

News Release

5 August 2016

CDL AND SEAS LAUNCH SINGAPORE SUSTAINABILITY ACADEMY supporting the global call for a low carbon economy

- *First major 3P ground-up initiative to promote sustainability among the industry and community*
- *First-of-its-kind facility by a private property developer and a non-profit organisation expected to be completed in March 2017*
- *First in Singapore to have its construction materials, Cross Laminated Timber (CLT) and Glued Laminated Timber (Glulam) verified by the Nature's Barcode™ system as coming from responsible sources*
- *The 4,300 sq ft zero-energy building will feature solar technology with some 3,230 sq ft of photovoltaic panels*

City Developments Limited (CDL) and the Sustainable Energy Association of Singapore (SEAS) announced the launch of the Singapore Sustainability Academy (SSA) (新加坡可持续发展学院) today, the first major People, Public and Private (3P) ground-up initiative in support of the national goals to tackle climate change articulated in the Sustainable Singapore Blueprint and recently-released Climate Action Plan. This is also the first time a local private property developer and a non-profit organisation have 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. Located at the roof terrace of CDL's City Square Mall, Singapore's first eco-mall, the SSA will consolidate all of SEAS' operations for Asia and serve as the platform from which the organisation will implement its plans under its existing mission. The Academy is expected to be completed in March 2017.

Supported by the Ministry of the Environment and Water Resources, the National Environment Agency, the Urban Redevelopment Authority and the Building and Construction Authority, this timely initiative is aligned with Singapore's efforts to address climate change. Ahead of the Paris Agreement adopted in December 2015, Singapore has pledged to reduce its greenhouse gas emissions intensity by 36% compared to 2005 levels by 2030. It is also working towards stabilising its emissions with the aim of peaking around 2030. The Climate Action Plan released on 10 July details actions that the country will take to become more carbon-efficient and climate-resilient.

Dr Amy Khor, Senior Minister of State, Ministry of the Environment and Water Resources, graced the launch event held at Tower Club in Republic Plaza. She said, "There is tremendous potential for the private sector to play a major role in our journey towards mitigating and adapting to the devastating effects of climate change. The Singapore Sustainability Academy by CDL and SEAS is an excellent 3P ground-up initiative in the push forward to become a more sustainable Singapore."

Mr Grant Kelley, CDL Chief Executive Officer said, "CDL has always firmly believed in sustainability which creates value for our business, investors, customers, and the community. Sustainability is strategically integrated into CDL's business and operations – from design, construction, procurement, and maintenance to building user engagement. As part of our commitment to sustainability for over two decades now, CDL has also continued to promote eco-friendly practices and green solutions among stakeholders. The SSA will provide a platform to further engage more stakeholders for greater impact in building a sustainable future. We look forward to sharing CDL's best practices with the industry and community at the SSA."

Mr Edwin Khew, SEAS Chairman said, "Over the last 10 years SEAS has reached out to the sustainable energy industry as well as businesses that adopt our member technologies, solutions and services to meet the goals of the Sustainable Singapore Blueprint. Harnessing the expertise and extensive network of both CDL and SEAS, a collaboration in the form of an academy will serve as an effective platform to expand this outreach via education and an experiential laboratory, to all industrial sectors and the community at large to work towards this common goal. We will also reach out to all our other stakeholders in the area of Corporate Social Responsibility to promote best practices, sustainability and awareness."

Advancing sustainability for a more carbon-efficient and climate-resilient future

The SSA will focus on the key areas of advocacy, building capacity and collaboration, education and training, information and resource as well as user engagement.

SEAS, operating from the new SSA, will continue to work with local industry and business as well as key initiatives with the Asian Development Bank and International Enterprise Singapore, to provide policy makers in the region with insights and share experiences on policy, technology and project financing in the areas of energy efficiency, renewable energy and energy access. It will invite senior policy and decision makers to share on these subjects and explore other crucial sustainability topics pertaining to the banking, power, building and infrastructure sectors.

To build capacity and collaboration among businesses and supply chains, practitioners and youths, academics and the industry, as well as solution providers and adopters, the SSA will harness the collective knowledge and expertise of thought- and industry-leaders through multiple training and engagement initiatives.

The SSA will also look into offering a suite of education and mentorship programmes for students from tertiary educational institutions, focussing on energy efficiency, solar power, climate change, and sustainability. It will further forge partnerships with relevant educational institutions to provide high quality and practical education to build knowledge capacity, foster understanding and promote adoption of sustainability.

SEAS training programmes equip the industry professionals with capabilities in the area of energy efficiency as well as renewable energy technologies, financing and best practices. SEAS has trained over 7,000 participants to date and has been cited by Frost & Sullivan as a case study for successful implementation of training services for sustainability.

First-of-its-kind sustainable building in Singapore

The 4,300 square feet (sq ft) academy comprises classrooms, a veranda, an office, and an exhibition gallery. Jointly designed by CDL and ONG&ONG Pte Limited, and built by Woh Hup (Private) Limited, the SSA will be the first in Singapore to have its construction materials, Cross Laminated Timber (CLT) and Glued Laminated Timber (Glulam) verified by the Nature's Barcode™ system as coming from responsible sources. This entails scientific tests like DNA analysis, to reduce the risk that the wood comes from illegal logging.

CLT is a sustainable material harvested from sustainably managed forests and fabricated by binding layers of timber perpendicular to each other with structural adhesive whereas Glulam's layers of timber are cut in the same grain and then joined together. Both CLT and Glulam are light yet structurally robust making them a lightweight alternative to steel or concrete. They also provide a high level of thermal performance, which will reduce cooling costs. The use of CLT and Glulam encourages advance planning and coordination, as part of the Design for Manufacturing and Assembly process. Pre-fabricating the timber components off-site improves efficacy in assembly, and keeps on-site pollution to a minimum. This also results in a cleaner and safer worksite. For the SSA, the use of CLT is expected to increase productivity by more than 30% and save around 130 man days.

A zero-energy building, the SSA will feature solar technology with 3,230 sq ft of photovoltaic panels and monitors to track real-time energy generation and consumption. The made-in-Singapore solar panels which are designed and built by REC are expected to generate an annual energy yield of over 60,000 kilowatt hours (kWh). This is more than the SSA's estimated annual energy consumption of about 50,000 kWh. There will also be an automation control and energy monitoring system that adapts lighting and air-conditioning to situations, providing maximum energy savings while maintaining full comfort.

The SSA is CDL's third major 3P initiative. In 2013, the CDL Green Gallery @ Singapore Botanic Gardens Heritage Museum was opened, becoming Singapore's first purposefully built zero energy Green Gallery. The Green Gallery, a partnership between CDL and National Parks Board, is a community space for the public to learn about the environment and the heritage of Singapore's gardens. My Tree House, the world's first green library for kids, created by CDL and National Library Board also opened in 2013. Located within Singapore's Central Public Library, My Tree House has an eco-centric collection, as well as interactive green features and programmes, to encourage children to learn about and care for the environment.

CDL, together with SEAS, has galvanised 11 like-minded partners, who are leaders in their own fields of expertise, to jointly develop the SSA.

Please refer to the ANNEX for:

- Artist's impressions of SSA
- SSA's programmes and activities
- List of supporting partners for the development of the SSA

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About City Developments Limited

City Developments Limited (CDL) is a Singapore-listed international real estate operating company with a global presence spanning 94 locations in 26 countries. As one of Singapore's largest companies by market capitalisation, its income-stable and geographically-diversified portfolio comprises residences, offices, hotels, serviced apartments, integrated developments and shopping malls, totalling over 18 million square feet of floor area globally.

Having established its ethos of 'Conserving as we Construct' in 1995, CDL has been leading the industry with green building innovation from first-of-its-kind sustainable developments that inspire eco-friendly lifestyles to industry-changing methods that promote recycling, reduce waste and raise productivity. CDL's sustainability efforts have received international recognition. It is ranked Top Real Estate Company and 10th in the prestigious Global 100 Most Sustainable Corporations in the World 2016, and the only Singapore company that has been listed in the Global 100 for seven consecutive years. CDL also remains the first Singapore company to be listed on three of the world's leading sustainability benchmarks – FTSE4Good Index Series (since 2002), Global 100 Most Sustainable Corporations (since 2010) and Dow Jones Sustainability Indices (since 2011). In 2014 and 2015, CDL was named the Top Property Developer in Asia, Top Singapore Corporation and among the top 10 sustainable companies in Asia in the Channel NewsAsia Sustainability Ranking.

For more information on CDL, visit www.cdl.com.sg

About Sustainable Energy Association of Singapore

The Sustainable Energy Association of Singapore (SEAS) represents the interests and provides a common platform for companies in Renewable Energy, Energy Efficiency, and Financial Institutions to meet, discuss, collaborate and undertake viable projects together. The Association is a non-profit, non-government business association, and its mission is to assist its members in achieving sustainable growth locally and regionally through business development, market development, as well as training and learning platforms. SEAS plays a strategic role in aiding the realisation of Singapore's vision; to be a global centre for sustainable energy, where products and solutions are developed and exported.

For more information about what the Association does and its services, please visit www.seas.org.sg

ANNEX

Artist's Impression	Suggested Caption
	<p>Located at the roof terrace of CDL's City Square Mall, the SSA is a zero energy building that features extensive solar technology and monitors to track real-time energy generation and consumption.</p>
	<p>The SSA will be the first in Singapore to have its construction materials, Cross Laminated Timber (CLT) and Glued Laminated Timber (Glulam) verified by the Nature's Barcode™ system as coming from responsible sources.</p>
	<p>CDL and SEAS galvanised 11 other like-minded partners, who are leaders in their own fields of expertise, to jointly develop the SSA.</p>

SSA'S PROGRAMMES AND ACTIVITIES

Industry Education and Training

The SSA will offer a suite of training programmes focussing on energy efficiency, solar power, climate change and sustainability. By collaborating with solution providers and adopters, SSA will continue to provide high quality and practical education to build knowledge capacity, foster understanding and promote adoption of sustainability.

Sustainable Energy Centre of Excellence (SECOE)

Together with Asian Development Bank and International Enterprise Singapore, the SEAS aims to provide policy makers in the region with insights and share experiences on policy, technology and project financing in the areas of energy efficiency, renewable energy and energy access. It will invite senior policy and decision makers to share on these subjects and explore other crucial sustainability topics pertaining to the banking, power, building and infrastructure sectors.

Outreach Programme

The SSA will build capacity and collaboration among businesses and supply chains, practitioners and youths, academics and businesses. It will harness the collective knowledge and expertise of thought- and industry-leaders through multiple formats such as CEO roundtables, green supplier events, and programmes for youths.

SSA Green Ambassador Programme

This custom-built programme offers opportunities for youths ranging from university to secondary schools to interact with leading business leaders and experts. They will also learn easy-to-implement sustainable practices such as bio-composting, energy conservation, and recycling. Youths will be encouraged to share this knowledge with their friends and family and adopt these practices at homes, schools and community spaces.

Information and Resource

By providing an information and resource platform using the likes of interactive displays and the latest technologies, SEAS will enable industry players, educational institutions and the community to gain greater accessibility to sustainability solutions, like solar systems, energy-efficient lighting and vertical turbines, which can be adopted at homes, schools and workplaces.

LIST OF SUPPORTING PARTNERS FOR THE DEVELOPMENT OF THE SSA

1. Building System & Diagnostics Pte Ltd



- To provide energy and environmentally sustainable design consultancy services

Building System & Diagnostics Pte Ltd (BSD) started off as a spin-off company of the National University of Singapore, pioneering the use of high performance building simulation tools to optimise building design. Since then, it has evolved into an independent building consultancy firm that provides specialised advisory services in the fields of sustainable built environment from design, construction, operation, maintenance, to upgrading in order to enhance the energy and environmental performance of the development.

BSD's quest to innovate and create has allowed the company to add value to more than 300 projects that it has provided advisory for, both locally and internationally. BSD also collaborates with government agencies, tertiary institutions and major industry players on research and application projects. To date, it has successfully completed more than 10 of such projects that are focused on energy efficiency, human comfort conditions and urban heat island. BSD has offices in Singapore, Malaysia and China (Beijing and Chengdu).

www.bsd.com.sg

2. Langdon & Seah Singapore Pte Ltd, An Arcadis Company



- To provide quantity surveying consultancy services

Langdon & Seah Singapore Pte Ltd, An Arcadis Company is the most established quantity surveying practice with numerous experience and background of a variety of specialist skills acquired from more than 80 years of experience. It is well placed to provide expert financial, contract and project management services in traditional contracting arrangements, design-and-build or develop-and-construct as well as various hybrid custom-made procurements of construction projects. Langdon & Seah leverages knowledge, skills, and experience from its international market, into the local environments where it operates, offering clients the combined benefits of working with a firm which can provide international expertise (for solutions, experience, skills) and deliver locally (market knowledge, resources, support). This unique combination of international expertise and local delivery offers clients the reassurance that their risk is being managed by a firm that is set and structured to support their interests and value drivers - at home and abroad.

www.langdonseah.com

3. Meinhardt Singapore Pte Ltd



- To provide civil and structural consultancy services

Meinhardt Group International is the largest global engineering company owned and headquartered in Singapore. We employ over 4,300 staff in 45 offices worldwide and have worked on some of the largest and most complex building and infrastructure projects. Our integrated approach to delivering all engineering services under one roof, empowers us to deliver highly innovative, cost effective and powerful engineering designs for our projects.

Meinhardt is committed in designing and constructing greener buildings. We have led the way in delivering innovative and highly buildable designs that always consider our clients' commercial objectives and global environmental concerns. Through environmentally responsible and financially sustainable solutions, we offer clients a pragmatic approach to integrating sustainability into their operations, with the aim of creating high-quality built environments.

www.meinhardtgroup.com

4. Mitsubishi Electric Asia Pte Ltd



- To provide air-conditioning systems

Mitsubishi Electric Asia is a subsidiary of Mitsubishi Electric Corporation and has been providing reliable, high-quality products to homes, businesses and industries in Asia Pacific since 1977.

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology.

www.mitsubishielectric.com.sg

5. ONG&ONG Pte Limited



- To provide architectural consultancy services

With a track record of more than four decades in the industry, ONG&ONG has earned an unparalleled reputation for integrating skilled architecture, clever interior design, and creative landscape design. Its success lies in the high level of creativity, excellence, and commitment provided to clients. It continually strives to uphold its mission to be the designer of our age – a premier design practice both locally and in the region. Currently operating in 13 cities, ONG&ONG is managing projects in over 20 cities spread over three continents.

Partnering with clients in their race to the top, ONG&ONG now offers a complete 360° Solution – i.e. a parcelled cross-discipline integrated solution, encompassing all aspects of the construction business. Some projects undertaken by ONG&ONG include CDL's City Square Mall and City Square Residences.

www.ong-ong.com

6. Rankine&Hill Pte Ltd



- To provide M&E consultancy services

Rankine&Hill's space saving and environmentally sensitive designs are installed in business establishments, institutional complexes, residential developments, places of worship and in infrastructural projects throughout Asia.

Repeated commissions from clients bear testimony to the value placed on its innovative solutions. Another distinctive trait of Rankine&Hill is the participation of its principals throughout the duration of the project. The depth and breadth of their experience ensure that all input is appropriate and timely. The expertise of its technical staff is also constantly upgraded through continual education, a cornerstone of its practice, thereby allowing the company to provide an all-encompassing solution.

With a greater emphasis on life safety, performance-based fire safety engineering analyses provide unique solutions for the complex buildings of today. Rankine&Hill is now able to provide consultancy expertise in this vital area.

www.rankine-hill.com

7. REC

ENERGIZING LIFE TOGETHER  REC

- To provide the rooftop solar system and ground mounted demonstration sets

Celebrating its 20th anniversary in 2016, REC is a leading European brand of solar panels. Through integrated manufacturing from polysilicon to wafers, cells, panels and turnkey solar solutions, REC strives to help meet the world's growing energy needs. Founded in 1996, REC is a Bluestar Elkem company with headquarters in Norway and operational headquarters in Singapore. REC concluded 2015 with 2,000 employees worldwide, 1.3 GW solar panel production capacity, and annual revenues of USD 755 million.

www.recgroup.com

8. Schneider Electric Singapore Pte Ltd

Life Is On | 

- To provide automation control and energy monitoring systems

Schneider Electric is the global specialist in energy management and automation. With revenues of ~€27 billion in FY2015, our 160,000+ employees serve customers in over 100 countries, helping them to manage their energy and process in ways that are safe, reliable, efficient and sustainable. From the simplest of switches to complex operational systems, our technology, software and services improve the way our customers manage and automate their operations. Our connected technologies reshape industries, transform cities and enrich lives. At Schneider Electric, we call this **Life Is On**.

www.schneider-electric.com/sg

9. Venturer Pte Ltd



- To provide specialist contracting services for Engineered Wood Structures

Headquartered in Singapore, Venturer has been serving customers requirements in timber since 1995. It specialises in design supply and installation of timber-hybrid and prefabricated structural systems.

Venturer operates in S.E. Asia, the Maldives, India, UAE and Europe and is expanding steadily into new markets. Its regional contracting activities extend to resorts and bridges to commercial structures and residential projects. It is equipped to interpret customers' needs to achieve attractive, practical, and economic solutions using cutting-edge construction methodologies whilst remaining sensitive to environmental issues and influences.

Venturer has the resources and capability to undertake contract work that ranges from small scale local to multi-million dollar projects. Support from a variety of financial institutions and partnerships, coupled with regional manufacturers and international timber design and contracting companies, allows it a broad scope of opportunities.

www.venturer.biz

10. VMW Group - Visualmediaworks



- To provide architectural visualisation

VMW Group is a collective of creative entities comprising of Visualmediaworks (VMW), Attic Films, Obilia and Blanct. With the core of our enterprises gravitating around the field of architectural visualisation, our expertise has expanded to include visual consultancy, 3D rendering, video production, branding and interactive design, hence providing a one-stop service in providing customised real estate visual marketing solution.

VMW is the pioneer in popularising computer architectural rendering, animation and virtual content in the South East Asia region. Our 16 years of expertise in this field has crossed international boundaries and has established our name as the leading firm in our field. We provide a vital marketing advantage to our clients, turning their bold visions into breath-taking realities. Today, VMW remains at the forefront of excellence in creativity and, with an eye clearly on the future, we embrace and explore the applications of new visualisation technologies.

A name synonymous with consistent high quality and reliability, VMW is the region's most respected and established leader in architectural visualisation.

www.vmw.com.sg

11. Woh Hup (Private) Limited



- To provide main contracting services

Backed by more than eight decades of experience, Woh Hup is one of Singapore's leading construction and civil engineering specialists, recognised for shaping the landscape with high quality, innovative building solutions. Established in 1927, Woh Hup is Singapore's largest privately owned construction and civil engineering specialist, with a dedicated 1,000-strong workforce, and a body of work spanning many of Singapore's most notable and iconic developments.

In its efforts to continuously raise the industry bar, Woh Hup introduces innovative new building solutions and broadens its skills through strategic joint-venture partnerships with overseas counterparts. This has seen the company emerge in recent years from being a principal player in the building of private residential and commercial developments to becoming a leader in large-scale civil engineering works, cementing its position at the forefront of the construction industry, locally and regionally.

Recent CDL projects undertaken by Woh Hup include City Square Residences, H₂O Residences, and Coco Palms.

www.wohhup.com