

Queensland
**EXPLORATION
SCORECARD**

2019

A CHANGING
INVESTMENT
ENVIRONMENT



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FOREWORD

WELCOME TO THE NINTH ANNUAL QEC EXPLORATION SCORECARD

For the last two years, the QEC Exploration Scorecard has pointed to a growing sense of optimism among Queensland's explorers. Queensland's recognition as a world-class resources region and buoyant commodities prices have fuelled exploration activity across the state.

This year's Scorecard shows the recovery has continued, with exploration expenditure increasing across all major Queensland commodities for the second year in a row. 2018-19 delivered a 25% increase in coal exploration expenditure, a 19% increase in petroleum exploration expenditure and a 10% increase in exploration for gold and copper.

This exploration recovery is likely to continue across 2019-20. In this year's survey of Queensland explorers, 58% say they plan to increase or substantially increase their exploration expenditure or activity and only 6% of explorers are planning to reduce their expenditure or activity. It's a similar story for drillers, with 92% of drilling company respondents expecting their activity will stay the same or increase across 2019-20.

For the first time in the Scorecard's nine-year history, explorers were most positive about the Queensland Government departmental assistance. With high praise for efforts of the Department of Natural Resources, Mines and Energy, which has worked tirelessly to improve its level of support for the industry each year. One explorer summed up the sentiment perfectly noting DNRME is "extremely helpful and a great department to deal with."

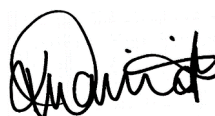
The Geological Survey of Queensland has also worked hard to make Queensland's pre-competitive geoscience data among the best in the world. GSQ continues to support the sector through highly popular initiatives such as the Collaborative Exploration Initiative, which is now in its 12th year. GSQ is also working to put Queensland at the forefront of data-driven exploration with its Geoscience Data Modernisation Program, which will vastly improve access to Queensland's geoscience data.

The past two years of growth have lifted optimism among explorers, yet the sector still faces a number of challenges. Explorer sentiment towards equipment availability and labour availability each received a negative sentiment score for the first time since 2011-12. Prices for Queensland's major commodities have moderated over the year in US dollar terms and policy uncertainty continues to dampen growth.

Yet the industry should have every confidence that Queensland exploration will continue to thrive. Despite a fall to 12th in the world in the Fraser Institute's Best Practice Mineral Potential index, explorer sentiment towards Queensland's resources prospectivity remains a strong positive, recording its ninth year in a row of positive sentiment in the Scorecard.



The Hon. Ian Macfarlane
Chief Executive Officer
Queensland Resources Council



Kim Wainwright
Chair
Queensland Exploration Council

PUTTING THE SCORECARD INTO CONTEXT

2019 - A CHANGING INVESTMENT ENVIRONMENT

Exploration is crucial to the long-term success of Queensland's resources industry, as it lays the groundwork for future investment in the decades to come. Given around 82% of Queensland's exports are resources, that makes exploration crucial to the future success of the Queensland economy.

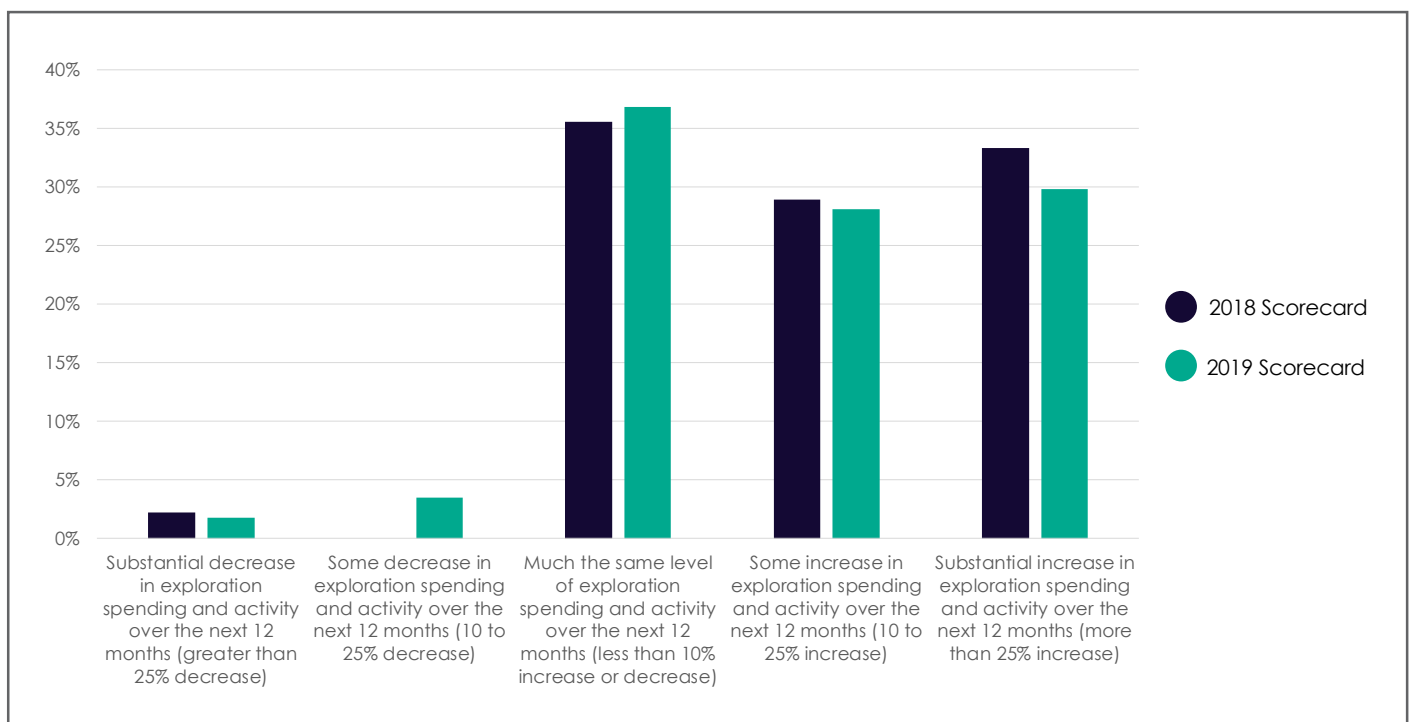
I am delighted to report that 2018-19 delivered another strong year for Queensland exploration. Exploration expenditure increased for all major Queensland commodities. This is consistent with the prediction in the 2018 Scorecard, which said that 60% of explorers planned to increase their expenditure in 2018-19. This growth should continue with the majority of explorers saying they plan to increase or substantially increase their exploration expenditure or activity in the coming year.

While the recovery has continued for Queensland exploration, it's no cause for complacency. This year's sentiment survey shows Queensland has several opportunities for improvement, with explorers rating only three out of the 15 sentiment factors as positive. This is well down on the six positive factors achieved in the 2018 Scorecard with access to capital and community perceptions of the industry both returning to negative territory.

The theme for this year's Scorecard recognises the new challenge of a changing investment environment. Community support for a project is rapidly becoming a necessary prerequisite for explorers' access to investment capital. This trend is a major shift for Queensland explorers and the results in this year's Scorecard suggests elements of industry are still catching up.

This year's Scorecard points to several challenges at home and abroad. But inherent in nearly all challenges are opportunities for renewal and growth, and I am confident the industry and Government are up to the task.

CHART 1.1: FURTHER GROWTH TO COME - 12 MONTH OUTLOOK FOR EXPLORATION EXPENDITURE, 2018-19



A very big thank you to all Scorecard working group members (listed below). The success of the Exploration Scorecard is entirely down to the their expertise and enthusiasm for Queensland exploration. I'm proud to chair such an effective group. In particular, I want to acknowledge the constructive engagement and professionalism of the Department of Natural Resources, Mines and Energy as well as the work of the QRC secretariat in preparing the Scorecard.

I would also like to thank all the participants in this year's Scorecard survey. Without their valuable time and insights, this Scorecard would not have been possible.

Finally, I would like to thank the QEC's former Chair, Brad John PSM for his outstanding dedication over the past two years to the QEC and Queensland Exploration. The 2019 Scorecard marks the first edition under the guidance of the QEC's new Chair, Kim Wainwright, who is a great asset to the QEC and a natural complement to the terrific work done by Brad John.

Euan Morton

Chair, QEC Exploration Scorecard Working Group

MEMBERS OF THE QEC SCORECARD WORKING GROUP 2019

Euan Morton (Chair)	Synergies Economic Consulting Pty Ltd	Peter Hall	Australian Drilling Industry Association	Roger Leaning	Morgans Financial Limited
Andrew Barger	Queensland Resources Council	Todd Harrington	Whitehaven Coal Limited	Samantha Nasternak	Queensland Exploration Council
John Briggs	Ashurst Australia	Dieter Kluger	Department of Natural Resources, Mines and Energy	Darren Rutley	Santos Limited
John Bruce	Bruce Resource Consultants	Stephen Kelemen	Queensland Exploration Council	Laura Steele	Department of Natural Resources, Mines and Energy
Tom Cunningham	Queensland Resources Council	Tony Knight	Geological Survey of Queensland	Darren Walker	U&D Mining

THE SCORECARD'S STRUCTURE

This year's Scorecard retains the layout of previous years with a focused analysis of key exploration indicators. The Scorecard reflects the assumption that the level of exploration activity is broadly driven by:

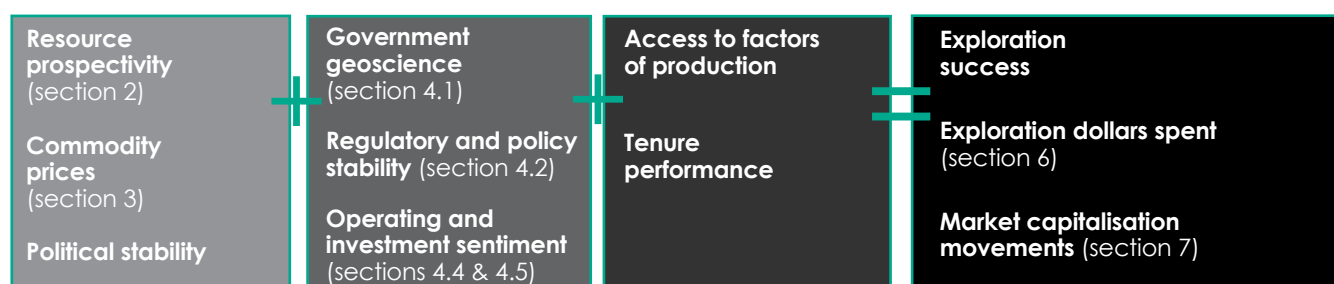
- Queensland's resource prospectivity and endowment;
- the price of key commodities;
- explorer and investor confidence; and
- policy and regulatory stability — this year, for the first time, we've also asked explorers and drillers for their sentiment towards Queensland's royalty and tax rates.

As the market drives commodity prices, the Scorecard concentrates on those lead indicators that can be influenced – namely, explorer and investor confidence and access to the essential factors of production. Outcomes or lag indicators that measure actual exploration success are also included. Figure 1 below shows the Scorecard structure.

FIGURE 1: SCORECARD STRUCTURE

LEAD INDICATORS – FACTORS THAT DRIVE EXPLORATION ACTIVITY AND PERFORMANCE

LAG INDICATORS – MEASURING ACTUAL SUCCESS



Source: QRC

PERFORMANCE SUMMARY

THE QUEENSLAND EXPLORATION SECTOR, 2018-2019

LEGEND

Good

No significant impediment

Cause for concern

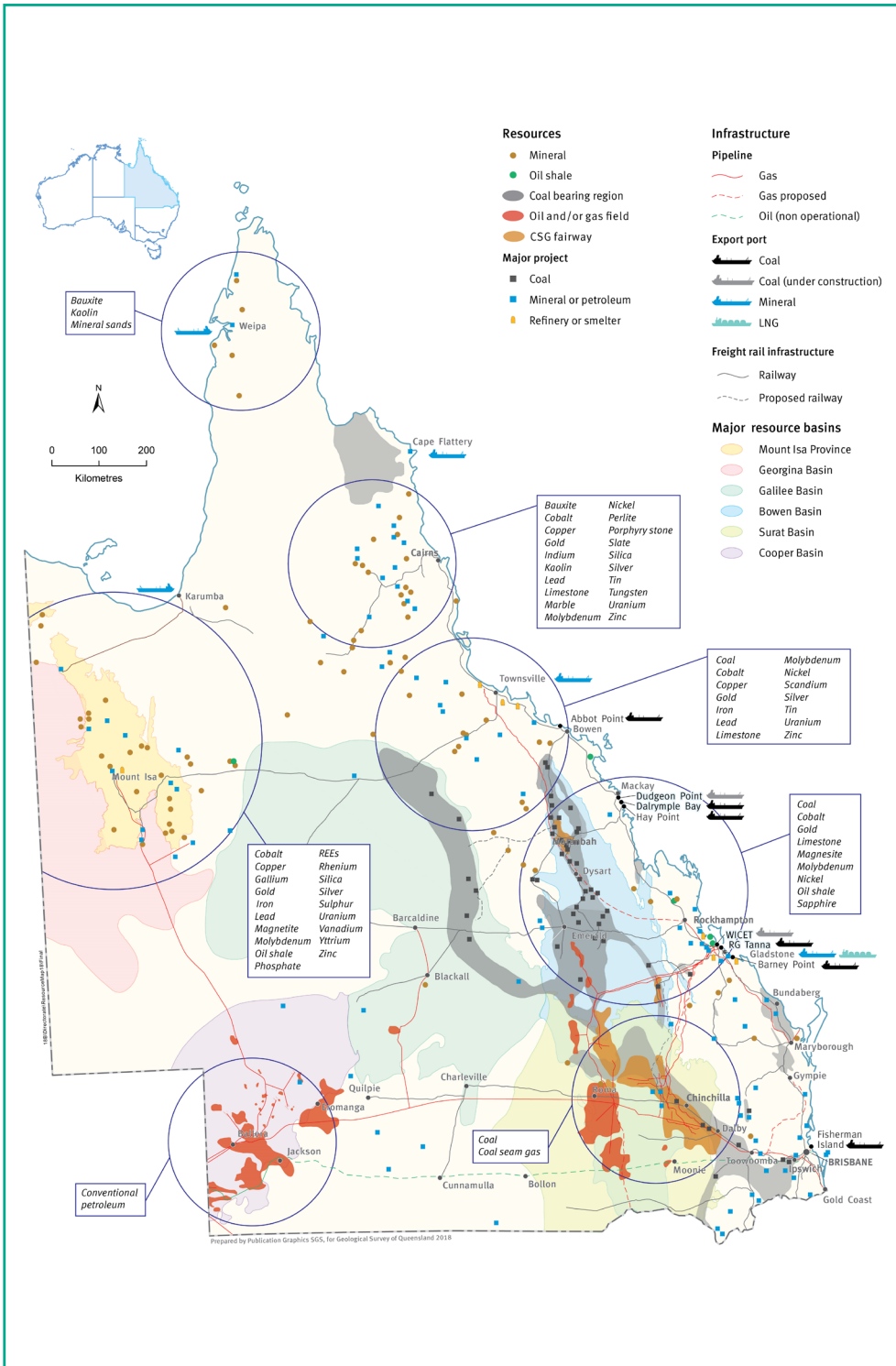
Significant problems



Year to June...

LEAD INDICATORS – DRIVERS OF FUTURE ACTIVITY AND PERFORMANCE	2011	2012	2013	2014	2015	2016	2017	2018	2019
Resource prospectivity and endowment (Section 2) <ul style="list-style-type: none"> Queensland is home to a host of highly prospective coal, minerals and gas resources, yet the State has dropped from 3rd to 12th in the world in the Fraser Institute's Best Practices Minerals Potential Index. Despite the drop, the result is well above Queensland's five-year low of 19th (2014) and Queensland is Australia's second highest ranked jurisdiction for minerals potential. 	●	●	●	●	●	●	●	●	●
Commodity prices (Section 3) <ul style="list-style-type: none"> Base and precious metals prices declined moderately over 2018-19, although a depreciating Australian dollar has cushioned this impact. The outlook for thermal and metallurgical coal benchmark prices are still well above the lows of 2015. Average Japanese LNG spot prices remained steady for 2018-19. However much of Queensland's LNG is linked to the price of oil with a lag of several months. 	●	●	○	●	●	●	●	●	○
State government geoscientific funding and activities (Section 4.1) <ul style="list-style-type: none"> Queensland's pre-competitive geoscience is a continual bright spot. Base expenditure for the Geological Survey of Queensland in 2018-19 was \$6.5 million, with a further \$10.5 million spent as part of its 4-year Strategic Resources Exploration Program. 	●	●	●	●	●	●	●	●	●
Regulatory and policy stability (Section 4.2) <ul style="list-style-type: none"> Perceptions of DNRME's administrative performance has gone from great to outstanding in 2018-19. Queensland's policy uncertainty has deteriorated this year following a number of significant legislative changes and uncertainty on future proposals such as Pristine Rivers. Explorers express concern over growing compliance costs and lengthy delays in negotiating conduct and compensation agreements. 	●	●	●	●	●	●	●	●	●
Operating and investment sentiment (Section 4.4 and 4.5) <ul style="list-style-type: none"> Only 3 of the 15 factors showed a net positive sentiment in Queensland while, 12 of the 15 factors showed net negative sentiment in Queensland. 	●	●	●	●	●	●	○	●	●

2.0 RESOURCE PROSPECTIVITY



Prospectivity is a major driver of exploration activity. Queensland is blessed with a rich endowment of resources – both a diversity of resources and highly prospective deposits right around the State. Queensland's rich prospectivity in base and precious metals and significant endowments of coal and gas are presented in the following map.

Queensland has a long history of oil and gas in the South-West corner of Queensland around Ballera and Jackson in the Cooper and Eromanga Basins with world-class resources of coal seam gas under the Roma to Dalby area in Surat and Bowen Basins

Queensland is also home to several high quality coal resources, which are in demand across the world. The Bowen Basin contains almost all of the State's hard coking coal. Thermal coals are mined from the Clarence-Moreton and Surat basins in the south-east of the State with further developments progressing in the Galilee Basin.

To the North, Queensland's world-class bauxite deposits in Cape York supplies refineries in Gladstone and overseas, while Queensland's North West Minerals province supplies several base metals and new economy minerals to Townsville and beyond. Meanwhile, Queensland has enjoyed a long history of gold exploration and mining with resources scattered across the state.

It's no surprise explorer sentiment towards Queensland's resource prospectivity has remained significantly positive for all nine years of the QEC Exploration Scorecard.

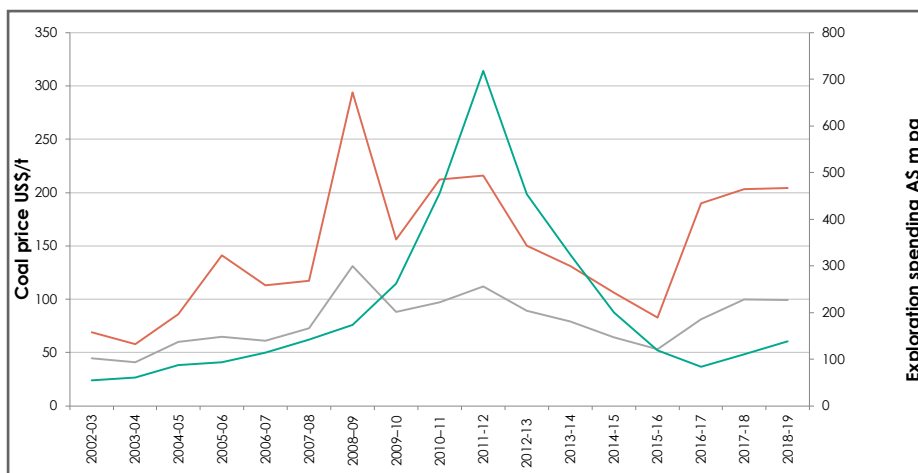
FIGURE 2: QUEENSLAND'S RESOURCE PROSPECTIVITY
Source: Spatial and Graphic Services, Geological Survey of Queensland 2019

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 coal, gold, copper, and LNG compared with Queensland exploration expenditure for each commodity since 2002.

The growing sense of optimism in the previous two years has continued in 2018-19. Exploration expenditure for all four of Queensland's major commodities increased for the second year running. Prices for major commodities have moderated over the year in US dollar terms, yet a depreciating Australian dollar has cushioned this impact.

CHART 3.1: GLOBAL AVERAGE BENCHMARK COAL PRICES AND COAL EXPLORATION SPEND IN QUEENSLAND, 2002-03 TO 2018-19

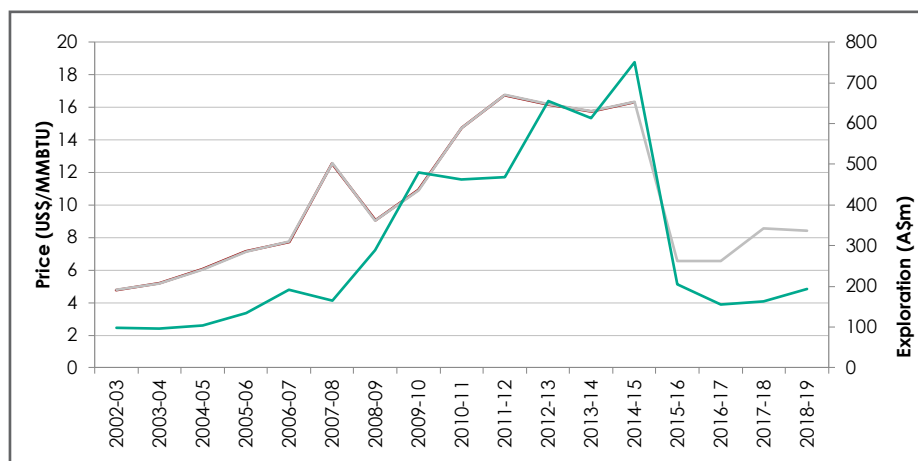


Source: Office of the Chief Economist, Resources and Energy Quarterly, ABS 8412.0

In 2018-19, key coal benchmarks maintained the large gains from the previous two years. The metallurgical coal price—increased by 1% over the year, while the benchmark thermal coal price decreased by 1%. While prices were steady, the coal exploration revival continued across 2018-19, with exploration expenditure increasing by 25% on 2017-18. In another major milestone, Queensland coal exploration expenditure has now experienced two consecutive years of growth for the first time since 2011-12, however this has softened towards calendar end 2019.

- Thermal coal price (US\$/t) (LHS)
- Metallurgical coal price (US\$/t) (LHS)
- Queensland coal exploration (A\$m) (RHS)

CHART 3.2: GLOBAL AVERAGE BENCHMARK LNG PRICES AND QUEENSLAND PETROLEUM EXPLORATION SPEND, 2002-03 TO 2018-19



Note: Petroleum exploration expenditure includes appraisal activities, but excludes developmental and production activities.

Source: METI, ABS 8412.0

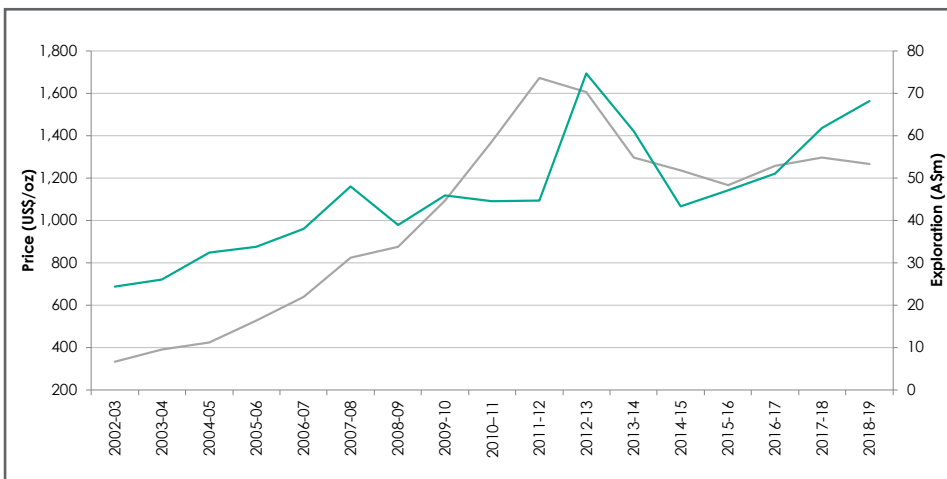
Gas exploration continued its turnaround in 2018-19. Queensland gas exploration expenditure further improved in 2018-19, increasing by 19% for the year. The Queensland Government continued to support petroleum explorers through several acreage releases in 2018-19. As the only east coast state that is open for onshore gas exploration, increasing Queensland exploration activity is critical for the domestic gas market.

Future gas supply remains finely balanced for the east coast of Australia. AEMO's 2019 GSOO forecasts an increasing reliance on being able to mature 2C contingent and prospective resources from 2024 under expected conditions. Meanwhile, EnergyQuest reports that "NSW, Victoria, South Australia and Tasmania won't have enough gas to meet demand as soon as 2022, requiring Queensland to substantially boost the supplies it sends south".

- Japanese LNG price (US\$/MMBTU) (LHS)
- Queensland petroleum exploration (A\$m) (RHS)



CHART 3.3: GLOBAL AVERAGE BENCHMARK GOLD PRICES AND QUEENSLAND EXPLORATION SPEND, 2002-03 TO 2018-19

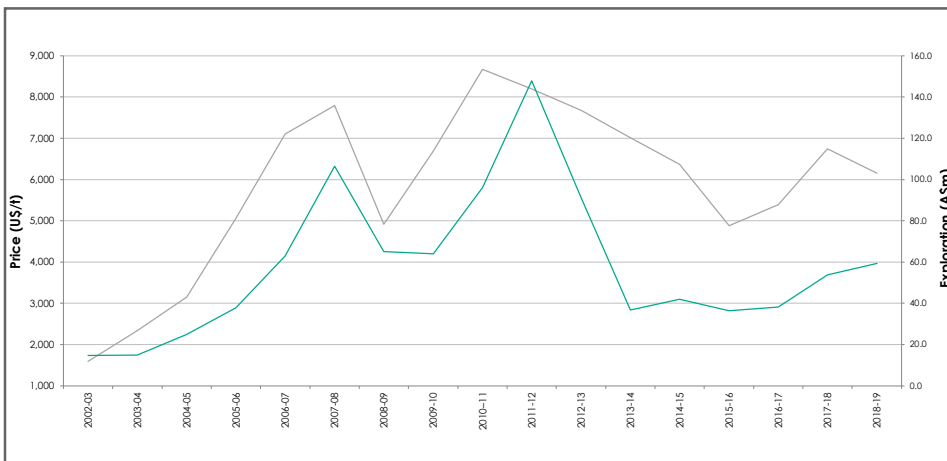


Queensland gold exploration continues to improve, achieving five consecutive years of exploration growth—up 10% on last year's strong result. Gold exploration has perhaps the most direct relationship between the prevailing price and exploration spending. Rising trade tensions and geopolitical risks suggest the price and exploration expenditure will remain supported in the near future.

— Average global gold price (US\$/oz) (LHS)
— Queensland gold exploration (A\$m) (RHS)

Source: Office of the Chief Economist, Resources and Energy Quarterly, ABS 8412.0

CHART 3.4: GLOBAL AVERAGE BENCHMARK COPPER PRICES AND QUEENSLAND EXPLORATION SPEND, 2002-03 TO 2018-19



In 2018-19, Queensland copper exploration expenditure achieved the third consecutive year of growth—this feat hasn't been achieved since 2011-12. However, trade tensions and reduced industrial activity has weighed on copper prices across the year with prices declining by 10%. In the medium term, expanding electric vehicle production and growing demand for renewable energy is expected to bolster copper demand. The challenge for Queensland remains finding new sources of supply under cover and at depth.

— Average global copper price (US\$/t) (LHS)
— Queensland copper exploration (A\$m) (RHS)

Source: Office of the Chief Economist, Resources and Energy Quarterly, ABS 8412.0

KEY FINDINGS

- Queensland coal exploration expenditure achieved two straight years of growth—up 25% for 2018-19 (chart 3.1).
- Queensland petroleum exploration expenditure increased by 19% in 2018-19, the highest growth rate in six years (chart 3.2).
- Queensland gold exploration continues to improve, now up 57% on its 2014-15 low (chart 3.3).
- Despite recent price volatility, Queensland's copper exploration continued its growth run, with expenditure at its highest level since 2012-13 (chart 3.4).

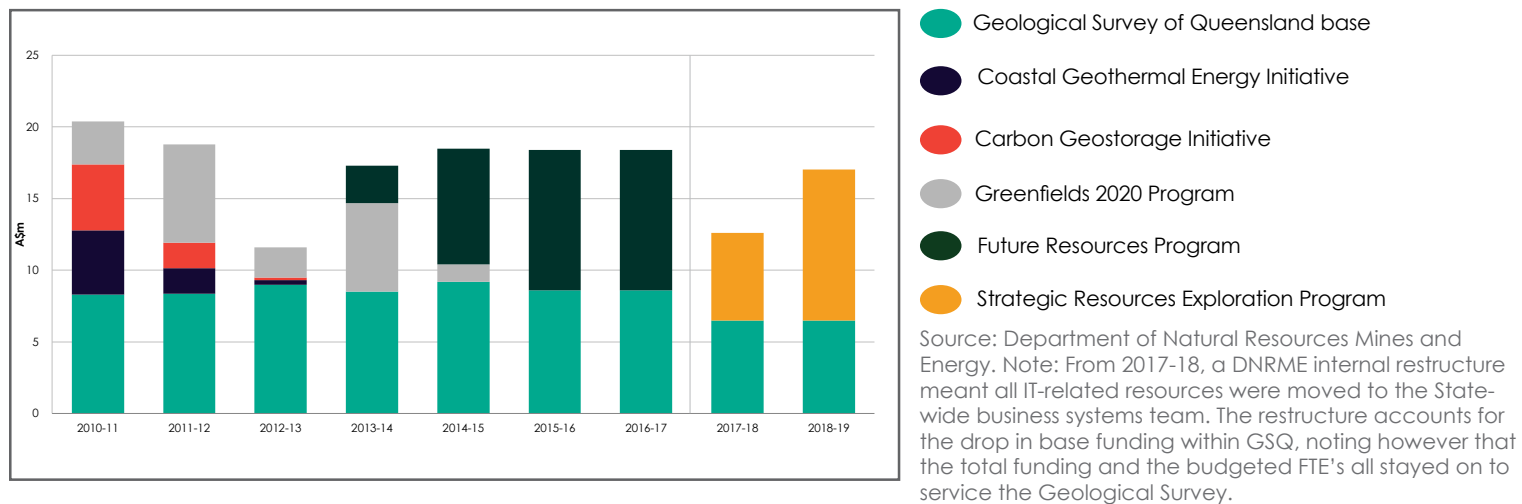
4.1

STATE GOVERNMENT GEOSCIENTIFIC FUNDING AND ACTIVITIES

Funding for pre-competitive geoscience activities is vital for the ongoing health of the sector. Total State government geoscientific funding and the components of that funding across the various programs is shown in Chart 4.1. Industry continues to advocate for a substantial and growing base level of funding for the Geological Survey of Queensland (GSQ).

The GSQ is now in its third year of its \$27 million, four-year Strategic Resources Exploration Program. The Program includes activities to support resources exploration in north-west Queensland, including a range of pre-competitive data to support mineral exploration, a search for new gas resources in frontier basins, and modernisation of government geoscience data systems. It also includes targeted support towards drilling and non-drilling activities under the Government's much lauded Collaborative Exploration Initiative.

CHART 4.1: TOTAL GEOLOGICAL SURVEY OF QUEENSLAND EXPENDITURES (A\$M) 2010-11 TO 2018-19



KEY FINDINGS

- GSQ continued to advance data-driven exploration in 2018-19. GSQ's data modernisation project, which will be completed by December 2020, is central to this approach. The project will deliver a world-leading data repository and enable modern data analytics such as machine learning and artificial intelligence applications to exploration.
- Queensland is in the process of modernising how geoscience data is submitted and accessed by the broader industry. The GSQ is working closely with industry to tackle one of the key issues in unlocking Queensland's exploration potential – coal and mineral data confidentiality. Currently, data is held for life of tenure which has led to limitations in collaboration and possible new discovery. While work continues between industry and government on the data confidentiality timeframes, industry and government both agree one of the key benefits of more accessible data is the higher chance of a new discovery.
- GSQ is also working to ensure past investment in exploration and research is helping to make new discoveries. In collaboration with the Bryan Research Centre of the University of Queensland, the GSQ is developing world-leading digital "deposit atlases", which for the first time, bring together all available information relating to key deposits in the northwest. This ground-breaking work has been extremely well received by industry explorers at workshops delivered by GSQ in Brisbane, Mt Isa and Townsville.
- Recent studies from GSQ have provided industry with a greater understanding of the highly prospective areas east of Mount Isa and Cloncurry. Recently, GSQ released three radiometric and magnetic surveys for:
 - Cloncurry South airborne radiometric and magnetic survey
 - Cloncurry North airborne radiometric and magnetic survey
 - Gregory/Lawn Hill air assisted gravity survey.
- Over the next two years, additional exploration will be completed through the:
 - Central Isa airborne radiometric and magnetic survey
 - Western Succession Airborne electromagnetic survey
 - Cloncurry Extension Magnetotelluric survey.
- GeoResGlobe is now live and publicly accessible. The online platform improves access to spatial data and information about mining and exploration activity across Queensland.
- Grants for round 2 of the Collaborative Exploration Initiative were awarded in December 2018 to 12 companies supporting a total of 15 projects— providing almost \$2 million in much needed support for exploration.

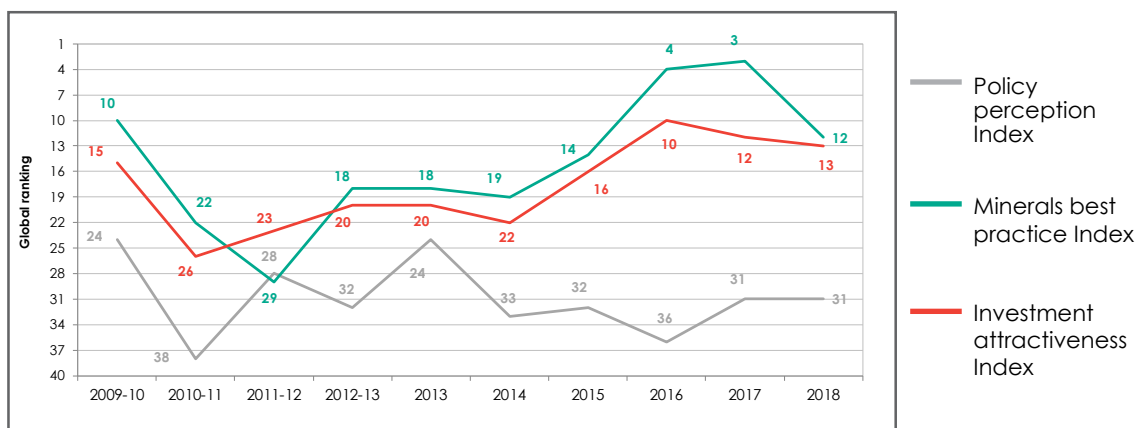
4.3

FRASER INSTITUTE'S ANNUAL SURVEY OF
MINING COMPANIES 2018

The Fraser Institute released its *Annual Survey of Mining Companies 2018* on 28 February 2019. The survey ranks jurisdictions based on an *Investment Attractiveness Index*, which is a weighted average of both mineral and policy perception. For 2018, Queensland dropped one place in the rankings from 12th to 13th position—between Manitoba (12th) and Peru (14th) for investment attractiveness. Queensland has once again cemented its position as the number two Australian jurisdiction for overall investment attractiveness.

The overall *Investment Attractiveness Index* is constructed by combining the *Best Practices Mineral Potential index*, which rates regions based on their geological attractiveness, and the *Policy Perception Index*, a composite index that measures the effects of government policy on attitudes toward exploration investment. Queensland's rankings in these indices are presented below.

CHART 4.3: FRASER INSTITUTE – QUEENSLAND'S GLOBAL RANK 2009-10 TO 2018



Source: Fraser Institute Annual Survey of mining companies

The report's *minerals best practice potential index* rates a jurisdiction's attractiveness based on perceptions of the geology. Survey respondents are asked to rate the pure mineral potential, assuming that their policies are based on 'best practice', i.e. independent of any policy settings. In 2018, Queensland's ranking on the index dropped from its highest ever ranking (3rd) to 12th overall. Queensland is the second-highest ranked Australian jurisdiction, behind Western Australia (2nd).

The report's policy perception index is a composite index that measures the overall policy attractiveness of the 91 jurisdictions in the survey. The index is essentially a "report card" on the perceived attractiveness of their mining policies and is composed of survey responses to policy factors that affect investment decisions.

For 2018, Queensland is once again ranked in 31st position globally for policy perception. Queensland's score did improve over the year by nearly nine index points, however the improvement didn't boost Queensland's ranking as every jurisdiction in Canada, the United States and Australia also improved. The result means Queensland is once again the 3rd highest performing Australian jurisdiction for policy, ranked behind Western Australia (5th) and South Australia (22nd).

The Fraser Institute survey, while a useful benchmark, reflects global perceptions of jurisdictions and its volatility can make drawing strong conclusions from year to year difficult.

"However, it is clear that Queensland's geology is highly prospective and Queensland's major challenge is creating a regulatory environment which is just as attractive as its geology."

The results between the Fraser Institute's survey and the QEC sentiment survey are not directly comparable. The Fraser Institute's survey ran between August and November 2018 for its February 2019 report. In comparison, this Scorecard's sentiment survey was conducted in August/September 2019 for a December 2019 report. As a result, the sentiment in the Fraser Institute reflects sentiment from an earlier period than in this Scorecard. For this year's survey, only 14% of the QEC sentiment survey respondents also completed the Fraser Institute survey for 2018.

4.4 OPERATING SENTIMENT

Companies were asked to indicate to what degree individual factors positively or negatively impacted the commercial objectives of their Queensland operations during 2018-19. Companies were also asked to respond to the same questions for the other Australian jurisdiction in which they are most active.

To enable comparisons across years, the Scorecard's 12 core factors have remained constant since the Scorecard began in 2011. However, for this year's survey, the Scorecard also included an extra category for sentiment towards Queensland's royalty and tax rates.

The survey received 57 'Queensland' and 24 'Rest of Australia' responses. Across the 2018-19 survey, the most common exploration targets were base and/or precious metals (39%), followed by metallurgical coal (32%), thermal coal (21%) and unconventional oil and gas (21%).

The responses were combined into a single value by weighting each response. 'Strongly positive' (negative) responses were given a weighting of 1 (-1), 'positive' (negative) responses were given a weighting of 0.5 (-0.5) and 'not at all' responses were given a weighting of 0. For more details and a worked example, please see [here](#).

INDUSTRY SENTIMENT SURVEY

The full results for 2019 shows the range of issues that Queensland explorers must consider (Chart 4.4.1).

- **Three of the 15 factors** showed a net positive sentiment in Queensland, with 1 of those factors strongly positive:
 - ✓ Government/departmental assistance;
 - ✓ pre-competitive geoscientific data.
- **12 of the 15 factors** showed net negative sentiment in Queensland, with 3 of those being strongly negative:
 - ✗ policy uncertainty;
 - ✗ environmental regulations; and
 - ✗ conduct and compensation agreements.
- The nine-year trends for Queensland show a **marked improvement in sentiment towards:**
 - ✓ exploration permit processes;
 - ✓ departmental assistance; and
 - ✓ pre-competitive geoscientific data.

CHART 4.4.1: COMPARING QUEENSLAND TO THE REST OF AUSTRALIA 2018-19

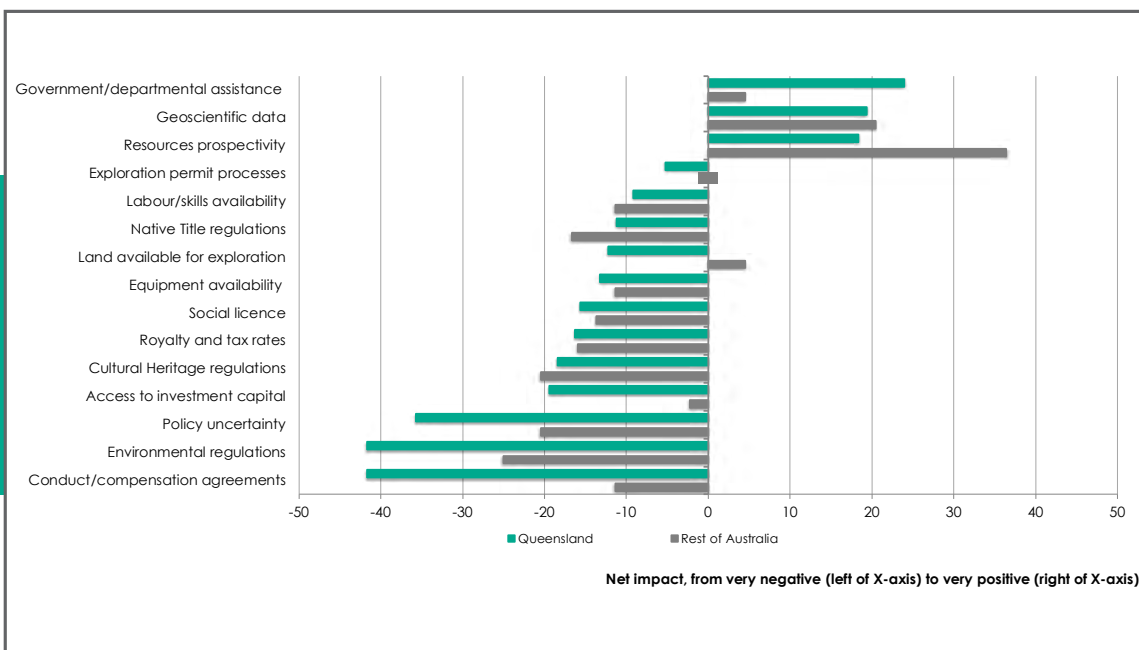


Chart 4.4.1 lists the core sentiment questions ranked in order for Queensland from the most positive to the least positive. For comparison, the results for the rest of Australia are shown. Typically, Queensland sentiment is more negative than in the rest of Australia.

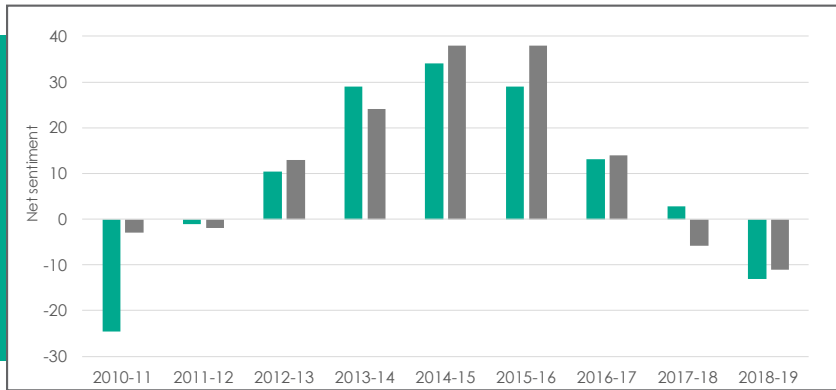
■ Queensland
■ Rest of Australia

²Some survey respondents identified more than one exploration target

LEGEND

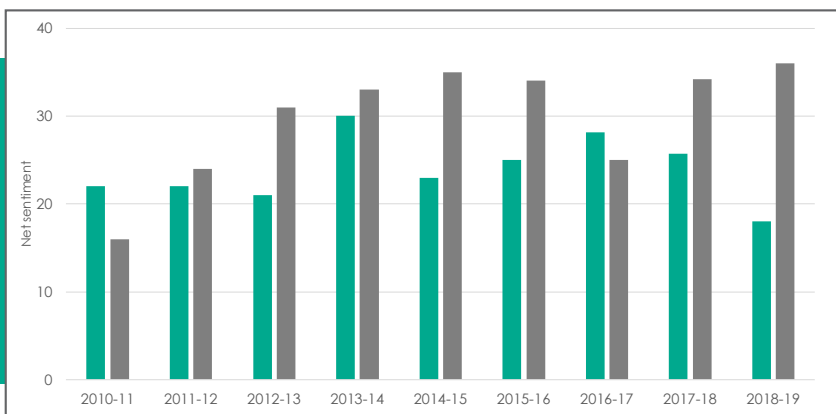
- Queensland
- Rest of Australia

CHART 4.4.2: EQUIPMENT AVAILABILITY 2010-11 TO 2018-19



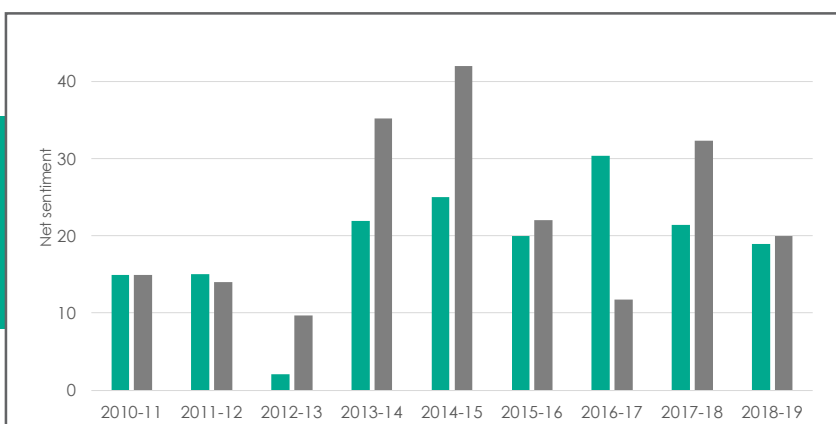
As forecast in the 2018 Scorecard, sentiment for equipment availability has continued to decrease in 2018-19 and is now negative for the first time since 2011-12. This result reflects improving demand for drilling services across Australia and a shortage of skilled drillers. The oil and gas explorers were particularly concerned by equipment availability with one respondent noting “rig availability is very limited and has the potential to bring our organisation to a standstill”.

CHART 4.4.3: RESOURCE PROSPECTIVITY/ENDOWMENT 2010-11 TO 2018-19



Queensland's world-class prospectivity continues to be a net positive, with sentiment remaining positive for all 9 years of the Scorecard. A majority of respondents continued to rate Queensland's resources prospectivity highly—yet it appears a handful of respondents with milder support for Queensland's prospectivity were frustrated by their difficulty obtaining tenure in prospective areas rather than the prospectivity of Queensland more generally.

CHART 4.4.4: PRE-COMPETITIVE GEOSCIENCE DATA 2010-11 TO 2018-19

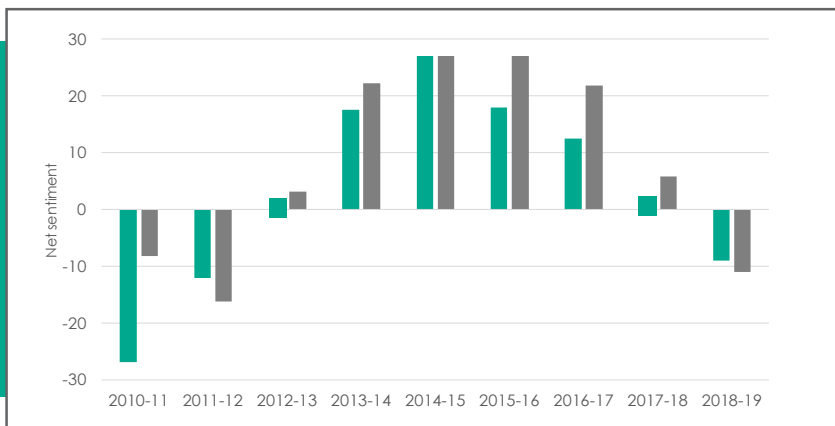


Pre-competitive geoscience data is necessary for attracting exploration dollars and remains a strength for Queensland. One survey respondent said “pre-competitive geoscientific data was the key part of our ability to assess the area's prospectivity and apply for the tenure”.

LEGEND

- Queensland
- Rest of Australia

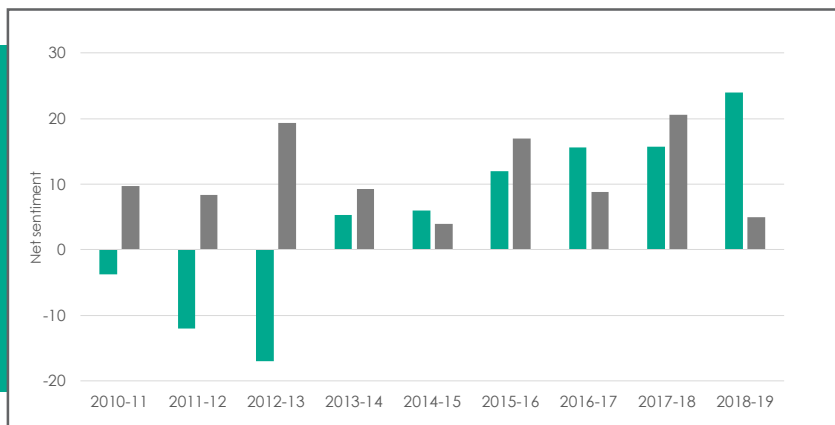
CHART 4.4.5: LABOUR/SKILLS AVAILABILITY 2010-11 TO 2018-19



Similar to equipment availability sentiment, this category continues its fifth year of decline as exploration activity increases. For 2018-19, several explorers reported difficulties attracting or keeping their skilled employees. This category is likely to continue to attract negative sentiment given the expected increase in exploration activity across 2019-20 (chart 1.1).

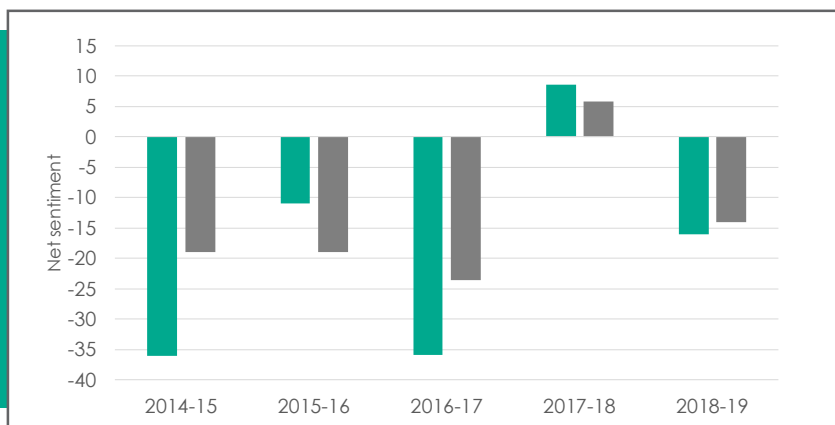
NB: Queensland sentiment in 2012-13 and 2017-18 was neutral (zero)

CHART 4.4.6: GOVERNMENT/DEPARTMENTAL ASSISTANCE 2010-11 TO 2018-19



Sentiment towards departmental assistance has been a consistent positive story in recent history, but for this year, it's the number one story. Explorer sentiment towards departmental assistance increased by two spots to take the number one position for positive sentiment. One respondent said "DNRME is extremely helpful and a great department to deal with and it has been a shame that factors such as land access and policy uncertainty have dampened investor appetite".

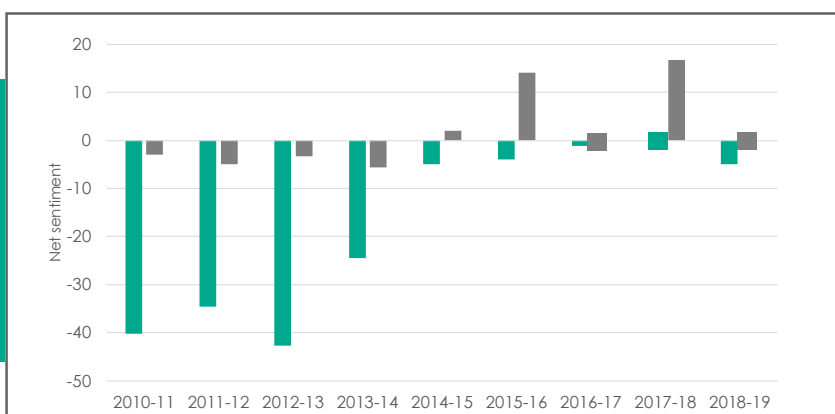
CHART 4.4.7: INDUSTRY PERCEPTIONS OF SOCIAL LICENCE TO OPERATE, 2014-15 TO 2018-19



Last year's positive sentiment towards social licence was short-lived, with explorers once again looking to improve community support for the industry. This sentiment category reflects explorers' views and is only a rough indicator, yet the issue clearly remains on explorers' minds with several explorers pointing to the lack of support for the industry in the media.

The link between a project's social licence to operate and access to investment capital is growing. Investors are sharpening their focus on community perception risk and explorers must work to develop their social licence as well as their resource.

CHART 4.4.8: EXPLORATION PERMIT PROCESSES 2010-11 TO 2018-19

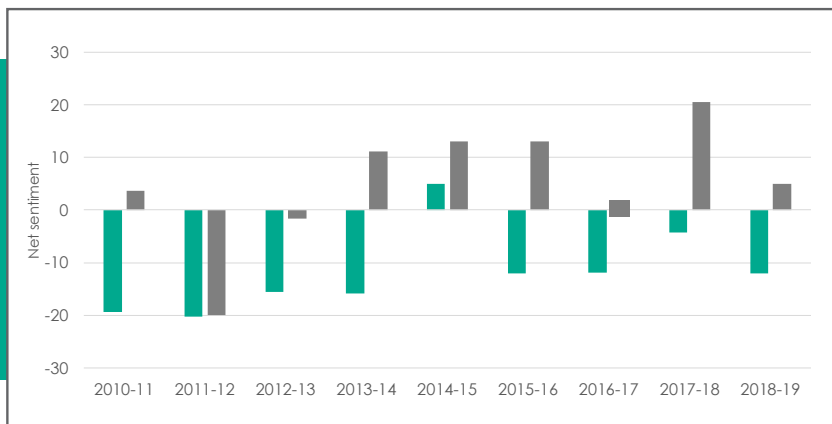


Sentiment towards exploration permit processes has vastly improved over recent years. However, several survey respondents again voiced their frustrations with a cumbersome permitting process. One respondent pointed to the chilling effect of protracted permitting processes noting "companies need a return on investment and approval delays makes justification of exploration spend even tougher."

LEGEND

- Queensland
- Rest of Australia

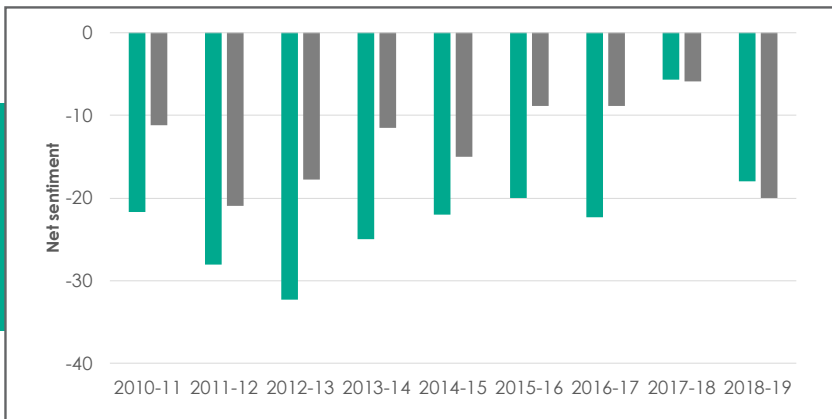
CHART 4.4.9: LAND AVAILABLE FOR EXPLORATION 2010-11 TO 2018-19



Sentiment towards available land declined slightly over 2018-19. Several respondents voiced their disappointment with the lack of prospective areas in recent tender releases for coal and petroleum. Some respondents also pointed to "land-banking" by some operators as an ongoing issue for the sector.

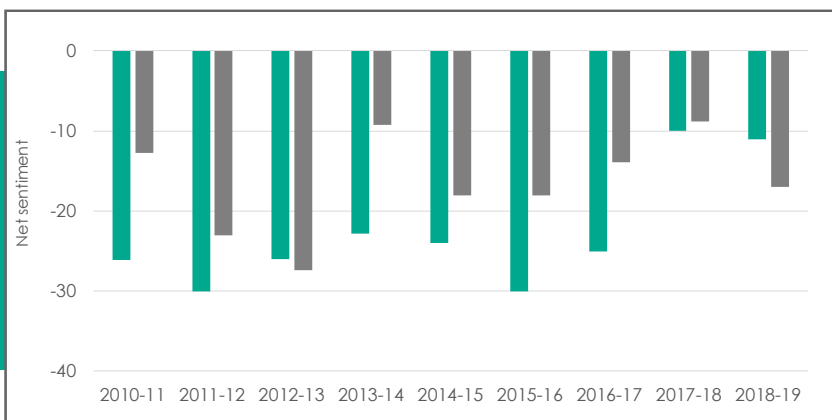
NB: Rest of Australia's sentiment in 2016-17 was neutral (zero)

CHART 4.4.10: CULTURAL HERITAGE REGULATIONS 2010-11 TO 2018-19



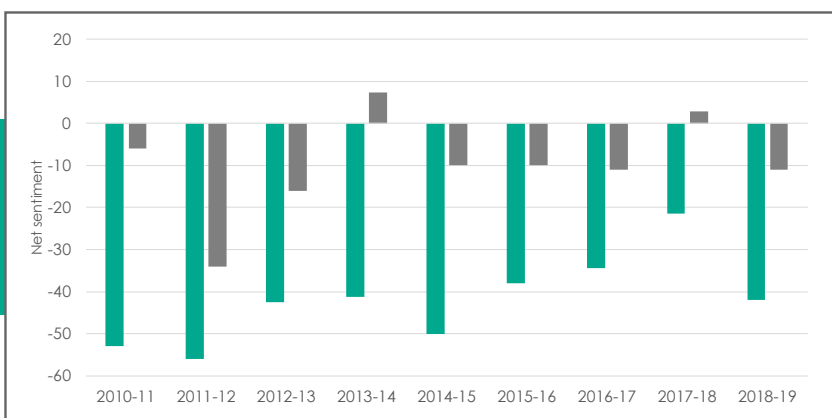
This change in perception could be due to uncertainty around Queensland Cultural Heritage legislation, which has been the subject of a review since May 2019. Supporting amendments to the Duty of Care Guidelines which commenced in 2016 remain on hold pending the results of the review.

CHART 4.4.11: NATIVE TITLE REGULATIONS 2010-11 TO 2018-19



Sentiment towards Native Title regulations remains well above the lows of a few years earlier. With over 25 years of Native Title recognition and more than 100 determinations in Queensland, improved sentiment could be due to increased certainty and familiarity with the native title system. While the legislation has undergone recent review, the sector broadly supports the proposed amendments.

CHART 4.4.12: CONDUCT AND COMPENSATION AGREEMENTS 2010-11 TO 2018-19

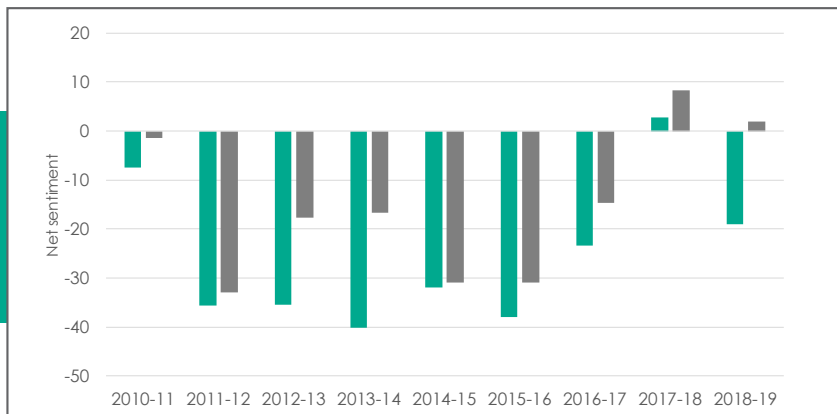


Conduct and compensation agreements was the single most concerning issue for Queensland explorers in 2018-19. Explorers said prolonged and difficult CCA negotiations were a major concern for the sector, with several respondents calling for a simplified or standardised process.

LEGEND

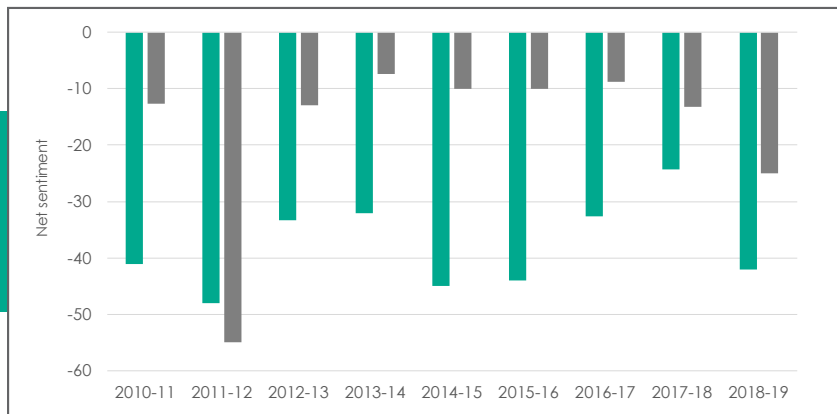
- Queensland
- Rest of Australia

CHART 4.4.13: ACCESS TO INVESTMENT CAPITAL 2010-11 TO 2018-19



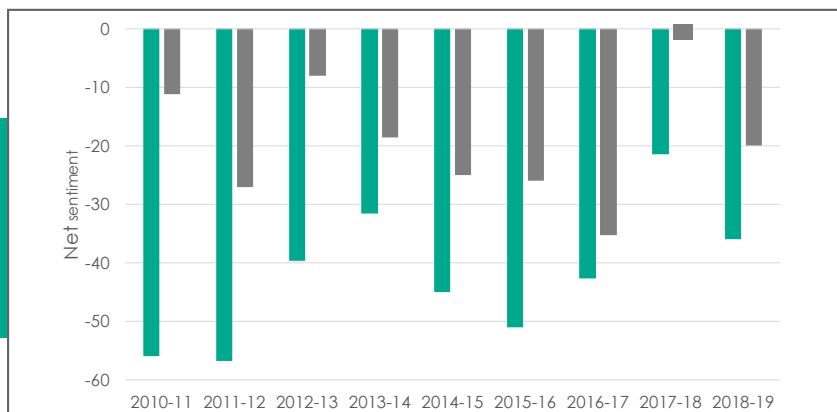
Explorers reported far greater difficulties access investment capital in 2018-19. Oil and gas and junior explorers more generally reported the highest levels of negativity towards this category. Strong resources prospectivity is not enough to attract investment capital.

CHART 4.4.14: ENVIRONMENTAL REGULATIONS 2010-11 TO 2018-19



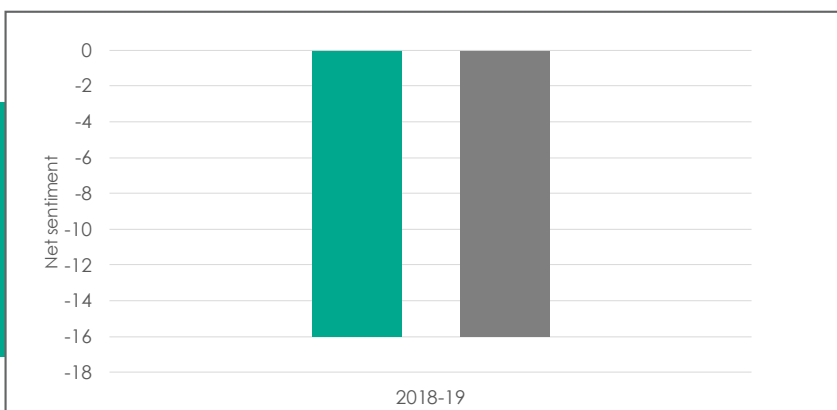
Sentiment towards environmental regulations significantly declined in 2018-19. Several explorers cited their frustration with the administration of existing environmental regulation as their major concern.

CHART 4.4.15: POLICY UNCERTAINTY 2010-11 TO 2018-19



After a welcome improvement in 2017-18, sentiment towards policy uncertainty returned to strongly negative in 2018-19. Coal explorers pointed to climate policy as a key source of uncertainty whereas metals and oil and gas explorers both cited possible Pristine Rivers regulation as a key issue.

CHART 4.4.16: ROYALTY AND TAX RATES 2018-19

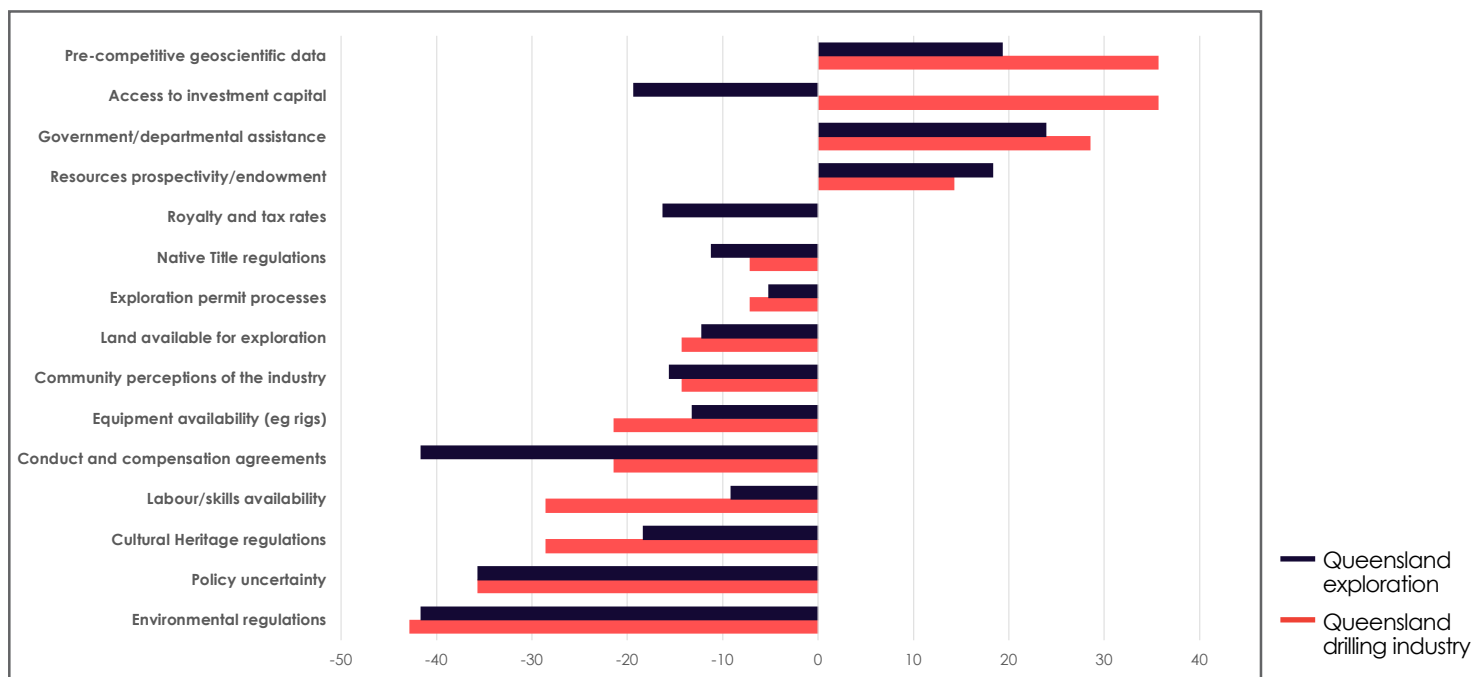


For its first year as a sentiment category in the Scorecard, explorer sentiment towards royalty and tax rates is more negative than social licence. Oil and gas explorers were significantly more negative to this category, perhaps reflecting the 25% increase in petroleum royalty rates announced in the 2019-20 Budget.

4.5 QUEENSLAND DRILLING INDUSTRY SENTIMENT

The drilling industry is vital for exploring and developing Queensland's natural resources and it remains an important bellwether for the health of the sector. The Australian Drilling Industry Association asked its member companies with drilling interests in Queensland a number of question to gauge the sentiment and outlook for the industry.

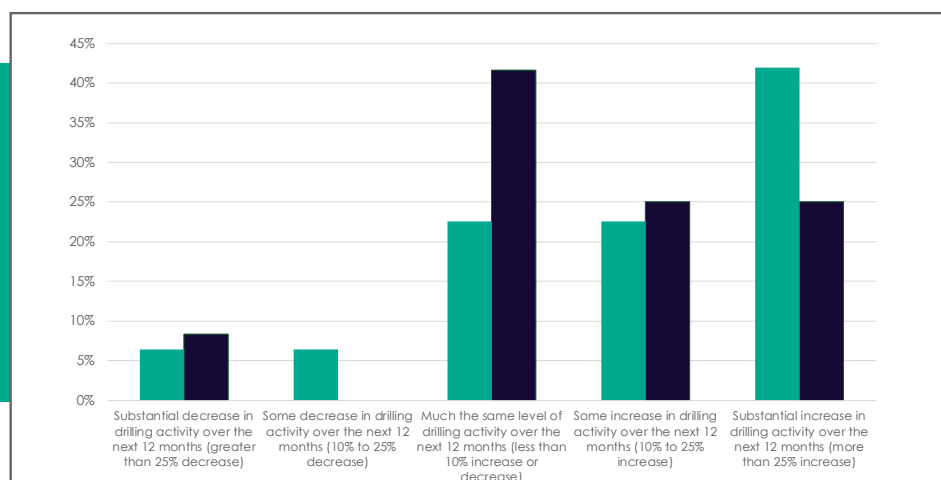
CHART 4.5.1: SENTIMENT COMPARISON: QUEENSLAND EXPLORERS VS. QUEENSLAND DRILLING INDUSTRY, 2018-19



While the general sentiment directions of drilling and exploration respondents are largely in agreement, there are some exceptions including royalty and tax rates as well as access to investment capital.

Environmental regulations and policy uncertainty are clearly major concerns for drillers, yet the single largest issue for drillers this year is conduct and compensation agreements are significant issues across the industry with one driller saying "some lawyer behaviours and fees when negotiating CCAs are unreasonable and unacceptable."

CHART 4.5.2: 12 MONTH OUTLOOK FOR DRILLING, 2018-19



Drilling activity is an important bellwether for the exploration sector more generally and the latest results point to continued growth in the industry. 92% of drilling respondents expect to maintain or increase their drilling activity over the next 12 months while only 8% expect a decrease. Where respondents expected a decrease of the coming 12 months, the chief frustration was difficulties with land access.

19/20 outlook
18/19 outlook

CHART 5.1: EXPLORATION PERMIT MINERAL COVERAGE, JULY 2019

Widespread distribution of mineral tenure applications show Queensland's diverse minerals potential. Active exploration targets include base and precious metals, with growing interest in Queensland's opportunities in strategic minerals, rare earths and battery minerals. 2018-19 saw significant tenure activity across Queensland, particularly in the North West with several large permits granted to the East and South of Mount Isa.

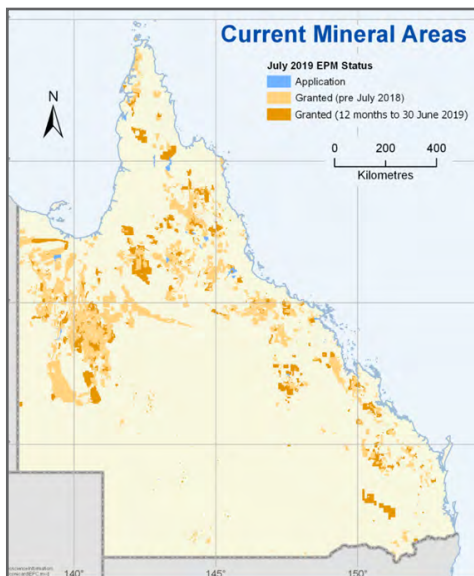


CHART 5.2: EXPLORATION PERMIT COAL COVERAGE, JULY 2019

Applications and grants of coal exploration tenure are difficult to spot at the state level. This reflects tenure activities during the year which focussed more on the progression of coal exploration tenures towards development and production activities. In 2019, the Queensland Government awarded five tender areas in the Bowen and Surat basins. DNRME also released five coal areas for tender in the second half of 2019.

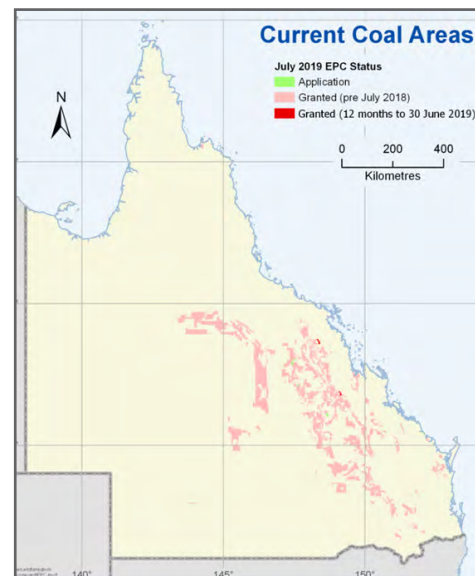
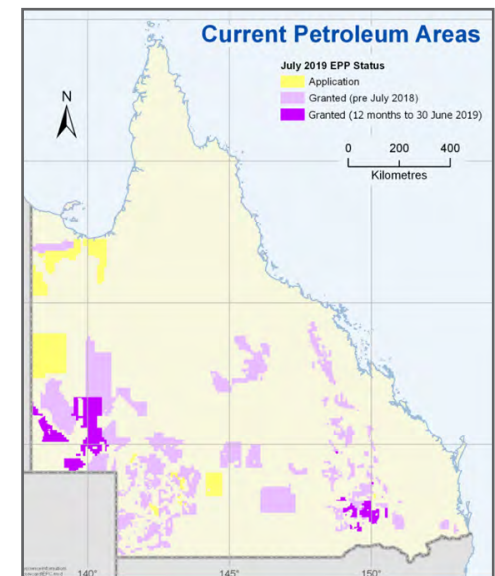


CHART 5.3: AUTHORITY TO PROSPECT (PETROLEUM), JULY 2019

Queensland's strong petroleum potential is reflected in the distribution of petroleum tenure below. It's encouraging to see tenure applications across greenfield and brownfield basins.



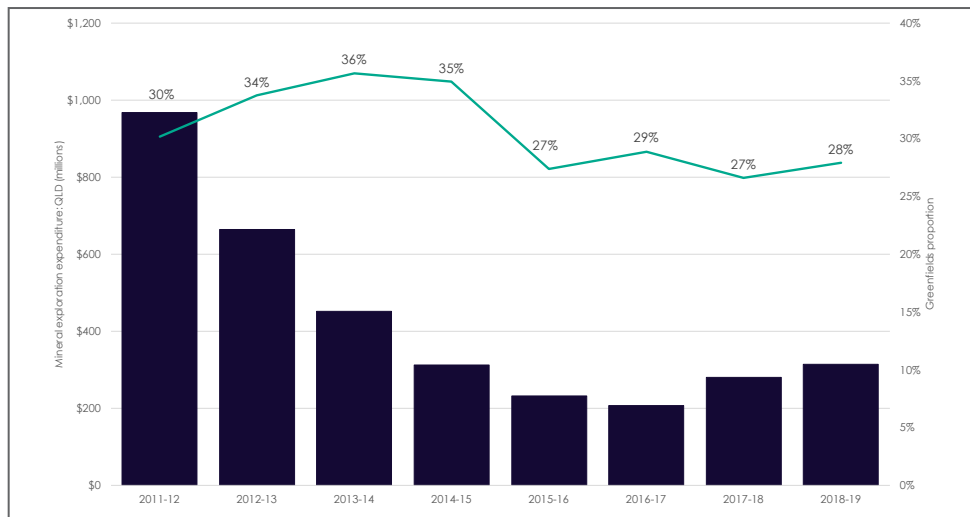
Source: Department of Natural Resources, Mines and Energy

KEY FINDINGS

- DNRME's efforts to improve tenure processes are once again a positive story for the sector. Furthermore, DNRME's Queensland Exploration Program, which identifies exploration opportunities for coal and petroleum and gas, is a welcome initiative for industry.
- Once again, the coal and mineral tenure maps above show clustering of applications and granted tenures around known commodity deposits. In contrast, the petroleum tenure map above shows significant exploration acreage outside production areas.

6.0 MINERALS AND PETROLEUM EXPLORATION

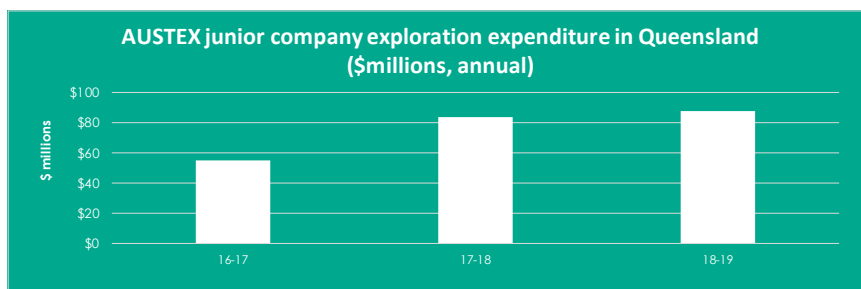
CHART 6.1: NEW DEPOSITS (GREENFIELDS) AS PERCENTAGE OF TOTAL QUEENSLAND MINERALS EXPLORATION EXPENDITURE - 2011-12 AND 2018-19



Source: ABS 8412.0

Queensland's greenfield exploration share has typically remained stable over the life of the Scorecard. Overall mineral exploration activity did improve in 2018-19 and the percentage of exploration that is greenfields did improve slightly. Unfortunately both measures remain well below recent highs for Queensland.

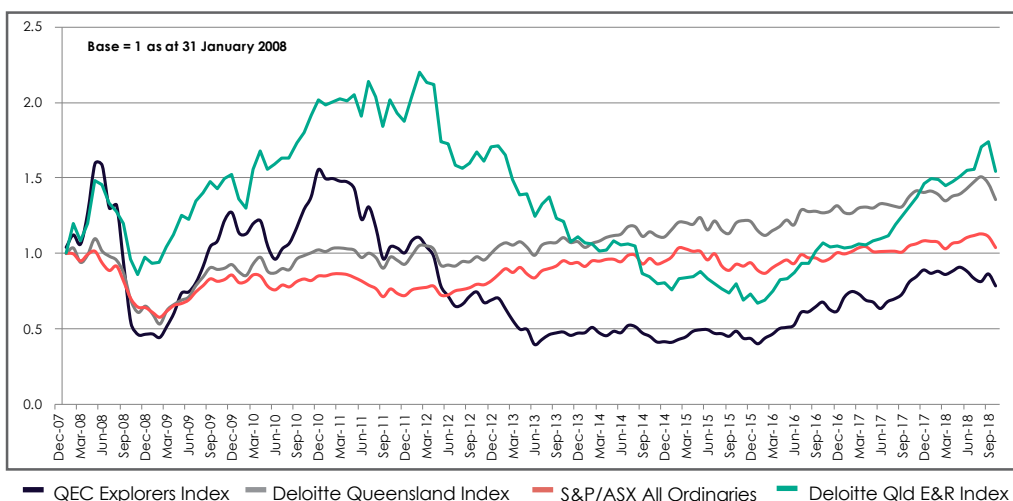
Queensland's junior explorers continue to show improvement throughout 2018-19. According to AUSTEX, junior companies' Queensland exploration expenditure increased by 5% over the year to \$87.7 million in 2018-19 (Chart 6.2 below). Coal and oil and gas feature heavily in the list, yet junior explorers are targeting a broad range of Queensland's resources, from base and precious metals to specialty or strategic metals such as cobalt, vanadium, lithium and tungsten.



Source: AUSTEX

7.0 MARKET CAPITALISATION MOVEMENTS

CHART 7.1: QEC EXPLORERS INDEX VERSUS OTHER INDICES



Source: Capital IQ and Deloitte

General economic conditions were supportive in 2018-19 with the S&P/ASX All Ordinaries achieving 7% while the Deloitte Queensland Index decreased by 1%. Unfortunately, the Scorecard's resource-focused market capitalisation indices did not fare as well. The QEC Explorers Index decreased by 12% and the Deloitte Queensland Exploration and Resources Index decreased by 10% across the year. This result is a concern for industry, but particularly for junior explorers, which rely heavily on listed equities to fund their exploration programs.

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