



Kerala Following Western Australia's footsteps

Regen Power Founder and Curtin University Emeritus Professor Chem Nayar recently delivered a keynote address at an international conference in Thiruvananthapuram, capital of India's south-western state, Kerala, popularly known as "God's own country". Kerala facing acute shortage of power, availability of abundant sunshine, but with scarcity of huge tracts of land is looking at rooftop solar photovoltaic power plants as an alternative. Kerala is launching the "10,000 Solar Homes" programme this year where 10,000 solar power plants of 1 kW capacity each would be installed as grid connected power plants-similar to the installation done in Australia under the Solar Homes and Communities Plan in 2008-2010.



Regen Power has installed the first fully monitored roof top solar system at the office of the Agency for Non-Conventional Energy and Rural Technology (ANERT) which functions as a Nodal Agency for the Ministry of New and Renewable Energy Sources (MNRE), Govt. of India, to carry out the Central Government Programmes in Kerala.

The cost of solar power installations has dramatically come down in the past two years. Regen Power has installed around 5000 roof top solar installations in Australia – the majority being in Western Australia. Electricity prices in Australia have risen in the past couple of years. For example, Synergy's commercial R3 tariff has gone up from 31 cents to 37 cents per kilowatt-hour in 2011. With the newly introduced Carbon Tax, the price will go up further from July 2012. It is in this context that the investment in solar becoming safe and very attractive.

Several factors have combined to make solar photovoltaic power increasingly attractive in Perth, Western Australia:

- Growing awareness of climate change and the need for renewable energy to replace fossil fuels. The average family in Perth, Western Australia will save about 10 Metric tons per year of carbon dioxide emissions per unit of electricity used by switching from grid power to solar power.
- Solar power is an attractive option for residential, commercial and remote communities - solar power is clean, green, emission free, safe, no noise pollution, long panel life, relatively attractive, easy to have installed and free once you have paid the initial capital cost - minimal maintenance and very few moving parts
- Studies have shown that the investment of a roof-top solar power system increases the value of the property by 5 %.



An average family consumes 10 - 20 units of electricity a day. A 2 - 3kW system will supply most of an average family's needs. The government rebate is limited to a 1.5kW system, beyond that renewable energy credits are received for the excess capacity. This results in the price of a PV system increasing steeply as you grow beyond 1.5kW. Regen Power is now selling 1.5kW system fully installed at a special price of 1.5kW. A 15kW solar power system with imported German inverter would cost around \$32,000 after government rebates. At these prices, payback period on investment is only of 2-3 years.

Regen was the proud winners of two prestigious Sustainable Energy Industry Excellence and Innovation Awards in 2011:

- The Ambassador Award to Professor Chem Nayar for his for his long-standing contribution and commitment to excellence in sustainable research, training and commercialisation.
- Product and Technology Award for Variable speed diesel/bio-diesel generator, 





HYBRID GEN is the most advanced Micro-Grid Distributed Generation System using state of the art wind turbines, photovoltaic modules , innovative variable speed diesel/bio-diesel generator and advanced power electronics and control technology for the electrification of remote locations in the world.

There are a number of applications for which power demand varies greatly that can benefit from the **HYBRID GEN** which maintains constant voltage and frequency while adjusting the engine speed to power demand. Examples of such applications are:

- staff accommodation on oil, gas and mineral exploration sites;
- construction sites where electrical demand fluctuates day and night;
- remote villages, islands, houses, cabins
- Off-grid mobile telecommunication towers.-

Nullagine Iron Ore Project (NIOP)

Regen is building two solar photovoltaic /hybrid generator systems for the Nullagine Iron Ore Project (“NIOP”) – a joint venture between BC Iron Nullagine Pty Ltd and Fortescue Metals Group Ltd. CIN and is located in the Pilbara, WA approximately 150km north of Newman, 40km south of Nullagine. The company has also won the contract for the design, engineering and supply of Hybridgen generators for a multimillion micro-grid test-bed project at the PulauUbin Island in Singapore.

The project will be implemented in two phases. The first phase of this project will establish the micro-grid infrastructure at the jetty area of the island by first half of 2012, with electricity supply to users by the end of 2012. The second phase will involve the integration of additional innovative clean and renewable energy solutions to the micro-grid infrastructure. Regen has also proven the variable speed generator technology for remote mobile telecom base stations in Sri Lanka and Vietnam – 60-80% fuel saving have been achieved.