

Contact

F CUBED AUSTRALIA PTY LTD

23 Fillo Drive Somerton
Victoria Australia 3062

P (+61) 3 8339 0006
F (+61) 3 8339 0083

www.fcubed.com.au

*We have not inherited the world
from our forefathers, we have
borrowed it from our children.*

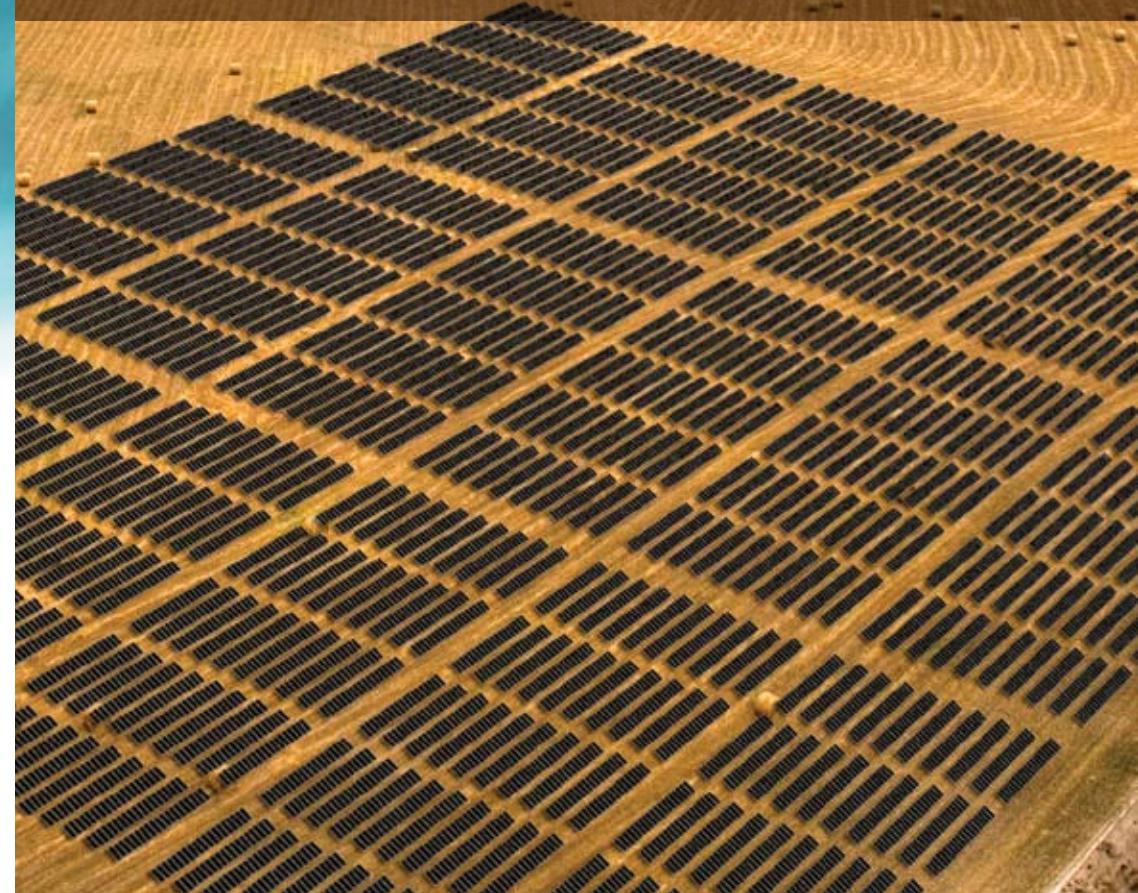


FCUBED
Solar Water Processors

Carocell™

ZLD

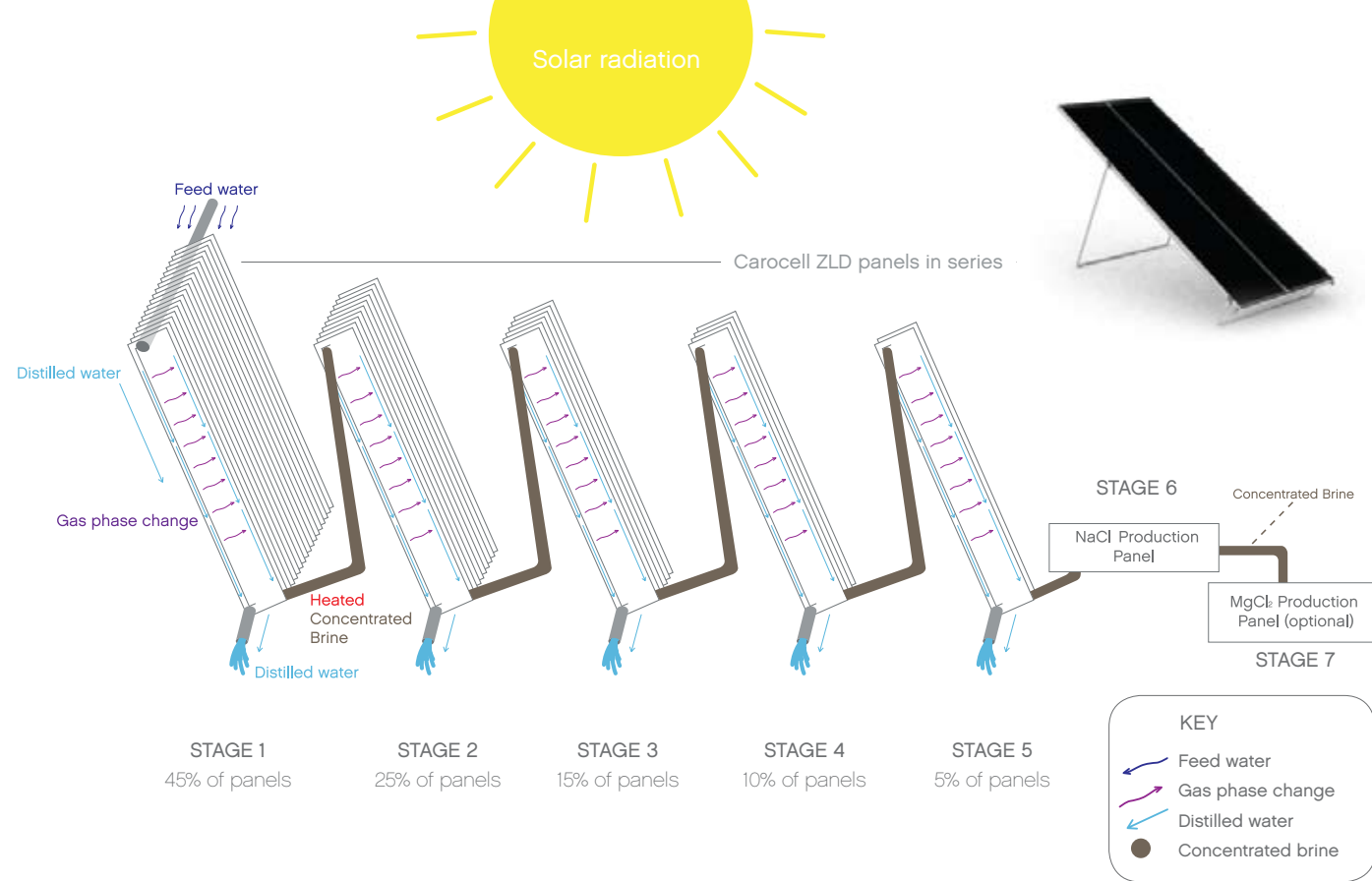
Zero Liquid Discharge
Technology



Carocell™ Zero Liquid Discharge (ZLD)

Carocell panels run as a continuous operation, feed water travels slowly down individual panels, during every pass approximately 30–50% of the flow is extracted as distilled water increasing the salt concentration of the waste water at every pass. The heated waste water is then pumped to the next series of panels where the same process is repeated. The wastewater is treated depending on its TDS as many times as required to bring the salt concentration up to a density of around 1.2 to 1.25 which then goes to the salt production stage for NaCl crystallisation. In the case of sea water the waste liquid after NaCl production will be approximately 30% $MgCl_2$ which can be sold as a liquid or crystallised in a subsequent panel. Other salts and metals drop out in earlier stages and may also be harvested if they are of commercial value.

Carocell's increased efficiency (65% with peak efficiencies above 80%) over other solar distillation products (30 – 40%) is a combination of the proprietary materials used to dramatically increase the temperature of the feed water on the solar collector which enhances the evaporation/condensation processes inside the panel. And the sophisticated geometrical design allows for easy maintenance, optimum performance and a self-controlling natural convection loop enabling widely superior energy recovery.



Benefits

- Zero Liquid Discharge (ZLD) when Carocell panels in series
- Zero waste brine stream
- Completely solar generation
- Low cost / modular
- No green house gas emissions
- No chemicals
- Valuable dry fractionalised salts and other minerals / metals harvested
- Stand alone or in combination – processing brine stream from existing desal plant
- Processing industrial waste liquid streams
- Environmental benefits

