A lithium industry in Australia

A value chain analysis for downstreaming Australia's lithium resources

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This report prepared for the
Association of Mining and Exploration Companies

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Executive Summary

An exponential growth is forecast in the global battery market.

Australia has a remarkable opportunity to benefit from local advantages as it is:

- now responsible for mining the majority of the world's lithium; and
- mining all of the minerals necessary to domestically manufacture batteries.

Now is the time for Government and industry to act as other supplier countries are already acting to value-add downstream.

Governments, industry, and the research sector, must capitalise on this unique, once-in-a-generation confluence of local advantages to value-add. For the foreseeable future, Australia can continue to dominate lithium spodumene mining. Government has frequently referred to downstream processing, and the possibility of adding further value to resources rather than mining and direct shipping out.

This Report details the lithium value chain, and how Australia can ensure future generations with massive economic and social benefit from our current substantial comparative advantage.

Report recommendations open the conversation of how Government and industry can collaboratively work to ensure the greatest possible return in a fiercely competitive global market.

It is crucial that action is taken quickly so Australia takes a share of the thousands of new jobs (skilled and semi-skilled) in this two trillion-dollar value chain.

If the Government wants Australia's future generations to benefit from this opportunity it must:

1. Build awareness of Australia's lithium opportunity;
2. Get the policy setting right to support industry development in Australia; and
3. Act now.

Overview

- Rising growth in global demand for lithium is undeniable.
- The lithium industry will rapidly reposition from a second or third tier ore and metal processor, to a first tier, strategically important industry central to the world's economy, holding that place for at least the next two decades.
- Australia can value add to products across the lithium value chain, and be a significant global player in all downstream elements – but must act with urgency to make the most of the opportunity.

Today, it is widely understood that storing energy in batteries is a rapidly growing disruptor for the entire energy sector. Annual compound growth estimates baseline above 10%, with some estimates indicating periods of year on year growth of 50% peaking during the mid 2020's. These rates will be impacted by multiple factors including consumer technology adoption rates, cost reduction, impact of environmental policies, functional convenience and driven by competitive tension between new and existing manufacturers.

It is also accepted that Lithium, due to its availability and chemical ability to efficiently mobilise electrical charge, will remain as the key material component of these batteries well beyond 2030. Lithium is the third lightest element and is the metal with the highest energy density by weight. Exploiting lithium as an energy store has allowed EV's and other weight-sensitive electronic applications, such as mobile electronics, power tools and, most recently, robots and drones, to become ubiquitous.

The diverse commercial interest in energy storage has driven further research and development in battery technology. The sales demand growth is also delivering economies of scale in the production of ever-improving batteries. The result of both of these factors have combined to extend the advantage that lithium based storage currently holds over any competing technology.

Despite the extraordinarily high level of interest, in 2017 lithium is a small global market.

Nevertheless, the rising trend in demand for lithium chemicals over the next few years is inarguable. Indeed, growing demand has led Signum Box to note that the industry needs "a new project entering the market every year to satisfy growing demand[1]". Further, significant growth into the next decade is also assured; the question remains the rate and scale of growth. As the lithium industry moves forward, it must rapidly reposition itself from a second- or third-tier ore and metal processor, to a first-tier, strategically important industry central to the world's economy and energy security for at least the next two decades.

[1] Lombrana L & Gilbert J (2017) **Supplying lithium gets trickier as electric revolution quickens** Bloomberg https://www.bloomberg.com/news/articles/2017-08-21/supplying-lithium-gets-trickier-as-electric-revolution-quickens

Australia is in the enviable position of having large reserves of Lithium in the form of hard rock. This resource is very accessible by established mining technology and already deployed in other mining applications by a substantive, skilled, and efficient mining industry in Australia. By comparison, most other major global reserves are held in salt lakes and are extracted by natural evaporation. Whilst this allows producers in, for example, South America to enjoy low operational costs, their pathway to expand production is both environmentally and technically challenging, more costly, time-consuming and to a large extent, weather dependant. In comparison, the advantage for Australia's producers is that they can rapidly, cost-effectively and predictably expand production to meet demand using established technology. This is demonstrated by Australia's likely capture of as much as 60% (2017 estimate based on shipments to date) of the global market – based upon the contracted supply from Australia for this year of some 24,300 contained tonnes of lithium (LME) compared to the global consumption forecast of most forecasters (incl. Signum Box) of 40,000 tonnes of LME.

There are substantial value-add opportunities along the value chain transforming lithium from mineral to end-product lithium for the massively growing driver of lithium as an energy storage enabler (Fig. 1):

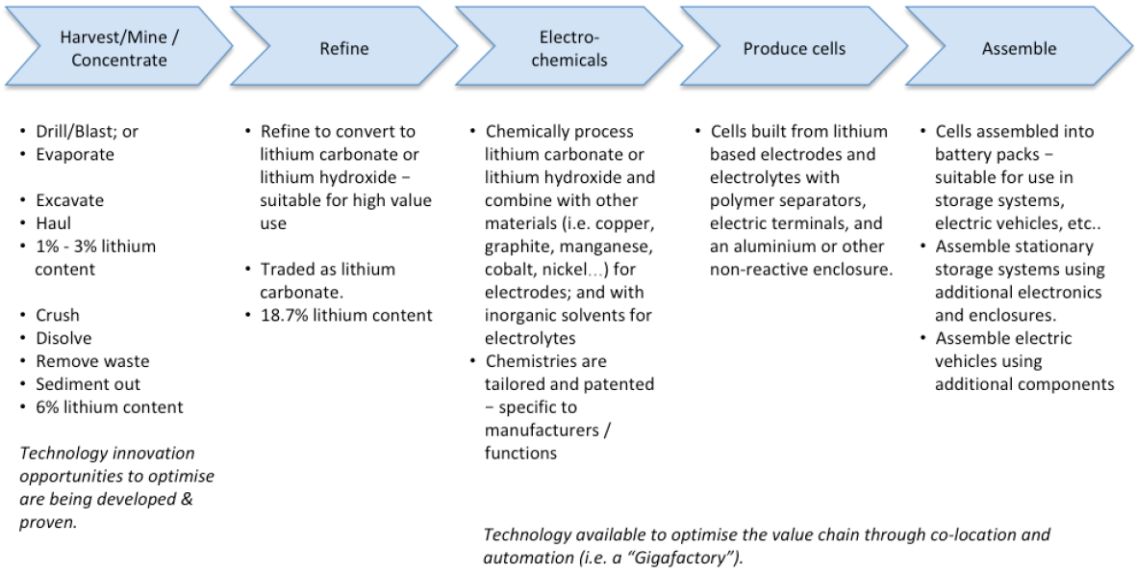


Figure 1 – Lithium Transformation Chain

Along with the increase in demand for lithium, prices for the refined product have risen and logistics efficiencies have been sought. Australian producers have traditionally "concentrated" their ore close to the mine-site to reduce the physical volume of ore moved, although such concentrating still results in shipments of product of only 6% lithium content. Higher value lithium refining and further processing has typically taken place offshore driven by the historical position China established from its own relatively small lithium extraction (Fig. 2)

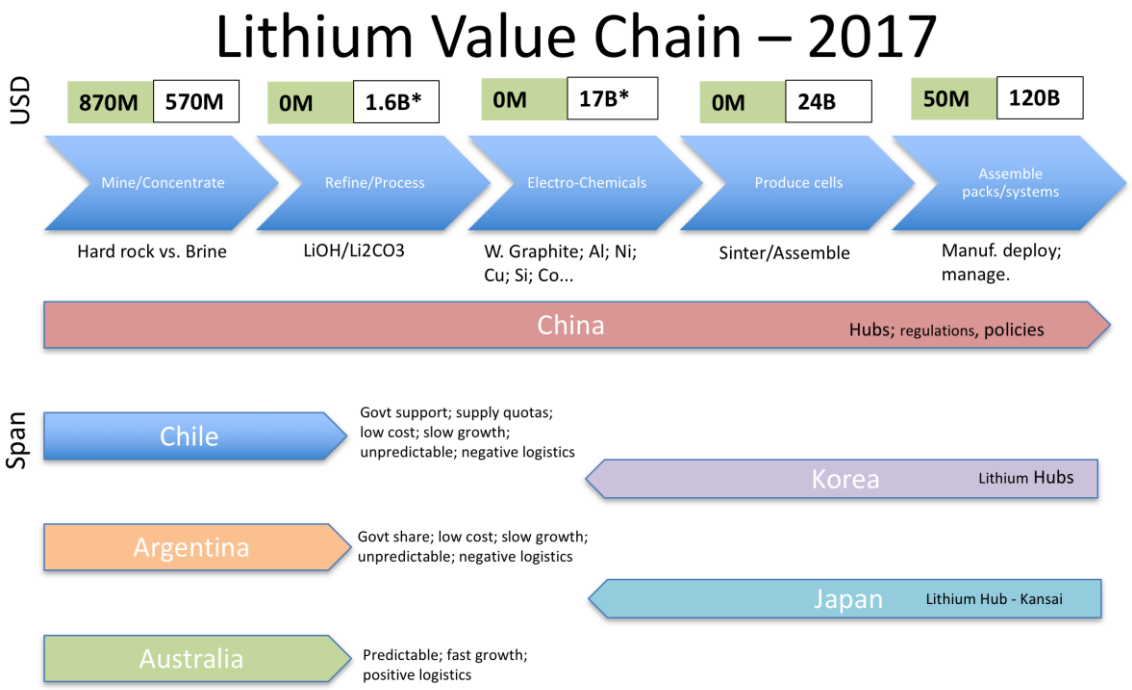


Figure 2 Lithium value chain 2017 – In country baselines (green USD for Australia, white for global)

As a result of the chemistry of lithium in concentrate, the act of processing concentrate further into battery grade product delivers a more than six-fold efficiency in transport and logistics. Accordingly, by building this processing closer to the mine, value is also created by significant cost savings. The industry comment frequently made around local refining is "why do we export a product that is 94% waste?"

The value chain snapshot of major product suppliers for 2017 can also be examined through revenue share by country or region (Fig. 3). A highlight is the dichotomy between the major lithium producers (Australia, Chile, Argentine) and the major downstream industrial manufacturers (Korea, Japan). China is a smaller producer, but has a major presence in downstream processing. Europe and the USA are rapidly emerging system manufacturers, largely based upon Korean and Japanese technology. They are also expanding into battery manufacture, but output to date has been modest in the global context. Their growth motivation is the demand being forecast by auto makers to rapidly transition to electric drive-trains for manufacturing cost reductions (thousands of fewer components per vehicle), combined with emerging regulatory imposts as more nations seek to end sales of combustion engine vehicles in the coming decades to combat both air pollution and to meet international emission commitments.

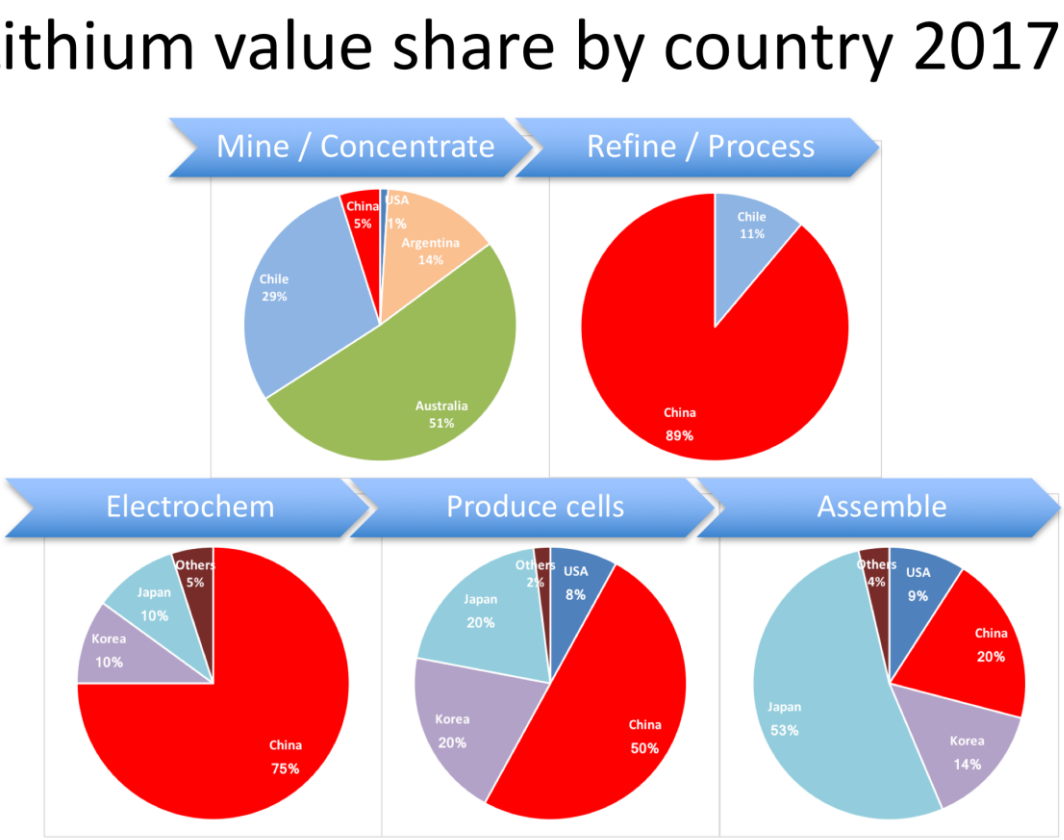


Figure 3 Lithium value share by country 2017 – baseline.
NB Very limited data available for electro-chemicals and cell manufacture – estimates only.

Among global lithium producers, the trend is to further refine the product to a high degree of purity closer to the mine-site. This increasingly reduces logistics costs while also capturing high returns. Unfortunately appraising the mid-stream (electro-chemical component) flows is challenging because of the lack of available transactional data.

Using our lithium transformation chain approach (Fig. 4), the actual gaps limiting Australia's capability to deliver across the entire value chain are relatively small.

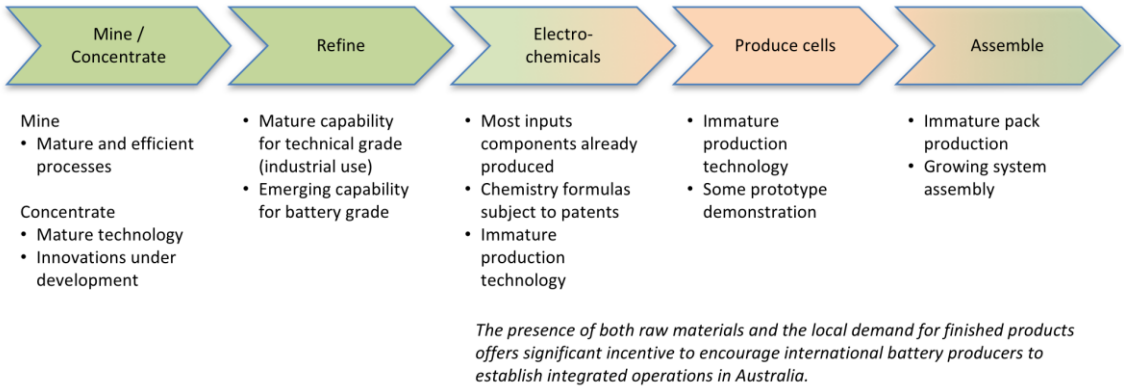


Figure 4 Australia's capability in lithium transformation 2017

In Australia, we are currently transitioning into this second stage of processing through Tianqi's investment in Kwinana, due before 2020[2]. The world's other large Lithium producers, SQM, FMC and Albemarle and Ganfeng, are similarly expanding investment in refining, driven by the value-add opportunity. The 2020 forecast value chain (Fig. 5) reveals other producing countries are ahead of Australia in this transition. While this is a disadvantage to our export value potential, it has allowed the development of significant innovation towards new, efficient methods for refining (i.e. electrolysis extraction).

In considering further creation of downstream processing in Australia towards production of battery grade lithium hydroxide or lithium carbonate, a review of nine development projects - in Finland, Australia, Chile, Bolivia, Argentina - has established a relative benchmark of USD13.6M per kiloton of annual production. This target applies provided the targeted facility production is at least 20 ktpa of battery grade product. At smaller plant sizes (below 10 ktpa) construction costs exceed USD 20M per ktpa.

The review also indicates that these production costs appear to be lowest in Australia (Tianqi) and Chile. Production cost information has not been sourced for China, but it is understood that logistics, tailored subsidies, the relatively segmented nature of component manufacture, and the relative age (and technology) of Chinese facilities indicates that production costs are unlikely to be significantly lower that these baselines.

While a current hub location is effectively emerging in Kwinana, it is interesting to imagine other possible locations. As an example for regional Australia, an estimate of the cost of construction of a production facility in the Pilbara would be in the order of 1.3 times that of an existing industrial hub (extrapolating from Regional Development Australia report on the cost of doing business in the Pilbara). Accordingly, a target construction cost of a 20,000 ktpa facility would be in the order of USD350M. This cost per ktpa would be on a par with large plants in Argentina and Bolivia, and well below smaller scale plants in Argentina and Finland.

Another factor supporting further local value add is that the largest cost component (approximately 40%) of plant operating cost is apportioned to the chemical reagents used in processing. Of some 14 typical reagents and consumables (including lithium and gas), 13 are already produced in Australia. Only one reagent (Soda Ash) is now imported, since the 2013 closure of a plant in South Australia.

The evidence indicates that, pending detailed cost and risk analysis, any sufficiently large battery chemical plant in Australia will be globally cost effective, and would likely have more predictable per tonne operating costs (compared to Brine-based lithium) due to the dependability of hard-rock supply.

[2] The West Australian (2017) **Kwinana plant fast-track good sign for WA lithium plays** https://thewest.com.au/business/construction/kwinana-plant-fast-track-good-sign-for-wa-lithium-plays-ng-b88512862z

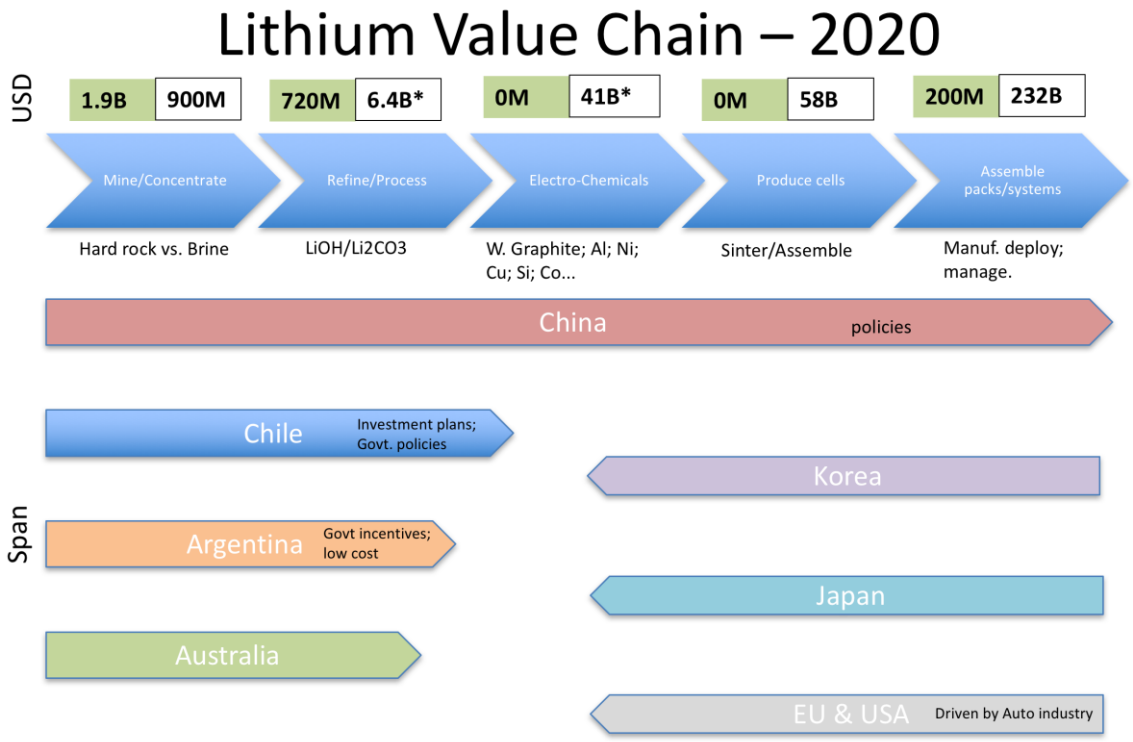


Figure 5 Lithium value chain 2020 - forecast

The reasons cited within other countries to develop are varied, but include:

- Political and economic desire to generate more value and more employment in-country;
- Political, economic and academic desire to develop in-country research and development;
- Economic and political desire to support down-stream emerging industries – auto-making (Argentina); batteries (Chile);
- Economic Balance of Trade considerations;
- Trade security through access to a broader range of customers.

This transition into refining battery grade lithium compounds introduces the opportunity to supply new markets and to support further industrial processing into electro-chemical components – the third stage of our value chain.

Increasingly, the producers of batteries and storage systems – predominantly Korea and Japan – are designing and building factories to receive refined materials and to automate the assembly and testing of battery cells, packs and systems.

In this value stage, Australia also has very significant opportunities due to our existing resources of other electro-chemical inputs – including copper, nickel, cobalt and aluminium. Arguably, Australia could become a dominant global producer of these direct battery inputs with the additional benefits of directly supporting energy storage innovation in industry and academia. While there are various MOUs and early stage proposals to develop such manufacturing plants in Australia – namely Townsville[3] and Darwin[4] - but nothing is yet certain.

Recent demonstrations from Queensland's University of Technology show the prototype for relatively low-cost Australian manufacture of battery cells[5]. Other lithium based technology developments (such as 24-M) are showing very significant cost/performance improvements with significantly lower capital cost of entry. It appears probable that the cost of building battery manufacturing could reduce by an order of magnitude.

In a "Business as Usual" scenario, based upon expected developments and global demand estimates the lithium value chain for 2025 would look like:

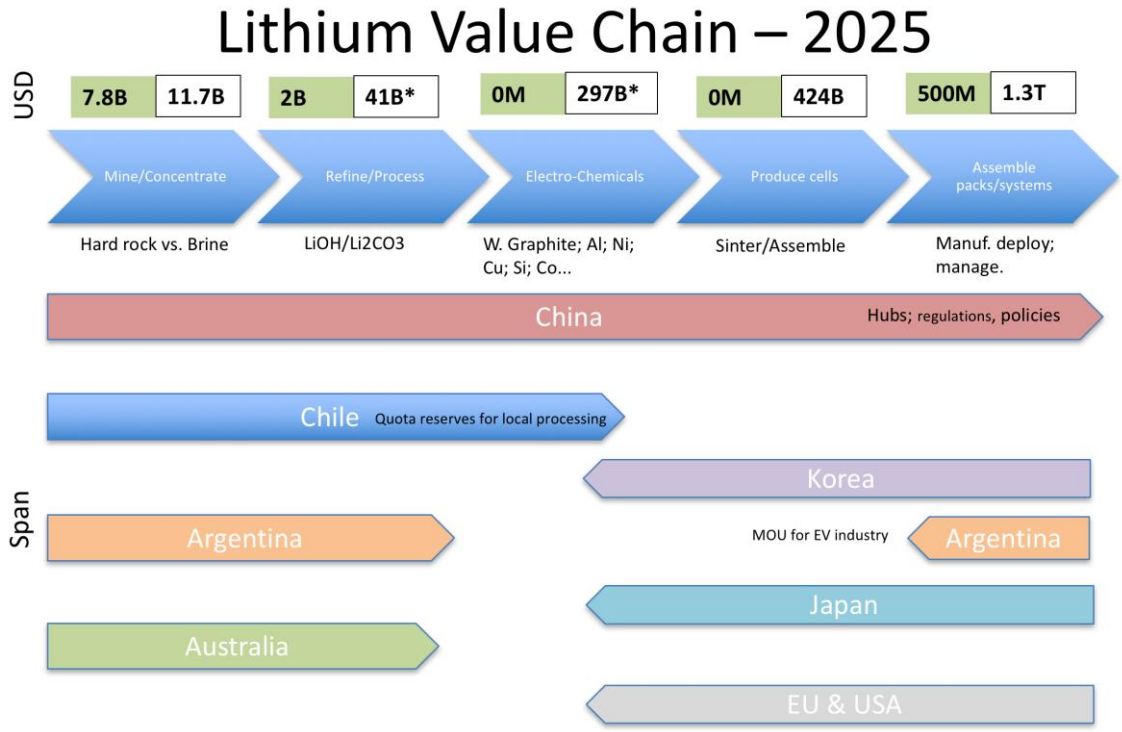


Figure 6 Lithium value chain 2025 - forecast

[3] Australian Mining (2017) **Magnis Resources strikes lithium supply deal** http://disq.us/t/2sw9ay6
[4] Shipway G (2017) **$100m battery factory a step closer** http://www.ntnews.com.au/business/news-story/76b546d9bbdc4d65565655e13c6a8515
[5] Withey A (2017) **Making lithium-ion batteries 'not that hard', says QUT professor** http://www.abc.net.au/news/2017-09-20/qut-creates-australia-first-lithium-ion-battery/8963740

Value Capture

The Value Chain estimates have been based upon commercial demand forecasts for (lithium battery based) products, EV sales forecasts and stationary energy storage for domestic and utility use. These forecasts diverge significantly over time from that of extreme conservatism to that closer to the growth rate seen in comparable disruptive technologies. It is also noted that some forecasters have not consistently considered resource constraints beyond known reserves. We recognise that some of these resource constraints have yet to be tested, that exploration continuously identifies new sources, that research and development constantly seeks low-cost solutions through substitute material (such as replacements for cobalt, synthetic graphite, etc.), that improved processing efficiencies drive more yield at every stage and that battery recycling will become increasingly relevant as end-of-life volumes increase.

However, as stated earlier, there is huge amount of opacity in trade and finance data, so transactional data generally must be estimated.

Forecasters estimates (Table 1) have been reviewed upwards, and very often more than double year on year. For example, Signum Box advised of a 72% forecast increase for 2017 from 2016. These growth rate differences become most prominent when looking at 2025 to 2030.

Table 1 LME Demand Estimates (Annual Tonnes) from a range of commentators sorted on 2020 forecast.

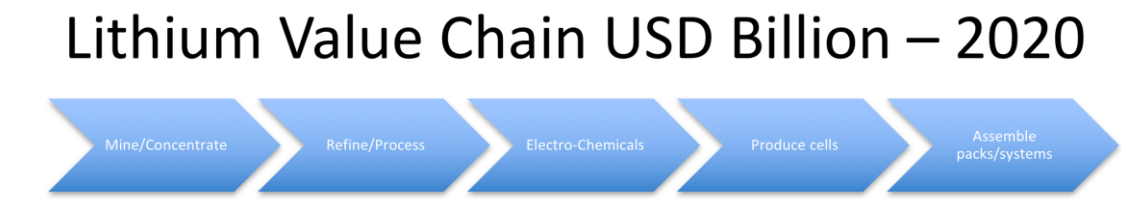
Source	2015	2020	2025
Signum Box[6]		52,000	101,000
Stormcrow[7]	37,000	57,000	75,000
CRU[8]	38,000	60,000	79,000
Cannacord[9]		65,000	129,000
Resource Capital[10]	33,000	68,000	122,000
Deutsche Bank[11]	34,000	68,000	110,000
Future Smart[12]	34,000	81,000	590,000
Seeking Alpha[13]		122,000	531,000
Average	35,200	71,600	217,125
Highest 4 Av.	36,000	84,750	343,000
Lowest 4 Av.	35,000	58,500	91,250

[6] Signum Box (2017) http://www.signumbox.com/lithium-reports/
Lithium Batteries and Vehicles, Perspectives and Trends
[7] StormCrow (2017) **Lithium Demand, Supply and Price Forecasts – Who do we throw out of the boat?**
http://imarcmelbourne.com/wp-content/uploads/sites/13/2017/04/5Apr17-FEaF-1515-Jon-Hykawy-Stormcrow.pdf
[8] CRU (2017) **Global lithium supply exceeds expectations despite varying producer fortunes**
https://www.crugroup.com/knowledge-and-insights/insights/global-lithium-supply-exceeds-expectations-despite-varying-producer-fortunes/
[9] Canaccord Genuity (2017) **Lithium DSO potential overstated**
http://www.galaxyresources.com.au/Investor/16062017Canaccord.pdf
[10] Swiss Resource Capital AG (2017) **Lithium Report 2017** https://www.resource-capital.ch/fileadmin/reports/2017/final_Lithium.2_en_.pdf
[11] Deutsche Bank (2016) **Lithium 101: Welcome to the Lithium-ion Age** https://www.slideshare.net/Tehama/welcome-to-the-lithium-ion-age-lithium-101-deutsche-bank-may-9-2016
[12] Future Smart Strategies 2017 forecasts – this report.
[13] Seeking Alpha Mining News https://seekingalpha.com/

It is generally accepted that the rate of change in adoption of both electric vehicles and stationary storage, will continue to experience non-linear increase in response to both cost reductions and policy development[14][15][16].

Announcements from the motor vehicle industry about new car models was something we once expected every year or two – in the second half of 2017, media releases about yet another manufacturer's commitment to and escalation of electric vehicle development and roll out is now the daily norm,[17][18] and now joined by the addition of electric prime movers with 1 MWh batteries.[19]

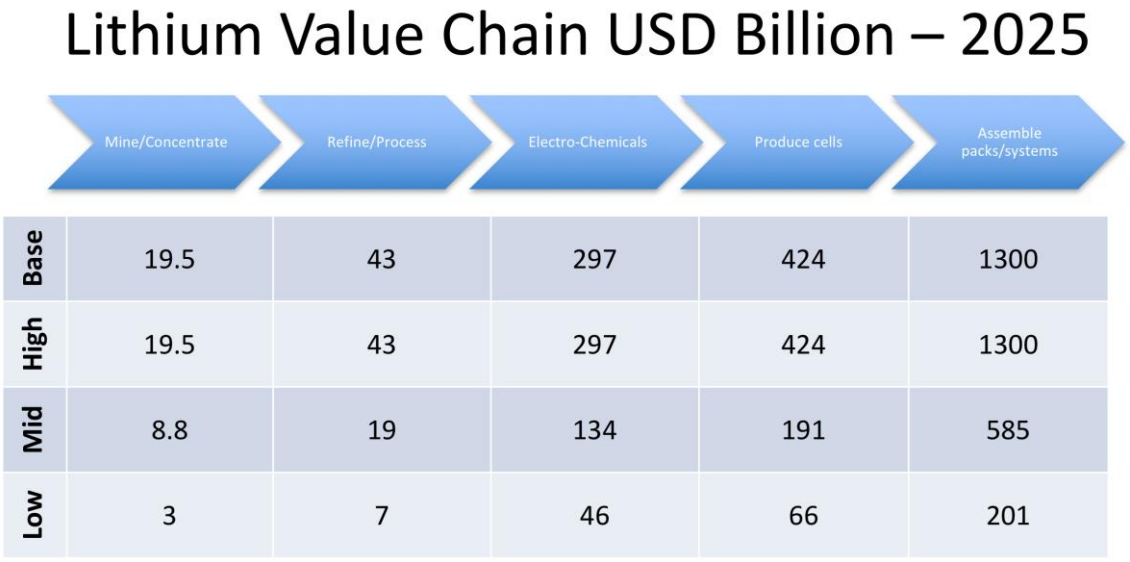
The value range of all estimated outcomes is compared to this report's forecast and are summarised on Figs. 7 and 8:



Base	2.8	7.1	41	58	232
High	4.2	10.7	61.5	87	348
Mid	2.5	10.7	36	51	204
Low	2	5.1	29.5	41.8	167

Figure 7 Lithium value 2020 – forecaster's range

[14] IEA (2017) **Global EV Outlook 2017** https://www.iea.org/publications/freepublications/publication/global-ev-outlook-2017.html
[15] ING Economics Department (2017) **Breakthrough of electric vehicle threatens European car industry**. https://www.ing.com/Newsroom/All-news/Electric-cars-will-take-over-threatening-European-car-industry.htm
[16] Douris C (2017) **The Bottom Line On Electric Cars: They're Cheaper To Own** https://www.forbes.com/sites/constancedouris/2017/10/24/the-bottom-line-on-electric-cars-theyre-cheaper-to-own/#5442347a10b6
[17] Fleming, C and Mitchell, R (2017) **General Motors, with an eye on China, promises more than 20 electric or hydrogen vehicles by 2023** http://www.latimes.com/business/autos/la-fi-hy-general-motors-electric-20171002-story.html
[18] Fehrenbacher K (2017) **Electric Cars in China Are On Track for a Record Year** http://www.greentechmedia.com/articles/read/electric-cars-in-china-are-on-track-for-a-record-year
[19] Lambert F 2017 **Tesla Semi met and then crushed almost all of our expectations** https://electrek.co/2017/11/17/tesla-semi-electric-truck-specs-cost/



	Mine/Concentrate	Refine/Process	Electro-Chemicals	Produce cells	Assemble packs/systems
Base	19.5	43	297	424	1300
High	19.5	43	297	424	1300
Mid	8.8	19	134	191	585
Low	3	7	46	66	201

Figure 8 Lithium value 2025 – forecaster's range

Australia's "business as usual"

Australia, under a "business as usual" scenario, will continue to gain significantly from lithium mining, but it is in danger of:

- Seeing a decline in its share of the total market value (downstream);
- Experiencing a negative balance of trade impact due to its need to reimport value-added products – as highlighted in a recent report on potential demand for storage in Australia[20];
- Missing industry opportunities for innovation and commercialisation through R&D; high-tech manufacturing and cross-sector synergies (such as energy trading; high-tech recycling; grid stabilisation).

[20] Godfrey B *et al.* 2017 **The Role of Energy Storage in Australia's Future Energy Supply Mix** https://acola.org.au/wp/esp/

By way of comparison:

- Chile has begun to support downstream processing opportunities through the issuing of concessions to 12 international concerns which will be able to access lithium resources (a state controlled commodity) at beneficial pricing.[21]
- Argentina currently has an MOU with battery and automotive manufacturer BYD for the building of EVs in the country.[22]
- China has a range of government policy settings and industry support programs to drive growth of the lithium value chain from production to final consumption. This includes both the adoption of electric vehicles and stationary storage[23], including the most recent announcement to phase out petrol- and diesel-fuelled vehicles.[24]
- Japan through METI has a range of programs that support the demand-pull for energy storage systems broadly across domestic and commercial stationary storage. Japan also has a program in place to support consumer demand for electric vehicles through tax breaks.[25][26]
- USA support programs include a range of incentives and tax exemptions for hybrid and plug in electric vehicles.[27] Furthermore, state and federal governments are supporting the development of value adding for energy storage though the development battery factories such as the Tesla Gigafactory in Nevada (more than US$ 1.29B) and the LG Chem factory in Holland Michigan (US$ 150 million).[28,29]
- While very much downstream, UK has MERIDIAN, a £100m investment programme for dollar for dollar matched investment with industry, developed an integrated policy looking at battery development and flow through to autonomous electric vehicles with an objective to accelerate the development of this technology, grow intellectual capital and attract overseas investment[30]
- Similarly, Indian Prime Minister Narendra Modi has launched a new programme to electrify every willing household in the country by 31 December 2018, using solar, energy storage batteries and LED lighting.[31]

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[21] O'Brien R, Iturrieta, F (2017) **Chile to invite bids on value-added lithium tech in April**, Reuters, http://www.reuters.com/article/us-chile-corfo/chile-to-invite-bids-on-value-added-lithium-tech-in-april-idUSKBN15127U

[22] Reuters (2017) **Unit of China's BYD to invest $100 mln in Argentina,** http://www.reuters.com/article/argentina-autos-china/unit-of-chinas-byd-to-invest-100-mln-in-argentina-idUSL2N1IH15N

[23] CNESA (2016) **Nine Updates on China's 2016 Energy Storage Industry**, China Energy Storage Alliance, http://en.cnesa.org/featured-stories/2016/9/27/nine-updates-on-chinas-2016-energy-storage-industry

[24] BloombergView 2017 **China's hastening the end of the internal combustion engine — but it could do even more** https://www.bloomberg.com/view/articles/2017-09-13/china-s-bold-switch-to-electric-cars-could-be-bolder

[25] Colthorpe A (2016) **Japan launches subsidies for lithium-ion battery storage**, PV Tech, https://www.pv-tech.org/news/japan_launches_subsidies_for_lithium_ion_battery_storage

[26] IEA (2017) **Global EV Outlook 2017** International Energy Agency https://www.iea.org/publications/freepublications/publication/global-ev-outlook-2017.html

[27] IEA 2017

[28] Hirsch, J (2015) **How It Adds Up Three companies, $4.9 billion in government support**, LA Times, http://www.latimes.com/local/la-fi-hy-musk-subsidies-box-20150530-story.html

[29] Garthwaite, J (2010) **LG Chem to Build $303M Volt Battery Plant in Holland, Mich.** Gigaom, https://gigaom.com/2010/03/12/lg-chem-to-build-303m-volt-battery-plant-in-holland-mich/

[30] UK BEIS (2017) **Government launches MERIDIAN to accelerate connected autonomous vehicle technology development in the UK** https://www.gov.uk/government/news/government-launches-meridian-to-accelerate-connected-autonomous-vehicle-technology-development-in-the-uk

[31] Kenning T (2017 **India to electrify every home by December 2018 using solar, storage and LEDs** https://www.pv-tech.org/news/india-to-electrify-every-home-by-december-2018-using-solar-storage-and-leds

Non-lithium producing countries in the EU are also adopting policies and incentives to the manufacture and adoption of energy storage, including specific incentives from the EU to support EV battery production. Korean and Japanese companies (Panasonic, LG Chem and Samsung) are being encouraged to supply technology and processes to build batteries and systems in the EU to support the growing EV sector.

The key support theme is to create value added processing where it does not exist, or where it does exist, to drive consumer demand and affordability for stationary and mobile energy storage at the end of the Lithium Value Chain.

As Australia debates energy policy for the nation for the next decades, few Federal regulatory measures or other incentives support the value adding or consumer demand aspects of the Lithium Value chain. The polarised political argument may result in further state level interventions, as seen in South Australia with the promised and delivered 100MW/129Mwh Tesla battery system[32]. There is some limited support in the ACT and Victoria for EV purchase, however in most cases, the policy settings do not directly support driving consumer demand for either transport nor stationary energy storage.

Nevertheless, across Australia the Hansard record of debates in the Federal and State Parliaments reveals a ramping recognition of the importance and potential value of lithium to Australia.

All jurisdictions in Australian all have plans for integrated microgrid solutions for regional and remote communities that include battery storage. Further, announcements around Australia in August have highlighted state governments' willingness to support innovation and deliver outcomes in the energy storage market. Australian governments have previously played a substantial role in developing energy infrastructure from the early days of infrastructure development from the poles and wires to the Snowy Hydro scheme, and building gas pipelines.

[32] Roberts D 2017 **Elon Musk bet that Tesla could build the world's biggest battery in 100 days. He won.** https://www.vox.com/energy-and-environment/2017/11/28/16709036/elon-musk-biggest-battery-100-days

Recommendations to harvest Australia's opportunity

The countries that have been the best to date to position themselves to exploit the revolution driving the Lithium Value Chain have created policy settings, regulations, industry support and consumer demand drivers and are typified by China, Korea and Japan. Except for China, these countries are not Lithium producers but have leveraged processing advantages and policy levers to position themselves to value-add to Lithium within the global Value Chain.

These policy settings can serve multiple purposes: for example in Japan, a changing energy paradigm post-Fukushima is driving the creation of economic opportunity as well as creating the environment for a change of paradigm and stabilisation within the energy market.

Doing "business as usual" will certainly support economic benefit, but an aspirational while still realistic roadmap is required (Fig. 10).

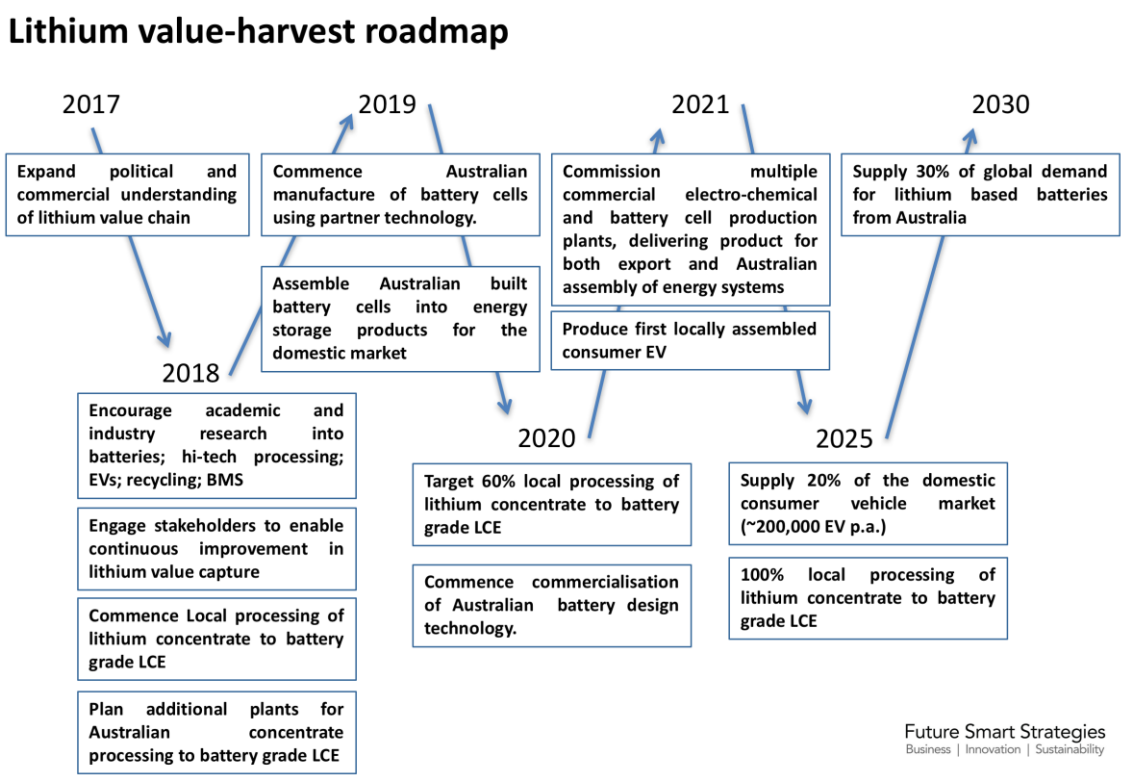

Figure 9 Lithium value-harvest roadmap

Recommendations

1. ***Build awareness of Australia's lithium opportunities.***
   - *1.1 Ensure lithium is a priority for all tiers of Australian government.*
   - *1.2 Noting that there is limited information, gather statistics exploration, mining, processing and trading volumes on lithium and other battery minerals, such as nickel, cobalt and copper so that there is a firm statistical understanding of the market and of Australia's opportunity.*
   - *1.3 Conduct a short-form national economic impact study on the potential of exporting lithium and lithium-based products.*
2. ***Get the policy settings right***
   - *2.1 Explore the potential for State Agreements with industry to attract further significant investment in lithium processing and value adding.*
   - *2.2 Prioritise all lithium related projects for lead agency (major/significant project) status to fast track approvals and the rapid development of the industry.*
   - *2.3 Develop clear planning and state development policy settings to establish a lithium processing, cathode construction and chemical hub in collaboration with industry.*
   - *2.4 Consider appropriate policies in conjunction with existing chemical hubs to develop further downstream processing hubs, like cathode plants, and cell manufacturing plants.*
   - *2.5 Consider appropriate financial concessions and incentives to encourage development throughout the supply chain.*
   - *2.6 Facilitate upstream materials handling regulations to facilitate the development of processing.*
   - *2.7 Prioritise lithium processing plants for funding through co-investment opportunities: i.e. Within the Northern Australia Infrastructure Facility; Clean Energy Finance Corporation, and other means.*
   - *2.8 Federal Government and industry to collaboratively work to repurpose disused industrial facilities to take advantage of the end products of the lithium value adding process.*
   - *2.9 Fund research through Universities, CSIRO and appropriate Research Organisations.*
3. ***Act now***
   - *3.1 There is a limited window with many other countries already aggressively moving to capitalise on these opportunities. Government, industry and industry associations must collaborate to capture this opportunity.*