## Solar

## Application Data No. 206 11/13

## NOV MONO SOLAR TECHNOLOGY HELPS CUT WATER AND POWER CONSUMPTION IN CHINA

A Sun-Sub solar pumping system from NOV Mono is now helping to clean vehicles and also reduce water and power consumption costs at a major logistics warehouse in China. The NOV Mono equipment is drawing water from a well and supplying it to a system used to clean the tyres of trucks entering the Jinxi warehouse of DB Schenker Logistics in Jiangsu province.

Utilising a Global Positioning Satellite (GPS) tracker that allows the system to make maximum use of the available sunlight, the Mono<sup>™</sup> Sun-Sub solar system is now operating up to 12 hours a day, drawing more than 10 m<sup>3</sup> of water from a 3-meters-deep well and pumping it over a distance of 80 meters into the reservoir of the vehicle washing station. "Jiangsu is a very 'water-rich' area with plenty of underground channels filled with relatively clean water," explains Juergen Schmidt from DB Schenker, responsible for technical support on site. "We realised that by using solar power to extract some of this water for our operations, we could reduce our costs by cutting down both the amount of water we consume and the power we use to pump it into the vehicle washing system."

Although it is principally designed for use in remote locations where electric and diesel power are unavailable, the Mono Sun-Sub solar pumping system also offers an ideal solution for this particular application. The Sun-Sub combines four main units – a solar array, a controller, a submersible brushless DC motor and a positive displacement pump – and incorporates a range of technically advanced features. These include the system's solar modules, which are manufactured from high-efficiency monocrystalline silicon cells and can be mounted on a stationary array. Alternatively, they can be mounted on a GPS tracking array, as in this case. This ensures that the solar panels are always facing the sun and can help to increase the overall system capacity up to 30% per day.

"The Mono equipment has provided a simple but very efficient solution to our needs," adds Juergen Schmidt. "It is reliable and does exactly what we need it to do."

When used with a GPS tracking system, the Sun-Sub will continue tracking the sun even in overcast conditions, and will automatically return to its starting point at the end of each day. Therefore, it can resume operations as soon as dawn breaks. The Sun-Sub will only pump as long as water is needed. The system is controlled by a mechanical valve and stops automatically once the tank is full.

Solar Pump:	1 x SS0175 Sun-Sub System
Product:	Truck washing water supply
Capacity:	12m <sup>3</sup> /day
Complete with:	Solar array, controller cable, control components, positive displacement pump and GPS tracker



Mono Pumps Ltd Martin Street, Audenshaw Manchester, M34 5JA England T. +44 (0)161 339 9000 E. info@mono-pumps.com www.mono-pumps.com



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