Featuring Singapore Apex Corporate Sustainability Awards 2016 Winners

CORPORATE SUSTAINABILITY
CASE STUDIES 2016

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SUNSEAP LEASING PTE LTD

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Sunseap Group is a local home-grown company started out by two friends, Mr Frank Phuan and Mr Lawrence Wu with the aim of delivering affordable and sustainable energy. It is one of the largest clean energy solution providers in Singapore, with a portfolio of projects that range from rooftop and ground-mounted installations to floating PV systems. The Group comprises of three business entities: Sunseap Leasing, Sunseap International and Sunseap Energy.

Since its founding in 2011, Sunseap Leasing has expanded its zero-upfront solar power purchase model both locally and internationally, by offering a full suite of solar PV-enabled solutions marketed via its affiliated entities. The entities are housed under one parent company, the Sunseap Group of Companies (SSG), which is a full spectrum clean energy Company focused on Solar PVs.

Solar photovoltaic (PV) generation has the greatest potential for wide-spread deployment in Singapore, with installed capacity quadrupling from 33.1 mega-watts in 2014 to 130 mega-watts in early 2017, according to the Energy Market Authority (EMA). In 2014, Singapore announced its commitment to raise the adoption of solar power to 350 mega-watt peak (MWp) by 2020. This is estimated to be 5% of the projected 2020 peak electricity demand in 2020 by the EMA.

Also in 2014, the Economic Development Board (EDB) throw its support to further bolster solar energy deployment in Singapore by launching the SolarNova programme. The SolarNova is a landmark programme which supports the government’s agenda in increasing solar adoption in Singapore, and aims to accelerate solar deployment through promoting and aggregating solar demand across government agencies. The programme utilises the solar leasing business model where a private sector company will install, own and operate the solar systems. Thereafter, it will sell the electricity to government agencies through a long-term power purchase agreement.

A Power Purchase Agreement (PPA), also known as solar leasing, provides a range of pricing structures that offers competitive rates helping clients to save on electricity bills. Presently, there are 27 electricity retailers operating in Singapore, with Sunseap being one of them.

COMPANY PROFILE
Sunseap Group is a local home-grown company started out by two friends, Mr Frank Phuan and Mr Lawrence Wu with the aim of delivering affordable and sustainable energy. It is one of the largest clean energy solution providers in Singapore, with a portfolio of projects that range from rooftop and ground-mounted installations to floating PV systems. The Group comprises of three business entities: Sunseap Leasing, Sunseap International and Sunseap Energy.

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Sunseap currently operates in countries in the South East Asia and Pacific regions, and has over three decades of experience in developing clean energy solutions.

A ONE-STOP SERVICE FOR CLIENTS
A pioneer in the movement to proliferate solar energy, Sunseap developed the majority of the grid-connected PV power plants in Singapore. Its expertise lies in providing a one-stop, integrated and holistic solution that includes project financing, design, installation and maintenance services. By integrating technologies, services and expertise across the entire solar value chain, Sunseap delivers bankable solar energy solutions that are affordable.
INNOVATION AS KEY TO GROWTH
Sunseap’s growth is catalysed by innovation, which introduced an unprecedented level of simplicity and convenience to its customers who seek clean energy but not the complications surrounding it. Sunseap Leasing was the key driver in exponentially increasing the solar capacity in Singapore, and has maintained its position as a market leader till this day. In 2015, it moved into energy retailing with Sunseap Energy, specialising in clean energy solutions.

AN ATTRACTIVE BUSINESS MODEL
Sunseap Leasing employs the Build-Own-Operate (BOO) model for the leasing of its solar assets, i.e. they retain full ownership of the assets during and after the expiry of the long-term contracts established with its customers. This enables the company to expand its target customer base, i.e. institutional clients, which largely comprises of government agencies, educational institutions, industrial and commercial institutions and residential facility managers. The model has proved to be lucrative among clients as it reduces their energy costs and carbon footprints, while incurring zero upfront payment.

CONTRIBUTING TO THE SINGAPORE’S ENVIRONMENTAL ROADMAP
At present, Sunseap has a total contracted capacity of over 200 MWp in Singapore. This figure is a significant one held by an enterprise, with a majority of the contracted capacity coming from Housing & Development Board (HDB) buildings - from government tenders, as well as other Commercial and Industrial (C&I) buildings.

UNIQUE PRODUCT POSITIONING
Sunseap markets its product solutions in a unique way to attract clients, i.e. by utilising a business model which has zero upfront costs. This way, the company supplies clean energy to its clients with no financial risks imposed upon them.

Sunseap further adds to its product positioning by operating both as a licensed wholesaler (through electricity generation) and retailer (through electricity sales) under the EMA’s guidelines. The company thus provides an integrated solution which is also customisable to client preferences.

A GREENER TOMORROW
- Locally contracted portfolio of over 200 MegaWatt-peak allows its clients to offset approximately 105,000 tonnes (equivalent to 5million cars emissions per day) of carbon footprint annually
- Clients get to offset a significant amount of CO₂ emissions
- Clients who pick up Sunseap’s Solar Power Purchase Agreement are able to earn the Building & Construction Authority’s (BCA) Greenmark Points
- Clients are able to report the utilisation of clean energy through their sustainability and/or annual report

ADVOCATING KNOWLEDGE SHARING
Sunseap engineers work hand-in-hand with its clients and partners to ensure that areas such as compliance and operational requirements are duly met. The company trains and educates its partners and suppliers on how to maintain and operate a solar system for optimal performance.

MONITORING AND MAINTENANCE
ENSURING OPTIMAL OPERATING SYSTEM
Sunseap’s 24/7 real-time monitoring helps to ensure that its solar systems operate at optimal levels. The responsive monitoring and maintenance team help to minimise system downtime by resolving issues onsite as they happen.

In addition, the team maintains the solar panels by replacing any defunct or spoilt parts during the agreement period at no cost to clients. Regular onsite inspections on systems as well as a stringent quality control checks on various parts of the solar system also help to lower the occurrence of any functional issues.

TECHNOLOGICAL PARTNERSHIPS
Sunseap developed a proprietary and secure web-based application with a subsidiary of Singapore Power for solar system monitoring and billing. The system complies with various regulatory system reporting requirements from Singapore Power Grid (SPG) and Energy Market Authority (EMA) in Singapore.

More recently, Sunseap also devised a yield comparison algorithm with SPRING Singapore for automated alerting. The comprehensive data view allows its engineers to receive alerts as they happen. This allows the company to conduct remote monitoring processes and retrieve real-time data at any time of the day.
Sunseap’s applications incorporating solar panels
- Solar powered WiFi-enabled bus stop – Green WiFi (ICT platform)
- Solar powered WiFi in Sentosa – Green WiFi (ICT platform)

INNOVATION BREAKTHROUGH VIA GROUND-BREAKING PROJECT WITH APPLE

Sunseap has partnered with Apple in Singapore to be its clean energy provider. The clean energy is supplied to Apple’s corporate office, data centres and flagship retail store, a first of its kind in South East Asia. The project addresses the scarcity of land space to deploy renewable energy for the tech giant by creating an innovative solution: Onsite & Offsite Supply. This was made possible via an Offsite Power-Purchase Agreement (PPA), which allows companies to meet clean energy demands by indirectly consuming clean energy generated at other locations.

ONSITE SUPPLY
Part of Apple’s energy requirements are supplied through the solar system installed atop of the roofs of its corporate office in Ang Mo Kio, with a system size of 1.1 MWp. This will offset a portion of the day time energy requirements.

OFFSITE SUPPLY
The remainder of the energy required by Apple is fulfilled through an offsite clean energy supply facilitated by Renewable Energy Certificates (RECs). Apple through the offsite supply receives solar energy generated from Sunseap’s portfolio of rooftop solar assets across more than 1,000 buildings.

HOW RENEWABLE ENERGY CERTIFICATES (RECS) ARE CERTIFIED AT SUNSEAP

SUSTAINABILITY OUTREACH
First tennis centre to be “greenified" Sunseap collaborated with the Tanglin Academy to greenify its tennis courts. The solar system ensures Tanglin Academy to save 15-20% of their energy costs, while reducing their carbon footprint by an estimated 8.3 tonnes per year. This is equivalent to daily CO₂ emissions from 500 cars or 215 trees planted. The unique thing about this project is that it is an offgrid solution that pairs Sunseap’s solar systems with a diesel generator.

GOING GREEN ON DAY-TO-DAY OPERATIONS
Sunseap adopted paperless work processes through the form of e-billing. In 2016, Sunseap developed a revamped ERP system to further achieve this objective. Basic administrative functions can be performed through an application, which not only makes it easier to perform these functions but also reinforces the company’s objective in reducing waste of paper. Electronic functions include: claims, leave application, pay slips, managing contact lists, e-billing, and other web-based services.
ACCOMPLISHMENTS AND ACCOLADES

Sunsea’s effort in deploying solar energy has won the company several awards and recognition. Cultivating a sustainable future for its product innovation, product design and care for environment, has helped the company to grow its revenue and footprint in countries where it operates.

CERTIFICATION

In 2015, Sunsea obtained the ISO 9001 Quality Management System. This is promising to their clientele for upholding the highest standards in their products and services.

RESEARCH & DEVELOPMENT PIPELINE

FOR THE FUTURE: CONTINUOUSLY INNOVATING

FLOATING PV SOLAR SYSTEM

Singapore is faced with the challenge of land scarcity and space to deploy scalable solar systems to generate renewable energy. Looking beyond land space, floating solar systems will enable unused surface area of water bodies to be utilised for the deployment of solar systems. In addition, floating solar systems can also reduce water evaporation by providing shading over water bodies. Sunsea is currently working with the Solar Energy Research Institute of Singapore (SERIS) to explore deployment of PVs on water bodies.

This aligns with EDB’s and PUB’s feasibility studies on innovative ways to deploy solar PV systems on water. Currently, the government statutory boards are amidst conducting an S$11 million pilot project at Tengeh reservoir, managed by SERIS. Companies will be allowed to develop, test and evaluate the economic and technical feasibility of installing floating solar PV systems on water. The potential of this project works well for Singapore, which has 17 freshwater reservoirs with a possibility to deploy hundreds of floating PV panels.

CONCLUSION

Sunsea has aptly showcased its prowess and commitment in providing unique clean energy solutions for its clients. The company aims to maintain its quality and quest for innovative approaches to achieve greater heights in the renewable energy landscape. Its product proposition and Solar Power Purchase Agreement / Leasing model has allowed the company to make a significant impact to the environment and venture beyond the local market. In pursuit of clean and renewable energy, the company’s investment in R&D to create versatile solar energy solutions reflects a healthy long-term sustainability plan. As solar energy adoption rate grows in Singapore, Sunsea will surely play a key role in helping Singapore achieve its clean energy ambition for 2020.
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THE WINNERS OF THE INAUGURAL SINGAPORE APEX CORPORATE SUSTAINABILITY AWARDS 2016 ARE:

EN-TRAK
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