MINERAL RESOURCES
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Australian attitudes toward mining

Citizen Survey – 2017 Results

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CSIRO Mineral Resources

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Mining in Australia

Mining in Australia has long been, and continues to be, a significant contributor to the Australian economy[1]. Yet mining must also demonstrate that it has a 'social licence to operate' among those communities it operates alongside and with society more broadly.

Three years ago, CSIRO conducted the first national survey of Australian attitudes toward mining[2]. That original research brought the voice of Australian citizens, on whose behalf the nation's mineral and energy resources are managed, into the centre of the national conversation about the role of the mining industry in our society. Three years on, this report summarises the results of the second national survey of Australian attitudes toward mining. This report highlights current Australian attitudes toward the industry and what, if anything, has changed in the way Australians think about mining.

Mining is big business, but not without its problems

The development of mineral and energy resources in Australia contributes significantly to the national economy and the standard of living of Australians. Australia has continued to rank among the top five exporters in the world for alumina, bauxite, iron ore, zinc, coal and liquefied natural gas (LNG). In 2015–16, our mining and energy exports accounted for 51% of Australia's goods and services exports with a total value of AUD$157 billion[3]. In this period, the industry employed approximately 230,000 people, which is more than double the direct employment levels from the early 2000s[4].

In 2014–15 the mining industry contracted across most of the key financial indicators for the sector. The largest decrease was observed in relation to metal ore mining, which was driven by falling global commodity prices for iron ore in particular[5]. Despite this downturn, mining continued to be a major industry in many of our regions.

Royalty payments generated by the Australian mining industry were estimated to have totalled AUD$8 billion in 2015–16, increasing threefold over the last decade[6]. In regional Australia, resource development continues to play a critical role in the development of new towns, community facilities, and transport and communications infrastructure.

The environmental impacts of mining remain a matter of public concern as awareness of the impacts of industrial activities on the landscape has increased. While comprehensive environmental regulations at both state and federal levels are designed to actively mitigate and manage the environmental cost of mining activities, these impacts remain a significant concern for environmental and community groups. In recent years, grassroots campaigns around resource development have formed around issues such as contamination or depletion of water supplies, land use competition between industries, and general concerns about the impact of resource development on local communities.

Mining has had a complicated relationship with Australia's Indigenous people. A number of conflicts and tensions have been related to the distribution of benefits, land use access, native title agreements, and the environmental and cultural impacts of operations. Mining agreements in Australia are required to provide education, training and employment opportunities for affected Indigenous people, to protect sites of cultural and/or spiritual importance, and to ensure respect for Aboriginal cultural values. The establishment of Indigenous Land Use Agreements (ILUAs) over the last two decades between Indigenous people and the minerals industry have also provided economic opportunities for Indigenous communities[7], and the mining industry is now the largest customer of Indigenous-owned businesses and a significant investor in Indigenous economic development and partnerships[8].

The missing voice in mining

Mining occupies an important role in Australia but the relationship between mining and society has not always been easy. As Australia's national science agency, CSIRO is keen to again shed light on what Australians think about mining.

By examining what citizens think about the impacts and benefits of mining, and the relationships that exist between the mining industry, governments and society, we add a new perspective to conversations about how mining takes place in Australia. By asking what Australians think about mining, we can better understand broader societal expectations of the industry, what influences citizen views of this industry's performance, and what underpins acceptance of the industry – in effect, to identify what constitutes a social licence to operate for mining in Australia, and what, if anything, has changed since we first conducted this survey three years ago.

1 In this research, mining and the mining industry includes: coal mining, oil and gas extraction, metal ore mining, non-metallic mining and quarrying, exploration and other mining support services.

2 Moffat, K., Zhang, A., Boughen, N., 2014. Australian attitudes toward mining: Citizen survey – 2014 results. CSIRO, Australia.

3 Australian Government, 2017. Australian Mineral Commodities. URL: https://industry.gov.au/resource/Mining/AustralianMineralCommodities/Pages/default.aspx

4 Ibid.

5 Australian Bureau of Statistics (ABS), 2016. Mining Operations, Australia (cat. No. 8415.0) ABS, Canberra. URL: http://www.abs.gov.au/ausstats/abs@.nsf/0/D96FCC4AEEA50923CA2568A90013940B?Opendocument

6 Minerals Council of Australia (MCA), 2017. Pre-budget submission 2017–18. URL: http://www.minerals.org.au/file_upload/files/submissions/MCA_Pre-Budget_Submission_2017-18_Final_27_January_2017.PDF

7 Crooke, P., Harvey, B. Langton, M. 2006. Implementing and monitoring Indigenous Land Use Agreements in the minerals industry: The Western Cape Communities Co-existence Agreement. In M. Langton, O. Mazel, L. Palmer, K. Shain & M. Tehan (Eds.), Settling with Indigenous People: Modern treaty and agreement making. Annandale, The Federation Press.

8 MCA, 2017. Op Cit.

About the survey

This report summarises the key findings from a survey of 8,020 Australians about their attitudes toward the mining industry. The data was collected over two time periods, during the last quarter of 2016 and the second quarter of 2017. The data was collected using an online survey based on questions asked in the first Australian survey conducted by CSIRO in 2014[9].

In order to ensure the views of Australians who live within and near mining regions are represented in these results, survey participants were sourced from the same 11 regions sampled in 2014 (i.e. mining regions that have a strong association with the extractive industries) and these regions were matched with regional areas in Australia without an extractive industry presence (i.e. non-mining regions). For comparison purposes, data was also collected from Australians in metropolitan areas. Figure 1 shows the distribution of survey participants in 2017 across regions and states in Australia.

In 2017, a larger number of survey participants was sampled. The states and territories where we increased our sampling included: the Northern Territory, Western Australia, and South Australia. Figure 1 shows the distribution of survey participants by postcode in 2014 and 2017.

We used a broad definition of mining in this research, based on the Australian Bureau of Statistics and Australian New Zealand Standard Industrial Classification (ANZSIC)[10]. This definition of mining includes: coal mining, oil and gas extraction (i.e. crude oil and coal seam gas), metal ore mining (i.e. iron ore), non-metallic mining and quarrying (i.e. limestone, silica and clays), exploration and other mining support services (i.e. mineral exploration and mining contractors).

9 This forms part of a larger CSIRO program of research examining the relationship between mining and society. CSIRO conducts similar national surveys in resource-rich counties around the world.

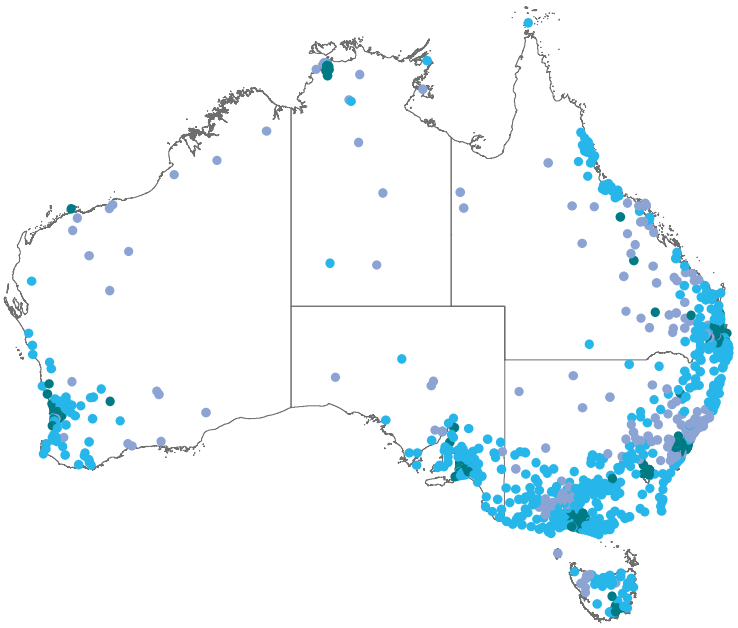
10 Australian Bureau of Statistics (ABS), 2013. 1292.0 Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 2.0). URL: http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1292.02006%20(Revision%202.0)?OpenDocument

SURVEY PARTICIPANTS

MINING REGION
FREQ. 1,780 (22.9%)

NON-MINING REGION
FREQ. 2,384 (29.7%)

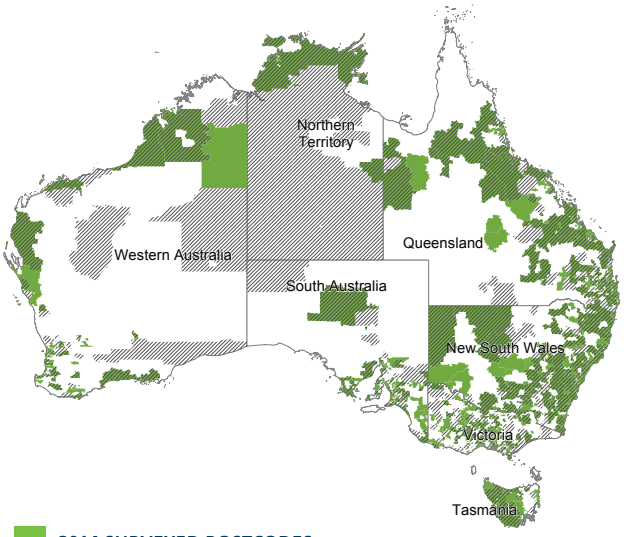
METRO REGION
FREQ. 3,856 (48.1%)



Distribution of survey participants in 2017 across states in Australia

- MINING
- NON-MINING
- METROPOLITAN

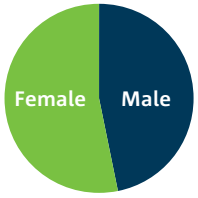
Distribution of national survey participants by postcode in 2014 and 2017



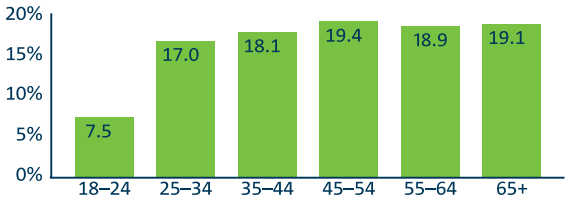
- 2014 SURVEYED POSTCODES
- 2017 ADDITIONAL SURVEYED POSTCODES

4.4%

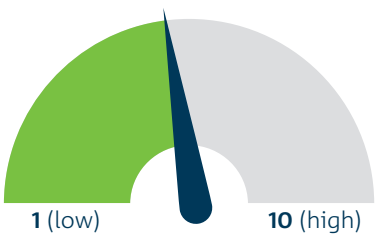
ABORIGINAL / TORRES STRAIT ISLANDER



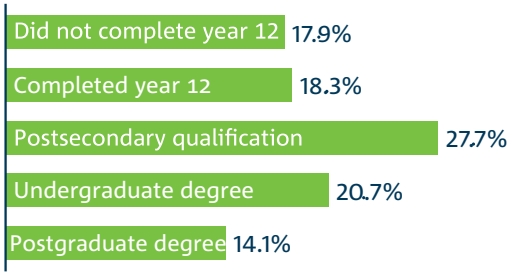
GENDER



AGE GROUP



SELF-REPORTED KNOWLEDGE OF THE MINING INDUSTRY



EDUCATION

Figure 1 Geographic representation of participant distribution (data points represent postcodes not individuals) and key demographic information about the sample

What does mining mean to Australians in 2017?

Our survey found that most Australians accept mining and hold positive views about its role in contributing to the nation's economy.

Mining is important for Australia

To understand how Australians view mining in the broader national context, participants were asked to rate their level of agreement on a scale from 1 (strongly disagree) to 7 (strongly agree) with a number of statements about mining in Australia.

Overall, mining was seen as central to Australia and contributing substantially to Australia's economy and standard of living in 2017 (see Table 1 for a summary of both 2014 and 2017 results). There was also little difference in how Australians perceived the importance of mining between mining, non-mining and metropolitan regions, which departs from 2014 where sentiment about the importance of mining tended to be stronger in mining regions. However, despite general agreement about the importance of mining, this was often 'significantly'[11] less than in 2014, statistically speaking.

Participants were asked to what extent they agreed with the statement 'mining is less important to Australia's future'. In 2017, the results show that Australians neither strongly agreed nor disagreed with this statement, although in 2014 residents across all regions had tended to disagree on average that mining was less important. In 2017, participants also continued to agree on average that mining was necessary for Australia, is important to our way of life, and that mining will support Australia's future prosperity.

Table 1 Mean scores for examining the position of mining in Australia overall, and by region

ITEM	YEAR	OVERALL	MINING	NON-MINING	METROPOLITAN
Mining is central to Australia	2017 2014	**4.97** 5.08	5.01 5.14^{H}	4.91 5.00^{L}	**4.99** 5.10^{H}
Mining is not necessary for Australia	2017 2014	3.07 2.97	2.97^{L} 2.89^{L}	**3.15**^{H} 2.93^{L}	3.06 3.06^{H}
Mining is important to our way of life in Australia	2017 2014	**4.89** 4.99	4.96 5.06^{H}	4.88 4.93^{L}	**4.86** 5.00
Mining contributes significantly to the standard of living in Australia	2017 2014	**5.12** 5.26	**5.15** 5.33^{H}	5.12 5.21^{L}	**5.11** 5.25
Mining will support Australia's future prosperity	2017 2014	**4.60** 4.77	4.63 4.76	4.58 4.71	**4.60** 4.81
Mining contributes significantly to Australia's economy	2017 2014	**5.23** 5.38	**5.28** 5.46	**5.20** 5.36	**5.23** 5.36
Mining will be less important for Australia in the future	2017 2014	**4.01** 3.81	**4.02** 3.77	**4.02** 3.76	**4.01** 3.87

Notes: Superscripts with different letters are significantly different across regions (p<.001), i.e. H = high, L = low. Bolded mean scores in 2017 are significantly different from means in 2014 (p<.001). Rated on a scale from 1 (strongly disagree) to 7 (strongly agree). Midpoint = 4.

11 Only statistically significant results are reported as differences in this report. Predominantly, these differences were calculated using an Analysis of Variance (ANOVA) test and are significant at the p<.001 level. Due to the large sample size, caution has been taken to use a conservative significance level for difference testing.

Are we too dependent on mining?

While Australians agreed that mining continued to be important in 2017, they also expressed some concern that the country as a whole was too dependent on mining (Figure 2). By contrast, participants tended to disagree that their own communities were too dependent on mining. These results reflect the same pattern observed in 2014.

To what extent do Australians accept mining?

Participants were asked to respond to the statement, 'to what extent do you accept mining in Australia' on a scale from 1 (not at all) to 5 (very much so). Overall, the mean response in 2017 was 3.54 (SD = 1.05), which is above the midpoint of the scale used (i.e. 3), indicating the responses were reasonably positive on average.

There was a small decline in the average acceptance of mining in Australia from 2014. This was accompanied by a slight increase in people who identified as *not very* or *not at all* accepting of mining in Australia (from 9% to 2014 to 12.8% in 2017). Nevertheless, a much greater proportion of the respondents continued to identify themselves as *accepting* or *very accepting* of mining. In 2017, this was 48.8% of respondents, which reflects a slight decrease from 53% in 2014. The remaining respondents identified themselves as *somewhat accepting* of mining in Australia indicating that around 87% of Australians surveyed accept mining to some degree.

While the average acceptance of mining in Australia decreased from 3.62 in 2014 to 3.54 in 2017, the range of responses indicates Australians hold more varied opinions than in 2014 (see Figure 3). This reflects an increase in the percentage of respondents with stronger views (i.e. those who did not accept mining at all and those who were very much accepting of mining).

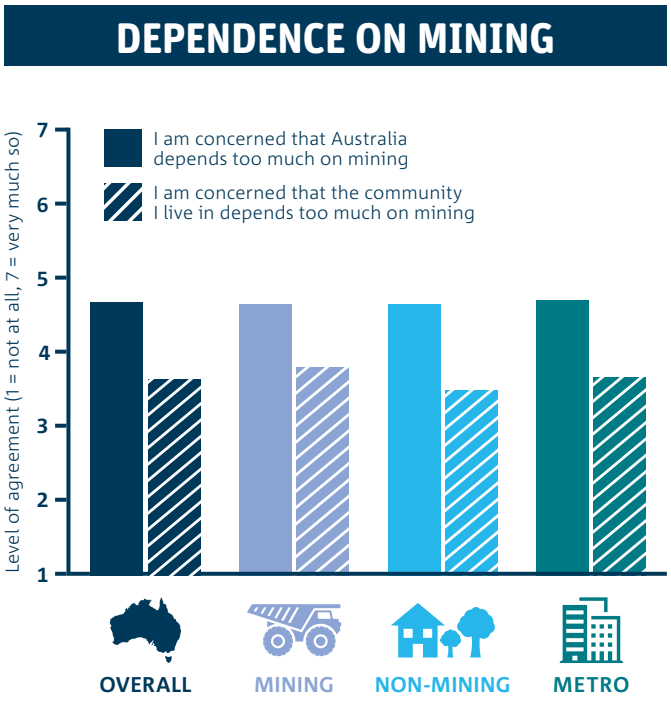


Figure 2 Perceived dependence on mining by region (means)

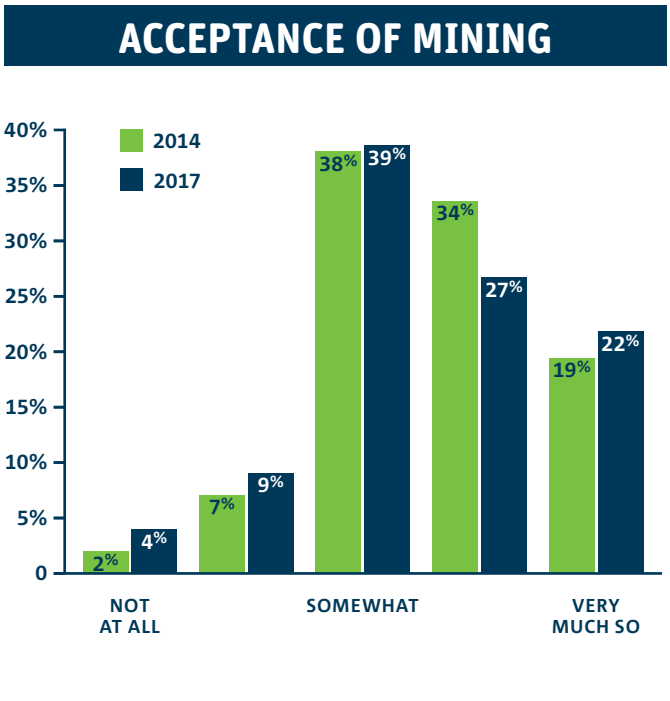


Figure 3 Acceptance of mining in Australia (percentages)

The benefits of mining

In 2017, perceived benefits from mining remained favourable, especially for employment benefits, and there was a significant increase in perceptions that mining contributes to improved infrastructure in regional Australia.

To examine the benefits associated with mining, participants were asked to respond to a range of benefits that are often perceived to flow from mining for the country, regions, local communities, and individuals. These included employment, general regional benefits, and improvements to regional infrastructure.

Jobs, jobs, jobs

The main perceived benefit of mining was the creation of jobs. This included the creation of jobs for Australians, employment and training opportunities in regional areas, and for Indigenous Australians and women. This was consistent across mining, non-mining and metropolitan regions (see Table 2). This did not change significantly from 2014.

Regional benefits

Mining was considered to deliver positive benefits to regional and Indigenous communities (see Table 2), and the 2017 findings show no significant change in these results since 2014. In addition, there was little difference in sentiment about regional benefits between the three regions surveyed. This changed from 2014 when metropolitan regions reported significantly higher levels of general benefit for regional communities than those in non-mining regions.

PERCEIVED BENEFITS

81.7% agree that mining creates jobs for Australians

59.5% agree that mining has positive effects on regional communities in Australia

63.4% agree that mining has helped improve transport infrastructure such as roads and ports in regional Australia

Table 2 Mean ratings of perceived 'community' benefits of mining overall, and for each region sampled

ITEM	YEAR	OVERALL	MINING	NON-MINING	METROPOLITAN
Mining creates jobs for Australians	2017 2014	5.48 5.50	5.51 5.52	5.46 5.50	5.48 5.50
Mining provides opportunities for regional employment and training	2017 2014	5.27 5.30	5.33 5.36	5.22 5.23	5.27 5.31
Mining provides employment and training opportunities to Aboriginal Australians	2017 2014	5.05 5.06	5.06 5.07	5.01 5.07	5.06 5.06
Mining provides employment and training opportunities for women	2017 2014	5.03 5.01	5.11 5.08	5.06 5.05	4.98 4.94
The mining industry makes an important contribution to the development of young Australians	2017 2014	**4.73** 4.38	**4.76** 4.48[H]	**4.71** 4.32[L]	**4.73** 4.35[L]
Mining has positive effects on regional communities in Australia	2017 2014	4.80 4.85	4.80 4.85	4.75 4.78	4.83 4.90
Mining has positive effects on Aboriginal communities in Australia	2017 2014	4.42 4.48	4.38 4.44	4.38 4.45	4.46 4.51
Mining has helped improve transport infrastructure such as roads and ports in regional Australia	2017 2014	**4.87** 4.69	**4.84** 4.57[L]	**4.81** 4.63[L]	**4.92** 4.80[H]
Mining has helped improve communications and information technology infrastructure in regional Australia	2017 2014	**4.76** 4.62	**4.73** 4.51[L]	4.70 4.56[L]	4.82 4.73[H]
Mining has helped improve social infrastructure such as community centres and sporting clubs in regional Australia	2017 2014	**4.63** 4.49	**4.63** 4.46[L]	**4.56** 4.38[L]	4.68 4.58[H]

Rated on a scale from 1 (strongly disagree) to 7 (strongly agree). Midpoint = 4.

Infrastructure improvements

In 2017, there were statistically significant increases in perceptions that mining improves infrastructure in regional Australia (see Table 2). Perceptions of mining's contribution to transport infrastructure improved in all regions, and perceptions of mining's contribution to social infrastructure improved in mining and non-mining regions. Mining was also seen as contributing to improved communications and information technology infrastructure in 2017.

In 2014, perceptions that mining improved infrastructure in regional Australia had been highest in metropolitan regions. In 2017, perceptions improved in both mining and non-mining regions and there were no longer significant differences between the three regions.

Personal benefits and community satisfaction

Respondents indicated that the mining industry made an important contribution to the development of young Australians (see Table 2), which increased across all regions from 2014. However, respondents tended to be less positive about how they personally benefited from the industry. Generally, family and personal financial benefit from mining were rated quite low, particularly when compared to other benefits associated with mining.

Perceived personal benefits were not significantly higher in mining regions. Those in non-mining regions perceived the least personal financial benefit, while those in metropolitan regions perceived more personal financial benefit. These results were similar to those observed in 2014 (see Figure 4).

When asked about their level of satisfaction with living in their community, the overall average response tended to be quite positive (M = 5.42, SD = 1.35). There were also no significant differences in community satisfaction between mining, non-mining and metropolitan regions.

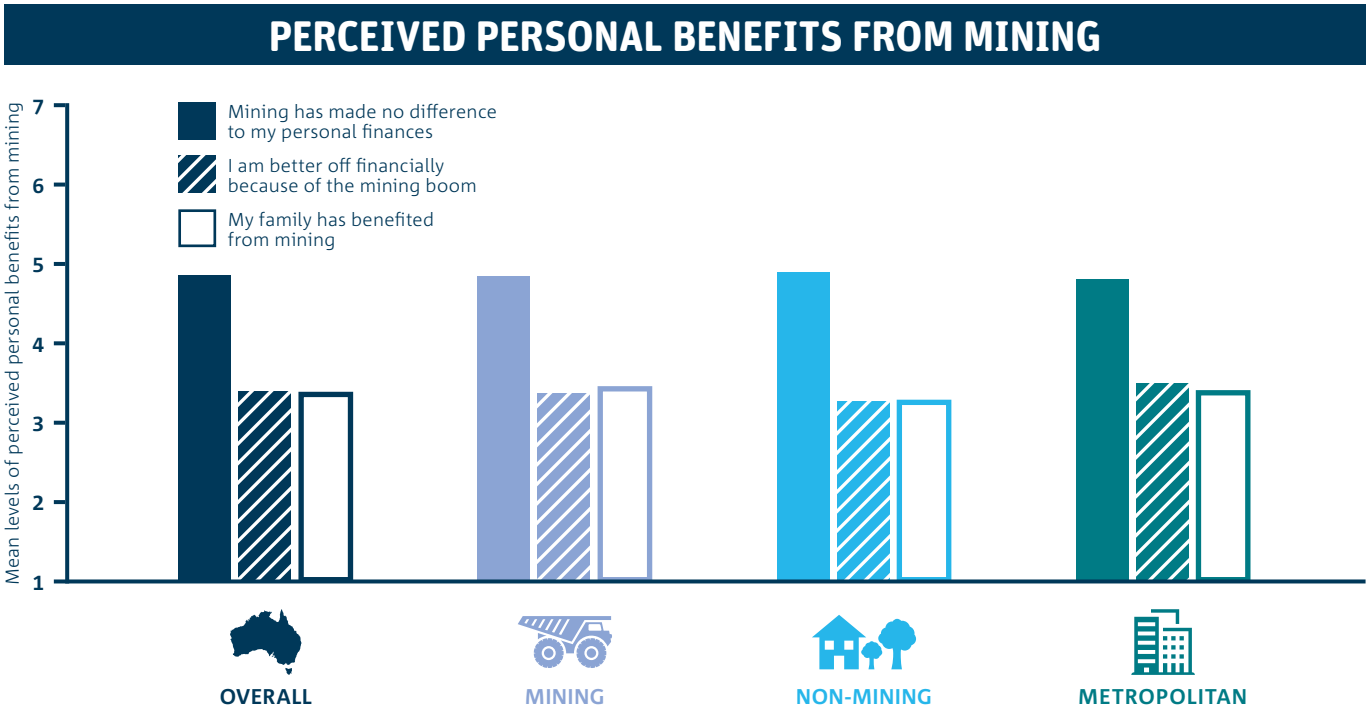


Figure 4 Mean levels of perceived personal benefits from mining overall, and by region

The negative impacts of mining

To examine the perceived negative impacts of mining by Australians, participants were asked to respond to a range of issues including the environment, other industry sectors, cost of living, and the health of communities surrounding mining operations.

In 2014, the negative impacts of mining were rated more strongly by those living in mining regions, followed by those in non-mining regions and then metropolitan regions. However, this pattern was not observed in 2017 with some regional differences noted across the different measures (e.g. mining regions were less concerned about mining's contribution to climate change; metropolitan regions were less concerned about the rehabilitation of mine sites; while costs of housing were of least concern to those in non-mining regions).

The environment

Overall, the statement regarding the negative impact of mining on the environment received the strongest level of agreement. The response was similar across all three regions, and since 2014, had increased in metropolitan regions. Of equal concern were impacts on water quality (groundwater and surface water). Further, when respondents were asked to rate the extent to which 'mine site rehabilitation is important to me', the results indicated a strong level of agreement in both years, though this was lower in 2017.

Other sectors

Participants were also asked about the negative impacts of mining on other sectors and industries. On average, the impacts on the manufacturing and tourism sectors were perceived to be low (i.e. below the midpoint of the scale), but impacts on the agriculture sector were perceived to be much higher. There was no significant change in these results from 2014.

Health and cost of living

In 2017, there was moderate agreement that mining had a negative impact on the health of local communities and mine employees (i.e. above the midpoint of the scale). However, impacts on cost of living and housing were rated quite low. In 2014, the results showed that those in mining regions felt these negative impacts more strongly than those in other regions. In 2017, these perceptions in mining regions had decreased and those in metropolitan regions expressed far more concern about the impact on housing and cost of living as a consequence of mining. Overall, Australians did not think that the mining downturn had negatively impacted them financially.

PERCEIVED NEGATIVES

59.7% agree that mining has negative impacts on the environment

50.3% agree that mining negatively impacts on the agricultural sector

19.7% agree that the cost of living, excluding housing, has increased in my area as a consequence of mining.

What do Australians think about FIFO/DIDO?

When asked to consider the role of fly-in, fly-out and drive-in, drive-out (FIFO/DIDO) employment for mine workers, participants in mining regions were less supportive of FIFO/DIDO as a 'sensible workforce strategy' (44.2% agreed, M = 4.19, SD = 1.60) relative to those in non-mining regions (46.1% agreed, M = 4.39, SD = 1.52) and metropolitan regions (44.4% agreed, M = 4.39, SD = 1.49). However, there was significantly more variation in responses in mining regions. This is the same result observed in 2014. Further, participants from all regions believed that FIFO/DIDO has somewhat negative impacts on local communities (M = 4.28, SD = 1.58).

Table 3 Mean ratings of the negative impacts of mining overall, and for each region sampled

ITEM	YEAR	OVERALL	MINING	NON-MINING	METROPOLITAN
Mining has negative impacts on the environment	2017 2014	**4.83** 4.70	4.81 4.72	4.84 4.70	**4.83** 4.69
Mining impacts negatively on water quality (groundwater and surface water)	2017 2014	4.82 4.76	4.82 4.78	4.85 4.75	4.79 4.75
The act of mining contributes to climate change	2017 2014	4.31 4.37	4.21 4.29	4.29 4.34	4.37 4.44
Mine site rehabilitation is important to me	2017 2014	**5.26** 5.40	5.46[H] 5.66	5.32[L] 5.41	5.13[L] 5.25
Mining negatively impacts on the agricultural sector	2017 2014	4.58 4.55	4.64 4.65	4.62 4.53	4.53 4.50
Mining negatively impacts on the manufacturing sector	2017 2014	3.66 3.70	3.52[L] 3.67	3.69 3.64	3.71[H] 3.76
Mining negatively impacts on the tourism and retail sectors*	2017 2014	**3.91** 3.80	3.90 3.78	3.94 3.81	3.89 3.80
Mining has negative impacts on the health of local communities	2017 2014	4.28 4.28	4.30 4.39	4.29 4.22	4.26 4.26
Housing is more expensive in my area as a consequence of mining activity	2017 2014	3.21 3.19	**3.23** 3.65[H]	3.10[L] 2.97[L]	**3.27**[H] 3.08[L]
The cost of living, excluding housing, has increased in my area as a consequence of mining activity	2017 2014	3.21 3.19	**3.19** 3.55	3.07[L] 3.01	**3.30**[H] 3.10

*In 2017, the item only related to 'tourism', whereas in 2014, the item related to 'tourism and retail'.
Rated on a scale from 1 (strongly disagree) to 7 (strongly agree). Midpoint = 4.

Fairness, confidence in governance and trust

Mining has a broad and complex relationship with Australian society. It creates real economic opportunities for our nation but there are challenges associated with how best to manage the impacts of resource extraction on those who work in and live alongside these operations, and for governments, who manage the development of these resources on behalf of the nation.

To examine this complexity in more detail, participants were asked about the distributive fairness of mining associated benefits, and how fairly they felt they were treated in the decision-making processes regarding the industry, the level of confidence they had in our legislative and regulatory frameworks for managing mining, and the degree to which they trusted important actors in the industry.

Distributional fairness

Participants were asked to rate the extent to which they believed the benefits associated with mining were distributed fairly, and the extent to which Australia received its fair share of tax from mining. Generally speaking, Australians were not strongly of the view that the economic benefits of mining are distributed fairly, with the average response across all regions below the midpoint of the scale used (i.e. 4) (see Figure 5). This result is the same as that observed in 2014.

However, respondents tended to agree that mining communities received a fair share of the benefits of mining, especially in comparison with perceived personal benefit associated with mining. The only notable shift in this data since 2014 was a slight decrease in the mean level of agreement that participants from metropolitan regions expressed about mining communities receiving a fair share of benefits. However, while the strength of their agreement declined somewhat, there was still a moderate level of agreement that mining communities received a fair share of the benefits.

Participants were also asked the extent to which they believe 'Australia receives its fair share of tax from the mining industry'. In 2017, the average of responses across all regions indicated slight disagreement with this statement (M = 3.77), though there was considerable variation in these responses (SD = 1.73).

Procedural fairness

In this research, procedural fairness refers to whether individuals perceive that they have a reasonable voice in decision-making processes. This means that the more people believe they can participate in decision-making processes about mining and the more they feel respected by important decision-makers (e.g. governments and the mining industry), the fairer they are likely to regard the procedures relating to mining in Australia.

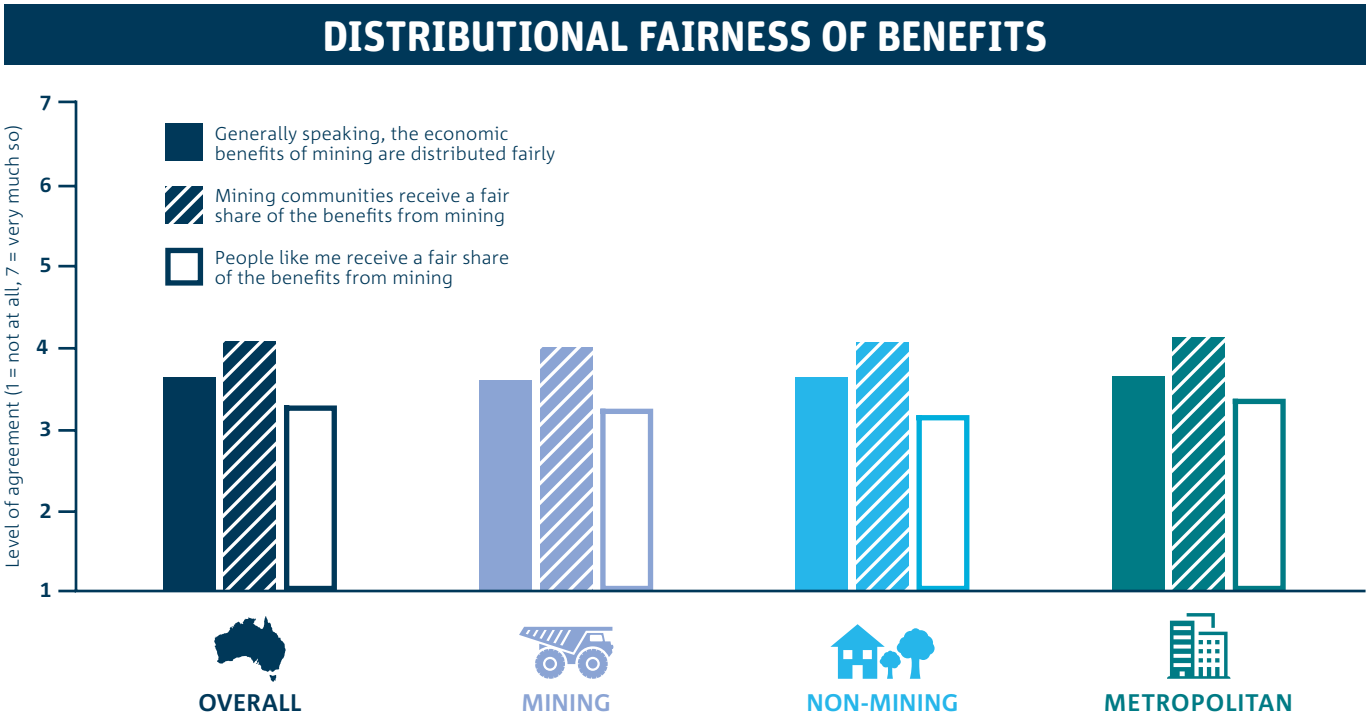


Figure 5 Mean levels of perceived distributional fairness of benefits from mining overall, and by region

Participants were asked to rate the extent to which people in Australia have opportunities to participate in decisions about mining on a scale from 1 (not at all) to 7 (very much so). As in 2014, responses overall were around the midpoint of the scale (i.e. neither agree nor disagree; M = 4.15) and responses varied considerably (SD = 1.61). However, there were no significant differences observed across the regions.

In assessing the extent to which they felt listened to and respected by the mining industry, and state and federal governments, the mean responses to these items were below the midpoint of the scale, suggesting on average a moderate level of disagreement. There were two clear patterns in the responses. First, participants believed that the mining industry listened to and respected community opinions more than state and federal governments (M = 3.79, 3.69 and 3.62 respectively). Second, those in metropolitan regions perceived they were more heard and respected by industry and governments than those in mining and non-mining regions (see Figure 6).

These patterns reflected the same patterns observed in 2014, although perceived procedural fairness from state and federal governments did improve in 2017.

Ensuring the mining industry does the right thing

Participants were also asked the extent to which they believe legislation and regulation, and state and federal governments hold the mining industry to account. Responses were well below the midpoint of the scale (i.e. 3, when measured on a 5 point scale from 1 not at all to 5 very much so), indicating a lack of confidence that these formal institutions were sufficiently able to influence the way mining takes place. However in 2017, the federal government was seen as more able to hold the mining industry to account than state governments (see Table 4). Participants in metropolitan regions were also slightly more confident in the effectiveness of these formal mechanisms than those in mining and non-mining regions.

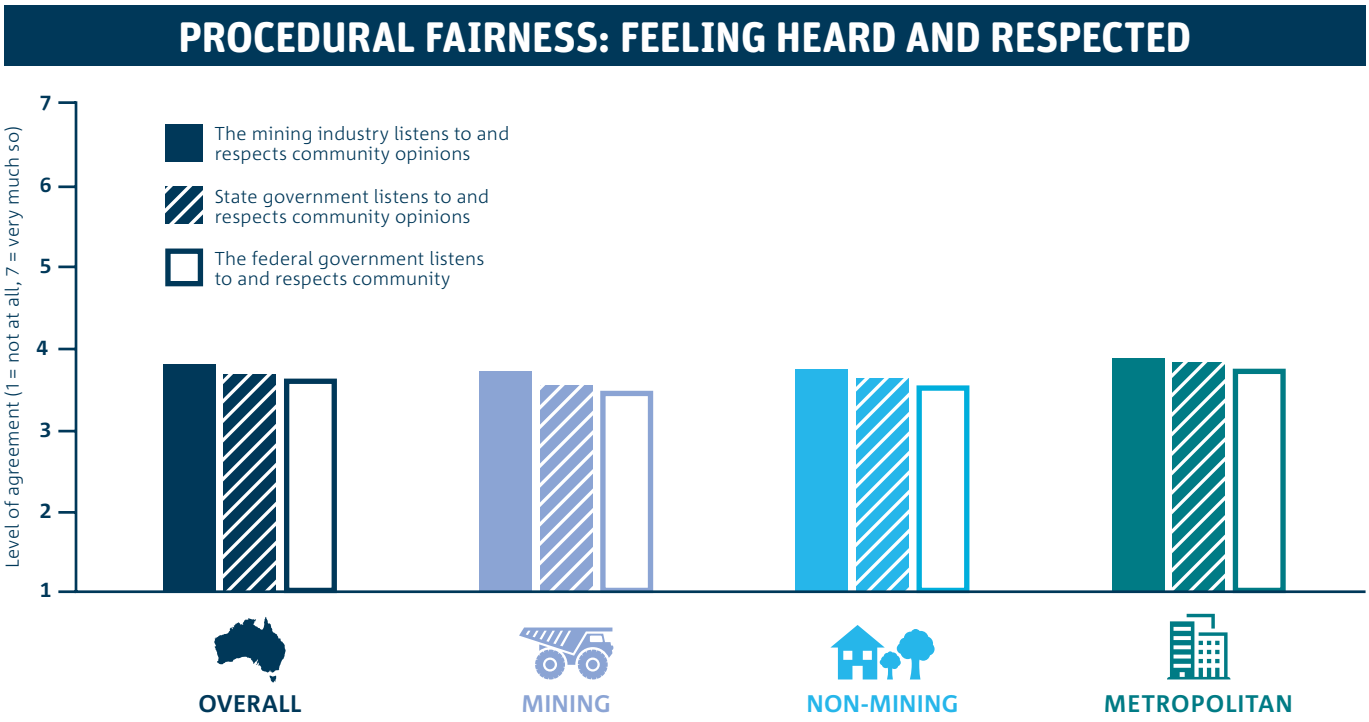


Figure 6 Mean levels of perceived procedural fairness related to mining overall, and by region

Table 4 Mean ratings of governance capacity overall, and by region

ITEM	YEAR	OVERALL	MINING	NON-MINING	METROPOLITAN
State and federal governments are able to hold the mining industry accountable*	2017 2014	2.81 2.81	2.77 2.71[L]	2.77 2.76[L]	2.86 2.90[H]
The state government is able to* The federal government is able to*	2017 2017	2.77 **2.85**	2.74 **2.80**	2.73 **2.81**	2.81 **2.90**
Legislation and regulation can be counted on to ensure mining companies do the right thing	2017 2014	2.88 2.85	2.84 2.74[L]	2.84 2.80[L]	2.92 2.94[H]

*A breakdown by state and federal government is only available in 2017.
Rated on a scale from 1 (not at all) to 5 (very much so). Midpoint = 3.

Australians tend to agree that both mining communities and the Australian public can successfully defend their interests, and influence mining related policies and the mining industry to do the right thing. Responses overall to citizen agency were above the midpoint of the scale across all regions (i.e. 4 on a 7 point scale), indicating Australians tend to have confidence in their own agency and efficacy, much more so than the formal mechanisms designed to hold the industry to account. These results did not change significantly between 2014 and 2017. Finally, Australians believed quite strongly that the consent of local communities and Indigenous communities needs to be gained before mining development takes places. This did not vary across the regions and had also not changed since 2014 (see Table 5).

Trust

Participants were asked to rate their level of trust in a range of important actors involved in mining in Australia: the mining industry, state government, federal government, advocacy groups and research organisations. Average responses to three items assessing trust for each of these groups were identified: the extent to which each was trusted to act in the best interests of society, act responsibly, and do what is right. Like acceptance, the trust items were measured on a 5 point scale from 1 (not at all) to 5 (very much so).

The results show that overall trust in all actors associated with the mining industry in Australia tended was not high. Only research organisations scored above the midpoint of the scale (i.e. 3) (Figure 7). This was followed by advocacy organisations around the mid-point of the scale, and then the mining industry, federal government and state government, which were all below the midpoint of the scale. In all cases, participants in metropolitan regions expressed higher trust in these actors than those in mining and non-mining regions.

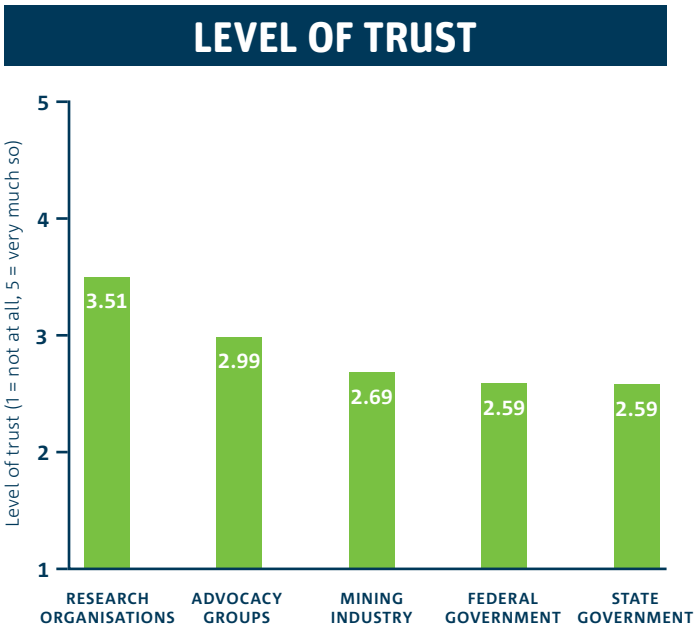


Figure 7 Trust in mining industry actors (means)

Table 5 Mean ratings of public efficacy, agency and need for consent overall, and by region

ITEM	YEAR	OVERALL	MINING	NON-MINING	METROPOLITAN
I think mining communities can successfully defend its local interests together	2017 2014	4.33 4.31	4.36 4.28	4.30 4.26	4.34 4.37
I think mining communities are able to influence governments' mining related policies	2017 2014	4.42 4.35	4.41 4.27	4.41 4.31	4.42 4.42
I think mining communities are capable of ensuring the mining industry do the right things for local communities	2017 2014	4.14 4.12	4.11 4.04	4.09 4.05	4.19 4.21
I think the Australian public can successfully defend its national interests together	2017 2014	4.45 4.43	4.47 4.38	4.40 4.37	4.46 4.49
I think the Australian public is able to influence governments mining related policies	2017 2014	4.09 4.04	4.06 3.93^{L}	4.00^{L} 3.98^{L}	4.16^{H} 4.16^{H}
I think the Australian public are capable of ensuring the mining industry do the right things for this country	2017 2014	4.07 4.06	4.08 3.95^{L}	4.01 4.03	4.11 4.14^{H}
It is necessary to gain the consent of local communities before mining development takes place	2017 2014	5.41 5.41	5.44 5.46	5.37 5.42	5.42 5.38
It is necessary to gain the consent of Indigenous communities before mining development takes place	2017 2014	5.28 5.23	5.23 5.27	5.24 5.22	5.32 5.21

Rated on a scale from 1 (strongly disagree) to 7 (strongly agree). Midpoint = 4.

Going a little deeper... what leads to acceptance of mining?

Mining is an important part of life in Australia and social acceptance of mining is complex. The survey results in the previous sections provide a strong foundation for understanding this complexity a little better. By comparing the results from 2014 and 2017, we have also seen what has changed, and what hasn't changed, in the way Australians think about mining.

If the mining industry is to be environmentally, economically and socially sustainable in Australia, it is important that we understand what underpins its social licence to operate. We have explored this by examining how Australians weigh up the benefits and impacts of the industry, and how the extent to which Australia's governance systems and the behaviour of the industry build trust and acceptance with Australia's citizens.

Is it worth it? Weighing up the benefits and impacts of mining

How Australians perceive the benefits and impacts of mining can directly influence their acceptance of mining. The survey results revealed that the most important perceived benefits and impacts of mining in 2017 were:

- Benefits such as employment and community benefits; followed by regional infrastructure (transport, communication and IT, social); and general economic benefits (personal, family and national wealth); and
- Impacts on the environment (including water and climate change); followed by impacts on other sectors (manufacturing, agriculture). Impacts on costs of living were not significant in 2017, unlike 2014.

While this reveals important benefits and concerns for Australians in relation to the presence of mining in Australia, participants were also asked the following question: "Considering the benefits and costs associated with mining, is it worthwhile pursuing mining in Australia?"

The results from this analysis show that this item (i.e. asking Australians to weigh up the benefits and impacts of mining) was a strong positive predictor of acceptance over and above the other individual benefit and impact measures. In addition, participants from mining, non-mining and metropolitan regions were equally positive in their agreement with this item (overall M = 5.00 out of 7; SD = 1.50).

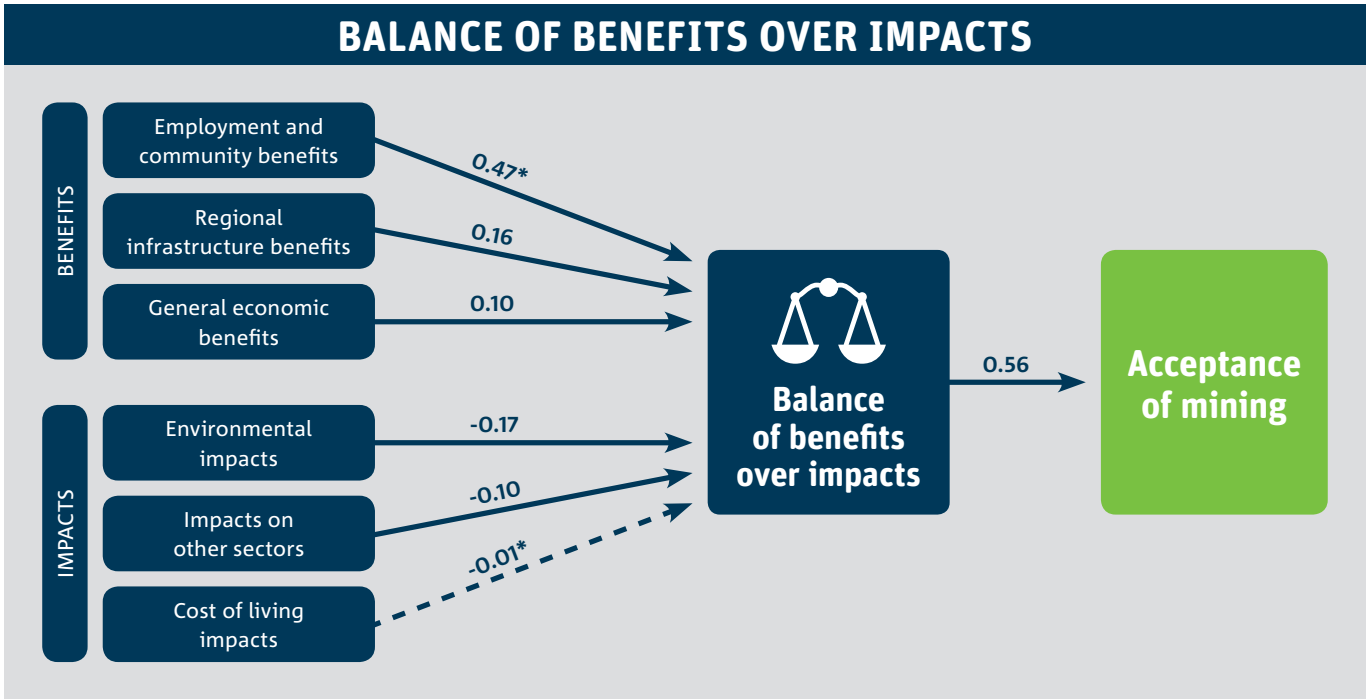


Figure 8a How the balance of benefits over impacts affects acceptance of mining

Numbers on the path arrows represent beta coefficients (β) and the relative strength of each relationship. Positive β-values indicate a positive relationship; negative β-values indicate a negative relationship. Solid (unbroken) paths were significant at p<.001. *Significantly different from 2014 (cost of living and environmental impacts decreased while employment benefits increased). Figures 8a and 8b were extracted from the same path model and can be combined.

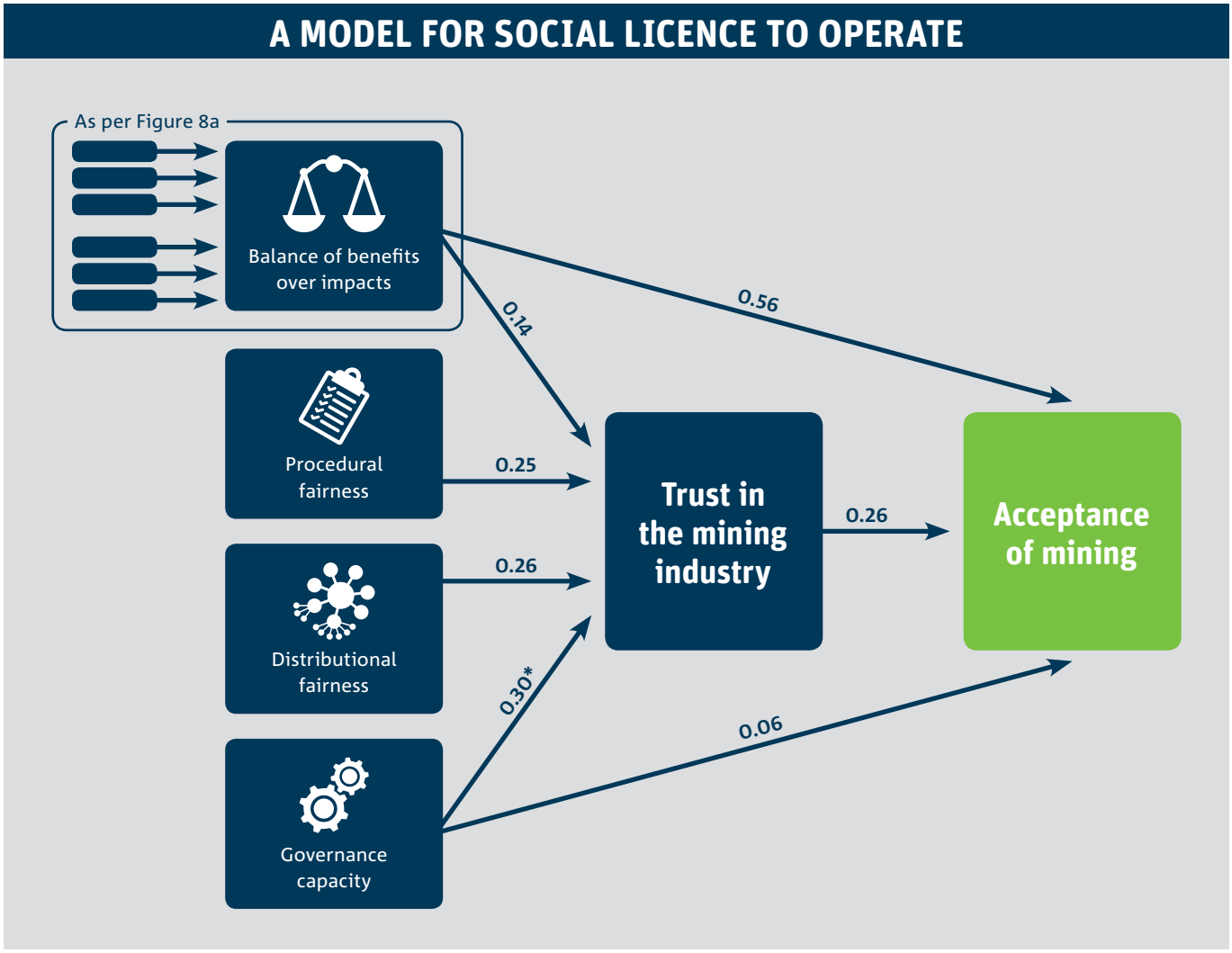


Figure 8b Path model predicting acceptance of mining

Numbers on the path arrows represent beta weights (β) and the relative strength of each relationship. Positive β-values indicate a positive relationship; negative β-values indicate a negative relationship. Solid (unbroken) paths were significant at p<.001. *Significantly increased from 2014.

This result was virtually the same as that found in 2014. It means that Australians, in general, do consider it worthwhile to have a mining industry in Australia when they weigh up the benefits and the costs of the industry. The 2014 and 2017 results show that a greater balance of benefits over impacts is associated with a higher level of acceptance. This also suggests that if perceptions shifted and the impacts were considered to outweigh the benefits of having a mining industry in this country, acceptance would decline significantly.

Figure 8a illustrates one part of a social acceptance model that shows how perceptions of various impacts and benefits affect the overall balance of benefits and impacts, which in turn affects acceptance of mining. Higher numbers above the paths (denoted by arrows) indicate more important relationships, positive paths indicate accordant relationships, and negative paths indicate opposite relationships.

Social licence is everyone's business

While the impacts and benefits are important for how Australians think about mining, achieving social licence is also about building trust between companies, government and society. There is growing recognition that the way people are treated in decision-making processes, the way the benefits of mining are shared amongst society, and the role of governance arrangements are critical to building trust and acceptance with Australia's citizens.

In 2017, we combined our analysis of these main areas using path analysis along with the perceived balance of benefits over impacts to gain a more holistic picture of how these factors contribute to trust in and acceptance of the industry. Path analysis is a sophisticated statistical modelling technique that allows us to examine relationships between multiple drivers of trust and acceptance simultaneously. Figure 8b documents the results of this path analysis showing the relative influence of the following key factors on trust and acceptance:

- how Australians weigh up the benefits and impacts of mining – this incorporates an overall weighing up of benefits over impacts described in Figure 8a
- procedural fairness – the extent to which the industry listens to and respects community opinions, and changes its practices in response to community concerns

- distributional fairness – the extent to which economic benefits from mining are distributed fairly, and each citizen receives a fair share of the benefits of mining
- governance capacity – the extent to which Australians feel that state and federal governments, and their legislation and regulations, can ensure mining companies do the right thing.

Composite measures were also made for trust and acceptance:

- trust – in the industry to act in the best interests of society, act responsibility, and to do what is right
- acceptance – the extent that respondents agreed that they tolerate, accept, approve of, or embrace mining in Australia.

The results of the path model suggest:

- Perceived benefits of mining over impacts is the strongest predictor of acceptance of the industry, and to a lesser extent, trust in the industry.
- Trust in the industry continues to play a critical role in building acceptance of the industry at the national scale. Or put another way, the industry's social licence is facilitated by the level of trust that the Australian public have in it.
- Procedural fairness in the way industry engages with society is an important positive predictor of trust in the industry.
- The more Australians believe the benefits of mining are distributed fairly, the higher their level of trust in the industry.
- Confidence in governance capacity continues to support trust in the mining industry, significantly more than in 2014. The level of confidence in governance also has an additional direct effect on acceptance.
- The effects of perceived benefits over impacts, procedural and distributional fairness, and governance capacity also increase acceptance of the mining industry by increasing trust in the industry.

There is substantial value to be gained from obtaining a deeper understanding of what citizens think about mining in Australia; in particular, how multiple influencing factors intersect over time. This is equally critical in the boom times and during the periods of economic slowdown if we are to have a sustainable mining industry in this country. While these results reveal that the balance of benefits over impacts is central to acceptance of the mining industry, the growing importance of governance arrangements in building trust and acceptance suggests citizens are looking to governments at multiple levels to regulate and legislate the development of these resources for state and national benefit.

While impacts and benefits of mining form the value proposition for local communities and wider society, achieving a social licence to operate is also about effectively building trust between companies, governments, communities and society more generally. This requires more than just the actions of any one of these important actors – a social licence is dependent on combinations these important actors working together.

As in 2014, the 2017 results confirm that the Australian public are more accepting of the mining industry in Australia when industry and governments work together to build trust in the industry. Holding a social licence to operate continues, therefore, to be the responsibility of governments and industry working with communities and wider society to promote effective, constructive, and mutually beneficial relationships.

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