Green Pulse

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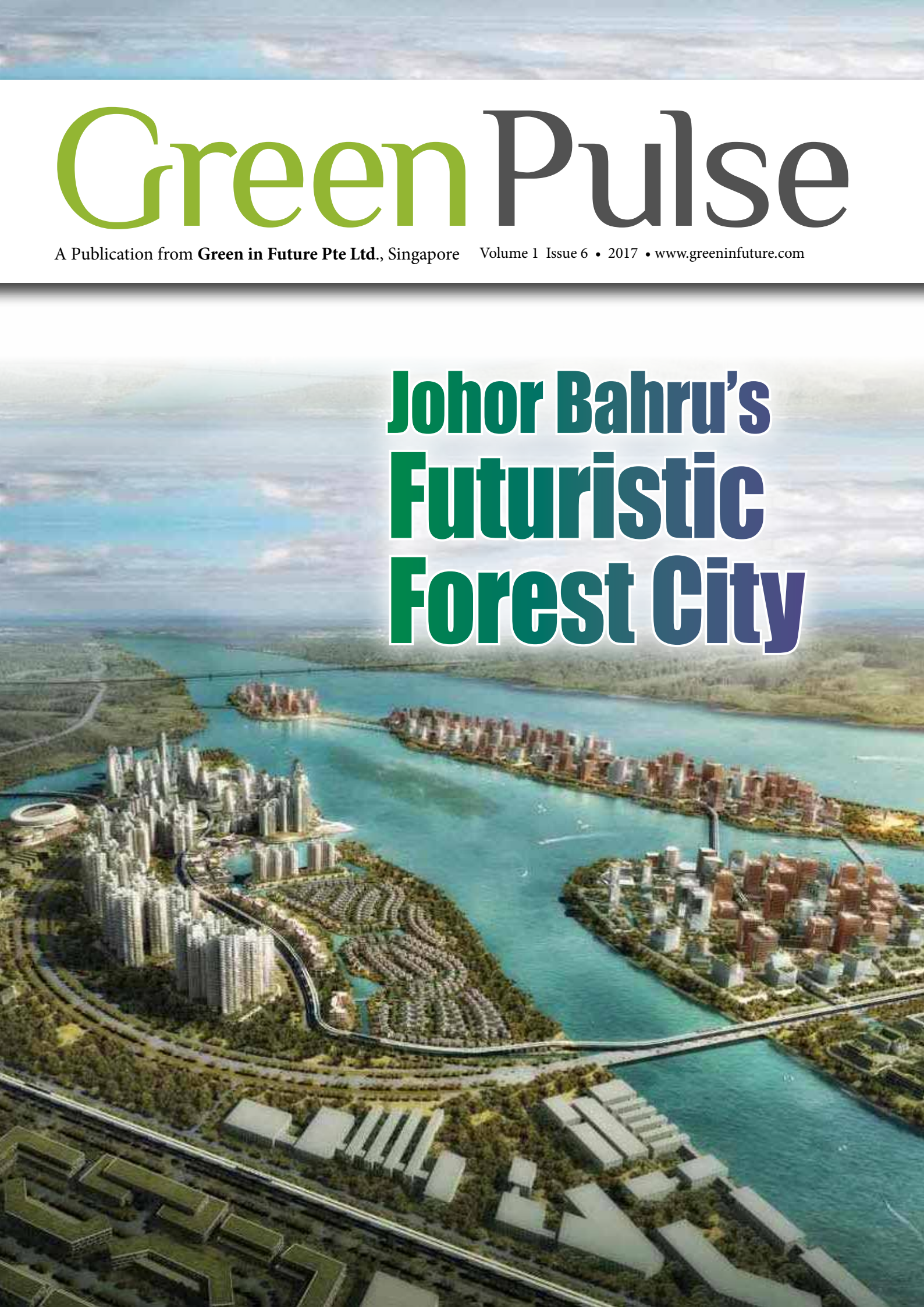

Johor Bahru's Futuristic Forest City

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Johor Bahru's Futuristic Forest City

Forest City is Southeast Asia's largest sustainable mixed-use development with 1,370 hectares of building area. Materialized by renown Chinese developer, Country Garden Holdings, Forest City is marries the concept of smart city and sustainability through multi-layered three dimensional city planning. Every development in this city will be covered with lush vertical greenery and dense foliage. Forest City is set to be a role model with its futuristic green design and smart technologies; offering a perfect mix of luxury tranquility, urban vitality and sustainability.

Forest City is to be built on 4 artificial islands and is expected to house about 700,000 residents. As its name suggests, the project is set to create a city in the forest with residential towers, office buildings, shopping malls, hotels, an international school and even an industrial zone.

Each island has a specified purpose. Island 1 is designated as a high tech industrial zone and will also have residential and commercial facilities. Island 2 is the largest of the 4 and is about 1,900 acres. It is the Central Business District (CBD) and a dedicated tourism zone. It also includes parks, schools and medical facilities. Island 3 (about 400 acres) and 4 (about 160 acres) will house duty-free shopping areas, convention centres, luxury hotels and secondary financial and economic districts.

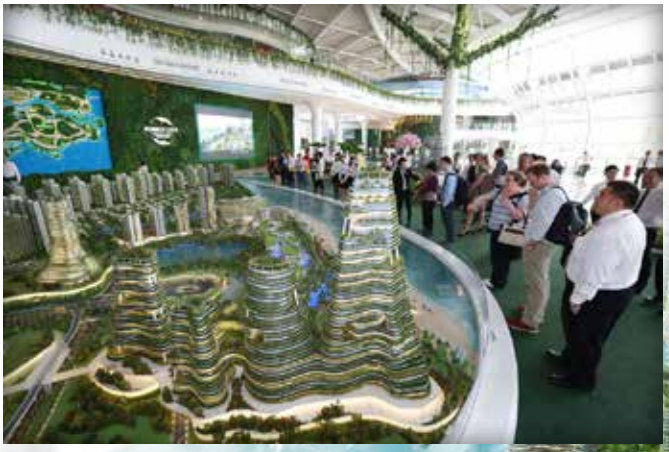
A unique feature of Forest City is its car-free surface. Vehicular movement is restricted to the subterranean levels of the development. This is a relatively unique concept that is meant to keep the development on track with the 'forest' concept. Public transportation optionslike the monorail are to connect the four islands to mainland Malaysia alongside vast road network.

CelcomAxiata, Country Garden Pacificview and Huawei Technologies are venturing together to develop state-of-the-art telecommunication networks and security systems for the project.

Some of the features explored include automatic irrigation systems and integrated smart building systems.

If successful, Forest City can become an example for future developers and city planners to follow. The number of environmentally sustainable ideas embedded in this project is vast, however the lifestyle of the residents will determine the long-term realization of these concepts.

Master planning was done by Sasaki Associates. Deloitte Malaysia and McKinsey provided financial and strategic positioning advice. Huawei provided sustainable smart technology recommendations.



Ms. Esther An,

Chief Sustainability Officer, City Developments Limited (CDL).

CDL's adoption of concrete Prefabricated Prefinished Volumetric Construction for The Brownstone Executive Condominium remains as one of the most extensive applications of this advanced technology for a private residential development to date.

Tell us about your role as Chief Sustainability Officer at CDL.

As CDL's Chief Sustainability Officer (CSO), I report directly to our Chief Executive Officer (CEO) and Board Sustainability Committee (BSC). Strategic thinking, anticipating trends and planning as well as effective implementation of ideas are key to my role. With the fast-changing business and sustainability landscape globally and locally, the biggest challenge is to uphold CDL's sustainability leadership in Singapore and the region as well as maintain CDL's high profile in global sustainability rankings. Referenced by many global institutional investors, these rankings reinforce our brand reputation and trusted track record.

To complement my role as CSO, I lead the company-wide Sustainability Committee, which drives sustainability across all corporate and operational units of CDL. Set up in 2008, the committee supports the Sustainability department in implementing initiatives, drives and monitors various aspects of CDL's sustainability practices, and ensures effective integration of Environmental, Social and Governance (ESG) initiatives into our business operations and corporate objectives.

Today, practicing sustainability alone is not sufficient, and communication is another key role that I play. At CDL, we have been advancing our sustainability reporting in line with global reporting frameworks over the last decade. In 2008, CDL was the first Singapore company to publish a Global Reporting Initiative (GRI) Application Level checked sustainability report. In 2012, we became the first developer in Singapore to receive GRI Level A+ for our report. In 2015, CDL became the first property developer in Singapore to adopt the International Integrated Reporting Council's Integrated Reporting <IR> framework and published our inaugural Integrated Sustainability Report (ISR). This has helped us make stronger business and financial sense of ESG integration. Most importantly, it has enabled us to articulate our ESG strategies and key performances with investors effectively. The dedicated report provides details on CDL's ESG activities and performance,

addresses the social and environmental impacts that are pertinent to the company's business, and shares the company's engagement with stakeholders. Many global investors, in particular Socially Responsible Investment (SRI) funds, have been referring to our sustainability report as a key source of information on our performance for their investment evaluation.

Beyond our annual Integrated Sustainability Report, CDL has also taken the initiative to create a dedicated sustainability microsite and provide quarterly updates on our sustainability-related initiatives and key ESG performance in a timelier manner.

Being in the sustainability scene for over 20 years, you have seen the evolution of the industry. What do you think caused the paradigm shift from economic development to sustainable development?

In the mid-1990s, sustainability and climate change were not familiar concepts to many in this part of the world. However, greater global awareness of the impact of climate change and increasing recognition of the strategic connection between sustainability and business performance has been the driving force for companies to be proactive rather than reactive in sustainable development.

For instance, businesses can no longer ignore the impact of climate change risks on their bottom line. In Singapore, businesses that do not adopt sustainable practices may face reputational or operational risks that will impact their license to operate, and be exposed to higher operating costs, with the water price increase and impending carbon tax.

Furthermore, with green consumerism on the rise globally and greater investor demand for ESG data which influence investment decisions, adopting sustainable practices also presents tremendous opportunities for companies to grow their business. Indeed, the paradigm shift to sustainable development was accelerated with the landmark Paris Agreement and the United Nations (UN) Sustainable Development Goals (SDGs). As governments align their policies with the Agreement and UN SDGs, businesses must act fast to integrate sustainability into their operations. Besides potentially enhancing their license to operate, this will enable them to create sustained value for their business, investors, stakeholders and the community.

Do you think sustainability has been well adopted by the built industry in Singapore?

In the 1990s, the building industry was considered to have caused a negative impact on the environment and perceived as destroying before constructing. However, CDL believed that we could build and manage with sustainability in mind. We established our ethos of 'Conserving as we Construct' and have been committed to future-proofing our business through a three-pronged strategy as a developer, an asset owner and a corporate citizen. We develop green buildings, manage them in an energy- and resource-efficient way, and engage stakeholders on sustainable development.

Being a pioneer in green building and sustainability has its opportunities and challenges. While there was much room for us to innovate and achieve many 'firsts' since 1995, there were also challenges. Along the value chain, in particular, there was a lack of awareness and knowledge about the benefits of green products and practices in the early days.

To help stakeholders understand and support our sustainability vision and mission, we devoted much time and effort to communicate our goals and plans. We introduced several key platforms to engage with and get the message across to our contractors and suppliers. These included the CDL Environmental, Health and Safety (EHS) policy, CDL 5-Star EHS Assessment System and Green Procurement Guidelines.

As one of Singapore's largest landlords, we also launched several eco-outreach initiatives to influence tenants to adopt the good habits of reduce, reuse and recycle. Key programmes include

Project: Eco-Office, a first-of-its-kind green office campaign with Singapore Environment Council since 2002, "1°C Up" Programme since 2007, and the CDL Green Lease Partnership Programme in 2014.

With consistency and tireless efforts to engage, educate and empower our stakeholders, they have recognised the benefits of sustainable practices. Today, contractors support our approach and extend the same good EHS practices to other developers, which has helped drive change in the entire built industry. Besides reducing their carbon footprint, our tenants also saw the benefits of sustainable practices as they achieved savings in their utility bill.

Looking ahead, the Singapore Government targets to green at least 80% of the country's building stock by 2030, which could potentially be the lynchpin of Singapore's climate pledge to reduce its Greenhouse Gas (GHG) emissions. There is thus room for greater adoption of sustainability by the built sector to collectively mitigate climate change and contribute towards Singapore's greening and GHG emissions reduction goals.

What are the types of events that Women4Green organise?

To further support the international and national climate actions, we initiated the development of the zero-energy Singapore Sustainability Academy (SSA) with a vision to contribute to a green and sustainable future. It sets out to be a hub for capacity building, knowledge sharing, collaborations and networking. Women4Green was established at the same time to support CDL and the Academy's vision.

Having worked in the building and sustainability arenas for over two decades, I would safely say that industries related to green building, technology, engineering and energy are in general male dominant. Being the first network in Singapore for women in sustainability, Women4Green aims to bring together women executives in the various green industries to contribute towards climate action, sustainable business and social change. It hopes to harness the collective knowledge and expertise of successful female leaders to empower other women to incite meaningful change in their respective industries.

Women4Green initiatives and activities will be designed to support the UN SDGs particularly Goal 5 — achieve gender equality and empowerment of women. We strongly believe that creating and expanding opportunities for women are fundamental to sustainable growth and will further advance our stakeholder engagement to build a sustainable future, at home or at work.

It is our privilege to have successful female leaders from various industries to voice their support of Women4Green's mission. It is not a rigid society but a platform to enable knowledge sharing about sustainability through online sharing and regular events.

By attending Women4Green events on topics related to sustainable lifestyle and business practices, participants will benefit from the collective knowledge and expertise of selected subjects and female leaders. The learning and exchange of knowledge and expertise will inspire participants to drive change through adopting and promoting best practices, innovations and engagement in support of the UN SDGs.

Through your role in CDL, you spearheaded various community engagement initiatives like E-Generation Challenge and EcoBank. Which is your favourite and why?

I am glad to have the privilege to create exciting community outreach initiatives. My favourite initiatives are My Tree House, world's first green library for kids and the zero-energy CDL Green Gallery@Singapore Botanic Gardens Heritage Museum. Both were set up as our gifts to the nation when CDL celebrated our 50th anniversary in 2013.

Singapore Sustainability Academy, located at the Skypark of CDL's City Square Mall, is the first major People, Public and Private (3P) ground-up initiative. (Photo credit: CDL and VMW Group – Visualmediaworks)

The two projects demonstrate a high standard of green building commitment and innovations. Most importantly, the two platforms reach out to millions of visitors, local and overseas, to learn more about the appreciation of the environment and the beauty of nature. No single entity can tackle climate change or save the planet alone, these platforms have effectively reached out to and educated the public and young children to do their part for our planet.

Where do you think Singapore stands in the international arena in terms of sustainability?

Despite being an island-state with limited land and resources, Singapore is ranked the most sustainable city in Asia and second in the world after Zurich according to the Sustainable Cities Index 2016 from global design and consulting firm Arcadis.

A white paper by Solidiance in 2016 ranked Singapore amongst the top 10 global cities in green buildings and the country has been highly regarded as a garden city with high green coverage of almost 50%.

Strong government commitment has played an instrumental role in setting the sustainable development agenda and direction through the introduction of the Sustainable Singapore Blueprint, Climate Action Plan and Public Sector Sustainability Plan. These entail policies to steer the people, public and private (3P) sectors towards a concerted effort and greater impact to achieve our national goals on tackling climate change.

For instance, SSA, a joint collaboration between CDL and the Sustainable Energy Association of Singapore, is the nation's first major 3P initiative in support of global and national sustainability goals. The SSA is supported by six government agencies – Building and Construction Authority, Ministry of the Environment and Water Resources, National Climate Change Secretariat, National Environment Agency, National Parks Board, and Urban Redevelopment Authority.

This is also the first time a local private-sector property developer and non-profit organisation teamed up to create a major training and networking facility on sustainability. The SSA aims to promote a low-carbon economy, resource efficiency, and sustainable practices among businesses and the community, in particular, youths. It will focus on thought leadership and advocacy; capacity building through education, training and mentorship; networking and collaborations; information, resource and solutions sharing; as well as stakeholder and community engagements.

At the same time, Singapore has continued to learn from other countries in the adoption of best international practices and game-changing technology for sustainable development. In the context of the building and construction industry, this is crucial as we need to continuously push boundaries for a better, cleaner and greener way to build.

In 2014, CDL became the first property developer in Asia to adopt the advanced Prefabricated Prefinished Volumetric Construction (PPVC) method for The Brownstone, a 638-unit Executive Condominium located next to the upcoming Canberra MRT station in Singapore. In 2016, CDL also became an early adopter of Cross Laminated Timber (CLT) and Glued Laminated Timber (Glulam) in Singapore. The SSA was built using CLT and Glulam which have been used in Europe. PPVC, CLT and Glulam support the concept of Design for Manufacturing and Assembly that significantly boosts construction productivity, ensures quality and enhances worksite cleanliness and safety.

Upcoming GREEN Events:

2017 Taiwan International Air Purification and Sanitation Show
18-20 October 2017
Taipei Nangang Exhibition Center,
Hall 1, Taipei, Taiwan
- www.tiap.com.tw/en_US/index.html

IGEM 2017
International GreenTech & Eco Products Exhibition & Conference Malaysia
11-13 October 2017
KLCC, Malaysia
- www.igem.my/home

IFLA World Congress 2017
15-16 October 2017
Montreal, Canada
- http://iflaonline.org

21st National Conference
22-25 October 2017
RACV Royal Pines Resort,
Queensland, Australia
- www.eiseverywhere.com/ehome/234026

Singapore International Energy Week (SIEW) 2017
23-27 October 2017
Marina Bay Sands, Singapore
- www.siew.sg/

ISOCARP-OAPA/53rd ISOCARP Congress
24-27 October 2017
Portland, Oregon, USA
- http://iflaonline.org/events

IFLA Asia Pacific Regional Congress
2-5 November 2017
Bangkok, Thailand
- www.2017iflaapr.com

Transport Infrastructure and Integration
8-10 November 2017
Grand Copthorne Waterfront Hotel,
Singapore

Urban Scape Asia 2017
9 -11 November 2017
Singapore EXPO Convention and Exhibition Centre
- www.greenurbanscapeasia.com

Renewable Energy & GreenTech Sabah 2017 (REGTech2017)
13 -14 November 2017
Kota Kinabalu Malaysia
- http://regtechsabah.com

Power week 2017
13 -17 November 2017
Singapore
- www.power-week.com/index.html

National Energy Efficiency Conference 2017
20-21 November 2017
Pullman & Mercure Melbourne Albert Park
- www.eec.org.au/events/events

Sustainable Foods Summit 2017
28 - 30 November 2017
Singapore
- www.sustainablefoodssummit.com

Sustainable Brands'17 Bangkok
29 - 30 November 2017
Bangkok Thailand

Intersolar India 2017
5–7 December 2017
Mumbai, India
- www.intersolar.in

Converting Road Lane to Public Space:

Southbank, Melbourne

The City of Melbourne has unveiled artist's impressions and a video of its $35 million plan to create new public open space in Melbourne's most densely populated suburb.

Lord Mayor Robert Doyle AC unveiled the plans to create 2.5 hectares of new public open space on Southbank Boulevard and Dodds Street as part of the Eco City World Summit 2017.

'In Melbourne and in other cities around the world, governments are looking to turn underutilised roads and car parks into important green space,' the Lord Mayor said.

'The new public open spaces and neighbourhood parks we're creating in Southbank will improve public amenity for the 20,000 residents and 50,000 office workers in the city's most densely populated suburb.

'The new public space planned for the front of the ABC alone would be roughly the same size as the City Square. Dodds Street will be remade into a public space that can cater for everything from street performances to farmers markets and medium scale music festivals at the doorstep of the Victorian College of the Arts.'

The Future Melbourne Committee will consider the Draft Concept Plan, which has been shaped and informed by extensive community and stakeholder engagement, on Tuesday 18 July 2017.

The Draft Concept Plan includes 10 key actions with a three stage construction plan that will see the project completed in 2020. Key aspects include:

- 1.05 km of dedicated, separated bicycle lanes
- water sensitive urban design and flood mitigation

- upgraded tram and bus stops, including the potential for 'green' tram tracks
- improved biodiversity through extensive planting and a new generation of diverse trees with seasonal variation and year-round interest
- a critical neighbourhood space for Southbank

Chair of the City of Melbourne's Environment Portfolio Cr Cathy Oke said the project is part of an on-going urban design program that has seen more than 80 hectares of underutilised asphalt and other infrastructure transformed into public open space over the last 30 years.

'Converting grey to green supports the City of Melbourne's strategies for managing the urban forest, climate change, water, biodiversity and wellbeing,' Cr Oke said.

'Green spaces reduce stormwater volumes, reduce the impact of development on ecosystems, increase biodiversity, provide habitats for wildlife, keep our soil moist and reduce the urban heat island effect.'

The reconfigured Southbank Boulevard will continue to accommodate current traffic volumes. In 1988, Southbank Boulevard carried 40,000 to 50,000 vehicles a day. The boulevard now carries 13,000 vehicles a day after direct access to the central city was closed following the construction of Queensbridge Square in 2001.

The new open space will support the increased residential population in Southbank, which is forecast to rise by 175 per cent over the next 15 years.

BEX & MCE Asia 2017 - Global Showcase of Green Building and Construction Innovations

Build Eco Xpo (BEX) Asia, Southeast Asia's leading trade exhibition for the green building market, kicked off with a bang at the Marina Bay Sands Expo and Convention Centre. Visitors from more than 50 countries attended the event to get a first-hand look into some of the latest innovations and insights in the Asian green building, HVAC-R, water, energy and heating industries.BEX Asia is co-located with Mostra Convegno Expocomfort (MCE) Asia, the region's leading trade exhibition for energy-efficient solutions that power industrial, commercial and residential buildings.

BEX and MCE Asia 2017, the key anchor trade exhibitions of Singapore Green Building Week (SGBW), are proud to be part of a larger movement contributing to the future well-being of our planet. The SGBW hosts a wide variety of events to galvanise the community to act on sustainability, reaching out to international green building experts, policymakers, academics, built environment practitioners, end-users, as well as members of the public and students.

Platform for the latest innovations in Asia

The BEX and MCE Asia exhibition floors brimmed with the latest green building and energy-efficient technologies, providing visitors with a broad view of the vast array of solutions driving meaningful change in Asia.

A key theme throughout the exhibition were smart devices that promise to power next-generation homes, offices and buildings. From smart lighting to data-driven energy management solutions, visitors were spoilt for choice by the latest innovations on display.

"We are glad to be able to participate in this year's edition of MCE Asia 2017," said Mr David Yim, Marketing Manager at AGC Asia Pacific Pte Ltd. "It is a great opportunity for us to share HalioTM, our smart-tinting glass that brings active glass technology into the market to deliver powerful and responsive natural light management. Through the event, we are not only able to reach out to new and potential clients, but are able to network with some of the brightest minds in the industry."

Othercompanies debuting their latest solutions,ranging fromplug-and-play escalator-technology to smart HVAC control valves, include:

- AL-SUS Technologies' Step Lift, an evolutionary lift that can be quickly installed to fit existing staircases, without having to build expensive escalator or lift shafts. Meant to complement the use of staircases, the step lift is a platform that automatically moves up a single flight of stairs. Space saving and energy efficient, Step Lift also boasts safety features for hassle-free usage.
- Ariston'sAndris Slim 20 (SL20) Storage Water Heater is designed for modern living, with an

energy efficient water inlet flow control system. Its slim and aesthetic design allows it to fit into tight spaces, perfect for modern apartments in urban jungles like Singapore.

- Belimo'sEnergy ValveTM is a smart HVAC control valve for air conditioning. With integrated smart sensors, the Energy Valve automatically calibrates the chilled water needed to maintain optimal temperatures in buildings, thereby lowering costs and reducing energy wastage.
- KANSAI Paint Singapore will be showcasing its air-purifying paint that detoxifies indoor air pollution to deactivate bacteria and viruses for better health and wellbeing.
- Lumani aims to reduce the global carbon footprint from buildings and reduce energy costs through its innovative autonomous lighting control solutions that automatically adjust according to occupants' needs.

Another unique feature is the Future Home, curated by Surbana Jurong Consultants Pte Ltd, which showcases the integration of building and sustainable innovation in the form of the most basic structure of living: a house. This feature aims to highlight that sustainable living starts from home, and with the right mix of solutions installed in a home environment, it provides a platform where one can easily work towards sustainable living.In these spaces, the visitor is educated on products that can specifically help them achieve cost savings on energy and water, thermal comfort, digital connectivity and environment wellbeing. Companies featured include AGC Asia Pacific, Cityneon, Ecosoftt, Greenology, Hubble, Hydrabath, Mobike, SoundEye, Waldmann Lighting and Whiteblack – Greenblue.

Some companies also launched products and solutions new to the Asian market, bringing global insights from countries like the Netherlands and Slovakia, to drive the development and adoption of smart, green technologies in Asia. Highlights include:

- AET Flexible Space (the United Kingdom), innovative underfloor air-conditioning systems that optimisesenergy performance, leading to cost savings of up to 48%. The solution is highly compatible with green building certifications such as LEED.
- G3 Industry (Netherlands) Finch Buildings, aportable and stackable building system that utilises sustainably harvested timber. Finch modules are highly sustainable due to their long lifespan, energy efficiency production and closed-loop system.
- TapHome's (Slovakia)smart home energy management system can control many modules, including thermostats, lighting, and even doors and gates. Its sophisticated heating algorithms can even learn the energy requirements of each room, to reach desired temperatures quickly, efficiently and precisely – all controllable through a mobile app.

Best and brightest industry minds come together

BEX Asia and MCE Asia's seminar tracks, titled Green View and Mostra Xchange,featuringa stellar line-up of industry experts, the seminars kicked off with the Interior Design Confederation of Singapore (IDCS) Forum, which featured experts discussing strategies for creating living spaces that are not only functional and aesthetic, but sustainable too.

Attendees of theGreen Viewseminars heardfrom expertssuch as Mr Vincent Chow, CEO, En-trak Hong Kong Limited, on "How to Reduce Lighting Energy Wastage Using One Simple App", as well as Mr Alex Lau, CEO, Anacle System Limited, on "A Bold Vision for Energy Management in the Age of IOT". At MCE Asia's Mostra Xchange, insights wereshared by industry leaders such as Mr Jayant Kaushal, Director – Product & Project Management Office, Camfil Singapore, on the topic "Air Filtration Types and its Correct Applications", and Mr Stewart Tai, Manager (Sustainability & Innovation), Khoo Teck Puat Hospital, Singapore, on "Air Quality & Water Sustainability in Healthcare".

Other highlights include the ASHRAE Seminar on "Designing & Managing Energy Efficient Buildings",

conducted by Dr Yang Junjing, a Research Fellow at the Centre for Integrated Building Energy and Sustainability in Tropics, National University of Singapore, as well as Chair of Research Promotion Committee of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Singapore Chapter. Dr Benny Chow, Director of Sustainability at Aedas,alsosharedthe latest research on leveraging computational tools to design people-centric, sustainable urban neighbourhoods. Dr Chow, an award-winning sustainable design expert, is also Chairman of the Industry Standards Committee of the Hong Kong Green Building Council, as well as a Committee Member and Expert Panel Member of the China Green Building Council.

About Build Eco Xpo

Build Eco Xpo (BEX) Asia is Southeast Asia's leading trade exhibition for the green building and construction industry. It is a one-stop destination to source from international suppliers, network with regional buyers and specifiers, and learn new knowledge at curated seminars. It's where inspiration and transformation takes place.For more information, visit www.bex-asia.com.

About Mostra Convegno Expocomfort

Mostra Convegno Expocomfort (MCE) Asia is a trade exhibition for energy efficient solutions dedicated to HVAC-R, plumbing technology, sanitary accessories, and solar energy for the built

environment and industrial facilities. It is where international manufacturers, innovative startups and Southeast Asian buyers and influencers converge to source, network, learn and transform their business. For more information, visit www.mcexpocomfort-asia.com.

About Reed Exhibitions

Reed Exhibitions is the world's leading events organiser, with over 500 events in 43 countries. In 2015, Reed brought together over seven million event participants from around the world generating billions of dollars in business. Today, Reed's events are held throughout the Americas, Europe, the Middle East, Asia Pacific and Africa and organised by 41 fully staffed offices. Reed Exhibitions serves 43 industry sectors with trade and consumer events. It is part of the RELX Group plc, a world-leading provider of information solutions for professional customers across industries. www.reedexpo.com.

10th IFLA Asia-Pacific region Landscape Architecture Awards

IFLA Asia-Pacific region Landscape Architecture Awards, also known as IFLA ASIA-PAC LA Awards provide an international platform to showcase and promote the achievements and work of landscape architects in the Asia-Pacific region. The prestigious awards aim to create continuous awareness and recognition of landscape architecture together with like-minded partners and other professions that have played a key role in shaping our cities and environment towards a better future.

The 18-member jury panel comprises of presidents of IFLA national associations and IFLA regional presidents, and two special guest jurors. With the objective of setting distinction for this IFLA Asia-Pac LA awards, it was important that the jury panel is a regional composition of highly acclaimed and respected individuals with years of experience and deep understanding of respective culture and indigenous context.

The awards brief was crafted with the opportunity to embrace local and regional diversity, aimed at collective exchanges of landscape architecture practice across different cities. Through the nine distinct award categories, IFLA Asia-Pacific region is committed to showcase a more vibrant inter-disciplinary landscape, strengthening international recognition and optimising professional design awareness for business opportunities across neighbouring shores and borders.

The awards will be presented at the IFLA Asia-Pacific Regional Congress in Bangkok from 2nd – 5th November 2017.

In addition, IFLA Asia-Pacific region is introducing the IFLA Asia-Pac LA Luminary Award 2017. It is IFLA Asia-Pacific's inaugural and highest honour accorded to its regional luminaries who have inspired and made significant contribution in protecting, championing, advocating, enhancing and/or sustaining the living environment and communities in their profession, region, countries or cities. This award is held in conjunction with the IFLA Asia-Pac LA Awards.

World's Largest Concentrated Solar Power Project

Dubai is going to be home to the world's largest Concentrated Solar Power (CSP) project, costing 14.2 billion Dirhams (USD 3.87 billion). The project comes as part of implementing the fourth stage of the Mohammad Bin Rashid Al Maktoum Solar Park and to support the end goals of Dubai Clean Energy Strategy 2050. To be implemented by Dubai Water and Electricity Authority (Dewa), it is expected to generate 1,000 megawatts (MW) of clean energy when completed.

Using the Independent Power Producer (IPP) model, it will include the world's tallest solar tower, at 260 meters high, and a 100 billion Dirham fund to finance the plan. Furthermore, 500 million Dirhams will be allocated for research and development works in the field of smart networks and improvement of energy efficiency.

Concentrated solar power plants, unlike solar energy drawn from photovoltaic cells, use a large array of mirrors, called heliostats, to concentrate a large area of sunlight onto a small area, typically on top of a tower. Electricity is generated when the concentrated light gets converted to heat, which drives a steam turbine connected to an electrical power generator. An advantage of CSP is that thermal heat can be stored easily, making it possible to produce electricity after sunset.

The Dubai plant will have several thousand heliostats located around a tower. The resulting heat-transfer fluid will power a steam turbine to generate electricity. Incredibly, the new plant will deliver power at less than 8 cents per kilowatt per hour, down from the typical 15 kilowatt per hour rate. Once complete, the solar park is expected to reduce 6.5 million tons of carbon emissions each year. A typical coal plant produces around 3.5 million tons of CO2 per year.

Dubai Clean Energy Strategy 2050 consists of five main pillars: infrastructure, legislation, funding, building capacities and skills, and having an environment-friendly energy mix.

The infrastructure pillar includes initiatives such as Mohammad Bin Rashid Al Maktoum Solar Park, which is the largest generator of solar energy in the world from a single location, with a capacity to produce 5,000MW by 2030, and a total investment of 50 billion Dirhams. The first phase of this project began operations in 2013 and the second will begin this year. Estimated to be in full operation in 2030, the Solar Park will produce 25 percent of the total energy production in Dubai and 75 percent by 2050.

'Growing More With Less' Highlights Transformation of Farming Sector

'Growing More with Less', the latest Urban Lab exhibition presented by the Urban Redevelopment Authority (URA) and launched by Senior Minister of State for National Development and Trade and Industry DrKohPoh Koon, brings visitors through the cutting edge advances taking place in farming. It showcases how innovations in technology, engineering and design are coming together to transform the farming sector and revolutionise food production. The exhibition also sets out the exciting possibilities that can be unlocked, such as a more food resilient future for cities and possible new job types and opportunities for Singapore.

The fifth edition in the Urban Lab exhibition series, 'Growing More with Less' is divided into two main sections: 'cultivating a more food resilient future' and 'farming anywhere and everywhere'. The first section examines how Singapore's food resilience, or capability to produce food for itself, can be significantly strengthened where leafy vegetables and fish are concerned. The second section demonstrates how farming can take place in unusual and creative places, maximising Singapore's scarce land resources. These include underutilised urban spaces, on the water or even in mixed-use developments that have greenhouses side-by-side with office spaces.

"This exhibition serves as a timely opportunity to raise awareness on food security. We want to get the public excited about the possibilities of agritechnology. We also want our farmers to be inspired and explore how the innovative farming methods can be adapted for local use, develop farms of the future and help bolster our food security," said Ms Tan Poh Hong, Chief Executive Officer of the Agri-Food and Veterinary Authority (AVA).

Through local and overseas case studies, visitors are given a behind-the-scenes look at the ideas and technologies powering the transformation of the farming industry. The exhibition explores concepts such as large indoor farm factories, farms with robots as automated labour, and modular and scalable farms that can be located anywhere in the urban environment.

'Growing More with Less' is organised by URA in partnership with AVA. It will be exhibiting at the URA Centre Atrium from 6 September to 31 October 2017. Admission is free. The public can also sign up for a talk by local farmers to learn more about their companies' innovative farming systems and their journeys towards the future of farming. For more information, please visit https://www.ura.gov.sg/uol/urbanlab/visit-exhibition/current/Growing-More-With-Less.