

# Vanadium miner rolls out energy storage technology

PERTH-based miner Australian Vanadium (AVL) has purchased a vanadium electrolyte pilot plant to enable material testing for vanadium redox flow battery (VRB) systems, from UK business C-Tech.

The self-contained electrolyte pilot plant, currently in construction, will be operationally capable immediately on arrival in Australia this month.

AVL managing director Vincent Algar said the purchase and commissioning of the pilot plant – along with the sale of their first battery through AVL's subsidiary VSUN, is another concrete step forward for the company.

"We are extremely pleased with AVL's positioning as a leader in the roll-out of vanadium-based technologies and applications, and we are very proud to be bringing this industry and its exciting down-stream processing opportunities, to WA," he said.

"For AVL, developing the expertise now prepares us for future commercial production of electrolyte.

"This has the potential to be a high volume, high margin business unit for us, providing benefit to shareholders and simultaneously lowering the price of VRB in the Australian market.

"This also enables the increased uptake of VRB systems to occur in the many niches offered in the Australian energy market."

AVL, through VSUN, is actively marketing VRB batteries in Australia through a sales agreement with world-leading German flow battery manufacturer, GILDEMEISTER Energy Storage.

VRB storage systems are the preferred solution for large scale energy storage with a lifespan of 20 years, excellent charge retention and are ideal for grid-backup energy supply.

VRB employ vanadium ions in different oxidation states to store chemical potential energy.

To make the batteries, vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>) as a raw source is processed into an electrolyte (solution).

The battery's storage capacity can be expanded by adding more electrolyte storage tanks, which hold the electrical charge for later use and can also be left completely discharged for long periods with no ill effects.

The battery can be charged and discharged at the same time due to its rapid response time, and has the additional ability to cycle often and deeply, differentiating it from its solid state (lithium) based cousins.

Whether in combination with photovoltaic, wind power stations, biogas generators or in parallel grid operation – the VRB energy storage system guarantees uninterrupted power supply.

The plant will complement AVL's Gabanintha vanadium project in the Murchison province of WA.

Gabanintha is one of the world's highest-grade vanadium projects being advanced with an inferred resource of 91.4mt grading at 0.82 per cent V<sub>2</sub>O<sub>5</sub>.

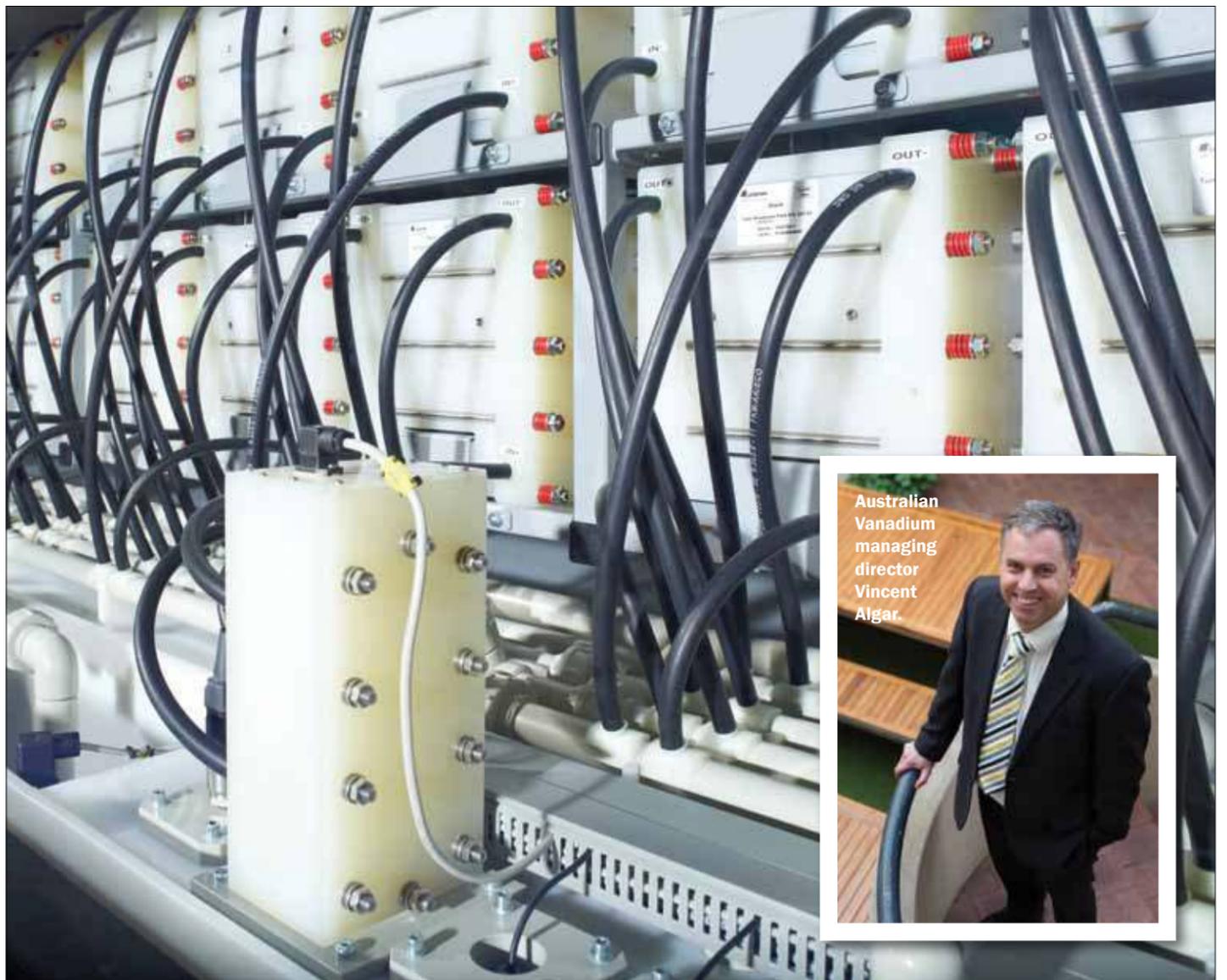
The project includes nine tenements and one mining lease application in the Gabanintha formation, north of the Murchison granite-greenstone terrane of the Archaean Yilgarn Craton.

On 24 February, AVL announced it had signed an agreement with Australian commercial solar company Sun Connect to facilitate renewable energy solutions to the market.

Sun Connect is a well-established and respected national company which has been providing renewable energy solutions for Australia's commercial and residential sectors since 2008.

Through its offices in most of Australia's capital cities, Sun Connect has implemented more than 3000 solar systems nationwide ranging from households and large industrial sites, to government departments and schools.

AVL is seeking to offer its investors a unique exposure to all aspects of the vanadium value chain – from resource through to vanadium's primary steel market and emerging energy storage opportunities.



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Australian Vanadium (AVL) is a vertically integrated resource company with a globally significant vanadium resource base and a rapidly advancing vanadium energy storage strategy.



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