

**5 November 2018**

**Senate Standing Committee on Economics**  
**PO Box 6100**  
**Parliament House**  
**Canberra ACT 2600**

**Dear Sir / Madam****Submission: Treasury Laws Amendment (Making Sure Multinationals Pay Their Fair Share of Tax in Australia and Other Measures) Bill 2018****Lithium Australia's Request**

Lithium Australia asks the Federal Government to amend the *Treasury Laws Amendment (Making Sure Multinationals Pay Their Fair Share of Tax in Australia and Other Measures) Bill 2018* to either **remove** the proposed \$4 million cap on R&D rebates or **scope out projects** that support the development of critical raw materials and those associated with energy production and efficiency from the cap.

Under the draft legislation, clinical trials have been scoped out of the \$4 million cap. Like clinical trials, the critical raw materials sector has been identified as of national and international importance. Lithium Australia is firmly of the view that the proposed rebate cap will have a negative impact on the development of innovative critical materials projects in Australia. The proposed cap will force projects, such as Lithium Australia's pilot plant, to develop very slowly and result in missed opportunities for the country. At worst, the projects will migrate to more understanding jurisdictions that would welcome the opportunity to access an industry which is in its infancy, but currently valued on a worldwide basis of \$213b.

**SUMMARY**

- **The federal government's R&D Policy should provide incentive for future-proofing Australia**
- **The R&D Policy prior to the 2018 Budget provided superior incentive for Australia**
- **The energy metals industry is a new industry that needs support**
- **The fledgling energy metals Industry could provide many jobs and benefits for Australia**
- **A policy carve out for the energy metals industry is a suggested alternative**

**INTRODUCTION**

Prior to the end of the 2018 financial year, there was a refundable tax offset for certain eligible R&D entities with an aggregated turnover of less than \$20 million per annum. The quantum of eligible expenditure used for the terms of the assessment was open ended. The new policy, effective 1 July 2018, limits the quantum of the cash rebate to \$4 million per annum, per project, with the balance only claimable against taxable income.

Lithium Australia NL (the Company) is researching processing technologies to deliver the ethical and sustainable supply of critical raw materials to the battery industry. Together with a number of progressive junior companies Lithium Australia is not only providing a path for the establishment of a domestic critical raw materials industry, but providing an avenue for long term job growth and tax revenue for Australia in the form of mineral royalties, payroll tax, GST and company tax. In regards to energy policy, lithium may provide an avenue for Australia to decrease its reliance on oil as an energy source and improve its national resource security.

## WHAT ARE CRITICAL RAW MATERIALS

Critical raw materials, and critical metals in particular, are those commodities in which supply disruption could cause national security issues. The EU and USA assess supply/demand, resource risk, sovereign risk, conflict supply jurisdictions and other factors to determine an annual list of critical metals/raw materials.

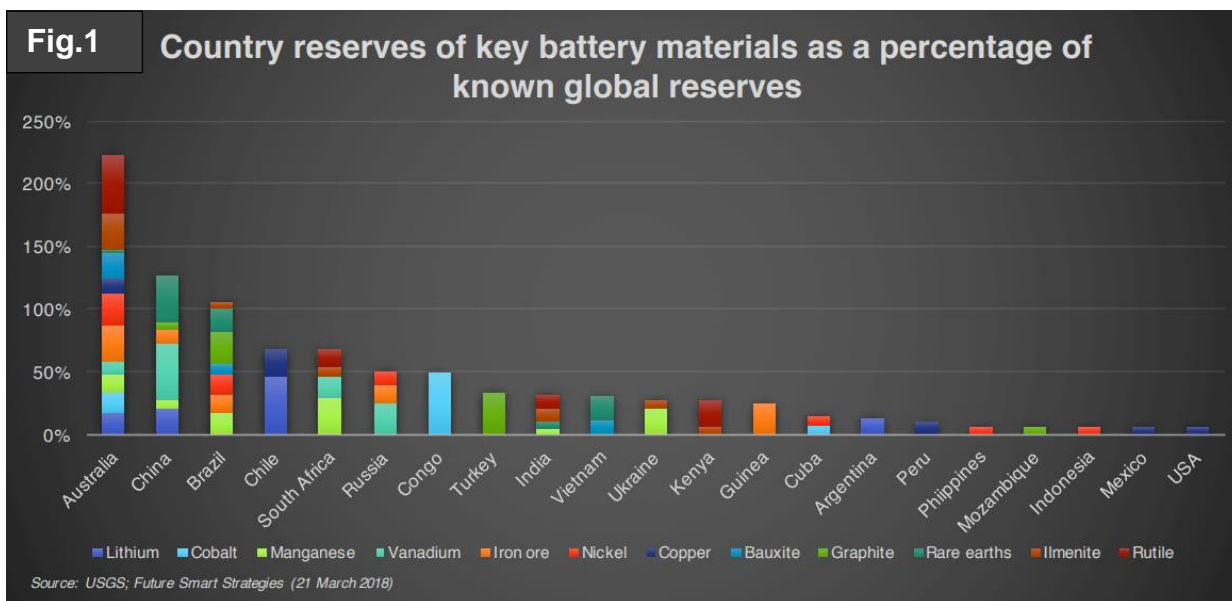
Eighteen of the 35 materials included in the US list are on the EU list. Fifteen of the critical metals on the US list have widespread application in new energy applications or will be produced from deposits generating battery materials. Rare earths are used to manufacture the specialty alloys used in the generation of electrical power, or the conversion of power into kinetic energy i.e. generators and motors.

The 15 critical raw materials used in new energy applications or derived from the same orebodies are as follows:

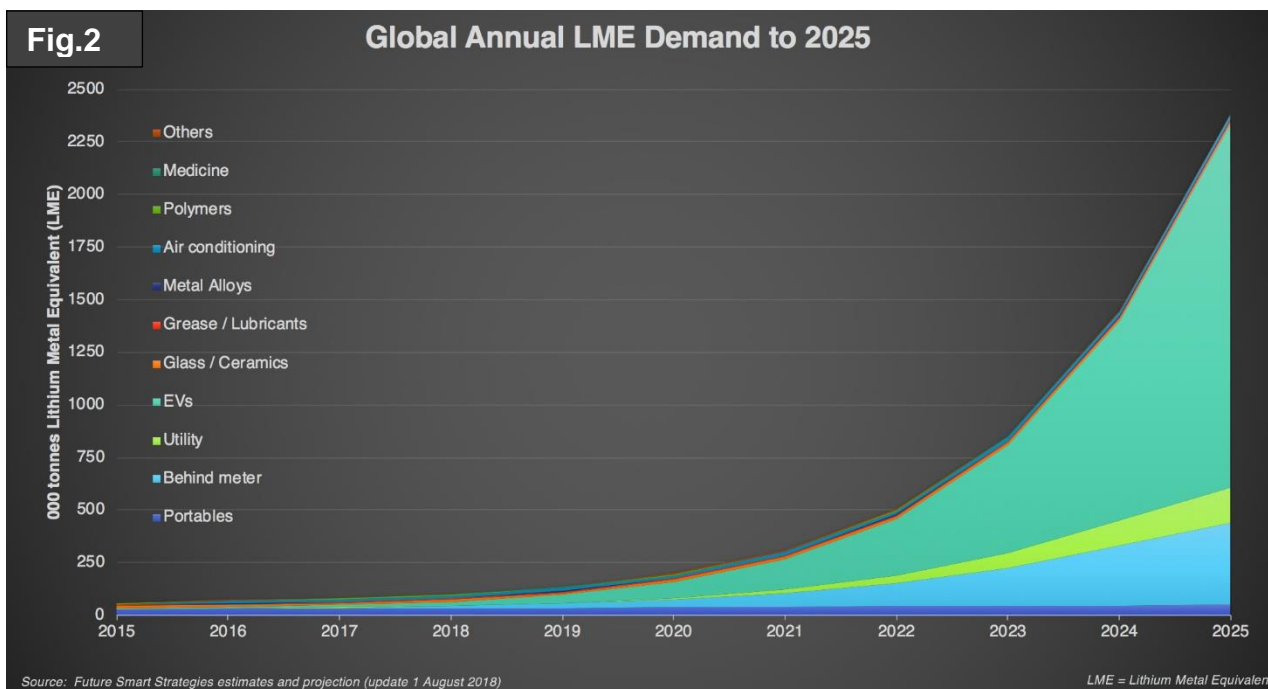
<b>Table 1 Critical materials</b>	
1	<a href="#">Beryllium, used as an alloying agent in aerospace and defense industries</a>
2	<a href="#">Cesium, used in research and development</a>
3	<a href="#">Cobalt, used in rechargeable batteries and superalloys</a>
4	<a href="#">Fluorspar, used in the manufacture of aluminium, gasoline, and uranium fuel</a>
5	<a href="#">Gallium, used for integrated circuits and optical devices like LEDs</a>
6	<a href="#">Graphite (natural), used for lubricants, batteries, and fuel cells</a>
7	<a href="#">Hafnium, used for nuclear control rods, alloys, and high-temperature ceramics</a>
8	<a href="#">Lithium, used primarily for batteries</a>
9	<a href="#">Niobium, used mostly in steel alloys</a>
10	<a href="#">Rare earth elements group, primarily used in batteries and electronics</a>
11	<a href="#">Rubidium, used for research and development in electronics</a>
12	<a href="#">Tantalum, used in electronic components, mostly capacitors</a>
13	<a href="#">Tin, used as protective coatings and alloys for steel</a>
14	<a href="#">Tungsten, primarily used to make wear-resistant metals</a>
15	<a href="#">Vanadium, primarily used for titanium alloys</a>
Line items hyperlink to USGS reports.	

### THE RISE OF THE LITHIUM ION BATTERY INDUSTRY

Australia provides most of the lithium for the battery industry, and a large proportion of the nickel and cobalt. It also has the only heavy rare earth production outside China, which dominates the rare earth sector. Having such a dominant position in providing the critical raw materials (Figure 1) puts Australia in a unique position. With the development of downstream processing technologies much of the long-term value of the supply chain can be captured, creating numerous jobs, a significant increase in GDP and a substantial tax base.



The strength provided by controlling supply from the source is an advantage that no other countries can match. Using lithium as an example demand growth can be calculated and that growth is dominated by the widespread adoption of EVs (Figure 2). Not only will Australian technology generate income but it may be a key ingredient in reducing global pollution and slowing climate change.



The widespread introduction of EV's is the biggest demand driver, and this can be readily calculated from the commitments made by automotive manufacturers. All major vehicle companies have announced electric vehicle product lines, and by 2025 plan to be producing about 40 million battery powered vehicles. The legislative pressure to decommission internal combustion energy will see a **requirement** for at least 50 million vehicles annually (Table 2).

**Table 2 Legislation creating a legacy engine and demand for lithium batteries (source Wikipedia).**

Country	Ban announced	Ban commences	Scope	Selectivity
 United Kingdom	2017	2040 <sup>[4]</sup>	Gasoline and diesel	New vehicle sales
 China	2017	"in the near future" <sup>[5]</sup>	Gasoline and diesel	Production
 China	2017	2018 <sup>[6]</sup>	Gasoline and diesel	533 specific models
 France	2017	2040 <sup>[7]</sup>	Gasoline and diesel	New vehicle sales
 Germany	-	"2030" <sup>[8]</sup>	Combustion engine	New vehicle sales
 India	2017	2030 <sup>[9]</sup>	Gasoline and diesel	New vehicle sales
 Ireland	2018	2030 <sup>[10]</sup>	Gasoline and diesel	New vehicle sales
 Israel	2018	2030 <sup>[11]</sup>	Gasoline and diesel	New vehicle sales
 Netherlands	2017	2030 <sup>[12]</sup>	All vehicles not emission free	New vehicle sales
 Taiwan	2018	2040 <sup>[13]</sup>	Non-electric	New vehicle sales

The legislative change will require about 3.5Mt of lithium carbonate equivalent (LCE) to allow the manufacture of the required 50M new vehicle – today the world only produces about 200,000 LCE annually. This is the point at which the battery industry becomes a multi trillion dollar industry.

#### WHAT IS REQUIRED OF AUSTRALIA TO CAPTURE THE VALUE?

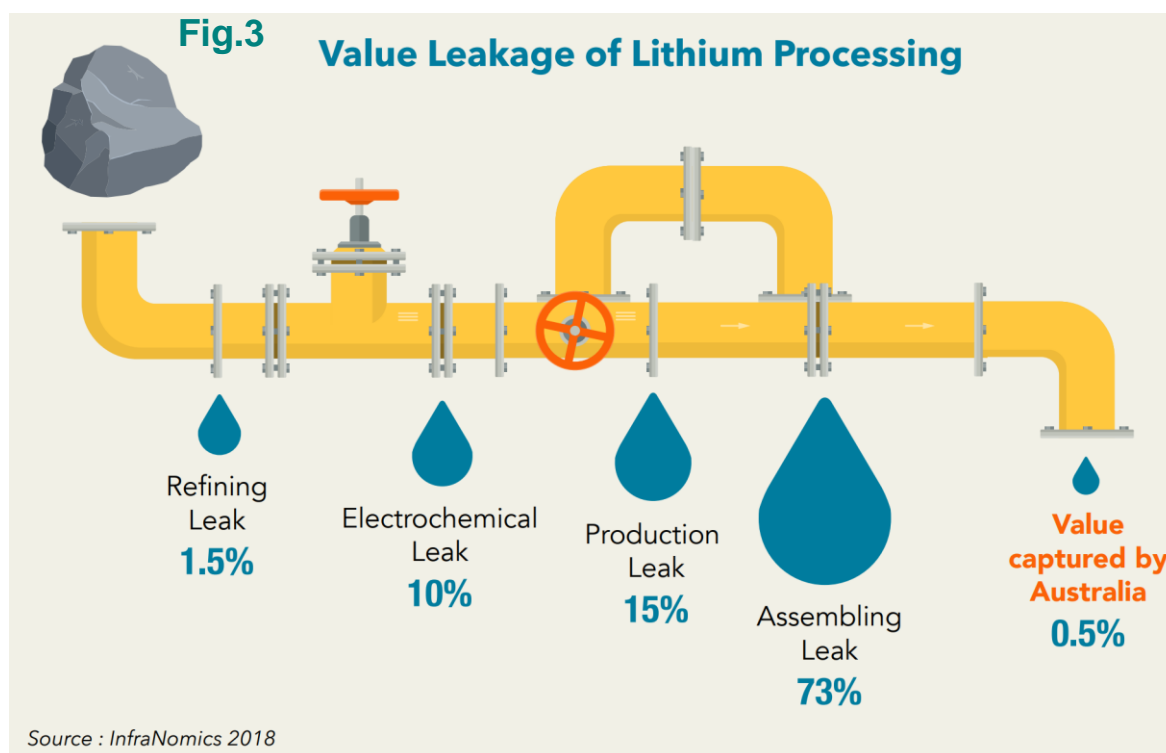
To capture value Australia has a short window to use its unique position at the start of the supply chain to control downstream processing. That downstream processing needs investment in intellectual property to commercialize the processes required to:

- Produce separated rare earths and develop strategic energy and defence applications
- Produce nickel and cobalt chemicals for the battery industry
- Continue advancing domestic lithium cobalt production
- Develop cathode powder manufacture from available chemicals
- Develop advanced anode materials from locally produced graphite and silicon
- Foster local battery production for the local energy storage market and global EV market

Development of the required intellectual property will be accelerated by positive R&D policy.

Australia is not only blessed with the critical raw materials to control the supply chain, but also has the third largest market for battery based power storage, behind China and the USA. Control of downstream markets by the development of processing technology will expand the amount captured in the value chain from the present half a percent, to significantly higher levels (Figure 3).

It is essential that a concerted effort is made to capture the value in the supply chain in an expedient manner, as demand for critical raw materials is high, both for strategic purposes and consumer applications, and supply is constrained. If the local technologies are not developed expediently, supply beyond raw materials will be quickly dominated by long term offtake agreements and the opportunity to develop a downstream processing industry will be gone forever, and along with it the royalty, employment, taxation and national resource security opportunities.



### ADVANCING THE OPPORTUNITY

If the battery supply chain is used as an example (Figure 3) the advantages of developing the downstream processing is obvious. Australia, despite supplying most of the critical raw materials, captures a very small proportion of the value. A modest investment to commercialize the processes the subsequent processes could add significantly to Australia's GDP as the industry advances towards a turnover measured in trillions.

What is that current estimated benefit for Australia? Based on a number of assumptions, it is currently estimated that the economic contribution from the energy metals sector by 2025 to be **\$56 billion** (hyperlink to source: <https://www.rdapertth.org/wp-content/uploads/2018/05/Lithium-Valley-Summary-Documents-May-2018.pdf> at Table 1 on page 8). This table also lists that the total new energy metals sector employment by 2025 is estimated at more than **100,000 new jobs** with an estimated **\$3.3 billion paid in wages** alone. There will then be beneficial flow-on effects to the Australian community from this new industry.

## R&D STIMULUS

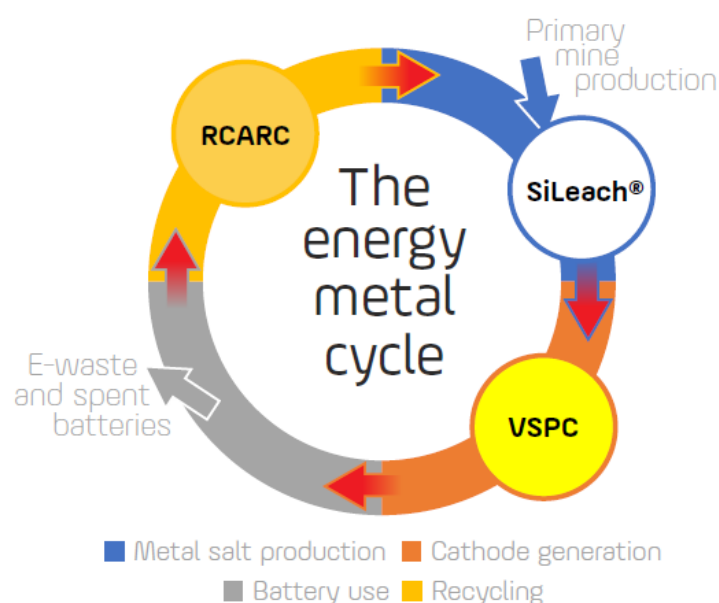
Contracting the R&D rebate has potentially removed some of the incentive to develop the downstream processing required to capture the supply chain. **A policy carve-out, along the same lines as the carveout provided to the biotech industry, for clinical trials, will go a long way to achieving the required outcome.** Removing the \$4M annual cap will allow rapid development of the technologies required to improve the Australian economy.

## CRITICAL RAW MATERIALS POLICY

The Australian Government needs to adopt an Australian strategic policy with respect to critical raw materials, falling in line with China, the EU and USA. Careful policy implementation could be used to foster the investment required to develop the industry for the security of Australia and its allies, including resource security. Today most of the energy metals control lies in China; however, the raw materials are sourced in Australia and positive R&D policy can deliver to the Australian economy much of the value residing in China.

## THE IMPLICATIONS OF THE NEW R&D POLICY ON LITHIUM AUSTRALIA

Lithium Australia is the only company in the world with the ability to process mine waste and take it right through to lithium ion batteries. Beyond that, it is developing the technology to recover critical metals from spent batteries, recommencing the cycle (Figure 4).



**Figure 4** shows the energy metal cycle and Lithium Australia's position in primary processing, cathode manufacture and recycling of battery materials.

Changes to the R&D Tax Incentive scheme have resulted in Lithium Australia:

- Reducing the scale of its proposed SiLeach® processing plant (mine waste to lithium chemicals);
- Terminating its intentions to locate SiLeach® in the Kalgoorlie region – a program of about \$200M over 2 years;
- Re-evaluating SiLeach® sites outside Australia where R&D support is more favourable; and
- Cancelling a \$21M financing facility.

Recycling and cathode production research continues as prior to the rebate changes.

Lithium Australia is well advanced in developing a number of the technologies required to capture value in the battery supply chain and add to the prosperity of Australia.

## CONCLUSION

**The Australian government should consider policies that support an industry that is capable of a significant improvement in Australia's GDP and the impact that it will have on employment, tax revenue and national resource security. Like China, Australia should take a strategic position covering energy: for the long-term security of Australia and its allies and implement the support required to develop downstream processing of critical raw materials before leaving Australian shores. We are at a time that this can be accomplished, but the window of opportunity will only be open for a short time.**

Lithium Australia would also like the opportunity to provide further submissions prior to the Committee hearing if requested. Please contact [REDACTED] on [REDACTED].

Yours faithfully,

**LITHIUM AUSTRALIA NL**



Mr Adrian Griffin

**MANAGING DIRECTOR**