

NEW ECONOMY MINERALS

INVESTMENT OPPORTUNITIES
IN QUEENSLAND'S MINERALS
PROVINCES



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Contents

Premier's foreword	2
Minister's foreword	3
Introduction	5
Minerals for the future	6
Investment opportunities	9
Queensland: A place to invest with confidence	18
Supporting future growth	24
References	28

PREMIER'S FOREWORD



The Queensland Government is committed to further developing the abundant potential of the North West and North East Minerals Provinces.

This will ensure Queensland resource companies and communities are at the forefront of global demand for scarce and valuable minerals now needed for advanced electronics and renewable technologies.

Opening these provinces will bring new discoveries, projects and jobs.

Global demand is set to soar for cobalt and rare earth minerals needed for wind turbines, generators and batteries, and copper needed for electric cars. Our north is rich in these “new economy” minerals.

This prospectus document aims to encourage the resources sector to conduct new exploration, re-investigate old mines and probe the geological information government holds already.

There is also a complete pit-to-port package for the North West Minerals Province to create more jobs in the resources sector.

The sector and the communities of the North West and North East Minerals Provinces will also benefit through:

- \$4.8 million to re-examine old mine tailings and core samples for new age minerals
- \$9 million to unearth more and better geological information to help industry identify new projects, including \$3.5 million in industry grants over five years for new and innovative exploration activities
- \$14.8 million to continue investigating the feasibility of the CopperString project to connect the North West Minerals Province with the national electricity market to lower energy costs.

I am confident this will encourage further exploration and the eventual future development of new mining projects in Queensland.

The resources sector is already a massive contributor to Queensland’s regional economies. The demand for jobs in the resources sector is on the rise.

This prospectus presents the opportunity for industry to explore Queensland further, and for new minerals, focusing on the corridor from west of Mount Isa to Townsville.

Investment will drive the evolution of projects and jobs, delivering minerals of the future from these provinces to Queensland and the world. I also welcome national and international investors who would like to play a part in developing the provinces through partnerships and alliances with the government and our great Queensland private sector companies.

The Queensland Government is committed to continuing to work in partnership with other levels of government, the resources sector, business, industry and local communities to guide and secure the future of these significant mining provinces.

The Honourable Anastacia Palaszczuk MP
Premier and Minister for Trade

MINISTER'S FOREWORD



Queensland's resources sector makes a significant contribution to our economy by creating and sustaining employment opportunities and driving exports and economic growth.

Our minerals provinces present resource companies and investors with a new mining frontier brimming with unrivalled opportunity. Queensland's minerals producing regions

are perfectly placed to meet the demand for the essential and valuable minerals used in the manufacture of the emerging and advanced technologies the world is demanding now.

We live in a time of transformation. Our energy and industrial systems—the foundations of our economy—are undergoing profound change. Queensland's minerals and expertise mean that we are well placed to meet these new challenges while supporting businesses to operate in global markets.

This prospectus outlines the incredible opportunity our minerals provinces present. With end-to-end prospects for mining companies and industry participants, we are committed to making Queensland the preferred investment location for mining companies seeking exciting opportunities in upstream exploration, new resources and essential processing and infrastructure projects, and for capital markets and customers to identify new sources of supply.

The Queensland Government invites exploration and innovative mining and processing operations. Supported by our world-class, \$7 billion per annum Mining Equipment, Technology and Services sector we are helping industry to advance new opportunities that unlock the immense potential of our New Economy Minerals.

The Queensland Government has committed \$13.8 million to support the development of minerals needed for the new economy. This has been boosted by an additional \$10 million in exploration grants over four years. Through collaborative partnerships with industry and scientific institutions, we are helping proponents to overcome the challenges associated with locating and accessing deeper deposits, maximising their exploration success and investment.

Mineral demand and strong pricing are driving value creation in the 'secondary prospectivity' of low-grade ores and tailings, helping to extend the life of existing operations and improve the environmental outcomes of legacy mines.

We are also investing in the critical infrastructure and initiatives needed to drive future growth and development of these important regions. This includes:

- approximately \$500 million over five years to boost mineral freight exports on the Mount Isa Line, through ongoing maintenance and track improvements, discounted freight charges and support for a new container terminal at the port of Townsville
- \$33.3 million to diversify North West Queensland's economy by enhancing the investment environment and strengthening the supply chains and supporting local communities that underpin our thriving resource sector
- \$14.8 million to continue investigation of the feasibility of the CopperString project, a 1100-kilometre high-voltage transmission line to connect the North West Minerals Province with the national energy market and deliver lower energy costs for industry.

Supporting regional Queensland has always been a high priority for the Queensland Government, and the North West Minerals Province is no exception. As a global leader in minerals, the Queensland Government is committed to supporting the continued prosperity of this vital region and harnessing the incredible investment opportunities presented by the valuable minerals our regions possess.

These investments are supporting industry to unite and recover, realising the significant potential that our minerals provinces offer. Our skilled workforces and vibrant communities are ready to welcome new investment. This document outlines the many opportunities that exist in Queensland's minerals provinces. We look forward to working with investors as we secure Queensland's place as a global supplier of the minerals needed to power the future.

The Honourable Glenn Butcher MP
Minister for Regional Development and Manufacturing

It's a place that invites exploration, discovery, development and mining, with end-to-end prospects for upstream, mid-stream and downstream participants.

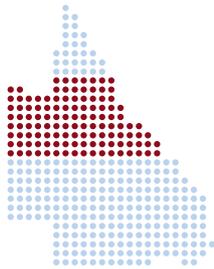


Image: Department of Natural Resources, Mines and Energy (DNRME)

INTRODUCTION

Through a rich endowment of ‘new economy minerals’, Queensland’s Minerals Provinces are helping to propel the boom in emerging technologies that will dominate consumer devices and products for renewable energy, advanced manufacturing, defence, scientific research sectors and more.

Investors have an opportunity to capitalise on Queensland’s global reputation as a leading destination for mining and mineral processing, and a proven history of supply. Queensland is Australia’s gateway to Asia and beyond. We are a forward-thinking, pro-business state offering significant investment-ready opportunities in new economy minerals for participants actively seeking valuable returns.

A vast stretch of highly prospective land—from the Northern Territory border to the Pacific coast—invites exploration, discovery, development and mining, with end-to-end prospects for upstream, midstream and downstream participants. On offer are some of world’s richest mineral-producing areas, with major deposits of copper, lead, zinc, nickel, cobalt, gold, graphite, vanadium, as well as silver and phosphate. The area also offers strong rare-earth mineral potential.

The realisation of opportunities across Queensland’s North West and North East Minerals Provinces will play an important strategic role, not just in Australia, but globally. Combined, Queensland’s Minerals Provinces have long been the lifeblood of Australia’s resource sector with a proud history in mining, strengthened by an ability to adjust to changing market demands supported by a vital and growing supply chain that links to global markets via road, rail, air and sea.

Queensland’s world-class mining equipment, technology and services (METS) sector has a reputation for excellence in capabilities ranging from sophisticated exploration and processing systems to digital solutions, safety and mine site rehabilitation and remediation processes, contract mine servicing and project management. The sector is well-positioned to assist the resource industry and improve environmental outcomes. Partnerships between METS companies, the energy and resource industries, and research institutions have the potential to create the innovative, profitable and environmentally sustainable new economy mines of the future.

This document captures the opportunities on offer in Queensland’s Minerals Provinces as we move forward and confirm our place as a global supplier of new economy minerals. It outlines Queensland’s business advantages and provides a summary of government initiatives driving the next frontier for our mining and resources sector.

Major mining companies, junior explorers, financiers and investors can benefit from:

- supportive and stable governments at all levels, with policies, incentives and programs that align with corporate environmental, social and governance (ESG) objectives
- world-class geoscience information to identify new areas of resource potential and maximise exploration success
- an established and highly successful mining industry and skilled workforce and METS sector
- transparent and coordinated development, environmental and safety regulations as well as a dedicated major project facilitation framework
- an enviable lifestyle with vibrant, connected communities that offer a high standard of living with access to universal health care and a modern education system.

To fully support the realisation of this potential from pit to port, Queensland is actively developing new supply chains, processing opportunities, the exploration and development of new resource projects along with new mineral potential from former mines.

We recognise the benefits of collaboration to fill gaps in existing processing capability and new transport infrastructure, and are supportive of business development that further builds commercial supply and demand.

Queensland’s Minerals Provinces are endowed with an abundant supply of valuable resources. This, combined with a culture of innovation and collaboration between government, academia and industry, gives investors a global advantage in meeting the growing demand for new economy minerals.

There is no better time to explore Queensland’s vast new economy minerals potential and endless supply-chain opportunities.

MINERALS FOR THE FUTURE



Image: (iStock)

MINERALS FOR THE FUTURE

New economy minerals are essential in the manufacture of many emerging technologies, including electric vehicles, renewable energy products, low-emission power sources, consumer devices such as smartphones and tablets, and high-tech products used in advanced manufacturing for medical, defence and scientific research applications.

Demand for these minerals is growing exponentially as market conditions respond to the rapidly changing nature of emerging technologies.

We live in a time of transformation where both our energy and industrial systems—the foundations of our economy—are undergoing profound change on a global scale.

In industry, we are witnessing the convergence of the physical and digital worlds, where the rate of development and deployment of new technologies across the entire spectrum of human endeavour is rapidly evolving.

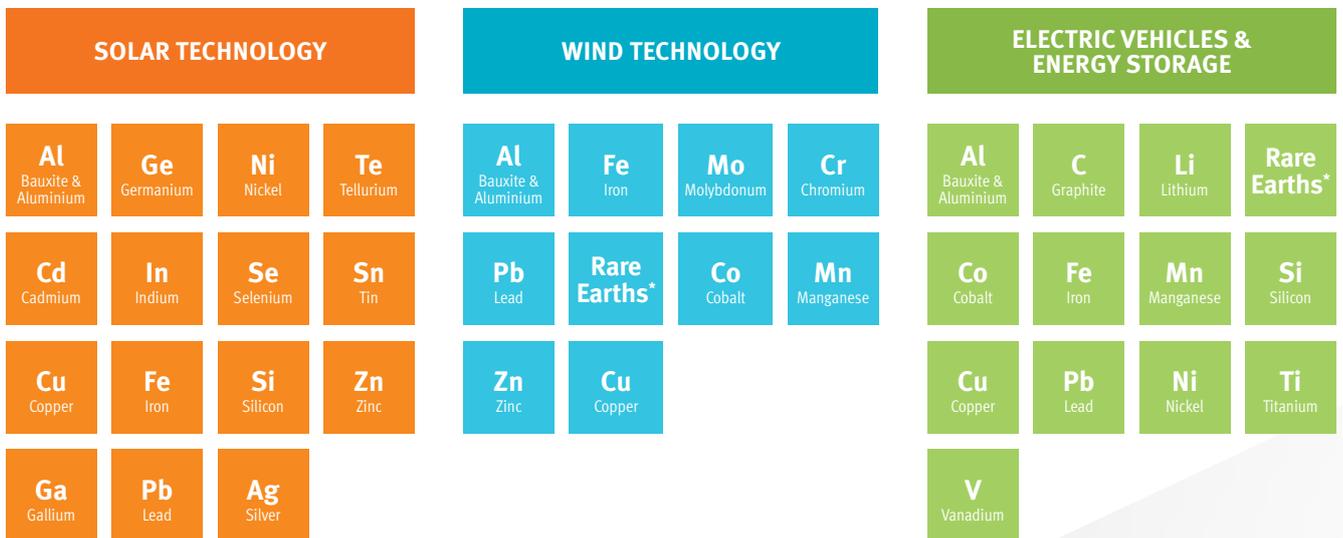
In energy, we are witnessing the transition away from combustion of carbon and hydrocarbon fuels, to direct capture and storage of energy from the sun and earth.

The confluence of changes in our use of energy and technology underpins the ‘new economy’ of the 21st century, giving rise to new opportunities, new markets and new industries.

Queensland’s minerals and expertise means that we are well placed to meet these new challenges and support the world’s transition to a low carbon future.

Figure 1:

EXAMPLES OF MINERALS REQUIRED FOR GREEN ENERGY TECHNOLOGIES



*The ‘Rare Earths’ designation refers to 17 different elements including dysprosium and neodymium (essential for wind technologies and energy storage), as well as praseodymium (critical for electric vehicles and energy storage).

Figure 2:

NEW ECONOMY MINERALS FOUND IN QUEENSLAND

New Economy Minerals*	
Bauxite	Niobium
Cadmium	Nickel
Cobalt	**REE
Copper	Rhenium
Gold	Selenium
Graphite	Silica (Lump silica, Silica Sand)
Indium	Silver
Magnesite	Tantalum
Molybdenum	Tellurium
Tin	Tungsten
Titanium	Zinc
Vanadium	Zirconium

**Rare Earth Elements (REE)	
Cerium	Praseodymium
Dysprosium	Promethium
Erbium	Samarium
Europium	Scandium
Gadolinium	Terbium
Holmium	Thulium
Lanthanum	Ytterbium
Lutetium	Yttrium
Neodymium	

*www.dnrme.qld.gov.au/mining-resources/initiatives/new-economy-minerals

INVESTMENT SNAPSHOT

- > World-class, known new economy mineral deposits
- > Large areas of under-explored land with high prospectivity for the discovery of new Tier 1 projects
- > Vast resource potential through existing tailings, with development of advanced processing technology presenting opportunities to extract metals from mine waste
- > Downstream processing capability (e.g. aluminium smelting, nickel refining, and battery manufacture proposals) from extraction to manufacturing.

INVESTMENT OPPORTUNITIES



Image: (iStock)

NEW CENTURY RESOURCES: FROM WASTE TO RICHES

Century Mine at Lawn Hill, 250 kilometres north-west of Mount Isa in the Lower Gulf of Carpentaria, was one of the world's largest zinc mines. During its 16 years of open-pit operation from 1999, the mine produced and processed an average of 475,000 tonnes per annum of zinc concentrate and 50,000 tonnes per annum of lead concentrate.

After a period in care and maintenance mode following depletion of the main ore reserves, New Century Resources bought the mine in 2016 and restarted operations from August 2018.

New Century has now become one of world's top 10 zinc producers by extracting zinc from the old Century Mine tailings. The reprocessing of tailings enables progressive rehabilitation of the mine site to occur through cash flow generating activities. The remediation work is also generating renewed employment, training and business opportunities for New Century and the surrounding communities of the Lower Gulf region and beyond.

New Century has brought new life to existing high-quality infrastructure which included a large-scale multi-train processing plant, 700-person camp, private airport, grid power connection, a 304-kilometre underground slurry pipeline to the mine's Karumba port facility and concentrate transshipment vessel.

The company estimates that tailings reprocessing will be carried out over the next five to six years, with the potential to further increase the mine's operations through targeted exploration across the tenement.

Building on the strength of this example, in May 2020, New Century Resources announced its intention to seek additional environmental legacy sites in North Queensland via a potential Joint Venture arrangement with traditional miner IGO Ltd.

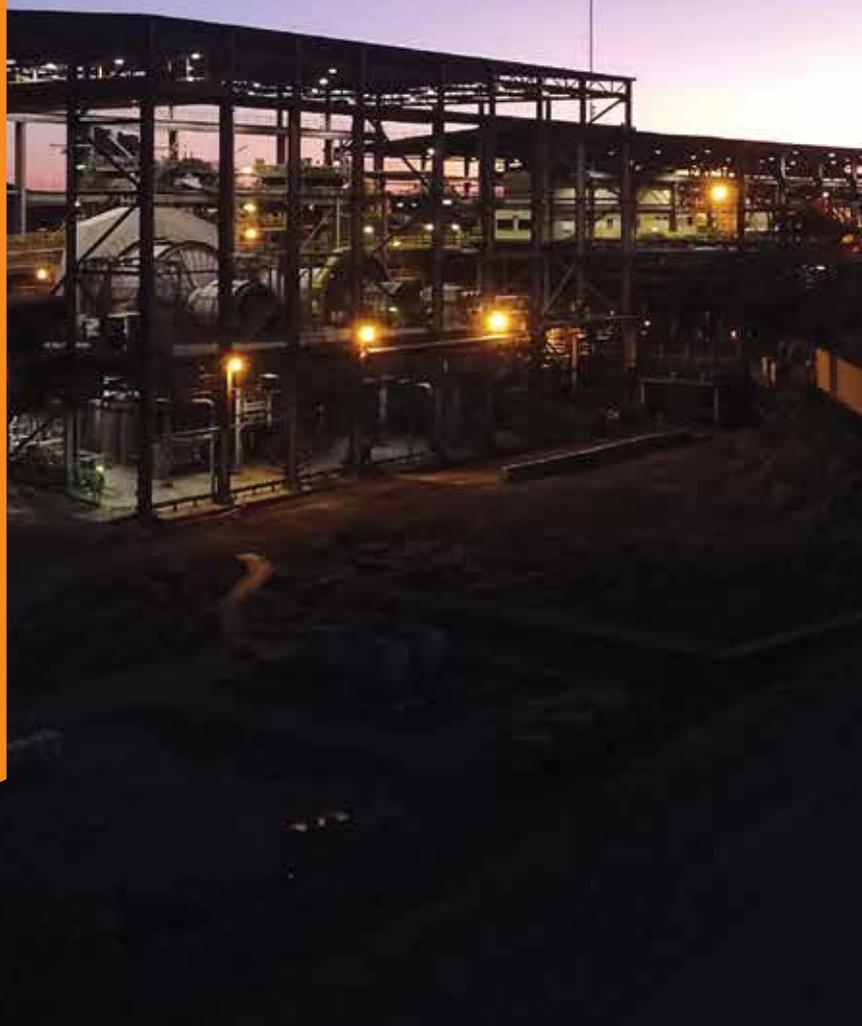


Image: Concentrator, New Century Mine (New Century Resources)

INVESTMENT OPPORTUNITIES

The mining pedigree of Queensland's North West and North East Minerals Provinces is built on a natural competitive advantage due to abundant mineral wealth, a highly skilled workforce and established supply chains.

The base metal regions of Mount Isa and Cloncurry are synonymous with world-class copper and zinc deposits, with production of copper totalling 241,000 tonnes and zinc production at 253,000 tonnes.*

To the east, there is a successful history of gold mining together with emerging opportunities in copper, zinc, cobalt, nickel, scandium, silica, rare earths, vanadium and molybdenum projects.

The Queensland Government is committed to delivering minerals and natural gas geoscience exploration programs, new geoscience data systems and promoting the provinces' investment potential. Queensland's mature METS sector provides opportunities to improve the productivity and cost competitiveness of existing operations, increasing future mining potential and retaining a critical mass of employment and regional services.

Our world-leading experts in research, resource exploration and extraction reduce supply chain risks, helping to develop resources to support growing world demand.

The state's custodian of geoscience knowledge, Geological Survey of Queensland (GSQ), is delivering a four-year, \$27.12 million Strategic Resources Exploration Program aimed at helping industry realise the prospectivity of the North West Minerals Province. This program has brought to light new, highly prospective minerals targets and provided opportunities to re-evaluate old samples to ensure the important commodities of the future are not overlooked. Similarly, GSQ is investigating the potential for secondary prospectivity in the provinces through the examination of previously unconsidered mining opportunities at existing mines.

This work has the potential to underpin future investment decisions by industry on the reprocessing of mine waste and tailings for new economy minerals, helping to unlock further economic benefit while improving the environmental outcomes of legacy mines. Industry is being supported across the provinces to undertake a broad range of exploration techniques including drilling, geophysics, geochemistry, hydro geochemistry and data analytics.

**(Figures based on 2017–18 production levels).*



Image: (iStock)

INVESTMENT IN QUEENSLAND'S MINERALS PROVINCES OFFERS OPPORTUNITIES TO BENEFIT FROM:

Abundant mineral supply

Queensland is at the global forefront of data-driven exploration, partnering with industry and scientific institutions to develop new survey and extraction techniques helping industry to overcome the challenges associated with locating and accessing deeper deposits. Mineral demand and strong pricing is also driving value creation in the 'secondary prospectivity' of low-grade ores and tailings of the provinces' mines.

Supportive and stable environment

Queensland offers secure and stable mineral supply chains, supported by positive geopolitical relationships and trade agreements.

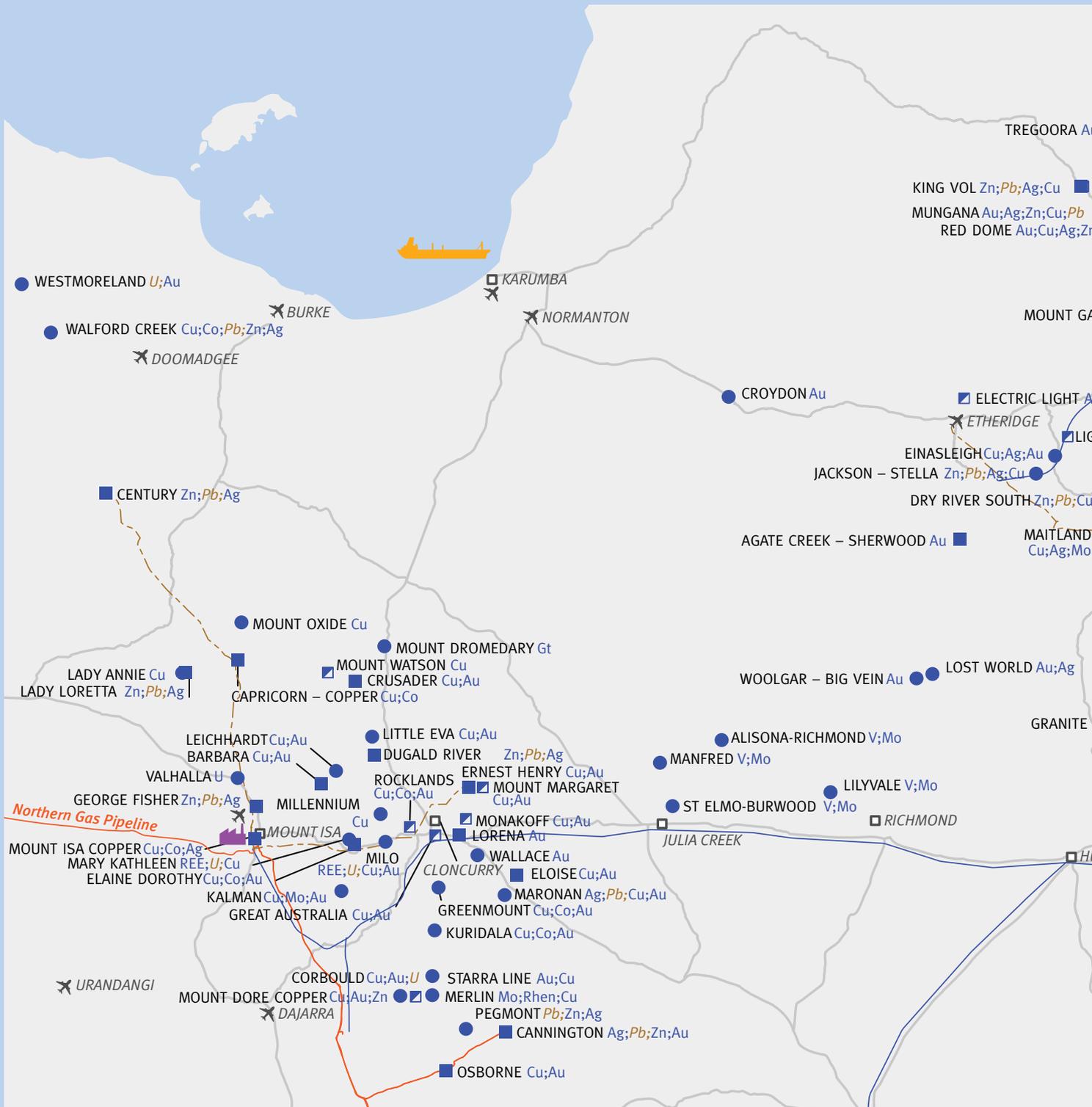
Compelling investment rationale

A well-established, world-class resources sector is backed by strategic infrastructure and strong capability and capacity across the METS sector.

Sound environmental, social and corporate governance frameworks

Queensland's regulatory frameworks and administrative systems provide the right environment to support businesses seeking to demonstrate their social licence to operate in global markets that demand responsible and ethical supply.

MAJOR MINING OPERATIONS, NEW ECONOMY MINERAL RESOURCES AND PROCESSING CENTRES IN QUEENSLAND'S MINERALS PROVINCES



NEW ECONOMY MINERALS PROFILE

Queensland's Minerals Provinces are well-positioned to meet new economy mineral demand as the world continues to shift towards a renewable future and greater use of advanced technology.

We also see a bright future for investment in new, value-adding and specialised extraction and processing operations.

The North West Minerals Province contains around 75 per cent of Queensland's total metalliferous resources such as copper, silver, lead and zinc. While it is recognised as a world-class, mature exploration destination, vast tracts of prospective ground remain under-explored.

To encourage further exploration and investment in these and other new economy minerals, GSQ has made mineral geophysics and geochemistry source data and analysis openly available. New initiatives as part of a \$13.8 million new economy minerals package and \$10 million exploration boost, include a focus on investigating methods of extracting further mineral value from past and current mining operations by re-analysing samples from mine tailings, analysing existing drill core samples for viable leads on minerals not previously examined, and investigating the viability of secondary prospectivity at existing mines.

A second initiative under the package focuses on new exploration, particularly for viable deposits of cobalt, vanadium, iron-oxide copper-gold deposits, and rare-earth elements.

GSQ's state-of-the-art Open Data Portal geoscience.data.qld.gov.au gives public access to exploration data and information. The portal positions Queensland at the global forefront in providing data-driven exploration tools and information.



COBALT
Walford Creek Aeon Metals Ltd
Capricorn Copper Ltd Capricorn
Sconi Australian Mines Ltd

Electric cars Jet engines Grid batteries Smart phones Wind turbines

COBALT

With Australia holding the second largest economic demonstrated resource (EDR) of cobalt in the world, Queensland has the potential to become the nation's 'cobalt capital'.

Global cobalt consumption is forecast to increase 68 per cent by 2025. Queensland's significant cobalt resources have the potential to help meet this exponential growth in demand.

Cobalt is primarily produced as a by-product of copper and nickel ore processing and production. It is known to be relatively widespread across the North West Minerals Province, with significant quantities found in mine tailings and low-grade ores that remain from earlier mining operations. Some of these operations retain infrastructure that could be used to retrieve cobalt.

Located 350 kilometres north-west of Mount Isa, Aeon Metals Limited's **Walford Creek project** is home to one of the highest grade and largest cobalt sulphide deposits in Australia. The project is currently entering pre-feasibility phase.

Further south, the **Capricorn Copper Mine** (one of the largest copper mining projects in Australia), operated by Capricorn Copper Limited has commenced resource definition for the extraction of cobalt.

At Greenvale, north-west of Townsville, the Australian Mines Limited's **Sconi** project is currently at an investment decision phase. Once developed, the project is planned to produce cobalt, nickel and scandium. Australian Mines recently upgraded their project resource to more than 75 million tonnes after finding consistent high-grade nickel and cobalt across their project area.



MOLYBDENUM
Merlin Chinova Resources



Jet engines

MOLYBDENUM

This silvery metal has the sixth-highest melting point of any element and is highly resistant to corrosion. Molybdenum is mainly used as an alloying agent in stainless steel, and also in the manufacture of aircraft parts, rocket engines and industrial motors.

Australia ranks eighth globally for economic molybdenum resources, with the bulk (89 per cent) of this occurring in Queensland.

The **Merlin project**, near Cloncurry, is based on the world’s highest-grade molybdenum and rhenium deposit. Project proponent, Chinova Resources estimates that production at the Merlin mine will be able to meet around 2.5 per cent of the world’s molybdenum demand.



TUNGSTEN
Mt Carbine Speciality Metals International Limited
Watershed Tungsten Mining







Cutting tools Drilling Welding Rocket engines Microwaves

TUNGSTEN

Tungsten has the highest melting point of all pure metals and together with its alloys is among the hardest of all metals. The combination of hardness and high temperature capabilities make it desirable for many commercial and industrial applications.

Queensland holds around 16 per cent of the nation’s tungsten resources and more than 40 per cent of inferred deposits.

Specialty Metals International Limited’s **Mount Carbine** mine, north of Cairns, has a long history of tungsten mining. In 2010 new drilling and resampling of historic drill core indicated an inferred resource estimate of 39 million tonnes of hard-rock mineralisation.

Tailings and stockpile retreatment commenced at Mount Carbine in 2019.

Tungsten Mining’s **Watershed project**, located 130 kilometres north of Cairns, has been granted mining leases and an environmental authority for an open-pit development. The company estimates total reserve to be 20.7 million tonnes of tungsten.



VANADIUM
Saint Elmo Multicom Resources
Debella Vecco Group
Julia Creek QEM





Batteries Jet engines Magnets

VANADIUM

The North West Minerals Province has the potential to become a globally significant supplier of high-quality vanadium to the energy storage and steel markets.

The area around Julia Creek and Richmond covers large areas of the Toolebuc Formation which hosts extensive vanadium and molybdenum mineralisation.

Vanadium is a soft, ductile, silver-grey metal that is used primarily to make metal alloys for high-strength steel production. Vanadium has the potential to be used in grid-scale energy storage systems that revolutionise green energy, as it will allow energy derived from the sun and wind to be stored and used on demand over extended periods.

QEM’s flagship **Julia Creek vanadium and oil shale project**, covers a 249.6 square kilometre holding 16 kilometres outside of Julia Creek. In late 2019 the company reported a 62 per cent increase in resource size to a 2760 million tonnes Joint Ore Reserves Committee (JORC) resource, claiming it to be one of the single largest vanadium deposits in the world. The project has potential to deliver energy fuels and vanadium pentoxide.

Multicom Resources Limited is proposing to develop the **Saint Elmo Vanadium project**, located around 15 kilometres east of the town of Julia Creek, focused on producing vanadium for batteries in the residential energy storage market.

Vecco Group is targeting initial production in 2021 at its **Debella project** also outside of Julia Creek. The project is focused on producing a vanadium pentoxide product, vanadium electrolyte and high purity alumina (HPA) for battery markets.

The **Richmond Vanadium project**, comprises of four prospects between Julia Creek and Richmond which cover an area of 1520 square kilometres.

The project is being progressed through a Joint Venture agreement between Horizon Minerals Limited and Richmond Vanadium Technology (RVT). The proponent estimates the project to be of a scale that makes it one of the largest undeveloped vanadium resources in the world and one of the few deposits worldwide, with a non-titaniferous magnetite (hard rock) vanadium resource.

A pre-feasibility study centred on commercial evaluation and ore reserve generation is expected to be released by the Joint Venture in late 2020.

\$110 million has been committed by the Queensland Government over four years to improve the North West Minerals Province supply chain right through to the Port of Townsville.



Image: Department of State Development, Tourism and Innovation (DSDTI)

JOBS AND COMMUNITY

The North West Minerals Province has a vibrant population, with a young and highly skilled workforce and access to high-quality training and education. About 37 per cent of jobs in the region are directly in mining and minerals processing, with another 23 per cent in jobs indirectly supported by these.*

Mount Isa is the main urban hub in the north-west and delivers health, community, education and training services, as well as government administration. It is served by rail, road and commercial air networks linking to coastal ports.

Queensland's enviable lifestyle, climate and social infrastructure will enhance any investment proposition. The North East Minerals Province includes established and growing regional centres around Charters Towers, Townsville and Cairns. It supports a significant pipeline of infrastructure, a skilled workforce and important service industries. The province is home to a large number of mines and known copper, gold, cobalt, nickel, scandium, molybdenum, tin and tungsten deposits.

Townsville's zinc processing facilities and one of the world's leading electrolytic copper refineries, capable of producing 300,000 tonnes of 99.995 per cent pure copper cathode per year, provide a significant value-add to the region's minerals.

Further development of transport corridors is underway across northern Australia to integrate land transport and ports to improve the movement of people, commodities and produce.

Townsville Airport is the fastest growing in Australia. Townsville is also a centre for research, education, training, health, social and community services, and government administration.

The Queensland Government is proactively supporting the development of end-of-line processing and value-adding industries to extract greater value from our new economy minerals.

Investing \$30 million, the Queensland Government has established manufacturing hubs in Cairns, Townsville and Rockhampton. The hubs support regional businesses to accelerate the transition to advanced manufacturing through world-leading technologies.

Through the regional hubs, businesses can connect with the Advanced Robotics for Manufacturing (ARM) Hub. Established by the Queensland Government and delivered in partnership with research institutions and industry, the ARM Hub provides businesses with access to cutting edge robotics and associated technologies, robotics expertise, skills development and industry knowledge. The hub works closely with the resources and METS sectors to scale-up and prove-out high value manufacturing technologies that will drive investment and industry transformation.

PIT-TO-PORT APPROACH

Queensland's pit-to-port approach has targeted mining and exploration activities and strategies to provide efficient freight movement to export markets.

The Flinders Highway is a highly productive freight route. It forms part of the National Land Transport Network, linking the North West to Townsville's processing and export facilities.

**(As quoted in A Strategic Blueprint for Queensland's North West Minerals Province, sourced from Queensland Treasury).*

The road continues as the Barkly Highway from Cloncurry to the Northern Territory border at Camooweal, and beyond. An ongoing improvement program for the Flinders Highway has the support of all levels of government in Australia, recognising the importance of this road route for future trade. It is approved for road trains of a maximum length of 53.5 metres. Truck transit time between Mount Isa to Townsville is approximately 12 hours.

The Mount Isa rail line system includes over 1000 kilometres of track from Stuart (near Townsville) to Mount Isa, and includes the Phosphate Hill branch. It transports almost four million tonnes of freight each year, with the rail operators committed to working with potential and new customers to accommodate freight requirements.

The Queensland Government is investing over \$300 million over five years to maintain and improve the line, making the freight journey faster and more reliable. An additional investment of \$50 million will deliver other improvement works, subject to business cases.

The Queensland Government has committed \$110 million over four years to improve the North West Minerals Province supply chain right through to the Port of Townsville. This investment includes \$80 million over four years for the Mount Isa Line Incentive Scheme to reduce rail access costs. The \$110 million commitment also includes in-principle support for a new common user multimodal container terminal at the Port of Townsville to further improve the efficiency of freight movement across the network.

Recording a total trade throughput of 7.68 million tonnes (2018–19), Townsville is the largest general cargo and container port in northern Australia. With eight berths servicing the export needs of Queensland's minerals, agricultural and pastoral sectors, the Port of Townsville also facilitates the import of critical supplies such as petroleum products, cement, mining consumables, project cargo, containerised and general cargo.

Covering 300 hectares of land, the port is equipped with heavy lift loading and unloading equipment, roll-on/roll-off (RoRo) facilities, significant cargo laydown areas and has biosecurity and custom services on site.

Construction has also started on the Port of Townsville's \$193 million upgrade, paving the way for usage by larger commercial vessels.

ENERGY

In a further boost to investment and development across the North West and North East Minerals Provinces, the Queensland Government recently announced \$14.8 million in funding to continue investigating the feasibility of 1100 kilometre high-voltage transmission line to connect the North West Minerals Province with the national energy market. The project has the potential to stimulate large-scale renewable energy investment and deliver lower energy costs to industry.

The provinces offer significant renewable energy prospects for both commercial scale and on-site energy generation. In recent years the region has seen substantial investment in large solar, wind and hydro electricity projects. In 2018, Sun Metals completed construction of a \$200 million 125 megawatt (MW) solar farm to power their refinery operations outside of Townsville.

The Diamantina Power Station in Mount Isa provides generated power for the North West Minerals Province through 242 MW of combined cycle gas turbines, backed up by 60 MW dual fuel, open cycle gas turbines at Leichhardt Power Station.

The 33 MW gas fired X41 Power Station (XPS) at Mount Isa, one of the most energy efficient power stations operating in Australia, is supported by a 5 MW temporary power plant that provides back-up generation during upgrades of the XPS.

The Northern Gas Pipeline (NGP) runs 622 kilometres from Tennant Creek in the Northern Territory to Mount Isa, delivering gas to Diamantina Power Station. The 840-kilometre, two-way Carpentaria Gas Pipeline (CGP), also known as the Ballera pipeline, delivers gas to Mount Isa and south to markets along the eastern seaboard of Australia.

These pipelines are key enablers to future development in the North West Minerals Province. They provide the ability to develop a multi-user pipeline to connect several projects to a reliable gas supply.

WATER

The major water supply sources in the North West Minerals Province include the Julius Dam and Moondarra Dam.

Julius Dam is located at the junction of Paroo Creek and the Leichhardt River, approximately 70 kilometres north-east of Mount Isa. Julius Dam supplies several mining projects as well as the Cloncurry Shire Council.

Moondarra Dam is located on the Leichhardt River 18 kilometres north of Mount Isa and supplies water to the Mount Isa City Council and major mining and industrial users.

Additional regional water supply sources include the Cloncurry Weir which enables water to be harvested and contribute to a secure water supply.

The 113-kilometre North-West Queensland Water Pipeline from Lake Julius to the Ernest Henry Mine has a total capacity of 15,000 ML/a of which 10,500 ML/a is currently available.

To the east, mining projects can seek access to ground water, off stream capture and storage and recycled water.

A number of water augmentation projects throughout the North West and North East Minerals Provinces are under active consideration.

A GLOBALLY COMPETITIVE METS SECTOR

Queensland's \$7 billion per annum METS sector has developed an international reputation for innovative solutions to the challenges of mining operations across the world. The sector is backed by some of the Australia's top universities and research institutions focused on energy and resources. Our world-class education standards and workforce capabilities have established a cluster of expertise in servicing the metalliferous mining sector in North West and Northern Queensland.

QUEENSLAND: A PLACE TO INVEST WITH CONFIDENCE

Recyclable Li-Ion Battery Mod
Do not burn. Do not disassemble.
Designed by Apple in California.
请勿拆解、刺破、挤压、加热或焚烧。
标称电压和额定容量/请仔细阅读
A2171 充电数据表/请仔细阅读
充电数据表/请仔细阅读



Image: (iStock)

Investing in Queensland's new economy minerals offers unrivalled opportunities to thrive as part of a supply chain that links to the fastest-growing region of the world from a politically, economically and socially stable base.

QUEENSLAND'S ECONOMIC SNAPSHOT

GROSS STATE PRODUCT

\$373 billion



Source: Queensland State Accounts December quarter 2019

OVERSEAS MERCHANDISE EXPORTS

\$84.2 billion in 2019



Source: ABS 5368.0

POPULATION

5.17 million



As at September 2019
Source: Queensland Government Statistician's Office

INTERNATIONAL AIRPORTS

6



Source: www.tiq.qld.gov.au/connect/about-us/agent-general-uk/why-queensland

Queensland is a mining and resources investment proposition of choice, supported by considerable expertise in our world-class METS sector, and a focus on developing sustainable, strong and prosperous industries, businesses and communities.

Recently recognised as a global advanced manufacturing hub by the World Economic Forum, Queensland is also a centre for world-leading technological research and innovation. The state government has invested more than \$3.6 billion in research, development and innovation during the past two decades, and supports around 40 research institutions.

Our intellectual capability in geoscience and mining is well established, and has generated capacity for the benefit of investors, manufacturers, retailers and customers along the supply chain.

Investment in exploration for new mineral deposits in Queensland has increased over the past two years with both large and junior explorers active in the North West and North East Minerals Provinces. The volume of announcements made by explorers to the Australian Stock Exchange (ASX) during 2018–19 was extremely high, reflecting an energetic exploration sector.

Queensland is a pro-business state in a country that is recognised globally as a business-friendly regulatory environment. The World Bank in 2020 ranked Australia as 14th out of 190 countries for ease of doing business. We ranked particularly well for ease of getting credit (4th) and for starting a business (7th).

Queensland is a pro-business state in a country that is recognised globally as a business-friendly regulatory environment.

Investors in Queensland can be confident that they are able to demonstrate their ESG credentials. Strengths such as environmental management, community engagement and development, water management, and innovation and education, combined with reputable environmental and safety frameworks, have made Queensland a world leader in sustainable mining.

The Queensland Government has developed a clear legislative framework to work in partnership with Traditional Owners to preserve and protect cultural heritage.

International investors can benefit from accessing local personnel and First Nations community programs, along with firms that have world-leading capability in environmental accountability and corporate social responsibility. They can also be confident that they will be supported to meet the increasing expectations of stakeholders, shareholders and end consumers in relation to ethical investments that protect environmental and social values and maintain fair, open and transparent governance structures.



Image: (iStock)

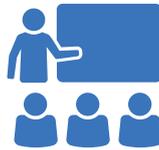
QUEENSLAND'S STRONG COMMITMENT TO ENVIRONMENT, SOCIAL AND GOVERNANCE (ESG) CRITERIA

Contributing to a sustainable and competitive economy



ENVIRONMENTAL

- State support for the Australian Government's commitment to the Paris Agreement
- State signatory to Under2MOU global climate change agreement
- Strong environmental and climate change adaption frameworks



SOCIAL

- Keeping Queenslanders healthy—investing in Queensland's high quality health services
- Access to quality education for primary, secondary and tertiary level Queenslanders
- Subsidies for social housing, public transport, energy and water



GOVERNANCE

- Stable system of government and political framework
- Queensland's *Human Rights Act 2019* protects the right to education, privacy, freedom of speech and protection of children
- Strong financial management and exceptional liquidity

ADDITIONAL INVESTMENT STRENGTHS



RESILIENT ECONOMY

Queensland's resilient economy has been underpinned by economic growth which has equalled or exceeded the national average for the past two decades.



SKILLED AND MULTILINGUAL WORKFORCE

Queensland boasts a multicultural, well-educated, resourceful and versatile workforce. Our enviable lifestyle and world-class education and training facilities attract and retain highly skilled workers. This dynamic workforce is adaptable to structural changes, new technologies and industry innovations.



COMPETITIVE OPERATING ENVIRONMENTS

Queensland offers business owners and investors many advantages, including the lowest rate of payroll tax in Australia, competitive labour rates, low cost of living, simple development approvals and coordinated major project facilitation.



Image courtesy of DNRME

ADVANCING QUEENSLAND

Queensland is committed to attracting international investment and growing overseas trade. We offer diverse investment opportunities and unique mechanisms to support industrial development.

The distinctive role of Queensland's **Office of the Coordinator-General** is to coordinate the development, planning and assessment of significant public works and private infrastructure including major resource projects across the state. The Coordinator-General has dedicated resources to assist project proponents to navigate approvals processes.

The Queensland Government has a number of declared State Development Areas (SDAs) in strategic parts of the state, including Townsville. These areas are underpinned by legislation, and managed by the Office of the Coordinator-General. The formal declaration of SDAs provides greater certainty to encourage investment and regional development, and to maximise opportunities to develop industries in a planned way.

Building Queensland is a statutory body that leads the preparation of business cases for all significant infrastructure projects in Queensland. It supports investors through a pipeline of priority infrastructure projects that will lift the state's productivity.

The Queensland Government invites proposals from the private sector to improve infrastructure or services that meet a community need.

Other Queensland Government departments, including the **Department of State Development, Tourism and Innovation**, the **Department of Natural Resources, Mines and Energy** and agencies such as **GSQ**, are playing key roles in implementing initiatives to further develop the North West and North East Minerals Provinces.



Trade & Investment Queensland (TIQ) is the Queensland Government's dedicated global business agency with representatives in 16 locations across the world. TIQ has specialist responsibility for ensuring that international investors have the information and support needed to take advantage of the many opportunities Queensland offers.

TIQ assists potential investors by providing a range of business and investment services including detailed industry knowledge, preparing business cases, arranging site visits, facilitating introductions to industry and service providers, liaising with government, and providing market intelligence. TIQ also partners with local councils, economic development agencies and private service providers to identify projects ready for investment.

CONTACTS

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Office: 1 William Street, Brisbane, Australia

Website: www.drdm.qld.gov.au

SUPPORTING FUTURE GROWTH



Image: Mount Isa Mines Acid Sulphate Production (Shutterstock)



Image: iStock

Strong partnerships with business, local industries, communities and key stakeholders are building on the natural strength and prosperity of Queensland’s North West and North East Minerals Provinces.

MEETING GLOBAL DEMAND

Demand for materials used in the making of new technologies is so strong that it could exceed global supply. As manufacturers and industries seek secure, predictable supplies, trade prices for these metals and minerals increase.

Most high-tech industries and governments of advanced economies recognise that developing a secure and stable critical minerals supply chain is an important risk-management strategy.

Australia is a signatory to 11 free-trade agreements with individual countries or groups of countries. Three of these agreements—with China, Korea and Japan—cover more than half of Australia’s exports.

Queensland is a gateway to these markets, and has decades of experience and expertise in partnering with investors on major resource-sector and infrastructure projects.



Image: Solar Farm Normanton, Queensland (DSDTI)

Support for investors and proponents of exploration, mining, service support and infrastructure development is being delivered by Queensland Government agencies through a range of targeted activities and initiatives:

A STRATEGIC BLUEPRINT FOR QUEENSLAND'S NORTH WEST MINERALS PROVINCE

- Launched by the Queensland Government in July 2017, the blueprint is a four-year, \$39 million strategy that secures the long-term future of the North West Minerals Province. Funding includes \$27.125 million for the Strategic Resources Exploration Program to boost exploration and support for resource development projects.
- Established as a platform for collaborative action, the blueprint's implementation leverages strong partnerships across Commonwealth, State and Local Government, regional industries, communities and key stakeholders.
- Structured across three strategic priorities, the blueprint has helped to prioritise an investment of over \$260 million in areas such as resource sector development, economic diversification and employment, integrated service delivery and community sustainability.

QUEENSLAND METS 10-YEAR ROADMAP AND ACTION PLAN.

- Released in July 2017, the METS 10-year Roadmap and Action Plan outlines a vision for the sector to become a global leader in the development of commercially valuable solutions for the energy and resources industry worldwide.
- Supported by an initial \$7 million in funding, the roadmap includes a range of actions to increase innovation, commercialisation and collaborative business opportunities and to develop and promote sector capabilities.
- The Queensland Government has established an accelerator pathway for METS companies seeking to commercialise new products or processes that support Queensland's resources sector to remain globally competitive.
- The early and late stage commercialisation pathways enable industry proponents to develop and market-test new products, seek investment and connect with customers, demonstrating the Queensland Government's commitment to supporting the entire innovation value chain for the energy and resources industry.



Image: iStock

FINANCIAL INCENTIVES

Several sources of funds that align with the Queensland Government's priorities are available to support future development across the North West and North East Minerals Provinces.

- The **Jobs and Regional Growth Fund** targets an increase in private-sector investment in jobs in regional economies.
- The **Advance Queensland Industry Attraction Fund** is also aimed at creating jobs. It specifically targets private sector businesses that seek to locate 'contestable projects' in Queensland.
- The **Industry Tech Fund**, an initiative of Advance Queensland, is aimed at start-ups and small- to medium-sized enterprises that are innovative and responsive to change and opportunities in emerging industries. The program provides investment for collaborative research and development, particularly in technology platforms (e.g. unmanned aerial vehicles).
- The \$13.8 million New Economy Minerals Program is helping to advance innovative exploration in Queensland's minerals prospects. The five-year program includes \$3.5 million in industry grants. This was recently boosted by a further \$10 million to be made available as exploration grants of up to \$200,000 over four years.

PART OF A NATIONAL APPROACH

The Australian Government has committed to encourage investment in northern Australia by making it easier for investors to use natural assets with the involvement of Indigenous communities, improve infrastructure, reduce barriers to investment and employment, and improve governance.

The **Northern Australia Infrastructure Facility** is a \$5 billion lending program for infrastructure projects to develop northern Australia. Concessional finance is offered to encourage private-sector investment. Queensland projects funded include the \$50 million redevelopment of the Townsville airport, which is a major economic enabler for northern Queensland.

The **Commonwealth Scientific and Industrial Research Organisation** (CSIRO) is a world-leading, cutting-edge institution that is at the heart of much influential research in Australia. It has a major facility in Townsville. CSIRO also collaborates with James Cook University at the Australian Tropical Sciences and Innovation Precinct.

CSIRO operates a digital research company, Data61. Part of its research is in building innovative responses to new economy mineral production, for example, cloud based machine-learning data integration for calculating the probability of success from prospecting.

Austrade facilitates investment into Australia, and has an overseas network with a presence in 49 markets. It coordinates resources and energy activities with other Australian Government agencies, as well as states, territories and industry bodies. Austrade is working with **Geoscience Australia** and other national and state agencies to provide a national, integrated approach to the development of an Australian critical minerals sector.

The **Critical Minerals Facilitation Office**, established in 2020, works with state and territory governments, regulators, industry and investors to strengthen the sector by providing national policy and strategic advice on critical minerals. The office promotes and identifies critical mineral investment and off-take opportunities working with other countries to address supply chain risks, promote ethical, sustainable practice and support research and development to improve critical mineral extraction, processing and recycling methods.

Information about other Australian Government initiatives can be found at www.industry.gov.au

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