

INTERNATIONAL ENTERPRISE SINGAPORE

Sustainable Energy Solutions

Look to Singapore for practical integrated energy
management solutions



Driving
Singapore's
External
Economy

Energy usage continues to climb in today's modern society, and its impact cannot be ignored. In Singapore, two strategies have been adopted to improve energy management: enhancing energy efficiency and developing the use of clean energy.

A cluster of experienced and innovative companies delivers on these strategies in Singapore, and also offers partners around the world the opportunity to tap on Singapore's energy management practices.

Energy management

As buildings constitute one-third of Singapore's energy consumption, one way to reduce Singapore's dependence on fossil fuels and greenhouse gases is to increase the adoption of green buildings and related technologies.

Since the launch of the green mark scheme in 2005 by Singapore's Building and Construction Authority (BCA), almost a thousand buildings have now been green mark certified, putting Singapore at the forefront of the development of green buildings in the region.

Drawing on the experience, Singapore-based companies are now able to provide holistic and fully integrated green building management solutions along the entire value chain. These include:

- Consultancy and Design
- Property and Energy Management
- End users products development and supply
 - Products and solutions to enable energy/ water savings
 - Real time energy monitoring technology
 - Producing building-related environmentally friendly construction materials, coatings and furnishings

The BCA's Zero Energy Building (ZEB) in Singapore is testament to the country's value chain expertise. It is the first zero energy building in the region to be retrofitted from an existing building, and serves as a test-bed for new green building technologies.



Image courtesy of BCA

Built-in Photovoltaic (BIPV) panels developed by Grenzone was instrumental in transforming the BCA building into a ZEB@BCA Academy



Image courtesy of BCA

From the consultation, design and implementation of shading devices, low emissivity glass, advanced chillers, green roofs and installation of Built-in Photovoltaic (BIPV) panels which can act as a building façade and generate electricity at the same time, to the thought process behind the retrofit, this marks Singapore-based companies' capabilities in this growing field.

The expertise of Singapore-based companies is also increasingly sought after in overseas markets, even in iconic projects. For example, Raffles City Singapore utilises the Anacle Starlight™ energy monitoring system. A conventional building monitoring system requires the installation of cables in between the energy communicators. Anacle broke these barriers and developed energy communicators which are *urban wireless*, the first in Asia.

Clean energy

Singapore actively promotes the development of clean energy, such as solar and wind power. The strong emphasis on application R&D has allowed the industry to constantly improve and provide value-added solutions for customers. The R&D efforts will be further strengthened with the new "Cleantech Park" in Jalan Bahar for clean technology research, prototyping and light manufacturing. Other clean energy research institutes in Singapore include the Solar Energy Research Institute of Singapore (SERIS), Singapore's national institute for applied solar energy research, and the Energy Research Institute at NTU (ERI@N), aimed at improving efficiency of current energy systems while maximising synergistic effects of alternative energy sources.



Image courtesy of Grenzone

Solar Photovoltaic System
Grenzone's 10kWp system built using KRISTILE

Singapore-based companies have a strong reputation for their ability and expertise as system integrators, providing holistic clean energy solutions to customers. Not only are they developing projects locally, such as Sunseap Leasing's first Solar Leasing Project with the Housing Development Board's (HDB) public housing in Punggol, but they are also working on projects overseas, such as Asiatic Group's 10MW biomass power plant in Perak, Malaysia.

Clean energy products created by Singapore-based companies have also been increasingly recognised both locally and overseas. Grenzone, a solar project developer, has done many installations using its trademark KRISTILE module which can be used to replace building materials on the roof and façade directly, thus reducing cost. The module is also waterproof, making it suitable for use in coastal areas. Locally, this installation can be found on the iconic ZEB@BCA Academy. Overseas, Grenzone has installed a 10kWp system for SureHome Co Ltd, a Thai property developer.

International Enterprise Singapore

International Enterprise (IE) Singapore is the government agency driving Singapore's external economy. We spearhead the overseas growth of Singapore-based companies and promote international trade.

With our global network in over 35 locations spanning many emerging markets, we connect businesses with relevant Singapore-based companies for their business expansion. Renowned worldwide for their dedication to quality and innovation, Singapore-based companies make ideal business partners.

We also position Singapore as a base for foreign businesses to expand into Asia in partnership with Singapore-based companies. Singapore's unique advantages of strategic location, stable government, competitive workforce and pro-business environment make it an ideal launch pad to the region.

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This brochure is printed using
soy ink on recycled paper.

V1/Mar/2012

International Enterprise Singapore

230 Victoria Street #10-00
Bugis Junction Office Tower
Singapore 188024

1800-IESPORE (1800-4377673) local toll-free

T +65 6337 6628

F +65 6337 6898

www.iesingapore.com



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