24 V DC battery-charging system

Bergey WindPower Co., the United States, recently introduced its latest 1,000 W BWC XL.1 wind turbine, currently available only as a 24 V DC battery-charging unit. With a rotor diameter of 2.5 m and a peak output of approximately 1,600 W, the XL.1 is intended for the off-grid home market and rural electrification programmes. A batteryless grid-intertie version is slated for launch in early 2003.

XL.1 incorporates several advanced technical features, that include a completely new airfoil to provide the highest efficiency yet achieved in a small wind turbine, and carries a 5-year warranty. The blades of this up-wind, horizontal-axis, three-bladed turbine have been fabricated using 'pultruded' fibreglass, a material ten-times more stronger than injection-moulded plastic commonly used in most small wind systems. Additionally, the new BWC SH3045 airfoil makes the XL.1's blade probably the most efficient ever on a small wind turbine. The blades attach directly to a specially designed very low-speed permanent magnet alternator that uses state-of-the-art neodymium super-magnets.

Overspeed protection is warranted by the proven BWC AutoFurl passive sideways furling system. XL.1 also in-corporates a BWC PowerCentre unit for controlling battery charging, provide a common interconnection point for all the DC elements and even includes a 30 A controller for the solar modules that are often a part of a complete hybrid system. The novel PowerCentre device allows an auxiliary or "dump" load to be connected to utilize excess wind (and/or solar) power afterthe batteries are fully charged. XL.1 is offered with a tubular tilt-up tower in heights from 9 m to 32 m. *Contact: Mr. Steve Wilke, Customer Service, Bergey WindPower Co., the United States. Tel: +1 (405) 3644 212; Fax: +1 (405) 3642 078; E-mail: swilke@ bergey.com.*