



Future Battery Industry Implementation Progress Report

The Western Australian Future Battery Industry Strategy is focused on growing the state into a world-leading producer and exporter of future battery materials, technologies and expertise.

Future Battery Industry Strategy

In early 2019, the Western Australian Government launched its Future Battery Industry Strategy to drive industry growth by leveraging the state's substantial battery minerals reserves, industry-leading expertise in downstream processing, robust environmental and ethical standards, world-class industrial and export infrastructure, and globally recognised expertise and research capability.

The Future Battery Industry Strategy provides a framework with consistent, clear and coordinated actions to ensure the Western Australian Government is leading the nation's growth in the uptake of opportunities across the global battery value chain.

Market overview

Global demand for all battery minerals was strong in 2018, with cumulative battery mineral sales increasing 66% to contribute \$1.3 billion to the Western Australian economy. For the most part, 2019 has followed suit in demonstrating strong demand for battery minerals.

Recent market conditions have demonstrated weaker than expected demand for raw lithium (spodumene), with fewer than expected shipments to key trading partners, principally China. Despite this, medium-long term growth is strong: demand for lithium in battery technologies is forecast to grow by around 23% over the next 10 years.

- » In 2018, Western Australia accounted for 57% of global lithium production and ranked among the top 5 global producers for nickel, manganese, rare earths and cobalt.
- » In 2018/19, around 59% of Western Australia's battery minerals* exports went to China, 11% to Japan, and 8% to Europe.
- » The total value of Western Australia's battery minerals sales was \$6 billion in 2018/19.
- » Since 1 January 2018, 40 applications for battery minerals and materials projects have been approved under the Environmental Protection Act (1986).
- » Since 31 August 2018, Western Australia has experienced a 25.6% increase in process manufacturing traineeship commencements.
- » As at December 2019, Western Australia had \$3 billion of major battery minerals projects under construction or committed and \$23 billion proposed.**

* Battery minerals include lithium, nickel, cobalt, copper, graphite, manganese, alumina, vanadium

** 'Proposed' includes planned and under care and maintenance projects

Outcomes

Jobs

- » **2,762** construction jobs (from projects operating and committed) ⁽¹⁾
- » **14,150** operational jobs ⁽²⁾
- » **21%** increase in operational employment ⁽²⁾
- » **2,349** new regional jobs ⁽²⁾



Economic growth and diversification

- » **36%** of Australia's battery minerals and **4%** of the world's battery minerals came from Western Australia ⁽³⁾
- » **\$3bn** investment in committed future battery industry projects in Western Australia ⁽¹⁾
- » **4%** of Western Australia's merchandise exports are from battery minerals projects, with an export value of **\$6bn** ⁽²⁾



Regional development

- » **\$3bn** committed in regional investment in battery industry projects across 5 regions ⁽¹⁾
 - South-West: \$2.02bn
 - Goldfields-Esperance: \$522m
 - Pilbara: \$33m
 - Mid-West: \$90m
 - Kimberley: \$36m
- » **\$22bn** in proposed regional investment in battery industry projects ⁽¹⁾



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⁽¹⁾ As at December 2019. ⁽²⁾ 2018/19. ⁽³⁾ 2018 CY

Outputs

Exploration

- » **54%** of all battery minerals exploration in Australia is conducted in WA, totalling **\$342m** ⁽²⁾
- » **45** companies offered funding for battery minerals exploration through Round 10 of the Exploration Incentive Scheme
- » **\$840,000** state government contribution under the Exploration Incentive Scheme ⁽²⁾



Mine development

- » **\$968m** in committed investment into battery minerals mines ⁽¹⁾
- » **\$13bn** in proposed battery mineral mines across Western Australia ⁽¹⁾



Production

- » In 2018, Western Australia exported a total of **\$6bn** in battery minerals to **45** countries ⁽²⁾
- » Only **2%** of known battery minerals reserves were exported in 2018 ⁽³⁾



Value-adding

- » **\$2bn** in committed investment in downstream processing projects, from China, US and Chile ⁽¹⁾
- » **\$10bn** in proposed investment in downstream processing projects ⁽¹⁾



Research and technology sector development

- » **\$6m** state government investment in research and development through the Future Battery Industries Cooperative Research Centre
- » An additional **\$104m** cash and in-kind investment from **58** research partners



Assembly and installation

- » **7.6MWh** installed battery storage across all state government initiatives servicing **277** customers



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Achievements in 2019

A1 Action theme 1: Investment attraction

Promote Western Australia as a prime destination for investment in the battery value chain.

- » Produced market specific investment attraction strategies for Europe, East Asia, India, China and the United States.
- » Produced and distributed WA Battery Minerals Industry Profile
- » Managed a range of inbound and outbound battery focused international delegations.

A2 Action theme 2: Project facilitation

Facilitate the establishment of new future battery projects in Western Australia.

- » Established a 'Funding Assistance Register' containing information on relevant state and federal funding programs that battery industry projects may be eligible for.
- » Tailored funding under the Local Industry Capability Fund toward battery industry projects for 2019/20.
- » Considered battery start ups under the Innovation Voucher Program.
- » Produced Project Facilitation and Project Approvals Factsheets.
- » Commenced assessment of current and future skills gaps.

A3 Action theme 3: Research and technology sector development

Support research into future battery materials and technologies.

- » Successful in the bid for the Future Battery Industries Cooperative Research Centre to be located in Western Australia.
- » Provided \$6 million to support industry-led research in the battery supply chain through the Future Battery Industries Cooperative Research Centre.
- » Attracted outstanding international researchers in future battery industry research to WA.

A4 Action theme 4: Adoption of battery technologies – new opportunities

Explore opportunities associated with the uptake of batteries in Western Australia and globally.

- » Explored domestic and export opportunities associated with the assembly, installation and management of energy storage systems.
- » Commenced review of existing regulation in relation to battery recycling.
- » Explored manufacturing opportunities associated with the demand for niche battery products.

Next Steps

The Western Australian Government will continue to work closely with industry, research organisations and the Australian Government to grow the industry and reap the full potential of its battery minerals, processing and manufacturing capacity, technical expertise and research capability.