Date: 30 May 2019

Headline: For SMU, super-low is the way to go

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Despite its student population having almost doubled between 2006 and 2017, and its campus greatly enlarged, SMU's electricity consumption is down by 30.6 per cent and water use by 18 per cent.PHOTO: SINGAPORE MANAGEMENT UNIVERSITY

SMU's green goals include building a campus that trumps industry standards of energy and water efficiency

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Mr Sundar Selvam, vice-president, Office of Campus Infrastructure and Services, SMU. PHOTO: SINGAPORE MANAGEMENT UNIVERSITY

The Singapore Management University's (SMU) upcoming Tahir Foundation Connexion building is planned to be more energy-efficient than the Building and Construction Authority's (BCA) Green Mark Platinum standard — by 45 per cent.

In fact, when completed by the end of this year, the Tahir Foundation Connexion will also be a pioneer Green Mark Platinum and on-site Net Zero Energy (NZE) building in the densely built-up city centre. A NZE building creates enough renewable energy to totally offset the amount of energy it uses in a year, says Mr Sundar Selvam, vice-president, Office of Campus Infrastructure and Services, SMU.

For this, the fully solar-powered development attained the 2019 BCA Green Mark Platinum (Zero Energy) Award.

While SMU envisions new environmentally friendly buildings, it makes sure to upgrade older ones as well. With the SMU Administration Building, the SMU Prinsep Street Residences, and the SMU City Campus each clinching the 2019 BCA Green Mark for Buildings – Platinum, the university has achieved 100 per cent Green Mark Platinum status for its entire campus.

This means that SMU is on track to meet its 2020 sustainability targets, which include a 40 per cent reduction in energy intensity and a 30 per cent reduction in water usage. Despite its student population having almost doubled between 2006 and 2017, and its campus greatly enlarged, electricity consumption is down by 30.6 per cent and water use by 18 per cent. What SMU saved could power 850 units of five-room HDB flats for a decade and fill 57 Olympic-size swimming pools.

Mr Selvam shares his thoughts on this achievement:

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The SMU Administration Building. PHOTO: SINGAPORE MANAGEMENT UNIVERSITY

What are the reasons behind the success of SMU's projects?

"Adopting a 'whole-of-university' approach to sustainability is one reason. Beyond hardware improvement, concerted efforts through ground-up and management-led awareness activities have contributed to a noticeable shift in the behaviour of SMU faculty, staff and students in becoming more proactive in conserving water and electricity.

"Aligning with national objectives and agenda on environmental sustainability has also helped us to succeed. Various agencies, especially the BCA, have been the key enablers for SMU in exploring and implementing new sustainability initiatives.

"In addition to the SMU community, the efforts by consultants and contractors, equipped with the latest global industry knowledge and technological know-how, have made the realisation of these goals possible. Their orientation and commitment towards environment sustainability have been instrumental in aligning the efforts for seamless delivery of green buildings in SMU."

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The Prinsep Street Residences. PHOTO: SINGAPORE MANAGEMENT UNIVERSITY

Tell us more about the Prinsep Street Residences

"The Prinsep Street Residences — former Singapore Improvement Trust buildings, built circa 1951 — have housed 255 students since August 2018, after undergoing a major upgrading. At the project's planning stage, SMU realised the potential for raising its residential facility up to Green Mark Platinum standard.

"Residential units were enhanced through effective reconfiguration and creation of multiple social spaces, harmoniously integrated with retained trees. Supporting infrastructure services such as efficient centralised air-conditioning, deployment of sensors and smart control systems were also installed."

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Solar panels atop one of SMU's buildings. PHOTO: SINGAPORE MANAGEMENT UNIVERSITY

Why is the Tahir Foundation Connexion a game changer?

"SMU's Tahir Foundation Connexion, which will be a Green Mark Platinum building, will also be WELL certified. This means it is geared towards building occupants' health and well-being. It makes predominant use of eco-friendly, durable and highly renewable Mass Engineered Timber (MET) and aims to become one of the pioneer on-site NZE buildings in Singapore.

"By adopting an unconventional design approach and leveraging innovative and smart building solutions, SMU is demonstrating that it is possible to build an on-site NZE building in the densely built-up Central Business District area as well as to create a biophilic learning environment and workplace focused on the health and wellness of its occupants. The key design features include optimised natural ventilation, advanced next generation passive displacement cooling, dimmable LED lights with networked sensors, harnessing of on-site solar energy, as well as predictive and responsive smart building control systems.

"The project will spearhead new building initiatives that will be a showcase for MET construction technology, in support of BCA's drive for higher productivity and more sustainable buildings. Driven by SMU's long-term commitment to sustainability, this initiative is a direct response to BCA's call for 'Positive Energy Low-rise, Zero Energy Medium-rise and Super Low-Energy High-rise Buildings in the Tropics'."

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SMU's BCA Awards 2019 accolades:



Professor Lily Kong, president, SMU. PHOTO: SINGAPORE MANAGEMENT UNIVERSITY

- 1. Green Mark Platinum (Zero Energy), SMU-X AS2 (Tahir Foundation Connexion)
- 2. Green Mark Platinum, Singapore Management University City Campus
- 3. Green Mark Platinum, Singapore Management University Administration Building
- 4. Green Mark Platinum, SMU Prinsep Street Residences

"We are delighted to have received the BCA Awards. The four awards are testimony to SMU's commitment to and efforts in maintaining and operating its buildings on a par with the highest industry standards with regard to environmental sustainability. The awards also serve as a recognition of SMU's efforts in leading and pushing its sustainability endeavours to a higher level by adopting the latest green solutions for the development of its new buildings and facilities. With the Green Mark standards evolving and the bar set ever higher, SMU has constantly sought to improve by pro-actively exploring new solutions and technologies which could be leveraged to upgrade its existing buildings and in future developments."

- Professor Lily Kong, president, SMU