

Residents & Businesses to get Sustainable Power in Pulau Ubin, Singapore.

About 30 businesses and residents have signed up for a pilot project in Pulau Ubin, Singapore, which gives them 24-hr power, utilizing the sun and bio-diesel.



The micro-grid pilot project will bring cleaner and cheaper electricity with improved scalability and reliability for both residents and businesses at Pulau Ubin. Previously, residents and businesses had to rely solely on their own diesel generators.

The micro-grid is part of a pilot by the Energy Market Authority to assess the impact of intermittent energy sources, such as solar, on grid operations. Work on the micro-grid began two years ago, when a local consortium, comprising Daily Life Renewable Energy and OKH Holdings was awarded the project. The consortium worked in collaboration with Regen Power, an Australian renewable energy company which has been awarded the prestigious "Product and Technology Award" by the Sustainable Energy Association of Australia (SEA). This award was for Regen's 'HybridGenTM', a hybrid generator which uses technology patented by Regen.

The Product and Technology award recognises sustainable energy excellence and innovation and was awarded to Regen Power on 24th March 2011 in a ceremony held in Perth Convention and Exhibition Centre. HybridGenTM has been developed to provide a cost-efficient alternative to conventional diesel generating systems, which has disadvantages such as the engine operating on low load affecting wet stacking and cylinder glazing of the engine, poor fuel efficiency, maintaining stable voltage and frequency under varying wind and solar inputs. The innovative HybridGenTM technology improves the reliability, quality and efficiency of supply while also providing considerable diesel fuel saving. Numerous off-grid installations all around the world, including India, Singapore, Australia, Vietnam and Indonesia are benefitting from the significant advantages of the HybridGenTM.



Regen Power in collaboration with Leonics Co Ltd (Thailand) designed the power system (shown below) . Regen supplied 6 units of the patented variable speed bio-diesel generator (HybridGen™).



Mr S Iswaran, Minister in the Prime Minister's Office and Second Minister for Home Affairs and Trade & Industry, was the Guest-of-Honour for the inauguration ceremony held on 10 October 2013. Other attendees included Dr Mohamad Maliki Bin Osman, Minister of State for National Development and Defence, Mayor for South East District and Member of Parliament for East Coast GRC, industry representatives, residents and business partners in Pulau Ubin.

Mr Iswaran said that the learning points from the pilot project will help enhance Singapore's ability to manage intermittent energy sources. He added this will also enable Singapore to maximize the amount of solar and other forms of renewable energy that can be deployed when such technologies become commercially viable.

Each generation site has 2* 40kVA HybridGEN™ and grid connected solar panels . The system was designed for minimum energy cost and thus lowest battery requirement .The HybridGEN™ can run on grid connected load following mode or in standalone mode. This is the first such type of micro grid in the world and this pilot project will serve as a showcase for the similar deployments in the region's off-grid communities where there are thousands of inhabited islands, mountainous and forested regions without connection to a national grid. Notably, this technology can be scaled up easily and deployed in market sectors (such as data centres, factories with sensitive equipment) where high power quality and stable power supply is required.

The differentiating factor is that existing micro grids and smart grids are governed by demand response and load management, whereby in PulauUbin, the HybridGEN™ technology enables the engine of the generator to run in variable speed to meet instantaneous demand and enable a higher penetration of renewable energy at the same time.

Pulau Ubin Micro-Grid Pilot Project Inauguration



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SOLAR

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DEMAND MANAGEMENT

We will initiate any necessary agreements with the local utility company and schedule required site inspection

- ▶▶ Diminish long term electricity cost increase
- ▶▶ Boost supply reliability



CONTRACT MANAGEMENT

- ▶▶ We will handle all interaction with local permit offices and will be present during the final site inspection
- ▶▶ Identify and manage each and every rebate, tax incentive and special program offered by the Australian government for which your business is eligible



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- ▶▶ Lease & payback option
- ▶▶ Rent and Own model



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