

A Renewable Power Source: Visit to Amcorp Gemas Solar Power Plant

INFORMATION AND COMMUNICATIONS TECHNOLOGY SPECIAL INTEREST GROUP



reported by
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Ir. Tan Seng Khoon graduated from University Malaya in 1974 and worked in JKR for 18 years, being the District Engineer in Kuala Kubu Bahru and later on, in Taiping. At present, he is the Managing Director of Tasek Jurutera Perunding, a Civil Engineering consulting company specializing in Structures, Civil Engineering, Highway and Transportation. He possesses also a keen interest in Information and Computer Technology. He is a committee member in the Information and Communications Technology Special Interest Group, IEM. He was also its group chairman some years ago.

Rapid development from across the world causes global warming and this is a major concern for many environmentalists. The other concern is the rapid depletion of non-renewable power sources such as fossil fuels (oil, gas and coal).

It is our responsibility, therefore, to find alternative power sources that will make us less reliant on fossil fuels.

Solar energy is energy from the sun. It is a renewable source of energy and power. With conversion, the sun's energy can be used to light our homes and generate electricity.

With this in mind, a trip was arranged on 5 August 2015, for 46 members of IEM to Amcorp Gemas solar power plant, in Gemas, Negeri Sembilan, which harnesses the sun's energy through modern technology such as photovoltaic.

We arrived at 11.00a.m. and was given a briefing by Dato Khamis Mohd Masin, the CEO of Amcorp Properties Bhd.

This solar power plant is the largest single site solar power plant in Malaysia and has successfully been running since June 2013. The supply and delivery of 10.25MW renewable energy from solar photovoltaic, for a feed-in-tariff of 80 sen/kWh is for a concession period of 21 years.

Proximity results in savings. Being located adjacent to TNB's 11kV power transformer substation is an advantage for the solar farm. This has resulted in considerable benefits to Amcorp as there are significant cost savings on the inter connection expenses between the solar plant and the transformer substation.

The solar farm, spread over 35 acres, was built at a cost of RM87 million. It is capable of producing 41,000 kWh of electricity each day to fulfill peak-hour demand.

The plant has been installed with 41,076 solar panels, generating an average of 1.2 million kWh of electricity monthly. The solar panels, known as "Yingli Polycrystalline 250 watt", are made in China.

The solar cells produce electricity in DC to 33 volts. The DC current is collected and

converted to AC 415 Volt by inverters located along aisles. Thereafter, the AC current is processed in equipment plants in the farm solar powerhouse and then stepped up to 11 KVolt before the current is injected into the TNB grid in the TNB substation.

This energy conversion is an alternative power source made accessible in line with the Government's effort to promote sustainability in development. ■

