

**Political Risk Assessment**

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# Australian Rare Earth Industry Analysis: Risks, Mitigation, and Competing Interests

Prepared by the Leadership & Democracy Lab, University of Western Ontario

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# Executive Summary

Australia's geographic history saw it gain vast reserves of several natural resources, including vast amounts of what Johann Gadolin classified as Rare Earth Elements ('REEs') in 1794. These REEs are classified as the lanthanide series on the periodic table, which is further subdivided into light and heavy categories. The usage for these Rare Earth Minerals ('REMs') varies: REMs are found in the manufacturing of everyday items such as cell phones, vehicle components, alloys, ceramics, several forms of coatings, and colourants. For governments, REEs are considered strategically important as they are also used for building military vehicles, other forms of weaponry, and defensive arsenals.

The industrial risks of REE extraction draw

international attention and discussion. Oftentimes, the risks associated with the REEs manifest in the mining process. For instance, the lack of human health safety concerns on extraction sites and the negligence of Australian companies in regard to environmental protection - especially when operating outside of Australia - are some of the industrial risks that require mitigation. This research paper aims to discuss the risks in the REE industry and the mitigation strategies that help alleviate and prevent existing and potential future risks. Furthermore, this paper explores domestic and global competing interests in the Australian REE industry, including the discourse that conflates business interests and land disputes with Australian Aboriginal communities.



Figure 1: Aerial photo of the rare earth deposit mine at Mt. Weld, owned by Lynas Ltd.

# Background: The True Scale of Australian Natural Rare Earth Reserves

The diversity in the use of REEs puts Australia in a unique position where only two other global powers find their niche: the United States and China. In 2013, the total global production of REE oxides was approximately 110,000 metric tonnes. Of the total production, China was responsible for 100,000 tonnes of production, the United States produced 4,000 tonnes, and Australia 2,000 tonnes [of the Rare Earths]. The comparatively low annual REE oxide output from Australia is mainly due to the fact that at this point in time, Australia has only three sites actively prospected and mined: the Mount Weld site, the Olympic Dam site, and the Eneabba Stockpile.

Comparing the current exploitation to the total reserves, it is estimated that Australia possesses approximately 3.19 million metric tonnes of REE oxides. Although it is miniscule compared to the estimated 55 million metric tonnes thought to be available for extraction in China, this number still makes Australia the country with the third greatest reserves of REEs on the planet, with China coming in first place followed by the United States.<sup>1</sup>

The recent realization of the true quantity of REEs under Australian soil, accompanied by the gradual withdrawal of Chinese REEs from the global market to meet domestic consumer demands, has led to an exponential increase in the Australian exploitation of their REE deposits. Production at Mount Weld was increased, while the estimate of REE resources at Olympic Dam was re-evaluated to be higher than previously thought. A further 10 sites are being prospected for REEs across the Australian continent to further increase Australia's presence on the global REE market.

Austrade published a report of Australia's potential for critical minerals mining projects and investments with the assistance of Geoscience Australia, which later coined the Australian Critical Minerals Prospectus. This report found that the demand for rare earth magnets expected to increase fivefold by 2030.<sup>2</sup> Australia's regulatory policy for REE extraction is currently embodied in various strategies and policies

introduced by the federal government and each state's individual mining legislation. In Australia, the federal government administers policies for mineral exploration in Australia's offshore areas, while each state/territory administers policies for onshore exploration within its territory.<sup>3</sup> The federal government's current 'Critical Minerals Strategy' is a joint strategy produced by the Department of Industry, Innovation, and Science and the Australian Trade and Investment Commission.<sup>4</sup> With Australia seeking to strengthen its position in the growing global rare earth market, and thus its rare earth output, both Australia's national policies and state/territory policies are being scrutinized to ensure issues in the regulatory framework are addressed.

The Critical Minerals Strategy outlines three key areas the Australian government should aim to develop and promote growth in their critical minerals sector. In particular, the Australian government committed itself to promoting investment into the sector, providing incentives for innovation to lower costs and to support critical mineral projects with infrastructure development. In an effort to appeal to foreign investment, the strategy details the administration's efforts to advance opportunities within the critical mineral sector. This includes creating the previously mentioned Australian Critical Minerals Prospectus, a yearly report containing knowledge projects and investments opportunities, as well as commercial and geological data for investors. This area is further supported by constant outreach initiatives to directly connect with foreign investors and investment platforms, including the maintenance of a list of potential critical mineral investors and Australian participation in an investor roadshow in North America.<sup>5</sup>

The Australian government facilitates innovation by, firstly, granting funding to support industry-led collaborative partnerships to solve industry-identified problems; secondly, connecting critical mineral mining operations with support from other sectors of the Australian industry; finally, investing heavily into infrastructure designed to support the mining, processing and export of critical minerals, including spending hundreds of millions of dollars upgrading the

Great Northern Highway. The federal government has also committed a five billion dollar grant to the North Australia Infrastructure Facility to support other infrastructure development projects, including those in the resources sector.

## Risk: Inconsistency in Standardization for Corporations

Australian regulatory frameworks surrounding REE extraction and processing have sometimes struggled to stay consistent in certain contexts. One notable situation in which the Australian regulatory framework falls short occurs when Australian companies move their refining process overseas, thus managing to evade certain environmental and ethical obligations that would be present in Australia. Lynas RE, an Australian-owned company, conducts refined operations in Malaysia. This has allowed the company to implement practices that would fail Australian environmental and ethical standards.<sup>6</sup> Journalists have argued that Australian companies need to be held to the same standards regardless of where they are operating.<sup>7</sup> While compliance with the JORC Code (a professional code of practice that sets minimum standards for public reporting of minerals, exploration results, mineral resources, and ore reserves) has been steady, there is some ambiguity in the Code.<sup>8</sup> The Code allows for companies to use a range of units to report tonnage and grade.<sup>9</sup> Furthermore, many companies don't use the formal REE groupings in their reports.<sup>10</sup>

## Mitigation: Increased Standardization and Oversight for Corporations

In mitigating the risks associated with the lack of consistent standardization and oversight of Australian companies, all levels of the Australian government should aim to revise their minimum standards for rare earth mining. States and the federal government should ensure that their standards of practice are in line with one another. This idea was emphasized by the New South Wales government in their 2019 report.<sup>11</sup> Requiring companies to report in standard units and categories will help the Australian government better understand the information they are receiving and help rectify gaps in information (such as specific numbers of Yttrium Oxide output). To better regulate Australian companies, focus should be placed on increasing

domestic capabilities for refining and production to lessen the Australian tendency to send REMs overseas to be processed and refined.<sup>12</sup> Australia should focus on ensuring the consistent application of its standards for companies operating within its territory to have a transparent and robust industry. This will also require the government ensure that ethical standards are being adhered to.

## Risk: Lack of Human Health Protections

A significant gap in Australia's regulatory framework concerning rare earth mining is the lack of protection for human health. This issue is not unique to Australia's regulatory framework and is largely a global issue. The adverse effects on human health are likely caused by the toxicological properties of REEs and are not well understood internationally.<sup>13</sup> Those who mine and handle REEs are at risk of harm due to the frequent presence of radioactive minerals as co/by-products.<sup>14</sup> Further, the acidic chemicals used during the process of separating REEs from the ore can cause significant harm to those involved in the process.<sup>15</sup> Potential contamination of water, air, and soils by the rare earth extraction process is also a cause for concern, as the effects of rare earth contamination on human health are often omitted in regulatory frameworks.<sup>16</sup>

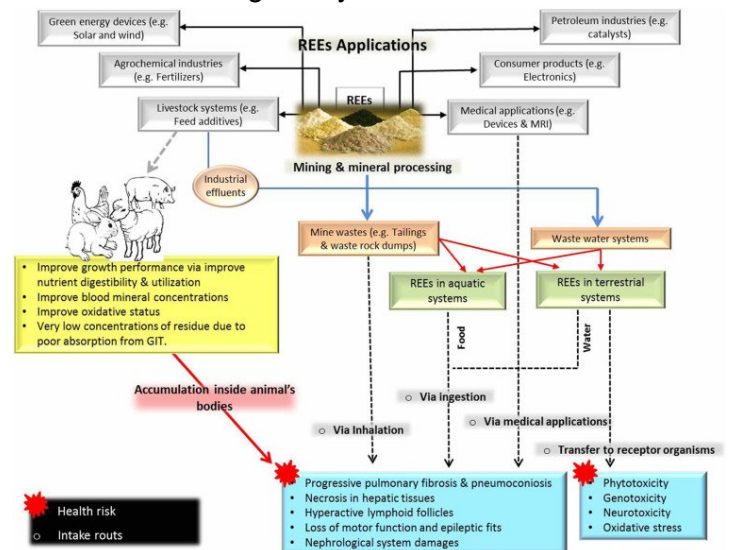


Figure 2: REE applications and downstream harmful effects

## Mitigation: Increased Research into Effects on Human Health

Adequate regulation concerning the effects of REE exposure on human health cannot be devised until the effects of such exposure are properly understood. Considering the relatively recent boom in the REE



industry, this regulatory gap can be attributed to a lack of long-term epidemiological studies on the effects of rare earth exposure on human health. The Australian Public Health Association has recommended that the national government invest in research on how REE exposure affects human health before expanding its mineral industry.<sup>17</sup> Australian regulatory policy should also continue to reflect workplace hazards associated with REE mining, processing, and refining as they become better understood. The development of cleaner technologies could also mitigate risks associated with REE extraction as they have the potential to make the process less dangerous, difficult, and labour-intensive.<sup>18</sup>

### **Risk: Gaps in Environmental Regulation**

Several environmental and public health organizations have argued that Australia's rare earth extraction framework doesn't adequately provide for environmental protections. The rare earth extraction process often involves both short-term and long-term risks to the environment. REEs are often found as either co- or by-products of other minerals, meaning that they must be separated from the ore and refined before they can be utilized.<sup>19</sup> Environmental risks largely stem from the separation process, which involves high quantities of energy and a significant amount of electronic waste.<sup>20</sup> The waste produced by rare earth extraction becomes riskier when REEs are found with other radioactive minerals. Radioactive waste poses serious long-term risks to the environment by contaminating surrounding air, soil, water, wildlife, and vegetation.<sup>21</sup>

In response to the climate crisis, renewable energy has emerged as a viable solution. This transition to renewable energy, possible through advanced technological solutions and energy efficiency measures, has shown to be capable of achieving the required 94% of emission reductions by 2050 as set by the Paris Agreement.<sup>22</sup> Despite the notable benefits of such technologies, mining the REEs required for manufacturing clean technology creates significant local pollution. However, it is important that government policy considers and regulates the harmful environmental effects of rare earth extraction that could potentially offset the benefits of renewable energy.<sup>23</sup> REE extraction and processing have a minimum level of by-product pollution, but this is far exceeded by

Lynas' past lack of implementation of long-term residual waste storage facilities at their Malaysian plant. While the new construction of a permanent disposal facility is significant, the relevant governing bodies involved with Lynas' operations must demonstrate greater leadership to avoid future risk.

### **Mitigation: Green Technology Innovation**

One strategy to mitigate the environmental risks associated with the rare earth extraction process is investing in green technology. The Commonwealth Scientific and Industrial Research Organization (CSIRO) has urged Australian governments to invest in researchers and organizations dedicated to creating new, cleaner technologies that would reduce the environmental damage caused by the extraction process.<sup>24</sup> By developing cleaner and greener technologies, the rare earth extraction process could become less financially costly and may expand Australia's current processing and refining capabilities. The Australian federal government and the state governments such as that of New South Wales have both cited the need to invest in technologies that would make the rare earth extraction process less energy-intensive and wasteful.<sup>25</sup> <sup>26</sup> Developing greener technologies for the rare earth extraction process would provide great long-term benefits for Australia's mineral industry by providing for sustainability, greatly strengthening Australia's position as a REM producer.

The Malaysian Atomic Energy Licensing Board should also be more stringent in green-lighting REE processing corporations and should implement safer guidelines and limits for wastewater contamination.<sup>27</sup> To avoid similar future occurrences where companies move environmentally-taxing operations to countries with less-stringent policy enforcement, the Australian government should implement mechanisms ensuring that businesses operate according to the minimum of Australian policy. Assessment of environmental viability for Australian business operations abroad should be conducted in tandem by both the external and Australian governing bodies. In the case of potentially threatening operating models, the precautionary principle should be applied as a prerequisite to obtaining a license to operate.

# Competing Corporations

Australia relies heavily on its mineral exploitation and trade – an industry which formed about 10.4% of Australia's economy in 2019-2020.<sup>28</sup> This adds up to a total of \$202 billion in Australia's overall GDP for that year. Even with such a large portion of its GDP and economy being formed by this specific industry, the mineral exploitation sector remains largely private and state-driven.

Private corporations are responsible for the prospecting and establishment of mining sites across the continent. Consequently, for a sector run by private corporations, corporate competition is present. The current largest exporter of REEs for Australia is Lynas Corporation Ltd. which runs Australia's largest and most developed mine at Mount Weld. Prior to the arrival of new companies, Lynas had originally held what had effectively become a monopoly over the Australian REE mining industry. Subsequently, with a loss in stock valuation followed by the partial withdrawal of Chinese REEs from the global market, several startups took advantage of Lynas' losses to gain investment for themselves. This allowed competition to begin prospecting and establishing sites across Australia while Lynas recovered from its economic losses.<sup>29</sup> The most notable among them are Hastings Technology Metals, Iluka Resources, Arafura Resources, Northern Minerals, and Australian Strategic Minerals. Each corporation prospected and began subsequent exploitation of a REE site of their own. The sites in question are the Yangibana Deposit, the Eneabba Stockpile, the Nolans Deposit, the Browns Range Deposit, and the Dubbo Deposit respectively.<sup>30</sup> Any sort of reclamation of Lynas' monopoly in the industry effectively became impossible as the Olympic Dam site became a fully operating mine under its respective corporation, and Eneabba Stockpile's exploitation began in earnest under Iluka Resources.

Following the establishment of competition in the sector, the demand for Australian REEs grew with a global push for more green technologies. Components in green technology, such as circuit boards and electric vehicles, rely heavily on REE classified lanthanides. Most - if not all - of this class of REEs are available to be exploited from Australian territory. The enhanced demand for Australian REEs caused an effective boom

in the industrial exploitation of the REEs in Australian territory. By 2019, Australia surpassed the United States to claim second place in REE production with a total overall output of 11%.<sup>31</sup> This effectively made Australia the second largest REE producer and exporter in the world.

## Minimizing Risks from Economic Competition

As with any new market entering the global economy, several risks have been identified which pose significant financial and political risk to any prospective investor. As mentioned, there is prevalent competition between different corporations in the relatively new Australian REE market. With the loss of Lynas' monopoly, as well as losses sustained from Chinese withdrawal from Australian mineral export operations and their subsequent taxation of Australian products, the competitive scene in the REE market remains chaotic. Corporations wishing to enter the Australian REE market must be well prepared to compete against small start-up corporations, larger corporations with backgrounds in REE exploitation, and sovereign nations working to supply their own economies with Australian REEs.

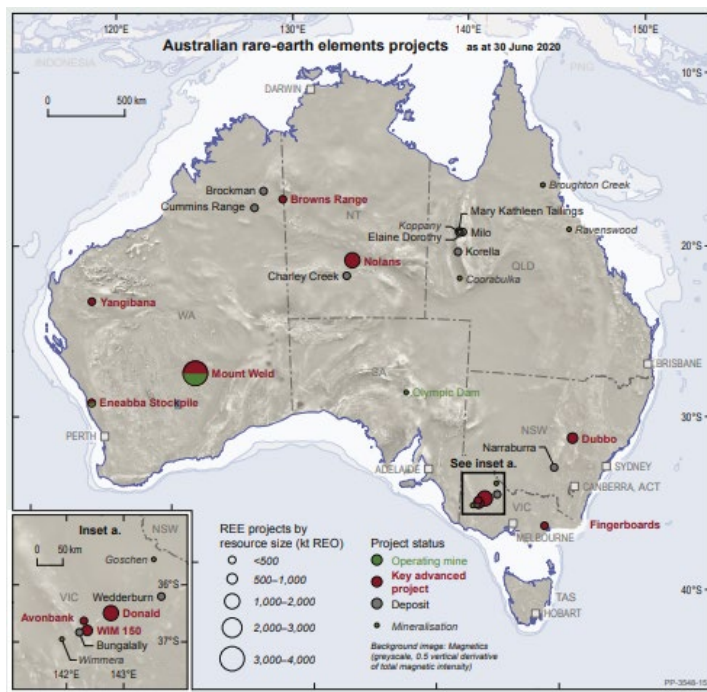


Figure 3: Current Australian rare earth element projects



Among the first things to be done before entering the market is to ensure that there are enough funds to prospect and subsequently secure a REE deposit in Australia. The prospecting of the site must be accurate and well-done, as REE deposits are fickle in respect to their total exploitation value. This exploitation value must be far larger than the costs they will incur in exploiting the deposit itself. In a market with such high competition, high returns are a necessity to ensure a competitive edge.

## Case Study: Lynas

Lynas operates in the Western Australian region of Mount Weld where the most significant deposits of REEs can be found in the country. The raw minerals are then shipped and refined overseas in sites located in Malaysia. Here, massive amounts of toxic and radioactive waste are produced throughout the process.

The International Atomic Energy Agency ('IAEA'), the main governing body on global atomic energy policy, found that Lynas lacked adequate plans for a permanent waste management facility. Much of the waste produced by Lynas sits unsustainably around the Malaysian refinery, eroding the nearby environment as a result of Australian laws forbidding the import of radioactive material of that nature.<sup>32</sup> The unsustainability surrounding the radioactive waste within Malaysian refineries are sanctioned by the Australian administration as well as its allies, including most prominently the Japanese government. Fearful of China's current dominance in the REE global market, many nations in the western political sphere of influence value Malaysia as a refining site.<sup>33</sup> This is because of its significantly low costs and their lack of regulation surrounding refinement and waste management.

Australia continues to pollute overseas processing sites with a lack of oversight from companies such as Lynas on cleanup and waste management, including a lack of incentive from the Australian government to regulate them. The Australian government remains focused on drastically increasing mining operations on REEs at an unsustainable rate to compete with Chinese production. As a result, the radioactive and toxic waste that is already present around Malaysia will only continue to grow. Australia needs to slow down its expansion of REE mining to a rate that can be supported over the long term and

political pressure from the Australian government needs to be put on the corporations such as Lynas to develop proper waste management strategies. This pressure would include investing money into proper waste management facilities, as well as holding multinational corporations accountable when ensuring that proper cleanup measures are enforced by the company.

The key environmental threats posed by REE extraction stem from their complex and intensive processing requirements which generate approximately 75 cubic meters of acidic wastewater and roughly one ton of radioactive waste residue per ton of completion.<sup>34</sup> Lynas conducts such processing both locally and at its plant in Kuantan, Malaysia.<sup>35</sup> Lynas' reports indicate that energy consumption at the Lynas Malaysia plant far exceeds that of Mt Weld, a product of significant dependence on outsourced processing. Such outsourcing raises concerns about a potential laxity in policy enforcement. The IAEA sets radioactivity limits and requirements for the safe disposal of processing residue. While Australia is bound to the IAEA's 2001 'Joint Convention on the Safety of Radioactive Waste Management', Malaysia is not.<sup>36</sup> In 2011, the Malaysian government consulted with the IAEA seeking an expert review on radiation safety aspects of the Lynas Malaysia facility during construction at the time.

While the IAEA did not identify non-compliance with international radiation safety standards, they did identify 11 crucial recommendations to be implemented before the next licensing phases of the project.<sup>37</sup> The most crucial recommendation, long-term storage of radioactive waste, was not met by Lynas. Lynas was still permitted to operate, exemplifying the laxity of policy enforcement by the Malaysian Atomic Energy Licensing Board.<sup>38</sup> This authorization directly violated the "Precautionary Principle", a Malaysian-endorsed key guiding concept of sustainable development from the Earth Summit held in 1992.<sup>39</sup> This principle emphasizes preventative decision-making and rapid response in the face of threats or irreversible damage. This endorsed principle was violated by failing to consult with stakeholders and by not implementing the IAEA's recommendations. Without a standard set of global regulations pertaining to REE processing, such violations will likely continue to occur.

Lynas currently disposes of residual waste in open ponds susceptible to periodic flooding and seismic

activity, creating the potential for contamination into the nearby South China Sea. This was permitted due to poor wastewater discharge limits by the Malaysian government which failed to meet international best practices.<sup>40</sup> In 2021, Lynas received approval to build a permanent disposal facility for purification residue, an act finally implementing the crucial part of the IAEA's initial recommendations to avert significant environmental detriment.<sup>41</sup> While this signifies a

positive future trajectory, this does not correct the damage created by the ill-enforcement of environmental policy by the Malaysian government in the past. In general, Lynas took advantage of lower environmental standards in Malaysia that would not be allowed in Australia. While there is an exhibited financial benefit to such laxity, greater local and international pressure can lead to Malaysia implementing more stringent environmental regulations.

# Foreign Interest in Australian Rare Earth Exploitation Projects

Australia's recent arrival on the world stage as the second largest exporter of REEs on the global market has presented it as a viable secondary option to China for the REEs that they wish to possess. This is especially true in the case of Japan and the United States. Both Japan and the United States are seeking to expand into alternative REE markets to reduce their dependence on Chinese exported REE products. As a direct result of the economic and political competition between countries affiliated with the United States and the People's Republic of China, global interest and investment has made Australia one of the fastest growing countries in the industrial mining sector. This consequently attracted generous investment and support from the United States for the further development of mining sites upon the prospected deposits discovered up to this point in time.<sup>42</sup>

The main point to be considered regarding the geopolitical risks of the Australian REE exploitation projects is not that foreign sovereigns themselves are interested in the potential of the industry; such an occurrence is quite normal and sometimes even beneficial for a fledgling national industry in a globalized economy. Rather, the true risk comes from the United States' keen interest and continuous investment in the Australian mining economy. America's demand for REEs has skyrocketed due to the push for the replacement of all fossil fuel usage with greener alternatives.<sup>43</sup> This is because much of the technology required to manufacture green energy equipment (for example, electric vehicle parts) and maintaining an information-age military of their size require vast amounts of REEs. Such REEs include Praseodymium, Neodymium, Scandium, Yttrium, and several other lanthanides. As such, any corporation seeking to invest in the Australian REE market must watch for an unpredictable, fluctuating stock economy with many interested parties involved. They will also have to prepare against any geopolitical risks associated with American interest in the Australian market.<sup>44</sup>

Until recently, Chinese REE exportation had remained the only way that nations could viably gain

REEs in bulk. With the advent of Australia in the market as a viable alternative source of REE products, consumers now have a secondary source to further bolster their REE imports. In fact, REEs themselves aren't as 'rare' as their name suggests - their availability is akin or even greater than that of lead or nitrogen.<sup>45</sup> The challenge is finding them in an availability dense enough to justify commercially mining the prospective deposit. This means that the yield needs to be in sufficient enough quantities to justify the price and ensure profit. Australia has maintained a stroke of good fortune in this regard, as more reserves have been found in Australia than have been located anywhere in the world save China and perhaps the United States. Consequently, this makes Australia a viable alternative site for REE investment and exploitation for any corporation unwilling or unable to participate in REE operations in China.



Figure 4: Extant rare earth reserves in the world

## Risks with Australian Rare Earth Exploitation Projects

Certain risks must be remembered alongside the benefits of the discovery of Australian REE deposits. Particularly, one must note that Australia is a relative new arrival in the market and the exact value of its deposits is still not known. As such, any corporation willing to invest in Australian REE exploitation must know that any deposit they find may either contain a lot of REE resources, or so few that its exploitation would not be worth the cost of setting up a mine. Any corporation wishing to enter such a market must be well



informed of the competition they will face in prospecting and exploiting any REE resources they find. Specifically, they will face competition that will include all sorts of parties, from small start-up businesses to sovereign countries.

Risks do not emerge from competition itself. In fact, using its expansive economic control, China has been regularly adjusting its exportation of REEs to create favourable economic output for itself and position itself to be ahead in the REE market. As such, corporations and investors entering the Australian market will be entering a market that is liable to be economically disadvantaged by the shifting of Chinese REE exports. Chinese investments and partners in the REE market will be able benefit from modified Chinese REE outputs, while Australian partners will be subsequently pressured into profit loss as a result.

An additional consequence of the consistent modification of yearly Chinese REE outputs are the economic patterns relating to global REE trade which fluctuate unpredictably. Any corporation wishing to invest in a market would like to know that the market itself is predictable and reliable; two factors which cannot be found in this market.

Due to these recent events, Australia was forced to look for customers outside of Oceania and East Asia for its REE products since China left a massive import gap in its exporting economy. The substantial losses in Chinese investment and increased taxation pushed Australia to also look forward to a stable REE supply line formed between the Oceanic Commonwealth and the Americas to reduce reliance on overseas Chinese REE imports. As such, a risk each corporation entering the Australian market must be aware of is the fact that the Australian mineral (not just REE) economy has been crippled by the withdrawal and subsequent economic consequences imposed by China upon the Australian market. This will entail a market looking for customers on a scale beyond its own continent and its neighbouring countries, and as such will most likely require sizeable, medium-to-high risk investment.

## Mitigation Strategies to Offset Risk from Foreign and Sovereign Interest in the Australian REE Industry

The fluctuation in Chinese REE outputs and the number of businesses require corporations to design appropriate exit strategies to offset the risks. Any prospective operations need to be planned in accordance with the extant market conditions of Australian rare earth extraction. With a newfound dependence on REE exports to countries in the West (such as the United States), corporations must be prepared to deal with overseas shipping and dealing between continents separated by vast distances. The corporations can set up processing sites in the import countries to process the raw REEs efficiently. Notably, the REE operations in Australia are by no means small scale - they span the globe. Any corporation wishing to participate must be well equipped to deal with global economies and challenging import/export scenarios.

Major markets (countries and jurisdictions) for Australia's resources, 2019-20

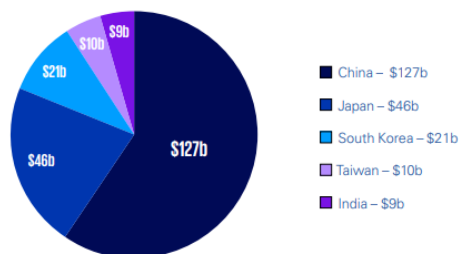


Figure 5: Major natural resource export markets for Australia

Although expansive investments from the United States and its affiliates have indeed supported the industrial REE economy in Australia, it has also resulted in severe consequences. Prior to United States intervention, Australia's mineral exports served almost the entirety of the Southeastern and Southern Asiatic nations.<sup>46</sup> The largest importer of Australian minerals and REE resources was China. A demand by the Australian government for an investigation into China's handling of the COVID-19 outbreak in Wuhan has caused a schism to form between the two formerly close trading partners. China proceeded to impose a tax of 212% on Australian wine, followed by a substantial 61% reduction in its Australian investment.<sup>47</sup>

# Conflict Within: Aboriginal Australia and Active Mine Development

Australia possesses a rich cultural and archeological history. From the initial arrival and discoveries of Captain James Cook, the presence of the unique Australian aboriginal peoples became known.

Dozens of tribes controlling dozens of territories, each with rich cultures and rituals defined the Australian aboriginal community throughout the ages. Colonization put an end to the control of the indigenous communities over their land. With the introduction of the imperial power of Britain, the colony of Australia was subsequently formed. The following two centuries entailed the consistent loss of land for the aboriginal peoples until the complete eradication of their land rights in 1965.<sup>48</sup>

when one cross-reference the map of indigenous territories with the locations of prospected REE deposits in Australia.

Almost all the mines fall in active indigenous territory.<sup>50</sup> Not only does this form a hole in the Australian government's logic towards indigenous rights, but it also raises ethical questions regarding the rights of the mining corporations against the land rights of the indigenous peoples. Such a conflict of interest may result in clashes between the indigenous populations and REE corporations if Australia fails to address the indigenous land rights that are being bypassed in the continued exploitation of REE resources that fall within their traditional territories

## Mitigation Strategies in Relation to Land Rights

Australia's rich cultural history in relation to different sovereign actors and indigenous peoples must be considered when entering this market with the intention of becoming an active mine-owner. Notably, any deposit located by a prospective company must be approved for exploitation through the proper channels and negotiated with whoever lays claim to the territory. In most cases, this will be in relation to indigenous tribes that call the land being exploited their home. It must be remembered that less than 300 years ago, all of Australia belonged to this minority group that now possesses less than 50% of their original territory. To mitigate any issues that may arise by exploitation that is disapproved of by the indigenous population (i.e. Protests, riots, deliberate shut downs of mines by indigenous tribes), land rights must be discussed between corporate representatives and the indigenous peoples laying claim to the land in question. This will ensure that a mutually beneficial agreement is reached before either party engages in any activity. Furthermore, corporations must ensure that the site of their deposit doesn't fall into territory claimed by another sovereign state. If this is the case, steps must be taken diplomatically and politically to ensure that the corporation gains rights to exploit the given deposit from the state laying the claim

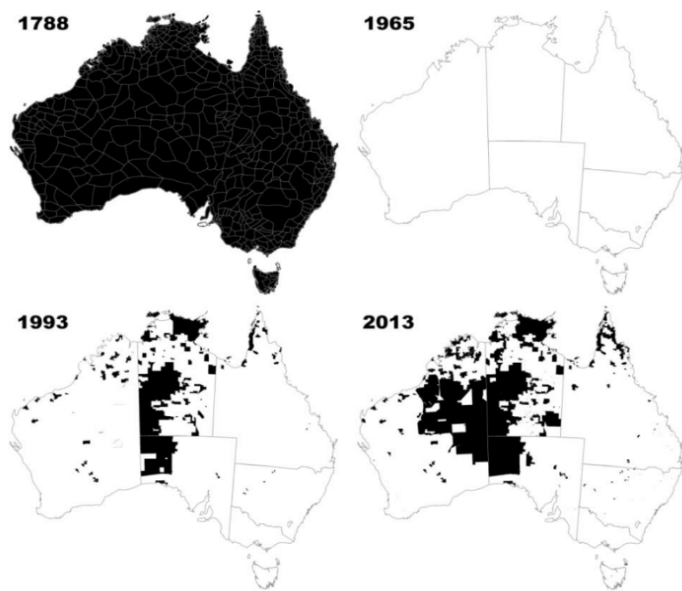
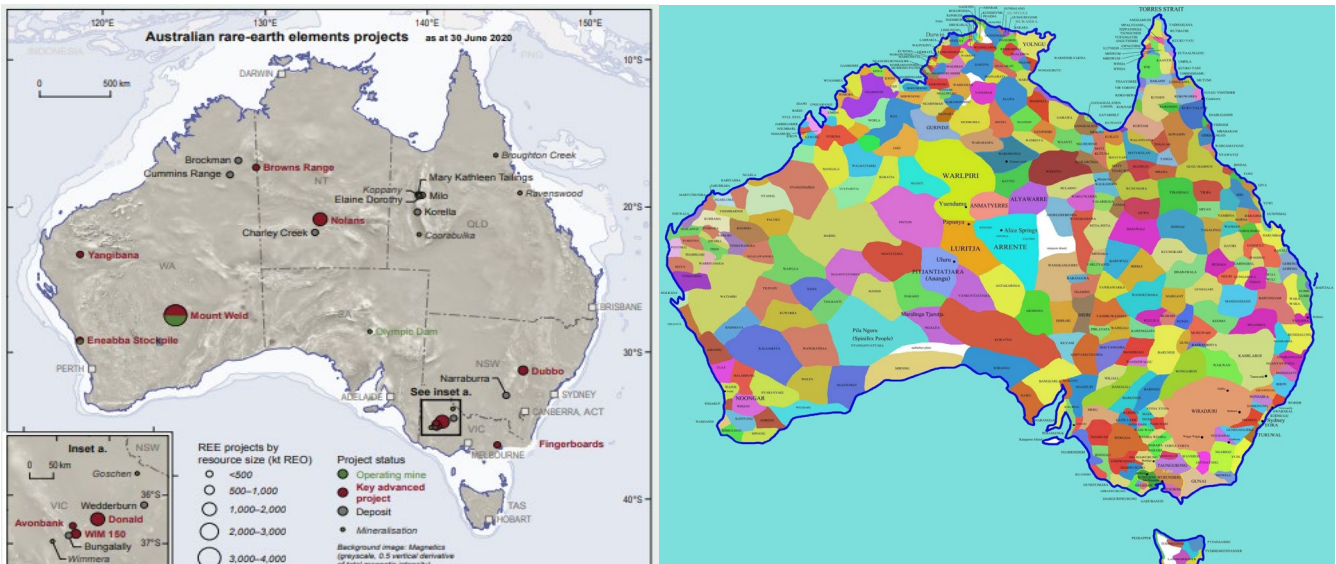


Figure 6: Aboriginal territory changes in Australia

Social and political reform in the 1990s entailed the return of land and titles back to indigenous tribes in limited amounts, followed by a much more substantial returning of territory by the Australian government in the 2010s.

This history shows that Australian-Indigenous relations have never been quite peaceful or egalitarian, as shown by the complete deprivation of indigenous land in 1965.<sup>49</sup> Although there is now a modern push to return lost territory to the aboriginal communities, the issue arises

such that political issues in the future can be avoided. Examples of such negotiations can include offering a percentage of mining profits to the claimant state, or working as a government contractor for the claimant state.



Figures 7 and 8: (Left) Map of Australia with current REE projects, (Right) Map of Australia with extant Aboriginal communities



# Figures

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