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Queensland Department of State Development

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EVC Submission to Discussion Paper on Queensland Battery Industry Strategy

The Electric Vehicle Council (EVC) welcomes the opportunity to provide feedback on the development of the Queensland Government’s Battery Industry Strategy.

The EVC is the national peak body for the electric vehicle (EV) industry in Australia. Our mission is to accelerate the electrification of transport for a sustainable and prosperous future. We represent members across the EV value chain, including car, bus and truck manufacturers, importers, operators, charging infrastructure suppliers and network providers, and battery recyclers.

There are a number of opportunities for Queensland across the EV battery value chain, from mining of critical minerals, refining and processing battery precursor materials, and battery manufacturing through to the development of second life applications and the recycling of used EV batteries to facilitate the re-use of critical minerals (see **Figure 1**). To make the most of these opportunities, the Queensland Government should prioritise policy settings that can provide strategic direction and incentivise industry development, while supporting the necessary transition to an electrified vehicle fleet.

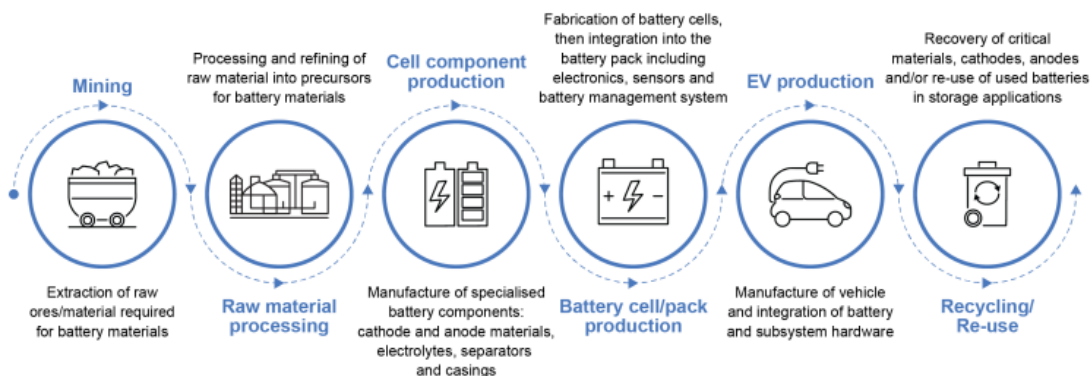


Figure 1. An overview of the EV battery value chain. IEA, [Global EV Outlook 2022](#) (2022).

Our responses to specified consultation questions are set out in **Appendix 1** below. In summary, the Electric Vehicle Council recommends that the Queensland Government develops a Battery Industry Strategy that will:

- Encourage investment in the full EV value chain, including mineral extraction, processing, battery manufacturing, and electric vehicle manufacturing and assembly.
- Foster intergovernmental cooperation across Australia to support all States and Territories to capitalise on the EV transition.
- Identify opportunities for public-private partnerships across the EV battery value chain to increase job opportunities and generate a return on investment.
- Reduce regulatory barriers and provide policy certainty to investors to de-risk early investment.
- Guarantee purchases of downstream products to secure investment in local manufacturing.
- Encourage a circular economy for second-life applications of EV batteries and components, and invest in a domestic battery recycling industry, with a focus on locally developed technology and innovative processes.
- Support for transitioning workforces in declining industries to upskill into the green industries enabled by the development of a domestic EV value chain.

If you have any questions on this submission, please do not hesitate to contact Natalie Thompson, Senior Policy Officer, Electric Vehicle Council: office@evc.org.au

Thank you for your consideration of our submission.

Yours sincerely,



Behyad Jafari
Chief Executive Officer
Electric Vehicle Council

Appendix 1 – Responses to QLD Consultation Questions

Question	EVC Response
1. Do you agree with the market opportunities identified in the discussion paper?	<p>Recent analysis by the Future Battery Industries CRC (FBICRC) estimates that a diversified battery industry (including refining and processing, and cell manufacturing) could provide \$16.9 billion of value add and over 61,400 jobs in the Australian economy.¹</p> <p>Australia is already well-positioned to capitalise on the growing demand for critical minerals, with established global dominance in the mining of lithium, nickel, and other key minerals required for EV batteries.</p> <p>Australia can leverage its existing advantages by investing in R&D to expand capability in battery materials refining, precursor production, cell manufacturing, along with innovation in second-life applications and recycling.</p> <p>Establishing these capabilities will be key to building out Australia’s domestic EV value chain and ensuring we can capture the opportunities provided by the switch to EVs and the renewable energy transition more broadly.</p>
2. What do you consider to be the key challenges in securing these markets by 2030?	<p>Despite considerable potential, Australia lags comparable countries in the development of a lithium-ion battery supply chain beyond extraction and export of raw materials. As battery manufacturing supply chains are currently dominated by major economies that are investing heavily to capture the economic opportunities provided by the clean energy transition, Australia risks being left behind given our relatively small market size and limited existing industry.</p> <p>To ensure Australia can capture the economic opportunities provided by the EV transition and broader energy transition, significant near-term investment is required in Queensland and in other States/Territories to enable the necessary development of infrastructure, and the creation of new supply chain capabilities.</p> <p>Another challenge presented is a potential workforce shortage to deliver a local EV battery value chain. To develop necessary workforce for domestic battery industries, Australia will need to invest in training and education programs, create targeted battery industry apprenticeships and internships, and implement measures to promote diversity and inclusivity across the sector as</p>

¹ FBICRC (2023), *Charging Ahead – Australia’s Battery Powered Future*. https://fbicrc.com.au/wp-content/uploads/2023/03/Charging-Ahead_Final-Report_Full-17-March-2023-1.pdf

it evolves. The Government should work with industry to identify any skills gaps and create education and training programs that will provide current employees with the necessary skills and knowledge, and collaborate with tertiary education institutions to develop a future workforce to take advantage of the opportunities presented across the battery value chain.

3. Are there any additional opportunities that Queensland's battery industry could target?

Capturing market opportunities across the EV value chain will require a high level of intergovernmental cooperation. The Federal Government is developing a National Battery Strategy in parallel with the National Reconstruction Fund and Critical Minerals Strategy. We encourage the Queensland Government to work with the Federal Government to develop a coordinated approach to developing Australian battery industries.

The EVC submission to the National Battery Strategy is available here:

<https://electricvehiclecouncil.com.au/wp-content/uploads/2023/03/202303-EVC-Submission-National-Battery-Strategy.pdf>.

The Queensland Government should also work State and Territory counterparts to coordinate industry development and harmonise regulatory approaches to avoid inefficient expenditure. While there will be space for inter-jurisdictional competition in the future, greater cooperation across Australian states and territories is necessary to ensure efforts are complimentary in establishing a domestic EV battery value chain.

4. Where in the supply chain do you consider partnerships and collaborative investment to be most critical?

Expanding downstream processing of battery minerals will provide significant opportunities for long term prosperity, by adding value to products exported to global markets. This is particularly important as our economy transitions away from its traditional fossil fuel resource base over the coming years.

Attracting investment to expand onshore refining and processing will be crucial to enabling downstream cathode production and cell manufacturing.

Development of domestic cell manufacturing capabilities will require substantial financial backing from both government and private investors to support R&D and commercialisation to scale domestic production.

Without long-term support, the energy intensity and high capital outlay required to establish and sustain a mature industry in Australia will continue to prove to be substantial barriers.

5. How could Queensland carve out a niche in cell manufacturing? What do you see as the biggest opportunities?

Establishment of a battery manufacturing precinct in Queensland with \$100 million in support from the Federal Government will play a key role in developing sovereign capabilities and providing opportunities for local employment.

To ensure longevity of a domestic cell manufacturing sector, the Government can play a role in providing networking and matchmaking services between different supply chain participants (both domestically and offshore) to foster innovation along the battery value chain, including R&D into EV battery reuse applications in stationary energy storage. These initiatives should be supported by a range of policies that incentivise local industry development and provide regulatory clarity to enable investment certainty.

Establishing EV battery manufacturing will be difficult without direct investment and support from major automotive manufacturers to guarantee offtake of batteries. There are however opportunities for Australian-made batteries to be integrated into Queensland's existing manufacturing and assembly of heavy vehicles, including buses and trucks, as well as caravans and trailers. To facilitate industry development, support through incentives would be required to encourage the manufacture and purchase of Australian-made vehicles with locally made batteries.

6. How could Queensland collectively market our commitments to developing a sustainable battery industry?

Major economies are taking steps to increase supply chain resilience and sustainability through the development of onshore capabilities in recycling and second-life applications.² Establishing a circular economy around EV batteries will allow for the provision of critical minerals to meet future needs for clean energy technologies, and achieve significant emissions reductions by reducing the use of raw materials in battery production.³

While battery recycling is expected to remain a nascent industry until significant volumes of spent EV batteries are available, establishing battery recycling at scale may also contribute to the domestic production of battery precursors and cell components. It will be important for the Queensland Government to work with industry to develop partnerships with battery producers (whether onshore or overseas), to ensure recycled minerals can be embedded into the manufacturing process.

² European Commission (2020), *Green Deal: Sustainable batteries for a circular and climate neutral economy*, https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2312.

³ Chen, Q et al (2022), 'Investigating carbon footprint and carbon reduction potential using a cradle-to-cradle LCA approach on lithium-ion batteries for electric vehicles in China,' *Journal of Cleaner Production*, 369 (133342). <https://www.sciencedirect.com/science/article/abs/pii/S0959652622029286>.

It is also important to recognise the role of green energy in supporting the development of a local EV battery value chain. Given the abundance of potential renewable energy sources in Australia, the energy transition presents a massive opportunity to attract investment, as other jurisdictions strengthen regulations to reduce emissions from the battery supply chain (including raw minerals extraction, manufacturing and recycling).⁴ Accelerating the green energy transition also presents an avenue to bring down production costs from energy consumption, making Australia more globally competitive in downstream battery material processing and manufacturing.⁵

⁴ See, e.g., European Parliament (2020), *Proposal concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020*, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020PC0798>

⁵ Nahum, D (2020), *Powering Onwards: Australia's Opportunity to Reinvigorate Manufacturing through Renewable Energy*, Centre for Future Work at the Australia Institute. https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/3311/attachments/original/1588894059/Powering-Onwards_FINAL.pdf?1588894059