
GREEN FACILITIES MANAGER OF THE YEAR



ER. TONG KOK KWANG

Project Director and Principal Mechanical Engineer
Office of Development and Facilities Management,
Nanyang Technological University

Er. Tong Kok Kwang is a practising mechanical professional engineer with more than 20 years of experience in the design, construction supervision and maintenance of mechanical and electrical engineering systems. He has completed a vast number of projects across many different fields.

Er. Tong served as a Council Member of ACES and Technical Committee member in IES. He is a Technical Committee Member which reviews and makes changes to local Codes of Practice. Er. Tong is also a Technical Committee member for two BCA Green Mark taskforces to review the new Green Mark assessment criteria for existing buildings.

Possessing a strong passion for mechanical engineering, Er. Tong is always on the lookout for and testing new designs that can improve energy efficiency and cost effectiveness.

PUSHING THE GREEN ENVELOPE

Er. Tong joined Nanyang Technological University (NTU) in 2012, back when NTU only had one Green Mark Platinum building on its sprawling campus. Today, NTU has 53 Green Mark Platinum Buildings. As project director, Er. Tong is responsible for most of the buildings in NTU.

Driving part of NTU's Eco Campus Initiative to save 35 percent of energy, water and waste, Er. Tong is instrumental in guiding the

direction of NTU's green initiatives. Actively searching for innovative solutions to address green building issues, Er. Tong testbeds promising technology before implementing them in NTU's new and existing buildings. For example, a Passive Displacement Ventilation (PDV) system can reduce a building's total electrical load by about 14 percent. After test-bedding the technology in a number of buildings on-campus, NTU will begin to convert their conventional air-conditioning system to this PDV system for the rest of their existing buildings.

Er. Tong also led a feasibility study for a Photovoltaic Cell Farm in NTU, which produced positive and economically viable results. Today, the PV Cell Farm is completed and offsets about four percent of NTU's total consumption for its academic buildings. Er. Tong also worked with his consultants to upgrade all chiller plants to higher efficiency ones, complemented with variable speed drives added to all pumps and cooling towers. He also explored high temperature phase shift district cooling systems (DCS) to improve the overall chiller plant efficiency for the current DCS plant. When all the chiller plants are upgraded, up to 10 percent of the total building electrical load can be saved.

Apart from his contributions on campus, Er. Tong also speaks at conferences and shares his experiences with other universities and institutes of higher learning. ✓

