



Media Release

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VFD and photo-voltaic tech bring energy and economic benefits to Chilean farmers

Twenty farmers in a remote part of Chile have turned to photo-voltaic and variable frequency drive (VFD) technology to irrigate their crops on a hillside in the southern part of the South American country.

The farmers at Los Sauces had no access to three-phase mains grid electricity which prevented them using suitable pumps for an adequate water supply to the hillside.

Invertek Drives Ltd's sales partner in Chile, Neodrive Ltda, provided the Optidrive E3 Eco VFD as off-grid inverters for the project. Pumping water to a 40-metre-high water tank at up to 20 l/s when there's sufficient solar power available and using gravity, it then drip feeds the irrigation network with a regular and controlled flow.

Cristian Vera of Neodrive Ltda explained: "The Optidrive E3 is set up in PI control regulating the speed of the pump as a function of the DC Bus Voltage. The VFDs reduce the speed of the water pump to a minimum set frequency when PV energy from the array decreases.

"This allows for extended operation into the evening and night without stopping the pump motor."

Cristian added: "The benefits of the VFD and PV technology not only allow energy autonomy in what is a very rural location, but it also allows energy savings and has brought new economic opportunities to the farmers and their community."

Marcus Silva, Invertek Drives Country Manager for Latin America, said the Los Sauces project demonstrated the growing use of PV technology for water pump solutions.

"Even where location or access to mains grid electricity isn't an issue, the use of PV arrays and VFD technology can bring wider energy and cost savings, as well as environmental benefits," he said.

"Our Optidrive P2 Solar is our main product for the use with solar water pumping projects and an alternative to the E3 used at Los Sauces. The use of the Invertek VFDs can deliver a return on investment within a short period of time, as well as the green benefits of self-sustaining energy production and improved efficiency of water use."

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The Optidrive P2 Solar Pump VFD is available in IP20, IP55 and IP66 enclosures and has a range of key features from its class leading MPPT controller, extended DC operative voltage range (345-800Vdc HV, 185-410Vdc LV), advanced pump functions, remote monitoring and pipe-fill function, to its compatibility with all types of motors and digital inputs for tank high water level and well-low water detection.

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Notes to the Editor

Invertek Drives

Invertek Drives Ltd is dedicated to the design and manufacturing of electronic variable frequency drives for controlling electric motors.

The state-of-the-art UK headquarters, located at Welshpool, Powys, UK, houses specialist facilities for research and development, manufacturing and global marketing. All operations, including research and development, are accredited to the exacting customer focused ISO 9001:2008 quality standard whilst its Environmental Management System is accredited to the ISO 14001:2004 quality standard.

In 2019 a new 5,500sq metre global manufacturing and distribution facility was opened at the headquarters, allowing production of up to 400,000 VFDs a year.

Invertek's products are sold globally by a network of specialist distributors in over 80 different countries. Invertek Drives unique and innovative Optidrive range is designed for ease of use and meets with recognised international design standards for CE (Europe), UL (USA) and CTick (Australia). More details can be found by visiting www.invertekdrives.com.