

The Dubbo Project Community Newsletter

Issue #25 / OCT 2020

ASX : ASM

Demerger of ASM from Alkane

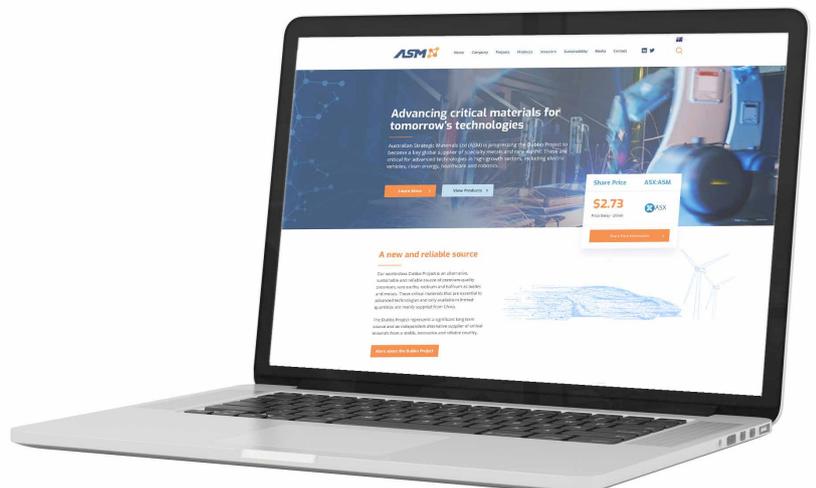
In July, Australian Strategic Materials (ASM) demerged from original parent company Alkane Resources to be listed separately on the ASX as ASM. Alkane shareholders overwhelmingly approved the demerger at an Extraordinary General Meeting on 16 July 2020, with the listing of ASM completed on 30 July.

ASM's focus will continue to be the development of speciality materials, underpinned by the Dubbo Project and our more recent investment in a new, energy-efficient, high-purity metallisation technology. This technology is owned by Ziron Tech, a South Korean company, which ASM has recently entered into a binding heads of agreement to acquire (see next article).

David Woodall, ASM Managing Director, said the demerger comes at an opportune time for ASM, with 2020 shaping up to be a landmark year for the company. "The significant results we're seeing from our joint venture metallisation pilot plant, along with a FEED optimisation program currently underway, puts ASM in a very strong position to develop the Dubbo Project."

Now the demerger is completed, we are keen to progress the financing arrangements for the Dubbo Project, with a view to commencing construction. We hope to have secured some offtake agreements and project funding within the next six to twelve months.

ASM's new identity comes with a whole new look and a dedicated ASM website, which was launched earlier this year. Find all the information and latest news about ASM at asm-au.com.



Acquisition of Ziron Tech and the metallisation pilot plant

ASM has entered into a binding heads of agreement to acquire 95% of Zirconium Technology Corporation (Ziron Tech), our joint venture partner for the commercialisation of a new, energy-efficient metallisation technology. ASM Managing Director David Woodall recently spent several weeks in South Korea to engage with our Korean partners, oversee progress and sign the deal.

Under the agreement, ASM will acquire 100% of RMR Tech, the joint venture company that has constructed and commissioned a commercial-scale pilot plant in Daejeon, South Korea. ASM will own the pilot plant, along with all of Ziron Tech's patents and related intellectual property and technology, once the acquisition is finalised.

The new technology offers an energy-efficient process for converting metal oxides into high-purity metals. Since the pilot plant's commissioning in July, it has successfully produced metal ingots of high-purity titanium, neodymium, praseodymium and neodymium-praseodymium, utilising up to 70% less power than current industry methods.



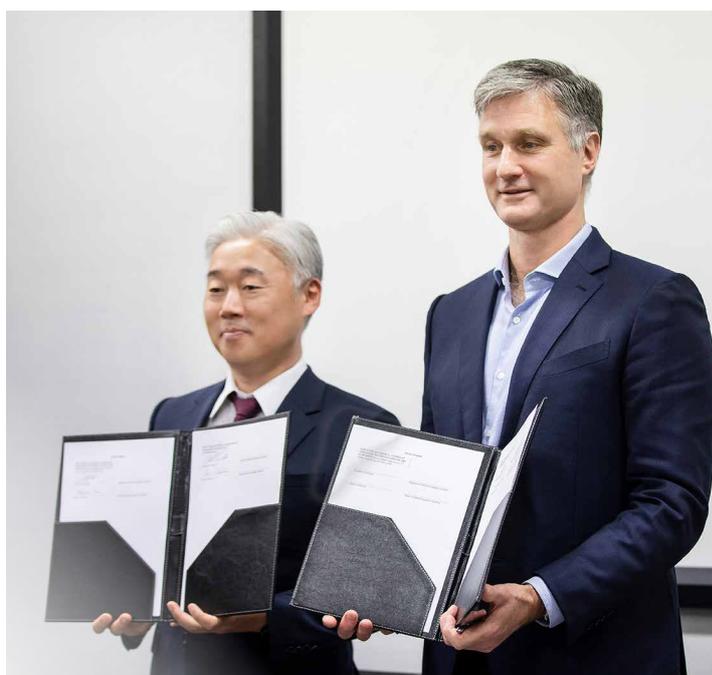
The commercial-scale pilot plant in South Korea converts metal oxides into high-purity metals utilising up to 70% less power than current industry methods.

Neodymium and praseodymium are two of the high-value rare earth elements that will be produced by the Dubbo Project, and are in high demand for permanent magnets. The technology has also been successfully applied during pilot plant test work to all major metals found within the Dubbo Project, including zirconium, hafnium and other rare earths.

The acquisition will also provide ASM with the opportunity to expand our business through the production of titanium metal and associated alloys.

Through Ziron Tech, ASM will continue to develop the technology and intends to commence a feasibility study for larger-scale development and commercialisation of the metallisation plant. The pilot plant was recently awarded a US\$4.5 million grant by the Korean Ministry of Industry, Trade and Resources as part of the Korean Government's Industrial Technological Program.

Ziron Tech is also progressing an agreement with the Korea Institute of Industrial Technology (KITECH) to produce a sample 600kg of permanent magnets for Korean industry over the coming months.



ASM is to acquire 95% of Ziron Tech; Managing Director David Woodall (right) with Ziron Tech's Professor Jonghyeon Lee.

Towards zero net carbon

ASM is exploring options for the Dubbo Project to be a true carbon-neutral operation. As part of this, we are investigating the potential for large-scale renewable energy generation – solar, wind, hydrogen and biogen. This would complement the power cogeneration plant that is already part of the plant's design. Generated energy would be used onsite, stored and/or exported to the grid.

We are also exploring the potential for carbon farming, managed by the Toongi Pastoral Company (TPC), to further offset the plant's emissions under the Australian Government's Emissions Reduction Fund (ERF). Soils have huge capacity for holding carbon, thus keeping it out of the atmosphere as greenhouse gases (such as carbon dioxide and methane).

TPC has commenced planning to register as a carbon farming project under the ERF, where measured increases of in-soil carbon content earn Australian carbon credit units (ACCU), with one ACCU earned for each tonne of carbon dioxide equivalent (tCO₂-e) stored. Earned ACCUs could contribute to the carbon offsets for the Dubbo Project.

To earn ACCUs, TPC needs to first establish the baseline soil carbon content and increase it by at

least 1% over a period of around 10 years. This will be achieved by adopting land management practices that sequester organic carbon through increased microbial activity in the soil.

From an agricultural perspective, carbon-rich soils also improve moisture-holding capacity and provide nutrients for grasses and crops. For every 1% increase in soil organic carbon, soils can be up to 30% more productive and increase water holding capacity significantly.

Dubbo Project optimisation

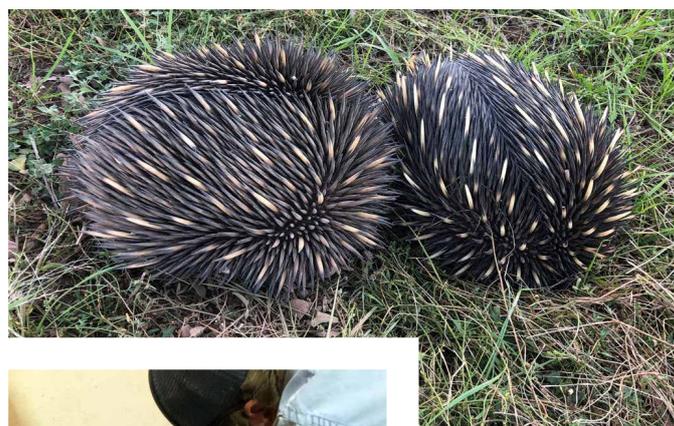
ASM has embarked upon a project to further improve operating efficiencies for the Dubbo Project plant design. These studies build upon the 2018 Dubbo Project Engineering and Financials Update (June 2018), and explore the prospect of incorporating more recent technologies to improve both capital and operating costs.

Part of this optimisation study includes a project to evaluate the integration of a flotation circuit into the front end of the Dubbo Project flowsheet. The aim of this flotation circuit is to deliver an increased ore feed grade to the roast-leach and solvent extraction plant and make the process more efficient.

Prickly houseguests

Renovations have been underway at several of the farmhouses and cottages managed by TPC in the Toongi area. This has primarily involved installing new rainwater tanks, down pipes and more reliable plumbing systems. All properties are currently rented to local families.

The new tenants of Wychitella homestead got a surprise when an annoying presence under the house turned out to be a pair of nesting echidnas! Floorboards were lifted to retrieve and relocate the spiny little monotremes.



Nesting echidnas underneath the Wychitella homestead have been relocated

Down on the farm

ASM's wholly owned subsidiary, the Toongi Pastoral Company (TPC), is contract-growing a crop of mustard for Yandilla Mustard Oil Enterprise. This local family-owned company produces the world's first cold-pressed mustard seed oil from a mustard species developed by the CSIRO. This healthy mustard seed oil is low in erucic acid and contains essential fatty acids OMEGA 3 and OMEGA 6.

The mustard crop was planted in late May as a break crop and is currently finishing flowering; harvesting will occur in October/November. Having a short growing season with impressive tolerance for the variable climate experienced by the Dubbo region, mustard has great potential as a mainstream crop in the area.



Yandilla Agronomist David Ward inspects our mustard crop.

Elsewhere, TPC has been experimenting with multi-species cover crops in the 22 hectare Toongi Valley paddock for the past few years. Diverse plantings (e.g. oats, vetch, tillage radish) provides forage crops for livestock and contributes to soil conditioning. Once livestock have grazed and trampled foliage back into the ground, additional species are sown over the top so the paddock is kept green all the time.

Multi-species cover cropping increases the overall biomass in the paddock, leading to carbon sequestration and improved soil health. TPC is developing a system that can be scaled up and expanded to other paddocks.



TPC Farm Manager, Fergus Job, displays a tillage radish grown in the Toongi Valley paddock. With him are renowned soil biologist, Dr Greg Bender, and Norman Marshall from Australian Soil Management, and engineering consultant Allan Murphy, who have been advising on carbon sequestration strategies and renewable energy.

Let's stay in touch

Subscribe to our Community Newsletters and find out more information about ASM and the Dubbo Project on our website:

asm-au.com

Email us at: info@asm-au.com or
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Dubbo Project – Community Consultative Committee

Nominations Invited for Community Representatives

Nominations are invited and will be received by the undersigned up to 4.00 pm on Friday 13 November 2020 from community members, within the Dubbo-Toongi area, for appointment of three community representatives to fill casual vacancies on the Dubbo Project – Community Consultative Committee (CCC).

We are looking for a mix of people who live locally or are members of a stakeholder group (community, environment, Aboriginal or industry) to join the Community Consultative Committee. Your role as a committee member is voluntary. Appointments to the committee will be determined by the Secretary, NSW Department of Industry, Planning and Environment.

The Dubbo Project Community Consultative Committee comprises seven members – five community members, a representative of Dubbo City Council and representatives of the proponent.

The committee provides a forum for open dialogue between the proponent and representatives of the local community, stakeholder groups and local council on issues related to the project.

As a committee member you will be expected to contribute constructively to committee discussions, attend around four meetings a year, and communicate information about the Dubbo Project from the committee to the broader community.

For more information about the Community Consultative Committee process, please visit:
<https://www.planning.nsw.gov.au/communityconsultativecommittees>

If you would like to nominate, download a copy of the nomination form from the NSW Planning Community Consultative Committees web page (as listed above), or contact the Independent Chair.

For more information on the nomination process please contact the Independent Chair.

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