



Looking to the Future: Job forecasts for the Surat Basin 2014 to 2034

Overview

This communiqué presents a summary of research about the economic effects of the CSG industry during the operations phase. The findings draw on two sets of data. The first is economic forecasting of indirect employment that flow on to other sectors from the CSG industry. The second is a set of interviews with local stakeholders identifying lessons from the construction phase which can be useful to small businesses during the operations phase.

1. Economic modelling of indirect employment

Using scenarios to forecast jobs

Employment forecasts use calculations based on best available knowledge. Using projected gas industry employment numbers and population data from 2006 to 2011 for the Surat Basin, we established trends for indirect employment related to the CSG industry and applied these to ten different potential future scenarios. The scenarios reflect different possible futures as to how the CSG industry might unfold over a twenty year period in the Surat Basin. These forecasts can be used to help local businesses prepare for the likely future economic effects of the CSG industry on other sectors of the economy. The findings can also provide input into the broader process of regional planning for local, state and national stakeholders.

KEY FINDINGS FROM FORECASTING

- Across all scenarios, employment is projected to oscillate between periods of upward and downward change.
- A general **upward** trend from 2014 to 2024 (with some oscillation between periods of increase and periods of decrease)
- A general **downward** trend from 2024 to 2034
- Six employment sectors in the Surat region predicted to experience job spillover effects: *construction; accommodation and food services; electricity gas, water, and waste management; arts and recreation services; administrative and support services; and other services* such as mechanics, other repairers, hairdressers and work-from-home businesses
- Most jobs generated will be in *construction, accommodation and food services, and other services*
- For the majority of scenarios, total employment declines to a level in 2034 that is **below 2014**, but **higher than 2006**.

What are the different scenarios?

Ten different scenarios were used to forecast employment generated by the coal seam gas industry in the Surat Basin. These can be grouped into three types of scenarios

1. Business as usual scenario

The 'Business As Usual' scenario refers to the flow-on effects to employment in other sectors based on the estimated labour demand put forward by the CSG industry for the period 2014 to 2034.

2. Industry slowdown scenarios: Reduced direct employment due to changes in market conditions

The 'Industry Slowdown' group of scenarios were prepared after consultation with economic and industry experts and a review of trends in energy market conditions. These scenarios present the likely effects on job spillovers adjusted for reduced direct employment in the CSG industry in response to declining commodity prices and technological change. The three scenario variations in this group represent different magnitudes of reduced employment.

3. Reduced multiplier scenarios: Industry slowdown combined with reduced multiplier effects

The 'Reduced Multiplier' group of scenarios present the effects from decreased direct employment combined with reduced indirect employment multipliers in six variations.

What are job spillovers?

Job spillovers are jobs generated from an industry into other employment sectors. In this case we refer to the *indirect jobs* created by the CSG industry as the job spillovers.

Job spillovers were calculated using economic statistics to determine a *multiplier effect*, which represents the rate to which spillover jobs are created (or lost)

Total indirect employment trajectories for the Surat Basin

Using the 'Business as Usual' scenario and a mid-range scenario from each of the other two groups of scenarios figure 1 shows changes to indirect employment for the Surat Basin over the 2014 – 2034. The economic modelling forecasts the future employment as a jagged journey of ups and downs over the next two decades. For the first decade, the journey is one of overall increase with a peak around 2024 followed by an overall decrease in jobs and employment opportunities over the subsequent decade.

Taking the Business as Usual scenario, total employment is forecast to increase in the Surat Basin up until 2024 in the order of approximately 2000 additional jobs in total. From 2024 to 2034, total employment is forecast to decrease across all scenarios. These increases and decreases are predicted to be mainly in the construction, accommodation and food, and other services sector. Small changes are predicted for electricity, gas, water, and waste management; arts and recreation services; and administrative and support services. The pace of these changes varies according to each scenario. For the majority of the scenarios, total employment declines to a level in 2034 that was below the level for 2014, but all scenarios have higher total employment compared with 2006.

Sectors with little or no job spillover after 2014 include: manufacturing; wholesale trade; media and telecommunications; financial services; public administration; education and training; health care and social assistance; scientific and technical services; agriculture, forestry, and fishing; retail trade; transportation, postal and warehousing; rental hiring and real estate.

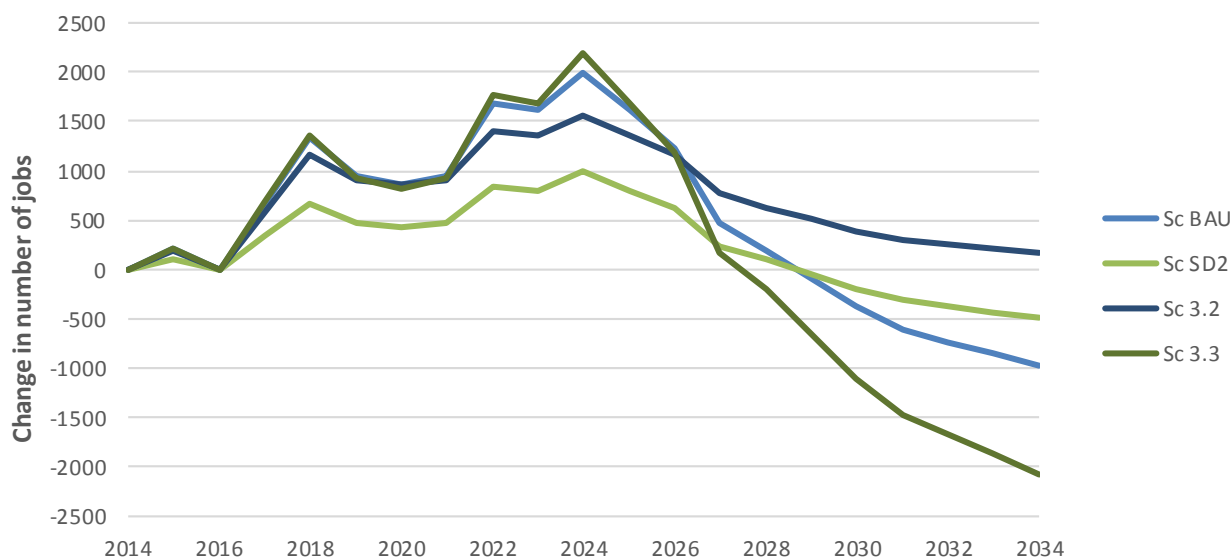


Figure 1 Change in job spillovers into other sectors from 2014 - trajectories across four scenarios in the Surat Basin

Note: BAU: Business as usual: spillovers remain in same ratio as during construction phase; SD2: Slowdown: change in spillovers associated with 50% reduction in direct employment; Sc3.2: Decreasing dependence: spillovers over time so other sectors becoming less dependent on coal seam gas; Sc 3.3: Increasing dependence: spillovers into most sectors increasingly dependent on coal seam gas industry

Table 1 Total jobs in the Surat Basin for Selected Industries (Darling Downs and Maranoa)

Industry sector	ACTUAL JOBS			FORECAST JOBS			CHANGE	
	2006 JOBS	2011 JOBS	2014 JOBS	2034 JOBS SCENARIO BAU	2034 JOBS SCENARIO SD2	2034 JOBS SCENARIO 3.3	CHANGE FROM 2014*	CHANGE FROM 2006*
Electricity, gas, water and waste management services	591	798	1,250	1,167	1,209	1,002	↓	↑
Construction	3,577	4,350	6,650	6,291	6,470	6,769		↑
Accommodation and food services	2,679	3,215	2,950	2,623	2,787	1,971	↓	
Arts and recreation services	196	303	225	243	234	243	↑	↑
Other services e.g. mechanics, hairdressers	1,694	1,919	2,725	2,572	2,649	1,809	↓	↑
Administrative and support services	711	847	900	830	865	830	↓	↑

*arrow indicates all three scenarios higher (lower). No arrow indicates a mix of some higher and some lower.

2. Implications for local businesses

The jobs forecasts show that local businesses are likely to experience a series of mini booms followed by slowdowns over the 2014 to 2024 decade. Although the growth periods will not be as intense as the construction phase of 2010-15, periods of relative growth and relative decline are likely to continue to trend upward throughout the first decade of the operations phase. The following decade, 2024-2034 will similarly experience oscillating periods of activity, however job spill over effects will trend in a downward direction. This means CSG related jobs and the additional jobs generated in other sectors of the region are expected to increase to 2024 and then reduce over the following 10 years, from its peak in 2024. To help manage these dynamics, local businesses can learn from the experiences of SMEs in the region who went through the boom of the industry's construction phase and the slowdown in the post-construction/early operations phase.

LESSONS LEARNED

1. LOOK AFTER CORE CUSTOMERS

Aim to maintain your core customers during the busy times. Businesses that maintained their core customers during the construction boom found that they still had a solid market base post-boom. These businesses found post-boom that their business performance had reverted to where they were prior to the boom and possibly better than if no boom had occurred at all. Some businesses in this situation described the growth periods as “cream on the top” or a “bonus”.

“There is inevitably going to be an end to the so called boom, so you need to know that when it comes to an end you still have some sort of core support - a network of people that are happy to come and [do business] with you.”

Businesses maintained their core customers by holding prices at a steady level and maintaining services to locals or pre-existing customers. This was often challenging when the SME was busy with extra gas-related work and trying to manage the additional costs of operating in a boom economy.

2. STAY CONNECTED

Network with the supply chain, use industry bodies to source information, attend information sessions, and make use of programs and workshops run by government, local chambers, and regional economic development groups. Staying connected helps to learn about the industry, identify possible opportunities, form potential collaborations with others, and be prepared for what might be coming

3. UNDERSTAND THE INDUSTRY

Understand the supply chainand where you sit in it

SMEs have to fit into a supply chain that is complicated, large, and totally unfamiliar. The SME needs to understand how the supply chain works and how the SME is considered as part of that supply chain.

“You can't just stroll in and say, give us a contract. You should have understood all the requirements... there's safety and environment and HR and IR and all these things, and finances to underwrite yourself. So if we don't pay you for 45 days, how are you going to pay your staff? ... You don't get an upfront payment just because you're little.”

Learn from others

Attend information sessions and find out what questions to be asking. You may not be able to make sense of the information and what it means for you, so seek advice.

You're dealing with big companies – they think and act differently

Big companies are focused foremost on managing and mitigating their risks, they view SMEs as risky. On the other hand, many SMEs see themselves as a service provider trying to provide an excellent service and don't tend to consider the risks.

Things can change fast ... prepare for the quieter times

The outlook over the next decade is for a series of mini booms followed by slowdowns and things can change fast. Be prepared for how you will manage in the quieter times.

4. SEEK BUSINESS ADVICE EARLY

You may need to make tough decisions and sometimes you may not want to know what you're hearing. Involving an outside advisor such as a business advisor, accountant, or business mentor can help you stay on track and question some of your decision making.

"We've got a coach mentor in and we've been working with him nearly 18 months now.... yeah it was really helpful.., it's been huge especially for my husband, just to keep you positive... we got involved with him through our Master [Trade] Association"

5. KEEP A CLOSE EYE ON YOUR BUSINESS FIGURESBEWARE OF POSSIBLE RISKS

Mind your cash flows

Manage your business costs carefully and be planning ahead. This may mean considering different options for employing people and financing your equipment so that it matches short term project-type work. Undertake a risk analysis and consider how you will protect your revenues and manage your costs. Risks could be the additional costs involved in taking on more staff, investing in staff training, meeting industry standards and safety compliance, and buying more plant and equipment.

"A big [lesson] would be to be very much warned that they're very short-term contracts. Don't over commit yourself."

Understand your contracts

Even though you might understand the terms of trade in your contract do you know how long it goes for?

"We will probably be more cautious I suppose in dealing with them in the future. unless you've got something written in stone with the finish and end date it really means nothing."

Even though you are dealing with a big company beware of external economic forces

Even a big multi-national company could face tough times or a slowdown in their activity due to external forces that are beyond their control, such as global commodity prices. Do you have a plan for this?

Be cautious and know who you are dealing with

Be careful and prepared for bad debts if things start to slow down, especially new businesses that come to town during the busy times.

6. BE CAREFUL NOT TO OVERCAPITALISE

Before you buy that piece of equipment ask yourself how long do I really want or need this for? Some SMEs over capitalised their businesses by spending heavily on assets during the construction phase. Once the construction phase is finished the assets became a major cost burden to the SME unless they had ongoing CSG work lined up.

“One of the [businesses], they just went out and bought a - \$400,000 [asset]... they've really got themselves in a real pickle over it because...they've just relied 100 per cent on the [CSG industry]...and now they're in a hard place.”

“In that busier time, you purchase all this gear but then be aware of what long term effects a lot of that equipment or a lot of that layout can have on your business down the track. Are you going to get the use out of it for five to 10 years to cover it or is it only that boom and then you're still left with this equipment that you've got to pay for ... get advice [about how you're going to finance it]”

7. BE DIVERSIFIED IN WHAT YOU DO

Think carefully about putting all your eggs in one basket

Some businesses decided to specialise in the CSG industry and then found themselves not part of the operations phase. They may have invested in assets in the process, both human and physical, and now find that they have overcapitalised their business

“A lot of people were geared up for the construction phase and specialised for that, and now we're going into the operational phase, well, they're not - they haven't got anything they can offer in that regard.”

“We're always very mindful through the whole operation not to forget the local ...It has put us in a better spot now [post boom]... you can see there's other businesses around town that are wholly focused just on the orange shirt brigade, and didn't give a hoot about the local. They are definitely feeling it now... you can't put all your eggs in the one basket”

Keep a broad base of customers

In contrast, other businesses made sure they kept a broad base of customers. For those diversified businesses, they found that when the gas related work was there it was “a bit extra”, but when the gas work dropped off, their broad customer base helped to smooth out the change.

“In our industry we deal with so many - a range of people. Like farmers - they've always been a part of our core business ... then we deal with trade people... we also do a lot of retail sales. ...So yeah, we're very broad. ... the mining and the gas for us was basically just our cream on the top...being broad definitely helped us get through [when CSG slowed down]”

Look for new markets with the new capacity you've developed

Many SMEs found that working in the extractive industries sector helped them develop increased skills and capacity beyond what they would have developed otherwise. It also provided great learning opportunities and built their confidence in their capability. This then places them in a good position to take on different types of work or to extend into different and new market segments.

“We would never have done some of the jobs we've done [if it wasn't for CSG]. We've been opened up to so many different experiences and work that we probably would never have come across really ... we're way better experienced for it. ... It's given us a lot more industrial experience and skill.”

“Any of our local businesses that tooled up and engaged in that construction project entered into the toughest, the most robust and scary building industry on the planet... So those businesses are now fit to go and work in any civil and construction project anywhere ... So our clever businesses will be looking for similar opportunities elsewhere.”

8. SEEK OUT RELIABLE INFORMATION

Wherever possible seek out accurate information from reliable and multiple sources, and be wary of 'spin'. It's important to conduct good due diligence before investing since SMEs are often faced with people trying to spruik or talk up the economic outlook. SMEs were hearing a range of differing information that affected their forward planning. The issue is who to believe when many have vested interests and share only certain types of information that benefit their situation.

“There probably was honest information out there but deciphering it...is the hard bit.”

9. PERSONAL CONSIDERATIONS

Think carefully, do I really want to work in this space. A boom period can mean increased intensity of work and for some SMEs an increased level of stress. Consider if you want to be actively involved in the industry. Also, don't forget to consider a suitable time for exiting that is appropriate for your own business and circumstances.

10. OPPORTUNITIES TO LEARN AND GROW

Although working in the extractive industries comes with many challenges, it also provides opportunities to learn and grow your business. SMEs describe these opportunities as experiences that build increased resilience into their business and position them for the next increase in economic activity that comes their way.

“We had three really good years and they were really good years that we learnt a lot... it broadened our perspective on our business of what we actually could do. ...it enabled us to see that we could do it. ... I definitely think it enables you to push boundaries more, to experiment more ...to step out of the safe zone and it doesn't need to be crazy or over the top”

“[From the experience] I built a business that is diverse enough that it can survive some of the challenges that happen when a big part of your client base disappears or reduces their work. I've built into the business some resilience ... I think I've built a business that is better positioned to take advantage of the next future increases in activity”



FREQUENTLY ASKED QUESTIONS

How did you conduct the economic modelling?

To prepare the jobs forecasts, we used econometric analysis and employed ten different scenarios.

What data did you use to base your scenarios?

We used the CSG employment forecast estimates prepared as part of the CSG workforce plan developed by Energy Skills Queensland (Energy Skills, 2015). These estimates forecast direct CSG employment from which we calculated indirect employment or 'job spillovers'.

How did you calculate the job spillovers to other employment sectors from the CSG industry?

We used 2006 and 2011 ABS employment data for the region to calculate a 'multiplier effect' on other employment sectors.

Why did you use the 2014 – 2034 time period?

We used this time period because it matches the most up-to-date CSG projections for direct employment prepared by the CSG industry (Energy Skills, 2015).

How much confidence should I have in these job forecasts?

The employment scenarios exemplify the range and volatility of employment trajectories over two decades for the Surat Basin. Important to note is that all the scenarios constructed in this work consider a 'ceteris paribus' assumption, that is, they do not consider potential future changes in the regional Queensland economy arising from other non-predictable factors such as a potential global economic crisis, large commodity price variations, national economic recession, or a new mining boom.

How did you get the lessons learned?

As part of the research we conducted 31 interviews with SMEs and key informants across the Surat region in 2015. The SMEs included local businesses that provided services directly to the CSG industry as part of the supply chain or were local businesses that experienced the spillover effect. The key informants included local business advisors, local chambers of commerce, regional economic development groups, state and local government, and CSG companies. We also triangulated our findings with other research studies conducted in the region^{1,2,3}.

FOR MORE INFORMATION

Energy Skills (2015) Queensland CSG to LNG Industry Workforce Plan. Available at: <http://www.energyskillsqld.com.au/wp-content/uploads/Queensland-CSG-to-LNG-Industry-Workforce-Plan-Energy-Skills-Qld.pdf>.

Fleming D, Measham T, Graham P and Cai Y (2016) *Employment scenarios in Queensland CSG Regions 2014–2034: a report to the Gas Industry Social and Environmental Research Alliance (GISERA)*. July 2016. CSIRO, Canberra

¹ Ford, J., Verreynne, ML., Steen, J. (2016) *Measuring economic trends and benefits of CSG development on local businesses*. <http://research.ccsq.ug.edu.au/projects/small-and-medium-enterprises-sme-study-economic-trends-benefits>

² UQ Cumulative Impacts Toolkit. <https://boomtown-indicators.org>

³ Walton, A., McCrea, R, and Leonard, R. (2016). *The 2016 CSIRO Community wellbeing and responding to change survey: Western Downs region, Queensland – changes between 2014 and 2016 in the context of Coal Seam Gas Development*. CSIRO report. CSIRO Australia. https://gisera.org.au/wp-content/uploads/2017/01/community-wellbeing-survey-2-report_final.pdf

ABOUT GISERA

The Gas Industry Social and Environmental Research Alliance (GISERA) is a collaborative vehicle established to undertake publicly-reported independent research. The purpose of GISERA is to provide quality assured scientific research and information to industry, government and communities, focusing on social and environmental topics including: groundwater and surface water, biodiversity, land management, the marine environment, and socio-economic impacts. The governance structure for GISERA is designed to provide for and protect research independence and transparency of research. Visit gisera.org.au for more information about GISERA's governance structure, projects and research findings.

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