



# Critical Minerals and the Chalice Portfolio



## What are critical minerals?

- « Critical minerals are essential to everyday modern life - used in technologies like lithium-ion batteries, energy storage, electric vehicles and catalytic converters.
- « These minerals are required in large quantities to decarbonise and address climate change, however significant shortages are predicted.
- « As the world pledges to meet greenhouse gas emission targets, demand for these minerals is forecast to increase over the coming years.

## Chalice and Critical Minerals

- « Chalice's major greenfield discovery in early 2020, the Gonneville Project, defined a new mineral province in Western Australia - the West Yilgarn Ni-Cu-PGE Province.
- « The province is considered one of the most prospective new critical minerals provinces globally.
- « Large deposits of critical minerals are rare and supply of these minerals is currently dominated by less sustainable or economically stable areas such as Russia, China, Indonesia and South Africa.
- « The Gonneville Project is located ~70km north-east of Perth and contains a mix of critical minerals - palladium, platinum, nickel, copper and cobalt.

46 <b>Pd</b> Palladium	78 <b>Pt</b> Platinum	28 <b>Ni</b> Nickel	29 <b>Cu</b> Copper	27 <b>Co</b> Cobalt
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- « The Gonneville Project has the potential to become a low-carbon, long-life critical minerals mine that could deliver substantial economic and regional social benefits.

## Who is Chalice?

- « Chalice Mining is a Western Australian company with a track record of responsible and successful mineral exploration, and a commitment to the highest social, corporate and environmental standards.
- « Chalice is globally recognised name in minerals exploration, led by an experienced team of geologists and mining experts.
- « Chalice is currently completing a Pre-Feasibility Study to better define plans for the Gonneville Project as well as working to gain the required government environmental approvals.

**Just as clean energy deployment expands, so too does demand for critical minerals. Mineral demand for clean energy technologies doubles between today and 2030<sup>1</sup>.**

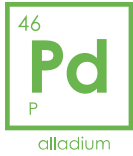


**Chalice is taking a responsible and balanced development approach that maximises production of critical minerals but also manages the potential impacts to the environment and local communities.**

To learn more about Chalice's community and environmental commitments visit [www.chalicemining.com/sustainability](http://www.chalicemining.com/sustainability)

## Critical Minerals | Applications and Uses

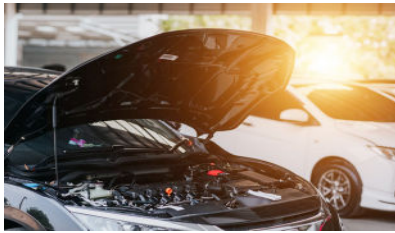
Critical minerals are required in large quantities to decarbonise the global economy. These minerals are essential for modern life and are key inputs for technologies required to address climate change, such as:



### Platinum and Palladium

Primarily used in catalytic converters – a pollution control device in every petrol, diesel or hybrid vehicle. Palladium reduces greenhouse gas emissions from exhaust streams, including nitrogen oxides which are 300x more potent than CO<sub>2</sub> as a greenhouse gas.<sup>2</sup> Palladium is one of the best hydrogen absorbers making it an important input for the hydrogen energy industry as a carrier and purifier. Platinum and Palladium are also used heavily across medical technologies, data storage and servers, jewelry and manufacturing.

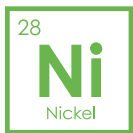
Internal combustion engine



Catalytic convertor



Hydrogen



### Nickel and Cobalt

Nickel and cobalt are key materials required in lithium-ion batteries for electric vehicles (EVs) and other high-powered battery and energy storage applications. Nickel is also used in everyday electronics including smart phones, laptops and digital cameras alongside home appliances.

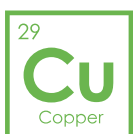
Electric vehicles



Electronics



Energy storage



### Copper

Copper is used extensively in solar, wind, hydro and geothermal energy technologies, as well as in mass electrification technologies. Due to the metal's high conductivity copper is used in everyday consumer electronics such as smart phones, as well as all aspects of the electricity system.

Solar panels



Wind power



Smart phone



**Get in Touch** For more information or to ask a question, contact us:

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1: Source: International Energy Agency - Global Critical Minerals Outlook 2024 Report. 2: Johnson Matthey PGM Market Report 2021