

# Executive Summary

Using the 2018 CSIRO Community Wellbeing and Responding to Change survey, this research documents changes and trends in community wellbeing, resilience and local attitudes to CSG development over time and across different industry phases. It shows changes between the construction, post-construction and operations phases of development in 2014, 2016, and 2018 respectively, and how attitudes and perceptions of the CSG sector vary across the region.

## What we did

In March-April 2018, using a comprehensive telephone survey of 623 residents from the Western Downs and the eastern half of the Maranoa local government areas, we measured community wellbeing and resilience, and local attitudes and perceptions of CSG development within these regions. The report compares 2018 results with previous surveys conducted in 2014 and 2016, and identifies how these aspects have changed in the Western Downs over time. The eastern Maranoa is used as a comparison region.

## Where

The 2018 survey covered the Western Downs and eastern Maranoa regions in southern QLD. The communities in these regions are part of the most intensive gas extraction in the Surat Basin gasfields, which contained almost 10,250 wells (producing, suspended, capped) at the time of data collection in 2018.

## When

The 2018 survey was conducted over a six week period during March – April 2018.

- Similar surveys were conducted in February / March 2014 and 2016 for the Western Downs region with the eastern Maranoa first added as a comparison region in 2016.
- In 2014 the industry was completing its construction phase building major infrastructure necessary for operating the industry such as pipelines for gathering and transporting the gas, power lines, compressor stations, water treatment facilities, and gas processing facilities. This infrastructure was scattered through the Western Downs and Maranoa regions and required an extensive labour force to construct. It provided major economic activity to the regions.
- In 2016 the industry was in its post-construction phase with most major infrastructure completed and the region experiencing an economic slowdown.
- In 2018 the industry was in a more stable operations phase with production gas wells underway and new gas fields opening up in the region.

## Who

Participants were randomly selected using lists of landline and mobile phone numbers. Quotas were used to obtain a representative sample based on age, gender, employment status, and location characteristics according to the Australian Bureau of Statistics (ABS).

- The sample comprised four subregions in the Western Downs: Dalby and surrounds, Chinchilla and surrounds, Miles/Wandoan and surrounds, Tara and surrounds; plus Roma and surrounds in eastern Maranoa
- The survey took approximately 30 minutes to complete. The response rate in 2018 was 26%, which is considered very good for telephone surveys of this length.

## A general comment about describing the results

We typically report the results as average scores out of 5 using a scale from 1 to 5 where 1 is the least and 5 is the most. A score below the midpoint of 3 is considered lower or unfavourable on average. Where relevant, we describe results as statistically important or significant at the  $p < .05$  level. This means that there was less than a five percent chance that the findings were due to chance.

## COMMUNITY WELLBEING

Measures of community wellbeing reflect perceptions about whether the community is a great place to live and whether it offers a great quality of life for all ages. As such, it differs from individual wellbeing. Fifteen dimensions of community wellbeing were evaluated using 73 questions encompassing social, environmental, political, economic, health, and physical infrastructure aspects of the community. When assessing community wellbeing, future community wellbeing, and place attachment, there was no direct reference to CSG development in these survey questions.

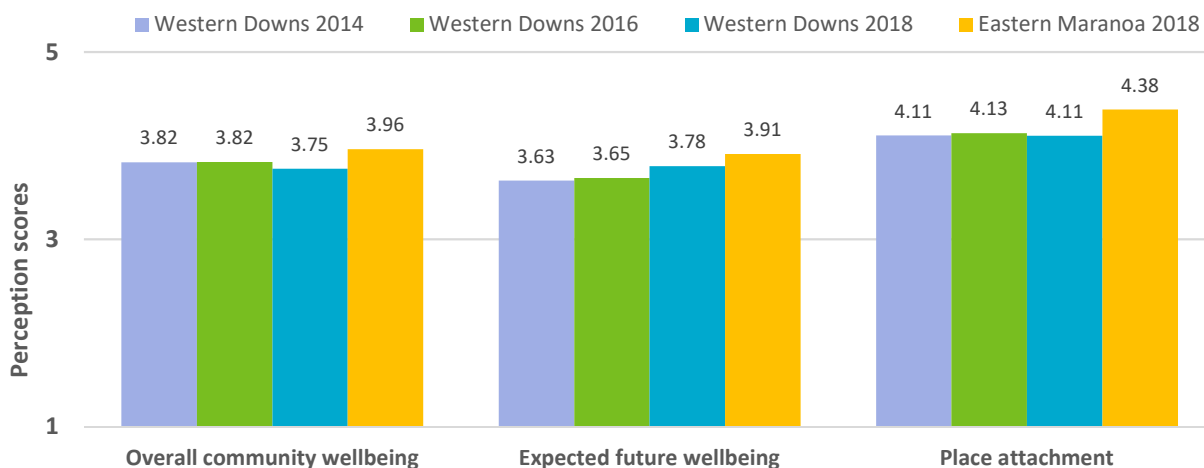
### What we found: Community wellbeing

Over the three data collection periods 2014-2016-2018 the following key results were identified:

- The Western Downs region maintained robust levels of wellbeing within their communities, with little change in the overall community wellbeing scores, even though some dimensions of community wellbeing showed changes over time.
- Since 2014 in the Western Downs, five of the fifteen dimensions showed statistically significant changes while the other ten dimensions remained fairly constant.
  - *Environmental quality, environmental management, and roads* showed gradual but ongoing improvement from 2014
  - *Local decision making processes* showed a gradual negative change over the four year period
  - *Employment and business opportunities* showed the greatest change demonstrating a large drop from 2014 to 2016 in the post-construction phase, with some improvement in 2018 in the operations phase
- In each round of data collection we asked about expectations of future community wellbeing in three years hence. In 2018 expectations of future community wellbeing was higher than previous survey periods.
  - Over half of people's expectations of the future could be explained by their perceptions of current levels of community wellbeing and how well they believed the community was responding and adapting to CSG development
  - Attitudes towards CSG development were only important in explaining people's expectations about the future during the construction phase in 2014
- Place attachment remained high during all industry phases.
- The eastern Maranoa region also demonstrated robust levels of community wellbeing. These levels were statistically higher than the Western Downs region.

Figure 1 shows changes in some of the key measures over 2014, 2016, and 2018 for the Western Downs Region. The 2018 scores for the eastern Maranoa are shown as a comparison.

**Figure 1 Mean scores of overall community wellbeing, expected future community wellbeing and place attachment: Western Downs region 2014-2016-2018 and eastern Maranoa 2018**



Note: Scores: 1 = lowest and 5 = highest perception; scores > 3 indicate favourable perceptions, scores < 3 indicate unfavourable perceptions

- The underlying drivers of community wellbeing were consistent over time. Table 1 shows the top three groups of drivers being similar across the three different industry cycles. These included:
  - The level of *services and facilities* – for example schools, child care, medical and health services, sports and leisure facilities, community support services, food and other shopping
  - The level of *community spirit* and *community cohesion* – for example inclusiveness and friendliness within the community, welcoming of newcomers and people with differences, and working together and supporting each other
  - The level of *social interaction* – for example visiting, talking to, and going out with others in the community
- Local trust became statistically important in 2018, while perceived personal safety was statistically important in earlier years
- Economic opportunities and environmental management were more important for community resilience than a sense of community wellbeing.

**Table 1 Important drivers of community wellbeing (ranked): Western Downs region 2014-2016-2018**

2014 Construction phase	2016 Post-construction	2018 Operations phase
Services and facilities	Services and facilities	Community cohesion
Community spirit	Community spirit	Services and facilities
Community cohesion	Personal safety	Local trust
Social interaction	Social interaction	Social interaction
Personal safety	Town appearance	Roads
Town appearance	Community cohesion	Community spirit

## Key messages: Community Wellbeing

- 1. A robust level of community wellbeing was maintained over periods of changing economic activity, even though some aspects of community wellbeing decreased during certain industry phases and other aspects improved.**
  - Despite the economic ups and downs of the construction phase, post-construction phase, and operations phase there were no statistically significant changes in overall community wellbeing in the Western Downs between 2014 and 2018.
- 2. Social capital, services, and facilities maintained community wellbeing over time**
  - The consistently important drivers of community wellbeing over the period were *social aspects* (community cohesion, trust, social interaction), and the level of *services and facilities*
- 3. The important drivers of community wellbeing indicate areas for focussing programs and initiatives to help maintain and strengthen community wellbeing**
  - Even if social capital, services, and facilities are presently good, it is important to maintain them over time to maintain community wellbeing.
- 4. Five of the fifteen community wellbeing dimensions showed statistically significant changes over time, which corresponded to industry phases, while the other ten dimensions remained fairly constant, along with place attachment**
  - *Environmental quality, environmental management, and roads* were at the lowest level during the construction phase and showed gradual but ongoing improvement from 2014
  - *Local decision making processes* showed a gradual negative change over the four year period. Local decision making processes were less important to community wellbeing, but critical for community resilience and adapting to CSG development
  - *Employment and business opportunities* showed the greatest change, demonstrating a large drop from 2014 to 2016 and an improvement in 2018. Employment and business opportunities were more important as an indicator of resilience and adaptation to CSG development, than to perceptions of overall community wellbeing.
- 5. Perceptions of community wellbeing were consistently lower over time for people who live out of town than those who live in town**
  - Although community wellbeing levels for people who live out of town were still very robust, findings suggest that easier access to services and facilities, and more opportunities to engage socially would enhance community wellbeing for people who live out of town.
- 6. Expectations of future community wellbeing were more optimistic in 2018 than in 2016**
  - Expectations about the future wellbeing of the community improved in the Western Downs during the operations phase in 2018.
  - When people viewed community wellbeing and community resilience to CSG development as strong, they then held more positive views about the future wellbeing of their community.
  - The stronger a sense of belonging and attachment to place the more positive a person was likely to feel about their community's future.

# COMMUNITY RESILIENCE AND RESPONDING TO CSG DEVELOPMENT

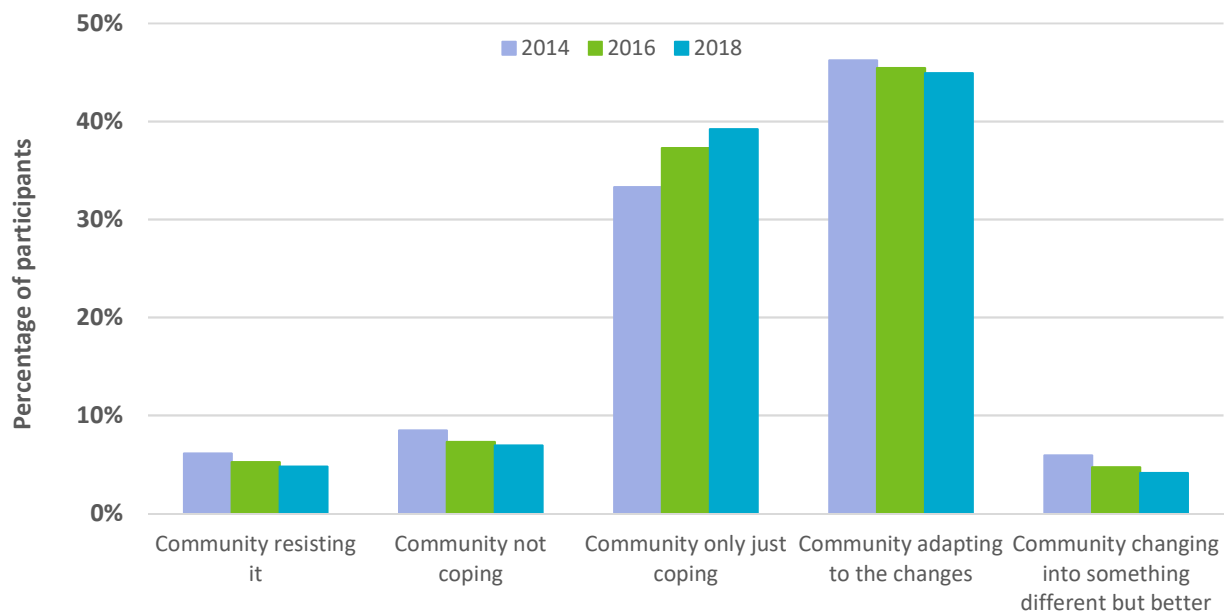
Coal seam gas development in a region has the potential for creating both opportunities and challenges for its communities from social, economic, and environmental perspectives. Community resilience actions, local decision making processes, and trust in local leaders are important for helping a community adapt well to changes.

## What we found: Community resilience and adapting

There was a diversity of views regarding how well people felt their community was adapting to CSG development, which reflected perceptions of resilience and adaptation

- As in previous surveys, approximately half the participants indicated they felt their communities were responding and coping well to the changes, while the other half indicated their communities were either just coping, not coping, or resisting (see Figure 2).
- In 2018, the smaller town centres of Miles and Tara identified their communities as not responding well to CSG development on average. Miles had the most unfavourable perceptions of community coping and adapting, though Tara also dropped to unfavourable levels in 2018.
- In contrast, levels of community resilience and adapting were significantly higher and positive on average in the eastern Maranoa region.
- Most communities within the Western Downs reported no real shift in how well they felt their community was responding to changes from CSG development.

Figure 2 Perceptions of community adapting to CSG development over time: Western Downs 2014 – 2016 - 2018



Note: The red arrow indicates a line between less and more favourable perceptions of community adapting

Analyses identified important aspects of community wellbeing and resilience that were consistently linked to positive views of community adaptation to CSG development. These act as *indicators of adapting and coping well* with CSG. People judge how well their community is adapting to CSG development based on the following:

- ✓ Good *economic opportunities*, such as businesses doing well and good employment options
- ✓ Good *environmental management* for the future, such as underground water and farming land
- ✓ Effective *local decision making processes* and strong citizen voice, such as people having trust in local leaders and council, feeling listened to and heard, and being kept informed
- ✓ Good *sharing of information* and *working together* on problems and opportunities
- ✓ Good *strategic planning, leadership, and access to information*
- ✓ Good *community commitment*, involvement, and perseverance
- ✓ Strong *local trust, community cohesion, and community spirit*
- ✓ Good *environmental quality* - low levels of dust and noise, and good air quality

Income sufficiency was an important indicator in 2014 when construction was in full swing and 2016 when there was significant economic slowdown. Services and facilities were an important indicator during the operations phase, and roads during the construction phase.

## Key messages: Community resilience and adapting

### **1. Perceived community resilience actions to CSG development were only modest and did not change over time**

- Perceptions of strategic planning and being able to work together were only modest, although community commitment was generally positive.

### **2. Perceptions of community coping and adapting also stayed static**

- There was no improvement in perceived community adaptation to CSG development over time in the Western Downs
- Smaller town centres in the Western Downs tended to perceive their communities as coping and adapting to CSG development less well than residents from larger towns
- In contrast, levels of community resilience and adapting were significantly higher and positive on average in the eastern Maranoa region.

### **3. Adapting to CSG development is different from community wellbeing**

- Adapting well is about economic aspects and environmental management, proactive planning and sharing of information, being kept informed and having a say, and the community persevering and working together to address challenges and opportunities
- Community wellbeing is more about maintaining high levels of services and facilities and social capital

### **4. The indicators of community adaptation provide opportunities for where things could be improved to increase people's confidence in adapting well to change**

- When people judge the indicators as functioning at high levels (e.g. economic opportunities etc.) they are more confident that their community is adapting well to CSG development

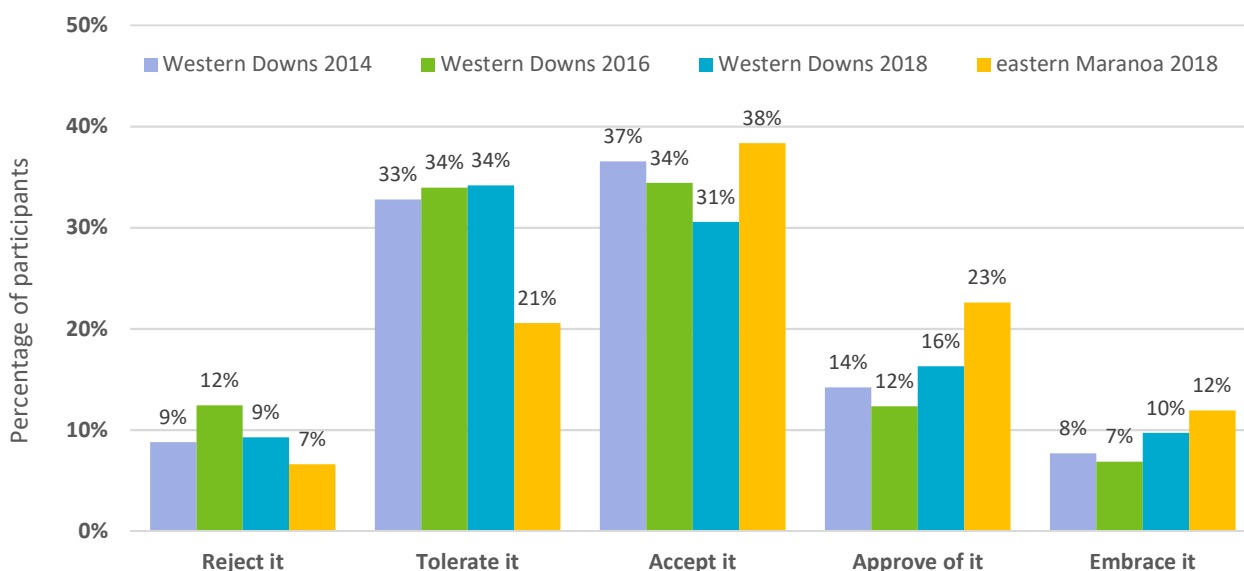
- The smaller town centres reported lower levels of these indicators and subsequent lower perceptions of adapting well to CSG development. If these aspects improved it is expected the smaller communities would judge their adaptation to CSG development far more positively

## LOCAL ATTITUDES AND PERCEPTIONS OF CSG DEVELOPMENT

### What we found: Local attitudes towards CSG development

- In 2018, attitudes towards CSG development within the Western Downs region still ranged across a spectrum of views.
  - 9% of people rejected CSG development
  - 10% of people embraced CSG development
  - 81% of people tolerated, accepted, or approved of CSG development
    - 34% tolerated
    - 31% accepted
    - 16% approved
- This pattern has remained similar over time, as shown in Figure 3.
  - In 2016, there was a slight shift towards more negative views, but in 2018 this trend reversed and attitudes were slightly more positive.
- In 2018, the eastern Maranoa held more favourable attitudes towards CSG development

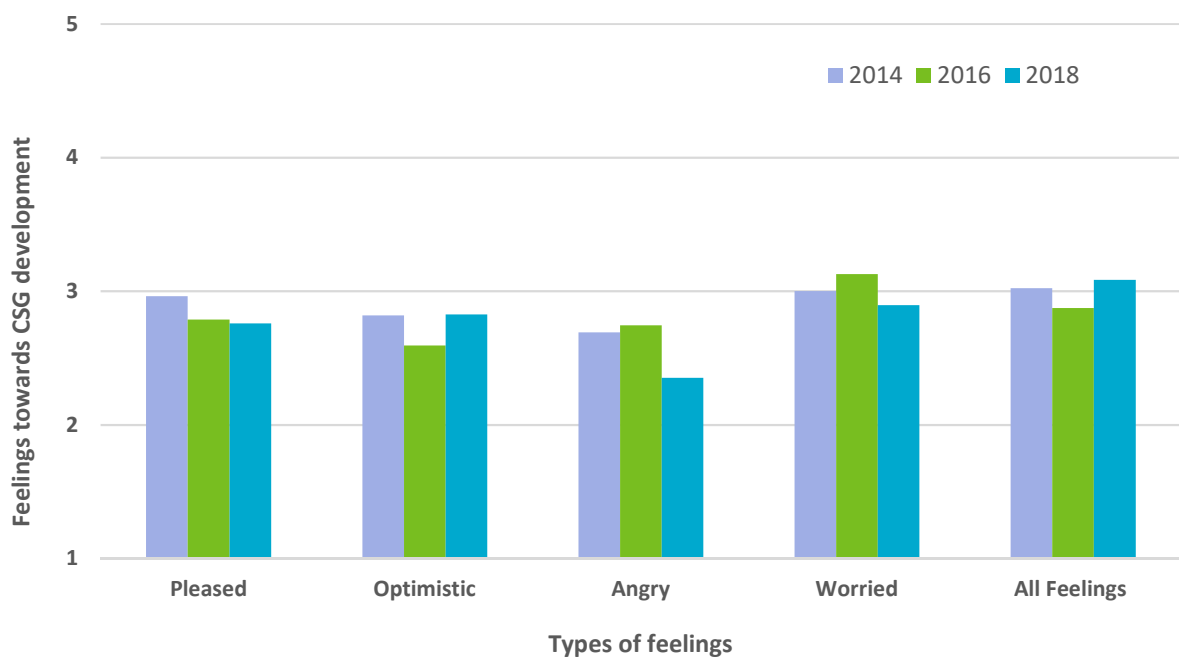
**Figure 3 Attitudes towards CSG development: Western Downs 2014-2016-2018 and eastern Maranoa 2018**



Note: Percentages rounded to the nearest whole percent

- In 2018, people’s views towards CSG development continued to differ between towns in the Western downs region.
  - Chinchilla held the most positive views towards CSG development in 2014, 2016, and 2018
- In 2018, there continued to be differences in attitudes towards CSG development between people who lived in town and people who lived out of town:
  - People who lived in town showed statistically more positive views over 2014-2016-2018
  - People in towns were slightly less favourable in their attitudes towards CSG development in 2016 than they were in 2014, though returning to more favourable attitudes again in 2018, whereas
  - People who lived out of town showed no real change over time.
- Trends over the four years showed a general softening of negative emotions towards CSG development in the Western Downs, as shown in Figure 4.
  - A sense of worry had lowered since 2016 ( $M = 3.13$ ) to a score in 2018 ( $M = 2.90$ ) of not being worried on average.
  - People were not angry on average in any of the industry phases, and even less so in 2018 ( $M = 2.35$ ) compared to previous years.
  - Feelings of optimism about CSG development were at their lowest in 2016 ( $M = 2.59$ ) and returning to 2014 levels in 2018 ( $M = 2.83$ ).
  - People in the eastern Maranoa indicated more positive feelings towards CSG development than the Western Downs.

**Figure 4 Trends in feelings toward CSG development: Western Downs region, 2014, 2016, and 2018**



Note: 1 = strongly disagrees with the feeling towards CSG development (worried, angry, optimistic, pleased), 5 = strongly agrees with the feeling

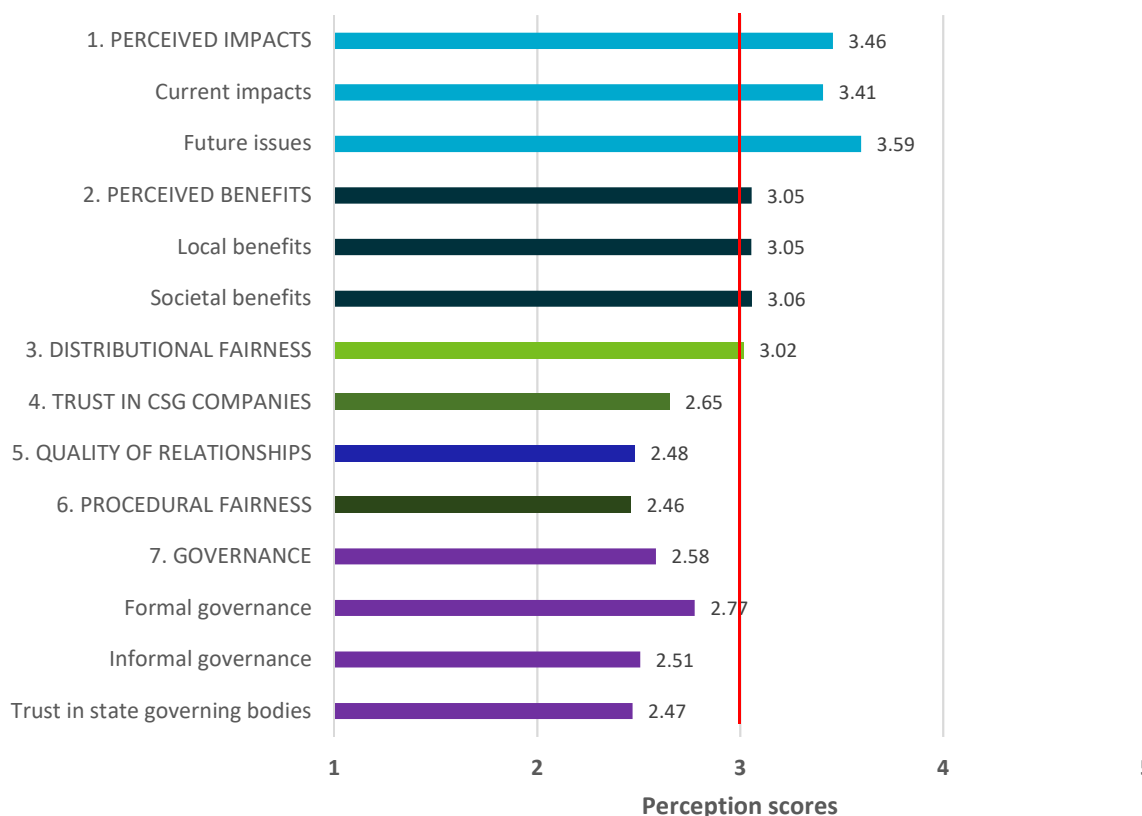


## What we found: Perceptions of CSG development

For the first time in 2018, the survey measured perceptions of nine different factors previously identified as important to forming an overall view about CSG development. These included perceptions of *impacts and benefits, procedural and distributional fairness, governance, quality of relationships with industry, trust in the industry, perceptions of water risk, and knowledge*. Results are shown in Figure 5.

- Concerns for impacts from future issues were moderately high and greater than perceptions of current impacts
- Perceptions of benefits were marginal across the region, although this varied between sub-regions
- On average, perceptions of procedural fairness, trust in CSG companies, and the relationship quality with the CSG company were generally negative
- Perceptions of distributional fairness in terms of how costs and benefits were shared was seen as marginal
- Perceptions of governance were also unfavourable
  - However, people indicated more positive perceptions of governing bodies to regulate the industry and hold CSG companies to account (formal governance) than other aspects such as trust in governing bodies. These perceptions also varied according to the subregion.
- Perceptions of risk to underground water were moderate, though lower in the eastern Maranoa than in the Western Downs.
  - Perceived risks to ground water were driven more by high perceptions of the severity of the risk than low perceptions of manageability of the risk. However, both were still important.
- People’s confidence in knowledge about the industry were at modest levels with more than half indicating they needed more information

**Figure 5 Perceptions of underlying factors important to acceptance of CSG development: Western Downs, 2018**

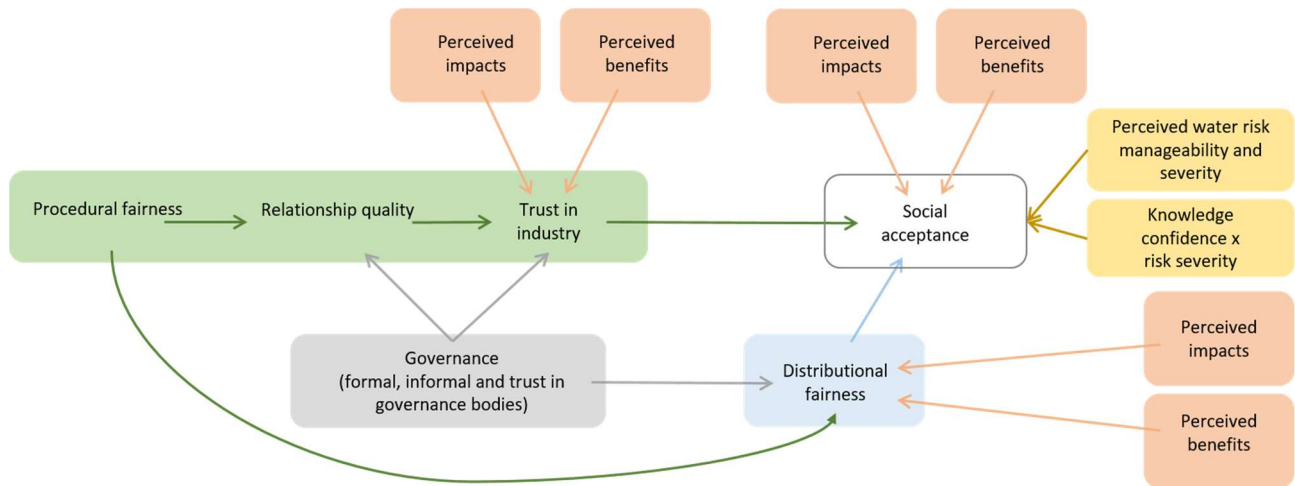


*Note:* Scores: 1 = lowest and 5 = highest perception; scores > 3 indicate favourable perceptions; scores < 3 indicate unfavourable perceptions, except for perceived impacts where higher scores indicate more concern. Lower case factors of the same colour are sub-components.

## A model of trust and social acceptance

Statistical modelling of the nine key factors showed how the different factors can work together to best explain trust and levels of acceptance, as shown in Figure 6. The model shows opportunities for building trust and increasing acceptance by improving the key drivers that influence and shape trust and acceptance.

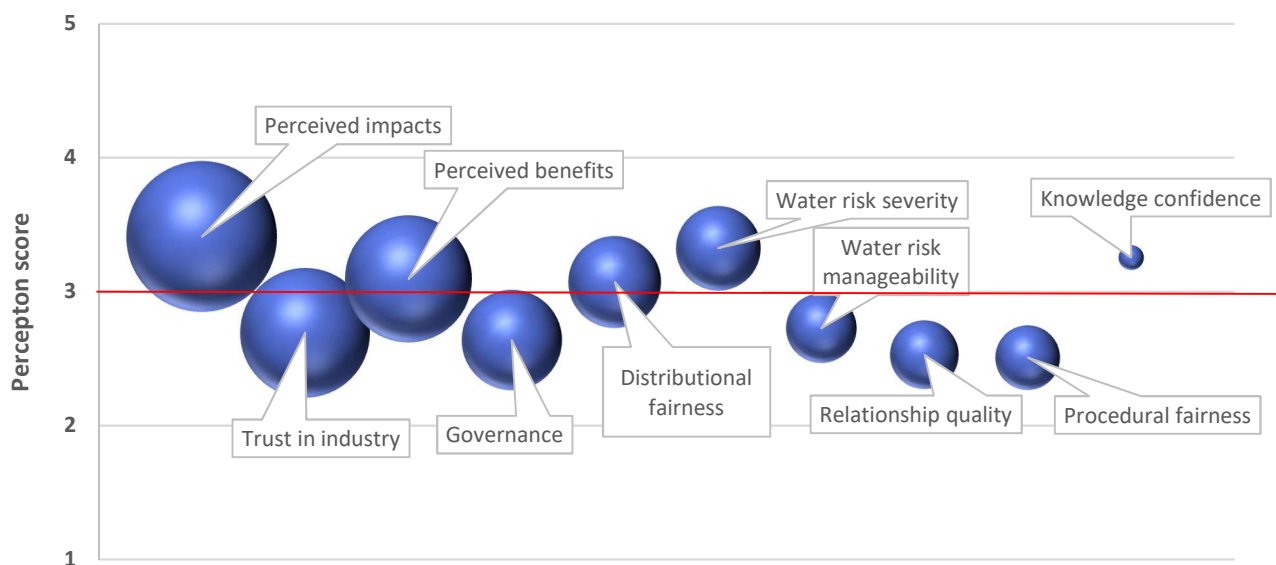
**Figure 6 Model of trust and social acceptance or lack thereof**



Note: The impact of knowledge confidence depends on a person's beliefs about water risk severity

- The model demonstrates that people's trust and acceptance of the industry is dependent on a range of factors.
  - Moreover, each factor needs to be addressed and improved if people's trust in industry and acceptance of CSG development in their communities is to improve.
- Figure 7 shows the most important drivers of social acceptance by the size of the bubbles.
  - Perceived impacts, trust in industry, perceived benefits, governance and distributive fairness are the five most important drivers.

**Figure 7 Total effects of the different drivers on levels of social acceptance**



Note: Size of bubble indicates relative importance of that driver; height of bubble indicates perception score of the driver (y axis); bubbles below the red line indicate an unfavourable perception of that driver except for perceived impacts where a higher score indicates greater concerns

## Key messages: Local attitudes and perceptions of CSG development

### **1. Over the four year period a range of views remain towards CSG development, and the pattern of views has remained similar**

- In 2018 people did not report strong feelings towards CSG development on average and the strength of their feelings had softened over the four year period.
- Attitudes towards CSG were not polarised in the Western Downs and eastern Maranoa. Rather the range of attitudes in both regions demonstrated a relatively normal distribution with most views in the mid-range.
- Younger people held much more positive views towards CSG development though are still concerned about potential impacts. They perceive more benefits, better distributional fairness, and have much more confidence in governance surrounding the CSG industry.
- In 2018, eastern Maranoa held more favourable views towards CSG than the Western Downs

### **2. Main concerns about CSG development remain about water**

- Concerns of local residents about underground water resources and perceived uncertainty about the science remain high.
- This reflects the level of importance that underground water resources represent to rural communities and the complexity of the underlying science, combined with issues of trust in the CSG industry and state government regulating bodies.

### **3. Local and societal benefits from CSG development were both seen as modest**

### **4. Size of towns matters in the way local benefits and impacts are perceived**

- The smaller towns tended to have a negative view as to the local benefits of CSG development and perceived impacts as more of a concern than the larger town centres.

### **5. Previous connection with the industry is linked to lower levels of concern about impacts**

### **6. More positive attitudes and perceptions about CSG development were evident in the eastern Maranoa than the Western Downs**

### **7. Levels of social acceptance in local communities depend on people's perceptions about:**

- Industry effects: *perceived impacts and benefits*
- Relations between community and CSG operator: *procedural fairness; relationship quality; and trust in industry*
- *Distributional fairness* in terms of how benefits and costs are shared
- *Governance* of the industry: compliance, regulations, planning and trust in governing bodies
- *Risk to underground water*: beliefs about the manageability of the risk and the severity of the outcome
- *Confidence of knowledge* about CSG combined with beliefs about risks to underground water

Opportunities for building trust and increasing acceptance exist by improving these key drivers