

# Pillars

WE SHAPE A SAFE, HIGH QUALITY, SUSTAINABLE AND FRIENDLY BUILT ENVIRONMENT | ISSUE 01/JAN 2012



## FUTURE FOCUSED

REBRANDING THE  
CONSTRUCTION  
SECTOR

# Pillars

ISSUE 01 • JAN 2012 • CONTENTS

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**SPOTLIGHT**

## FUTURE FOCUSED

REBRANDING THE CONSTRUCTION SECTOR

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## LOOKING AHEAD INTO 2012

Dear Readers,

We welcome the New Year with a promising outlook for the construction industry in 2012. The Building Construction Authority (BCA) projects that the overall construction demand for 2012 will range between \$21 billion and \$27 billion. Despite slower economic growth and more subdued property market sentiments, we will continue to see a high level of on-site construction activity this year.

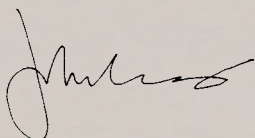
With that in mind, there is a need to take bold steps to improve productivity and sustain growth in the construction industry. This can be done by investing in manpower development, technology adoption and building new capabilities.

At the recent Construction and Property Prospects Seminar, Minister of State Tan Chuan-Jin announced that the Ministry of National Development (MND) and BCA have been tasked to study how best to rebrand the construction industry. **Attracting new entrants into the construction industry is a big challenge. I would like to urge our industry partners to re-think the way we work, strive for higher productivity and improve the industry's image so as to better attract young talents to join us.**

**Under the Construction Productivity Roadmap, we have many new initiatives such as scholarship, sponsorship and apprenticeship programmes to help the industry overcome this challenge.** We will also share with you in this issue how BCA is promoting built environment careers through events like the **BCA-Industry Job Shadowing Programme.**

Furthermore, I am proud to share that Singapore was conferred the inaugural **Regional Leadership Award** by the **World Green Building Council** for our exceptional Green Building Masterplan, as well as efforts in steering the construction industry towards sustainable development. I would like to thank all our partners for your strong support and commitment to green 80% of our buildings by 2030. I certainly look forward to your continued support in greening our existing buildings.

Here's wishing everyone a prosperous year ahead and I look forward to work together to advance the transformation of the construction industry and raise its profile. **P**



Dr John Keung  
Chief Executive Officer





# FUTURE FOCUSED

## REBRANDING THE CONSTRUCTION SECTOR

On 11 January 2012, BCA and industry experts presented the prospects, opportunities and challenges for the construction sector in Singapore and the region, to over 400 participants at the BCA-REDAS Construction & Property Prospects Seminar.

Mr Tan Chuan-Jin, Minister of State for National Development and Manpower announced the healthy outlook of the construction industry over the next three years. "It is an excellent opportunity for us to enhance the industry's productivity and achieve more sustainable growth," he said.

He also urged industry partners to take bold steps to start reshaping the construction industry fundamentally so as to enhance the industry's image. To this, he announced that MND and BCA will be studying how best to rebrand the construction industry to meet our future manpower needs and support our construction productivity and green building initiatives.

### **PUBLIC SECTOR PROJECTS TO FUEL CONSTRUCTION DEMAND**

BCA projected Singapore's construction demand<sup>1</sup> for 2012 to range between \$21 billion and \$27 billion, 60% of which is projected to be fuelled by construction demand in the public sector. This equates to around \$13 billion to \$15 billion worth of construction orders, stemmed from continued strong demand for public housing developments, as well as construction demand for institutional building and civil engineering projects.

1 Construction demand is measured by total value of construction contracts awarded. All construction demand figures stated here exclude reclamation projects.





**“Strong construction demand from the public sector is expected to mitigate the impact of lower construction demand in the private sector, which is projected to drop to between \$8 billion and \$12 billion in 2012 amid current subdued property market sentiments and the global economic uncertainty.”**

Above | About 460 industry professionals attended the seminar

Below | Mr Tan Chuan-Jin, Minister of State for National Development and Manpower, was the Guest-of-Honour at the BCA-REDAS Construction & Property Prospects Seminar 2012

### CONSTRUCTION OUTLOOK BEYOND 2012

From 2013 to 2014, the average construction demand is projected to range between \$19 billion and \$27 billion<sup>2</sup> per annum, in view of various public sector projects in the pipeline, barring any unforeseen circumstances or worsening external macroeconomic conditions. Construction demand in the public sector is likely to reach between \$12 billion and \$15 billion a year in 2013 to 2014, with about 60% of the total demand coming from building projects and the remaining 40% of demand from civil engineering projects.

### HIGHER VOLUME OF CONSTRUCTION ACTIVITY

Despite the likely moderation in construction demand in the following years, the high volume of contracts awarded in 2011 will translate into strong on-site construction activity at least over the next one to two years. Hence, the total construction output<sup>3</sup> is projected to rise to between \$29 billion and \$31 billion in 2012 before moderating to between \$20 billion and \$28 billion per year in 2013 to 2014. **P**

<sup>2</sup> Demand forecast beyond the immediate one year will be done on a rolling basis to take into account subsequent changes in economic outlook and other pertinent factors.

<sup>3</sup> Construction output is measured by total value of certified progress payments.

### MAJOR PUBLIC SECTOR PROJECTS THAT ARE LIKELY TO BE AWARDED IN 2012 INCLUDE:

- JTC's Medical Technology Hub at Tengah Innovation Grove
- Yale-NUS College at University Town
- Main contract for Ng Teng Fong Hospital with a community hospital at Jurong East
- Expansion of Kallang Paya Lebar Expressway (KPE) / Tampines Expressway (TPE) Interchange
- Extension and Reconstruction of Newton Flyover



**LOOKING BACK ON 2011:**

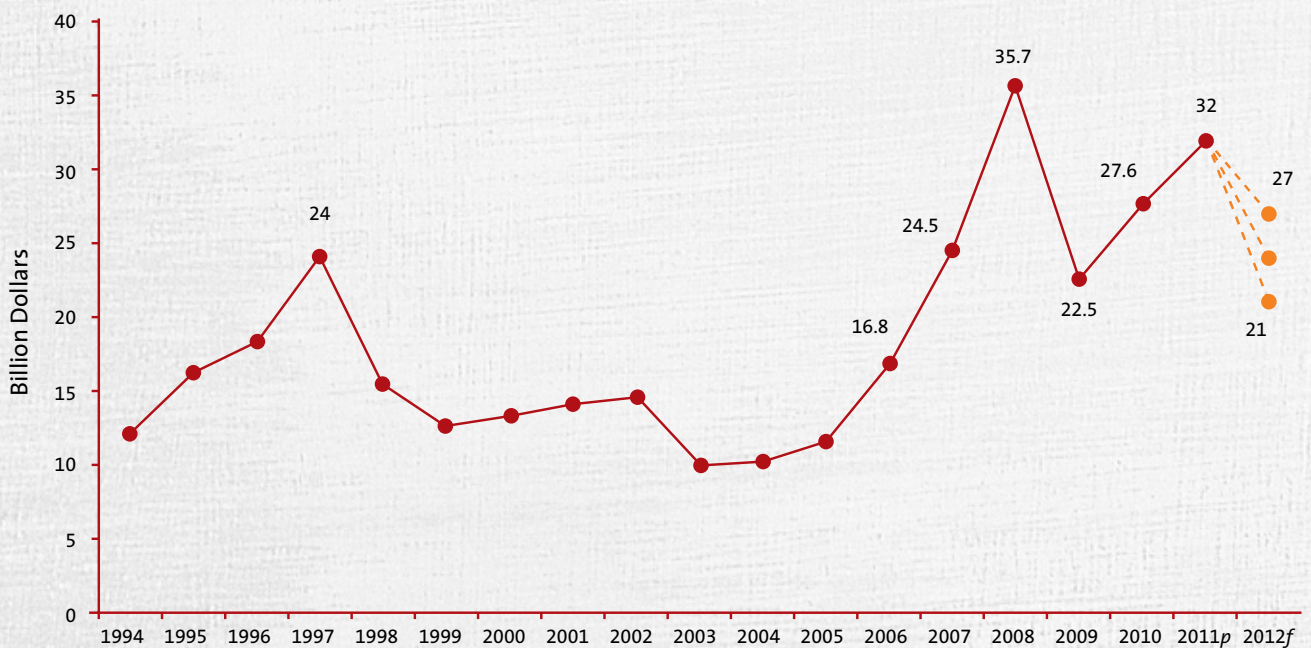
- Singapore’s construction demand increased by 16% from \$27.6 billion in 2010, to \$32 billion in 2011. The increase was backed by strong public sector construction demand arising from the ramp-up in public housing projects and MRT Downtown Line Stage 3.
- The preliminary total construction output is estimated at \$27 billion in 2011.

**REVIEW AND OUTLOOK FOR CONSTRUCTION DEMAND & OUTPUT (YEAR 2011–2014)**

YEAR	CONSTRUCTION DEMAND (Value of Contracts Awarded)			CONSTRUCTION OUTPUT (Payment made for Work Done)
	PUBLIC	PRIVATE	TOTAL	
2011 <sub>p</sub>	\$15.2 billion	\$16.8 billion	\$32.0 billion	~\$27 billion
2012 <sub>f</sub>	\$13–15 billion	\$8–12 billion	\$21–27 billion	\$29–31 billion
2013 <sub>f</sub>	\$12–15 billion per year	N/A	\$19–27 billion per year	\$20–28 billion per year
2014 <sub>f</sub>	(60% from building projects & 40% from civil engineering projects)			

*p*: Preliminary    *f*: Forecast

**CONSTRUCTION DEMAND (CONTRACTS AWARDED) 1994–2012**



*p*: Preliminary    *f*: Forecast

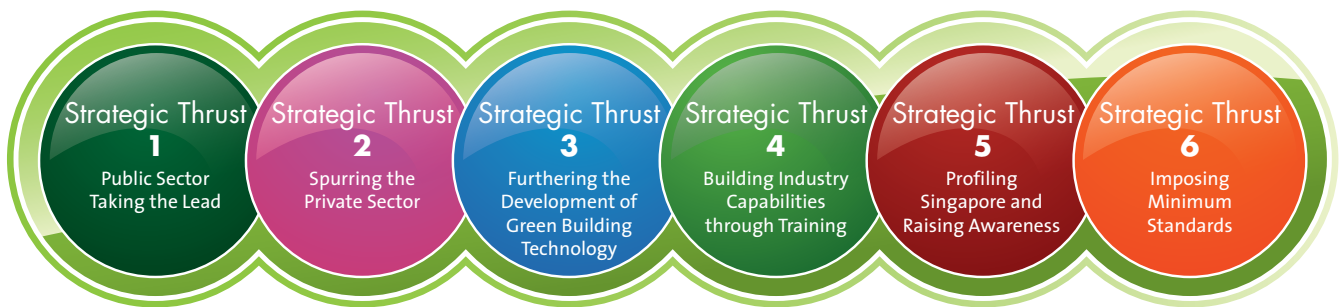
## CONTRACTS AWARDED (EXCLUDING RECLAMATION) BY SECTOR & TYPE OF WORK

In Billion Dollars	2008	2009	2010	2011 (Preliminary)	2012 (Forecast)
<b>BOTH SECTORS</b>	<b>35.68</b>	<b>22.52</b>	<b>27.52</b>	<b>32.0</b>	<b>21.0–27.0</b>
Building Work	27.07	13.50	24.54	25.1	16.4–21.3
Residential	11.07	6.73	11.49	14.0	9.5–11.1
Commercial	8.46	1.65	3.24	3.0	1.8–2.9
Industrial	3.74	2.04	4.79	5.1	1.7–2.9
Institutional & Others	3.80	3.07	5.03	2.9	3.4–4.4
Civil Engineering Work	8.62	9.02	3.02	6.9	4.6–5.7
<b>PUBLIC SECTORS</b>	<b>15.48</b>	<b>13.90</b>	<b>8.55</b>	<b>15.2</b>	<b>13.0–15.0</b>
Building Work	7.76	5.67	6.36	8.6	9.6–10.9
Residential	4.68	2.81	2.81	6.0	6.1–6.3
Commercial	0.14	0.07	0.18	0.05	0.1–0.2
Industrial	0.06	0.21	1.07	0.3	0.4–0.6
Institutional & Others	2.88	2.58	2.30	2.3	3.0–3.8
Civil Engineering Work	7.72	8.23	2.19	6.6	3.4–4.1
<b>PRIVATE SECTORS</b>	<b>20.20</b>	<b>8.62</b>	<b>19.02</b>	<b>16.8</b>	<b>8.0–12.0</b>
Building Work	19.30	7.83	18.18	16.5	6.8–10.4
Residential	6.40	3.93	8.68	8.1	3.4–4.8
Commercial	8.31	1.58	3.06	3.0	1.7–2.7
Industrial	3.68	1.83	3.72	4.8	1.3–2.3
Institutional & Others	0.92	0.50	2.73	0.6	0.4–0.6
Civil Engineering Work	0.90	0.79	0.83	0.3	1.2–1.6

Source: BCA as of 11 Jan 2012



## GREEN BUILDING MASTERPLAN



# BCA GARNERS ANOTHER INTERNATIONAL RECOGNITION

BCA'S GREEN BUILDING MASTERPLAN AND LEADERSHIP IN GREEN BUILDING MOVEMENT GETS INTERNATIONAL LIMELIGHT

BCA clinched the Regional Leadership Award, given out at the inaugural World Green Building Council (WorldGBC) Government Leadership Awards. The award was announced on 5 December 2011 at the 17th Conference of the Parties (COP17) United Nations Framework Convention on Climate Change (UNFCCC) in Durban, South Africa. BCA's achievement represents strong testimony for its Green Building Masterplan as well as efforts in steering the construction industry towards sustainable development in Singapore, and leadership in Asia Pacific's green building movement.

The Singapore Green Building Council (SGBC), nominated BCA for this award. **Mr Tai Lee Siang, President of the SGBC, commented that this is in recognition of the significant efforts by BCA in showing the industry the way forward; by understanding private sector conditions and leading the public sector to go green. BCA has also been sharing Singapore's green building expertise in the region by exporting its Green Mark scheme and profiling its construction industry's expertise in the region.**

BCA's flagship Green Mark scheme, the first green building rating system for the tropical climate, was launched in 2005. In its inaugural year, only 17 buildings were Green Mark certified. However, there are now more than 940 green building projects, translating to a gross floor area of about 28 million m<sup>2</sup>, or 12% of the nation's total gross floor area.

**WORLD GREEN BUILDING COUNCIL**  
Government Leadership Awards

"The WorldGBC's 'Regional Leadership Award' recognises the outstanding vision and commitment of Singapore's Building and Construction Authority. We congratulate the Singapore Government for developing a Masterplan that sets minimum environmental standards for building codes, provides incentives for the private sector and promotes research, development and capacity building. Singapore's achievements clearly demonstrate that green building is not only achievable, but also affordable and practical."

JANE HENLEY, CEO OF WORLDGBC

### THE INAUGURAL WORLDGBC GOVERNMENT LEADERSHIP AWARD WINNERS ARE:

- **Regional Leadership Award:** Singapore
- **Best Green Building Policy:** San Francisco, USA
- **Climate Action Leadership Award:** Mexico City, Mexico
- **Urban Retrofit Award:** Birmingham, UK
- **Industry Transformation Award:** New York City, USA
- **Most Groundbreaking Policy Award:** Tokyo, Japan



**ABOUT WORLDGBC GOVERNMENT LEADERSHIP AWARDS**

The WorldGBC Government Leadership Awards recognise world-leading government policies that maximise the opportunity of buildings to mitigate carbon emissions in the environment, inspire other governments at all levels, share and replicate best practices in green building policy, and underscore green buildings as a winning strategy to reduce carbon emissions.

This year’s award theme, “Excellence in City Policy Green Building”, recognises international best practices in city-level government policies to build green. Awards were given based on a point-scoring system in the following criteria:

- i) Effectiveness of the initiative in transforming the industry
- ii) Cost-effectiveness of the initiative
- iii) Scale of emission reductions
- iv) Demonstration of environmental leadership and innovation
- v) Replicability and relevance to other locations

“While BCA is championing the green building movement, this would not have been possible without the strong support from the Singapore Green Building Council, and all stakeholders in the building and construction industry for their unceasing support of the BCA Green Mark Scheme to propel Singapore towards environmental sustainability. I would also like to thank the World Green Building Council and look forward to closer collaboration in events and projects...”

DR JOHN KEUNG, CEO OF BCA

Moving forward, BCA will be mandating the submission of annual building energy consumption data by phases to form the basis of national energy benchmarks. Such data will be shared with building owners to encourage them to pro-actively monitor and improve their buildings’ energy performance. Regular audits on the efficiency of cooling systems in buildings and minimum environmental sustainability standards will be put in place to help building owners make energy efficient decisions as they move through the retrofit process. **P**



Above | Singapore received the Regional Leadership Award from WorldGBC.



# EXPERTS VOICE THE FUTURE OF BIM IN SINGAPORE

## STRONG ENDORSEMENT OF BCA'S BIM ROADMAP

From 31 October to 3 November 2011, BCA hosted five members of the International Panel of Experts for Building Information Modelling (IPE-BIM). The Panel reviewed and discussed BCA's roadmap to transform the industry through BIM technology. They also shared their perspectives on how collaboration between the government and industry could raise the level of BIM expertise among professionals and businesses, to reap the benefits of more sustainable design and higher construction productivity.

The Panel also commended BCA on the holistic and well-planned roadmap to drive the adoption of BIM by 2015. They noted that BCA's initiatives will place Singapore at the forefront of BIM adoption internationally, and were particularly impressed that the roadmap had a very clear mobilisation programme with specific deliverables and targets set.

Furthermore, the Panel endorsed BCA's strategy for the public sector to take the lead in driving the adoption of BIM. They agreed that the widespread use and awareness of BIM would help to generate interest among the younger generation within the industry.

### ▶ Building Information Modelling (BIM)

is a three-dimensional computer-aided modelling technology that allows building details to be rendered and shared among the various professional disciplines. It is widely accepted as an essential tool for built environment professionals to improve productivity.

"The IPE's strong endorsement of BCA's BIM Roadmap proves that we are on the right track in transforming Singapore's building and construction sector to become one of the world's most advanced. We agree wholeheartedly with the IPE that standing still is not an option for Singapore's construction sector while the rest of the world moves towards industry-wide BIM technology adoption. Hence, it is critical for the public sector to take the lead in driving greater BIM adoption and lead the productivity movement."

DR JOHN KEUNG, CEO OF BCA AND CHAIRMAN OF THE INTERNATIONAL PANEL OF EXPERTS.



**THE PANEL'S KEY RECOMMENDATIONS TO IMPROVE BCA'S BIM ROADMAP INCLUDE:**

- i) Getting The Public Sector To Take The Lead**
  - Encourage collaboration between public sectors of different countries in sharing best practices to raise the adoption of BIM
  - Consider adopting a neutral exchange standard as an additional format for regulatory e-submission to facilitate the sharing of building data among different project stakeholders
- ii) Promoting Success Stories**
  - Create greater awareness of the business value and positive returns of BIM from different stakeholders' perspectives
  - Leverage on social media platforms to promote BIM and the inter-disciplinary collaboration process among the younger generation
- iii) Removing Impediments**
  - Consider setting up a national digital library of standard building components to make it easier for industry professionals to build their 3D models
  - Study new forms of construction contracts such as IFOA (Integrated Form of Agreement) to address concerns on legal and contractual risks
- iv) Building BIM Capability and Capacity**
  - Include team-based and task-based collaborative work practices into existing BCA Academy training courses to prepare students and future industry entrants for a more integrated way of working
  - Advocate more extensive use of BIM for sustainable design and facilities management
- v) Incentivising BIM Adopters**
  - Encourage firms to model existing buildings as part of their training to build up their BIM capability; data from these models could be used by the building owners for maintenance and future retrofitting
  - Introduce annual BIM awards to recognise outstanding applications of BIM by project teams, firms and individuals

BCA is currently reviewing the recommendations. 

**MEMBERS OF THE INTERNATIONAL PANEL OF EXPERTS ARE:**



**Dr Calvin Kam**  
 Director, Industry Programs, Stanford University's Center for Integrated Facility Engineering; Consulting Assistant Professor, School of Engineering, Stanford University; and Vice President, Strategic Innovation Optima



**Professor Kim Inhan**  
 Professor, Kyung-Hee University, Korea; and Chief Vice-Chairman, buildingSMART Korea



**Professor Stephen Lockley**  
 Professor of Building Modelling, School of the Built and Natural Environment, Northumbria University



**Mr Øivind Rooth**  
 Deputy Director General, National Office for Building Technology and Administration, Norway



**Dr Marcus Schreyer**  
 Head, Technical IT Applications, Max Bögl Group of Companies

# REVVING UP TO ENGAGE NEW TALENTS

BCA IS REVVING UP EFFORTS IN ENGAGING YOUNG TALENTS FROM SCHOOLS TO LEARN MORE ABOUT BUILT ENVIRONMENT CAREERS WITH TWO LATEST INITIATIVES – THE BCA-INDUSTRY JOB SHADOWING PROGRAMME AND THE TEAM BUILDING WORKSHOP FOR BCA AND INDUSTRY SCHOLARS.

## BCA-INDUSTRY JOB SHADOWING PROGRAMME

From 21 November to 2 December 2011, BCA engaged 14 Junior College students from Raffles Institution and Hwa Chong Institution on a two-week Job Shadowing Programme, to inspire students to pursue built environment careers.

In the first week, BCA, the Housing & Development Board (HDB) and the Urban Redevelopment Authority (URA) played host to the students and brought them to visit the BCA Academy, BCA Zero Energy Building, HDB Gallery, HDB's Centre of Building Research and URA's Singapore City Gallery. DP Architects and Keppel Land also brought the students to their prominent projects – Orchard Central, Marina Bay Financial Centre and Reflections condominium.

In the second week, each student was attached to one of the organisations, where they “shadowed” their mentors and faced the realities of a professional's working life.

## TEAM BUILDING WORKSHOP FOR BCA AND INDUSTRY SCHOLARS

On 13 December 2011, BCA organised a one-day team building workshop to facilitate bonding among 25 BCA and industry scholars.

They mingled and participated in activities specially designed to develop leadership skills and team spirit through adventure learning.

The day proved fruitful, with scholars feeling inspired after having challenged preconceived mindsets and overcoming difficult tasks. New friendships were forged, and rapport built with one another. **P**



JIAWEN FROM RI(JC) SUMMED UP HER EXPERIENCE:

“ I am impressed by the concept of exposing students to a wide range of firms involved in the built environment, from the private sector and government agencies. The personal engagement with young professionals deepened my understanding. Great Job! ”





# REHDA YOUTH VISIT

REAL ESTATE AND HOUSING DEVELOPERS' ASSOCIATION YOUTH WING VISITS GREEN BUILDINGS IN SINGAPORE.



In October 2011, BCA hosted the Real Estate and Housing Developers' Association Youth Wing (REHDA Youth) on a two-day tour of eight BCA Green Mark certified developments. These included The Regent Singapore, BCA's Zero Energy Building, Treelodge@Punggol, 313 Somerset, Asia Square Tower 1, Tokio Marine Centre, Mapletree Business City and Solaris.

The tour enabled members of REHDA Youth to learn from successful green building projects in Singapore and network with members of the Singapore Green Building Council.

REHDA Youth consists of future leaders of the Malaysian property industry. The organisation aims to promote sustainability through sharing and improving industry best practices. **P**

“ We want to thank BCA for the wonderful learning experience, enabling us to learn from green building projects first-hand. One of the most impressive developments we visited was the BCA Green Mark Platinum HDB apartments, which emphasised passive design and the use of Computational Fluid Dynamics to improve natural ventilation. This is something that Malaysian developers must strive to emulate. ”

SAM C.S. TAN, CHAIRMAN OF THE ENVIRONMENT SUB-COMMITTEE, REHDA



Top | Members of REHDA Youth at Asia Square Tower 1.

Middle | Members of REHDA Youth listened attentively to the explanation of the green features in The Regent Singapore.

Bottom | REHDA Youth presented a token of appreciation to BCA for hosting the visit.

# BUILDING CIVIL DEFENCE SHELTERS RIGHT THE FIRST TIME

CIVIL DEFENCE SHELTER SEMINAR ATTRACTS RECORD NUMBER OF PARTICIPANTS.

On 11 November 2011, BCA successfully conducted a Civil Defence Shelter Seminar on “Design, Construction and Commissioning of Household and Storey Shelters” at the BCA Academy. The event attracted a record number of 300 participants comprising practicing building professionals, supervisors, developers, builders and government agencies.

As the technical authority, BCA plays a key role in the design and construction of civil defence shelters. BCA has been reviewing technical requirements of civil defence shelters together with the Singapore Civil Defence Force (SCDF) and provides guidelines on plan submission, construction and commissioning of civil defence shelters on a regular basis.

In his opening speech, Mr Ong Chan Leng, Director of BCA’s Special Functions Division, urged all building professionals and builders to play their part to design and construct civil defence shelters right the first time. In doing so, additional time and manpower for expensive rectification work could be avoided and overall construction productivity would be raised.

Mr Ong also urged Qualified Persons (QPs) to play a proactive role in seeking consultations with BCA in designing and constructing civil defence shelters efficiently and effectively, in order to speed up its design and construction process. **P**



Left | Opening speech by Mr Ong Chan Leng, Director of Special Functions Division, BCA.

Bottom | 300 participants attended the seminar.



Top | Seminar Q&A Session  
From left to right: Neo Seng Hai, Chan Mun Kit, Ong Teck Soon, LTC Cheok Poh Chin, Mdm Chua Bee Tee, Victor Lian and Ang Guan Hock.

## AT THE SEMINAR, THE SPEAKERS FROM BCA, SCDF AND ARCHITECTS 61 PTE LTD SHARED WITH PARTICIPANTS:

- The need for civil defence shelters in landed houses (including reconstruction projects) as required under the Civil Defence Shelter Act
- A preview of proposed changes to technical requirements of household shelters, including the precast shelter concept that could be adopted by private residential projects
- Design considerations and good practices for storey and staircase shelters
- The experience and challenges faced when using combined household and staircase shelter concepts in high-rise development projects
- The importance of construction quality control so as to ensure civil defence shelters are built right the first time





Above | Over 190 industry practitioners attended the preview of the BCA-IDA Green Mark for Data Centres.

# BCA-IDA GREEN MARK FOR DATA CENTRES

BCA ROLLED OUT ITS LATEST GREEN INITIATIVE IN DECEMBER.

On 5 December 2011, over 190 industry practitioners attended the preview of the BCA-IDA Green Mark for Data Centres held at the Mapletree Business City, which introduced the Green Mark criteria for data centres.

The Info-communications Development Authority of Singapore (IDA) launched the Green Data Centre Standard (SS564) in March 2011, to improve the energy efficiency of data centres in Singapore by providing a management system and process to guide data centres towards going green and improving energy efficiency. To complement SS564, BCA and IDA are collaborating with Nanyang Technological University (NTU) and Lawrence Berkeley National Laboratory (LBNL) of the United States to develop a new Green Mark category called the “BCA-IDA Green Mark for Data Centres”, to benchmark and rate the environmental performance of data centres. While SS564 addresses the issue of “how to go green”, the BCA-IDA Green Mark for Data Centres complements it by answering “how green the data centre is”. The new Green Mark scheme for data centres is slated to be launched in the second half of 2012.

World-renowned data centre energy efficiency experts from LBNL also shared their research at the event. Mr Ray Pfeifer, Co-chair of Silicon Valley Leadership Group’s Data Centre Efficiency Initiative spoke on the proposed energy efficiency methodology that will be used in the Schemes. Mr Steve Greenberg, a Senior Energy Management Engineer at LBNL, also presented a paper that outlined steps for self-benchmarking, setting the stage for action-oriented benchmarking and the process of using energy benchmarks to identify energy efficiency opportunities. In addition, he discussed a possible roadmap for research and development that would help improve energy efficiency in the data centre industry. **P**



Top | Panel of speakers from BCA, IDA, NTU and LBNL.

Bottom | Mr Ray Pfeifer of LBNL spoke on the energy efficiency methodology used in BCA-IDA Green Mark for Data Centres.

For more information on BCA-IDA Green Mark for Data Centres, please contact:

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# CONGRATULATIONS TO BCA AWARD WINNERS!



## MND NATIONAL DAY AWARD RECIPIENTS FROM BCA ARE:

### THE COMMENDATION MEDAL

- Mr Lim Lek Lin, Head of Academic Programmes
- Mr Anson Seah, Associate Engineer

### THE EFFICIENCY MEDAL

- Ms Goh Guat Khim, Associate Engineer
- Ms Siti Aloyah Binte Ishak, Project Officer

### THE LONG SERVICE MEDAL

- Mr Hussin Bin Osman, Senior Technician
- Mdm N Tamilselvi, Executive Assistant

Six BCA officers were recognised for their outstanding performance and contributions at the Ministry of National Development (MND) National Day Awards Investiture 2011 held on 25 November at the MND Auditorium. Minister for National Development, Mr Khaw Boon Wan presented various National Day Awards to recipients from across the MND family of agencies at the ceremony, which included the Commendation, Efficiency and Long Service Medals.

Furthermore, three other BCA officers were awarded the Public Administration Medal. They include Mr Chew Keat Chuan, Director of the Building Engineering Division, who was honoured with the Public Administration Medal (Silver). Mr Ang Lian Aik, Deputy Director of the Construction Productivity Centre and Mr Jeffery Neng Kwei Sung, Deputy Director of the Technology Development Division, also received the Public Administration Medal (Bronze). **P**



Separately, Dr John Keung, CEO of BCA, received his Public Administration Medal (Gold) from President Tony Tan at the National Day Investiture on 20 November 2011. Dr Keung was commended for playing a key role in charting BCA's strategic directions and promoting a green and efficient building and construction industry.



# MEETING MANPOWER NEEDS THROUGH SKILLS CERTIFICATION

BCA has been assisting the industry since 1995 in meeting their needs for skilled manpower by conducting skills certification at BCA-approved Overseas Testing Centres (OTCs). Currently, there are 26 OTCs in five source countries which include China, India, Bangladesh, Thailand and Myanmar.

As of 2005, all new foreign construction workers are required to obtain the Skills Evaluation Certificate (Knowledge) – SEC (K), to ensure that they possess basic construction skills before they are eligible to apply for construction work permits.

Over the years, BCA has worked with the OTCs to expand the range of SEC (K) trade tests available in various source countries from nine in 2007 to 27 currently. Construction companies can now train and test their new workers in the relevant trades according to their project requirements and manpower needs. This will enable workers to start work almost immediately when they arrive in Singapore. **P**

“We can now request our employment agents to get skilled workers certified in the relevant trades to meet our actual manpower needs. This will improve site productivity and quality of work.”

MR KENNETH LOO, EXECUTIVE DIRECTOR & GENERAL MANAGER OF STRAITS CONSTRUCTION SINGAPORE PTE LTD.

Companies who wish to register workers for SEC (K) trade tests can contact the local offices of the OTCs. For more information, please visit

[https://www.bca.gov.sg/academy/cop\\_Testcenters.aspx](https://www.bca.gov.sg/academy/cop_Testcenters.aspx)

You can also email your enquiries to [BCA\\_Skills\\_Assessment@bca.gov.sg](mailto:BCA_Skills_Assessment@bca.gov.sg) or call our hotline at **6248 9845**



SEC (K) Trade Tests Available at BCA-approved Overseas Testing Centres	PRC	BANGLADESH	INDIA	MYANMAR	THAILAND
<b>Structural</b>					
Metal Formwork	●	●	●		●
Steel Reinforcement Work	●	●	●	●	●
Timber Formwork	●	●		●	●
Precast Kerb And Drain Laying			●		
<b>Civil Engineering</b>					
Structural Steel Fitting	●	●	●	●	
Pipe Fitting	●	●	●	●	
Welding	●	●		●	
<b>Mechanical &amp; Electrical</b>					
Electrical Wiring Installation	●	●	●	●	
Plumbing & Pipefitting	●	●	●	●	
Ducting Installation For Aircon & Ventilation	●		●		
Thermal Insulation (Pipework)		●	●		
Lift Installation	●				
Fire Sprinkler Installation	●				
<b>Architectural</b>					
Bricklaying		●	●	●	●
Plastering	●	●	●	●	●
Tiling	●	●	●	●	●
Suspended Ceiling Installation (Acoustical)	●	●	●		
Interior Drywall Installation	●	●			
Glazing	●				
Doors & Windows Installation (Timber)	●	●	●	●	
Suspended Ceiling Installation (Fibrous Plaster)		●			
Joinery	●	●			
Doors & Windows Installation (Aluminium)	●				
Waterproofing		●			
<b>Construction Plant Operation</b>					
Bored Piling Operation			*		
Driven Piling Operation					*
TCO (Saddle Jib)	*				

\* Available upon request

# GEAR UP FOR SINGAPORE CONSTRUCTION PRODUCTIVITY WEEK 2012!



SINGAPORE CONSTRUCTION PRODUCTIVITY WEEK			
<b>BuildTechAsia2012 Exhibition</b>  <b>BuildTechAsia2012</b> International Building Technology Expo	<b>Skilled Builders and BIM Competition</b> BIM   Drywall installation   Height access equipment   System formwork installation	<b>Build Smart Conference</b> International Construction & Site Management   Innovative Construction materials and technology   Construction IT	<b>IPE</b> International Panel of Experts on Construction Productivity and Prefabrication technology
<b>Marina Bay Sands® - Sands Expo and Convention Center</b>			

The annual **Singapore Construction Productivity Week 2012** is a hallmark event to celebrate the construction industry's productivity journey. From 14 to 18 May 2012, Marina Bay Sands will be abuzz with numerous activities, including the Skilled Builders and BIM Competition, BuildTech Asia Exhibition, Build Smart Conference and the International Panel of Experts (IPE) on Construction Productivity and Prefabrication Technology. The event presents a great platform for suppliers, developers, architects, consultants and contractors to come together and be involved in transforming the construction industry. **P**

BCA has been steering the construction industry to achieve higher productivity through the buildable design legislation. This gained greater momentum with the introduction of the \$250 million Construction Productivity and Capability Fund (CPCF) in June 2010 and the constructability requirement in July 2011. At the end of December 2011, over \$35 million from the CPCF had been committed to more than 1,000 firms seeking to improve productivity through technology adoption, process re-engineering as well as workers' training and upgrading programmes. More builders are adopting productive technologies like mechanised access equipment, system formwork, drywall, self-compacting concrete and Building Information Modelling (BIM).

To participate in the Singapore Construction Productivity Week, please contact

**Ms Phang Li Bin**

Tel: **6325 5071**

Email: **PHANG\_Li\_Bin@bca.gov.sg**

**Mr Havesh Nagarajan**

Tel: **6325 5099**

Email: **Havesh\_NAGARAJAN@bca.gov.sg**



## EVENT LINE UP

2-day Course on Design of Steel Buildings using Eurocode 3 (NEW)  
14-15 FEB

Certificate in Construction Productivity Management  
16 FEB-29 MAR

Certification Course in BIM Management  
20-23 FEB

Certification Course for Site Investigation Supervisors  
20-21, 27-28 FEB

3-day Course on Project Management (NEW)  
23-24, 28 FEB

Certification Course in Measurement & Verification of Central Chilled-Water Plant Efficiency  
28-29 FEB  
01 & 05 MAR

Good Industry Practices (Waterproofing for External Wall)  
06 MAR

Site Investigation for Engineers  
06, 08, 13 & 15 MAR

Workshop on Preparing and Defending Loss and Expense Claims  
08 MAR

Good Industry Practices (Marble/Granite/Ceramic Tiling)  
13 MAR

Certificate in Concrete Technology  
13, 15, 20, 22 & 29 MAR

Workshop on Indoor & Outdoor lighting with Light Emitting Diode  
14-15 MAR



GMP-CORE – Energy Management & Audit  
15-16, 19-20 MAR

Half-Day BCA-REDAS-SGBC Green Building Seminar 2012: Unveil The Secrets Behind Green Successes (NEW)  
19 MAR

2-day Course on Design of Steel-Concrete Composite Buildings using Eurocode 4 (NEW)  
19-20 MAR

Workplace Safety and Health Management System (BizSAFE Level 4)  
19, 21, 26 & 27 MAR

Good Industry Practices (Timber Flooring)  
20 MAR

Certification Course in Design of Precast Concrete Structures for Engineers  
20 MAR-8 MAY

SMU-BCA-WDA Productivity & Leadership Development Programme  
23 MAR-26 MAY

Essential Knowledge in Local Regulations and Construction Practices  
26-28 MAR

Certification Course in BIM Management  
26-29 MAR

Retrofitting & Strengthening of Building Structures  
26 MAR

Understanding the Green Mark Criteria for Existing Building and Office Interior  
28 MAR

BCA Universal Design Seminar 2012 (NEW)  
30 MAR

Graduate Certificate in Workplace Safety and Health  
02 APR (REGISTRATION CLOSES ON 29 FEB 2012)

Master of Science in Sustainable Building Design  
SEP 2012 (REGISTRATION CLOSES ON 18 MAR 2012)

Master of Science in Facility & Environment Management  
SEP 2012 (REGISTRATION CLOSES ON 25 MAY 2012)

CONTACT:  
BCA ACADEMY – BUSINESS DEVELOPMENT UNIT  
DID: 6248 9843/824  
EMAIL: bca\_academy@bca.gov.sg



## Master of Science in **FACILITY & ENVIRONMENT MANAGEMENT**

ADVANCE WITH WORLD CLASS EDUCATION



2012 INTAKE

Partnering with the University College London (UCL) to deliver the first global postgraduate Master of Science degree in Facility and Environment Management, UCL at the BCA Academy provides an outstanding and distinctive environment for graduate study. Guided by principles of excellence and innovation, this programme offers a unique opportunity enabling you to achieve your personal goals.

For more details, please call **6248 9824** or visit [www.bcaa.edu.sg/MScFEM.aspx](http://www.bcaa.edu.sg/MScFEM.aspx).

**SUBSIDY IS AVAILABLE!**



## Master of Science in **SUSTAINABLE BUILDING DESIGN**

A POSTGRADUATE PROGRAMME FOR GREEN PROFESSIONALS IN SINGAPORE



2012 INTAKE

The Master of Science in Sustainable Building Design is a 2-year part-time programme jointly organised by the University of Nottingham, UK, one of the top universities in the world, and the BCA Academy. This programme aims to build up a talent pool of green building professionals with expertise and capabilities in the area of green building design.

For more details, please call **6248 9824** or visit [www.bcaa.edu.sg/MScSBD.aspx](http://www.bcaa.edu.sg/MScSBD.aspx).

**SUBSIDY IS AVAILABLE!**

**REGISTRATION STARTS NOW!**