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Harnessing solar energy to run a 3-phase AC pump

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Schneider Electric vice-president Vikas Jaivanth and his team members being explained about the solar power unit by Sunbright Energy CEO P. Ramesh at Katrayanapadu village in Krishna district. photo: Raju. V The Hindu

The panels produce enough power to run a 12.5 HP motor all through the day

A solar power unit is producing entire electricity needed for pumping water to raise three crops a year in 13 acres in Katrayanapadu village limits in Musunuru Mandal of Krishna District for the past three years. The 51 solar panels of the unit with a photovoltaic system rating of 10 kilowatts produce enough power to run a 12.5 horse power (HP) motor all through the day.

A successful pilot project launched here has come to fruition and the Schneider Electric proposes to go commercial with its solar variable-frequency drive (VFD) which can run a 3-phase AC motor directly with the power generated by the panels. When sky is overcast the motor works at lesser frequency, but still draws water.

Earlier, DC (direct current) motors had to be used for solar power units because the photovoltaic (PV) cells produce DC current. Since the power produced by the PV cells fluctuates with the intensity of the sunshine, it had to be used to charge batteries first and then the batteries used to run the DC motors. This VFD device allows use of the solar power for running the existing AC electric motors on fields. Sunbright Energy Solutions Private Limited came up with the idea of using a VFD to use solar power. Company CEO Parvataneni Ramesh told *The Hindu* that the unit has been working so well that representatives of Schneider Electric that custom built the VFD for them came here to assess the performance.

The success of the unit at this village encouraged them to install yet another unit at a 22-acre sweet lime garden in Chatrai mandal. Company vice-president Vikas Jaivanth said that solar energy was clean power that is gaining tremendous importance in the fast emerging global warming scenario.

He said the Central government was giving 30 per cent subsidy on such products, but producing the necessary documentation was currently highly cumbersome. Schneider Electric managing marketing (Motion and Drives) Prabhu S. Nagavi said that the company had put the VFDs on trial in different climatic conditions and would launch it commercial on their completion.

Keywords: [solar energy](#), [photovoltaic system](#), [Musunuru Mandal](#), [Krishna District](#)

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