LITHIUM POWERS AHEAD

BY ANTHONY FENSON
In March 2019, Western Australian Premier Mark McGowan joined the sod-turning ceremony at US chemicals giant Albemarle’s lithium hydroxide processing plant in Kemerton, marking the latest investment in the state’s thriving lithium industry.

‘The Albemarle Kemerton plant is a $1-billion investment in Western Australia that will create 500 construction jobs and another 500 jobs in the south-west, once operational,’ McGowan said in a statement.

‘It will become Australia’s largest lithium hydroxide plant, with approval to produce up to 100,000 tonnes per annum of premium battery-grade lithium hydroxide.’

Already the world’s top producer of hard rock spodumene, the McGowan Government aims to capitalise on the state’s lithium resources with the launch of its Future Battery Industry Strategy and the creation of a lithium and energy materials taskforce.

In April 2019, the $53-million Future Battery Industries Cooperative Research Centre was established in Perth, seeking to help make Western Australia a one-stop shop for battery materials.

While some overseas markets are lagging, some 20 per cent of new car sales in Australia are expected to be electric vehicles (EVs) by 2030, increasing domestic demand for lithium, nickel, cobalt, graphite and battery technologies.

Among Western Australia’s new producers, Altura Mining announced in July 2019 an off-take agreement with China’s Shandong Ruifu for product from its Pilgangoora lithium mine, which commenced commercial production in March.

In May, Galaxy Resources reported its strongest month of production to date at its Mt Cattlin lithium mine, with annualised output of more than 260,000 tonnes ahead of its 180,000–210,000-tonne target.

In the same month, Talison Lithium secured environmental approval for a $512-million expansion of its Greenbushes mine, increasing the world’s biggest lithium mine even further to an annual output of 2.8 million tonnes.

Action heated up in the boardroom, too, with lithium miner Kidman Resources accepting a $776-million takeover bid by conglomerate Wesfarmers. The acquisition would give Wesfarmers control of Kidman’s 50 per cent stake in the Mt Holland lithium project in Western Australia.

Activity, however, has not been restricted to Western Australia. In June, Core Lithium announced that it had received a positive environmental assessment for its proposed Grants deposit, south of Darwin, which is part of its flagship Finnis project in the Northern Territory.

Further east, private explorer Strategic Metals Australia said in July that it had discovered a new lithium province in Georgetown, North Queensland, opening up the potential for Queensland to become ‘a significant miner and processor of lithium salts for battery manufacturing in the state’.

The new projects and expansions follow projections by the Australian Government’s Office of the Chief Economist that domestic lithium production will reach 335,000 tonnes by fiscal 2021 – up from 272,266 tonnes in fiscal 2019 – helping to boost export revenue to $1.4 billion.

‘EV sales have risen by more than 50 per cent, relative to the same point in 2018, and the rate of growth is accelerating,’ the department said in its June 2019 Resources and Energy Quarterly.

Australia dominated output growth in 2018, with production commencing at Pilbara Minerals’ Pilgangoora mine, along with Altura’s mine and Alliance Mineral Assets’ Bald Hill operation – all in Western Australia.

While the government forecaster sees lithium hydroxide prices easing in the short term, it points to demand growth likely outstripping supply by around 2023.

Other projections also suggest an increasing supply shortfall by the early to mid 2020s, based on the demand from EVs together with battery storage.
million EVs to be sold by 2025 and 10 million by 2030. The implications are for ‘a wall of demand coming for lithium from the EV sector’.

A July 2019 report by Benchmark Mineral Intelligence points to the ‘increasing possibility of another major deficit in the market by the early 2020s’, with supply growth ‘far from meeting the needs of tomorrow’s EV expansions’.

‘The question in the lithium market is no longer whether spodumene or brine resources will be developed – both are needed to take us anywhere near the growth estimates of the next two to three years,’ says Benchmark’s analysts.

‘The new question is what other channels of supply will be developed to take us close to the demand forecasts for 2025 and beyond.’

Emerging research and consultancy company Wood Mackenzie has also projected a growing supply shortfall, suggesting it may arrive by the middle of the next decade.

‘Total passenger EV car sales, including hybrid electric vehicles (HEVs), were up by more than 24 per cent last year,’ the company says.

‘Although HEVs had the smallest growth, they made up more than 60 per cent of EV sales. Wood Mackenzie expects global electric car sales (with a plug) to account for seven per cent of all passenger car sales by 2025, 14 per cent by 2030 and 38 per cent by 2040.’

Such projections are backed by Australian lithium companies, including those active overseas.

Steve Promnitz, Managing Director of Argentina-focused Lake Resources, says new projects will be crucial in addressing the supply crunch.

‘Supply is simply not meeting the demand, and whether it’s hard rock from Australia or brine from South America, new lithium investment is critical to facilitating the green revolution in energy and transport,’ Promnitz says.

Together with its current drilling near the world’s largest lithium brine resource, Lake Resources is also examining the potential for a revolutionary direct extraction method for its Kachi project. The process developed in Silicon Valley offers the potential for low-cost, high-quality production with minimal environmental impact.

Other Australian miners are bringing their expertise overseas including Sayona Mining, which is developing its flagship Authier lithium project in Quebec, Canada.

Sayona Mining’s Newly appointed Managing Director, Brett Lynch, says the project complements plans for the development of a complete lithium value chain in the province, including downstream processing.

‘Quebec is strategically located near growing North American markets, such as Tesla’s Gigafactories, with access to clean and green low-cost hydropower, infrastructure and skilled labour,’ Lynch says.

‘Australians are recognised across the world for their mining expertise, and it is this skill and experience that we are bringing to Canada, while also building world-class projects in Western Australia.’

For a sector that barely existed a few years ago, lithium’s growth has been truly transformative as the world switches onto the materials required to support the clean-energy revolution.