QUEENSLAND EXPLORATION SCORECARD

2023

queensland exploration council

"Perception shapes reality: Collaborative approach required for resilient exploration"

THE QEC WOULD LIKE TO ACKNOWLEDGE ITS 2023 SCORECARD LAUNCH EVENT PARTNER, TRI-STAR GROUP & SCORECARD PANEL SPONSOR, MCCULLOUGH ROBERTSON.

QEC EXPRESSES ITS APPRECIATION TO SCORECARD WORKING GROUP MEMBERS, THE DEPARTMENT OF RESOURCES AND GEOLOGICAL SURVEY OF QUEENSLAND FOR CONTRIBUTIONS TO THIS REPORT.

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FOREWORD

WELCOME TO THE 13TH ANNUAL QUEENSLAND EXPLORATION SCORECARD

The Queensland Resources Council (QRC) and the Queensland Exploration Council (QEC) are proud to deliver the QEC Exploration Scorecard for the 13th consecutive year.

The Queensland resources sector is the driving force behind the Queensland economy given its scale and the number of jobs it creates.

A visit to the Bowen Basin shows that reality in sharp relief - where the size of the coal mines is spectacular, and their sophistication is world-leading. Of course, there is much more to the Queensland resources sector than coal alone. Our gas projects and the minerals mines in the north of the state are just as highly regarded both in Australia and globally. However, an equally as important indicator about the robustness of the resources sector can be found in the sentiment of the exploration sector.

The world-class mines generating millions of tonnes of coal in the Bowen Basin, the gas projects providing energy for Australia and international markets, and the mines supplying copper, zinc and other critical minerals owe their start to a vibrant exploration sector.

This is what makes the QEC Exploration Scorecard such an important source of information, and industry and policy makers ignore the sentiment to their detriment.

This year, the message is clear: perception shapes reality, and explorers are increasingly concerned about what they see.

There is an unequivocal signal from the exploration sector that policy interventions at the state and federal levels are sapping confidence and creating uncertainty that flows on to investment decisions.

Respondents highlighted policies at both the state and federal level as a cause for concern. Royalty tax changes in Queensland continue to be a strong driver of negative sentiment, almost 18 months after their introduction. However, perceptions of policy decisions from the Federal Government are also deep into negative territory. This result coincides with the Federal Government's intervention into the gas market, capping prices and creating new legal requirements for contractual arrangements between buyers and sellers of gas.

These results point to a contagion effect across the resources sector, given that explorers wouldn't be directly impacted by either of those decisions, unless they were already producers.

Respondents to this year's survey have also highlighted environmental regulations as a driver of significant negative sentiment. Given the Queensland resources sector operates to the highest of environmental standards this may be a reflection of, for example, uncertainty around recent state legislation that was to have a significant retrospective element, and growing changes to federal requirements such as the proposal to create a new EPA-style body. The Queensland Government is also considering significant changes to the operation of the gas industry in the Lake Eyre Basin region, with details about this policy yet to be finalised.

Taken together, these policy changes and uncertainty about what might be around the corner have shaped perceptions and shaped reality when it comes to how explorers see the immediate future.

This is not to suggest the Queensland resources sector can't or won't have a strong future. However, the benefits Queensland stands to gain in the years to come depend upon decisions made now. The Scorecard provides compelling evidence that Queensland can't take a vibrant and robust resources sector for granted. If the policy settings aren't competitive, investors will look elsewhere, a reality driven home by the disparity in sentiment between Queensland and other jurisdictions, which show a much more positive result on most measures.

The Queensland resources sector is a genuine world leader. We have the highly sought after natural resources and the highly skilled workforce to make the most of that geological potential in an environmentally sustainable way, and in a manner that supports local communities.

However, perception shapes reality, so there is clear work to do to shift sentiment amongst explorers and reinvigorate the confidence needed for a long and positive future for the Queensland resources sector.

We have every faith that can be done and that the resources sector can resume its trajectory towards extraordinary opportunities in an energy and commodity-hungry low-emissions world. The sector looks forward to the opportunity to work with both the Queensland and Federal Governments to ensure the policy settings are right to keep Queensland competitive and shape a positive future for our state – both in terms of perception and reality.

The Hon. Ian Macfarlane

Chief Executive

Queensland Resources Council

Kim Wainwright

Chair

Queensland Exploration Council

Image: QEC Chair - Kim Wainwright and QRC Chief Executive - Ian Macfarlane, at the launch of QEC's initiative: The ESG Toolbox for Explorers, at the Brisbane Mining Conference in March 2023.

PUTTING THE EXPLORATION SCORECARD INTO CONTEXT

2023

"PERCEPTION SHAPES REALITY: COLLABORATIVE APPROACH REQUIRED FOR RESILIENT EXPLORATION"

Thirteen years ago, a report card of the state's exploration performance was a revolutionary idea. How would you measure exploration success? What are the key performance indicators of a good year for exploration?

At the time, tenures were still physically pegged out. Queensland had regulations that carefully described the appropriate dimensions, size and colour of the pegs that delineated precious tenure boundaries. Thirteen years ago, a tenure application was a physical document, usually attached to a hefty file of paperwork, which was physically posted around the state as it was considered and assessed. Back then, applications for exploration tenures had to be lodged in a fairly unimpressive pine box, like a returned library book.

Now, Queensland boasts a world-class data lake with open access to tens of thousands of metres of virtual drill core. Our wealth of public geoscience data is being used to train artificial intelligence (AI) systems on how to predict new drilling targets, as well as these newly trained AI systems also suggesting where existing drilling programs may have missed telltale signs of mineral wealth. It's essential to highlight that while these innovative tools are highly valuable, they do not replace fundamental exploration skills. Rather, they complement the core skills by providing fresh perspectives to unravel the intricate geological richness inherent in Queensland's bountiful resource endowment.

Thirteen years down the track, the premise of the Scorecard remains the same – to run a ruler over the state of exploration in the State of Queensland. We strive to be as objective as possible in what we measure, but the structure of the Scorecard also acknowledges that industry sentiment is a key driver of activity.

Optimism breeds investment and funds new exploration activity. Positive sentiment can see one more core drilled, a campaign squeezed to include an extra day in the field, a new greenfield site explored. Optimism fuels the curiosity that drives geological discovery.

However, sentiment tends to be volatile, and perceptions can change swiftly. Each year, a dedicated working group meticulously analyses the sentiment survey responses to grasp the industry's collective mood. Often, the reasons behind the sentiment are glaringly apparent; explorers readily highlight new regulatory risks or commend new policy initiatives anticipated to streamline operations and cut costs.

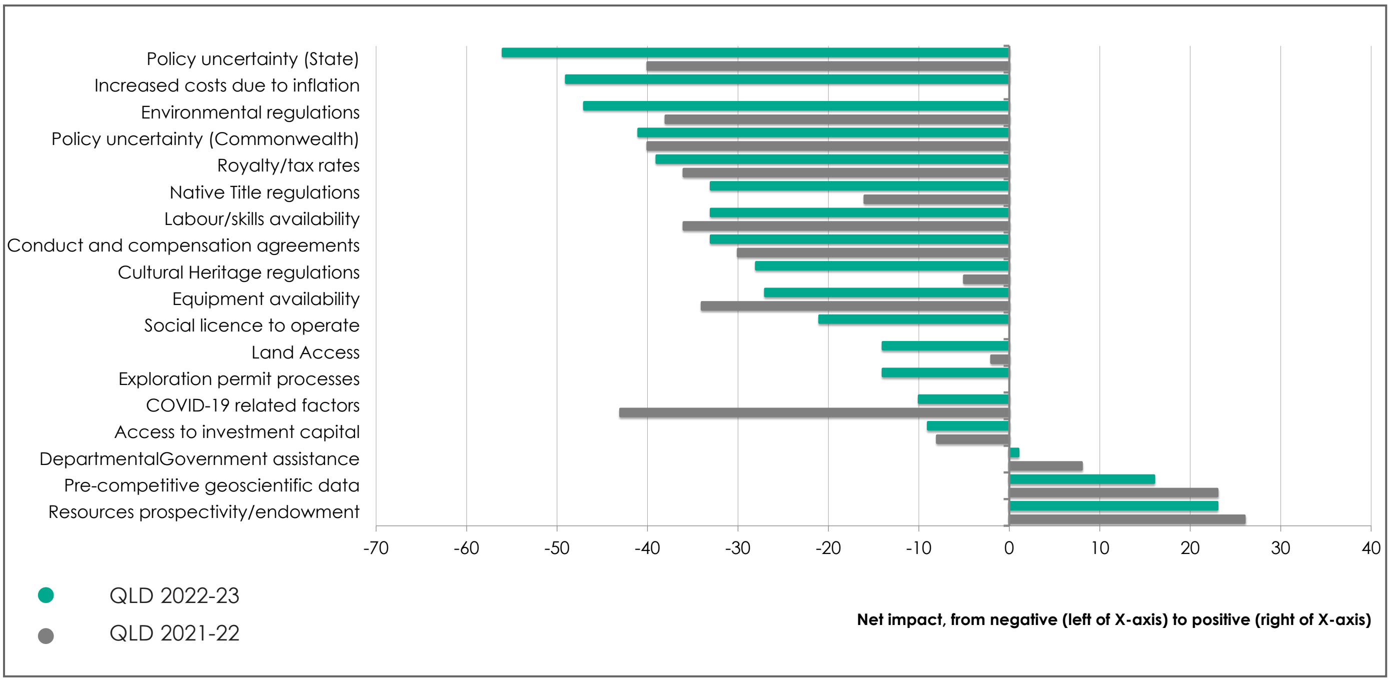
Despite our genuine efforts, we find some of this year's sentiment results to be perplexing. There's a consistent presence of negative comments from explorers regarding Queensland's systems of land access and Cultural Heritage, however no notable policy changes in these areas over the last decade. We have not come across any substantial evidence of overly strict compliance or extended delays in these well-established processes. It raises questions about how to interpret persistent negative feedback. One would have anticipated these procedures to have become routine by now.

Queensland explorers consistently hold a critical perspective. The sentiment survey often portrays our regulatory system as more challenging for conducting business compared to other Australian jurisdictions. However, when directly comparing this year's sentiment results with those of 2021-22 (as depicted in Chart A), it's evident that there has been a noticeable negative shift within the Queensland exploration industry.

In 2023, Queensland hosted the World Mining Congress. In front of a global audience, the Premier launched the Queensland Critical Mineral Strategy, a bold and visionary document with initiatives that reflected detailed submissions from peak bodies, explorers and stakeholders. The Queensland Critical Mineral Strategy commits an unprecedented $245 million of new spending to the careful development and promotion of Queensland's critical minerals potential.

Amongst other investments, the Critical Minerals Strategy delivered all mineral exploration tenures received a five-year holiday from paying rent – a magnificent cash-flow bonus for explorers right across the whole state. Yet Queensland sentiment remains negative. 15 of the 18 sentiment factors showed a net negative sentiment in Queensland.

CHART A: QUEENSLAND EXPLORATION INDUSTRY SENTIMENT 2022-23 VS 2021-22



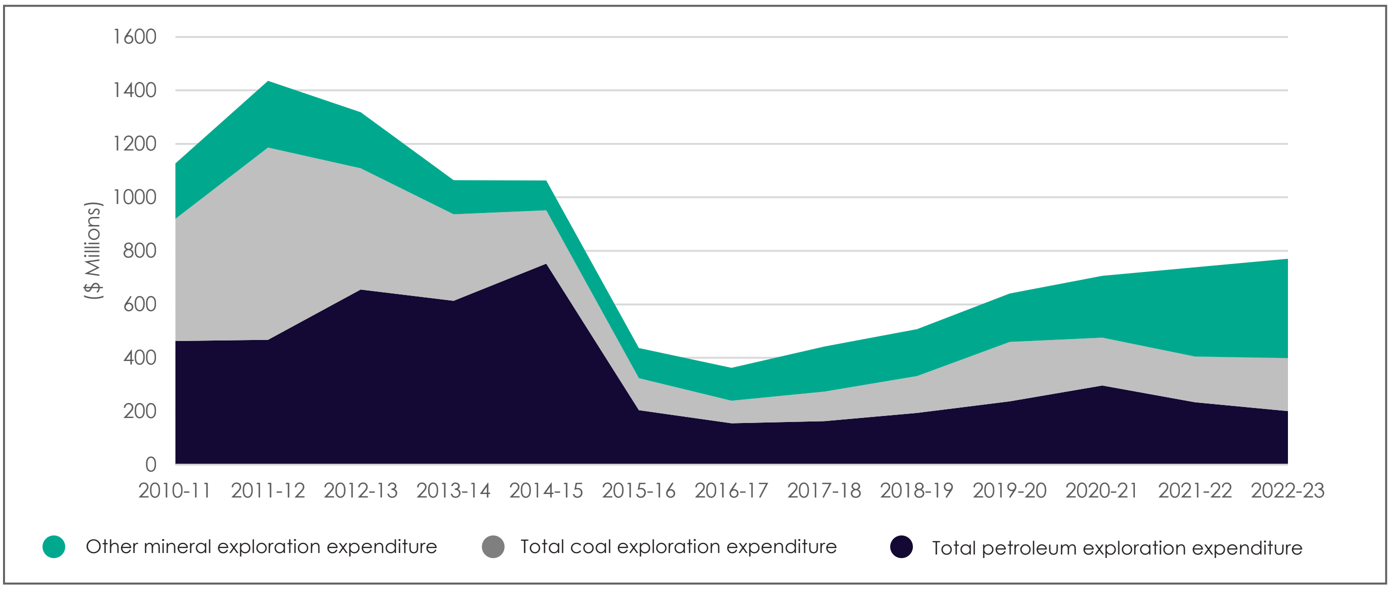
The authors of the Scorecard suggest that it is now time for the issue of industry sentiment to be addressed. A new partnership between industry and government is necessary to reset expectations, to ensure practical collaboration commences between explorers and regulators. A deep dive into the sentiment issues offers the chance to uncover any systemic underlying issues and also to reset the relationship between industry and government.

This year's Scorecard suggests that there is much ground for optimism in the exploration fundamentals looking forward. The survey results highlight the potential for us to review and enhance various aspects that impact the sector.

What does the data tell us about the state of exploration in Queensland for this year? The year brought an increase in exploration for minerals and coal, with exploration for petroleum tapering off. In total, exploration spending is the highest it has been in eight years (Chart B).

The last few years seem to have delivered a shift away from petroleum exploration towards mineral exploration. You'd expect the policy focus of the Critical Minerals Strategy to encourage a further increase in mineral exploration next year, but only time will tell.

CHART B: EXPLORATION EXPENDITURE IN QUEENSLAND 2010-2023



Source: ABS Mineral and Petroleum Exploration, Australia.
Note: The material reduction in petroleum exploration expenditure in 2015-16 was driven by the 2015 oil price crash

While the deterioration in spending expectations from last year's scorecard is clear, roughly equal amounts expect a decrease as those expecting to increase activity over the next 12 months. In the context of the strong exploration spending outlook last year (shown in Chart C), activity levels are heartening despite negative sentiment.

CHART C: 12-MONTH OUTLOOK FOR EXPLORATION EXPENDITURE

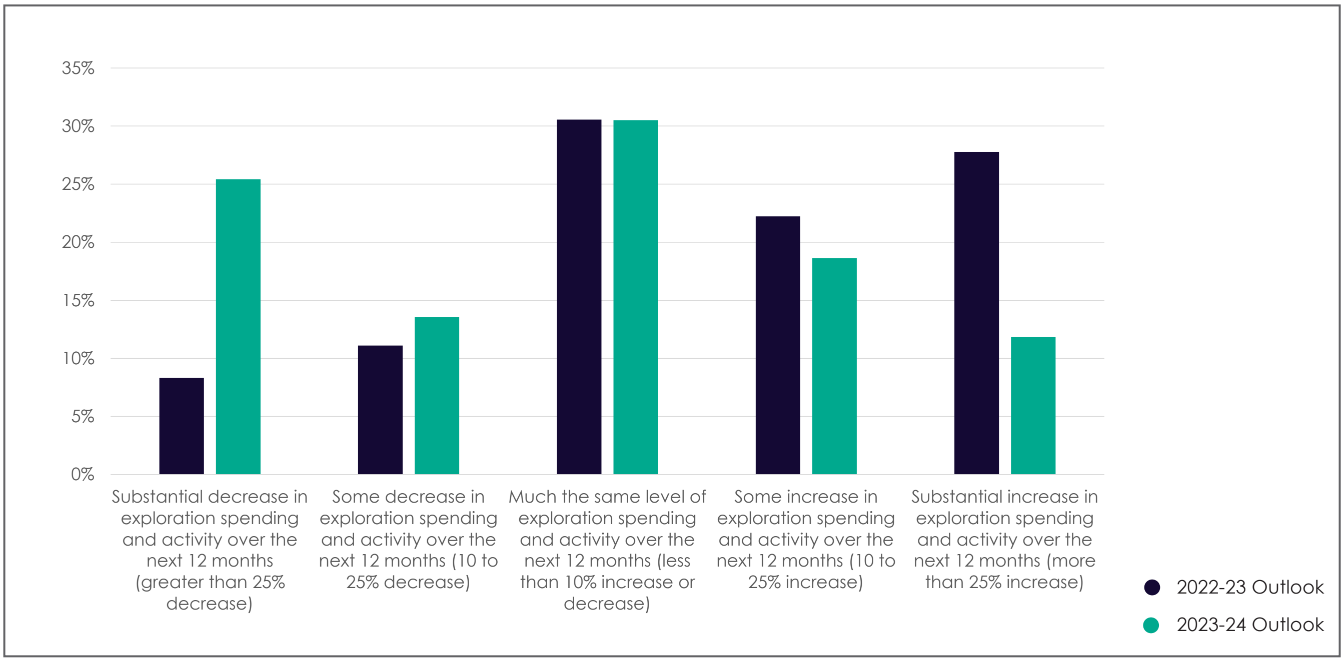
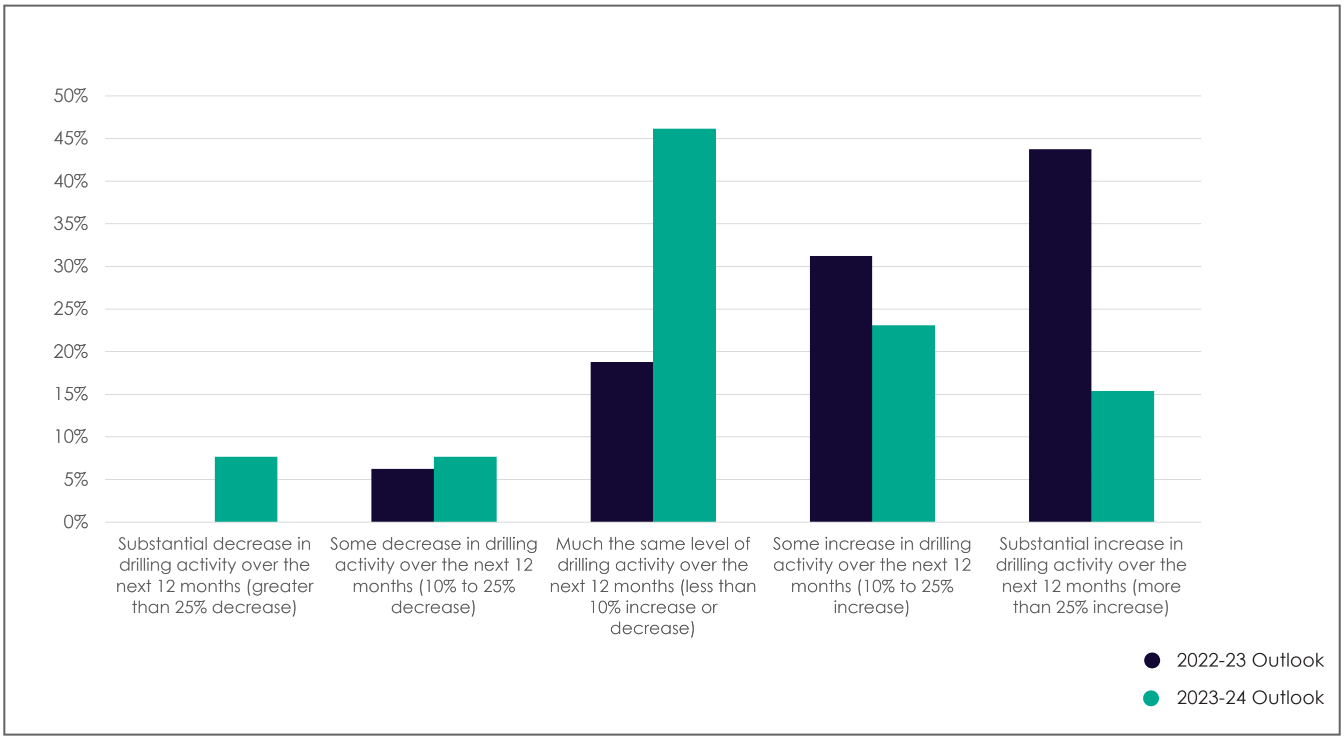


Chart D demonstrates that drilling companies anticipate a steady level of drilling activity over the next 12 months. Some even foresee an increase in this already flourishing industry, which is close to reaching its equipment usage capacity.

CHART D: 12-MONTH OUTLOOK FOR DRILLING EXPENDITURE



Over the past thirteen years, the Exploration Scorecard has evolved from a groundbreaking idea to a vital tool in understanding Queensland's exploration landscape. While technology has propelled us forward, the essence of exploration remains in our core skills. We must embrace innovation without losing sight of our expertise.

The data suggests a need to address industry sentiment through collaboration. Despite challenges, there is optimism in increased mineral exploration, propelled by initiatives like the Queensland Critical Mineral Strategy. The resilience of the exploration industry shines through, promising a future of progress and prosperity. Let's journey forward, united in our pursuit of a thriving exploration sector in Queensland.

Euan Morton
Chair
QEC Exploration Scorecard Working Group

MEMBERS OF THE QEC SCORECARD WORKING GROUP 2023				SUPPORT	
Euan Morton (Chair)	Synergies Economic Consulting Pty Ltd	Tony Knight	Geological Survey of Queensland, Department of Resources	Andrew Barger	Queensland Resources Council
John Bruce	Bruce Resource Consultants	Roger Leaning	Morgans Financial Limited	Kylie Barron	Queensland Resources Council
Liam Davis	McCullough Robertson	Jeff Miller	Australian Drilling Industry Association	Tom Cunningham	Queensland Resources Council
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Dieter Kluger	Department of Resources	Darren Walker	U&D Mining (Australia) Pty Ltd and Queensland Exploration Council	Samantha Nasternak	Queensland Exploration Council

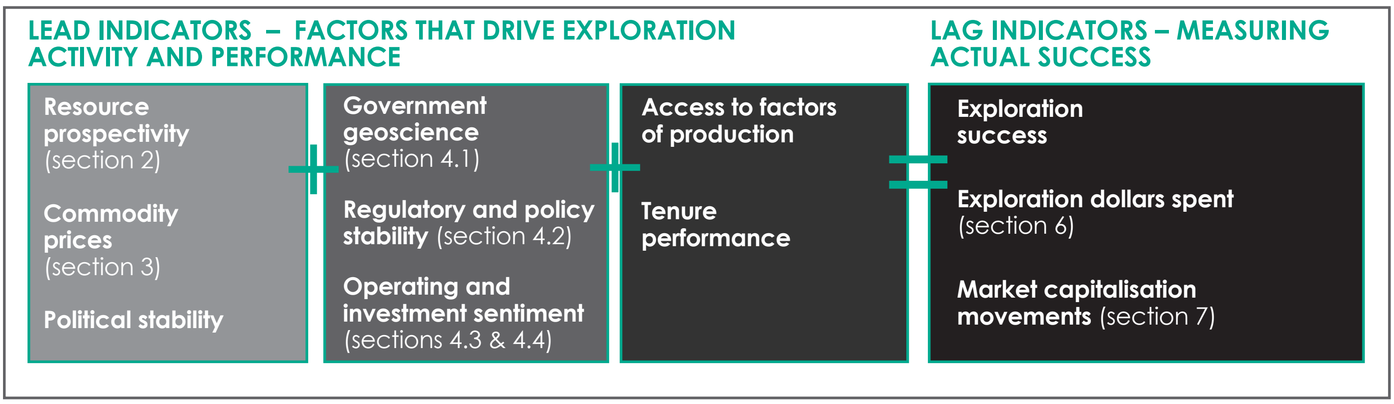
THE SCORECARD'S STRUCTURE

The 2023 Queensland Exploration Scorecard examines exploration metrics for the fiscal year July 1, 2022, to June 30, 2023. It focuses on:

- Queensland's resource potential,
- Commodity pricing and outlook,
- Explorer and investor confidence,
- Policy and regulation stability.

The Scorecard highlights lead indicators like confidence and resource availability, considering market dynamics. It also evaluates tangible exploration achievements using lag indicators. See Figure 1 for an overview of the Scorecard structure.

FIGURE 1: SCORECARD STRUCTURE



Source: QRC

1.0 PERFORMANCE SUMMARY

THE QUEENSLAND EXPLORATION SECTOR, 2011-2023

LEGEND

- Good
- No significant impediment
- Cause for concern
- Significant problems

Year to 30 June...

LEAD INDICATORS – DRIVERS OF FUTURE ACTIVITY AND PERFORMANCE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Resource prospectivity and endowment (Section 2) • Queensland is highly endowed with coal, minerals and gas resources.	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Commodity prices (Section 3) • For metals, average gold prices remained steady across 2022-23 (up 0.1%) while the average copper price declined 14% compared to 2021-22.	Good	Good	No significant impediment	Cause for concern	Significant problems	Cause for concern	Good	Good	No significant impediment	No significant impediment	Good	Good	No significant impediment
• 2022-23 was another strong year for coal prices. The Scorecard's thermal coal benchmark achieved a record average price (US$304) rising a further 23%. The average metallurgical coal benchmark price declined 28% in 2022-23, yet at US$278 a tonne, it remains well above historical averages.	Good	Good	No significant impediment	Cause for concern	Significant problems	Significant problems	Good	Good	Good	Cause for concern	No significant impediment	Good	Good
• The Scorecard's benchmark spot LNG price decreased by 14% to US$26 MMbtu across the year but still remains well above historical levels.	Good	Good	Cause for concern	Significant problems	Significant problems	Significant problems	Cause for concern	No significant impediment	No significant impediment	Cause for concern	Good	Good	Good
State government geoscientific funding and activities (Section 4.1) • The Queensland Government's enthusiasm for critical minerals continues, with the release of the $245 million Queensland Critical Minerals Strategy. • Through the QRIDP, increased investment to the Collaborative Exploration Initiative (CEI) is $22.6 million over the next five years. • Chart 4.1 shows a healthy budget for the Geological Survey of Queensland (GSQ) with increased base funding. • New funding of $21 million towards Frontier Gas Exploration.	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	No significant impediment	Good
Regulatory and policy stability (Section 4.2) • Coal royalty rate increases have created a substantial perception of sovereign risk affecting all commodities. • Federal gas price cap risks worsening supply shortages by deterring investment in gas field development.	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Significant problems	Significant problems
Operating and investment sentiment (Section 4.3 and 4.4) • 3 out of the 18 factors showed a net positive sentiment in Queensland. • 15 out of the 18 factors showed a net negative sentiment in Queensland. • This year, there's a notable negative shift in sentiment undoing past gains and hitting a low since 2011-12. • Explorers face regulatory challenges due to industry shifts, particularly affecting new or smaller players in emerging sectors.	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Cause for concern	No significant impediment	Good	Cause for concern	Cause for concern	Cause for concern	Cause for concern	Significant problems

LEGEND

- Good
- No significant impediment
- Cause for concern
- Significant problems

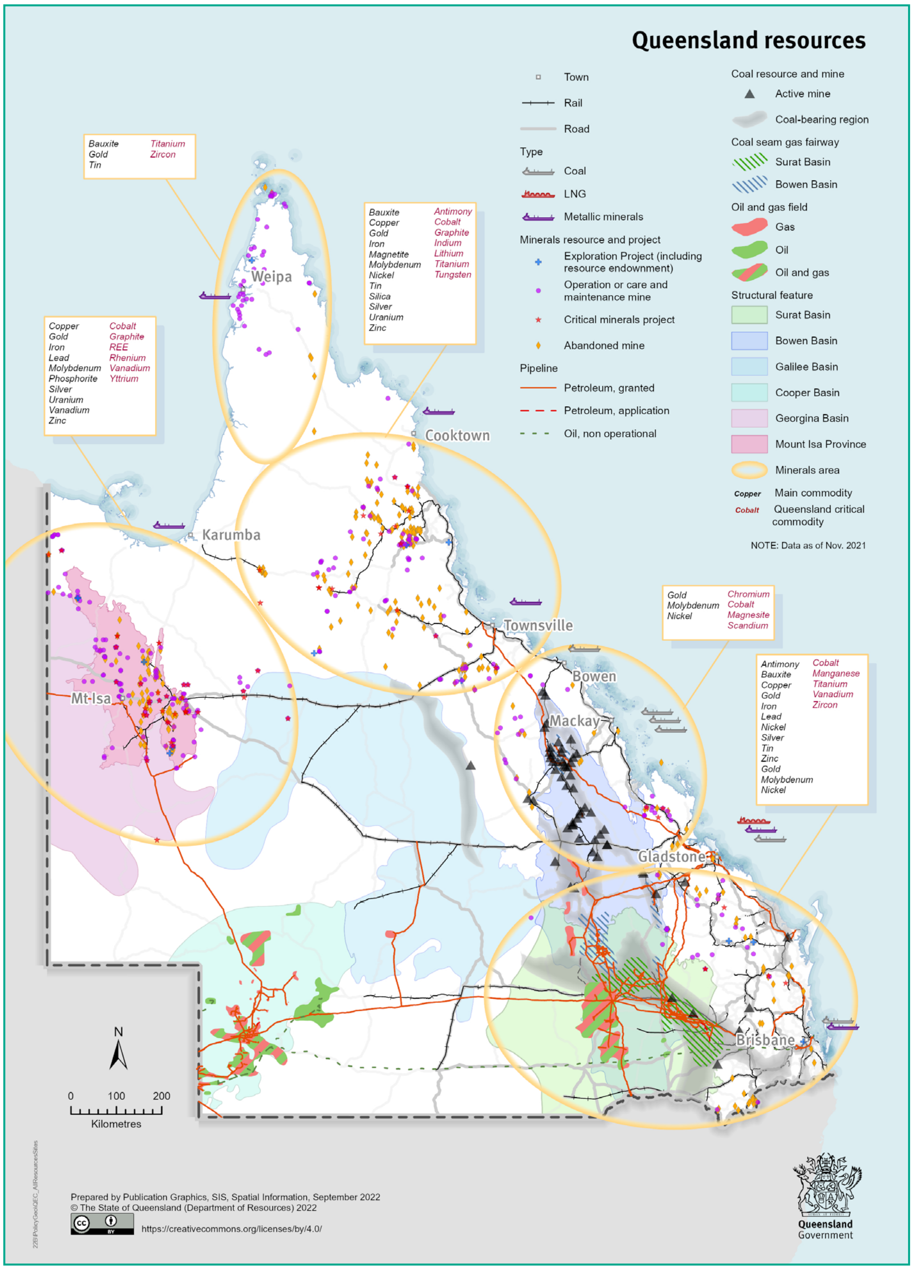
Year to 30 June...

LEAD INDICATORS CONTINUED	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Tenure performance (Section 5) • Industry perception of exploration permit processes has experienced a notable decline, reaching its lowest point since 2013-14. This sentiment has shifted from being neutral in 2021-22 to now being negative, following two consecutive years of positive sentiment. • During 2022-23, the Department's tender release schedule included just one mineral area release, dropping significantly from 8 exploration areas for oil and gas and 4 areas suitable for greenhouse gas storage exploration, in 2021-22. • The Department of Resources opened an EOI process to nominate land areas for inclusion in the 2023 Queensland Exploration Program, from November 2022 to February 2023.	No significant impediment	Cause for concern	Cause for concern	Good	Good	Good	Good	Good	Good	Good	Good	Good	No significant impediment

LAG INDICATORS - EXPLORATION SUCCESS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mineral exploration (Section 6) • Minerals exploration in Queensland continues to expand across the state, with a major focus on the North West and North East region • In 2022-23 Queensland's mineral exploration expenditure (including coal) was $570 million, increasing 13% from 2021-22. • 211 exploration permits for minerals (EPMs) were granted in the 12 months to June 2023. There was 1 EPC granted in 22-23. • Queensland's share of greenfield mineral exploration declined slightly to 32% of all exploration spend.	No significant impediment	No significant impediment	No significant impediment	Cause for concern	Cause for concern	Significant problems	Cause for concern	Cause for concern	No significant impediment	No significant impediment	No significant impediment	Good	Good
Petroleum exploration (Section 6) • Applications for petroleum exploration are spread across the state. • There were 6 Authority to Prospect (Petroleum) permits granted in 2022-23. • There were no land releases or calls for tender for petroleum exploration areas • In 2022-23 Queensland petroleum exploration expenditure was $200 million, a 14% decrease on 2021-22.	Good	Good	Good	Good	Good	Significant problems	Significant problems	Cause for concern	No significant impediment	No significant impediment	No significant impediment	Significant problems	Significant problems
Market capitalisation movements (Section 7) • The S&P/ASX All Ordinaries increased 3%, the Deloitte Queensland Index increased by 2% and the Deloitte Queensland Exploration and Resources Index increased by 5% across the financial year. • The bright spot for the Scorecard was the QEC Explorers' Index increased by 15.7% over the year.	Good	Cause for concern	Significant problems	Cause for concern	Cause for concern	Cause for concern	Good	Good	Cause for concern	Cause for concern	Good	Cause for concern	Good

2.0 RESOURCE PROSPECTIVITY

FIGURE 2: QUEENSLAND ALL RESOURCES MAP



Source: Geological Survey of Queensland, 2023

Queensland's resource prospectivity stands as a primary catalyst for exploration endeavours within the state, offering a vast and diverse wealth of resources and highly promising deposits. Figure 2 illustrates Queensland's abundant prospects in base and precious metals, along with substantial reserves of coal and gas, with an online version available via the Queensland Resources Infrastructure Map. The comprehensive understanding of this rich endowment and its multifaceted applications, achieved through new data and knowledge, is of paramount importance to both industry stakeholders and investors. This knowledge serves as the foundation for translating opportunities into viable projects and establishing new supply chains that generate added value.

Queensland boasts a longstanding history of oil and gas exploration, particularly in the South-West corner around Ballera and Jackson within the Cooper and Eromanga Basins, featuring world-class coal seam gas reserves under the Roma to Dalby area in the Surat and Bowen Basins. The region is also home to high-quality coal resources, with the Bowen Basin containing the majority of the state's hard coking coal. Thermal coals are actively mined from the Clarence-Moreton and Surat Basins in the south-east, with further developments unfolding in the Galilee Basin.

Recent years have witnessed a remarkable transformation in traditional exploration and production, encompassing a broader spectrum of minerals critical to a sustainable and renewable future. The convergence of global shifts in energy, industry, and sustainability has amplified the demand for minerals that were once of limited interest and value to most nations. These critical minerals encompass a range of metals and minerals essential for advanced and emerging technologies, particularly in renewable energy applications.

Geoscience Australia has published Australia's Critical Minerals List, which includes 26 minerals essential to our modern technologies, economies and national security, and whose supply chains are vulnerable to disruption. The list is based on global technology needs, particularly for emissions reduction, advanced manufacturing and defence. The Australian Government is establishing a process to update the list. This will help ensure it responds to global strategic, technological, economic and policy changes.

Queensland's two significant mineral provinces in the North-West and North-East, complemented by abundant mineral occurrences along coastal and border regions, provide an extensive exploration canvas. This often involves revisiting previously explored or mined areas in pursuit of new potential, giving rise to the concept of "secondary prospectivity," - materials left behind from primary mining phases, such as wastes, tailings, and low-grade ores.

The evolving landscape is reshaping the strategies of investors and customers seeking to secure their mineral supply, especially for in-demand minerals essential for renewable energy technologies. These transformations, coupled with the imperative to expand the search-space for critical minerals, offer substantial opportunities to diversify and fortify the resources sector.

This trend is exemplified by the progress of multiple projects and the release of the Queensland Government Critical Mineral Strategy in June 2023, featuring a substantial $245 million investment in exploration endeavours that solidifies Queensland's role in the critical minerals sector. The strategy prioritises actionable measures to foster industry development, with notable emphasis on supporting exploration companies. Initiatives such as providing five years of free rent, establishing critical minerals zones, and creating a dedicated Critical Minerals Office are poised to invigorate exploration in this vital sector. Furthermore, the strategy's $1 million initiative directed at environmental, social, and governance (ESG) practices aligns with QEC's efforts to champion ESG excellence in the industry through the ESG Toolbox for Explorers.

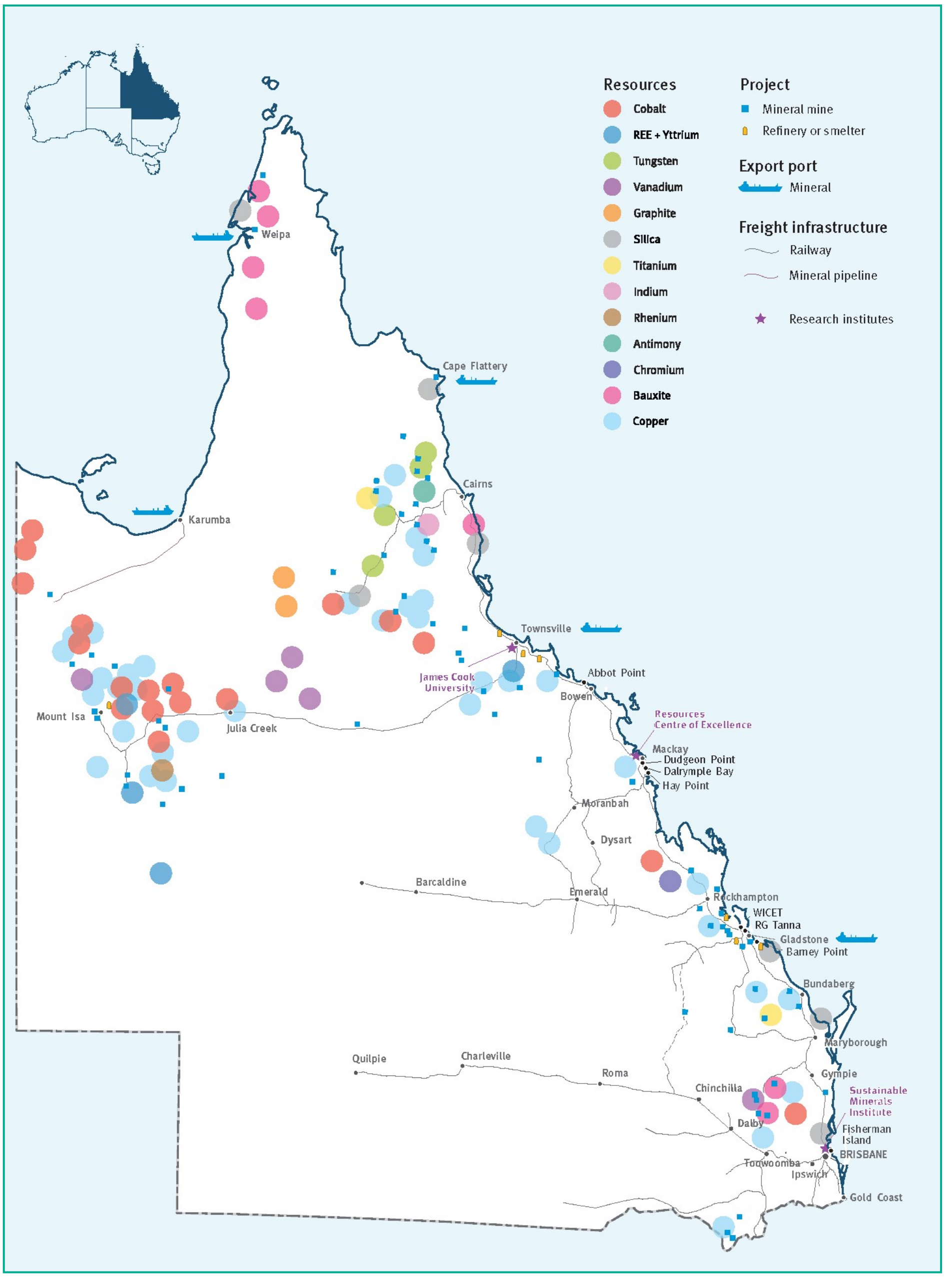
In addition, the updated Australian Government Critical Minerals Strategy 2023-2030 recognises the escalating global demand for these minerals, which are indispensable in achieving a decarbonised future. The strategy's allocation of $500 million in funding through the Northern Australia Infrastructure Facility is viewed as a favourable development for Queensland's critical minerals sector.

Collectively, these strategies represent substantial strides in attracting investment, fostering exploration, and advancing the critical minerals industry in Queensland and across Australia.

Illustrated in Figure 3 is the Critical Minerals Strategy Map recently released by the Queensland Government, depicting the locations of critical mineral resources, ongoing projects, and associated infrastructure.

It comes as no surprise that explorer sentiment regarding Queensland's vast resource prospectivity has remained exceptionally positive throughout the thirteen years of the QEC Exploration Scorecard, with continued robust optimism in 2022-23.

FIGURE 3: CRITICAL MINERALS STRATEGY MAP



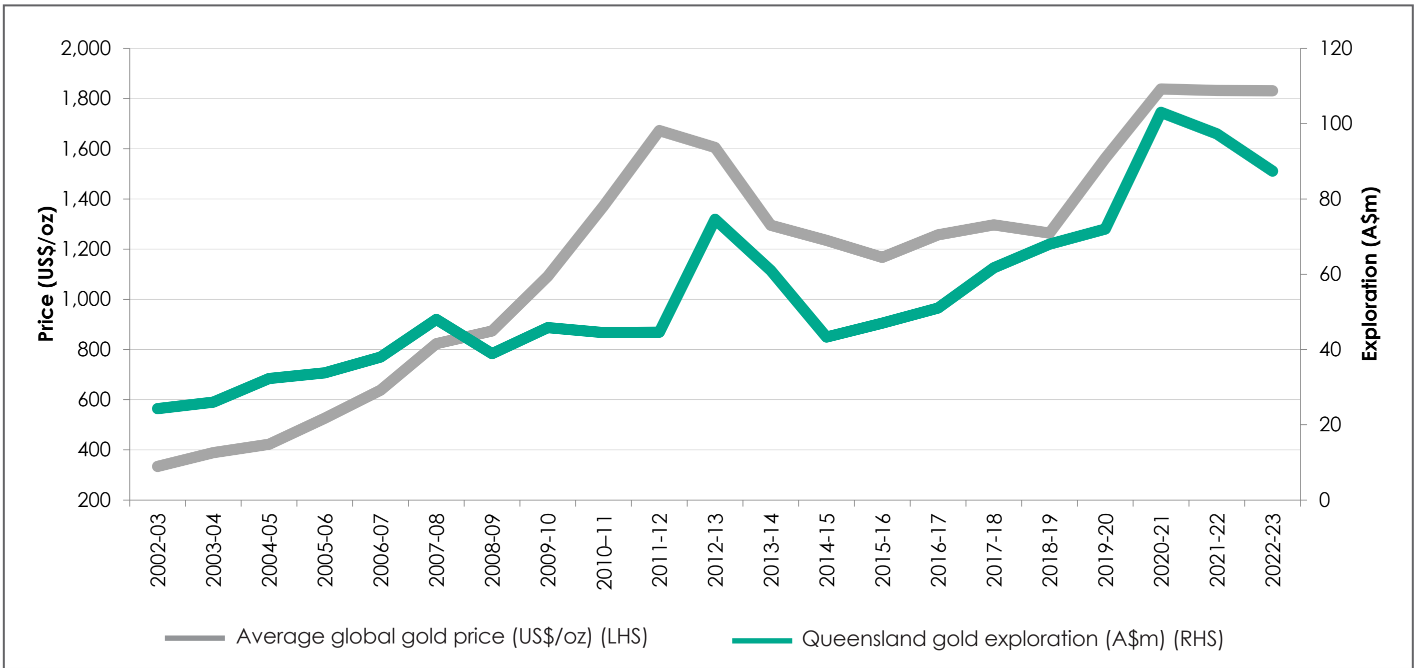
Source: Department of Resources, 2023

3.0 COMMODITY PRICES

Commodity prices are a significant driver of exploration activity in Queensland. Charts 3.1 – 3.4 show the relationship between average global benchmark prices for gold, copper, coal and LNG compared with Queensland exploration expenditure for each commodity since 2002.

Last year's strong pricing for key Queensland targets remained in 2022-23. Copper, metallurgical coal, thermal coal, gold and LNG all remained at or near record highs. Elevated prices have delivered increasing exploration expenditure for copper and coal in 2022-23 while gold and petroleum exploration expenditure both continued their decline.

CHART 3.1: GLOBAL AVERAGE BENCHMARK GOLD PRICES & QUEENSLAND EXPLORATION SPEND, 2002-03 TO 2022-23



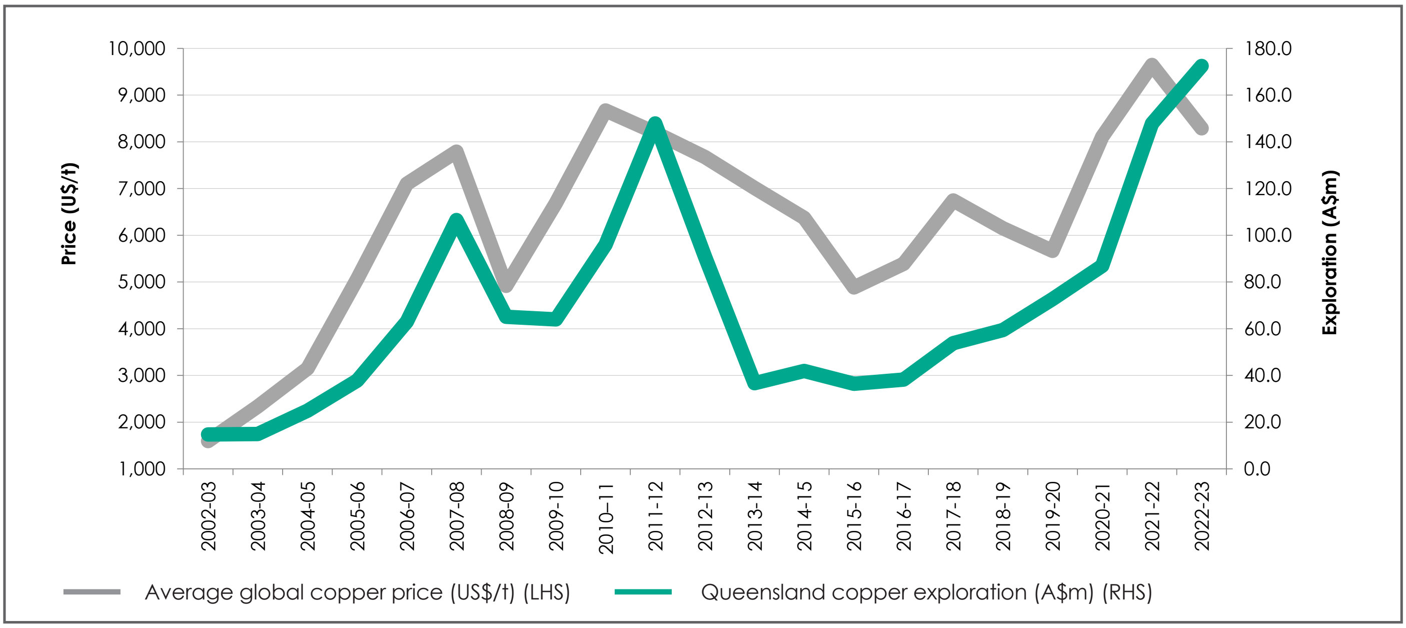
Source: Office of the Chief Economist, Resources and Energy Quarterly; Market Index; ABS 5368.0.

Gold exploration expenditure continued to decline across 2022-23, down 10% compared to 2021-22. Despite two years of moderate declines, exploration expenditure remains healthily above pre-pandemic levels. Gold exploration expenditure should remain supported with the average global gold price in 2022-23 maintaining its record highs.

Historically, gold prices tend to surge during economic downturns, functioning as an inflation hedge against the falling value of currencies. The demand for gold will be supported by a host of new technology applications, with the Queensland Government identifying the commodity as one of the critical minerals expected to be in high demand.[1]

[1] https://www.business.qld.gov.au/industries/invest/critical-minerals/investing

CHART 3.2: GLOBAL AVERAGE BENCHMARK COPPER PRICES & QUEENSLAND EXPLORATION SPEND, 2002-03 TO 2022-23

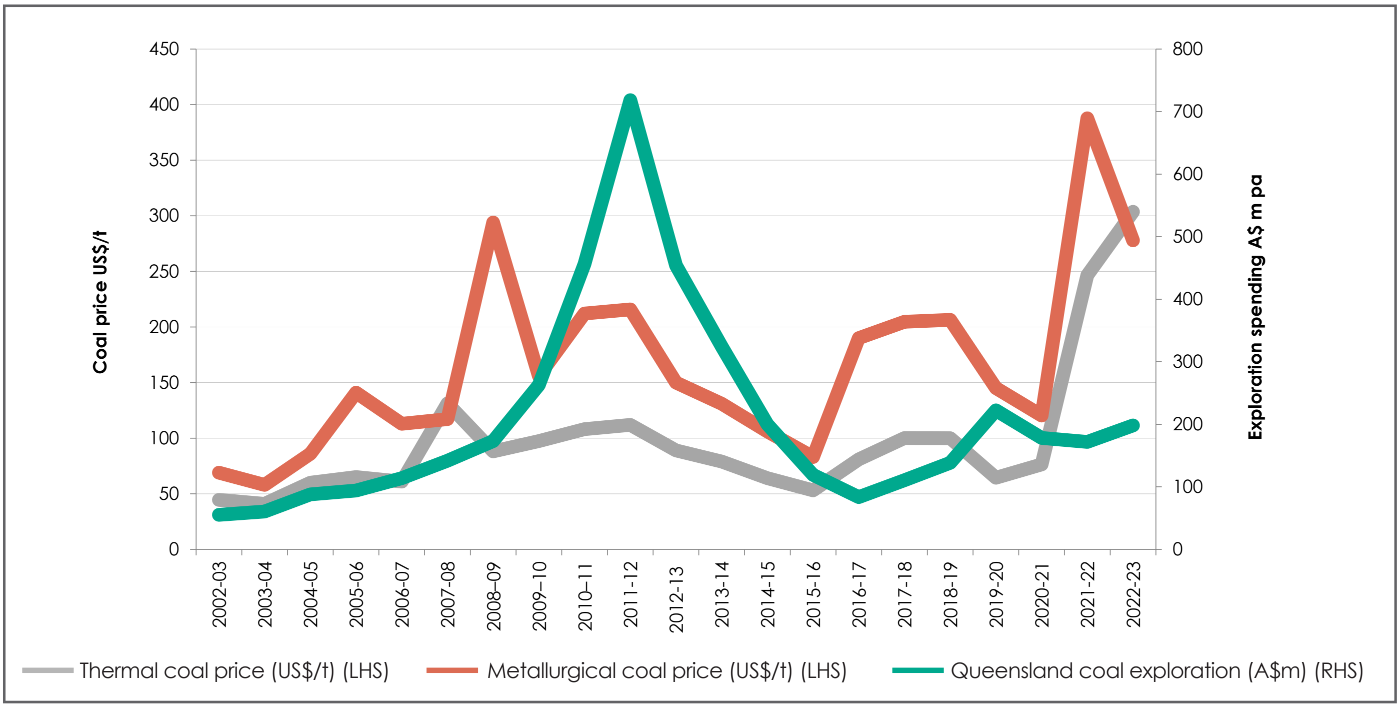


Source: Office of the Chief Economist, Resources and Energy Quarterly; Market Index; ABS 5368.0

Queensland copper exploration expenditure continued to climb to record levels in 2022-23, increasing by 17% in 2022-23. Copper exploration expenditure has grown for seven consecutive years and has almost doubled since 2020-21.

Copper's average spot price declined by 14% in 2022-23 from recent highs yet the outlook for copper demand remains strong. As a new economy mineral, copper is crucial to renewable energy production and storage, electric cars and other low emission technologies.

CHART 3.3: GLOBAL AVERAGE BENCHMARK COAL PRICES & QUEENSLAND COAL EXPLORATION SPEND, 2002-03 TO 2022-23

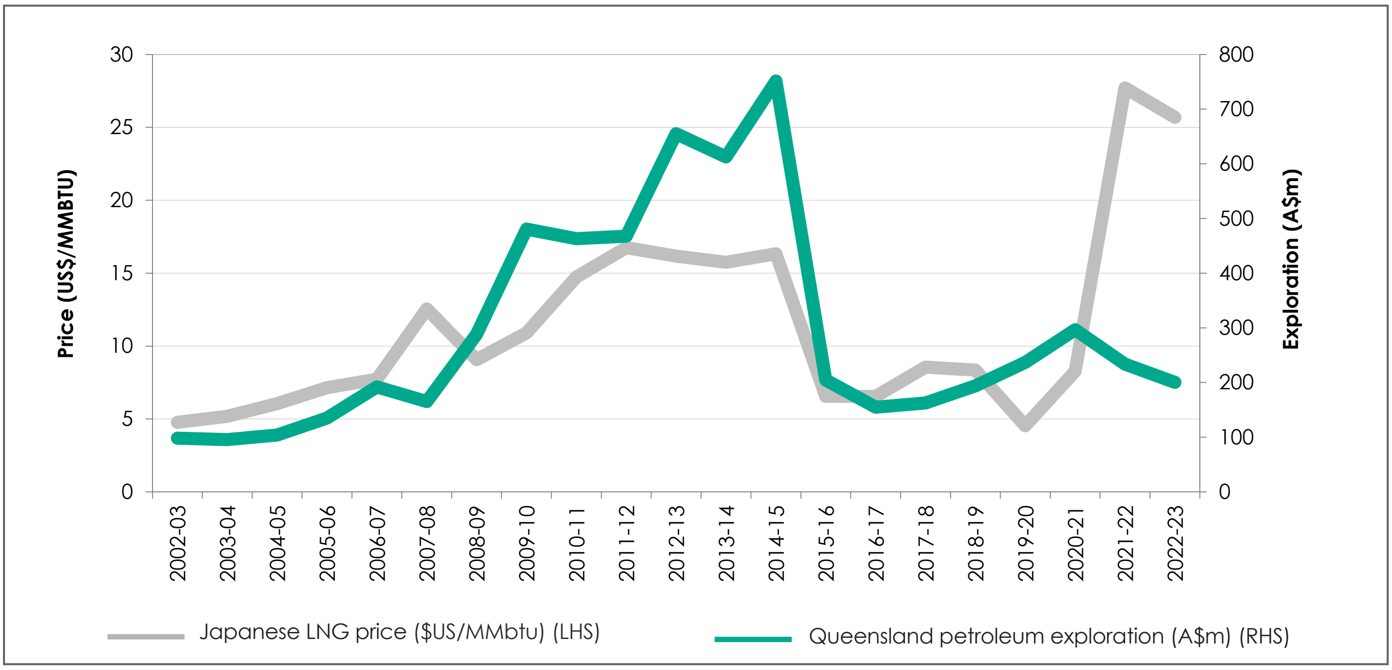


Source: Office of the Chief Economist, Resources and Energy Quarterly; ABS; IHS.
Note: Benchmark spot prices for thermal & metallurgical coal achieved new records in late 2021, beyond the scope of this year's Scorecard.

Coal price benchmarks remained high in 2022-23. Russia's invasion of Ukraine and tight gas markets globally have continued to benefit the global coal price. Benchmark metallurgical coal prices decreased by 28% over the year to average US$278 a tonne, still well above historical averages. Meanwhile benchmark thermal coal prices increased further to average US$304 a tonne as major trading partners such as Japan, Korea and Taiwan sought to diversify away from Russian coal.

As predicted by last year's Scorecard, record spot prices supported a turnaround in Queensland coal exploration expenditure, which increased 15% in 2022-23.

CHART 3.4: GLOBAL AVERAGE BENCHMARK LNG PRICES AND QUEENSLAND PETROLEUM EXPLORATION SPEND, 2002-03 TO 2022-23



Source: METI; JOGMEC; ABS 8412.0
Note: Petroleum exploration expenditure includes appraisal activities, but excludes developmental and production activities.

Petroleum continued to achieve near record prices in 2022-23 because of Europe's energy crisis in 2021 and Russia's invasion of Ukraine in 2022. Across the year, the Scorecard's benchmark spot LNG price averaged almost US$26/MMbtu, a 7% decline on 2021-22.

Despite the supportive pricing, Queensland petroleum exploration expenditure continued to decline, falling 14% in 2022-23. Despite the looming gas supply shortfalls, a series of gas market interventions and an increase in regulatory risk appears to have diminished the case for petroleum exploration expenditure.

KEY FINDINGS

- Copper and coal exploration expenditure grew significantly in 2022-23 up 17% and 15% on 2021-22. For the seventh consecutive year, Queensland's copper exploration spending continued to surge, increasing to record levels in 2022-23.
- Petroleum and gold exploration both saw their second consecutive year of exploration expenditure falls, down 14% and 10% (Chart 3.1, 3.2, 3.3 and 3.4).
- 2022-23 saw record thermal coal prices while metallurgical coal price benchmarks remained elevated (Chart 3.3).
- Petroleum enjoyed close to record prices in 2022-23 with the Scorecard's benchmark LNG price remaining well above historical averages (Chart 3.4).

4.0 EXPLORER & INDUSTRY CONFIDENCE

4.1 STATE GOVERNMENT GEOSCIENTIFIC FUNDING AND ACTIVITIES

The Geological Survey of Queensland (GSQ) serves as the steward of geoscience knowledge and data in the state. GSQ collects, manages, and disseminates geoscience data, information, and guidance related to Queensland's mineral and energy resources and their potential. This involves various geoscience projects and industry reporting requirements.

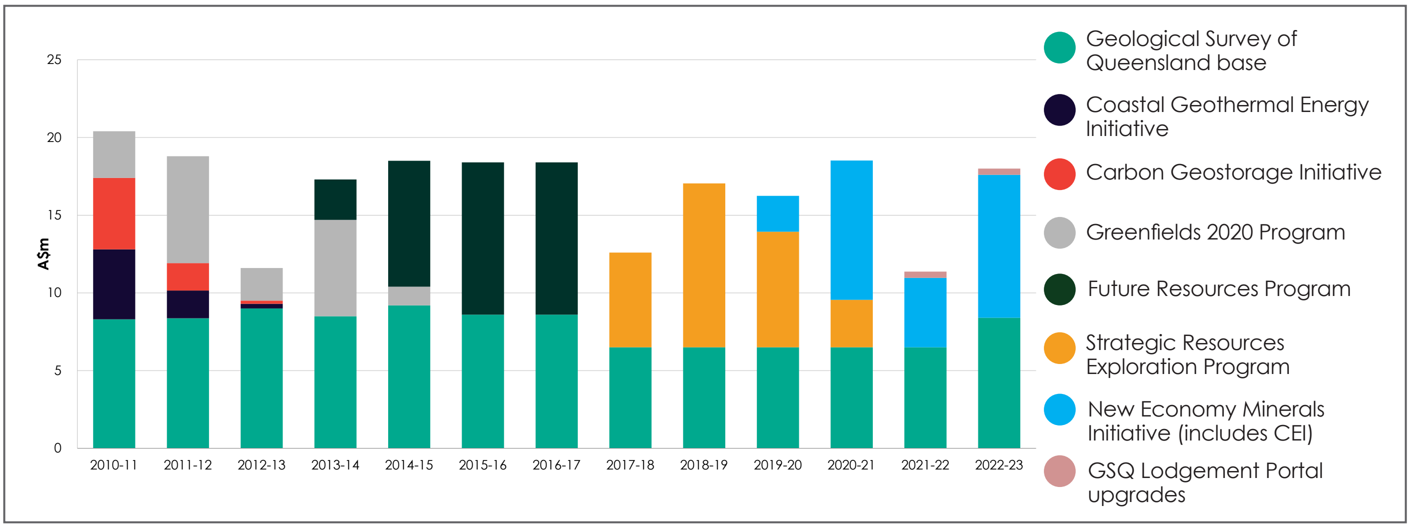
GSQ's efforts are pivotal in supporting sustainable access to Queensland's mineral and energy resources by providing essential data to the industry. Additionally, GSQ plays a vital role in attracting investments to Queensland's resources sector through multiple means:

1. Improving the global understanding of Queensland's resource potential.
2. Facilitating innovative exploration via grants and the Collaborative Exploration Initiative.
3. Pioneering the transition to a data-driven exploration ecosystem.
4. Informing resource planning and beneficial development policy initiatives.

In this year's sentiment survey, the GSQ's release of pre-competitive geoscience data emerged as the top-ranking government initiative that delivered industry benefits. It underscores the importance of continuous state funding dedicated to sustaining pre-competitive geoscience endeavours, a vital element for the sector's ongoing vitality.

Chart 4.1.1 provides insights into the comprehensive allocation of geoscientific funding by the State Government, encompassing various programs. GSQ funding has increased significantly since 2021-22.

CHART 4.1.1: TOTAL GSQ EXPENDITURE (A$M) 2010-11 TO 2022-23



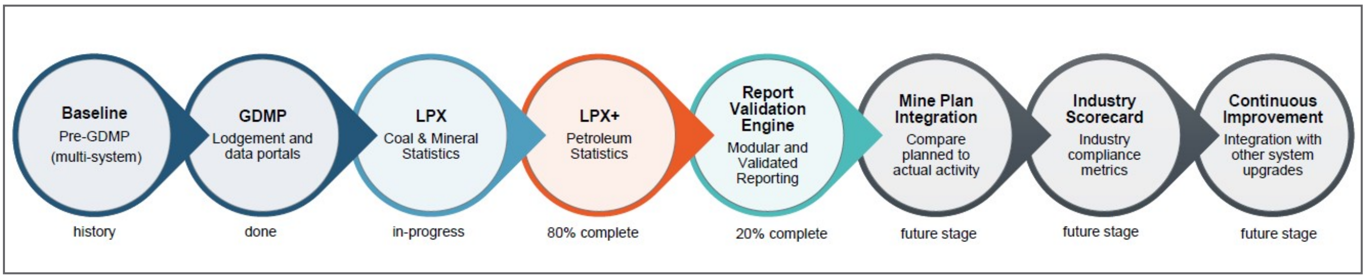
Source: Department of Resources

Note: From 2017-18, a DOR internal restructure meant all IT-related resources moved to the State-wide business systems team. This accounts for the drop in base funding within GSQ, however the total funding and budgeted FTE's stayed on to service the Geological Survey.

To advance geoscience knowledge and support the identification of future resource deposits, the Queensland Government initiated the five-year New Economy Minerals Initiative, a $23 million program, now in its fourth year. This initiative focuses on understanding and promoting the state's critical mineral resources from Mount Isa to Townsville.

To enhance exploration and discovery processes in Queensland, GSQ began upgrading its data and digital systems through a modernisation project. It started in 2020 with the introduction of the GSQ Open Data and Lodgement Portals, along with adjustments to confidentiality periods and report submission methods to enhance data quality. Ongoing and upcoming enhancements to GSQ data systems are outlined in Chart 4.1.2 below. Since last year's Scorecard, GSQ has progressed the upgrades substantially, particularly the Lodgement Portal Capability Expansion Plus (LPX+) and Report Validation Engine projects.

FIGURE 4: GSQ DATA SYSTEM EVOLUTION



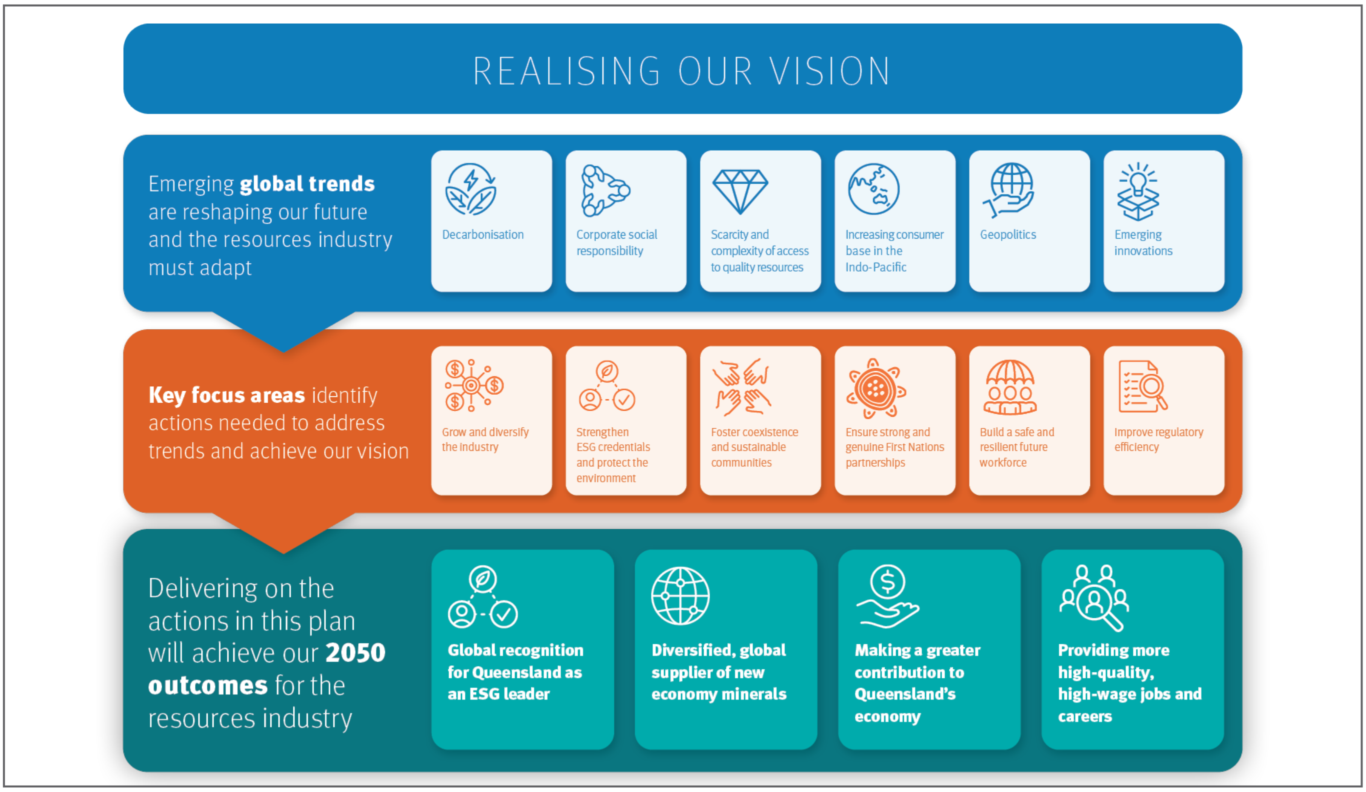
Source: Geological Survey of Queensland

The Queensland Resources Industry Development Plan released in 2022 allocated $22.6 million for the Collaborative Exploration Initiative (CEI) in the five years to 2027, fostering exploration for future mineral and metal deposits needed worldwide.

In June 2023, the Queensland Government introduced the Frontier Gas Exploration grants program, a $21 million initiative aimed at stimulating exploration for new gas reserves in the Bowen and Galilee Basins over the next two years.

At this year's World Mining Congress the Queensland Government launched its latest initiative, the Queensland Critical Minerals Strategy, which aims to drive the development of the critical minerals industry in Queensland. This strategy includes a significant investment of $245 million into various exploration initiatives, reinforcing Queensland's position as a leading player in the critical minerals sector.

FIGURE 5: QUEENSLAND RESOURCES INDUSTRY DEVELOPMENT PLAN VISION



Source: Department of Resources: https://www.resources.qld.gov.au/qridp (page 11)

SPOTLIGHT ON THE QLD CRITICAL MINERALS STRATEGY

As the world turns its focus to critical minerals, Queensland seizes a generational opportunity. The Queensland Critical Minerals Strategy was unveiled by The Honourable Annastacia Palaszczuk, Premier for Queensland in June 2023, to sharpen Queensland's commitment to developing a world-class critical minerals sector. It is a significant investment of $245 million into various exploration initiatives and complements the QRIDP, the Queensland Government's 30-year blueprint for sustaining prosperity and employment.

The Queensland Critical Minerals Strategy harmonises with other key state plans such as the Queensland Energy and Jobs Plan (QEJP). This alignment forms a unified framework for fostering new industries, sustainable economic growth, and responding to climate change while working to decarbonise the economy.

Collaboration is the backbone for realising this ambition. Queensland aims to fast-track the downstream value chain, stimulating local value-added processing and manufacturing industries. Collaboration spans across the Queensland resources industry, academia, resource communities, First Nations peoples, and local, state, and federal governments. The strategy seeks to secure long-term economic prosperity, generate quality employment in regions, and navigate the transition towards a more sustainable economy.

QLD CRITICAL MINERALS STRATEGY: KEY OBJECTIVES & ACTIONS

The Queensland Government Critical Minerals Strategy unfolds through four key objectives, bolstered by new and existing actions that ensure Queensland's critical minerals sector thrives:

1. Move faster, smarter:

- Critical Minerals Zones (funding: $75 million)
- Exploring remaining mineralisation in mine waste (funding: $5 million)
- Facilitating secondary prospectivity for critical minerals

2. Maximise investment:

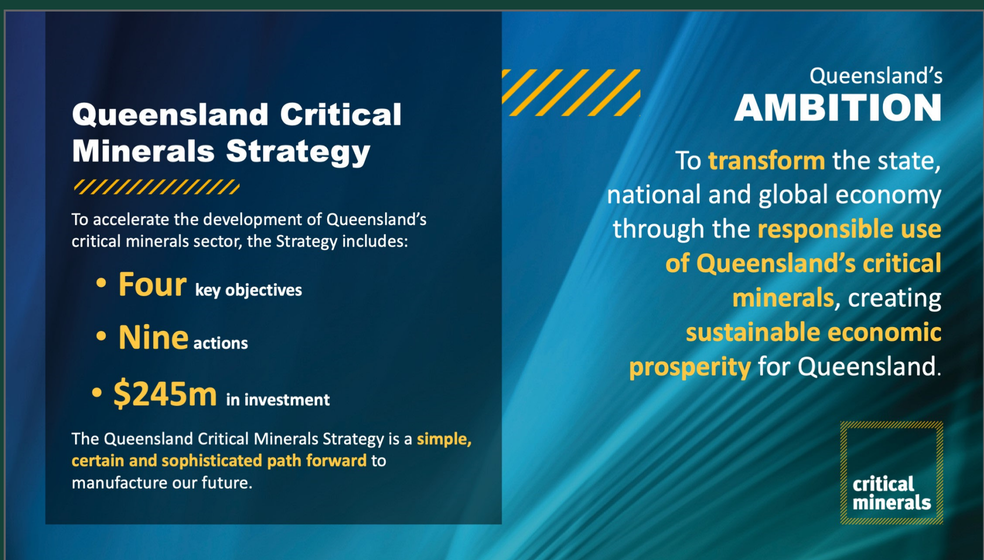
- Rent reduction for exploration permits (approx. $55 million in forgone revenue)
- Profile and promote Queensland (funding: $1 million)

3. Build value chains:

- Delivering the Critical Minerals and Battery Technology Fund (funding: $100 million)

4. Foster research and ESG excellence:

- Partnering with industry to build ESG excellence (funding: $1 million)
- Research and development in circular economy and mining ($8 million)



Source: Department of Resources

View the Queensland Critical Minerals Strategy via:

www.resources.qld.gov.au/mining-exploration/initiatives/critical-minerals-strategy

4.2 REGULATORY AND POLICY STABILITY

This section provides an annual snapshot of the year-to-year regulatory changes from 2011 (representing the baseline) as they relate to exploration activities in Queensland. The table aims to summarise complex regulatory changes for the period from 1 July 2022 to 30 June 2023 as they affect exploration projects.

LEGEND

🟢 Favourable reduction in regulatory control occurred in that year

⚪ No change in regulatory control occurred in that year

🔴 Unfavourable increase in regulatory control occurred in that year

CHANGES BETWEEN

Types of exploration controls in Queensland	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
A. Foundation requirements for exploration - processes that most holders of exploration permits must meet on application and continuously through the life of the tenure:												
Cultural heritage (Aboriginal and non-Aboriginal)	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Application for environmental authority (this requirement was relaxed in 2013 in some circumstances)	⚪	🟢	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Application for exploration tenure (applications for coal subject to tender process in 2012 - minerals applications are unchanged)	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Application for exploration tenure (oil & gas rights subject to tender process)	⚪	⚪	🟢	⚪	⚪	⚪	⚪	🟢	⚪	⚪	⚪	⚪
Landowner compensation - Despite stable policies, the sentiment survey responses continue to feature negative feedback about aspects of the conduct and compensation agreement process.	⚪	⚪	⚪	⚪	⚪	⚪	🟢	⚪	⚪	⚪	⚪	⚪
Native Title considerations - Despite stable policy settings, the industry continues to make negative comments in the sentiment survey.	⚪	⚪	⚪	⚪	⚪	⚪	⚪	🔴	⚪	🟢	⚪	⚪
Rehabilitation obligations	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Renewal of exploration rights	⚪	⚪	🟢	⚪	⚪	⚪	⚪	⚪	🟢	⚪	⚪	⚪
Administrative improvements in processing applications - The Queensland Critical Minerals Strategy (27 June 2023) aims "to accelerate the pace of development through a targeted approach and streamlining government processes" and establishing a new Critical Minerals Office.	⚪	⚪	⚪	🟢	⚪	⚪	⚪	🟢	🟢	⚪	⚪	🟢
QEC's ESG toolbox released on 22 March 2023 is also in scope as a positive (and anticipates some of the themes in the subsequent Critical Minerals Strategy) https://esg.qe-connect.com.au/												🟢
Queensland Resources Common User Facility (QRCUF) which was first announced 23 November 2021 would be in scope for this year's scorecard with the increase in funding to $75 million on 18 April 2023. https://statements.qld.gov.au/statements/97581												🟢
B. Gateway controls on exploration – policies that present barriers to tenure in some areas:												
Land regulated as 'Restricted Area'	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Land otherwise off limits for environmental reasons (e.g. National Parks and strategic environmental areas)	⚪	⚪	🔴	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Restrictions on exploration activity in other areas of regional interest (e.g. priority agricultural areas (including strategic cropping areas) and priority living areas)	⚪	⚪	⚪	🔴	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Environmental authority applications must be refused for activities in the Great Barrier Reef catchment area which will or may result in the release of fine sediment or dissolved organic nitrogen to catchment waters	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	🔴	⚪	⚪
Land subject to other third-party interests (e.g. overlapping tenure regime commences for coal and gas (includes exploration)), growing risk of land use conflicts with renewable projects	⚪	⚪	⚪	⚪	⚪	🟢	⚪	⚪	⚪	⚪	⚪	🔴

CHANGES BETWEEN

Types of exploration controls in Queensland continued	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2018-20	2020-21	2021-22	2022-23
C. Conditioning controls on exploration - policies that impose additional conditions:												
Applications and approvals to disturb native vegetation.	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
Transfer duty – became payable in 2012 – farm-in agreements exempted in 2013.	🔴	🟢	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪	⚪
In 2016, work programs halved.					⚪	🟢	⚪	⚪	⚪	⚪	⚪	⚪
In 2020, rent waivers were introduced and variations on work programs were available to acknowledge the impacts of COVID on operational plans. These expired on 31 March 2021. A five-year deferral of rent was announced on all mineral tenures by the Premier as one of the initiatives in the Critical Minerals Strategy.					⚪	⚪	⚪	⚪	🟢	⚪	⚪	🟢
D. Impacts on production (but indirectly relevant to exploration):												
Financial Provisioning Scheme framework					⚪	⚪	⚪	🔴	⚪	🟢	⚪	⚪
Three new tiers of coal royalty commence on 1 July 2022. Concerns with investment certainty in Queensland continue to be expressed across all commodity types as a number of major coal companies announced that they will not be allocating capital to any Queensland projects.											🔴	🔴

Source: McCullough Robertson and QRC

Image: McCullough Robertson team members with QEC Chair Kim Wainwright and QRC Chief Executive Ian Macfarlane, at the 2022 QEC Breakfast.

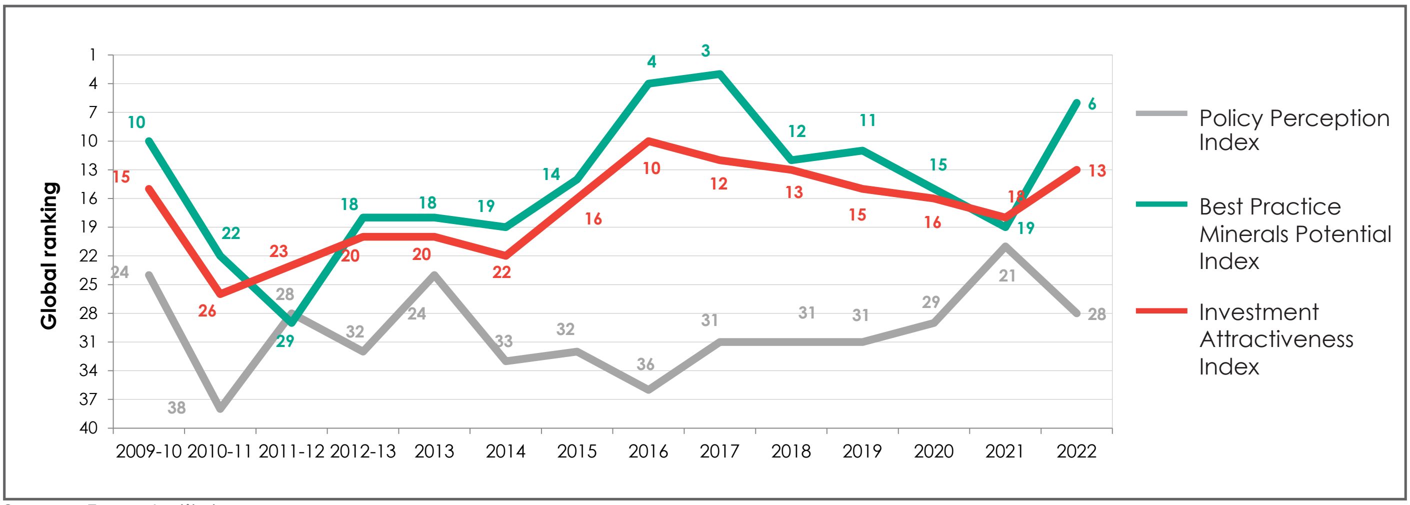
4.3 FRASER INSTITUTE'S ANNUAL SURVEY OF MINING COMPANIES 2022

On 5 May 2023 the Fraser Institute released its Annual Survey of Mining Companies 2022. This survey evaluates global jurisdictions through an Investment Attractiveness Index, determined by both policy factors and mineral resource perception. This year's survey garnered 180 responses, a decrease from the 290 responses received the previous year. Similarly, the survey assessed 62 jurisdictions, down from 84 in the previous year. Notably, the Fraser Institute conducted the survey between August and December 2022, approximately six months prior to the QEC sentiment survey.

According to the rankings, Queensland has secured the 13th position out of 62 jurisdictions for investment attractiveness, marking a significant rise of five places compared to the previous year when there were 84 jurisdictions assessed, and Queensland was ranked 18th. It's worth noting that Queensland is the fourth highest-ranked jurisdiction in Australia, with Western Australia (2nd), the Northern Territory (6th), and South Australia (9th) surpassing it in terms of investment favourability.

The Investment Attractiveness Index is calculated based on two primary components: the Policy Perception Index (PPI) and the Best Practices Mineral Potential Index. The PPI accounts for 40% of the overall score and evaluates the policy attractiveness of the surveyed jurisdictions based on responses related to government policies impacting investment decisions.

CHART 4.3: FRASER INSTITUTE – QUEENSLAND'S GLOBAL RANK 2009 TO 2022



Source: Fraser Institute

The Annual Survey of Mining Companies 2022 reports a decrease in Policy Perception Index scores for Northern Territory, Victoria, Western Australia, and Queensland, compared to the previous year when all Australian jurisdictions saw a decline in their scores. Specifically, Queensland's score dropped from 80.33 to 67.81, resulting in a decline in its ranking to 28th out of 62 jurisdictions, compared to 21st out of 84 jurisdictions in the previous year. South Australia achieved the highest score among Australian jurisdictions in this measure at 95.94, securing the 3rd position globally, while Victoria received the lowest Australian score at 62.78, ranking 30th out of 62 jurisdictions.

The Best Practices Mineral Potential Index gauges how conducive a region's geology is to attracting exploration investment. Queensland's performance in this measure improved in 2022, with its score rising from 75.00 to 85.71. This elevation in ranking positioned the state at the 6th spot out of 62 jurisdictions, a notable improvement from the 19th spot in the previous year. In this category, Northern Territory holds the distinction of being Australia's top-ranking jurisdiction, boasting an impressive score of 94.44 and securing the leading position on a global scale in the Best Practices Mineral Potential Index. Conversely, Tasmania occupies the opposite end of the spectrum, ranking as the lowest-scoring jurisdiction worldwide in this category, with a score of 33.33.

Image source: QRC

4.4 QEC'S MEASUREMENT OF OPERATING SENTIMENT

As part of the 2023 Queensland Exploration Sentiment Survey, companies were tasked with assessing the extent to which various factors within 18 categories influenced the success of their commercial objectives in Queensland for 2022-23. Companies were also required to provide parallel assessments for the jurisdictions outside Queensland, both in Australia and overseas, where they primarily conduct their operations.

To maintain consistency for year-to-year comparisons, most core factors, or sentiment categories, evaluated in the Scorecard have remained unchanged since its inception in 2011.

In recent years, two new categories have been incorporated into the survey. In 2019, the Scorecard introduced a category focused on assessing sentiment regarding Queensland's royalty and tax rates. In 2021, another category was introduced, specifically addressing sentiment related to the impact of the COVID-19 pandemic. The sentiment measurement for COVID-19 will conclude with the 2023 Scorecard. This year, the number of categories expanded to 18, encompassing a new category labelled "Increased costs due to inflation". Additionally, "Policy Uncertainty" was divided to distinguish between state and commonwealth policy.

The exploration sentiment survey for this year gathered responses from 61 companies engaged in exploration activities within Queensland. These companies collectively declared 81 exploration targets, reflecting that several respondents were involved in multiple exploration endeavours.

In the 2022-23 survey, the most prevalent exploration targets in Queensland included base or precious metals (45%), critical minerals (22%), metallurgical coal (18%), thermal coal (17%), and unconventional oil & gas (13%). Other exploration targets in Queensland encompassed conventional oil and gas, bauxite, industrial minerals, and carbon capture and storage reservoirs. Out of the 61 responses received, 28 companies reported conducting exploration activities in other jurisdictions as well as Queensland.

The responses were consolidated into a single value, with each response assigned a specific weight. "Strongly positive" (or negative) responses received a weighting of 1 (-1), "positive" (or negative) responses were assigned a weighting of 0.5 (-0.5), while "not at all" responses were accorded a weighting of 0. For a more detailed explanation and a worked example, please click here.

Image: QEC Chair Kim Wainwright with panellists at the 2022 QEC Breakfast. Panellists L-R: Stephen Bizzell - Bizzell Capital Partners, Michael Rundus - EY, Louise Horrocks - McCullough Robertson, Andrew Elf - Mitchell Services, Maria James - MITEZ.

INDUSTRY SENTIMENT SURVEY

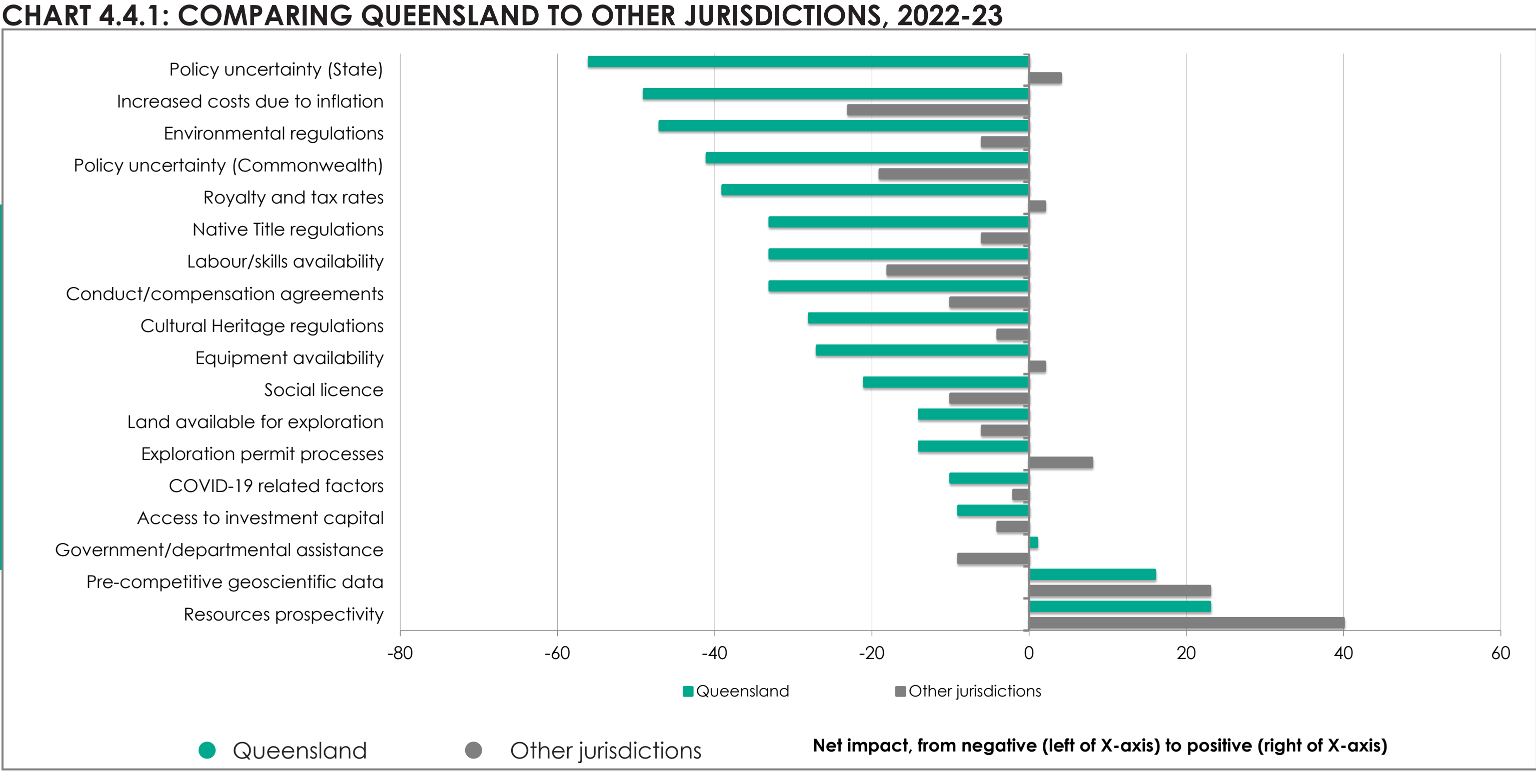
The Exploration and Drilling Sentiment Surveys opened 18 July and closed 5 September. The 2023 results show:

- **3 of the 18 factors** showed a net positive sentiment in Queensland, with 2 of those factors strongly positive:
  - ✓ Resource prospectivity and endowment
  - ✓ Pre-competitive geoscience data
  - ✓ Government/departmental assistance

- **15 of the 18 factors** showed net negative sentiment in Queensland, with 11 of those being strongly negative:
  - × Policy uncertainty (State)
  - × Increased costs due to inflation
  - × Environmental regulations
  - × Policy uncertainty (Commonwealth)
  - × Royalty and tax rates showed the lowest negative sentiment in the history of the Scorecard
  - × Native Title regulations
  - × Labour/skills availability
  - × Conduct & compensation agreements
  - × Cultural Heritage regulations
  - × Equipment availability
  - × Social licence to operate

Chart 4.4.1 lists the sentiment responses from the least positive to the most positive. For comparison, the results for "other jurisdictions" are shown. This year's Scorecard shows that Policy uncertainty (state) had the most negative impacts on explorers, followed closely by increased costs due to inflation and environmental regulations.

CHART 4.4.1: COMPARING QUEENSLAND TO OTHER JURISDICTIONS, 2022-23



In the 13-year history of the Exploration Scorecard, a remarkable shift has taken place this year. Unlike previous years with overall sentiment improvements, this year stands out as each of the following key categories has seen a troubling increase in negative sentiment:

- Exploration permit processes
- Land available for exploration
- Cultural heritage regulations
- Native title regulations
- Environmental regulations
- Industry perception of social licence to operate

The negative upswing this year indicates a significant setback, undoing many of the hard-won gains achieved in recent years for some of these categories. Consequently, the average sentiment in 2022-23 has plunged to its lowest point since 2011-12, as shown in Chart 4.4.1A below.

CHART 4.4.1A: AVERAGE SENTIMENT FOR ALL CATEGORIES (EXCLUDING COVID-19 RELATED FACTORS)

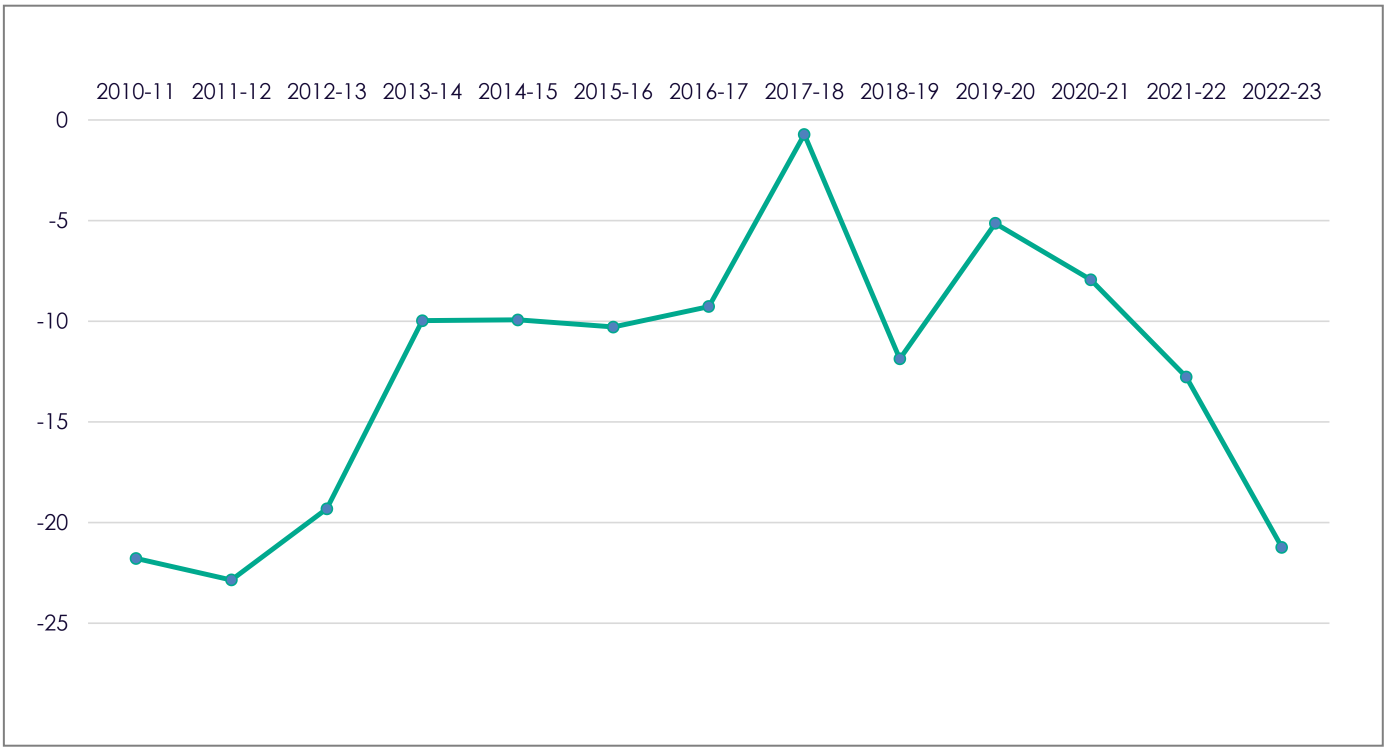
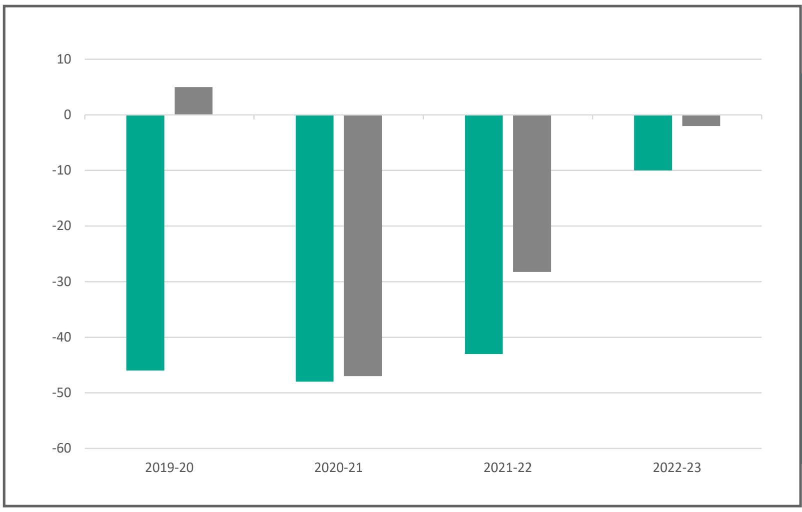


CHART 4.4.2: COVID-19 RELATED FACTORS 2020-21 TO 2022-23



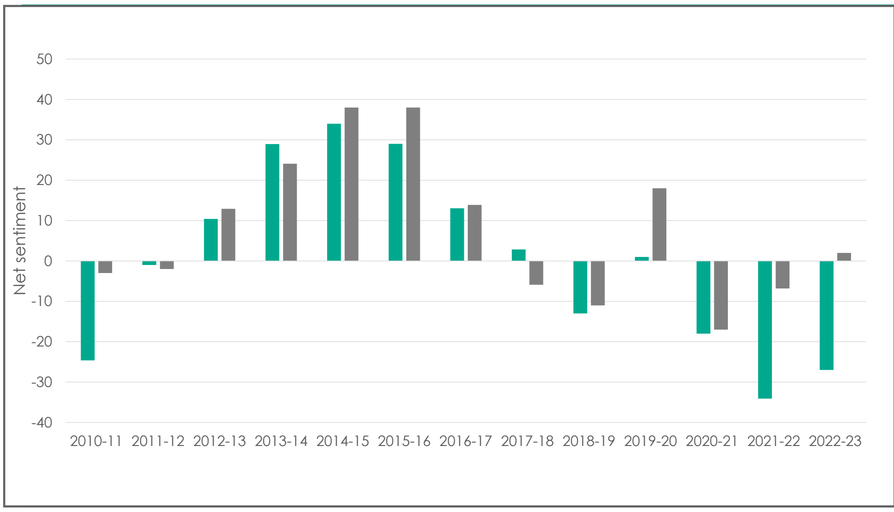
In the year 2022-23, Queensland's exploration sector experienced less adverse effects from COVID-19-related factors. Interestingly, these factors were the most detrimental category from 2019-20 to 2021-22 but have since improved and now rank as the 14th most negative category. The challenges posed by border closures and travel restrictions, which once hindered the availability of labour, have become a thing of the past, no longer exerting their impact. Indeed, bidding farewell to COVID-19 and its myriad impacts is a sentiment shared by many.

LEGEND

Queensland

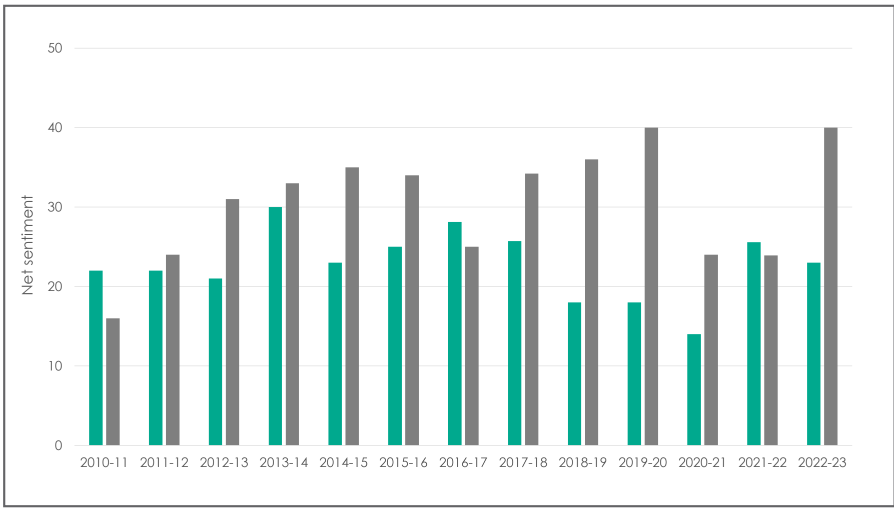
Rest of Australia

CHART 4.4.3: EQUIPMENT AVAILABILITY 2010-11 TO 2022-23



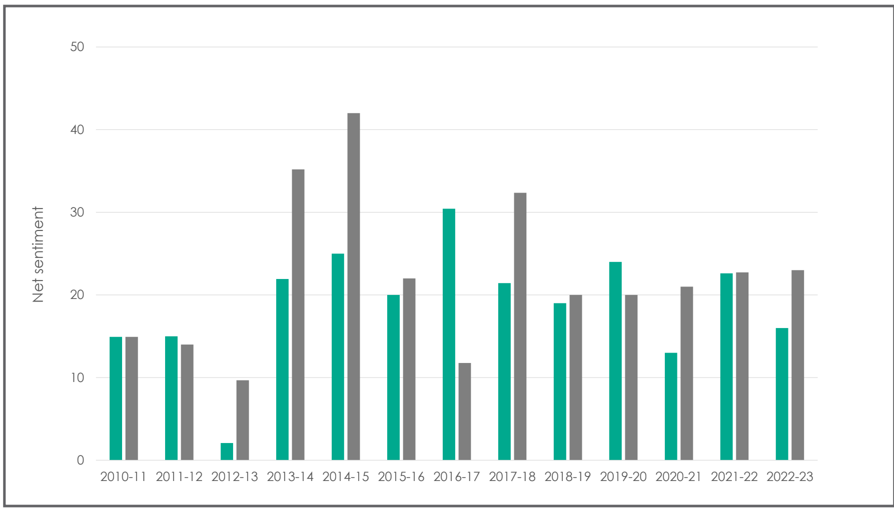
For the third consecutive year, sentiment regarding the accessibility of vital exploration equipment, including drill rigs, trucks, and machinery, remains predominantly unfavourable, although there has been a slight improvement compared to the previous year. Following the relaxation of domestic border closures and restrictions in the post-COVID-19 era, labour and skills shortages continue to have an impact on equipment availability. Companies are hesitant to expand their fleets due to the ongoing scarcity of workers, which affects the overall situation. According to the Australian Drilling Industry Association (ADIA), utilisation rates for exploration rigs have declined since the previous year, dropping from a historically high of 84% in 2022 to 77% in 2023.

CHART 4.4.4: RESOURCE PROSPECTIVITY/ENDOWMENT 2010-11 TO 2022-23



Queensland's exceptional resource prospectivity continues to garner strong positive sentiment for the 13th consecutive year, albeit with a slight dip compared to the previous year. Additionally, resource prospectivity and endowment has maintained its position as the highest-rated category in the Scorecard for the third consecutive year. The majority of respondents have consistently expressed favourable views regarding Queensland's resource prospectivity, with only some coal exploration companies reporting negative sentiment. However, explorers in the Queensland petroleum and minerals sectors remained highly optimistic about this category.

CHART 4.4.5: PRE-COMPETITIVE GEOSCIENCE DATA 2010-11 TO 2022-23



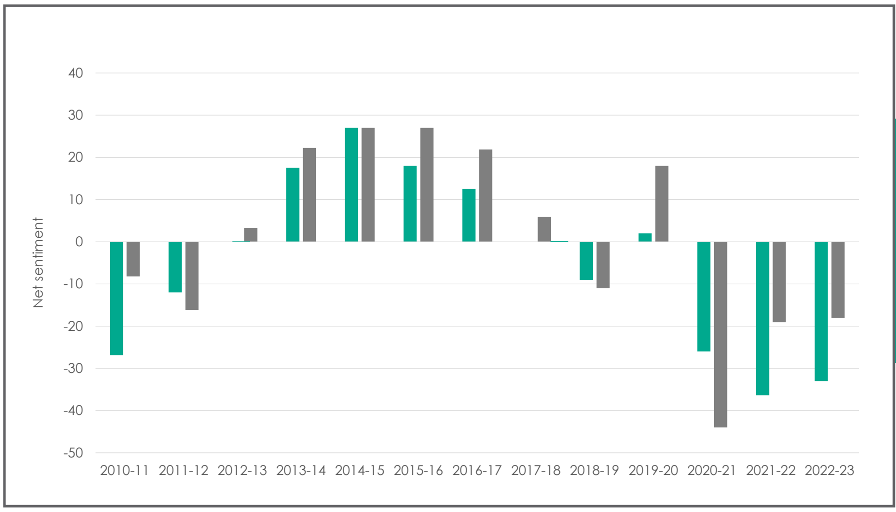
Pre-competitive geoscience data continues to be a cornerstone of Queensland's strengths, playing a pivotal role in boosting exploration expenditure and overall industry activity. Impressively, sentiment towards this category has remained exceedingly positive for the 10th consecutive year. The Geological Survey of Queensland (GSQ) received acclaim for its release of pre-competitive geoscience data, emerging as the top-ranking government initiative that has greatly benefited exploration companies in 2022-23.

LEGEND

Queensland

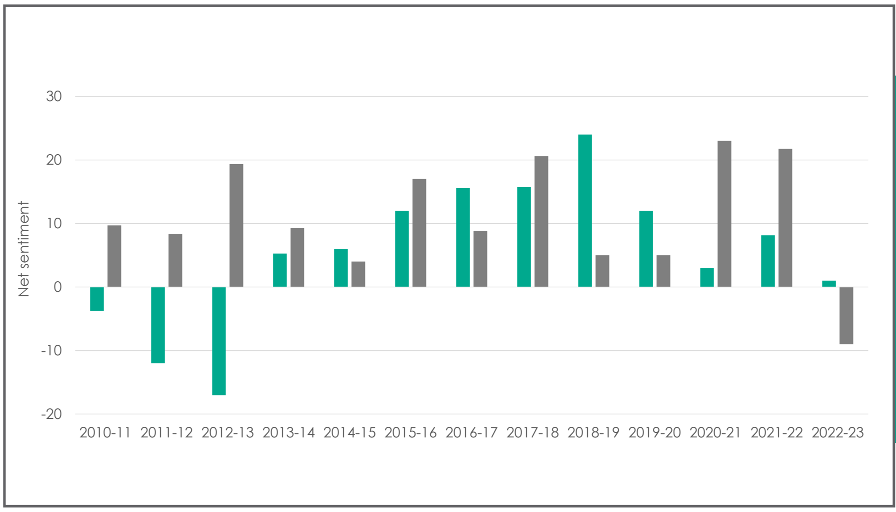
Rest of Australia

CHART 4.4.6: LABOUR/SKILLS AVAILABILITY 2010-11 TO 2022-23



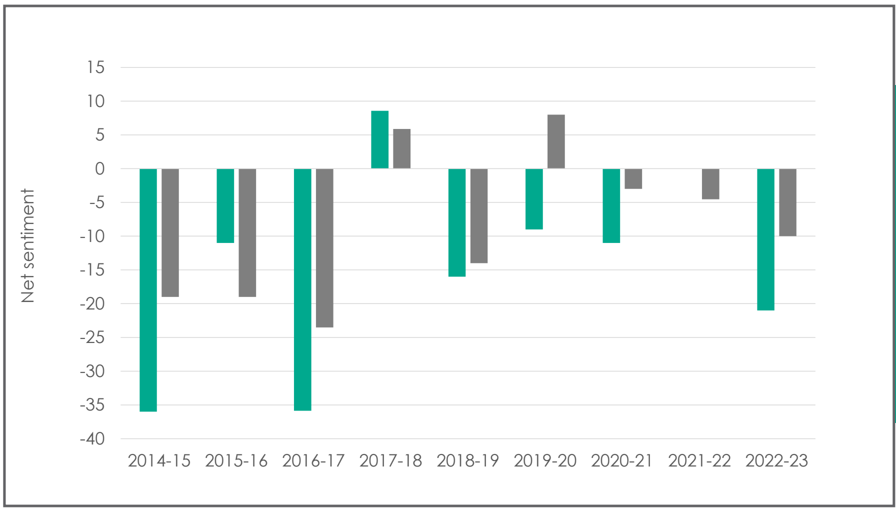
Much like the sentiment surrounding equipment availability, the perception of labour and skills availability remains notably negative for the current year. The resources sector still grapples with a nationwide shortage of skilled labour, with only a modest improvement compared to the previous year's situation.

CHART 4.4.7: GOVERNMENT/DEPARTMENTAL ASSISTANCE 2010-11 TO 2022-23



Explorers remain positive toward Queensland departmental assistance. When respondents were asked to identify government-led initiatives that provided the most benefits to exploration companies, a variety of them acknowledged The Department of Resources for effectively supporting the industry through endeavours like the Collaborative Exploration Initiative. A respondent even commended the extension of CEI to encompass geophysics and geochemistry projects, describing it as "excellent."

CHART 4.4.8: INDUSTRY PERCEPTIONS OF SOCIAL LICENCE TO OPERATE 2014-15 TO 2022-23



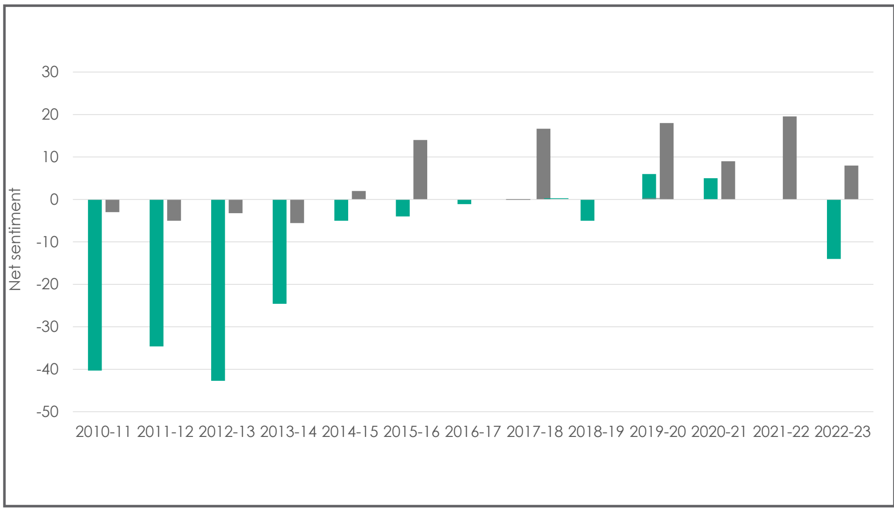
Survey respondents expressed a notable decline in sentiment regarding the industry's perception of its social license to operate compared to the previous year. Notably, there was an improvement in sentiment the previous year, marking the first positive shift in four years. This year's increased negativity is predominantly influenced by respondents from the petroleum industry. Social license requirements are seen as restrictive, resulting in significant delays in gaining access for on-ground exploration.

LEGEND

Queensland

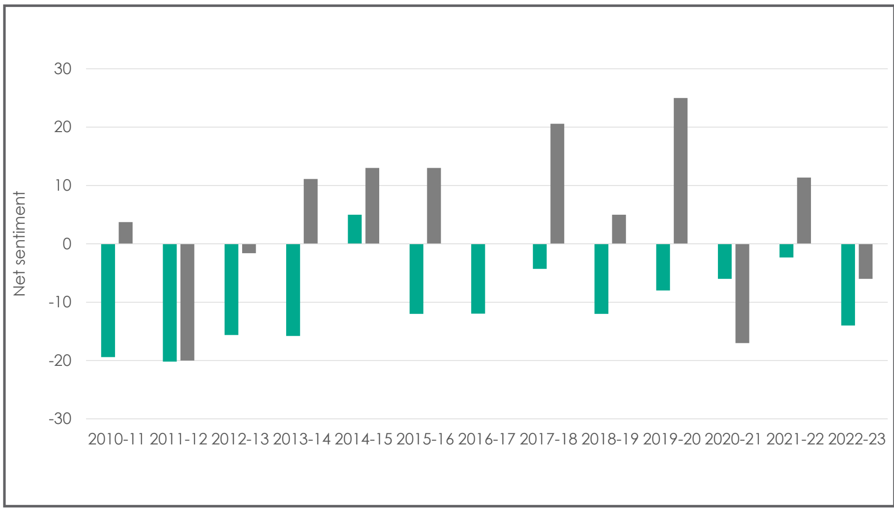
Rest of Australia

CHART 4.4.9: EXPLORATION PERMIT PROCESSES 2010-11 TO 2022-23



The sentiment of survey respondents regarding Exploration Permit Processes, a prominent aspect of the Scorecard, has shown substantial improvement over the past 12 years. However, this year, there was a decline in sentiment within this category. This decrease was primarily influenced by respondents from the coal industry, mirroring the limited availability of coal exploration land releases in recent years. On the other hand, respondents from the Petroleum and Minerals sectors conveyed a slightly negative sentiment regarding this category. Numerous respondents voiced apprehensions about the timelines and efficiency of the exploration permit application process, emphasising the need for a streamlined approach to application and regulatory procedures.

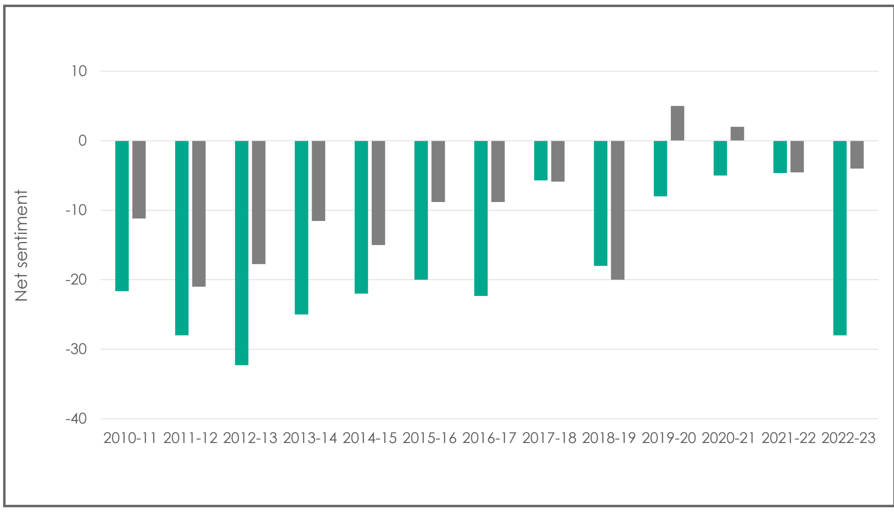
CHART 4.4.10: LAND AVAILABLE FOR EXPLORATION 2010-11 TO 2022-23



Similar to other categories, the outlook on land availability for exploration has diminished, reversing the positive trend seen in prior years. Sentiment regarding this vital aspect of Queensland exploration has notably deteriorated, reaching levels reminiscent of a decade ago. The surge in negative sentiment this year primarily stemmed from respondents in the coal and petroleum sectors. Respondents from the minerals industry still expressed a modestly pessimistic view. Across all industries, respondents expressed a common desire for simplified and more efficient land access arrangements, aiming to mitigate the impact of landholders on exploratory endeavours.

Note: Rest of Australia's sentiment in 2016-17 was neutral (zero)

CHART 4.4.11: CULTURAL HERITAGE REGULATIONS 2010-11 TO 2022-23



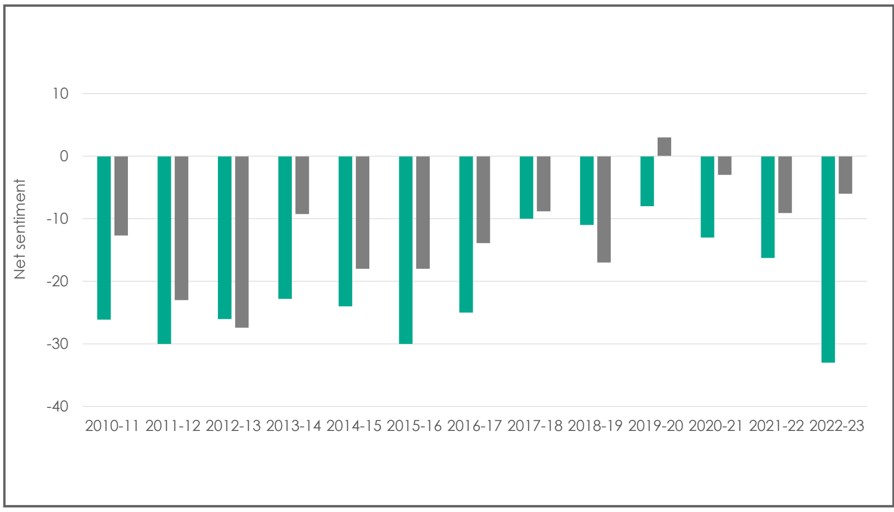
The upward trend in sentiment regarding cultural heritage regulations over the past three years has abruptly reversed, witnessing a notable increase in negative sentiment this year. This unexpected development is largely attributed to strong negative feedback from respondents in the minerals industry. Moreover, those in the coal and petroleum sectors also conveyed a mild negative sentiment. This level of pessimism towards cultural heritage regulation hasn't been observed for over a decade. This trend aligns with this year's recurring theme, highlighting a substantial shift towards negativity within the industry despite the absence of major regulatory alterations.

LEGEND

Queensland

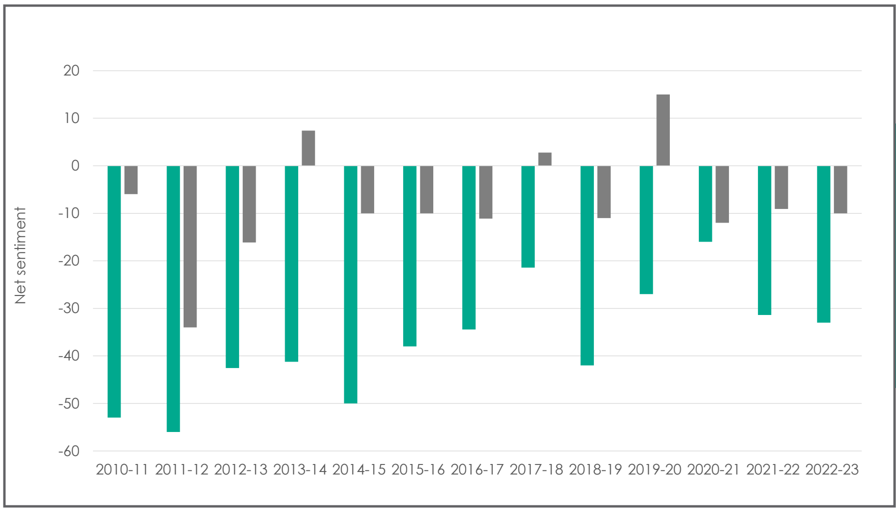
Rest of Australia

CHART 4.4.12: NATIVE TITLE REGULATIONS 2010-11 TO 2022-23



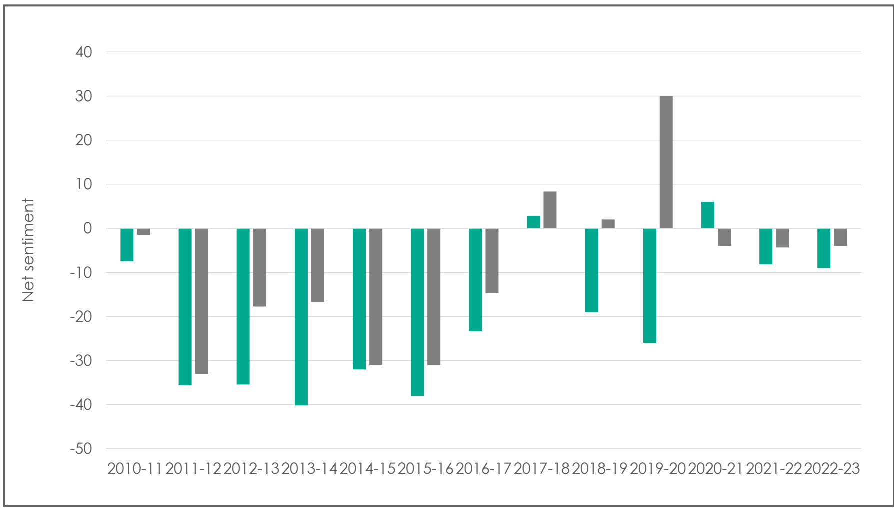
This year there has been a substantial decline in sentiment regarding Native Title regulations. Considering the absence of substantial legislative changes in this domain, the heightened negative sentiment is likely a perceptual shift within the exploration industry. Respondents from the coal, minerals, and petroleum sectors collectively expressed a negative outlook towards this category.

CHART 4.4.13: CONDUCT AND COMPENSATION AGREEMENTS 2010-11 TO 2022-23



Sentiment concerning Conduct and Compensation Agreements (CCAs) has faced a decline once more this year. Many survey respondents highlighted significant delays and resulting frustration within the CCA process. Evaluating its impact on their businesses, respondents from various industries consistently rated this category as moderately negative.

CHART 4.4.14: ACCESS TO INVESTMENT CAPITAL 2010-11 TO 2022-23



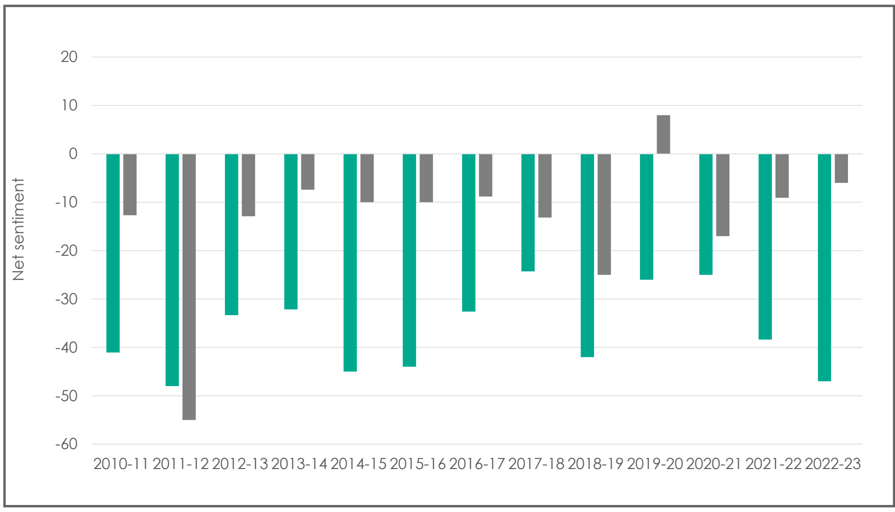
Sentiment concerning access to investment capital has remained pessimistic for yet another year, primarily influenced by respondents from the coal and minerals sectors. On the flip side, petroleum explorers expressed a positive outlook towards this category.

LEGEND

Queensland

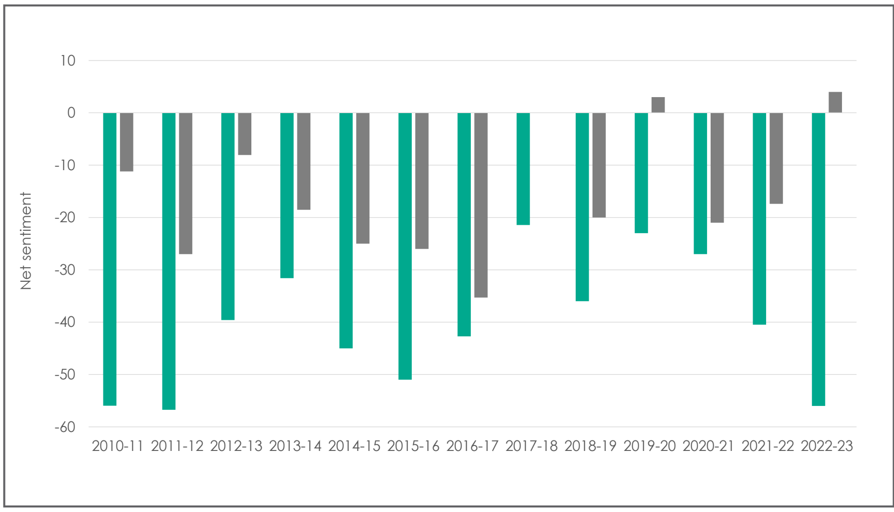
Rest of Australia

CHART 4.4.15: ENVIRONMENTAL REGULATIONS 2010-11 TO 2022-23



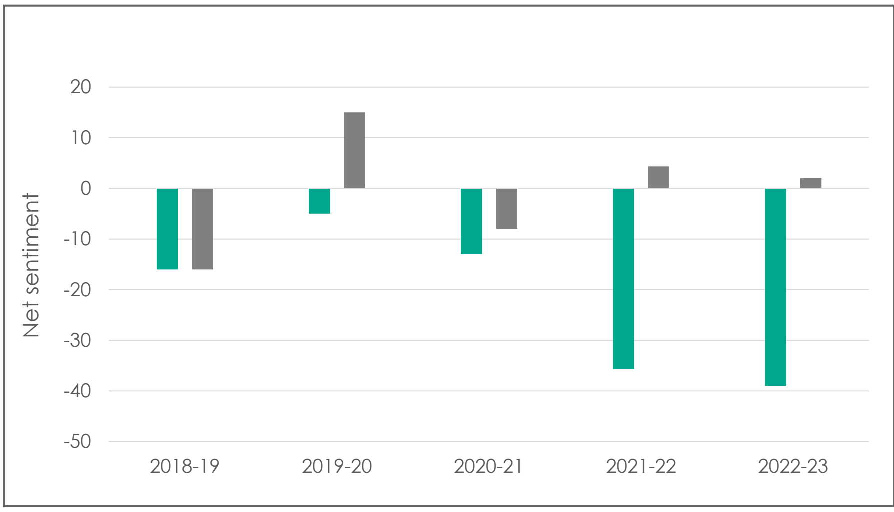
Sentiment towards environmental regulations has become more negative since last year's Scorecard and is approaching its lowest point in the 13-year history of the Exploration Scorecard. All respondents ranked this category very negatively. Among minerals respondents, this category received the most negative rating out of the 18 categories. Several respondents voiced concerns about delays and alterations in environmental policies causing prolonged project development timelines.

CHART 4.4.16: POLICY UNCERTAINTY 2010-11 TO 2022-23



Pessimism regarding policy uncertainty persists for the 13th consecutive year, hitting an all-time low in the history of the Scorecard. Policy uncertainty was identified as the most detrimental factor affecting Queensland explorers in 2022-23. The negative sentiment in this category was notably driven by extremely negative responses from petroleum and coal participants, while minerals respondents expressed a moderately negative view. Many respondents cited the impact of royalty rate increases as a significant contributor to the policy uncertainty, likely serving as the primary driver for the negative sentiment in this category.

CHART 4.4.17: ROYALTY AND TAX RATES 2018-19 TO 2022-23

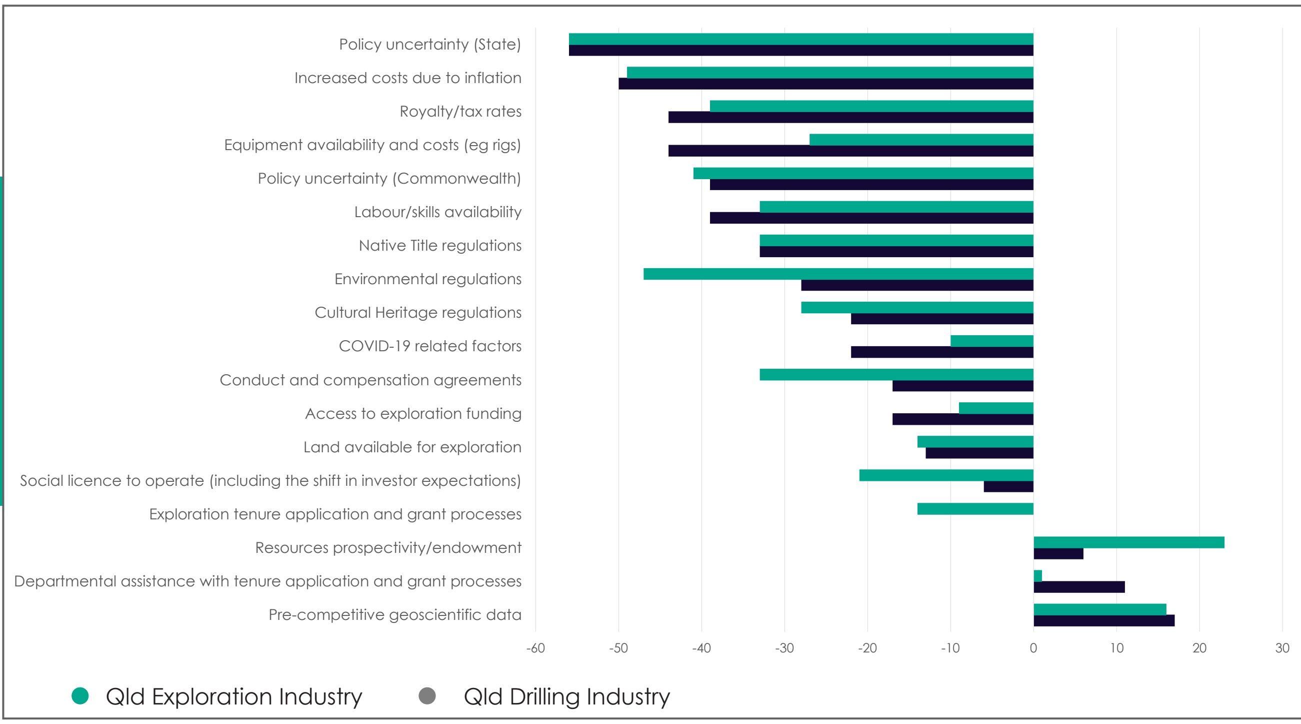


The Queensland Government's surprise announcement in June 2022 regarding higher coal royalty tiers and increased rates has sparked considerable unrest across the resources sector, leading to a surge in negative sentiment. This has extended beyond coal, with 86% of non-coal producer survey respondents expressing concerns about potential future tiered royalty tax rate changes in their sectors. Many respondents were dissatisfied with the lack of prior consultation, emphasising the need for transparent and collaborative decision-making. These comments underscore the adverse impact of royalty hikes on long-term investment prospects, reducing the appeal of investing in Queensland projects. Some respondents noted that while these changes may not directly affect their organisations, they do diminish Queensland's overall investment attractiveness, highlighting the interconnectedness of industry sectors and their perceptions.

4.5 QUEENSLAND DRILLING INDUSTRY SENTIMENT

The drilling sector serves as a dependable gauge of the resources industry's well-being and is crucial for the exploration and sustainable development of natural resources. The Australian Drilling Industry Association conducted a survey among its member companies involved in drilling activities in Queensland, aiming to assess industry sentiment and outlook.

CHART 4.5.1: SENTIMENT COMPARISON: QLD EXPLORERS VS QLD DRILLING INDUSTRY 2022-23



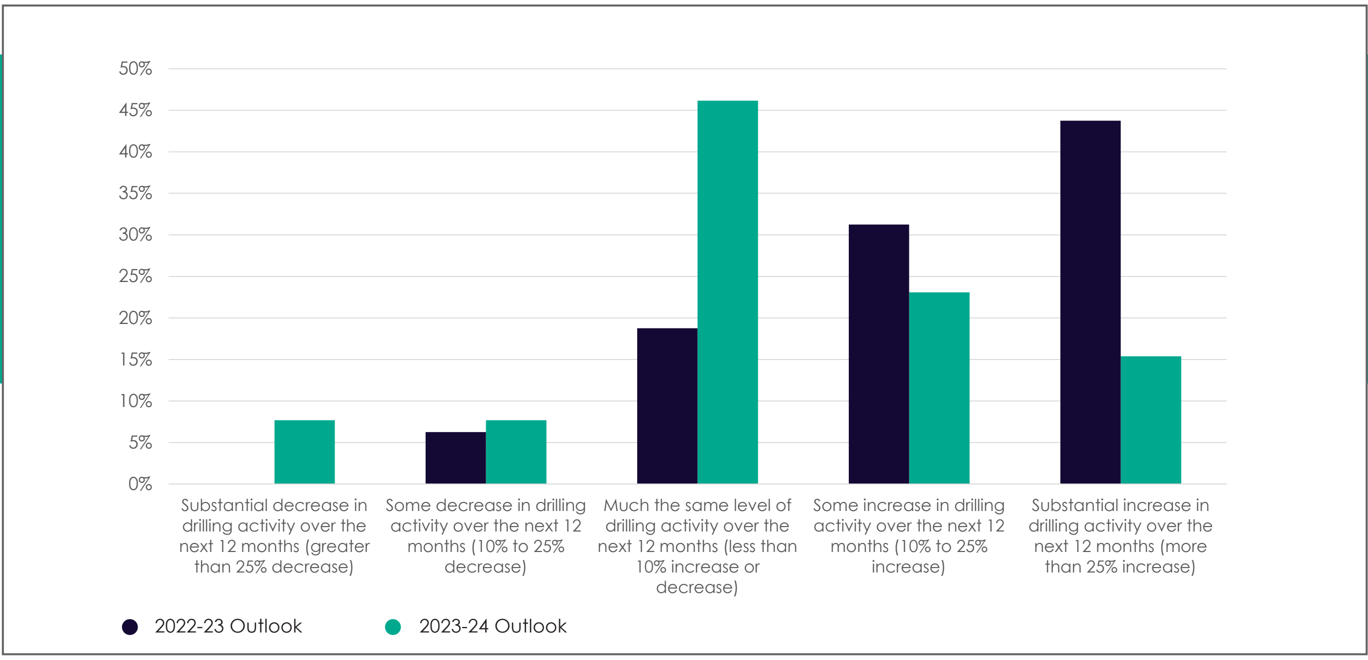
Note: Years with no data equals a neutral score (zero).

The drilling and exploration surveys yielded similar sentiment trends across most categories, except for three areas. The sentiment of Queensland's drilling industry towards equipment availability and costs was notably more negative compared to the exploration sector's view on this aspect. In terms of exploration tenure application and grant processes, the drilling industry expressed a neutral sentiment, while the exploration industry leaned towards a negative outlook.

For both exploration and drilling industries, negative sentiment persisted regarding policy uncertainty, increased costs due to inflation, royalty tax rates, and labour/skills and equipment-related factors. Other shared concerns encompassed policy uncertainty, royalty and tax rates, and environmental regulations. On the positive side, both drillers and explorers expressed optimism about pre-competitive geoscientific data, resources prospectivity, and departmental assistance, revealing a shared mildly positive outlook regarding support from Queensland's Department of Resources.

Image source: Bengal Energy

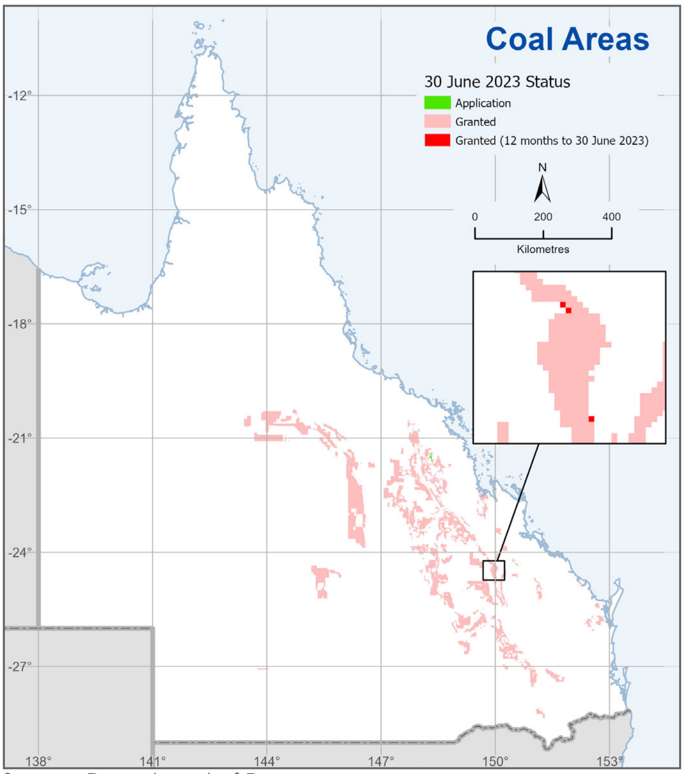
CHART 4.5.2: 12 MONTH OUTLOOK FOR DRILLING ACTIVITY, 2022-23



The projected driller activity outlook for the next 12 months has shifted from the 2022 Scorecard findings. Around 47% of drillers anticipate maintaining the same level of drilling activity in 2023-2024, while over 35% foresee an increase. Approximately 15% anticipate a decrease in activity.

Image source: QRC

5.0 TENURE COVERAGE



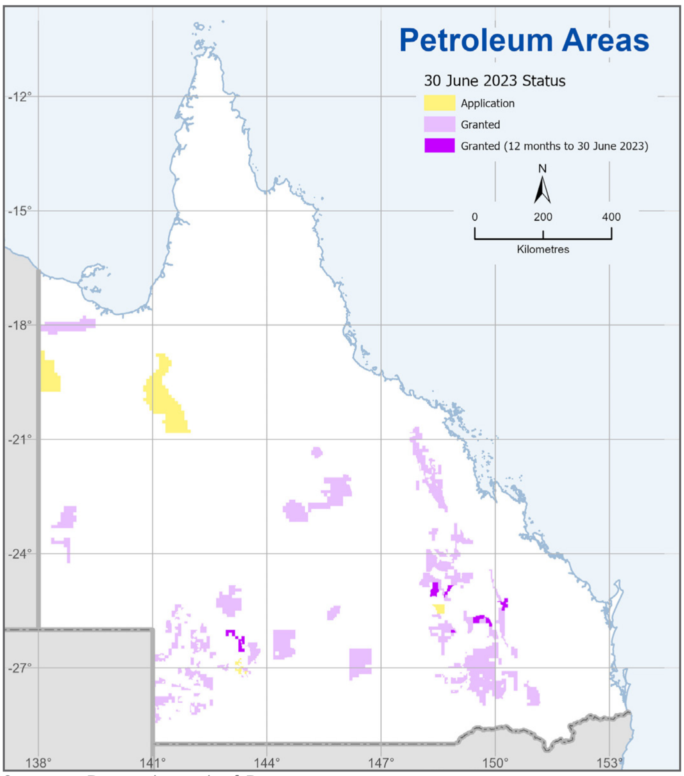
Source: Department of Resources

FIGURE 6: EXPLORATION PERMIT COAL (EPC) COVERAGE, JUNE 2023

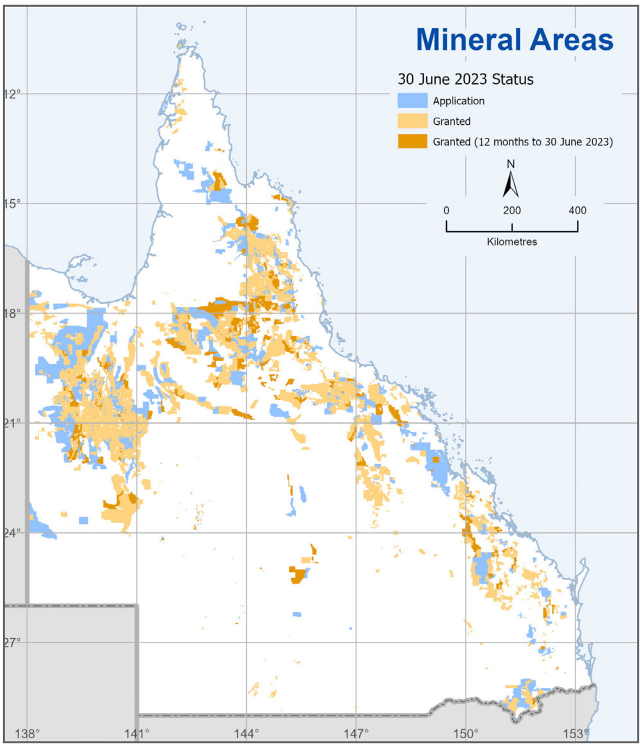
Queensland is known for its exceptional quality metallurgical coal, a vital resource for constructing a renewable energy future. As of June 2023, there was one new coal exploration permit granted in Queensland within the past 12 months.

FIGURE 7: AUTHORITY TO PROSPECT (ATP) PETROLEUM COVERAGE, JUNE 2023

The petroleum industry in Queensland plays a pivotal role in supplying gas to the eastern coast of Australia and has progressively become a significant export for the state. Across Queensland, petroleum exploration tenure is widespread, with expansive permit areas mainly located in greenfield regions, while smaller permit areas are typically found in brownfield regions. In the year leading up to June 30, 2023, six new Authority to Prospect (Petroleum) permits were granted.



Source: Department of Resources



Source: Department of Resources

FIGURE 8: EXPLORATION PERMIT MINERAL (EPM) COVERAGE, JUNE 2023

The distribution of mineral tenure permits and applications in Queensland as of June 30, 2023 are displayed in Figure 8. It provides a clear visualisation of the extensive geographical coverage of Queensland's minerals potential, encompassing both the established investment zones in central and north Queensland, as well as the emerging opportunities in north-western Queensland.

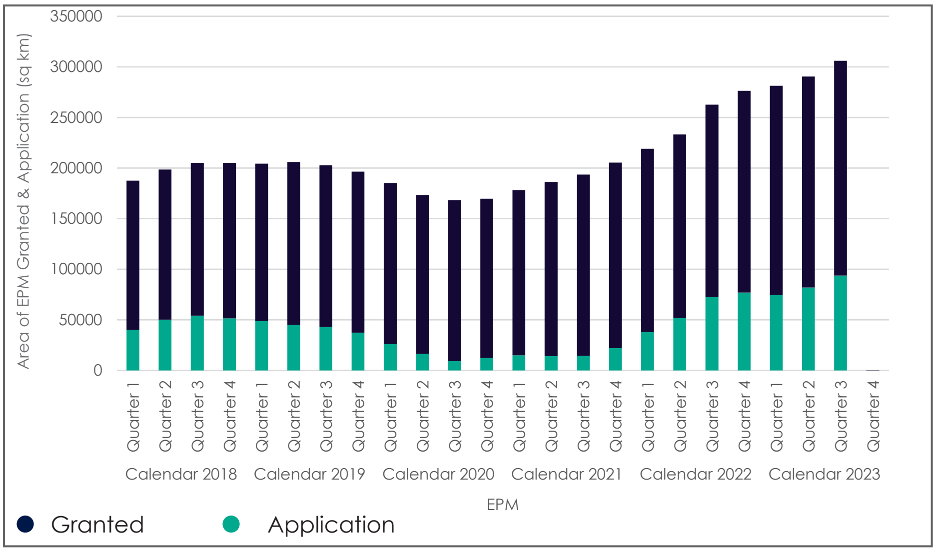
A significant portion of the regions are shaded in dark orange, indicating 211 exploration permits for minerals that were granted within the 12 months leading up to June 2023. These permits are predominantly concentrated in the upper regions of the state. Additionally, there are numerous areas shaded in blue, representing permits in the application stage.

In 2022-23, the Department of Resources announced one call for tender land release (MLR2021-1), made up of one mineral area totalling approximately 480 sq km (147 sub-blocks).

SPOTLIGHT ON MINERALS TENURE APPLICATIONS

Chart 5.1 shows the vastness of mineral tenure and tenure applications in Queensland. Total area (sq km) is displayed at Day 1 of the quarter, for Exploration Permit for Minerals (EPM) tenure (including applications), and encompasses an extensive 306,000 sq km. Over the past two years, there's been a significant 50% increase in EPM tenure area, rising from around 200,000 sq km to 306,000 sq km. Even accounting for a temporary decline during the COVID pandemic, the current holdings show a substantial increase in mineral exploration.

CHART 5.1: AREA HELD UNDER EXPLORATION PERMIT FOR MINERALS



Source: GSQ

Notably, EPM applications are processed differently from coal and petroleum applications, which use tender releases, making direct comparisons challenging. This information comes from GSQ via the Department of Resources' Mineral Assessment Hub team in Townsville, providing a comprehensive understanding of the exploration sector's dynamics, including current status and recent trends for a broader context.

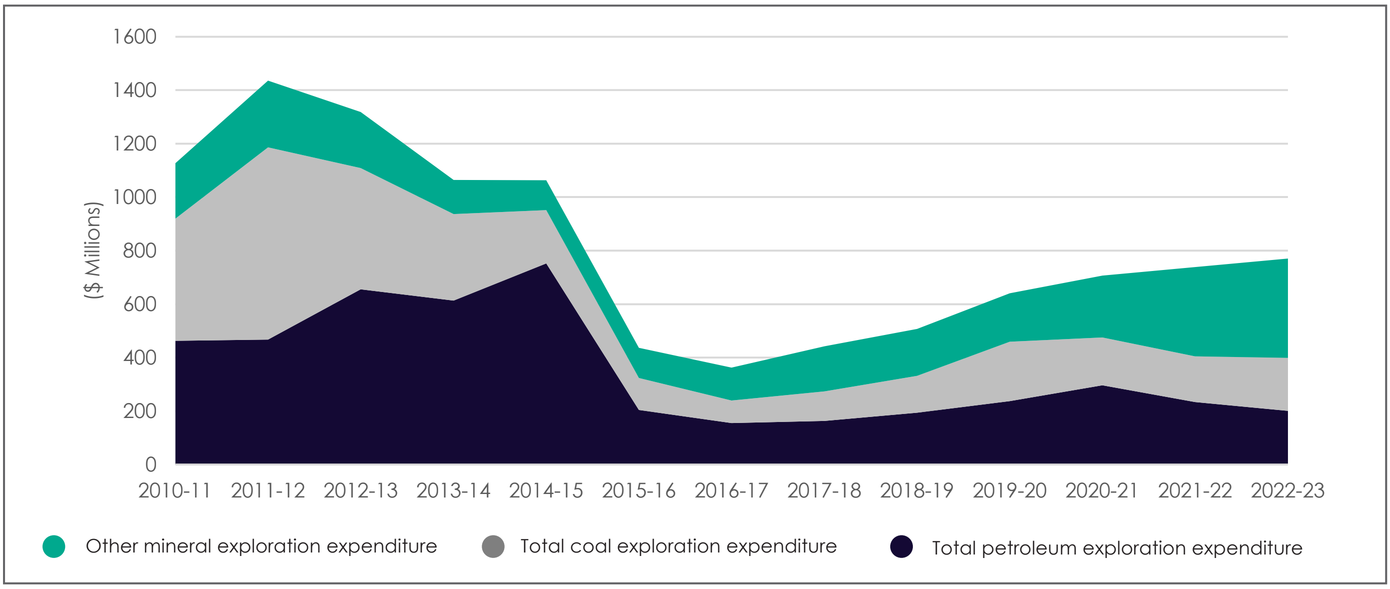
TABLE 1: TOTAL GRANTED TENURE

PERMIT TYPE	PERMITS GRANTED IN 2022-23	TOTAL NUMBER OF GRANTED PERMITS AS AT 30 JUNE 2023	TOTAL AREA OF GRANTED PERMITS AS AT 30 JUNE 2023 (SQ KM)
EPC (COAL)	1	382	58,459
ATP (PETROLEUM)	6	128	115,109
EPM (MINERALS)	211	2067	240,334

Source: Department of Resources

6.0 EXPLORATION EXPENDITURE

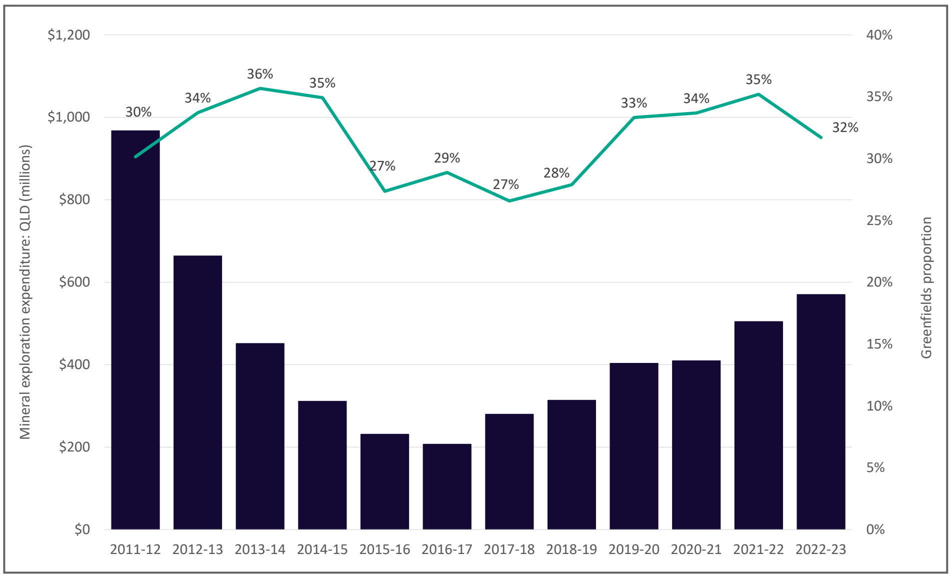
CHART 6.1: QUEENSLAND EXPLORATION EXPENDITURE - 2010-11 TO 2022-23



Source: ABS Mineral and Petroleum Exploration, Australia.
Note: The material reduction in petroleum exploration expenditure in 2015-16 was driven by the 2015 oil price crash

In 2022-23, Queensland witnessed a marginal uptick of 4.3% in its total exploration expenditure compared to the prior year. Notably, for the second time in the 13-year history of the Scorecard, minerals exploration expenditure surpassed that of petroleum exploration.

Investment in petroleum exploration in Queensland significantly declined in 2015 due to the oil price crash, and despite some recovery, it remains subdued. This poses a substantial risk to future gas supply, which is crucial for the Eastern Australia gas market facing looming supply shortages. Queensland, a dominant supplier in this market, has seen a drop in its share of onshore exploration which has averaged around 50% over the past two decades, to 34% over the past two years. Explorers face a challenging landscape with market conditions, regulatory hurdles, and various obstacles like rig availability, input costs, delays in approvals, and more. Increasing exploration investment is a joint concern for both government and industry, and the $21 million Frontier Gas Exploration grants program in the 2023-24 Queensland state budget is a vital first step in reversing this trend.2023-24 Queensland state budget is a necessary and essential first step.



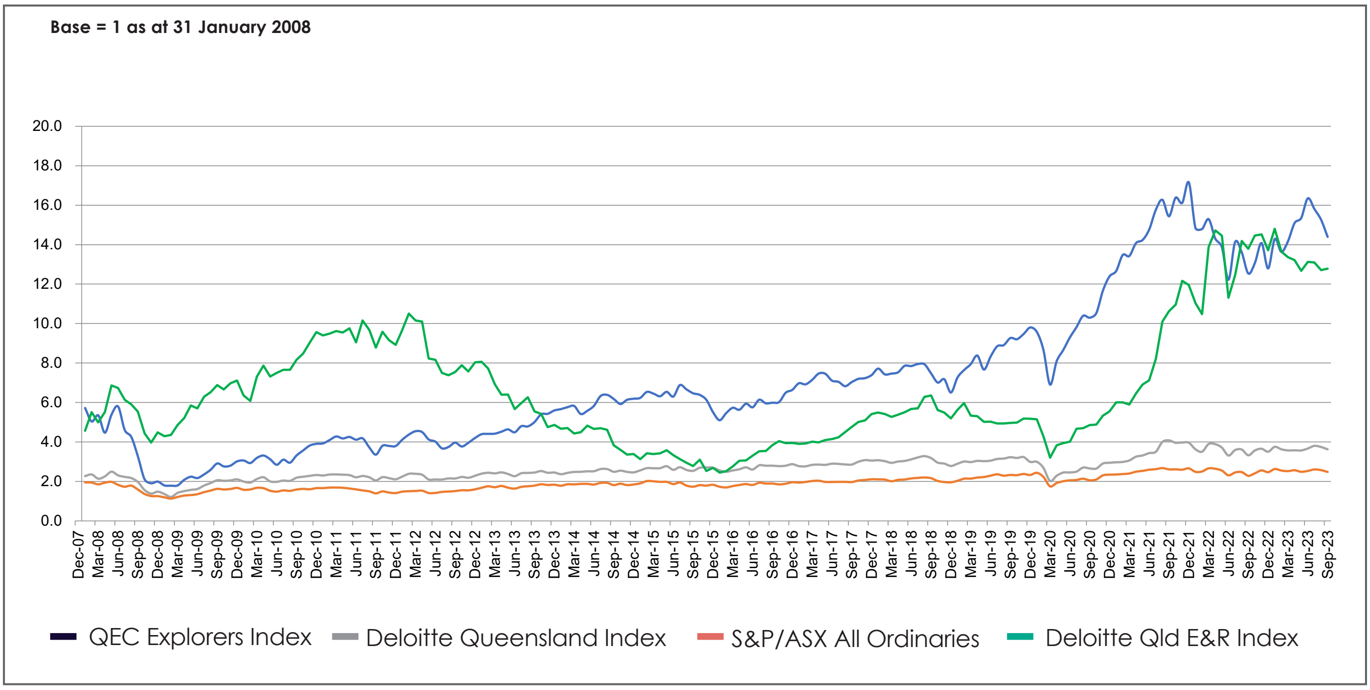
Source: ABS 8412.0

CHART 6.2: NEW DEPOSITS (GREENFIELDS)AS PERCENTAGE OF TOTAL QUEENSLAND MINERALS EXPLORATION EXPENDITURE - 2011-12 TO 2022-23

In 2022-23 Queensland's new deposits (greenfields) share of minerals exploration declined for the first time since 2017-18, down to 32% of all Queensland mineral exploration expenditure. While this year's proportion is a mild decline, Queensland's greenfields proportion remains broadly in line with the Scorecard's historical average.

7.0 MARKET CAPITALISATION MOVEMENTS

CHART 7.1: QEC EXPLORATION INDEX VERSUS OTHER CAPITAL INDICES



Source: Capital IQ and Deloitte

The S&P/ASX All Ordinaries increased 3%, the Deloitte Queensland Index increased by 2% and the Deloitte Queensland Exploration and Resources Index increased by 5% across the 2022-23 financial year.

The bright spot for the Scorecard was the QEC Explorers Index increased by 15.7% over 2022-23. Please note these figures relate to the financial year, whereas the graph runs through until the end of September 2023.

A rise in market capitalisation across the year is welcome news for junior explorers, who rely heavily on listed equities to fund their exploration programs.

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QLD EXPLORATION INSIGHTS FROM AUSTEX RESOURCE OPPORTUNITIES

Rob Murdoch from AUSTEX Resource Opportunities has provided the following insights on capital raising and exploration expenditure. For more insights, visit: www.austexresources.com

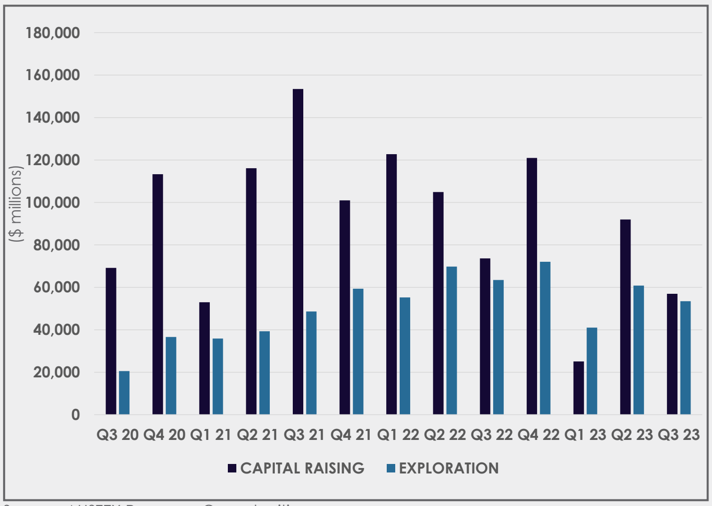
QUARTERLY CASH FLOW REPORTING (APPENDIX 5B) - QLD FOCUSED PROJECTS

Quarterly Cash Flow reports (Appendix 5B) are submitted by about 87% of 872 ASX listed resource companies, as required by ASX Listing Rules. Most of these are explorers with no income, and some are recent producers awaiting ASX exemptions from reporting. In Q3 23, it is expected 784 companies will file reports. Of these companies, 65 have their flagship project in Queensland, second in number only to Western Australia.

The reported exploration total is for direct expenditure on specific exploration services, such as geology, geophysics, drilling, assaying, metallurgical testing & so on. It excludes the cost of staff, administration, tenure rentals & other expenditures that are typical of exploration companies and hence they are lower than those offered by the ABS.

AUSTEX Chart A displays Appendix 5B reported exploration expenditure & capital raising, providing an idea of the appetite of investors on the ASX quarter by quarter for exploration in different states and for overseas countries. The capital raising figure is significantly higher than the exploration figure as it includes funds raised not only for exploration but also for staff & administration etc, as well as new investment in plant & equipment in the case of emerging producers. The anomalous raisings in Q4 21, Q4 22 & Q2 23 include large sums raised by companies transitioning to production.

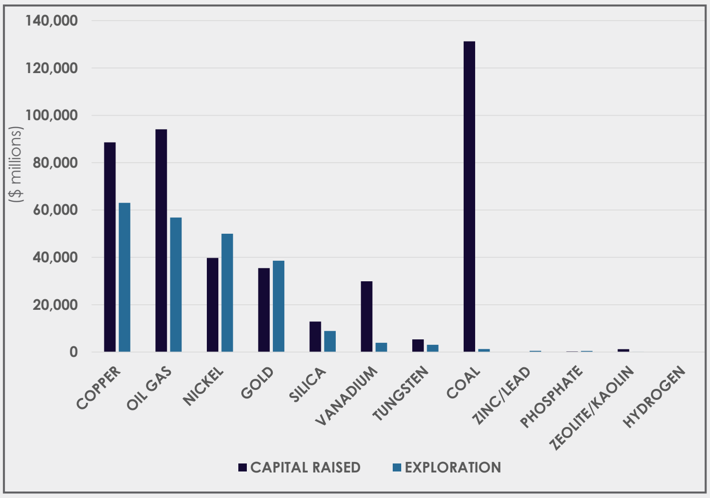
AUSTEX CHART A: CAPITAL RAISINGS & EXPLORATION EXPENDITURE, 2021-22 & 2022-2



Source: AUSTEX Resource Opportunities

AUSTEX Chart B below breaks down both capital raisings and exploration expenditure for Queensland during FY23. The large capital raising for coal was by ASX-BCB for its Bowen Basin Mine Restart Program.

AUSTEX CHART B: CAPITAL RAISINGS & EXPLORATION EXPENDITURE BY COMMODITY, 2022-23



Source: AUSTEX Resource Opportunities

ASX FUNDED QUEENSLAND EXPLORATION

Copper - Is the Commodity that has currently attracted the most Exploration expenditure in Qld. The main focus is within the Mt Isa Province, but there is also Copper exploration associated with Gold along the Coastal Range

Oil & Gas -Most activity is for Gas Appraisal Programs in the Bowen, Galilee, Cooper & Surat Basins.

Gold – Main focus on porphyry targets of the East Coast Ranges. Also, Cloncurry, Georgetown & Lower Cape York Regions.

Nickel – The expenditure costs are those of ASX-QPM TECH Project & not actual exploration for Nickel In Qld. Minor exploration on Nickel Laterites NQ only.

Silica Sands – Exploration is focused on the dunes of Cape Flattery north of Cooktown.

Vanadium – Exploration on sedimentary hosted deposits in the Toolebuc Formation Richmond/Julia Creek Area.

Tungsten – Exploration associated with the Mt Carbine Tungsten operation NQ

Coal – Some exploration on emerging Coal Mines in the Bowen Basin

Zinc, Lead & Silver – There is some exploration by Juniors North of Mt Isa/Cloncurry into the McArthur Basin.

Phosphate – There is one phosphate mine in NWQ undertaken limited exploration.

Zeolites/Kaolin – Evaluation of the potential to produce artificial zeolites from the Kaolin Deposits in the Burnett.

Hydrogen – Some evaluating in the use in heavy vehicles fuelled by hydrogen generated by gas.

Rare Earths – Interest building at Mt Isa Inlier & for Monazite in HMS concentrate in Nth Qld riverbeds.

Graphite & Lithium – There are small graphite deposits in NWQ. The geology of Qld is not prospective for lithium.

Uranium – Currently there is a ban on uranium mining in Qld which seriously hampers exploration.

Geothermal – Possible opportunities in NW Qld may be explored shortly by one company.

Bauxite – None by ASX explorers.

Image source: EQ Resources

An initiative of

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QUEENSLAND resources COUNCIL

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