



Anthony Roberts

Minister for Industry, Resources and Energy

Troy Grant

Deputy Premier of NSW

Minister for Justice and Police, Minister for the Arts, Minister for Racing

MEDIA RELEASE

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Billion Dollar Dubbo Rare Metals and Rare Earths Mine An Economic Boon

Minister for Industry, Resources and Energy, Anthony Roberts, today announced that a billion dollar project in the State's central west to mine rare metals and rare earths has now passed its final hurdle and will go ahead.

"The Environment Protection Authority (EPA) has granted an Environment Protection Licence to Alkane Resources after the company had already been granted a Mining Lease last December after it had met a rigorous government approval process.

"Known as the Dubbo Zirconia Project, the mine will produce up to 30,000 tonnes of specialty metals and rare earths per year which are highly sought after to support modern technology and life as we know it today.

"The Dubbo Zirconia Project will provide enormous benefits locally, to the State and indeed Australia," Mr Roberts said.

Currently, China produces more than 90 per cent of the world's supply of rare earths and is increasing its output with about 70-80 per cent of the world's zirconium production.

"The Dubbo Zirconia Project has significant potential to stimulate not only local industry but also NSW manufacturers, Australian industry and exports across the globe.

"Customers from around the globe - the United States, Japan and a number of European nations – consider the products of this project to be a critical and strategic importance," Mr Roberts said.

Deputy Premier and Member for Dubbo, Troy Grant, has welcomed the enormous investment in the region and the effect it will have on the local economy.

"More than \$1 billion will be invested in the project and about \$50 million spent in the Dubbo region each year.

"About 450 people will be employed during construction of the project and more than 250 when it is operating.

“This project is very exciting and will not only be a boon for Dubbo, but the state and country as well,” Mr Grant said.

The rare earth and metals elements are highly valued because of their diversity of applications in modern and green technologies including production of computer and mobile device components, hybrid cars, emissions minimisation and lighter, stronger steel. It also has medical and transport uses.

The Dubbo Zirconia Project will produce zirconium, hafnium, niobium, light rare earths and heavy rare earths.

Rare metals elements can also improve the safety of next generation jet aircraft by helping them travel through volcanic ash clouds.

The metals can be used as a thermal barrier coating added to alloys in turbine blades and engine components. This allows the blades to withstand extreme heat and prevent metal deterioration (crystal creep) due to foreign materials or external stresses, as well as increasing efficiency in high temperatures.

“The Dubbo Zirconia Project is a prime example of what discoveries may be made in NSW. During the past decade, junior explorers have been punching above their weight and are responsible for 81 per cent of deposits unearthed in the State,” Mr Roberts said.

Fact Sheet

Zirconium uses include:

- Health and Medical Industry - replacement joints, false teeth, fillings and kidney dialysis machines.
- Telecommunications Industry - mobile phones and phone towers.
- Industrial Manufacturing Industry - a paint drying agent, water repellent on fabrics and fire retardant.
- Clean Technology Industry - catalytic converters in modern car exhausts and the next generation of power are solid zirconium oxide fuel cells.

Niobium, a metal with superconductive properties, is used mostly in alloys and superalloys. Niobium is frequently alloyed with steel because of its strength at high temperatures and lightweight characteristics.

Niobium uses include:

- Construction and Transport Industries - small quantities used in steel manufacturing to increase strength and reduce weight.
- Pipeline Industry - water, gas, oil and chemical pipelines operate under very high pressure and at extreme temperatures.
- Electricity generation - power stations rely on niobium stainless steel turbine blades to turn at extreme temperatures for electricity generation.
- Superconducting wires of niobium- titanium conduct electricity 100 times that of traditional copper wires.
- Medical and Scientific Research Industry - Magnetic Resonance Imaging (MRI) machines contain superconductive magnets made from niobium-titanium alloys.

The Dubbo Zirconia Project will produce these rare earths:

Yttrium, dysprosium, terbium (heavy rare earths), neodymium, praseodymium (light rare earths, hafnium (speciality metal)

Rare earth metal uses include:

- Clean Technology Industry - wind turbines and solar cells contain rare earths to operate and/or improve their power efficiency.
- Power Industry - fluorescent light bulbs and LED lighting for efficient and bright white light.
- Automotive Industry - hybrid and electric cars. A typical hybrid car contains approximately 28 kilograms of rare earths, including 1 kilogram in the motor and 10-15 kilograms in the battery. Rare earths are used for catalytic converters in the exhausts of all modern cars.

- Health and Medical Industry - rare earth based Positron Emission Tomography (PET) imaging agents are used to detect cancer. Rare earth based drugs also provide treatments for lung, prostate, breast and bone cancer and rheumatoid arthritis.
- Electronics and Telecommunications Industry - tablets, smartphones and iPods require rare earths for better components with reduced weight and increased efficiency. Rechargeable batteries are used in electronic products including electric cars. Approximately 25 per cent of the nickel-metal hydride battery contains rare earths. Rare earths are essential for electronic devices including computer components, global positioning systems (GPS), sonar, defence systems and lasers.