaders Institute, US), which left the delegates with a strong message on innovative thinking and leadership.

PRODUCTS AND SERVICES EXHIBITION

The buzzing exhibition showcased best solutions and innovations in the market for enhancing and improving facility operations and performance.

AWARDS GALA DINNER

The event concluded with an evening of celebrations, with the presentation of awards and appreciations to honour achievements and contributions to the FM industry.



Top | Steven Sosino with participants.
Middle | Green facility site tour.
Bottom | Exhibition.



FM LEADERS ROUNDTABLE FORUM

Twenty leaders in the FM industry, representing Nigeria, Japan, Indonesia, Australia, US, UK, China, Canada and Singapore, addressed the growing trends of FM in their respective countries and shared their strategic initiatives, challenges and solutions.

GREEN FACILITY SITE TOURS

The delegates also visited outstanding BCA Green Mark certified projects of existing and retrofitted buildings, which provided a unique and practical learning experience. **P**

2012 MINISTER'S AWARD 8 AUGUST 2012

EACH YEAR, THE MINISTRY OF NATIONAL DEVELOPMENT (MND) AND ITS STATUTORY BOARDS GATHER TO CELEBRATE THE NATION'S BIRTHDAY AT THE MND NATIONAL DAY OBSERVANCE CEREMONY

That's when the Minister's Awards (Team) are presented to dedicated officers who contribute to MND's vision, and take on the challenges of transforming Singapore into "an endearing Home and distinctive Global City".

This year, BCA and MND were the joint recipients of one of the five Minister's Awards in the Team division. The winning project was Roadmap for Quantum Leap in Productivity.

The roadmap was completed in 2010, and till today, the team has been constantly working together with the industry to improve construction productivity.

So, what exactly goes into a roadmap? Not months but years of hard work! BCA worked closely with the public and private sectors, and the Inter-Agency Committee on Construction Capability & Productivity (IAC-CCP) arrived at its recommendations to transform the productivity of the construction industry. These recommendations formed the backbone of the Construction Productivity Roadmap.

- The IAC-CCP and several other sub-committees were formed to look into the issues relating to construction productivity.
- BCA then conducted a host of engagements and events to solicit further feedback and ideas, and strengthen the measures to be included in the Roadmap.
- The Roadmap incorporated learning points and feedback from numerous focus group discussions, industry dialogues, local site visits, overseas learning journeys with industry leaders and recommendations from BCA's International Panel of Experts (IPE) for Construction Productivity and Prefabrication Technology.
- The team also researched historical and international productivity data and case studies to support the Roadmap initiatives and targets.
- The Construction Productivity Roadmap was completed in 2010, and endorsed by the National Productivity and Continuing Education Council (NPCEC) in November 2010.
- Besides manpower development and buildability policies to raise productivity, the Roadmap included the \$250 million Construction Productivity and Capability Fund to assist firms in technology adoption, manpower development and capability development.



- A new Construction Productivity Centre and a Centre for Construction Information Technology were set up to coordinate and focus on the outreach and implementation of the Roadmap.
- An exhibition that showcased all the winning projects was displayed at the MND National Day Observance Ceremony (NDOC). P

Professor Jan N.J.A. Vambersky from The Netherlands, one of several IPE members who gave the Roadmap a thumbs up.



"Besides the suite of manpower development programmes to help attract and retain talents in the industry as an example, the Buildable Design Score and Constructability Score are excellent measures in improving site productivity. The steps taken with regard to site supervision are perfect and many

countries, including The Netherlands, can learn a lot from Singapore."

Professor Jan N.J.A. Vambersky is a Senior Partner and Managing Director of Corsmit Consulting Engineers, and part-time professor at Delft University of Technology, Faculty of Civil Engineering, Department of Building Engineering. His professional focus is on the structural design of buildings, with an emphasis on high-rise buildings and pre-cast concrete.

BCA'S CSR DAY 11 SEPTEMBER 2012



ELDERLY RESIDENTS FROM THE ASIAN WOMEN'S WELFARE ASSOCIATION (AWWA) REVISITED THE PAST WHEN BCA VOLUNTEERS DECORATED A CORNER OF THE AWWA SENIORS ACTIVITY CENTRE LAST TUESDAY

The corner, which was decorated with vintage items donated by the staff of BCA, is reminiscent of a kopitiam in the 1970s, and is a place where the elderly can mingle and share happy memories.

This was part of BCA's CSR Day where 112 staff volunteers, including senior management, came together to make a difference to the community. Volunteers also painted the Seniors Activity Centre and spruced up 13 one-room HDB flats, where the AWWA houses elderly residents under its Elderly Services' Community Home for Senior Citizens.

In addition to CSR Day, BCA has also been actively contributing to the community during the year, with events such as the Coastal Cleanup at East Coast Beach, SAVH Charity Sale, painting work at SAVH and Chinese New Year Oranges Giveaway at AWWA. **P**



Top | BCA CSR Day 2012.

Bottom | Coastal Cleanup at East Coast Beach.

Left | Painting work at SAVH.

GREEN AND GRACIOUS CONSTRUCTION PRACTICES SEMINAR 2012

CONDUCTED ON 16 AUGUST 2012, THE GREEN AND GRACIOUS CONSTRUCTION PRACTICES SEMINAR ATTRACTED ABOUT 260 PARTICIPANTS



Apart from updates on Green and Gracious Builder Scheme, which was launched in February 2009, the seminar provided a platform for government agencies and Green and Gracious Award winners to share best practices.

At the seminar, on top of case studies presented by the award winners, BCA, PUB, the National Water Agency and National Environment Agency (NEA) also shared on topics in water efficiency, earth control measures and regulations on construction noise and control measures at the construction sites.

A mini exhibition of urban greenery products, the Little Elephant, a tube-in-tube lighting system, and a wheel-washing bay also complemented the seminar's offerings. **P**

Left | From left to right: Mr Zhang Kang En, Executive Engineer of Pollution Control Department, NEA, Mr Goh Wee Kiat, Engineer of Catchment & Waterways Department, PUB, the National Water Agency, Mr Tan Tian Chong, Group Director of Technology Development, BCA and Ms Delfin Yeo, Executive Manager of Quality and Certification Department, BCA



Right | From left to right: Ms Chua Wee Li, Project Manager, Tiong Seng Contractors Pte Ltd, Ms Veronica Ng, Director of Project Operations, Chye Joo Construction Pte Ltd, Mr Ding Hock Hui, Director of Quality and Certification Department, BCA and Mr Adam Ubaidulla, Project Manager, Ho Lee Construction Pte Ltd



TU BRAUNSCHWEIG – BCA EXECUTIVE DEVELOPMENT: INNOVATIONS IN SUSTAINABLE DESIGN AND TECHNOLOGY



IF YOU ARE LOOKING FOR A FIVE-DAY EXECUTIVE PROGRAMME THAT BRINGS CLASSROOM LESSONS ON ENERGY EFFICIENT BUILDINGS TO LIFE, THEN THE TU BRAUNSCHWEIG – BCA EXECUTIVE DEVELOPMENT: INNOVATIONS IN SUSTAINABLE DESIGN AND TECHNOLOGY MIGHT BE THE RIGHT ONE FOR YOU

Recently, 27 participants of the executive development programme, including builders, developers, and consultants, led by Mr Tan Tian Chong, Group Director, Technology Development, BCA, visited Germany and learned the latest technologies on renewable energy systems and energy efficiency. The group visited energy self-sufficient, LEED Platinum and DGNB Gold certified building projects. Over a period of five days, participants learned how integrated passive and active approaches could be applied to achieve ultra-low energy building design from the project team themselves.

This executive development programme is organised by BCA Academy in partnership with the Institute for Building Services and Energy Design (IGS), Technical University of Braunschweig, and EnEd Asia Pte Ltd. The upcoming intake will be in July 2013. For enquiries, please contact Ms Tai Yoke Ying at 6248-9980 or tai_yoke_ying@bca.gov.sg. 

Top | Programme participants outside the Reichstag German Parliament Building, which runs on renewable energy, and is possibly the greenest parliament building in the world.

A DIALOGUE SESSION WITH THE RESIDENTS OF HILLVIEW GARDEN ESTATE

OUR TROPICAL CLIMATE CAN LEAD TO HIGH INTENSITY AND PROLONGED RAINFALL, WHICH POSES A THREAT TO THE STRUCTURAL STABILITY OF OUR SLOPES AND RETAINING WALLS

In 2007, BCA implemented several measures to enhance the structural safety of existing slopes and retaining walls. We enhanced the periodic structural inspection guidelines to include slope inspection, conducted blitz inspections, organised seminars, and sent more than 10,000 advisory letters to private-estate homeowners whose properties included slopes and retaining walls.

On 28 July 2012, BCA organised a dialogue session with the residents of Hillview Garden Estates, to generate greater awareness, and share good practices of slope and retaining wall safety. The occasion was graced by MP for Chua Chu Kang GRC, Ms Low Yen Ling, and grassroots leaders. The event was attended by more than 100 landed property homeowners.

Slope and retaining wall failure can cause injury, damage property, and create disruptions. Typically, a lack of maintenance is the major contributing factor for such failures.

From this dialogue session, residents learned not to take safety for granted, and about the necessity of slope and retaining wall maintenance to ensure continued safety for their homes. **P**



Top | Ms Low Yen Ling, MP for Chua Chu Kang GRC.



Left | Houses in the Hillview Garden Estate after a heavy rainfall in 2007.

Bottom | Some residents suggested the joint engagement of a professional engineer to inspect their slopes and retaining walls.

So, if you own a slope or retaining wall, this is what you should do:

- Look out for tell-tale signs of slopes and retaining wall failure;
- Carry out routine maintenance for the slope and earth retaining structures; and
- Appoint a Professional Engineer for inspection or investigation.



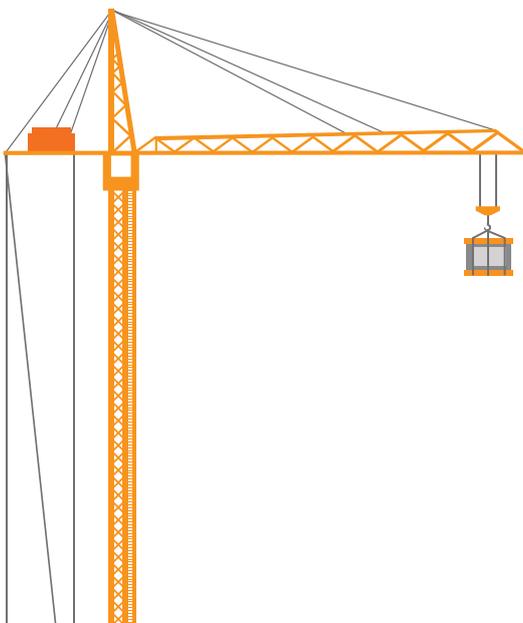
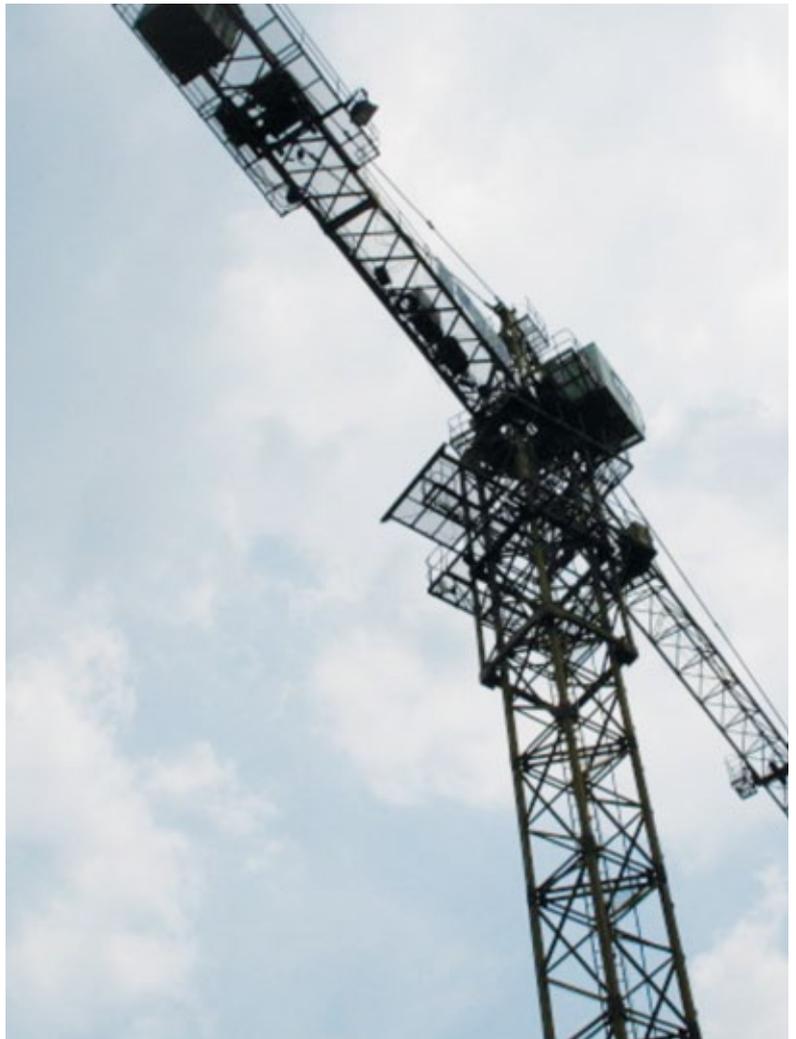
TOWER CRANE OPERATION TRAINING AND SEC(K) TEST NOW AVAILABLE IN CHINA!

BCA INTRODUCED ITS SKILL EVALUATION CERTIFICATE (KNOWLEDGE), OR SEC(K), IN TOWER CRANE (SADDLE JIB) OPERATIONS AT ITS HANGZHOU OVERSEAS TESTING CENTRE (OTC) IN THE PEOPLE'S REPUBLIC OF CHINA (PRC)

Participants will receive training from qualified and established instructors at the OTC. BCA tailored the programme, recognised by the Ministry of Manpower (MOM), to meet the industry's demand for more experienced tower crane operators to support the ramping up of construction projects.

How it works:

- Contractors in Singapore may employ skilled and experienced PRC tower crane operators under the "S" work pass scheme.
- Experienced tower crane operators, who have obtained the MOM S-Pass in-principle-approval and hold valid PRC tower crane operation licences, will undergo a three-day training comprising both theory and practical components at Hangzhou OTC, conducted by BCA.
- Trainees will have to sit for the SEC(K) Tower Crane Operation test conducted by BCA at Hangzhou OTC at the end of the course.
- MOM will permit successful candidates to operate tower cranes in Singapore. **P**



Interested contractors may contact:

BCA Skills Certification Enquiry line

(for programme application procedures)

Tel : 6248 9845

Email : bca_academy@bca.gov.sg

Hangzhou OTC Singapore branch office

(for course fees and application details)

Tel : 6297 2855 / 9634 9198 / 9873 9829

BCA Crane Enquiry hotline

(for details on the Temporary Relaxation of Crane Operator Registration Scheme and Form C)

Tel : 6325 5100

Email : bca_crane@bca.gov.sg



GET MORE FUNDING SUPPORT WITH GREEN BUILDING RETROFITTING

BCA'S GREEN MARK INCENTIVE SCHEME FOR EXISTING BUILDINGS (GMIS-EB) WAS INTRODUCED TO EXTEND FINANCIAL SUPPORT TO EXISTING BUILDING OWNERS IN ORDER TO ACHIEVE A SIGNIFICANT IMPROVEMENT IN BUILDING ENERGY EFFICIENCY

This is achieved by adopting energy-efficient retrofitting design, technologies and practices for higher energy efficiency improvements.

To alleviate the financial consideration for building owners, BCA has introduced the following enhancements (illustrated in the table below).

In addition, the qualifying criterion has also been modified to encourage building retrofitting to higher energy efficiency standards, and thus achieve higher Green Mark ratings under the revised Green Mark for Existing Non-Residential Buildings (GM ENRB) Version 3. This means that building owners must meet the minimum Green Mark Gold and a higher Green Mark rating, based on GM ENRB Version 3, to qualify for the enhanced incentive.

HERE'S A CHECKLIST TO SEE IF YOUR BUILDING QUALIFIES FOR THE SCHEME:

Eligibility

- Existing private commercial (non-residential) development

- Gross Floor Area (GFA) of at least 2,000m² (e.g. five-storey office building)
- Have a central chilled water air-conditioning plant or upgrade to a central chilled water air-conditioning plant

Criteria

- Green Mark Gold, Gold^{Plus}, and Platinum [*Green Mark-certified level no longer eligible for funding*]
- Based on an updated GM version: Green Mark for Existing Non-Residential Buildings Version 3 [*i.e. greater emphasis on the building system energy efficiency*]
- Meet minimum air-conditioning system efficiency in the respective tiers

Some examples of energy-efficient equipment

- Chillers
- Chilled and Condenser Water Pumps
- Cooling Towers
- Energy-efficient Lighting, e.g. T5, LED etc.
- Motion Sensors **P**

Green Mark Requirement (Based on GM ENRB Version 3)	Air-conditioning System Efficiency (kW/RT)	Co-funding Rate (Supply and installation cost of energy-efficient equipment and professional services)	Cap on Total Incentive Sum (S\$'mil)
Gold or better	0.70 or better	35%	1.5
Gold ^{Plus} or better	0.65 or better	40%	2.25
Platinum or better	0.60 or better	50%	3

Quick Facts about the GMIS-EB scheme

Launched in April 2009, the \$100 million GMIS-EB was conceived to encourage developers and building owners to adopt energy-efficient retrofitting design, technologies and practices in their existing building to achieve a significant improvement in building energy efficiency.

The GMIS-EB consists of two complementary parts: a cash incentive and a "health check" scheme, which is an energy audit that helps companies to determine the efficiency of their air-conditioning plants.

SINGAPORE FIRST IN THE WORLD TO MANDATE MINIMUM ENVIRONMENTAL SUSTAINABILITY STANDARDS FOR EXISTING BUILDINGS

LANDMARK LEGISLATION TO GREEN EXISTING BUILDINGS UNDER THE BUILDING CONTROL ACT

From the second half of next year, building owners will have to fulfil three 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

Phase one of the new legislative requirement of achieving minimum Green Mark standard for existing buildings will focus on hotels, retail and office buildings with a minimum GFA of 15,000m², when they install or replace a chiller system. If necessary, the owner will also need to make other improvements such as improving the overall cooling system, lighting and lift equipment.

MINIMUM GREEN MARK STANDARD FOR EXISTING BUILDINGS

“Our greatest challenge is to green existing buildings. Typically, a building cooling system consumes about 30% – 50% of the building total energy consumption and the typical lifespan of the building cooling system can be as long as 15 to 20 years. Since building owners have to change their chiller systems when it is running out of their useful life, they should ensure that the replaced systems are more energy-efficient to last another 15 years or more. The payback period for such retrofitting work can be as short as three to seven years, depending on the extent of the retrofitting work. After the payback, the rest is net gain by the owner.”

DR JOHN KEUNG, CEO OF BCA

THREE-YEARLY AUDIT ON BUILDING COOLING SYSTEMS

To ensure that the building owners regularly maintain the new energy-efficient cooling systems they installed, building owners are required to conduct energy audits every three years on the building cooling systems. This will ensure that the cooling systems operate at an optimum performance level and efficiencies of the systems are maintained to minimum regulatory standards.

Together with the earlier measure that requires existing buildings to meet the minimum Green Mark standard, this regular energy auditing requirement will make Singapore the first in the world to mandate minimum environmental sustainability standards and regular energy audit for existing buildings.

ANNUAL MANDATORY SUBMISSION OF BUILDING INFORMATION AND ENERGY CONSUMPTION DATA

The third regulatory measure requires the annual submission of building information and energy consumption data. This will be done in stages starting with hotels, retail and office buildings.

Utilities suppliers, such as SP Services, are required to provide the annual electricity consumption data of individual buildings, while specific building owners are required to provide other building data such as GFA, tenancy composition and building system details. This information can be submitted via an online portal, BESS, and is a one-off exercise. Further updates by the building owners will be required, when there are changes to the buildings, and when the owners receive notices from BCA.

The data collected will form the basis of the national energy benchmark for the building sector. BCA will also analyse the data collected, and share with building owners their electricity consumption in comparison to other buildings of similar types, so that they will be able to proactively monitor and improve their buildings' energy efficiency. P



BCA HAS RECENTLY INTRODUCED TWO NEW PUBLICATIONS, CSBULLETIN AND BUILD GREEN. SIGN UP AND BE UPDATED ON THE INDUSTRY'S LATEST NEWS AND EVENTS.

CSBULLETIN

A QUARTERLY NEWSLETTER BY THE **BCA CENTRE FOR SUSTAINABLE BUILDINGS** THAT PROVIDES THE LATEST DEVELOPMENTS ON SUSTAINABLE BUILDINGS AND DEVELOPMENT IN THE REGION



Being the first in Asia and one of the few collaborating centres with UNEP, the Centre will work on policy development, capacity building and knowledge transfer, as well as outreach activities through awareness raising programmes and broadening regional network.

Please visit <http://www.csb.sg> for more information on BCA CSB, and if you would like to be on our mailing list, drop us an email at secretariat@csb.sg. 

BUILD GREEN

A QUARTERLY PUBLICATION DEDICATED TO GREEN BUILDING PROJECTS, TECHNOLOGIES AND RESEARCH IN SINGAPORE AND AROUND THE REGION

If you would like to be on the mailing list, drop us an email at bca_enquiry@bca.gov.sg. 



EVENT LINE UP

Pile Foundations Design and Construction for Engineers (19th Run)

12, 14, 19 & 21 NOV

Refresher Course for Licensed Electrical Workers (Electrical Technicians/Electrical Engineers) (13th Run)

19 NOV

Workshop on Site Management of Precast Concrete Construction (8th Run)

19, 22 & 26 NOV

Essential Knowledge in Local Regulations and Construction Practices (17th Run)

19, 20 & 21 NOV

Certification Course for Site Investigation Supervisors (5th Run)

19, 20, 26 & 27 NOV

Retrofitting & Strengthening of Building Structures (8th Run)

21 NOV

CONQUAS Training for Developers & Consultants

22 NOV

Course on Building Control Regulations for Site Supervisors (11th Run)

22 NOV

Risk Management Course (BizSAFE Level 2) (62nd Run)

26 & 27 NOV

Understanding the Green Mark Criteria for Existing Building and Office Interior (19th Run)

28 NOV

Workshop on Preparing and Defending Loss and Expense Claims (9th Run)

29 NOV

Requirements for Environmental Sustainability in Buildings and The Green Mark Scheme (21st Run)

30 NOV

2-Day BIM Planning Course (Building Developers and Facility Managers) (3rd Run)

3 & 4 DEC

GMP-ELECTIVE – Efficient Eco-Lighting Design for Buildings (13th Run)

3 & 4 DEC

Code of Practice on Buildable Design

7 DEC

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

11 DEC

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

18, 20, 26 & 27 DEC



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WINDOWS SAFETY DAYS

MY HOME • MY RESPONSIBILITY • MY SAFETY



3 EASY STEPS TO SAFER WINDOWS

1 Check, 2 Clean and 3 Change every 6/6 and 12/12

JUST
3
EASY
STEPS

Casement Windows



Step 1 Check that fasteners are not rusty or loose



Step 2 Clean and lubricate joints or movable parts



Step 3 Change all rivets from aluminium to stainless steel by engaging an approved window contractor

Sliding Windows



Step 1 Check that safety stoppers and angle strips are in their proper places



Step 2 Clean the tracks and ensure window panels can slide smoothly



Step 3 Change worn-out safety stoppers and angle strips by engaging an approved window contractor



A Public Service Message From:

Building and Construction Authority

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

Supporting Partner: HOUSING & DEVELOPMENT BOARD



For more information about windows safety and the list of approved contractors:

Visit www.bca.gov.sg/windows_safety (BCA) or www.hdb.gov.sg/windows_safety (HDB)

Call 6325 8677 (BCA) or 1800 225 5432 (HDB)

