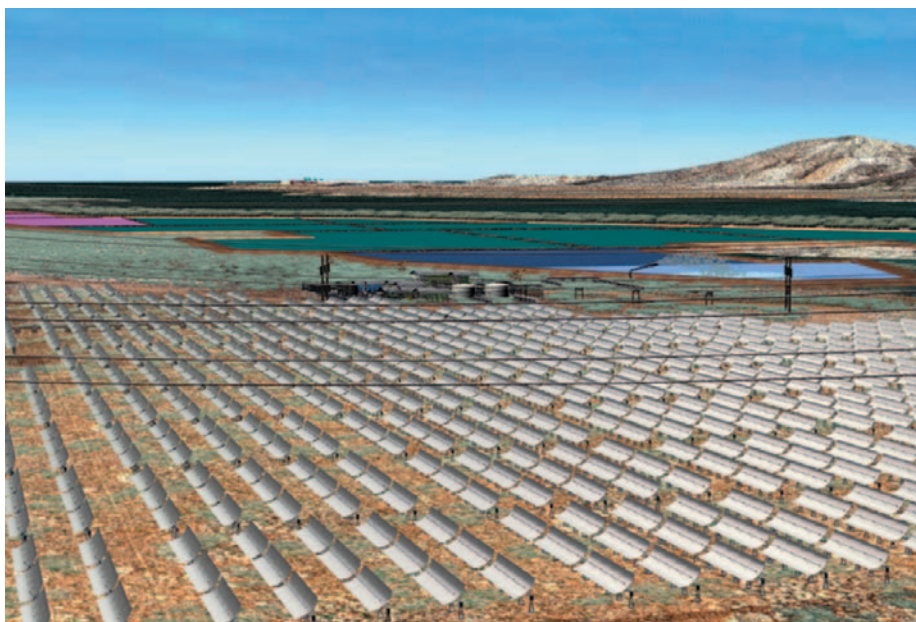


In Brief



The intended solar field array at Point Paterson will cover two square kilometres. Acquasol Pty Ltd

Solar-powered desalination plant leads the way

A Victorian company recently announced plans for the staged development of Australia's first solar-powered desalination plant near Port Augusta in South Australia. Combining solar energy-based power generation, desalination and commercial salt production, all integrated into a single \$370 million industrial complex, the project will significantly reduce the usual greenhouse impacts associated with grid electricity demand for desalination.

Melbourne-based Acquasol Pty Ltd has identified a 50 000-hectare site at Point Paterson, seven kilometres south of Port Augusta.

The solar field will be laid out over a two-square-kilometre area with each solar mirror standing three metres tall. The captured heat will be used to create steam for electricity and desalination, with any excess heat going into thermal storage.

Initially, the desalinated seawater from the Point Paterson plant will be produced mainly for the town of Port Augusta. Eventually, however, it will be capable of supplying water to an area bounded by Port Augusta, Whyalla and Port Pirie – an area known as the 'Iron Triangle'.

This will minimise the area's reliance on

the above-ground Whyalla pipeline from Morgan, which brings water from the River Murray 360 kilometres to the east.

The facility's design will also allow it to be expanded to supply power and water to South Australia's mining communities to the north, easing infrastructure concerns about the state's booming resources sector.

When the first stage is complete, the Point Paterson facility will produce 200 megawatts (MW) of electricity – 50 MW solar thermal and 150 MW combined cycle

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gas turbine (CCGT). It will also produce 5.5 gigalitres of water per year – enough for 34 000 people – 2 gigalitres of which will be supplied free to Port Augusta during the first two years of trialling the design.

'Point Paterson will be a world-first in combining large solar power station technologies and water desalination in a stand-alone, near-zero greenhouse gas emission facility,' says Acquasol's Managing Director, Michael Fielden.

'Unlike conventional desalination processes, Point Paterson will reduce or eliminate the need to dispose of by-product waste brine back into the sea.

'The technology is off-the-shelf, but the combination of the technologies in a high-demand commercial environment for power, water and salt is unique.

'The plant will be configured to enable ready expansion to produce more than 45 gigalitres of water – enough for more than 250 000 people for a year.

'At the end of the day, Point Paterson presents the first Australian environmental and cost-competitive alternative to climate change issues confronting the driest state and its reliance on fossil fuel-based power and stressed natural water resources.'

The Acquasol project announcement coincides with the South Australia Government decision this week to legislate for tougher, world leading greenhouse gas emission standards.

'The power needed to pump water hundreds of kilometres along the Morgan–Whyalla pipeline creates significant greenhouse emissions, yet this project provides environmental relief to the Murray River,' says Mr Fielden.

'The boom in mining projects, which are energy-hungry operations, is a negative against the state's greenhouse challenges, but Point Paterson can balance the ledger by reducing the country's reliance on burning coal for 80 per cent of its electricity needs and easing our 90 per cent reliance as a nation on natural waterways of finite resource.'

The project has attracted the interest of internationally renowned climatologist Professor Stephen Schneider, who has joined the Board of Acquasol as a non-executive director.

Other companies that have registered their interest in the project include Origin Energy (which is interested in the excess power that will be produced); engineering and design contractor, Abigroup Limited; and Australia's largest domestic salt producer, Cheetham.

More information:
Acquasol: www.acquasol.biz/index2.htm