



Partnering for prosperity

Our focus for the next 30 years

Regional Workshop Report - Emerald

In some cases the material may incorporate or summarise views, guidelines or recommendations of third parties. Such material is assembled in good faith, but does not necessarily reflect the considered views of the State Government, or indicate a commitment to a particular course of action.

ResourcesQ: Regional Workshop - Emerald

In preparing the ResourcesQ 30-year plan the Queensland Government is undertaking the government's largest resources engagement initiative. As part of this, a workshop was held with stakeholders of Queensland's resources industry in Emerald. This workshop was the fifth in a sequence of regional workshops being held by the government as part of their consultation with key stakeholders within the sector. Previous workshops were held among the sector's Industry Leaders and Supply Chain representatives.

The intended purpose of the Emerald workshop was to inform a 30-year strategic plan for the resources sector by seeking the qualified opinion of regional representatives on the state of Queensland's local market, and the actions government and industry need to take to strengthen the resources sector and maintain its economic importance for future generations. The workshop was designed to build on the perspectives gained through previous workshops in forging a vision for the sector and understanding the challenges and opportunities that lie ahead.

The Minister for Natural Resources and Mines, Honourable Andrew Cripps MP, hosted the think-tank on behalf of The Premier of Queensland, Honourable Campbell Newman MP. Adam Hinds, Senior Researcher for Colman Brunton, facilitated the event in partnership with Phillips Group.

Structure of the workshop

The workshop was held on the 11th June 2014 at the Mayfair Fairfield Tavern, Emerald.

In defining the preferred future for the Queensland resources industry, the workshop discussions were structured around five global megatrends determined by the CSIRO and University of Queensland in the ResourcesQ Foresights Study:

1. The innovation imperative
2. New money, new markets
3. A knowledge economy
4. Tell me more (diffusive governance)
5. A shifting energy landscape

Key Take Outs

Central Queensland's Bowen Basin was recognised as Queensland's largest coal producing region and a significant contributor to the resources sector.

Key challenges identified by the region related to:

- limited funding and support for innovation, particularly for smaller companies
- the impact of social license and the importance of proactively and transparently consulting with and listening to community stakeholders
- the need for regulatory reforms that better facilitate innovation, approval processes and foreign investment
- the need for improvements in education standards, alignment to industry, career pathways and workforce readiness, particularly for local workers
- the challenges in attracting (and retaining) local skilled and unskilled workers
- limited infrastructure and infrastructure monopolisation

labour (productivity) costs and the impact of this on international competitiveness

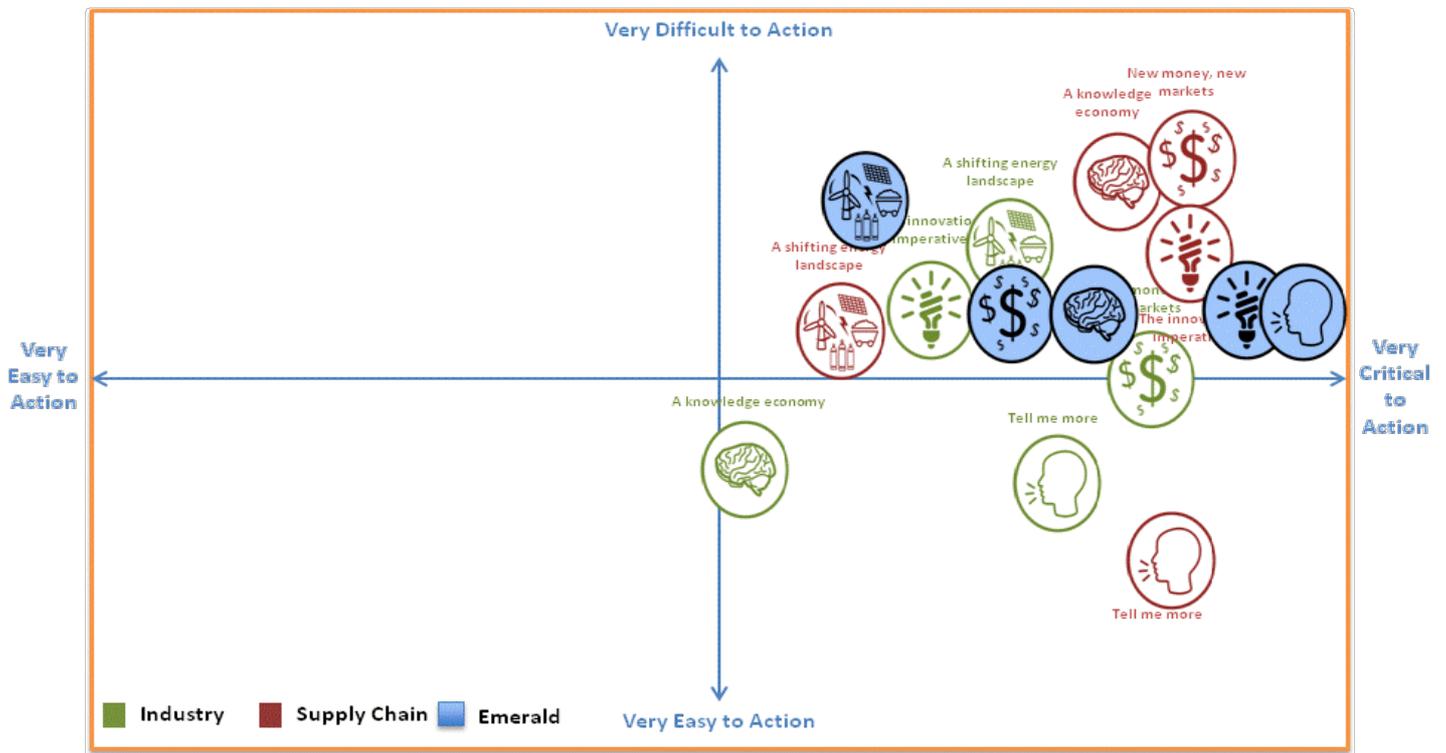
Figure 1 provides a comparative map of how the Bowen Basin representatives viewed the Foresight Study five mega trends in comparison to the industry leaders and supply chain providers.

Overall, Emerald delegates were of a more similar mind to supply chain leaders than the industry leaders, particularly in relation to the importance placed on responding to trends such as the 'shifting energy landscape', 'knowledge economy' and 'innovation imperative'.

Unlike both supply chain leaders and industry leaders, Emerald delegates considered all five trends reasonably difficult to respond to. The 'shifting energy landscape' was considered the most difficult of the trends.

Emerald delegates also placed greater importance than leaders on the trend 'tell me more'. For them, this and the 'innovation imperative' were both perceived to be the highest of importance (scoring 5 out of 5 on this scale).

Figure 1: Relative importance and difficulty of responding to trends, comparing Industry Leaders, Supply Chain and Emerald Region Representatives



Vision for the sector's future

Of the seven previously identified themes relating to an ideal vision for the sector, the three themes most commonly preferred by Emerald representatives included the following:

1. A source of prosperity for all Queenslanders
2. Innovative, safe, sustainable, efficient and responsible practices and infrastructure
3. Social acceptance, pride and ownership – celebrated as a permanent pillar and driver of Queensland's economy

This report

This report details the feedback provided by representatives from the Bowen Basin, research and government representatives attending the event.

Next steps

In June, there will be an online consultation opportunity for the broader community to provide input and help shape the sector's vision.

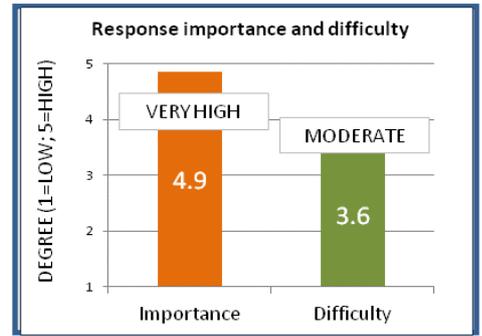
Following these engagement activities, a 30-year vision and action plan for the sector will be developed and presented to stakeholders at a forum in September 2014.

This report was written in June 2014 by the Phillips Group Pty Ltd, on behalf of the Department of Natural Resources and Mines, Queensland Government.



The innovation imperative

Challenges in accessing Queensland's resources and the role of innovation in achieving this



Opportunities and Threats

Delegates identified the extent to which they agreed with the opportunities and threats previously raised by Industry Leaders. Their agreement with these items and details of any additional items are highlighted below.

Table 1: The innovation imperative: Potential opportunities

Overall agreement:	Mostly agree
Previously identified opportunities:	
Share learnings, technology and strategic investments across industries and sectors (e.g. Research and Development (R&D), education)	
Greater focus on diversification of resources and investing in the mines and resources of tomorrow	
Establish an environment that supports early and rapid adoption of innovation, including streamlining regulation*	
Increase commercialisation to attract international investors	
Reduce costs to allow global competitiveness	
Capitalise on the state's resources hub for training and development	
Additional opportunities identified locally:	
Use innovation to develop alternative sustainable technologies (e.g. environmental and community outcomes) that support the growth and liveability of regional resource centres	
Strengthen education pathways into the sector, including working with the Department of Education, Training and Employment to ensure the education system promotes entrepreneurialism, technical, thinking and business skills	
Establish international business alliances and a global 'think-tank' connection to increase Queensland's international presence and knowledge sources	
Build on existing models that work well and reproduce these elsewhere (e.g. silicon valley concepts)	
Greater focus on fostering collaboration across the supply chain, particularly in relation to productivity	
Funding opportunities, incentives and infrastructure that support local innovation and smaller companies/sole traders to explore market opportunities	
Establish better management practices and more flexible regulation of associated by-products (e.g. water/waste) for beneficial use	

Table 2: The innovation imperative: Potential obstacles and threats

Overall agreement:		Mostly agree	
Previously identified obstacles and threats:			
Inability to raise capital due to market volatility and high cost structures*			
Global competition – other countries ‘hungrier’			
Skills shortage, particularly for complex jobs			
Social resistance to automation – could lead to job losses			
Additional obstacles and threats identified locally:			
Area of threat	Description	Significance	Likelihood
Social license	Increased resistance to innovation within the resource sector from local community and the broader society	Major	Likely
Approval delays	Government/regulatory restrictions in developing and approving technologies causes delays in ability to innovate	Major - moderate	Likely
Local workforce	Failure to build capacity within existing local workforce, including employment pathways for unemployed and low skilled workers	Major	Likely
R&D	A lack of investment in R&D causes the industry to lag behind competitors in adopting innovation	Moderate	Likely
Safety regulations	Onerous safety regulation requirements prevent innovation	Moderate	Likely

Key strategic actions

Delegates ranked their top three key strategic actions from the eight identified by Industry Leaders and the Supply Chain as being necessary in responding to the innovation imperative. Key local stakeholders who were considered necessary to be involved in each of these actions were also identified.

Table 3: The innovation imperative: Strategic actions

Ranking	Strategic Actions	Key Stakeholders
1	<p>Initiate government reform to achieve:</p> <ul style="list-style-type: none"> outcomes-based regulation that lowers costs and enables innovation removal of barriers to grassroots exploration faster approvals and better oversight 	<p>All levels of government – local, state and federal Australian Petroleum Production and Exploration Association Australian Prudential Regulation Authority Australian Taxation Office Central Highlands Development Corporation Community interest groups Companies The Commonwealth Scientific and Industrial Research Organisation (CSIRO) Department of Natural Resources and Mines Education sector Industry Local Aboriginal groups Mentors Peak bodies Queensland Resources Council R&D companies (e.g. CRC Mining) Regional Area Planning and Development Association Regional Organisation of Councils Targeted Think Tanks The business that has the idea</p>
2	<p>Foster collaboration across industry with institutes and innovators to encourage R&D, share technology and infrastructure</p>	<p>Agricultural sector All levels of government – local, state and federal Australian Agricultural College Corporation Australian Coal Industry's Research Program Australian Petroleum Production and Exploration Association Australian Taxation Office Central Highlands Development Corporation Department of Transport and Main Roads Education institutions (e.g. TAFE, universities) - local and state Industry Infrastructure Australia Investors IP Australia Landowners Mackay Industry Network (MAIN) METS - local and state based NBN Co Peak bodies Queensland Resources Council R&D companies Regional Area Planning and Development Association Regional Organisation of Councils Regulators Research institutions Standards Australia The business that has the idea The Commonwealth Scientific and Industrial Research Organisation (CSIRO)</p>
3	<p>Offer increased funding and incentives to encourage innovation, exploration, collaboration and acreage initiatives</p>	<p>All levels of government – local, state and federal Australian Petroleum Production and Exploration Association Central Highlands Development Corporation Finance sector Industry Peak bodies Queensland Resources Council Regional Area Planning and Development Association Regional Organisation of Councils</p>

		Research institutions Supply chain players The business that has the idea
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In addition to the previously identified actions, Emerald delegates identified the actions overleaf.

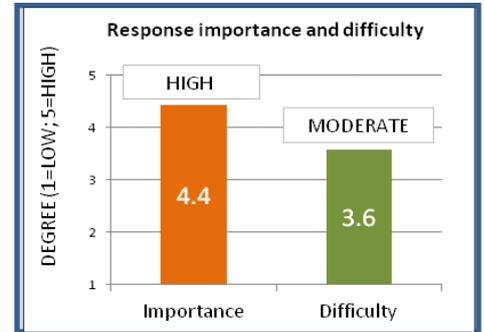
Table 4: The innovation imperative: Additional actions

Additional strategic actions
Promote Queensland's skills and knowledge in innovation by ensuring our innovation leaders are made accessible in foreign markets
Government to incentivise the labour market options or approval processes with regard to the introduction of new innovation
Incentivise smaller players to address key issues within the industry (eg. addressing problems associated with declining ore grades)
Establish processes for sharing the knowledge gained from trade missions to maximise the advantage out of learnings gained, using existing networks to distribute information
Develop regional innovation groups of key stakeholders that will drive local innovation actions and ensure greater support is given to regionally developed ideas
Implement favourable taxation and superannuation laws that facilitate R&D investment
Establish a 'one-stop shop' for improved regulatory efficiency
Develop 'fit for purpose' policies that are commercially viable and support industry innovation



New money, new markets

Changing global supply, demand and investment impact on Queensland



Opportunities and Threats

Delegates identified the extent to which they agreed with the opportunities and threats previously raised by Industry Leaders. Their agreement with these items and details of any additional items are highlighted below.

Table 5: New money, new markets: Potential opportunities

Overall agreement:	Unanimously agree
Previously identified opportunities:	
Diversification by investing in new commodities (LNG, Shale oil, Uranium, Nuclear)	
Investor base – better promotion of quality and diversity of Queensland’s resources	
Regulatory reform to be more nimble and competitive	
Additional opportunities identified locally:	
Partnering coal with coal seam gas to maximise the opportunities to drain coal seams prior to mining	
Greater focus on exploration to identify and inform on the opportunities available	
Investment by Queensland-based companies in overseas countries that lack knowledge and experience	
As part of diversification - include investigation of geothermal, thorium and renewable energy options, as well as exploring new uses for old commodities such as coal (e.g. water / slurry fuel / gravel)	
Leverage learnings from the sector's boom/bust period to develop resilience planning	
Leverage product development off existing proven manufacturers and supply chains	

Table 6: New money, new markets: Potential obstacles and threats

Overall agreement:	Unanimously agree
Previously identified obstacles and threats:	
Appeal of new competitors in developing countries	
Regulatory uncertainty (short election cycles, changing statutory plans, land access and foreign ownership policies, IR reforms)	
Activist pressure impacting social license to operate	
Narrow, short-term vision – limited plans for when the current boom ends	

Additional obstacles and threats identified locally:			
Area of threat	Description	Significance	Likelihood
Foreign ownership	Fear of foreign ownership in Australia limits the growth of Australian resource projects	Major	Very likely
Cost competitiveness	The increasing cost of doing business in Queensland, particularly increasing labour costs, negatively impacts on Queensland's global competitiveness	Major	Very likely – likely
Timeframes	Long timeframes between a project's financial close and the commencement of production leaves businesses financially vulnerable for this extended period	Major	Likely
Reputation	Australia's emerging reputation as being difficult to do business with limits foreign investment	Major	Likely
Social license	Lack of knowledge and understanding among the general public limits community 'buy-in' and social license to operate	Major	Likely
Infrastructure	Infrastructure constraints and monopolies on key infrastructure (e.g. rail and ports) allows unreasonable price increases and/or limits operations	Major - moderate	Likely
Coal	Myopic views and reliance on coal inhibits the region's ability to diversify and respond to evolving market demands	Moderate	Very likely
Activist pressure	Activist pressures on large capital investors impacts the ability to finance projects (e.g. Deutsch Bank)	Moderate	Likely
Water security	Limited water supplies negatively impact operations	Moderate	Likely

Key strategic actions

Delegates ranked their top three key strategic actions from the seven identified by Industry Leaders and the Supply Chain as being necessary in responding to new money, new markets. Two actions tied for second place. Key local stakeholders who were considered necessary to be involved in each of these actions were also identified.

Table 7: New money, new markets: Strategic actions

Ranking	Strategic Actions	Key Stakeholders
1	Implement government reform to improve investment potential, streamline approval permits and timelines, review land release policies and regulate monopoly infrastructure providers	All levels of government – local, state and federal Australian Petroleum Production and Exploration Association Department of Natural Resources and Mines Department of State Development, Infrastructure and Planning Industry Local large employers (companies and suppliers) Peak bodies Queensland Resources Council Union leaders

Ranking	Strategic Actions	Key Stakeholders
2	Government to champion and promote the strengths and competitiveness of Queensland, both nationally and internationally	All levels of government – local, state and federal Austrade Industry Landowners Local communities National and international market players Trade and Investment Queensland
	Collaboration and alignment between government and industry, including coordinated approach to risks caused by anti-resources activism	Activist groups All levels of government – local, state and federal Central Highlands Development Corporation Communities Industry Landholders Media groups Peak bodies Regional Area Planning and Development Association Regional Council Regional Organisation of Councils Research institutes The business that has the idea Unions
3	Initiate reform of royalties and corporate tax regime and wider public sector reforms to improve commercial capability	Australian Petroleum Production and Exploration Association Central Highlands Development Corporation Environmental activists Industry Landholders Local and state government Queensland Resources Council Regional Area Planning and Development Association Regional Organisation of Councils The business that has the idea The investment community Unions

In addition to the previously identified actions, Emerald delegates identified the following actions.

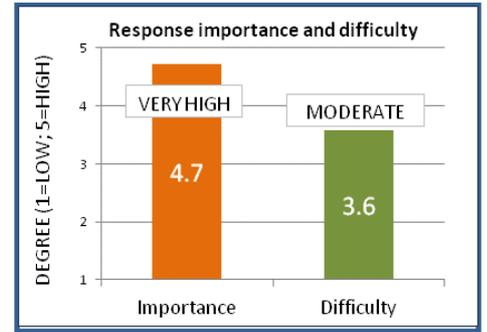
Table 8: New money, new markets: Additional actions

Additional strategic actions
Reduce sovereign risk to provide greater certainty for potential investors
Identify where the new markets exist and develop strategies that exploit and incentivise exploration and development in these areas
Develop strategies to identify and quantify Queensland's resources and use this to attract investment
Improve the provision of geological data to the market
Direct royalties and taxes back into infrastructure to support the growth of the sector, including refinements to the Royalties for Regions program to prioritise regions active in the resources sector
Establish collaborative investment partnerships in greenfields exploration



A knowledge economy

Queensland's ability to operate in an increasingly globalised market for selling know-how and services



Opportunities and Threats

Delegates identified the extent to which they agreed with the opportunities and threats previously raised by Industry Leaders. Their agreement with these items and details of any additional items are highlighted below.

Table 9: A knowledge economy: Potential opportunities

Overall agreement:	Unanimously agree
Previously identified opportunities:	
Align education standards with market needs	
Better analysis and data sharing to improve exploration and productivity	
Develop a national approach to R&D	
Leverage METS to establish world class training centres	
Develop global partnerships to import/export expertise	
Secondments between industry and government to meet changing demands in commodities	
Promote the appeal of the sector to school students	
Additional opportunities identified locally:	
Align standards across industries (e.g. coal mining and oil/gas electrical compliance standards) to support workforce transferability	
Greater investment in education that is strategically targeted to support the projected needs of the sector (e.g. bilingual education within schools to capitalise on the emerging markets, more placements in relevant university and trade training courses)	
Educating the educators about the industry and career paths to better enable streaming of students into appropriate areas of study	
Greater capturing and sharing of knowledge across industries	
As part of promoting the sector to school students - tap into career expos at schools and universities	

Table 10: A knowledge economy: Potential obstacles and threats

Overall agreement:		Unanimously agree	
Previously identified obstacles and threats:			
Faster global competitors			
Data protectionism – limited sharing and trust across sector			
Cost competitiveness – Queensland’s high cost drives investment offshore			
Insufficient funding for education to drive knowledge growth			
Brain drain – specialist workers go to offshore competitors			
Low uptake of new workers – deterred by negative stories			
Additional obstacles and threats identified locally:			
Area of threat	Description	Significance	Likelihood
Regional appeal	Regional communities are unable to offer suitable lifestyle benefits to attract workers	Major	Likely
Industry apathy	An underlining sense of "she'll be right" apathy within the sector causes Queensland to lose its competitive edge	Major	Likely
Short-term focus	Government and industry thinking is limited by election cycles and share price and fails to effectively address long-term workforce planning	Major	Very likely
Competitiveness	Inter-state competitors will move faster and successfully secure the national lead on knowledge and skills	Major	Likely
Work readiness	Training programs do not include core skill training that ensures graduates are work-ready	Moderate	Very likely
Activism	Activist activities negatively influence social perceptions of the sector, limiting the number of new workforce entrants	Moderate	Likely
Language	Australia's monolingual nature weakens international opportunities	Moderate	Likely
Diffused innovation	Innovations are kept in-house rather than being shared within the sector, stifling opportunities for their growth and greater take-up in the wider market	Moderate	Likely
Competitiveness	Failure to invest in R&D and education comparative with major competitors limits Queensland's competitiveness in the future	Moderate	Neutral

Key strategic actions

Delegates ranked their top three key strategic actions from the seven identified by Industry Leaders and the Supply Chain as being necessary in responding to the knowledge economy. Two actions tied for third place. Key local stakeholders who were considered necessary to be involved in each of these actions were also identified.

Table 11: A knowledge economy: Strategic actions

Ranking	Strategic Actions	Key Stakeholders
1	Align education curriculums with industry needs and undertake a national training program with recognition standards	Australian Petroleum Production and Exploration Association Council of Australian Governments Department of Education, Training and Employment Education institutions Industry Queensland Minerals and Energy Academy Queensland Resources Council R&D providers State and federal government TAFE Queensland Universities
2	Provide incentives for R&D and operating centres to be based in Queensland, including regional areas	All levels of government – local, state and federal Central Highlands Development Corporation Communities Industry Innovation companies and venture capitalists Peak bodies R&D providers Regional Area Planning and Development Association Regional Organisation of Councils Regional Universities Research and Development Corporations (RDCs) The Business that has the idea Training providers
3	Improve linkages between R&D providers and the METS to improve commercialisation of technology locally	Central Highlands Development Corporation Commercialisation groups Educators Gladstone Engineering Alliance (for Gladstone) Industry Capability Network Industry Mackay Industry Network (MAIN) QMI Regional Area Planning and Development Association Regional Council Regional Organisation of Councils Regional universities State Government The Business that has the idea Venture capitalists
	Improve communication capabilities to regional areas to assist knowledge sharing and technological advancements in operating centres	Central Highlands Development Corporation Hon. Malcolm Turnbull, Minister for Communication Industry Local and state government Local business National Broadband Network (NBN Co) Regional Area Planning and Development Association Regional Organisation of Councils The business that has the idea Tier 1 and 2 contractors

		Training providers
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In addition to the previously identified actions, Emerald delegates identified the following actions.

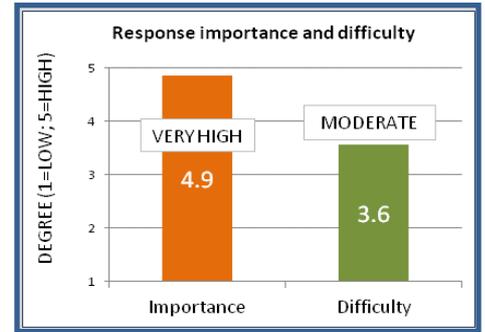
Table 12: A knowledge economy: Additional actions

Additional strategic actions
Implement a process for monitoring and evaluating the outcomes of R&D funding
Increase remuneration packages for key educators to ensure quality staff are acquired and/or retained
Establish a 'Resources Innovation Trust' to fund R&D with redirected royalties
Establish links between education institutions and industry to facilitate greater exposure of the sector to high school and tertiary students
Identify and assign areas of specialty for each resource region e.g. Mackay as the industrial hub for METs, Emerald as the trade and technical specialists
Extend the Australian Coal Industry's Research Program (ACARP) model to other resource industries
Improved infrastructure in regional areas (e.g. NBN) to overcome labour mobility and acquisition challenges



Tell me more (diffusive governance)

Increased scrutiny and accountability in the face of changing social networks, shifting trust dynamics and expectations of procedural fairness



Opportunities and Threats

Delegates identified the extent to which they agreed with the opportunities and threats previously raised by Industry Leaders. Their agreement with these and details of any additional items are highlighted below.

Table 13: Tell me more (diffusive governance): Potential opportunities

Overall agreement:	Unanimously agree
Previously identified opportunities:	
Proactive campaigning – communicating good news	
Transparency – build credibility through a balanced message	
Engage third parties to advocate for the sector – build trust	
Improved targeting of communication messages to get wider cut through (including greater use of social media)	
Leverage employees and suppliers as existing advocates	
Start young – collaborate with educators to improve messages about the sector in schools	
Additional opportunities identified locally:	
More consistency across the industry in the understanding of and response to community sentiment	
Proactive engagement with community to assist in early identification of and collaborative problem solving around potential issues	
Build trust with community through proactive, transparent communication, particularly on difficult issues	
Increased display of genuine willingness to listen to community	
Greater leadership in providing credible data - credible data builds trust	

Table 14: Tell me more (diffusive governance): Potential obstacles and threats

Overall agreement:	Unanimously agree
Previously identified obstacles and threats:	
Investors deterred due to activism agendas	
Increased public mistrust and misinformation due to activists who are not held accountable for mistruths	
Tarnished sector repute – an organisation’s failure to deliver on commitments can taint perceptions of the whole sector	

Additional obstacles and threats identified locally:			
Area of threat	Description	Significance	Likelihood
Project delays	Project approvals are delayed due to legal challenges from activists	Major	Very likely
Complacency	Lack of response to increasing public mistrust and activist messages inhibits the ability to gain community buy-in on the planned resource journey	Major - moderate	Very likely - likely
Misinformation	Lack of firsthand knowledge of the sector among the media and key opinion leaders leaves communities uninformed	Major	Very likely
Expert opinion	Conflicting opinions from expert scientists leave people confused about who to believe	Major	Likely
Regulations	Increasing public scrutiny causes government to impose regulatory changes that add further burdens on industry	Major	Likely
Social license	Money is simply 'thrown' at communities in an effort to gain social license	Moderate	Likely

Key strategic actions

Delegates ranked their top three key strategic actions from the five identified by Industry Leaders and the Supply Chain as being necessary in responding to the trend 'Tell me More'. Key local stakeholders who were considered necessary to be involved in each of these actions were also identified.

Table 15: Tell me more (diffusive governance): Strategic actions

Ranking	Strategic Actions	Key Stakeholders
1	Initiate more open communication through forums (industry/government/local leaders) to share concerns and listen to local communities	All levels of government – local, state and federal Australian Petroleum Production and Exploration Association Community engagement professionals Industry Marketing professionals Media Peak bodies - majors and juniors Queensland Resources Council Silent beneficiaries (to espouse the benefits of resources sector)
2	Invest in a sector-wide proactive education / marketing communication initiative to promote benefits of the resource industry to Queensland	All levels of government – local, state and federal Association of Mining and Exploration Companies Australian Petroleum Production and Exploration Association Central Highlands Development Corporation Community Stakeholder groups (e.g. AgForce) Community engagement professionals Education institutions Industry Industry led programs Marketing professionals Media Peak bodies Queensland Resources Council

		Regional Area Planning and Development Association Regional Council Regional Organisation of Councils Resource community members in non-resource jobs The business that has the idea
3	Increase transparency and accountability of resource sector and activist organisations	Activist groups Central Highlands Development Corporation Community Industry Local and state government Media Peak bodies Regional Area Planning and Development Association Regional Organisation of Councils Research Think Tanks and social research groups not aligned to the sector The Business that has the idea

In addition to the previously identified actions, Emerald delegates identified the following actions.

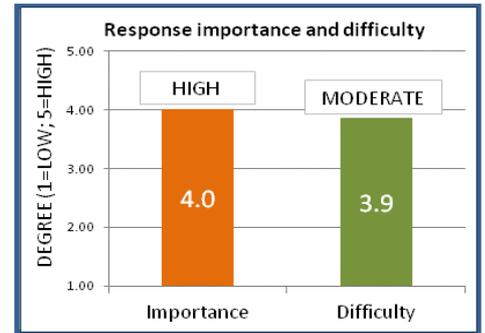
Table 16: Tell me more (diffusive governance): Additional actions

Additional strategic actions
Extend the concept of a Gasfields Commission into the coal and minerals sector
Ensure credible data from industry and government is provided to community
Develop strategies to implement a culture of continuous improvement across the sector
Establish guidelines on the minimum standards required for stakeholder engagement activities relating to resource projects and use these during government assessment stages to ensure effective and consistent levels of engagement are achieved
Review legislation and/or project assessment processes to reduce the opportunity for non-genuine court actions designed to obstruct projects
As part of the strategy to increase social media - develop a social media framework for government to respond to the activist agenda
Improve processes for sector monitoring by independent entities



A shifting energy landscape

The potential impact on Queensland of new energy sources, changing geopolitics and the economics of resource extraction



Opportunities and Threats

Delegates identified the extent to which they agreed with the opportunities and threats previously raised by Industry Leaders. Their agreement with these items and details of any additional items are highlighted below.

Table 17: A shifting energy landscape: Potential opportunities

Overall agreement:	Unanimously agree
Previously identified opportunities:	
Diversify commercialisation of resources (geothermal, uranium, shale gas, liquid fuel, nuclear)*	
Proactive planning – provide direction, certainty and ‘early mover’ support to industry	
Establish strategic technical alliances and develop common infrastructure corridors across organisations	
Positioning – develop new industries, find a niche, get in early and compete well	
Additional opportunities identified locally:	
Leverage innovation to adapt to the shifting landscape through the development of new technologies	
Learn from past lessons to avoid falling into the same traps	
Support the growth of renewable energy sources to exist alongside existing industry	
Proactively educate the public on the pros and cons of potential resources (e.g. uranium)	
As part of proactive planning - provide 'early mover' benefits to communities who elect to have resource development in their 'backyard'	

Table 18: A shifting energy landscape: Potential obstacles and threats

Overall agreement:	Unanimously agree
Previously identified obstacles and threats:	
Faster, more advanced competitors (e.g. USA) set up supply first	
Social resistance to fossil fuels and new energy development influences policy uncertainty (land access, emissions etc.)	
Long term cost competitiveness – high cost inhibits QLD offering a competitive product	
Market volatility (pricing and China’s growth) impacts demand	
Market demand – limited overseas demand for rare earth energy	

Additional obstacles and threats identified locally:			
Area of threat	Description	Significance	Likelihood
Local politics	Lack of bipartisan support for alternative energy sources and/or the impact of the political cycle inhibits progress	Major	Very likely
Life cycle	Mines in the Bowen Basin come to the end of their life cycle impacting on the community and supply chain	Major	Very likely
R&D	Lack of R&D investment in renewable energy sources	Major - moderate	Likely
Inaccurate scope	Commercial evaluations of new and existing energy resources are inappropriate	Moderate	Likely
Delays	Delays in approving new resource zones will impede Queensland's competitiveness	Moderate	Likely
International policy	Global markets will establish policies seeking renewable supplies impacting the non-renewable market	Moderate	Neutral

Key strategic actions

Delegates ranked the relative importance of the seven key strategic actions identified by Industry Leaders and the Supply Chain as being necessary in responding to the shifting energy landscape. Two actions tied for second place. Key local stakeholders who were considered necessary to be involved in each of the top three actions were also identified.

Table 19: A shifting energy landscape: Strategic actions

Ranking	Strategic Actions	Key Stakeholders
1	Industry and government collaboration on developing a strategic resources plan for the state to exploit diverse energy sources	Australian Petroleum Production and Exploration Association Central Highlands Development Corporation Companies suppliers Economic development organisations Government owned corporations Local and state government Industry Peak bodies Queensland Resources Council Regional Area Planning and Development Association Regional Council Regional Organisation of Councils The business that has the idea
2	Review infrastructure needs and develop strategies for cost effective access to infrastructure	Australian Petroleum Production and Exploration Association Central Highlands Development Corporation Community Industry Infrastructure Australia Infrastructure end users Local and state government Local business Peak bodies Private infrastructure providers Queensland Resources Council R&D companies Regional Area Planning and Development Association

		Regional Organisation of Councils Superannuation providers Suppliers The business that has the idea Universities
	Establish clear policies and regulatory frameworks for new energy options, set domestic supply targets and remove existing policy impediments to exploration and supply	All levels of government – local, state and federal Central Highlands Development Corporation Community Community groups Government Industry Local businesses R&D Companies Regional Area Planning and Development Association Regional Organisation of Councils Suppliers The business that has the idea Universities
3	Provide incentives for R&D and exploration of alternative energy sources	All levels of government – local, state and federal Alternate energy sector Businesses Central Highlands Development Corporation Community Explorers and R&D providers (e.g. universities and junior explorers) Industry R&D Companies Regional Area Planning and Development Association Regional Organisation of Councils Social network providers (crowd sourcing) Suppliers The business that has the idea Universities Venture capitalists

In addition to the previously identified actions, Emerald delegates identified the following actions.

Table 20: A shifting energy landscape: Additional actions

Additional strategic actions
Look for greater opportunity to exploit resources domestically (e.g. LNG, oil shale, uranium)
Develop strategies to invest in overseas markets through the development of offshore energy generators and supplying coal/LNG at the same time
Establish a process of continual monitoring for new technologies and processes
Provide incentives for exploration into new basins
Government to drive the requirement for common infrastructure corridors through the project approval process to ensure no approvals are granted for multiple competing corridors that impact stakeholders