

# **Austrade-KOMIR Critical Minerals Seminar**

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**Australia-Korea: New Opportunities in Critical Minerals  
Supply Chains**

# Australia's value proposition

## Prospective projects



Australia is a preferred destination for investment, with a strong market offering. We have:



globally significant deposits



highly skilled resources sector



stable and reliable investment climate, robust frameworks to protect the environment



strong labour laws



trusted strategic partner for key countries

# Recent announcements and initiatives

## 2022 CRITICAL MINERALS STRATEGY

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March 2022

### Vision

*By 2030, Australia is a global critical minerals powerhouse. We are integral to international critical mineral supply chains and technologies crucial to the global economy*



### Objectives

*Realising our vision for the critical minerals sector will achieve the following objectives:*

- *Securing stable supply*
- *Sovereign capability*
- *Regional jobs and growth*



### ACTIONS

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De-risk projects

Create an enabling environment

Strengthen international partnerships

# Securing stable supply

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- Securing investment and commercial offtake agreements for Australian projects will diversify supply and secure supply chains
- We will leverage new and existing funding mechanisms to support projects at all stages e.g.
  - A\$2 billion Critical Minerals Facility
  - Critical Minerals Accelerator Initiative
  - Other financing mechanisms e.g. Modern Manufacturing Initiative, Northern Australia Infrastructure Fund, Clean Energy Finance Corporation



## De-risk projects

### A\$2 billion Critical Minerals Facility

- A\$1.25 billion Iluka Resources
- A\$185 million Renascor Resources
- US\$35 million Ecograp Limited

### Modern manufacturing initiative

- A\$120 million Pure Batteries Tech.
- A\$49 million Australian Vanadium
- A\$30 million Arafura Resources
- A\$45 million Alpha HPA

# Building international partnerships

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- Working with like-minded countries will help build new critical minerals opportunities
- Government-to-government agreements with *like-minded countries* can build investor confidence and help private sector partnerships develop and scale up
- We will continue strengthening our links with like-minded countries to support critical minerals investment, including:
  - Republic of Korea
  - United States
  - United Kingdom
  - Japan
  - India
  - European Union



## Building international partnerships

Achieving concrete outcomes through international engagement will require:

- strategic analysis
- outreach to international markets
- detailed work to map international supply chains
- matching commercial demands with industry capabilities

# Developing sovereign capability

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- Our policies will create the right environment for Australia's critical minerals industry to thrive.
- This includes:
  - R&D to grow the sector
  - Building regional hubs
  - Shaping robust domestic and international standards



## Creating an enabling environment

- \$50 million virtual National Critical Minerals R&D Centre
- National ethical certification scheme for critical minerals
- \$130 million Future Battery Industries Cooperative Research Centre
- \$4 million to scope regional critical minerals hubs and precincts

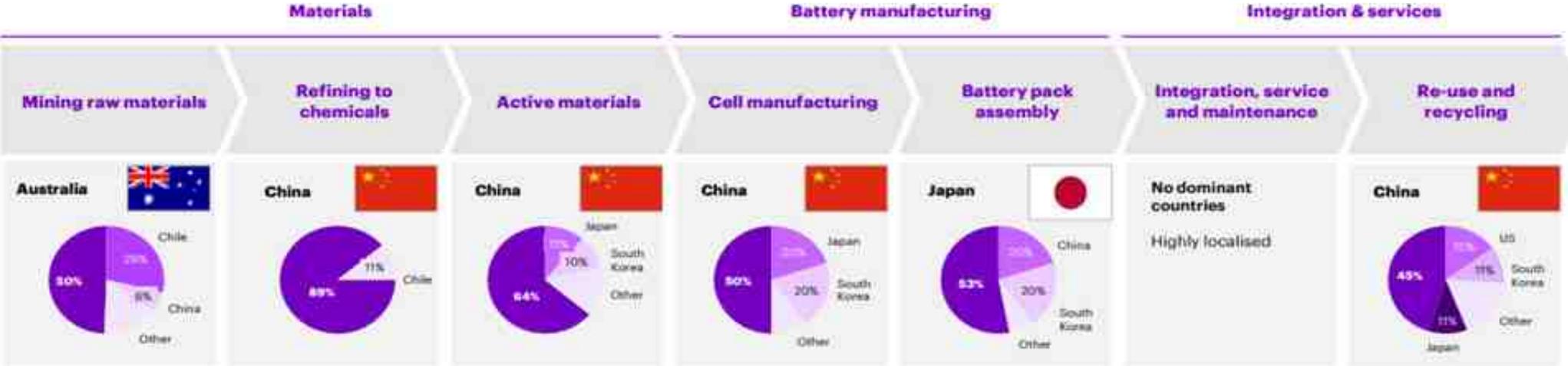
# Australia's critical minerals list

Critical mineral	On US list <sup>6</sup>	On EU list <sup>7</sup>	On Japan list <sup>8</sup>	On India list <sup>9</sup>	Australian geological potential <sup>10</sup>	Critical mineral	On US list <sup>6</sup>	On EU list <sup>7</sup>	On Japan list <sup>8</sup>	On India list <sup>9</sup>	Australian geological potential <sup>10</sup>
High-Purity Alumina	✓ <sup>13</sup>	✓ <sup>14</sup>			Moderate	Manganese	✓		✓		High
Antimony	✓	✓	✓	✓	Moderate	Niobium	✓	✓	✓	✓	High
Beryllium	✓	✓	✓	✓	Moderate	Platinum-group elements	✓	✓	✓	✓	Moderate
Bismuth	✓	✓	✓	✓	Moderate	Rare-earth elements	✓	✓	✓	✓	High
Chromium	✓		✓	✓	Moderate	Rhenium			✓	✓	Moderate
Cobalt	✓	✓	✓	✓	High	Scandium	✓	✓			High
Gallium	✓	✓	✓	✓	High	Silicon		✓ <sup>16</sup>	✓	✓	High
Germanium	✓	✓	✓	✓	High	Tantalum	✓	✓	✓	✓	High
Graphite	✓	✓	✓ <sup>15</sup>	✓	Moderate	Titanium	✓	✓	✓		High
Hafnium	✓	✓	✓		High	Tungsten	✓	✓	✓		High
Helium					Moderate	Vanadium	✓	✓	✓	✓	High
Indium	✓	✓	✓	✓	Moderate	Zirconium	✓		✓	✓	High
Lithium	✓	✓	✓	✓	High						
Magnesium	✓	✓	✓		High						

# Challenges for Countries

## SUPPLY CHAIN CONCENTRATION

### BATTERIES



Source: FBICRC (2021)

# Lithium

## <sup>3</sup>Li Lithium

### Major Australian Lithium deposits

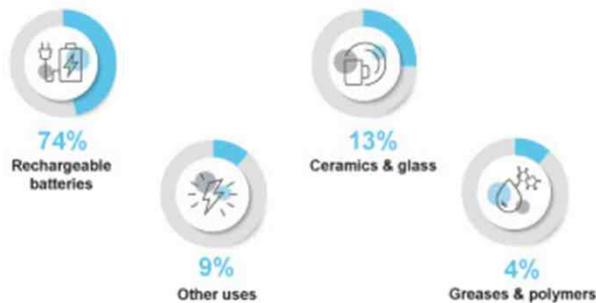


### Lithium facts



- Lithium metal is so light it floats on water
- Electric vehicle sales are expected to increase tenfold by 2030
- Australian lithium exports are tipped to triple by 2026–27
- In August 2021 Australia began producing lithium hydroxide

### World consumption



### Australia's lithium



- Australia has **the most established** lithium mining sector in the world to support clean energy products
- Lithium processing plants are being constructed and will come online in the coming years – **fit for making precursor cathode active materials and batteries**
- There are many projects being developed; investment in lithium processing would bolster **supply security**

# Graphite

- Australia has the first ex-China graphite processing project in the world, without using toxic HF (**good for ESG**)
- Two graphite projects have received **AUD239 million** loan from the Australian Government
- More graphite projects are coming online

## 4. Graphite



### Australia's resources



Australia has the 7<sup>th</sup> largest reserves of graphite

### World consumption

Natural graphite

**60%**

of world consumption

Synthetic graphite

**40%**

of world consumption

**66%** of natural graphite consumed in Asia



### Uses of natural graphite



Refractories  
44%



Batteries  
22%



Other  
17%



Foundries  
12%



Lubricants  
5%

# Nickel

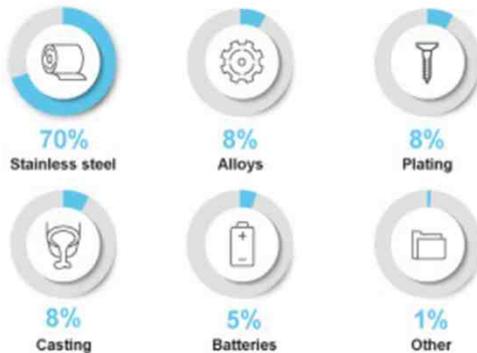


## Nickel

### Major Australia nickel deposits (Mt)



### World consumption



### Nickel facts



- Nickel is used in the US, UK and Euro coins
- Nickel has a growing role in electric vehicle batteries
- Nickel is magnetic at room temperature and is fully recyclable
- Nickel is the second most abundant element in the Earth's core after iron

### Australia's nickel



- Australia has **the biggest** nickel reserves in the world
- A battery materials complex which will operate a nickel/cobalt mine and battery materials processing and recycling facility is awarded the **Major Project Status**, signifying the recognition of its significance
- Export Finance Australia** issued **letters of support** to 2 nickel/cobalt projects to support these projects

# Cobalt

- Australia has the **2<sup>nd</sup> biggest** nickel reserves in the world
- Similar to nickel, Australia has a number of cobalt projects being progressed and well supported by the Australian Government
- This includes financial and regulatory support to ensure secure supply to the global market, especially the Korean market.

## 3. Cobalt



### World production



### Uses

**59%**  
of cobalt  
is used in  
batteries



**Laptops**  
5-15 grams  
cobalt



**Mobile phones**  
5-10 grams  
cobalt



**Electric cars**  
10-20 kilograms  
cobalt

# Next steps and questions

## Questions

- What are the particular critical minerals Korean companies are particularly interested in pursuing with Australia?
- Are there any specific projects that Korea is interested in?
- Would investment in processing plants or critical minerals hubs be of interest?
- How can the Australian Government best support businesses to identify and talk to potential projects?