

Social Baseline Assessment: Narrabri project – Final Report

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Our gratitude goes to the research participants from the Narrabri shire who participated in our qualitative interviews and focus groups, our quantitative survey of community wellbeing and attitudes toward CSG development, and our discussions of the findings from this research project.

Executive Summary

The main aims of this project were to document community concerns and perceptions of the CSG sector in the Narrabri shire and to establish baseline levels of community wellbeing, resilience, and attitudes towards CSG development. Using a representative sample of 400 randomly selected residents and a comprehensive survey, this research provides robust empirical evidence of resident perceptions of coal seam gas development. It has measured and reports on people's concerns about possible impacts, expected benefits, perceptions of trust in the industry, and confidence and trust in governance of the sector. In addition, the research examines perceptions of fairness (both procedural and distributional) and documents overall levels of acceptance. In doing so, the research provides community, government, and industry stakeholders with information to form a balanced view about CSG-related issues.

In addition, the research establishes comprehensive baseline measures of community wellbeing and community resilience and empirically identifies areas for strengthening community wellbeing. It also identifies actions for improving community resilience if CSG development were to occur.

The research project was undertaken over a 15 month period with the survey conducted in March- April 2017 following a qualitative study investigating expectations and perceptions of the CSG sector, which was used to inform the survey questions. The interviews conducted as part of the qualitative study, along with later feedback sessions on the survey findings, both helped with interpreting the overall findings for this final report.

Perceptions and local attitudes towards CSG development

The research found that three broad groups of attitudes towards CSG development in the shire could be identified from the data: those opposed (30.5% of residents who 'reject'), lukewarm (41.7% of residents who would 'tolerate' or be 'ok with it'), and those very supportive (27.8% of residents who 'approve' or 'embrace' CSG development). These attitudes towards CSG were more negative than in Qld CSG regions with a higher percentage of residents rejecting CSG development (30% Narrabri NSW, 13% Western Downs QLD, and 8% Eastern Maranoa QLD).

Both the survey results and the qualitative interviews supported this diversity of views and found eight different factors that determine these attitudes. These included:

- *perceptions of impacts and benefits*
- *procedural fairness*,
- *quality of the relationship* with the CSG operator
- *trust* in the operator
- *distributional fairness* in terms of how benefits and costs will be shared
- confidence and trust in *governance* of the industry
- an individual's confidence in their *knowledge* about CSG

Perceptions of these underlying factors by those rejecting and supporting further CSG development were all in stark contrast with each other, except that both groups were confident in their level of knowledge about local CSG activities.

Community wellbeing in the Narrabri shire

The research also concluded that current levels of community wellbeing were robust and comparable to other areas in southern Queensland that have experienced coal seam gas development. The research identified four dimensions of community wellbeing most important to residents in the Narrabri shire. These represent aspects that contribute most to a good quality of life in the eyes of residents, indicating that their community is a great place to live. These four dimensions involved:

- level of services and facilities
- level of social interaction
- local trust
- appearance of local towns, for example, cleanliness, parks, and green space.

The report identified these aspects as foci for future programs and initiatives where the aim is to strengthen or augment community wellbeing. The research also found that when community wellbeing and resilience is perceived to be high then people are optimistic about the future of their community.

Community resilience in the context of CSG development

The research also found that residents' perceptions of their communities' ability to undertake actions that would improve their resilience to change, in the context of CSG, were relatively low. That is, if coal seam gas development were to proceed almost half the residents from the shire felt that their community would only just cope, not cope, or resist the changes. However, these views varied based on subregions and reflected other stressors that sub-regions are currently facing. Narrabri and surrounds demonstrated the most positive view about their ability to adapt to coal seam gas development, with 60% indicating they believed their community would adapt or transform into something better. In contrast, Boggabri and Wee Waa residents indicated lower levels of confidence in adapting well to changes (38% and 43% respectively).

The report identified two sets of actions that, given particular attention, would improve community resilience if CSG development were to proceed. These included:

- mechanisms for sharing information and ensuring citizens voices are heard in the process, and
- undertaking practical actions that demonstrated the community could work together with government and industry to address problems and opportunities

Concluding comments

The report concluded that people with lukewarm views are at risk of retreating from engaging in constructive conversation about the development due to uncertainty about where to find 'balanced' information, or 'who to listen to' for unbiased information. Even though some segments of the lukewarm group had lower levels of interest in CSG, many from this group were still very interested in the issues of CSG development for the shire. However, many were put off from participating more because of some polarised views within the community, and not wanting to feel pressured to conform to one of those views. In combination this pressure and uncertainty of who to believe could potentially reduce their participation in information sharing occasions and opportunities to contribute ideas for managing problems and opportunities as they arise, if CSG development were to proceed. Harnessing their ideas and providing a respectful avenue for people to access information and share their thoughts is important for community cohesion and resilience. Tapping into the range of community views about CSG development and providing safe environments for information sharing and the joint development of solutions will support the best possible outcomes for the shire as a whole and help to maintain community cohesion.

1 Introduction

1.1 Background to the overall research project

To increase our understanding of the social impacts of unconventional gas, this research project investigated a range of aspects important for understanding trust and social acceptance in relation to the coal seam gas industry sector in NSW. The main aim of this project was to establish baseline measures of community wellbeing, community resilience and adaptation, and expected future wellbeing in the context of a proposed coal seam gas (CSG) development in the Narrabri shire of NSW. In addition, it investigated community expectations and measured local attitudes and perceptions of CSG development and the CSG sector.

The research context was the Narrabri shire of north-western NSW where an onshore CSG project, the Narrabri Gas project operated by Santos, was in a pilot and appraisal stage at the time of conducting the research. Santos's Environmental Impact Statement (EIS) was lodged in February 2017 and remained under review by the New South Wales government throughout the second half of the project. If the Narrabri Gas Project were to proceed such baseline measures will be important for measuring any changes in community wellbeing over time, understanding and mitigating potential impacts, and helping to realise any opportunities. Such measures are also important for augmenting other local council and community information to enhance current community wellbeing.

Socially sustainable regional development depends on successfully aligning development with community values. Land can be used for multiple purposes including development of publicly owned resources. However, to achieve development of resources that are acceptable to local communities and viable over the long term, it is necessary to understand community perceptions about the resource and its development. Understanding community expectations and concerns helps to underpin government and industry decision making regarding policy, programs, and plans to develop extractive resources. Moreover, community support and involvement in decision making is important for achieving the most effective and acceptable outcomes.

FOUR PROJECT PHASES

Project Phase	Activity	Output
Phase 1	Preparation and Planning	Report: <i>Social baseline assessment: Narrabri project, Planning and preparation, September 2016</i>
Phase 2	Interviews and small group discussions	Report: <i>Understanding local community expectations and perceptions of the CSG sector. January 2017</i>
Phase 3	Shire-wide survey	Report: <i>Community wellbeing and local attitudes to coal seam gas development, October 2017</i>
Phase 4	Feeding back findings	Report: <i>Social baseline assessment: Narrabri project, Final report, February 2018</i>

OVERALL PROJECT AIMS

1. To understand and document community values, perceptions, concerns, and expectations of the CSG sector in the context of the Narrabri Gas project [Phase 2]
2. To identify the driving factors affecting trust between community stakeholders and the CSG sector [Phase 2]
3. To establish baseline levels of community wellbeing, resilience, and attitudes to CSG development in the Narrabri region prior to further CSG development, if it were to proceed [Phase 3]
4. Feedback results to community, industry, and government stakeholders. Identify possible collaborative actions to develop and support community wellbeing and resilience [Phase 4]

1.2 Context for the Narrabri Gas Project

The Narrabri shire

The Narrabri shire is located in north-west New South Wales, around 100 km south of Moree and 100 km north of Gunnedah and is approximately half way between Brisbane and Sydney. The town of Narrabri itself is located on the Namoi River at the intersection of the Newell and Kamilaroi Highways. In 2017, the shire had a population of approximately 13,000 with around 6,000 living in the town of Narrabri. Other smaller towns in the shire include Boggabri, Baan Baa, Gwabegar, Pilliga, Wee Waa, Edgeroi, and Bellata. Since European settlement, this area has been primarily a grazing and cropping region. Irrigated cotton was planted near Wee Waa in the early 1960s, evolving to become the main high value crop in the region. More recently since 2012, a number of coal mines have been approved and are operating near Narrabri, Boggabri and Baan Baa, broadening activity in the shire. The Narrabri Gas Project, a proposed coal seam gas development, is currently in the appraisal phase.

The shire's Strategic Community Plan 2017 - 2027 (Narrabri Shire Council, 2017) reflects goals such as establishing attractive town centres with good regional infrastructure (e.g., roads, rail, airports, and industrial estates); improved health, educational and child care services; adequate and affordable housing; safe, inclusive and involved communities; thriving local businesses and new industries; and sustainable and environmentally friendly land-uses.

The Narrabri Gas Project

The Australian energy company Santos is the proponent that holds the petroleum and exploration leases inside which the Narrabri Gas Project is proposed (Petroleum Exploration Licence 238 and Petroleum Assessment Lease 2). The towns of Narrabri and Wee Waa are within PEL 238, and the town of Boggabri is outside this licence area. At the time of data collection, the project was in its exploration and appraisal phase with approximately 60 wells in place; a water storage area and water treatment plant constructed; and some gas being transmitted to the Wilga Park power station approximately 8 km south west of Narrabri. In February 2017, Santos lodged an Environmental Impact Statement (EIS) with the NSW Department of Planning and Environment proposing to develop natural gas in part of the geological area known as the Gunnedah Basin – the Narrabri Gas Project – approximately 20 km south-west of the town of Narrabri (NSW Government, 2017).

The EIS proposes that the Narrabri Gas Project would be developed over 20 years with up to 850 wells on up to 425 well pads in the project area in and around the Pilliga. Gas related infrastructure would also be constructed in the project area including gas processing and water treatment facilities and related water and gas gathering pipelines. The gas would be made available to the NSW market via a new Western Slopes pipeline connection to the existing Moomba-Sydney gas pipeline, which is a separate project being developed by the APA Group. The EIS information sheet for the Narrabri Gas Project, prepared by Santos, described the project area as “mostly (around 60%) on state land in a section of the Pilliga set aside by the NSW Government for uses including logging and extractive industries”.

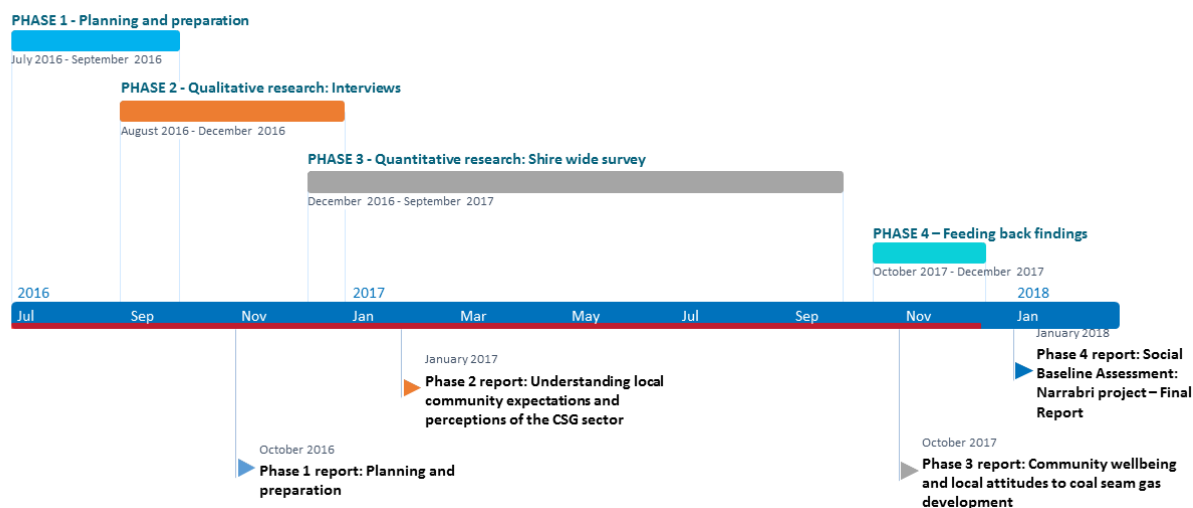
2 What we did and why

The research was conducted over an 18 month period and comprised four different phases. It was designed using a mixed method approach to include both qualitative and quantitative data collection methods. Using a mixed methods approach enables the researcher to draw robust findings because of the comprehensive nature of the data collection methods. The qualitative data provided in phase 2 was collected from interviews and small group discussions conducted with stakeholders. This component of the research provided a rich and deep understanding of the issues related to coal seam gas development in the region. From this research we identified eight different factors that contributed to resident’s views about CSG development and the sector. We also identified important matters regarding people’s concerns and expectations, perceptions of benefits and trust in the industry, issues of fairness both procedural and distributional, and expectations around governing the industry and its associated development. These findings have been documented in the Phase 2 report (Walton et al., 2017).

However, the qualitative approach has limitations in the conclusions that can be drawn from this type of data. For example, although phase 2 identified a range of issues important to the Narrabri communities regarding gas, this type of data is unable to establish the extent of these concerns within the broader community, such as how many people within the shire hold these views, and which issues are more important to residents than others. Nor is the qualitative approach able to establish baseline measures of these perceptions. Rather, a quantitative method is needed to measure and infer results to the wider shire through the use of statistics. Thus, Phase 3 of the project employed a shire wide survey of randomly selected residents using a representative sample of 400 residents (Walton & McCrea, 2017). This type of data allowed the researchers to measure and count responses, and to give average scores and percentages for the different issues measured in the survey. Importantly, the findings from the previous qualitative interview phase helped inform and design the survey questions so that the survey can measure aspects that are important to the community. In combination the two approaches, the qualitative and quantitative, provide a rich and robust understanding of community perceptions of CSG development and the sector.

In the final phase of the project we took our research findings back to the Narrabri shire and conducted feedback sessions with a range of community stakeholders. Information from the feedback sessions, along with the findings from phase 2 and phase 3 have informed this final report. Combining all three phases of research is a way of ‘triangulating’ the evidence, along with relevant other data that may exist from other sources. Triangulating the evidence helps to ensure accurate interpretations of research.

Figure 1 Project phases and timeline



3 Key messages

3.1 Establishing a baseline of community wellbeing

This research measured community wellbeing for the Narrabri Shire in 2017 and identified those aspects of wellbeing that were viewed very favourably and those that were viewed less so. Importantly, the study also identified the underlying drivers of community wellbeing. Understanding these drivers provides valuable information on where to focus scarce resources so that programs and initiatives can effectively augment and strengthen those aspects important for contributing to the quality of life in the community. This information can also be used as baseline data to inform activities and measure change if CSG were to proceed, which was one of the main aims of this project.

The survey measured fifteen dimensions of community wellbeing covering six domains: social, environmental, political, physical infrastructure, economic, and health. For example, as shown in Figure 2, dimensions of community wellbeing include perceptions of personal safety, community spirit and cohesion, local trust, employment and job opportunities, environmental quality, local decision making processes, and level of services and facilities.

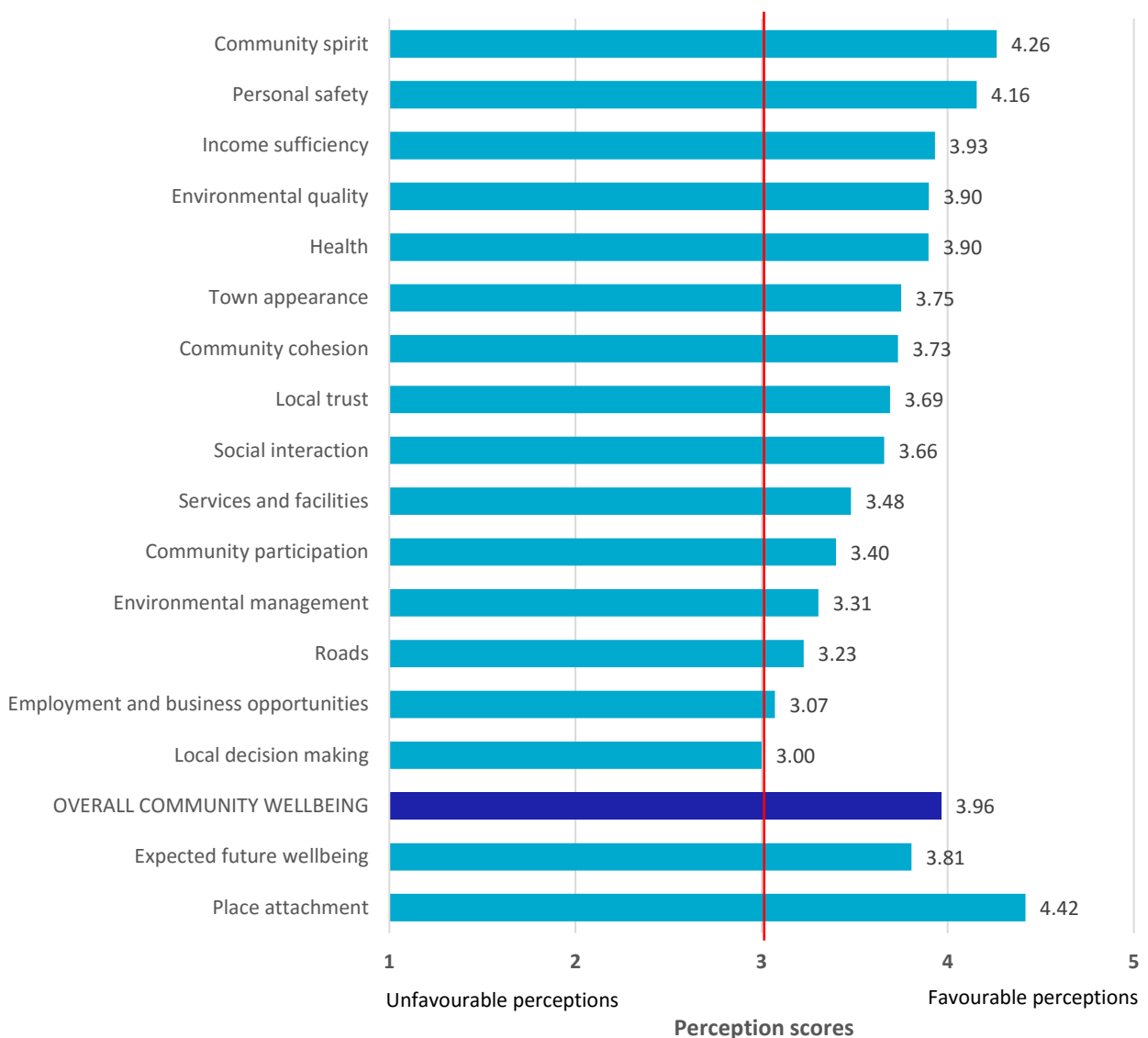
Figure 2 Six domains of community wellbeing with underlying dimensions



Results showed overall community wellbeing for the Narrabri Shire to be very robust with a score of 3.96 out of 5. This score was comparable to other CSG regions in the Surat Basin of southern Queensland (Western Downs region $M = 3.84$ and Eastern Maranoa region (around Roma) $M = 4.12$).

Of the fifteen underlying dimensions thirteen were rated positively and two as borderline. As shown in Figure 3, the highest rated dimensions were community spirit and personal safety with scores greater than 4 out of 5, demonstrating very positive perceptions. The lowest rated dimensions were local decision making and employment and business opportunities with scores close to 3 out of 5 indicating borderline perceptions of these dimensions. Place attachment was very high ($M = 4.42$), which was higher than the Western Downs ($M = 4.16$) and similar to the Eastern Maranoa (Roma) ($M = 4.52$).

Figure 3 Mean scores for community wellbeing dimensions: Narrabri Shire 2017



Note: The higher the perception score the more favourable the perception; a score of 3 represents the midline; scores below 3 indicate dissatisfaction, scores above 3 indicate satisfaction

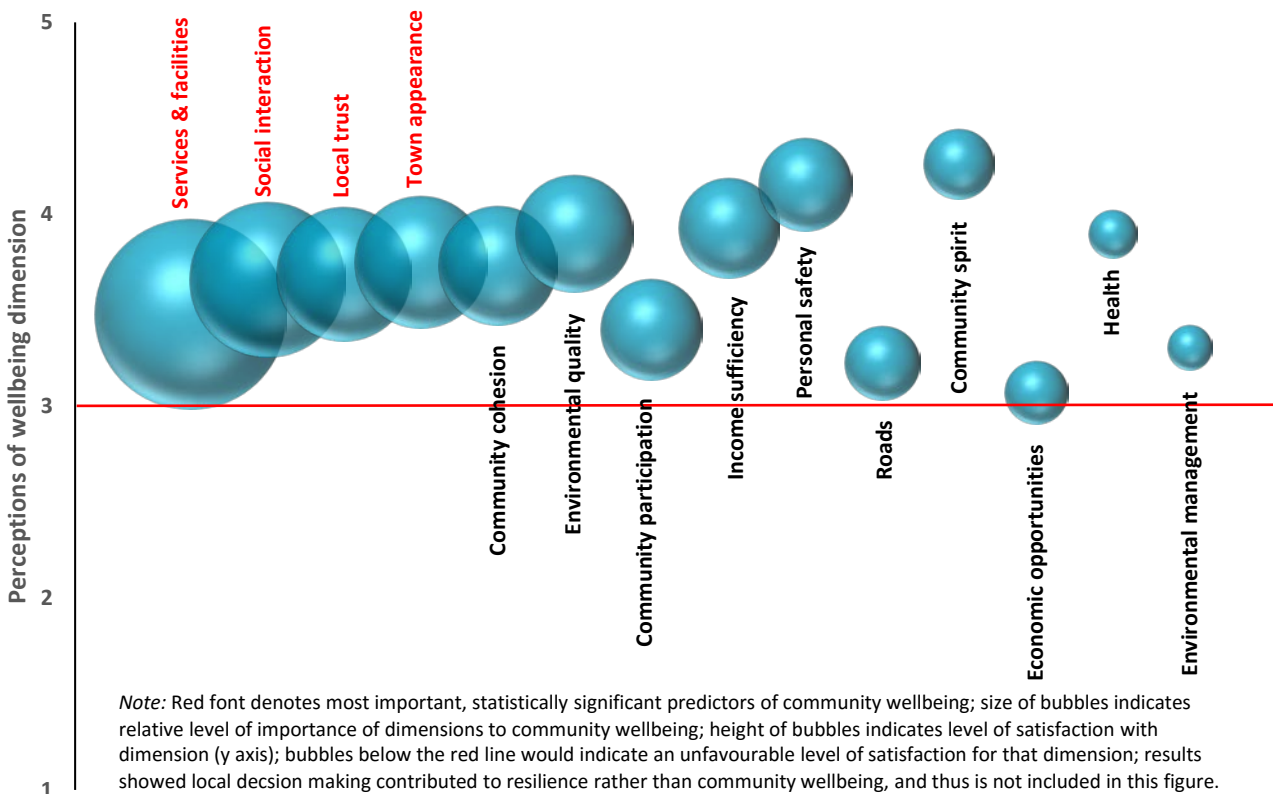
IMPORTANT DIMENSIONS UNDERPINNING COMMUNITY WELLBEING

The research identified four main drivers of community wellbeing in the shire: services and facilities, social interaction, local trust within the community, and the town’s appearance. When residents felt these aspects of their community were strong they also viewed their community as a great place to live, a place that offers a good quality of life to all ages. Conversely, if people felt negatively about these aspects they also rated wellbeing in their community less favourably. Notably, these views also contributed towards residents views about the future of the community. When community wellbeing was rated favourably they also felt confident about the future of their community, and when they reported unfavourable levels of community wellbeing they were less confident about the future of their community.

Four important dimensions for a sense of wellbeing within the community: Narrabri shire 2017

1. 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
2. The social aspects of community life such as *social interaction*
3. The level of *local trust* within the community
4. The *appearance of local towns* – for example clean with good parks and green space

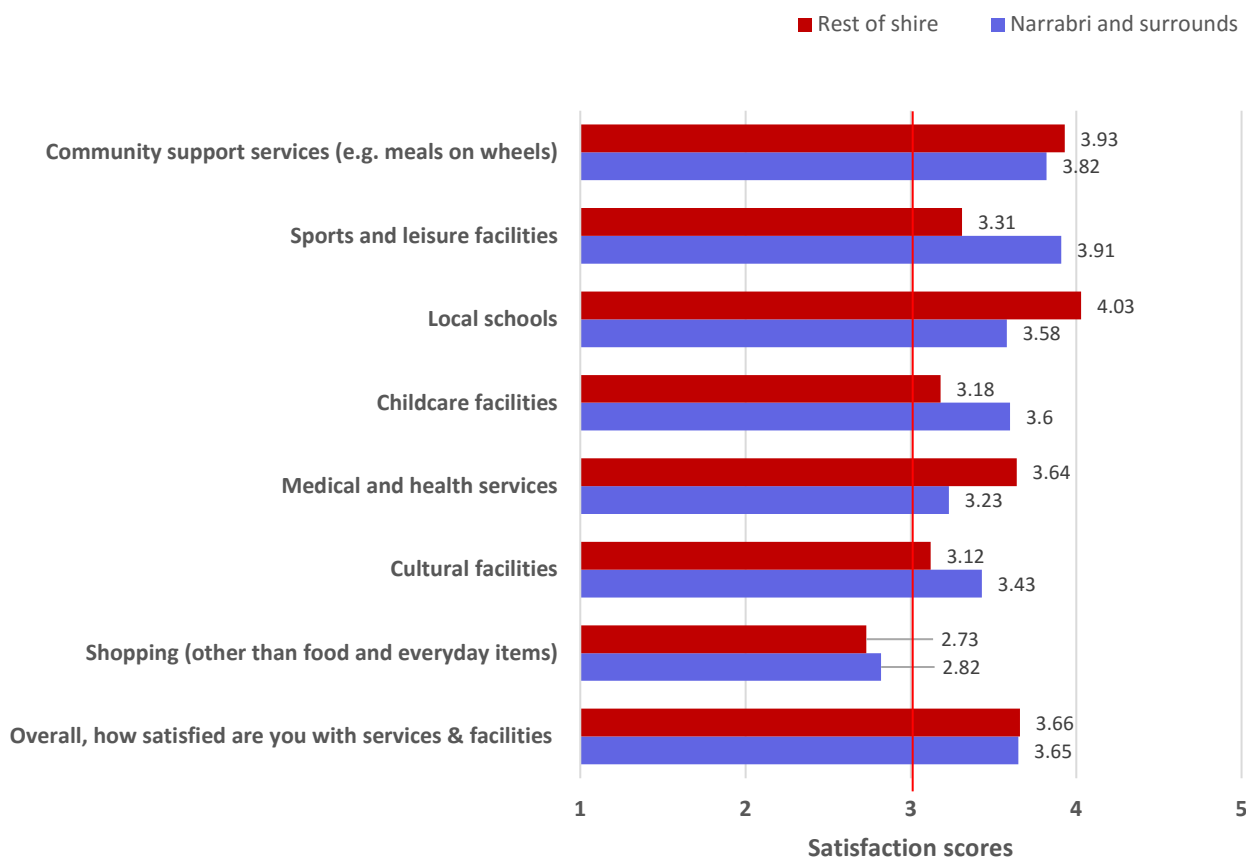
Figure 4 Community wellbeing dimensions ordered according to importance: Narrabri shire 2017



SERVICES AND FACILITIES

The main driver of community wellbeing was the level of services and facilities in the shire. More detailed analysis showed that residents' satisfaction with community support services and sports and leisure facilities were the highest. In contrast, shopping for goods other than food and everyday items was the lowest. As shown in Figure 5 there were differences based on sub-regions with no set pattern identified.

Figure 5 Perceptions of services and facilities in local area



Note: Scores: 1 = very dissatisfied and 5 very satisfied; scores below 3 indicate dissatisfaction, scores above 3 indicate satisfaction

Feedback discussions indicated retail was finding it difficult due to trends in online shopping and people travelling to larger town centres such as Tamworth for certain types of shopping. This trend is consistent with broader social trends of increasing online shopping. Other rural towns also report difficulty for retailers when people travel to larger centres for shopping. This finding aligns with an increasing trend for rural residents to increase the distance they travel, improved connectivity to larger towns, and the retreat of many services to larger centres. Such aspects place pressure on smaller towns to maintain local retailers.

SOCIAL ASPECTS

Social aspects of community life are important drivers of perceived community wellbeing. This is also reflected in people's concerns about CSG development impacting on community cohesion, which was cited as the third highest concern of eighteen potential impacts. Analysis of community cohesion showed that it was moderately high for the shire ($M = 3.78$). However, feedback discussions also indicated long standing tensions between sub-regions harking back to old shire boundaries of the Namoi Shire Council and the Narrabri Municipal Council prior to amalgamation in 1981 into the current Narrabri shire. Further analysis of sub-regional cohesion indicated very robust levels within each sub-region; though, it cannot be assumed that this means cohesion between subregions is high. This is discussed further in the resilience section where the need to work together is identified as important for adapting to change if the Narrabri Gas Project were approved.

TOWN APPEARANCE

Town appearance seems particularly important for community wellbeing in the Narrabri Shire. This finding was consistent with the level of community engagement in the recent shire development of the Narrabri main street. Feedback discussions indicated there had been extensive debate about the changes to the main street suggesting that residents care very much about the town's appearance. Discussions also suggested that town appearance is used to judge 'how well a town is doing' and people describe it as a reflection of the town and its residents. Previous research shows that visual amenity including greenspace contributes to social capital and community wellbeing (Morrow-Jones, Irwin, & Roe, 2004; Sharma et al., 2016; Sirgy, Widgerly, Lee, & Yu, 2010). Such physical aspects of a town might also contribute to place attachment, which was rated very highly by Narrabri shire residents ($M = 4.42$). However, place attachment does not rely solely on physical aspects. Other aspects beyond physical attributes are also important for generating a strong attachment to place. These include social ties to a place and the symbolic meaning of a place to an individual (Christakopoulou, Dawson, & Gari, 2001; Devine-Wright, 2009).

EMPLOYMENT AND BUSINESS OPPORTUNITIES

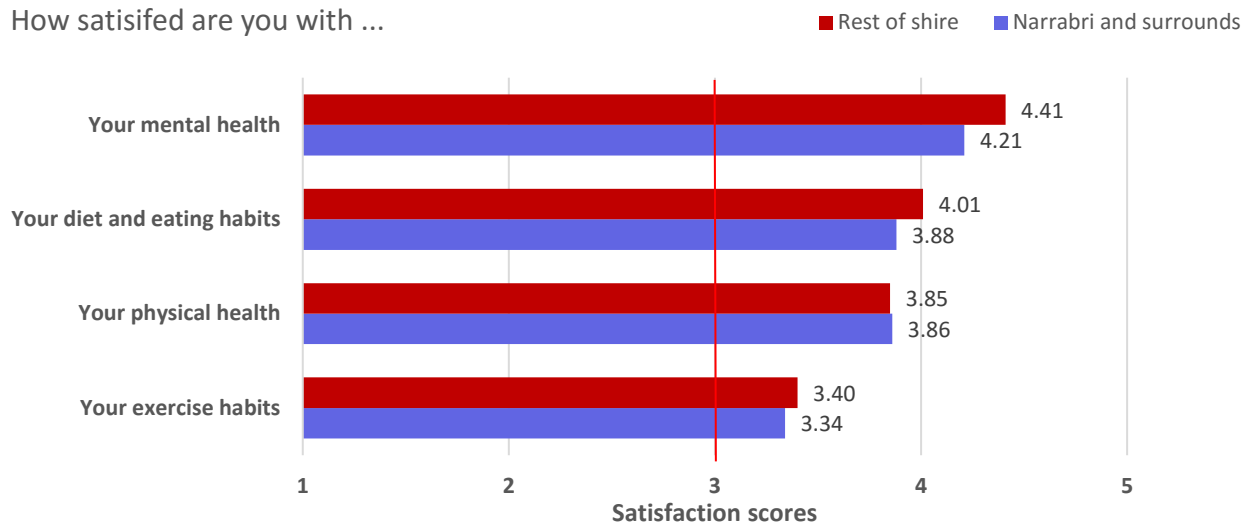
Employment and business opportunities were rated as borderline ($M = 3.07$). Further analysis showed differences between men and women in how they perceived these opportunities. Men on average viewed these opportunities favourably ($M = 3.27$) while women had lower perceptions and viewed economic and business opportunities unfavourably on average ($M = 2.88$). This finding highlights the risk to rural communities of women leaving town for job opportunities elsewhere, which has been documented as part of the phenomena of 'rural decline'. Rural decline in this context describes a net out-migration of skills and youth (particularly in young females) and increasing poverty levels in rural areas (Measham & Fleming, 2014).

Analysis also found employment and business opportunities were not a major predictor of community wellbeing in the Narrabri shire. However, this may become more important in periods of economic lulls. In Queensland in 2014 employment and business opportunities were also not found to be that important. However, this changed in 2016 when employment and business opportunities shifted to be an important driver of community wellbeing. In 2016 the CSG industry was in its post-construction phase and the region was facing an economic slowdown. It's possible that economic and business opportunities take on more relevance when jobs are scarce and business opportunities are reduced. Moreover, results show that employment and business opportunities are important to communities when they are adapting to CSG development.

PHYSICAL AND MENTAL HEALTH

The results showed that on average residents rated their satisfaction with their health highly ($M = 4.07$). Analysis of the items comprising this measure also showed that residents rated their mental health particularly highly ($M = 4.27$ for the shire), as shown in Figure 6. However, discussions with community agencies involved with mental health services indicated surprise at this result describing increases in demand for their services. One explanation for this discrepancy could be that individuals with lower levels of mental health may not have chosen to participate in the survey. Lack of engagement is a common attribute associated with mental health conditions. Further analysis showed that based on the existing scores for mental health, 4% of respondents indicated low levels of mental health. Extrapolating this to the larger shire means around 370 individuals within the region would describe feeling very dissatisfied with their mental health status, which is likely to be an underestimate if they are under-represented in the sample. This emphasises the need for adequate service provision to cover a range of mental health issues like depression and issues with drugs. The lowest satisfaction was with exercise habits ($M = 3.36$), which could be a focus for community wide programs.

Figure 6 Satisfaction with health and wellbeing



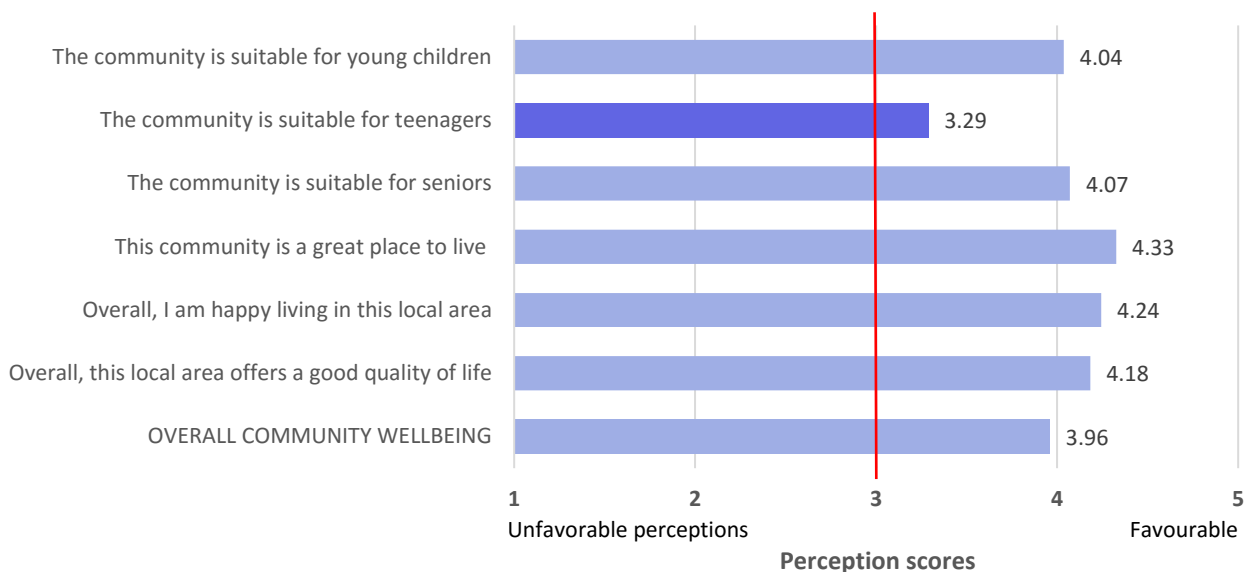
Note: Scores: 1 = very dissatisfied and 5 very satisfied; scores below 3 indicate dissatisfaction, scores above 3 indicate satisfaction

COMMUNITY WELLBEING AND TEENAGERS

The results showed that even though overall community wellbeing rated moderately high ($M = 3.96$) it was perceived as being low for teenagers. As shown in Figure 7, perceptions of the community as a place suitable for teenagers was considerably lower compared to suitability for young children and for seniors. This finding is consistent with other research that finds suitability for teenagers lower than for other age groups (Morton & Edwards, 2012; Walton, McCrea, & Leonard, 2016). Considerable research has been undertaken to address the needs of youth and identifies the difficulties of building capacity within communities for engaging young people, particularly rural youth (Davie, 2015).

Feedback discussions identified a range of explanations for this result – reputation of the Narrabri High School at the time, lack of job opportunities, limited leisure activities other than sporting options, particularly for girls; and teenagers’ reliance on parents to get around because of limited public transport. Discussions also identified recent initiatives such as the Narrabri Youth Shack activities and Agribusiness Careers & Professions (AGCAP) educational programs as helping to target these issues.

Figure 7 Mean scores of individual items for overall community wellbeing



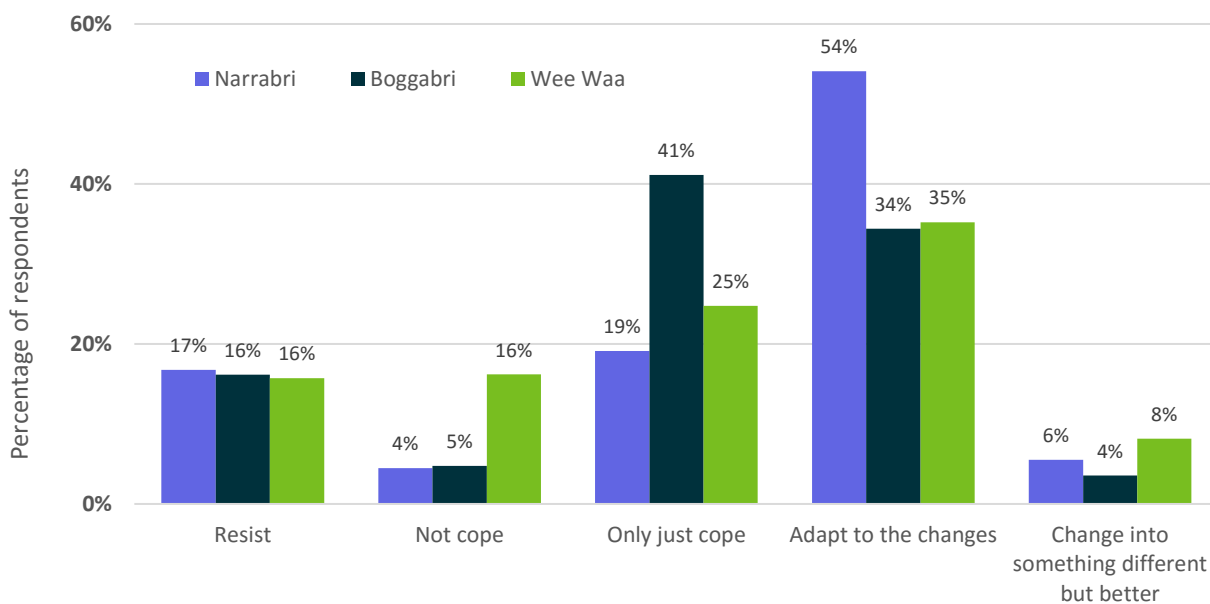
Note: The higher the perception score the more favourable the perception; a score of 3 represents the midline

3.2 Adapting to CSG development if it were to proceed

The research provides valuable information about how the community believes it would respond and adapt to CSG development if it were to proceed.

The results showed there was a diversity of views regarding how participants felt their community would cope and adapt to possible CSG development in the shire. These views ranged from people feeling their community would resist changes through to feeling their community would change into something different but better. As shown in Figure 8, these views also varied among the three different subregions. Residents in Narrabri and surrounds were significantly more likely to think their community would adapt to the changes, while residents in Boggabri and surrounds were more likely to think their community would only just cope, and Wee Waa more likely to think their community would not to cope with possible CSG development.

Figure 8 Community perceptions of adapting to CSG development: Narrabri shire 2017 and Roma 2016



Feedback discussions suggested a range of explanations for these findings. The higher incidence of only just coping in the Boggabri sub-region was attributed to the potential cumulative effects on their community from existing coal mines and CSG development. It was also suggested that residents from Boggabri had relatively high expectations around economic benefits for their town from the coal industry that had gone largely unfulfilled. People felt that the larger centres of Gunnedah, Narrabri, and Tamworth had gained the benefits and that local businesses in Boggabri had gained minimally. The survey also showed Boggabri residents had higher levels of concerns about the impacts of CSG development than those residents from Wee Waa and Narrabri, which supports the idea that Boggabri's attitudes about adapting to CSG development reflect the potential effects of cumulative impacts.

Discussions also suggested that Wee Waa would feel less positive about their ability to cope with CSG development because of over-riding concerns about their water resources. Wee Waa residents felt the town and surrounds had been impacted by changes to water allocations and were worried about any potential additional impacts associated with CSG development, even though the proposed Narrabri Gas project would not be located near Wee Waa. This suggestion is consistent with the survey results which found the top three concerns associated with CSG development for the Wee Waa sub-region were concerns about impacts on the water quantity, water quality, and CSG development extending into other areas around the shire.

In contrast Narrabri residents see themselves as most likely to adapt. This is consistent with other larger towns in the Surat Basin in Qld where the larger the town the more likely residents feel they can adapt. International research indicates that larger towns are more able to manage impacts of housing and non-resident workers than smaller towns (Jacquet, 2014). It may also reflect more focussed efforts of the CSG company to allay concerns, build trust, and contribute to the community that is closest to the Narrabri Gas Project (i.e. Narrabri town and surrounds)

RESILIENCE ACTIONS ARE IMPORTANT FOR ADAPTING TO CHANGE

Resilience actions are important for adapting to changes such as from CSG development and also contribute to positive views about the future. As shown in Figure 9, resilience actions include strategic actions such as planning, leadership, accessing and using information, and learning; working together to address problems and maximise opportunities; community commitment, perseverance, and involvement; and all underpinned by an effective citizen voice. Citizen voice includes actions that reflect local decision making processes, being heard, and trust in leaders.

Results showed, when residents perceived these resilience actions to be effective they were more likely to perceive their community as being able to adapt and cope well to CSG development, if it were to occur. .

Resilience actions

- ✓ Good sharing of information and working together on problems and opportunities
- ✓ Good planning, leadership, and access to information - working strategically
- ✓ Community involvement and perseverance – community commitment, and participation in groups and local activities

Underpinned by community voice

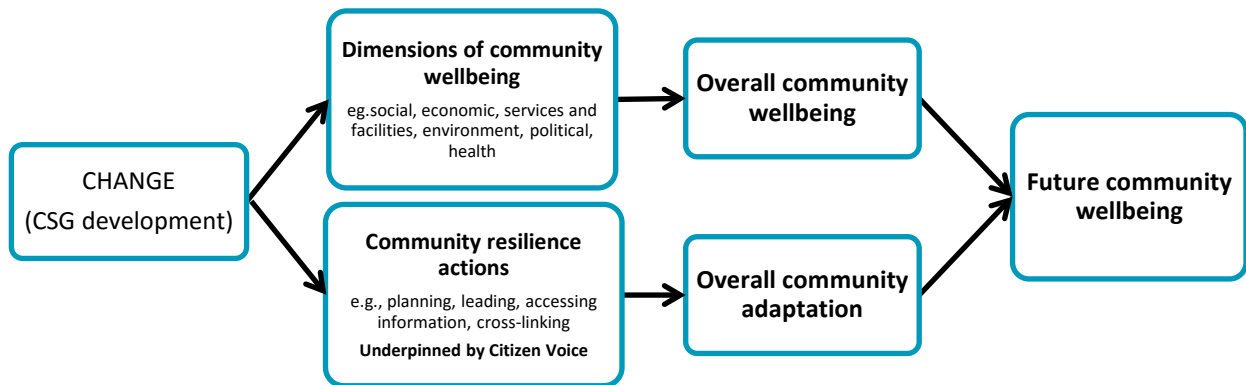
- ✓ Strong citizen voice and effective local decision making processes - trust in local leaders and council, people feel listened to and heard, and that they are being kept informed

Figure 9 Types of resilient actions important for responding to change



As shown in Figure 10, resilience actions also contribute to positive feelings and optimism about the future.

Figure 10 Explaining future community wellbeing



When we examined individual items comprising resilience actions we found many of the resilience actions were assessed as borderline or unfavourably, as shown in Figure 11. If CSG development were to proceed, these results show the importance of proactively developing these actions and supporting the underlying capacity that sustains them.

Although current community wellbeing being is high, there also needs to be effective community resilience actions including a strong belief that all stakeholders can effectively work together to address potential problems and to maximise possible opportunities.

If people are not satisfied with community resilience actions and do not believe that local residents, government, business, and resource companies can effectively work together, they will feel less confident about the future of their community.

Figure 11 Community perceptions of resilience actions: Narrabri shire 2017



WORKING TOGETHER AND COMMUNITY COHESION

Perceptions that industry, government and local communities could work together to address problems or take up opportunities associated with CSG development was low ($M = 2.84$ and $M = 2.96$ respectively). One explanation for this could be the lack of cohesion on a shire-wide basis. Even though community cohesion scores were high when measured as a dimension of community wellbeing, the survey questions were designed to measure cohesion within local communities, for example within Narrabri and surrounds ($M = 3.66$), Boggabri and surrounds ($M = 3.93$), or Wee Waa and surrounds ($M = 3.86$). However, this does not necessarily mean that there is cohesion across the entire shire. For example, community feedback discussions indicated sub-regional parochialism, and longstanding rivalries pre-dating council amalgamations and proposed CSG development, particularly between Narrabri and Wee Waa. Such issues could potentially give rise to the low perceptions of being able to 'work together' to address changes associated with CSG development. Moreover, if networks for sharing information between sub-regions are underdeveloped then this will also drive down scores for perceptions of sharing information and citizen voice. Initiatives will need to account for these long standing tensions and consider how best to overcome this problem. Information sharing may need to be delivered sub-regionally and processes for having a say and feeling heard also consider sub-regional aspects. Many resources and toolkits provide guidelines for engaging and involving local communities¹.

SHARING INFORMATION AND CITIZEN VOICE

Sharing information and learnings is important for helping communities adapt. Results showed that local decision making processes and citizen voice were viewed unfavourably on average. These findings were also consistent with the recent Narrabri Shire Council survey.

Research has shown when people are aware of the processes in place to allow them to have a say, they feel more positive about proposed changes. In experimental research when participants were sent a letter outlining four different options for having a say in a new mining project, and a commitment by the organisation to fair processes resulted in more favourable views towards the proposed project than for participants who received a letter with no information on citizen voice processes (Zhang, Measham, & Moffat, 2018). This suggests that for some community members it is sufficient to know those processes exist, even if they themselves do not engage directly with the process.

The earlier qualitative research of phase 2 and previous research conducted in Queensland also indicated that communities expect local councils to be providers of information that they can trust, particularly information related to 'what's happening'. Moreover, presenting information that comes from a party not considered biased and presented in a neutral way, allowing a person to form their own judgments, were important aspects of information sharing for local farmers identified in research conducted in gas regions of Queensland (Huth et al., 2016). If the Narrabri Gas project were to proceed having a source like the local council as a provider of information would be helpful. However council would need adequate resources to do this well – a physical location for information, and human resources to facilitate both formal and informal communication networks. One suggestion from the feedback discussions included the idea of funding an independent information officer (not industry based), even if this was short term funding, to engage and gather information and proactively share and disseminate information, particularly information relevant for service planning and delivery. Ideally this would be someone who knows the community well and who can anticipate community needs and resources for forward planning.

In addition, the Narrabri CCC is a valuable group that can support involvement of local stakeholders in decision making processes and ensure community issues are raised and heard. Disseminating information to the broader community from this group is an important yet challenging role and relies on strong communication networks and representatives that can act as a 'bridge' providing information into other social and community networks.

¹ For example, see <http://www.nrm.wa.gov.au/resources/professional-development/community-engagement.aspx>

3.3 Creating a positive outlook for the future

Our modelling shows that community wellbeing and resilience actions are both important for creating a positive outlook for the future. If CSG development were to proceed, these results show the importance of proactively developing resilient responses as well as maintaining robust levels of community wellbeing if there is to be a sense of optimism and confidence about the future of the community.

Survey results showed the majority of respondents expected future community wellbeing would stay the same (53.2%) with equal proportions of the respondents indicating they thought it would either decline (23.6%) or improve (23.1%). As shown in Table 1, future expectations varied slightly across the shire. The proportion of respondents expecting improvements to community wellbeing was higher in Narrabri and lowest in Wee Waa, while expectations of a decline were most common in Wee Waa and least common in Narrabri.

Table 1 Responses from sub-regions for expected future community wellbeing in the local community

Sub-region	Expect local community wellbeing to stay the same	Expect local community wellbeing to decline	Expect local community wellbeing to improve
Narrabri respondents	53.2 %	21.0 %	25.8 %
Boggabri respondents	53.9 %	26.7 %	19.5 %
Wee Waa respondents	52.8 %	30.5 %	16.7 %
SHIRE WIDE	53.2%	23.6%	23.1%

Note: 'Local' refers to their local town and surrounds

Analysis of an open ended survey question asking people to explain why they felt their community wellbeing would either stay the same / decline / or improve showed a range of responses. Five main themes contributed to different outlooks about the future: impacts from development including CSG development; economic opportunities; services and facilities; community spirit and cohesiveness, and population changes. People who saw the future favourably or unfavourably viewed the same theme in an opposite way. The themes are listed in Table 2, and there were no real differences across the three subregions. The themes have not been placed in any particular order.

Table 2 Reasons underpinning expectations about future community wellbeing

	Future community wellbeing would stay about the same	Future community wellbeing would decline	Future community wellbeing would improve
Impacts from development including CSG development	Development and change happens slowly	The impacts from mining industry on agriculture and the environment including the proposed development of CSG and potential impacts on health and underground water	Future development and opportunities, such as the proposed CSG development, ongoing coal mining, infrastructure development, and new business opportunities.
Economic opportunities	Uncertainty about what the future holds for the region. No foreseeable change or improvement expected	A lack of economic opportunities in terms of employment and new businesses with increasing unemployment and the closing of local businesses Increases in the cost of living	The broad base of Narrabri's economy going forward, including agriculture and infrastructure development.

			The current agricultural outlook such as strong growth and rainfall.
Services and facilities	A continuing lack of services in sectors such as health	A lack of services and facilities such as retail, health and youth-focussed activities.	Future improvement in services and facilities such as health and disability
Community spirit and cohesiveness,	Cohesiveness within communities would continue.	Community division and conflict over the proposed CSG development was mentioned by a small number of participants	Narrabri's positive community spirit and inclusiveness of residents The community looking after one another
Population changes	A stagnant population	Population decline	

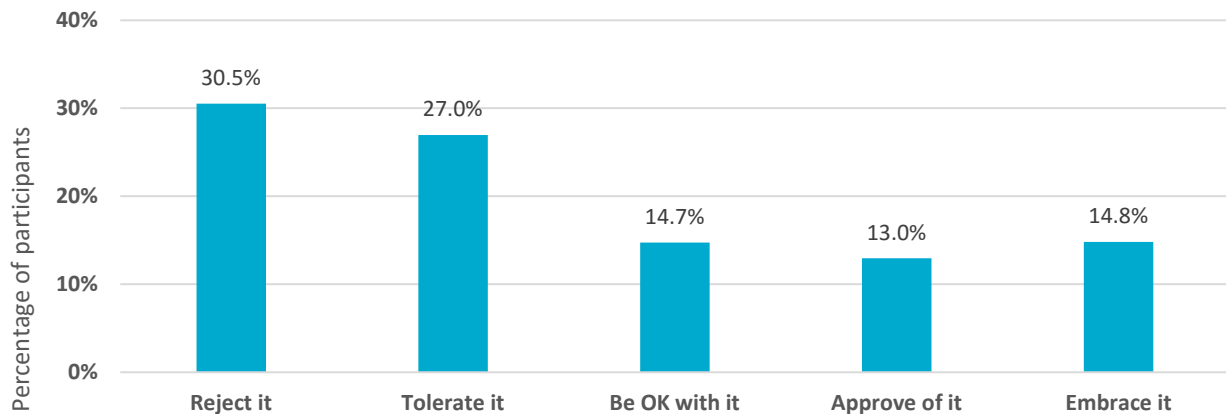
3.4 Local attitudes and perceptions about CSG development

A range of views about CSG development

Results showed that across the shire, there were a range of views towards CSG development varying from reject through to embrace. At one end of the spectrum 30% of residents indicated they ‘reject’ CSG development in the Narrabri shire and at the other end of the spectrum 15% of residents indicated they ‘embrace’ it. However, the remaining respondents (55%) indicated they would either ‘tolerate’ (27%), are ‘ok with it’ (15%), or ‘approve’ (13%) CSG development in the shire. See Figure 12.

This research finding validates the existence of a range of views about CSG development within the region. Understanding and respecting these different perspectives helps to maintain community cohesion and a sense of fairness among community stakeholders. Our qualitative research suggests many people with lukewarm views may have felt uncomfortable declaring their views feeling pressure from or not wanting to offend strongly oppositional or strongly supportive groups. However, more than half of the residents in the shire held more moderate views towards CSG development ranging from tolerating it to approving it.

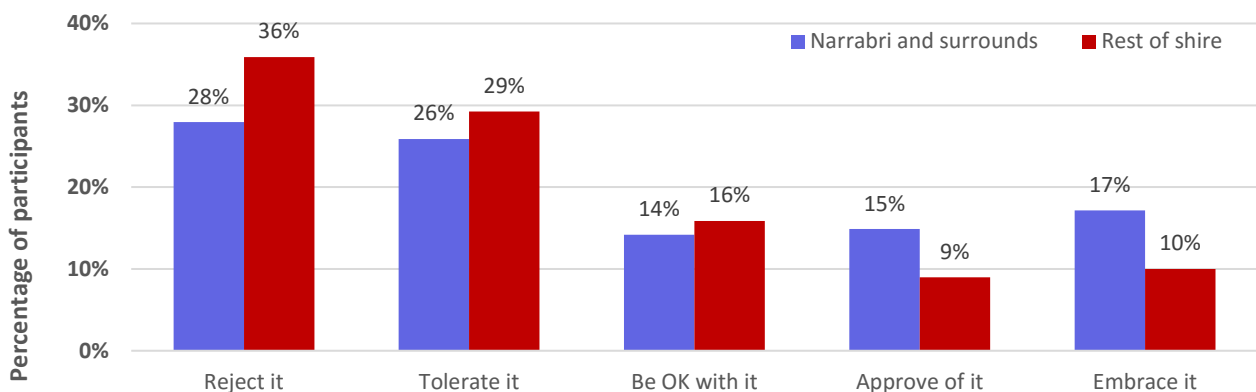
Figure 12 Attitudes towards CSG development in the Narrabri shire: 2017



Differences among subregions

Results showed differences in attitudes towards CSG development based on subregions. As depicted in Figure 13, residents who lived in Narrabri town and surrounds held more positive views towards CSG development than those who lived in the rest of the shire. Narrabri and surrounds is nearer the project area and where Santos has focussed their engagement efforts.

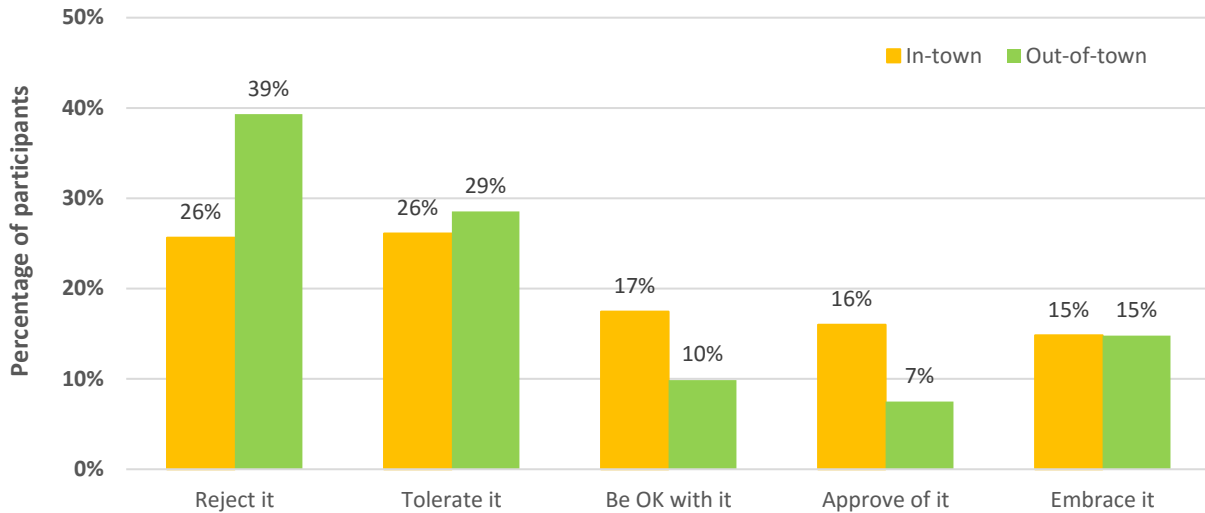
Figure 13 Attitudes towards CSG development: Subregions



Differences between In-town and Out-of-town

There were also differences in attitudes towards CSG development based on living in or out of town, as shown in Figure 14. Residents who lived out of town held significantly more negative views towards CSG development than those who lived in town.

Figure 14 Attitudes towards CSG development: In-town and Out-of-town



ATTITUDES DEPEND ON EIGHT DIFFERENT FACTORS

The Phase 2 qualitative research identified a range of factors that influenced overall attitudes to CSG, which resulted in people feeling positively, lukewarm, or negatively about the industry. The shire wide survey conducted in Phase 3 measured, modelled, and confirmed these factors as important predictors of local attitudes to CSG development. Figure 15 depicts the eight factors and Table 3 provides a brief explanation of each.

Figure 15 Key factors contributing towards acceptance or lack of acceptance towards CSG development

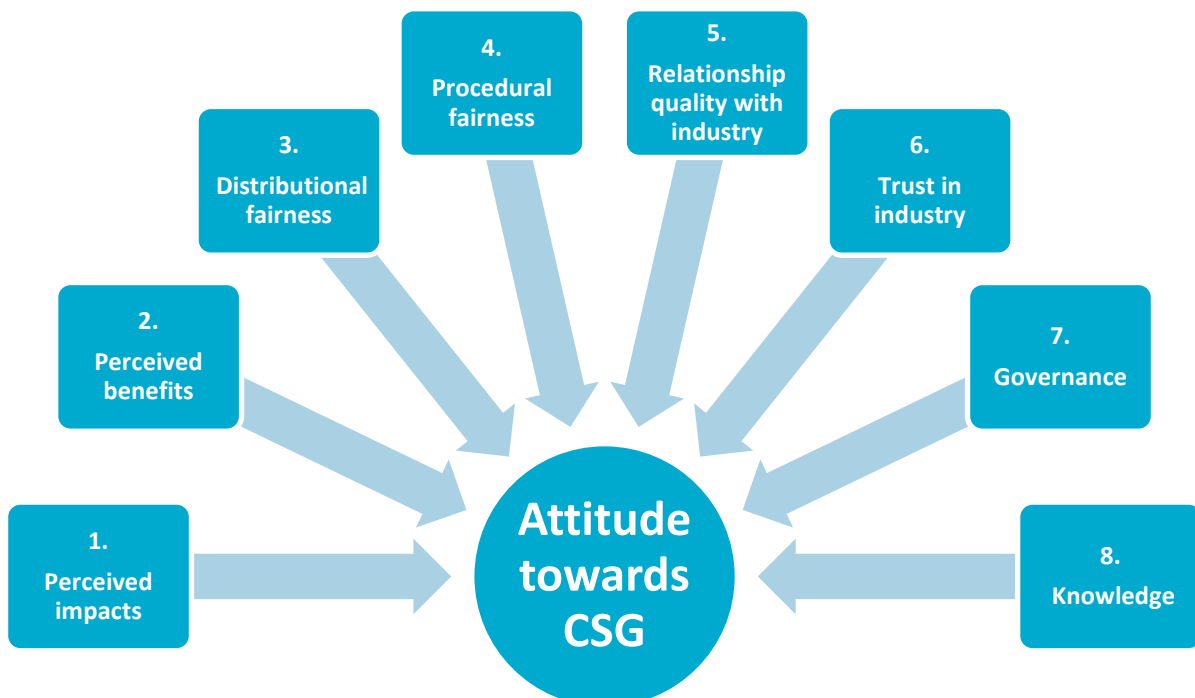


Table 3 Explanations of eight contributing factors underpinning attitudes towards CSG development

Factor	Description
1. Perceived impacts	Level of concerns about 13 different potential impacts and four possible future issues E.g. impacts on water, property values, health, community cohesion; change in CSG operator, fracking introduced, CSG well integrity
2. Perceived benefits	Perceptions of possible local benefits and benefits to wider society E.g. local employment, business opportunities, retaining youth; energy supply for NSW, transition fuel, Australian economy
3. Distributional fairness	Perceptions of fairness regarding the bearing of costs and sharing of benefits for communities inside and outside the region
4. Procedural fairness	Perceptions of the way CSG companies would involve communities in decisions
5. Quality of relationships	Responsiveness of CSG companies and preparedness to engage in open, honest, genuine two-way dialogue
6. Trust in CSG companies	E.g. trusting CSG companies' competence, to act responsibly, and in community's best interests
7. Governance	Perceptions of both formal and informal governance and trust in state governing bodies
Formal governance	E.g. perceptions of CSG company compliance, EPA ability to hold CSG companies accountable;
Informal governance	E.g. Shire council, state gov't, EPA listening and responding to concerns; planning and visioning; keeping communities informed
Trust in state bodies governing CSG	E.g. trusting EPA and State govt. competence, to act responsibly, and in community's best interests
8. Knowledge confidence	Self-rated level of knowledge about the local coal seam gas industry

PERCEPTIONS OF IMPACTS AND BENEFITS

Potential impacts on water quality and quantity were the top two concerns ($M = 3.75$ and $M = 3.74$ respectively), followed by community division over CSG development ($M = 3.63$) and the disposal of salts and brine ($M = 3.63$). The two lowest concerns were the impact on services and facilities ($M = 3.13$) and traffic on roads ($M = 2.98$), with the latter being viewed as a borderline concern on average.

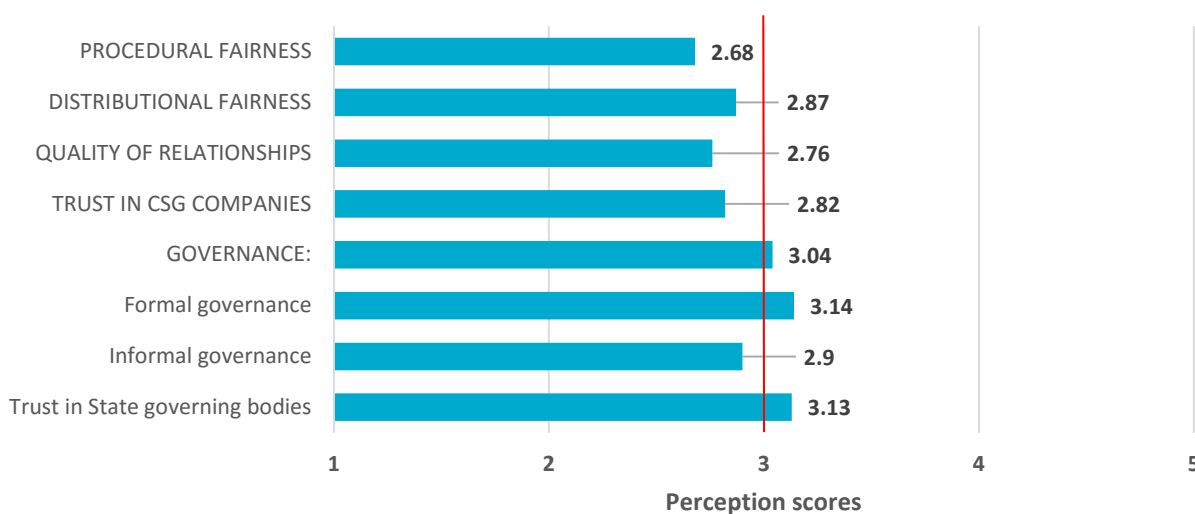
Concerns about future issues in years to come were of higher concern on average than some of the more immediate concerns included under potential impacts. These future concerns included the potential introduction of hydraulic fracturing ($M = 4.02$), the extension of development into more intensive agricultural areas ($M = 3.76$), the integrity of the wells over time ($M = 3.71$), and the potential for a change in ownership of the CSG operator ($M = 3.60$).

Local benefits from gas were of higher importance to residents in the Narrabri shire than broader societal benefits. However, consideration needs to be given to the timing of the survey when interpreting the results of the perceptions of broader societal benefits. Two items addressed the benefits of CSG development for providing an energy supply in NSW and as a transition fuel between coal and renewable energy sources. Both were perceived as low benefits ($M = 3.20$ and $M = 3.05$ respectively). However since March 2017, there has been extensive public debate about Australia's energy needs and gas and electricity pricing, and this discourse may have increased perceptions of these wider societal benefits. Perceptions scores for all impacts and benefits are found in Appendix A.

PERCEPTIONS OF FAIRNESS, RELATIONSHIP QUALITY, TRUST IN INDUSTRY, AND GOVERNANCE

As shown in Figure 16, perceptions of how a community would potentially be treated if CSG development were to proceed were less than favourable on average in terms of procedural and distributional fairness, the quality of the relationship with industry, and the trust that the community would have in industry. There was confidence that there would be adequate formal governance in terms of regulations and government oversight, but less confidence in strategic planning and processes for informing and listening to communities about the CSG development.

Figure 16 Perceptions of underlying drivers of attitudes towards CSG development: Narrabri shire



Note: The higher the perception score the more favourable the perception; a score of 3 represents the midline

DIFFERENCES BETWEEN THOSE REJECTING AND SUPPORTING CSG DEVELOPMENT

Further analysis of the eight contributing factors showed how perceptions of these factors vary based on people's attitudes towards CSG development. These differences reflect how the eight factors in combination help to form peoples' views about gas. The analyses compares the means for each contributing factor across three broad attitudes groupings (reject, lukewarm, and support CSG development). 'Reject' included those residents who 'reject' CSG development in the shire, 'lukewarm' included those who would 'tolerate it' or 'be OK with it', and 'support' included those who would 'accept it' or 'embrace it'.

As shown in Figure 17, the reject and support groups were similar in size (30.5 % and 27.8% respectively), while the lukewarm group was the largest (41.7%). The lukewarm group was formed from the 'tolerate' and 'I'm OK with it' categories because these groups had more neutral feelings toward CSG development, also shown in Figure 17. They also demonstrated similar scores for knowledge levels and the number of information sources used.

Figure 17 Attitudes and feelings towards CSG development: Three broad groupings

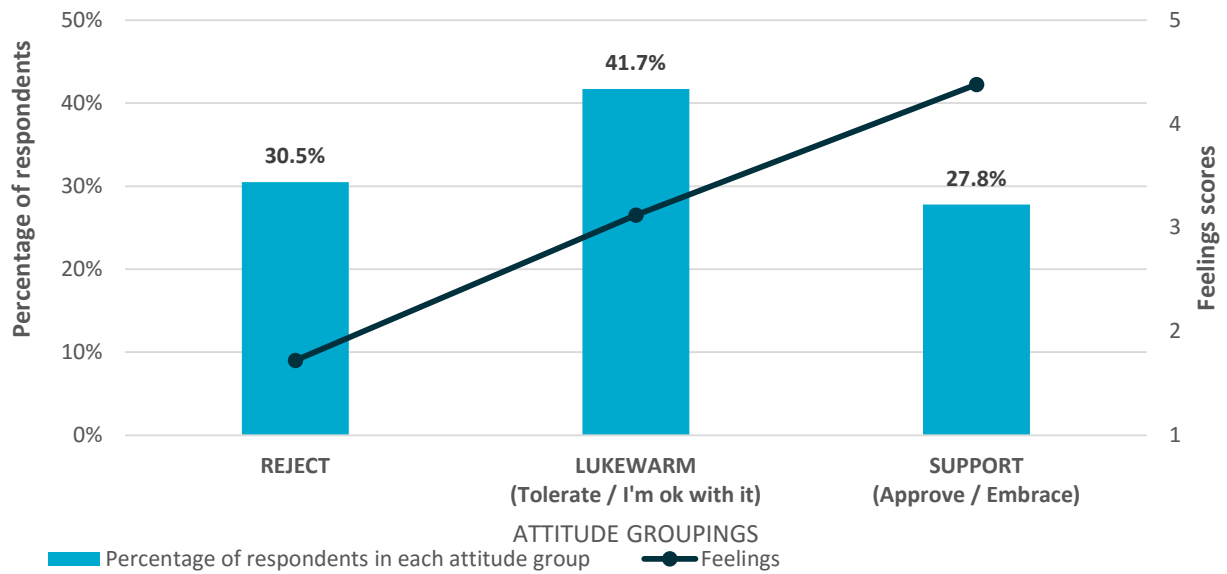
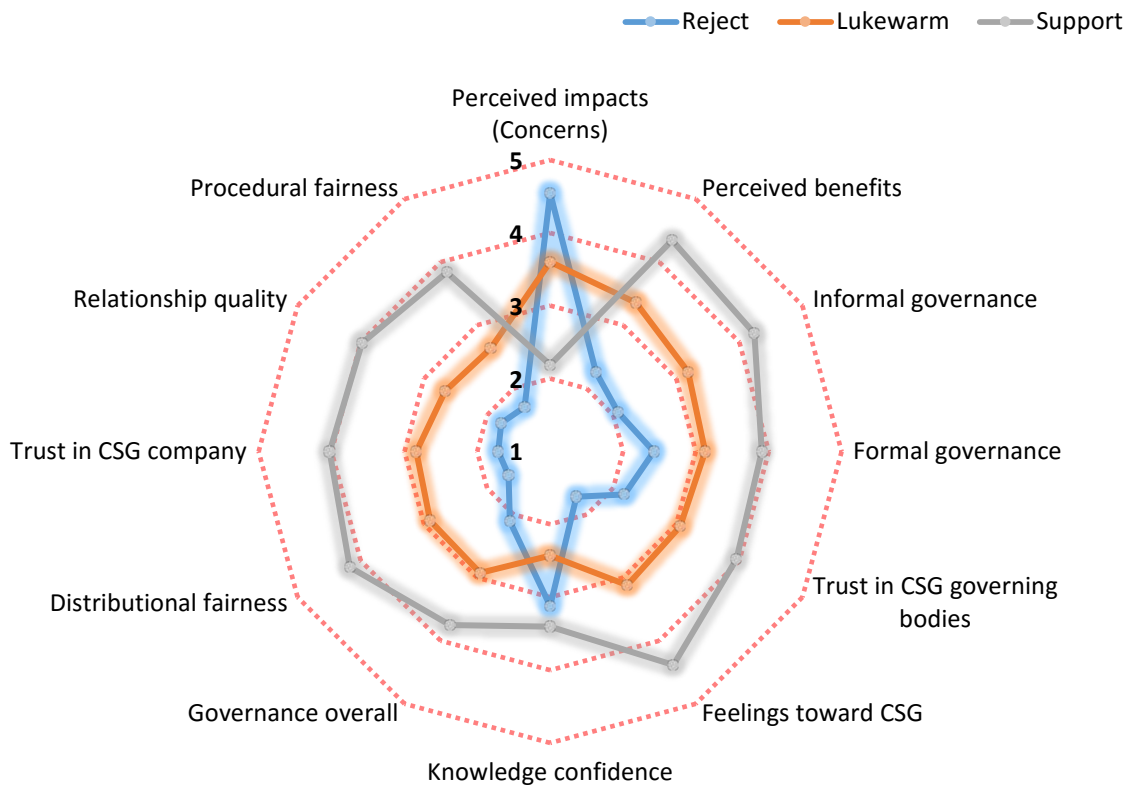


Figure 18 shows how the underlying drivers of trust and acceptance vary based on these three broad attitudes towards CSG development. Those rejecting CSG development had very high concerns with local CSG development, and rated most other drivers of trust in the industry and social acceptance of the CSG development very lowly. In contrast, those who supported CSG development had relatively low levels of concerns with CSG development on average, and the other drivers were all perceived positively, as shown by the grey line in Figure 18.

The views of those opposing and supporting CSG development were strikingly different; however interestingly, both those rejecting and supporting CSG development were moderately confident in their level of knowledge about the local CSG industry. The lukewarm group, depicted by the orange line in Figure 18, indicated more neutral attitudes toward other drivers of trust and social acceptance, and were less confident in their level of knowledge. Nonetheless, the lukewarm group were still concerned about potential impacts and future issues associated with CSG development in the shire.

Importantly, those with lukewarm attitudes can still be very engaged with issues around CSG development, as identified in Phase 2 research, and these more neutral views are equally valid and should not be discounted. The phase 2 findings identified the uncertainty that this segment of the community experienced when it came to trusting information, finding it difficult to source information they felt was unbiased and not knowing 'who to believe'. This perspective is also consistent with qualitative findings from earlier research investigating changing land use in the shire, which described the difficulty of determining valid information for those in the middle of the 'information sandwich' (Askland et al., 2016).

Figure 18 Underlying drivers of trust and acceptance of CSG development by three attitude groups



Note: The higher the perception score the more favourable the perception except for *perceived impacts* where the higher the score the greater the level of concern; a score of 3 represents the midline

FAMILY AND FRIENDS CONNECTIONS TO THE CSG INDUSTRY

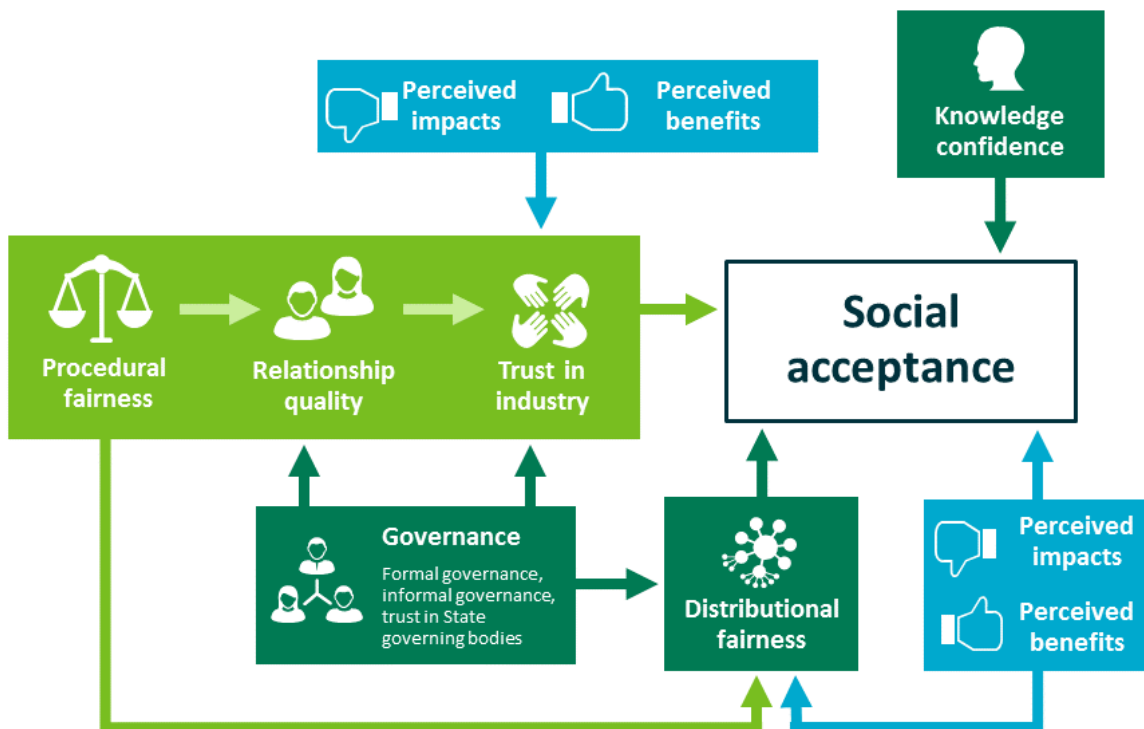
Over 50 % of survey participants indicated they had family or friends that had worked in CSG or other mining industries, either directly or on a contract. Contrary to expectations, analyses showed no statistically significant correlation between connections with CSG or mining industries and perceptions of any of the contributing factors or acceptance of CSG development. This means that there were no significant differences in the way people viewed impacts, benefits, trust in industry, distributional fairness, procedural fairness, relationship quality, governance, and confidence in knowledge based on whether people had friends or family connected to CSG or the mining industry.

MODEL TO EXPLAIN SOCIAL LICENCE TO OPERATE

From the survey data we established a model that explains peoples' acceptance (or lack thereof) for CSG development in the region. The model shows how people's views depend on impacts, benefits, confidence in knowledge, trust in industry, distributional fairness, procedural fairness and the quality of the relationship with industry. Notice that perceived impacts and benefits feed into multiple places in the model: perceptions of distributional fairness; trust in industry; and social acceptance. Similarly, governance feeds into a number of places: distributional fairness; relationship quality; and trust in industry.

Because some of these factors act directly on acceptance and others indirectly through other variables it is not enough to improve only one aspect to increase acceptance. For example, efforts to improve trust in industry and social acceptance may be negated if perceived impacts are high. Similarly if impacts are reduced but governance is believed to be low it will undermine trust levels and perceptions of fairness and consequently drive acceptance levels down. Thus it is a combination of factors that together create different perceptions about gas. To help meet community expectations about CSG development to an acceptable level all aspects of the model need to be addressed. However, perceived impacts are a very influential factor and warrant particular attention.

Figure 19 Model to explain social acceptance (or lack thereof) of CSG development

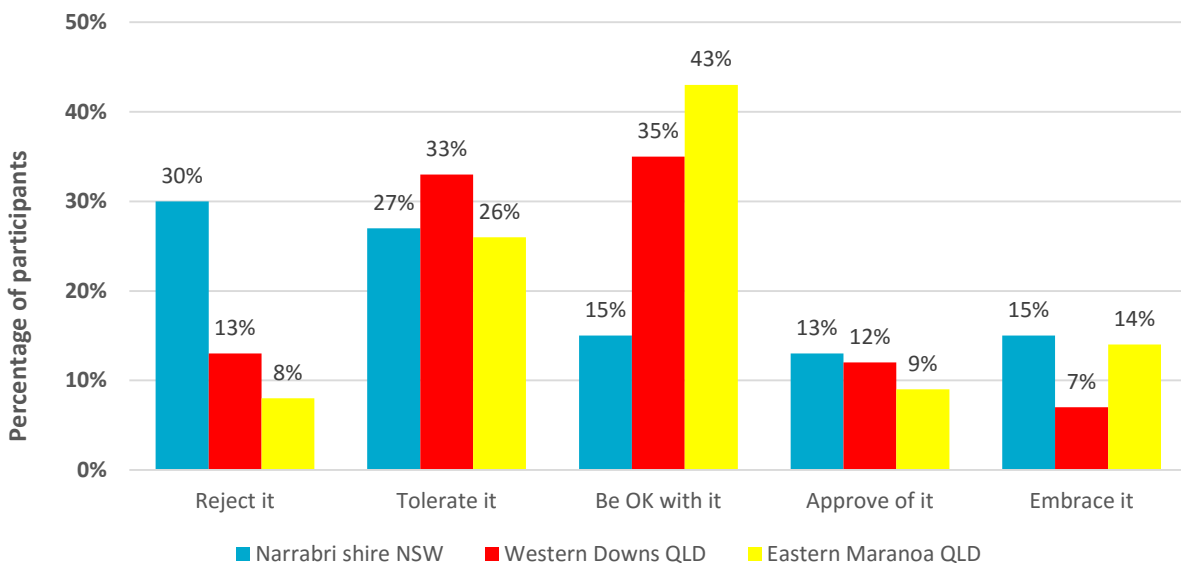


COMPARISON WITH QUEENSLAND GASFIELDS

When results from the Narrabri shire were compared with two gasfield regions in Queensland, it showed that the proportion of residents who are accepting of gas to some extent (tolerate through to embrace), as opposed to outright rejection, is much greater in Queensland (see Figure 20). In 2016, residents of the Eastern Maranoa, which includes Roma and surrounds indicated the highest proportion of some acceptance for CSG (92%) followed by the Western Downs region (87%). Whereas, in 2017 in the Narrabri shire this drops to (70%). Figure 20 shows the biggest difference is the proportion of residents in Narrabri indicating they reject the notion of CSG development (30%) compared to Western Downs and Eastern Maranoa (13% and 8% respectively). Similarly, if we compare residents who had less positive attitudes toward CSG development (tolerate it or reject it) was higher in the Narrabri Shire (57%) than in the Western Downs (46%) or eastern Maranoa (32%) regions of Queensland.

One possible explanation for these differences is the different industry phases that each region was experiencing at the time of data collection. Narrabri was in pre-construction when uncertainty levels are potentially at their highest; the Western Downs was in post-construction with CSG development occurring since the early 2000's; and Roma, which has had a gas industry for decades. Another explanation is the pre-construction phase in Narrabri represents an opportunity to say 'No' to the industry whereas in Queensland the chance to say 'no' has passed. A third explanation is the type of farms around Roma, in terms of size and type of farm activity, which more easily supports on-farm gas activity. Note that none of these explanations are mutually exclusive. A table of comparisons between Narrabri and Queensland is included in Appendix B, which outlines differences in wellbeing and resilience measures.

Figure 20 Attitudes towards CSG development: Narrabri 2017 and Queensland 2016



Conclusions

The research has established a baseline of measures for monitoring community wellbeing and community adaptive responses to change. It has also documented attitudes and perceptions of coal seam gas development which can be used over time to monitor factors important for a social licence. The research concluded that current levels of community wellbeing are robust and comparable to other areas in southern Queensland that have experienced coal seam gas development. Perceptions of community resilience to CSG development were also similar to that in southern Queensland and relatively low. However, attitudes towards CSG were more negative than in Qld with a higher percentage of residents rejecting CSG development (30% Narrabri NSW, 13% Western Downs QLD, and 8% Eastern Maranoa QLD). There were a diversity of views and three broad groups of attitudes towards CSG could be identified from the data: opposed, lukewarm, and supportive.

Community wellbeing

The research identified four dimensions of community wellbeing most important to residents in the Narrabri shire. These represent aspects that contribute most to a good quality of life in the eyes of residents, indicating that their community is a great place to live. These four dimensions involved the level of services and facilities, the level of social interaction and local trust, and the appearance of local towns, for example, its cleanliness, parks, and green space. The report identified these aspects as foci for future programs and initiatives where the aim is to strengthen or augment community wellbeing. The research also found that when community wellbeing and resilience is perceived to be high then people are optimistic about the future of their community.

Community resilience

However, the research also found that residents' perceptions of their community resilience actions, in the context of CSG, were relatively low. That is, if coal seam gas development were to proceed almost half the residents from the shire felt that their community would only just cope, not cope, or resist the changes. However, these views varied based on subregions and reflected other stressors that sub-regions are currently facing. The subregion closest to the proposed development, Narrabri and surrounds, demonstrated the most positive view about their ability to adapt to coal seam gas development, with 60% indicating they believed their community would adapt or transform into something better. In contrast, Boggabri and Wee Waa residents indicated lower levels of confidence in adapting well to changes (38% and 43% respectively). In these places, additional concerns over the cumulative impacts from nearby coal mines and changes to water resource allocations are possible explanations for the reduced confidence in their community's ability to also deal with CSG development in the shire. The report identified two sets of actions that, given particular attention, would improve community resilience if CSG development were to proceed. These included mechanisms for sharing information and ensuring citizens' voices are heard in the process, and undertaking practical actions that demonstrated the community could work together with government and industry to address problems and opportunities.

Local attitudes and perceptions of CSG development

The research identified three broad sets of attitudes towards coal seam gas: those opposed (30.5%), those who feel lukewarm (41.7%) and those who are very supportive (27.8%). Both the survey results and the qualitative interviews supported this diversity of views and found eight different factors that determine these attitudes. These include perceptions of *impacts* and *benefits*; perceptions of *procedural fairness*, the *quality of the relationship* with the CSG operator, and ultimately *trust in the operator*; perceptions of *distributional fairness* in terms of how benefits and costs will be shared; the confidence and trust in *governance* of the industry; and the individual's confidence in their *knowledge* about CSG.

People who oppose CSG development have low perceptions of benefits, trust in industry, and governance. They perceive potential impacts to be very high and view the distribution of benefits to be unfair in relation to the costs borne by a community. They are also very confident in their knowledge about CSG. People who

are very supportive of CSG development are also confident in their knowledge about CSG, but in contrast they have high perceptions of possible benefits, trust in industry and governance, and perceive potential impacts to be manageable. They have fewer concerns about distributional fairness. However, people with lukewarm views about CSG development are more neutral in the views towards benefits though still concerned about possible impacts. They generally trust the CSG company and governance of the industry and are less concerned about distributional fairness. However people with lukewarm views are not confident with their level of knowledge about CSG.

The importance of engaging with the community across the full spectrum of views

The research showed that people with more moderate views engage in information seeking less than people with stronger views towards CSG. The qualitative research indicated that a number of reasons contributed to this, including a lower level of interest in the topic, busy lives, other more pressing issues, and uncertainty about where to find 'balanced' information, or unbiased people to listen to because many felt others were 'pushing their own barrow'. Even so, some segments of this lukewarm group were very interested in the issues of CSG development though put off from participating more because of some polarised views within the community, and not wanting to feel pressured to conform to one of those views.

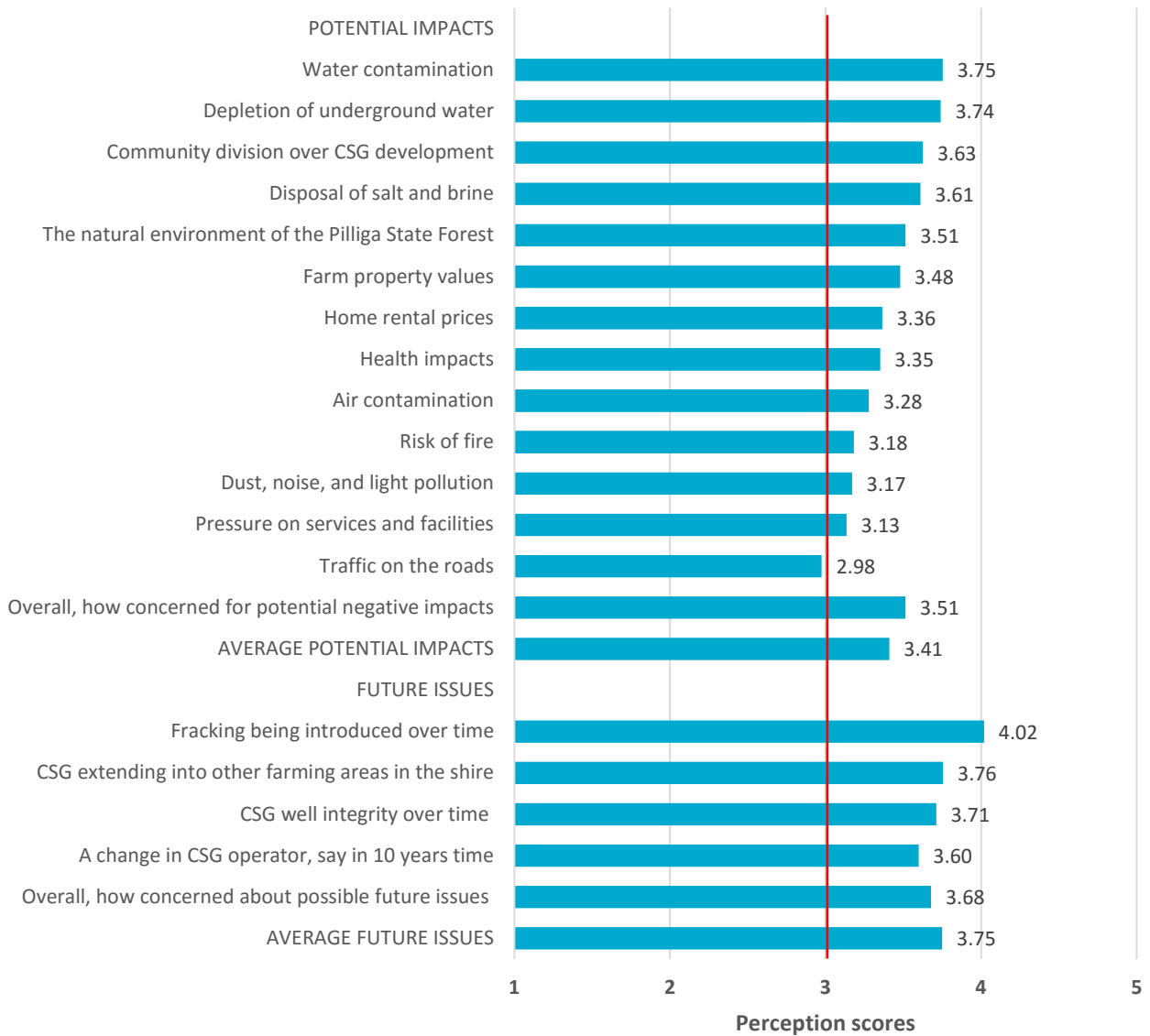
At the moment people with lukewarm views are at risk of retreating from engaging in constructive conversation about the development due to the pressure from polarised views and the uncertainty of who to believe. This could potentially reduce their participation in information sharing occasions and opportunities to contribute ideas for managing problems and opportunities as they arise, if CSG development were to proceed. Harnessing their ideas and providing a respectful avenue for people to access information and share their thoughts is important for community cohesion and resilience. Tapping into the range of community views about CSG development and providing a safe environment for the sharing of information and the joint development of solutions will support the best possible outcomes for the shire as a whole and help to maintain community cohesion.

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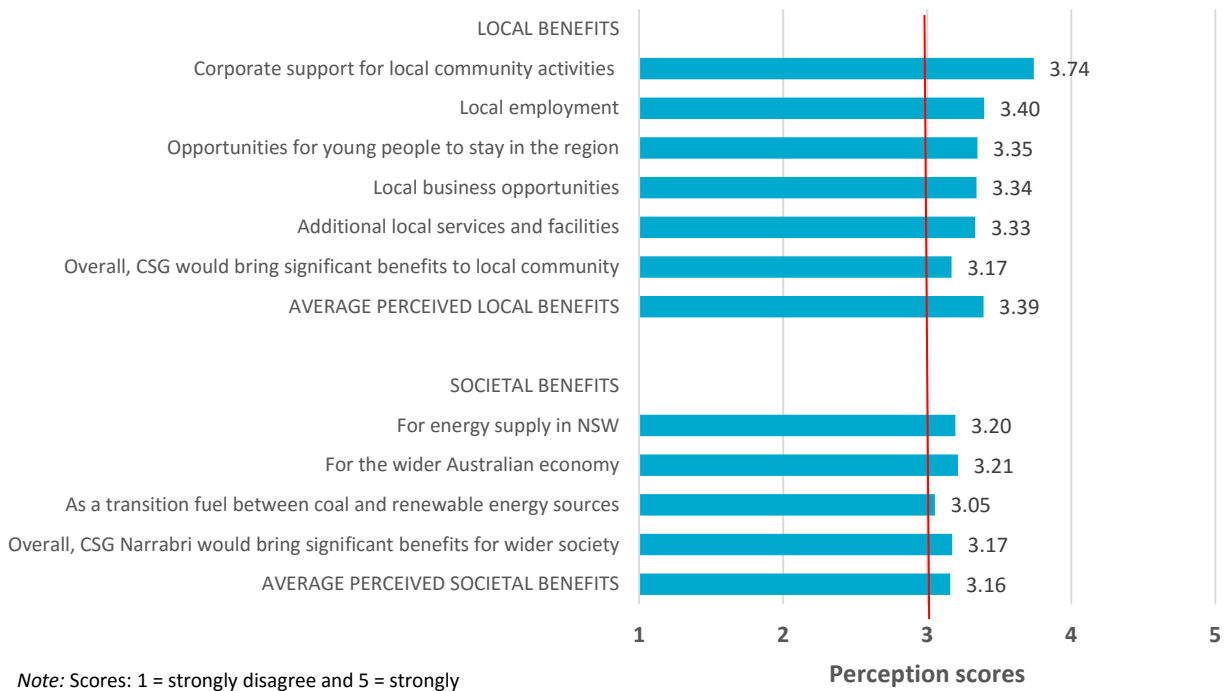
Appendix A Perceptions of impacts and benefits

Figure 21 Perceptions of potential impacts and future issues: Narrabri shire 2017



Note: Scores: 1 = not at all concerned and 5 = very concerned

Figure 22 Perceptions of local and societal benefits: Narrabri shire 2017



Appendix B Comparisons with QLD Gas fields

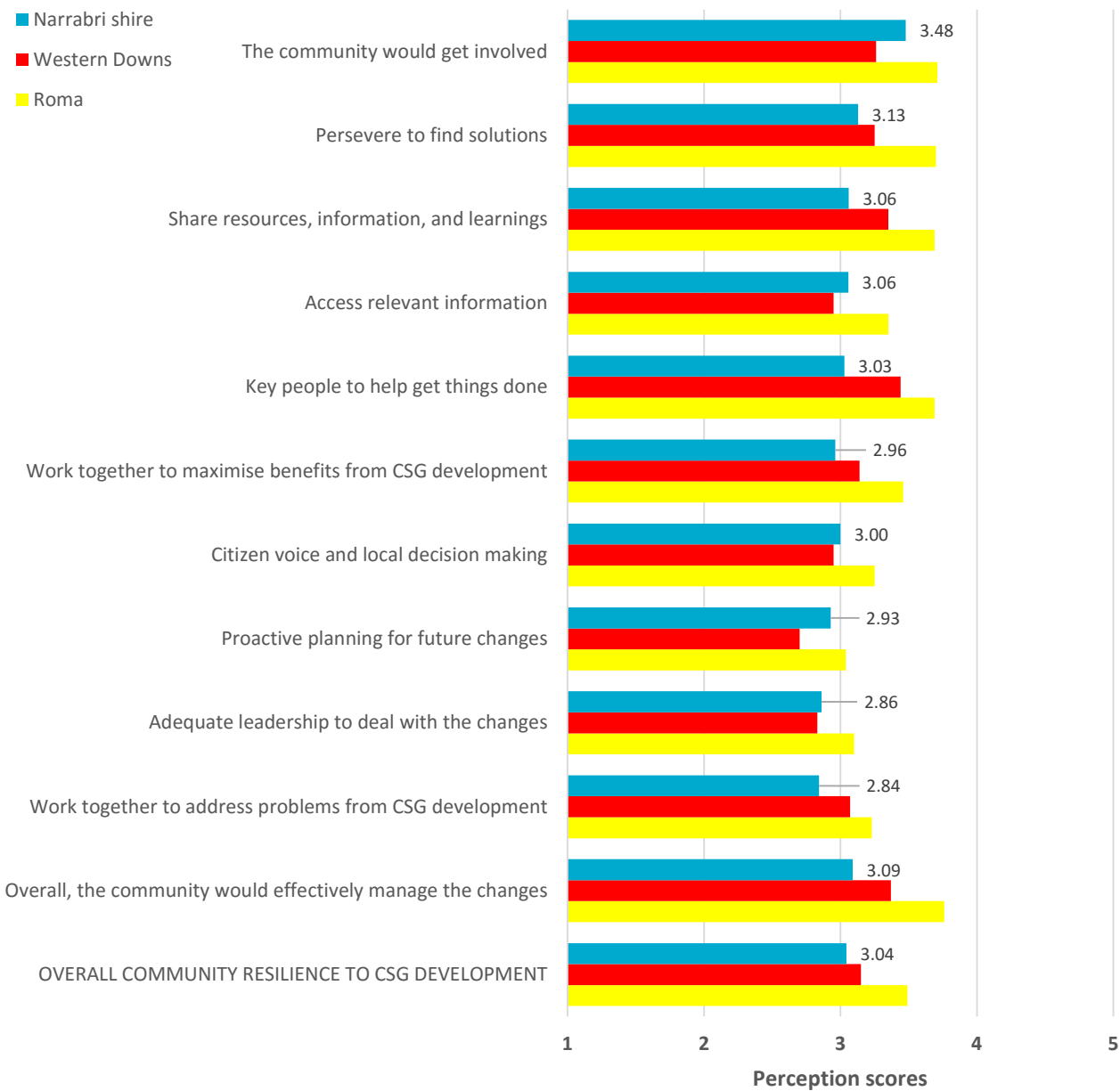
Table 4 Comparisons with QLD Gas Fields: Mean scores comparing Western Downs region, Eastern Maranoa, and Narrabri shire

Community wellbeing dimensions	Western Downs region QLD (n = 400)	Eastern Maranoa QLD (n = 400)	Narrabri shire NSW (n = 400)
Personal safety	3.85^L	4.28^H	4.16^H
Income sufficiency	3.72^L	3.87	3.93^H
Health	3.75^L	3.85	3.90^H
Services and facilities	3.42^L	3.65^H	3.48^L
Town appearance	3.60^L	3.60	3.75^H
Roads	2.76^L	3.09^H	3.23^H
Environmental quality	3.88	4.02	3.90
Environmental management	2.95^L	3.14	3.31^H
Citizen voice	2.95^L	3.25^H	3.00^L
Economic opportunities	2.22^L	2.66^M	3.07^H
Community cohesion	3.45^L	3.91^H	3.73^H
Local trust	3.30^L	3.64^H	3.69^H
Community participation	3.20^L	3.28	3.40^H
Community spirit	3.92^L	4.20^H	4.26^H
Social interaction	3.40^L	3.62^H	3.66^H
Overall community wellbeing	3.84^L	4.12^H	3.96^H
Expected future wellbeing	3.69^L	4.02^H	3.81
Place attachment	4.16^L	4.52^H	4.42^H
Community resilience	3.15^L	3.49^H	3.04^L
Community attitudes and feelings towards CSG ¹	2.74^L	3.00^H	2.79

Note: ¹ Qld averages have been adjusted for comparison purposes (see measures section).

Bold font indicates a significant difference; Means with different superscript letters are significantly different (L = lower; M = Middle; H=higher)

Figure 23 Comparisons with QLD Gas Fields: Perceptions of resilience actions in the context of CSG development - mean scores comparing Western Downs region, Eastern Maranoa, and Narrabri shire



Note: The higher the perception score the more favourable the perception; a score of 3 represents the midline; scores below 3 indicate unfavourable perceptions, above 3 indicates favourable perceptions

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