21. ECONOMICS

This chapter provides a summary of the existing economic environment within the Darling Downs Statistical Division and locally to the project development area. This chapter also addresses the values that could be affected by impacts associated with the construction, operations and decommissioning phases of the project. Values are discussed in terms of the character and basis of the regional, state and national economies. Economic protection objectives have been developed; and the avoidance, mitigation, management and economic enhancement measures to achieve these objectives have been identified. The residual impact assessment assumes that the proposed mitigation, management and enhancement measures have been applied.

An assessment of economic impacts of the project was undertaken by AEC Group Limited (AEC Group), and the detailed findings are presented in Appendix O, Economic Impact Assessment.

21.1 Legislative Context

The following legislation is relevant to the assessment of economic impacts, identifying values, and avoiding, mitigating and managing impacts related to economics through all phases and activities of the project, including construction, operation and eventual decommissioning.

***Environment Protection and Biodiversity Conservation Act 1999 (*Cwlth) (EPBC Act)**. This Commonwealth act applies because it aims to balance the protection of environmental and cultural values with Australian society's economic and social needs by creating a legal framework and decision-making process based on the guiding principles of ecologically sustainable development.

***Environment Protection Act 1994 (*Qld) (EP Act)**. The objective of the EP Act is to protect Queensland's environment by promoting ecologically sustainable development. The assessment of the potential adverse and beneficial environmental, economic and social impacts of a project is required under Chapter 3 of the EP Act.

The economic environment of the Surat Basin is dynamic and the associated legislative framework is developing in response. Accordingly, a number of guidance and discussion documents were also relevant to the assessment of economic impacts of the project. These are as follows:

- Social Impact Assessment: Fact Sheet (DIP, 2011). There is no specific Queensland Government legislation or policy outlining the requirements of an economic impact assessment. However, this fact sheet provides an outline for conducting social impact assessment, which identifies the economy as one of five potential sensitive areas for consideration. The framework for analysis is consistent with that outlined in the terms of reference for this EIS.
- Surat Basin Economic Development Strategy (DEEDI, 2011).
- Surat Basin Scoping Study: Enhancing Regional and Community Capacity for Mining and Energy Driven Regional Economic Development (Schandl & Darbas, 2008). Prepared for the Southern Inland Queensland Consultative Committee and the Australian Government Department of Infrastructure, Transport, Regional Development and Local Government by CSIRO.

- Creating Regional Economic Development by Value Adding the Surat Energy Resources Province (DTRDI, 2008).
- Coal Infrastructure Program of Actions: Identifying the Needs of Queensland's Coal Industry, Including Rail, Ports, Rollingstock, Water, Skills, Energy and Housing and Planning (DIP, 2008).
- Regional Skills Relocation: A Queensland Government Submission to the Commonwealth Inquiry (Qld Govt., 2010b).
- Surat Basin Future Directions Statement (DEEDI, 2010a).

21.2 Assessment Methods

The economic impact assessment was conducted as a desktop study and comprised the following:

- Characterisation of the existing economic environment and assessment of the broader economic context and issues relevant to the project through:
  - Review of data sourced from the Australian Bureau of Statistics, Office of the Government Statistician, regional councils and other public-sector agencies.
  - Review of available government policies, economic development strategies and research papers of relevance.
  - Consultation with local businesses and peak industry bodies.
  - Review of private-sector data and AEC Group's own economic data and proprietary models.
- Establishment of the project 'base case' in terms of project-related expenditure and revenue, including the associated distribution of expenditure and revenue across geographies and sectors as inputs to project-specific economic models.
- Completion of an assessment of the economic impacts of the project. The assessment identifies the economic impacts specific to the Surat Gas Project compared to what would be anticipated if the project does not proceed (i.e., compared to a baseline scenario). The baseline scenario is not simply the existing economic environment. Rather, the baseline scenario accounts for future anticipated economic growth in the local, regional, state and national economies based on available projections of future economic activity from relevant government bodies. The assessment comprised the following key steps:
  - Completion of economic modelling using computable general equilibrium and cost-benefit analysis modelling techniques.
  - Consultation with business, industry and key industry organisations to identify potential economic impacts.
  - Interpretation of modelling output in the context of the regional and state economies, and analysis of other, non-quantified changes to the economic environment.
  - Evaluation of the significance of impacts in relation to economic resources.
  - A summary assessment of the magnitude of key identified impacts based on the above analysis and using a risk assessment framework.

Additional information on each of these steps and the methods undertaken are presented in Appendix O, Economic Impact Assessment.

21.3 Existing Economic Environment and Values

This section provides an outline of the of the existing economic environment in terms of industry contribution to gross product, population, supply chain and support services, labour market, property market and infrastructure. The Darling Downs Statistical Division (referred to hereafter simply as the Darling Downs) was used as the relevant study area for the assessment of economic impacts. The Darling Downs extends beyond the project development area and comprises the Toowoomba, Western Downs, Southern Downs and Goondiwindi local government areas. This section highlights the interlinked nature of the region's economic viability (historically based on agriculture and support services) and economic growth (currently occurring as a result of mining and resources developments). Further trends in the development of the economic environment of the Darling Downs are presented in Appendix O, Economic Impact Assessment.

21.3.1 Gross Regional, State and National Product

The Darling Downs is estimated to have recorded gross regional product (GRP) of $12.6 billion in 2009/10. This represented 5.1% of the Queensland gross state product (GSP), which in the same period was estimated at $244.2 billion. Darling Downs GRP is estimated to have increased by an average of 8.4% per annum between 2006/07 and 2009/10. This regional growth rate is considerably higher than that of Queensland, which experienced 5% GSP growth in the same period.

Strong growth in the Darling Downs economy has been driven by growth in the Western Downs local government area, which has experienced 11.4% average growth per annum. Given the agricultural decline, this growth reflects an increase in mining and gas exploration activity in recent years. The Toowoomba local government area has experienced 8.2% average growth per annum, reflecting Toowoomba's important role as the primary service centre for the Darling Downs and South West regions.

The mining and energy resource industry has expanded considerably as a result of significant interest in the Surat Basin and is now the second largest contributor to the Darling Downs economy in terms of value-added activity. This has resulted in strong growth in the Western Downs region.

In terms of the gross value added to the economy of the Darling Downs, 2009/10 statistics indicate that public administration and safety is the industry that contributes the highest overall value (11.5% contribution), followed by mining (10.7%), construction (9.6%) and agriculture, forestry and fishing (9.1%). The contribution of agriculture, forestry and fishing to the Darling Downs far exceeds the comparable state contribution. This indicates the importance of Darling Downs-based agriculture, forestry and fishing production and associated support and processing activities within the region and to Queensland as a whole. There has, however, been a decline in the relative contribution of agriculture, forestry and fishing, with only 2.7% growth in absolute terms between 2006/07 and 2009/10.

Indications of the gross national, state and regional product, as well as the contributions of the subregions, in recent years are presented in Table 21.1.

Table 21.1 Indicative estimates of gross regional product, Darling Downs and subregions, 2006/07 to 2009/10

Region	Gross Product ($ millions)		Average Annual Growth, 2006/07 to 2009/10 (%)
	2006/07	2009/10	
Toowoomba	$6,638.8	$8,417.2	8.2%
Western Downs	$1,521.0	$2,102.7	11.4%
Southern Downs	$1,231.4	$1,474.6	6.2%
Goondiwindi	$468.4	$574.1	7.0%
Darling Downs	**$9,859.6**	**$12,568.7**	**8.4%**
Queensland	$211,149.0	$244,159.0	5.0%
Australia	$1,091,633.0	$1,284,670.0	5.6%

21.3.2 Local, State and Commonwealth Government Taxes and Revenues and the Australian Dollar

The Queensland Government drew approximately $39.7 billion in revenues in 2009/10, and the Australian Government attracted approximately $298.9 billion in the same period. The Australian dollar remained strong through the global financial crisis. This was predominantly due to revenue from resource development. A strong Australian dollar assists many businesses and households that purchase goods and services from overseas through potential effects of exchange rates on the price of these goods and services. However, a strong Australian dollar can also be a negative for industries that sell their products and services overseas (for example, manufacturing, some agricultural commodities and tourism-related sectors), as these products and services are more expensive to foreign buyers.

21.3.3 Population, Employment, Workforce and Wages

The Darling Downs' resident population has been growing at a slower rate than Queensland in recent years (1.6% per annum on average), and projections by the Queensland Government suggest population will expand at a similar rate over the next 20 years (1.8% per annum on average). However, these estimates and projections do not take into account the region's sizeable and growing transient population that has been attracted by significant mining and gas exploration and development activity. Further detail on the demographics of the Darling Downs is presented in Chapter 22, Social.

The Darling Downs has a tight labour market, with a much lower unemployment rate than Queensland overall. In the June quarter of 2009, the unemployment rate was below 2%. While unemployment increased in the September quarter of 2010 (due to a number of global economic factors), unemployment is likely to return to very low levels in the short term as major projects in the region ramp up. The unemployment rate in the Darling Downs has been historically lower, from 2006 to 2010, than that of Queensland. There are periods where the Darling Downs has moved against the Queensland trend, where unemployment decreased in the Darling Downs, while overall increasing in Queensland. This highlights the importance of mining and gas exploration in the region for supporting economic growth and for providing a degree of insulation from recent external economic events.

The low unemployment rate is symptomatic of a high demand for labour but limited local supply. This has resulted in significant skills shortages developing in the region, particularly for the energy sector, and growing competition for labour between industries. Skills shortages are most

pronounced in the engineering, the geosciences and the electrical fields. Shortages of plant operators, fitters, drillers, and transport and logistics and general tradespersons are also prevalent. This limited local skills availability has resulted in a growing fly-in, fly-out or drive-in, drive-out workforce in the region, which is likely to continue as recently approved projects, such as the Queensland Curtis LNG Project and the Gladstone LNG Project, come on line.

In terms of employment by industry, according to 2009/10 statistics, the top two industries in the Darling Downs were agriculture, forestry and fishing and public administration and safety. These two industries collectively account for 22.8% of the workforce (11.4% each). Managers and professionals are the largest employment groups in the Darling Downs, accounting for 16.9% and 16.1% of the workforce, respectively. In Queensland, the largest employment grouping is clerical and administrative workers. This disparity reflects the stronger regional focus on the agriculture, forestry and fishing industry.

The average income in the Darling Downs in 2010 was $933 per week. This is approximately 5.5% less than the estimated average in Queensland, which was $987 per week for the same period. The discrepancy in weekly wages between Darling Downs and Queensland is lessening. Wages in the Darling Downs were 11.3% less than the average for Queensland in 2006. The 'closing of the gap' can largely be attributed to the significant increase in the rates of pay offered in mining-related employment. Average incomes by industry are shown in Table 21.2.

Table 21.2 Estimated average individual weekly income by industry in Darling Downs, subregions and Queensland, 2010

Industry	Toowoomba	Western Downs	Southern Downs	Goondiwindi	Darling Downs	Queensland
Mining	$1,812	$1,607	$1,515	$1,436	$1,757	$2,046
Electricity, gas, water and waste services	$1,486	$1,427	$1,319	$1,331	$1,455	$1,509
Public administration and safety	$1,238	$985	$1,068	$994	$1,180	$1,224
Construction	$1,071	$1,321	$893	$1,038	$1,080	$1,200
Professional, scientific and technical services	$1,108	$1,063	$979	$973	$1,078	$1,304
Financial and insurance services	$1,095	$1,018	$999	$977	$1,078	$1,218
Rental, hiring and real estate services	$1,013	$1,203	$921	$916	$998	$1,071
Information media and telecommunications	$1,016	$1,089	$893	$700	$987	$1,152
Education and training	$1,005	$888	$937	$993	$984	$993
Transport, postal and warehousing	$932	$840	$848	$863	$901	$1,020
Health care and social assistance	$866	$788	$760	$746	$842	$895
Wholesale trade	$830	$831	$626	$912	$808	$927
Manufacturing	$812	$792	$701	$742	$793	$936
Other services	$738	$676	$622	$807	$720	$813

Table 21.2 Estimated average individual weekly income by industry in Darling Downs, subregions and Queensland, 2010 (cont'd)

Industry	Toowoomba	Western Downs	Southern Downs	Goondiwindi	Darling Downs	Queensland
Agriculture, forestry and fishing	$708	$686	$630	$836	$706	$734
Administrative and support services	$689	$636	$632	$728	$673	$809
Retail trade	$588	$595	$585	$650	$590	$611
Arts and recreation services	$580	$529	$570	$427	$581	$683
Accommodation and food services	$459	$486	$476	$497	$470	$540
Average All Industries	**$957**	**$980**	**$783**	**$884**	**$933**	**$987**

Note: Average all industries includes industries additional to those shown.

21.3.4 Property Market

The property market in the Darling Downs has shown signs of tightening in recent years, driven largely by increased demand for accommodation from mining and gas companies and their employees. The Darling Downs property market has also attracted some speculative property buyers seeking future rental yields as a result of anticipated growth in demand as resource projects come on line. Tightening in the property and rental market has been most evident in the Western Downs local government area, where much of the mining and gas activity has occurred. With a significant number of projects proposed for the region, the property and rental market is likely to remain tight in the short to medium term, as the supply of new housing will lag behind the anticipated strong growth in demand.

Average weekly rents for houses in the Darling Downs increased by 29.1% from 2006 to 2009 and then by an additional 5.0% from 2009 to 2010. Average weekly rents for flats in the Darling Downs have increased at a similar rate over the same period of time. The number of new rental bonds increased by 4.9% from 2006 to 2009 but decreased slightly (decline of 0.6%) from 2009 to 2010. Consultation with real estate agents and local economic development organisations indicates that the Darling Downs is experiencing a tight rental market and housing shortages, in particular in Western Downs and Southern Downs. This is due, in part, to the influx of mining and gas exploration and development workers.

There were 2,170 houses sold in the Darling Downs in 2010. This represents a declining trend, with 27.1% fewer houses sold than in 2009 and 17.4% fewer houses sold than in 2006. While the number of houses sold has decreased, the median sales price for houses in the Darling Downs has increased by 34.4% over the five-year period that commenced in 2005 to a median value of $284,700 in 2010.

The value of non-residential building approvals increased by 57.0% over the five-year period from 2005. This resulted in a total value of approvals of $236.5 million in 2010. The upward trend (of recovery from a low point in 2007) has been primarily driven by development approvals in the Western Downs, Southern Downs and Goondiwindi.

21.3.5 Local Business and Supply Chain

Local supply chains are predominately based around supporting the agriculture sector and display the capacity and capability to expand and support the growing resources sector in this region.

Local support services for the energy resources sector are developing but are currently immature, presenting issues for energy resource operations in sourcing locally produced goods and services. As the energy resource supply chain builds, competition for inputs of goods and services (e.g., transport) has the potential to create issues for the agriculture and other sectors competing with the higher prices able to be paid by the resource sector to secure these suppliers.

Toowoomba local government area is the primary service centre for the Darling Downs and has a considerably larger proportion of workers employed in business and household-service-based industries than the rest of the Darling Downs. It is likely this hierarchy will continue into the future.

21.3.6 Local Infrastructure and Services

The Darling Downs is currently experiencing some transport and telecommunications infrastructure constraints. Where these constraints are not addressed, it will likely impact on the capacity of the Darling Downs to support the significant latent economic development opportunities available within the regional economy.

21.3.7 Agriculture

The Darling Downs economy has traditionally been based on the agriculture sector and its support services. However, the region's agricultural sector has been in decline over the decade to 2010, primarily due to unfavourable climatic conditions and a rural downturn that have adversely impacted on agricultural production. While most farms have tended to manage through the variability associated with agricultural production, the prolonged nature of the drought (and more recently floods) has seen many farms in the region record operating losses in recent years and has resulted in farm business debt levels increasing.

21.3.8 Summary of Values

The stability and sustained growth of the Darling Downs economy is the most important value of the economic environment of the project development area. This has been characterised by an economic base that has sustained growth and maintained a degree of stability through hard times due to climatic and external economic influences.

Collectively, agriculture, forestry and fishing have traditionally been the most important industry in the region. While the growth of mining and related industries is ensuring economic growth in the region, the environmental values of the existing economy that may be affected are expressed in terms of:

- Skilled labour that has been sufficient to service the predominant industries of the region.
- Local businesses that have engaged in or supported the agricultural industry and the rural population.
- Property that has maintained or grown in economic value and has been readily available and affordable to the population of the region.
- Physical and social infrastructure that has adequately serviced the needs of the community and industry.
- Good-quality agricultural land that, regardless of climatic conditions, has maintained traditionally high productivity.

21.4 Issues and Potential Impacts

Results of economic modelling are discussed below in terms of the predicted impacts of the project. While overwhelmingly beneficial, the Surat Gas Project will also likely result in some adverse impacts on the identified economic values. Modelling results are all represented in terms comparable to the baseline scenario (where this is the anticipated economy modelled without the project). Peak economic impacts of the project in terms of industry output will occur during steady-state operations. Modelling results have only been presented to 2027/28 as economic impacts are expected to remain relatively stable once steady-state production is achieved.

21.4.1 Impacts on Gross Regional, State and National Product

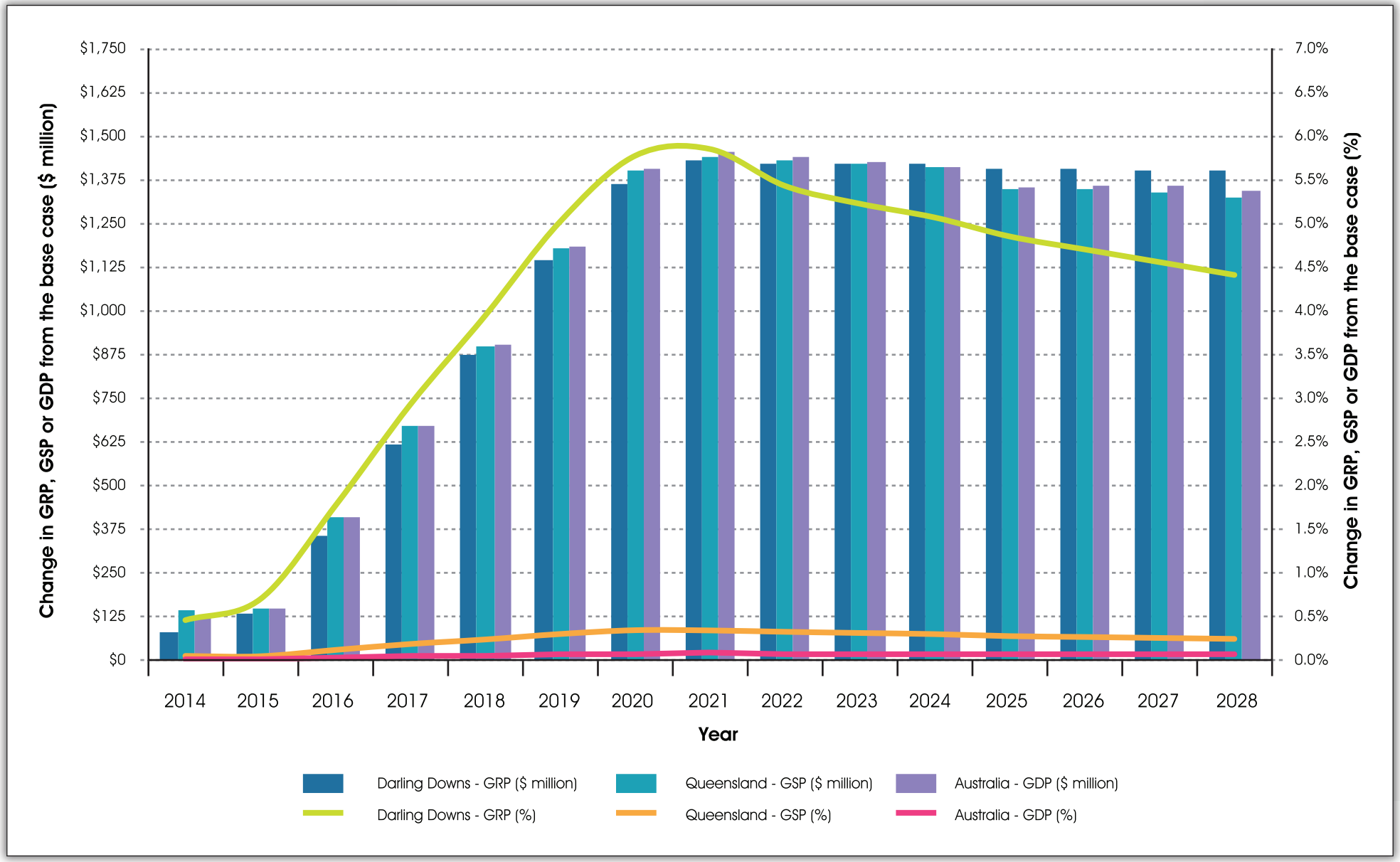
The Surat Gas Project will generate significant economic benefits for the Darling Downs, Queensland and Australian economies. Potential beneficial impacts arising from the Surat Gas Project include significant increases in industry output, GRP, employment and incomes in the Darling Downs and Queensland over the project life through both direct and indirect impacts. The data indicates a steady increase in the regional, state and national economies over the ramping-up period (2013/14 to 2018/19). Over this time, the Surat Gas Project's contribution to GRP is estimated to:

- Increase from approximately $75 million in 2013/14 to approximately $1.15 billion by 2018/19.
- Plateau at approximately $1.3 to $1.4 billion (or just under 6% of Darling Downs GRP) on average, once peak gas production is reached.
- Slowly trend towards the baseline scenario after peak production as resources that are used by the Surat Gas Project are assumed to be utilised for other purposes in the baseline scenario.

The Darling Downs is anticipated to receive the vast majority of growth generated by the Surat Gas Project, accounting for almost all gross product (as evidenced by similar absolute changes in Darling Downs GRP as observed in GSP and GDP). The Surat Gas Project will provide a boost to GRP in the Darling Downs of approximately $534.7 million per annum on average during ramp-up and approximately $1.4 billion per annum on average during steady-state gas production. Darling Downs GRP is estimated to increase by approximately 2.5% during ramp-up compared to what would otherwise be expected to occur without the project. The increase in GRP above the baseline scenario is estimated to magnify to 5.1% once steady-state gas production is reached. The impact of the Surat Gas Project on the gross product in Darling Downs, Queensland and Australia is shown in Figure 21.1. The value of lost or gained economic opportunities is discussed in Section 21.5. A cost benefit analysis for the Surat Gas Project is presented in Section 21.6.

21.4.2 Impacts on Local, State and Commonwealth Government Taxes and Revenues and the Australian Dollar

Additional workers locating permanently or temporarily can be expected to contribute to council revenues through additional rates revenue associated with dwellings and workers camps that are constructed to meet additional demand and any appreciation in land values brought about by increased population. The net impact on each regional council is expected to be neutral in the long run, with additional revenues used to fund additional capital or operating expenditure to ensure the marginal cost to users remains unchanged.



Source: Data from AEC Group.

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Impact of the Surat Gas Project on GRP, GSP and GDP in Darling Downs, Queensland and Australia

Figure No: 21.1

The Surat Gas Project will increase Queensland Government revenues directly and indirectly through payroll tax, royalties, transfer (stamp) duty, land tax, tenure rents and other duties (e.g., motor vehicle, insurance, gambling). Payroll tax and royalty revenues will be the two largest contributors to Queensland Government revenues, with a total estimated at $1.69 billion. This estimate and the breakdown in revenues presented in Table 21.3 are calculated on a mid-range assumed price (at the point of transfer into the Arrow Surat Pipeline). Revenues from transfer duties, land tax, tenure rents and other duties are difficult to estimate in consideration of potential flow-on impacts and have not been included but are likely to be considerably smaller than revenues provided by payroll tax and royalties.

Table 21.3 Aggregate Queensland Government revenues (payroll tax and royalties only) from the Surat Gas Project, 2013/14 to 2027/28

Revenue Source	Estimated Revenue ($ million)	Proportion of Revenue
Payroll tax	$99.7	5.9%
Royalties	$1,591.6	94.1%
Total Revenue	**$1,691.3**	**100.0%**

The project will have a positive impact on Australian Government revenues through increased personal income tax, fringe benefits tax, company tax, and goods and services tax revenues. The value of the project's direct and indirect impacts on Australian Government revenues is presented in Table 21.4.

Table 21.4 Aggregate Australian Government revenues from the Surat Gas Project, 2013/14 to 2027/28

Revenue Source	Estimated Revenue ($ million)	Proportion of Revenue
Income tax	$561.1	17.2%
Fringe benefits tax	$19.2	0.6%
Company tax	$2,305.7	70.8%
GST	$371.6	11.4%
Total Revenue	**$3,257.6**	**100.0%**

A portion of the Australian Government revenues are likely to provide benefits to Queensland through the subsequent expenditure and redistribution of these revenues to provide services and infrastructure throughout Australia. On an average annual basis, the project is estimated to provide approximately $120.8 million to the Queensland Government and $232.7 million to the Australian Government, equating to an average annual increase in revenues of 0.3% and 0.1% respectively.

Support for the Australian dollar will be provided through production of high-value gas for export as LNG. This will, in turn, result in lower comparative prices for foreign goods and services.

21.4.3 Impacts on Population, Employment, Workforce and Wages

The impact of the changes in workforce created by the Surat Gas Project will have a number of direct and flow-on impacts. The Surat Gas Project is anticipated to result in a beneficial impact to employment, with a net increase of just under 500 full-time equivalent employees in the Darling Downs during peak labour demand in 2015/16 and 2016/17. Employment benefits fluctuate through the life of the project due to the staging of works and generally trend downward following the peak in construction activity in 2016/17. On a percentage basis, the Surat Gas Project's impact on employment in the Darling Downs is estimated to peak at approximately 0.375%. This

peak highlights the mild nature of the increase in employment provided by the project. Impacts on population, employment, workforce and wages within the Darling Downs contribute to flow-on impacts to other areas of the economy; and they cannot be considered in isolation. They are, however, notable and are discussed in the following paragraphs.

Population is anticipated to increase through attraction of labour to the Darling Downs and through increased business activity that will provide additional demand for local household and business services. This is likely to result in an increase in service levels over time.

The project will likely contribute to a deepening of existing skills shortages in the construction and coal seam gas industries. The region is already experiencing a shortage in a number of industrial professions and trades. However, the local skill base is expected to experience a permanent lift through implementation of skills development and training strategies as part of the Surat Gas Project. Arrow expects that training programs will not only focus on non-skilled workers but also include components aimed at improving the skills of already skilled workers. The impact on employment by occupation is presented in Table 21.5.

Table 21.5 Average annual impact on employment by occupation in the Darling Downs

Occupation	2013/14 to 2018/19	2019/20 to 2027/28
Managers	0.1%	0.1%
Professionals	0.2%	0.2%
Technicians and trades workers	1.2%	0.8%
Community and personal service workers	0.0%	0.0%
Clerical and administrative workers	0.2%	0.1%
Sales workers	0.1%	0.1%
Machinery operators and drivers	0.2%	0.2%
Labourers	0.1%	0.0%
Total change in employment in the Darling Downs	**0.3%**	**0.2%**

Construction activities will generate demand for construction workers and materials, as well as other support services. Around 38% of the Surat Gas Project's well development capital cost is expected to be expended on local labour and business in the Darling Downs.

Flow-on expenditure is also likely to contribute to growth in local employment opportunities and inward migration, as demand for local-industry supply of goods and services, as well as for recreational and community services, encourages business investment, relocation and expansion in the region.

The construction and mining industries will receive the majority of benefits, primarily as a result of direct employment for the Surat Gas Project. Other industries that will be beneficially impacted by an increase in employment include business, finance and insurance services, and trade. Once in steady-state gas production, public administration, defence, health and education services are also estimated to increase in Queensland. The impact of the Surat Gas Project on employment in the Darling Downs and Queensland is shown in Figure 21.2.

The Surat Gas Project could contribute to a marginal increase in real wages of approximately 0.02% per annum on average in Australia and 0.05% per annum on average in Queensland between 2013/14 and 2027/28. In the Darling Downs, the impact on real wages is higher, averaging 0.5% between 2013/14 and 2027/28, peaking at almost 0.6% in 2023/24 and 2024/25.

The increase in real wages is an indication of pressures in the local labour force to provide the labour requirements of the Surat Gas Project. However, an average increase of 0.5% in real wages, while notable, is not anticipated to destabilise the existing labour market in the region. The annual percentage change in real wages as a result of the Surat Gas Project in the Darling Downs, Queensland and Australia is shown in Figure 21.3.

Households will be beneficially affected by the project through increased job and income-earning opportunities. The impact of the Surat Gas Project on household incomes in the Darling Downs, Queensland and Australia is shown in Figure 21.4.

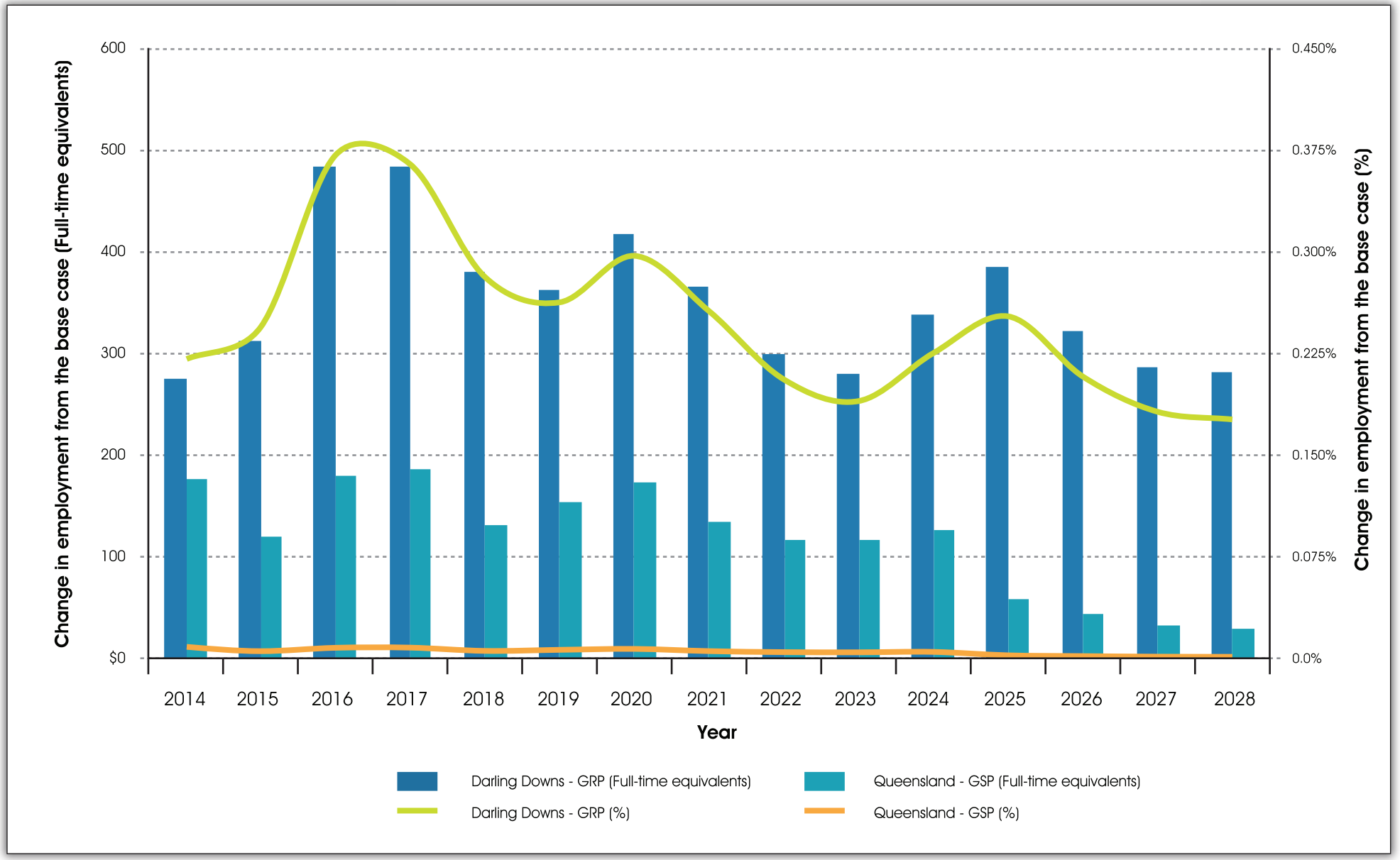
21.4.4 Impacts on the Property Market

Impacts on Residential Property Prices. Residential property impacts from the Surat Gas Project are expected to be minor as camps will be used to accommodate the construction workforce. The relatively small number of operational employees migrating to the region, the long lead time to peak workforce and the dispersed nature of the project will also serve to limit the impact on residential property prices. Even so, it is possible the project could contribute to an increase in demand. This would place additional upward pressure on housing prices, which have escalated considerably in the five years to 2010. This may occur through permanent migration of workers to the region for either direct or flow-on employment opportunities.

Direct and flow-on employment and the associated population increase resulting from the Surat Gas Project are expected to increase demand for accommodation in the region. This will, in turn, contribute to lower vacancy rates and upward pressure on rental and sales prices in the region. Price growth is initially expected to be greatest in the Dalby and Wandoan areas and later in other townships, such as Millmerran, Kogan, Chinchilla and Goondiwindi. House sales prices in the Dalby and Wandoan area have increased by over 75% in the five years to 2010 and vacant land in the same area has increased by more than 150% over the same period. The Surat Gas Project will likely contribute to the continuation of this trend.

Impacts on Industrial or Commercial Land Prices. The Surat Gas Project has the potential to increase demand for industrial or commercial land as a result of flow-on supply chain and support service development. The Darling Downs is currently underserviced in terms of industrial land that is ready for development, with industrial land prices having doubled in some areas in the two years to 2010. The Surat Gas Project will contribute to increased demand for industrial and commercial land and, if not appropriately planned for, will exacerbate price increases.

Impacts on Rural Property Values. The potential for reduced productive capacity in some landholdings may result in a decline in the value of these properties. The impact of the resources sector on rural property values is very difficult to isolate. Agricultural land values in the Darling Downs have softened in recent years, primarily driven by such factors as rural downturn and drought. Uncertainty regarding impacts on agricultural production from the resources sector and potential compensation may also have been a contributing factor.



Source: Data from AEC Group.

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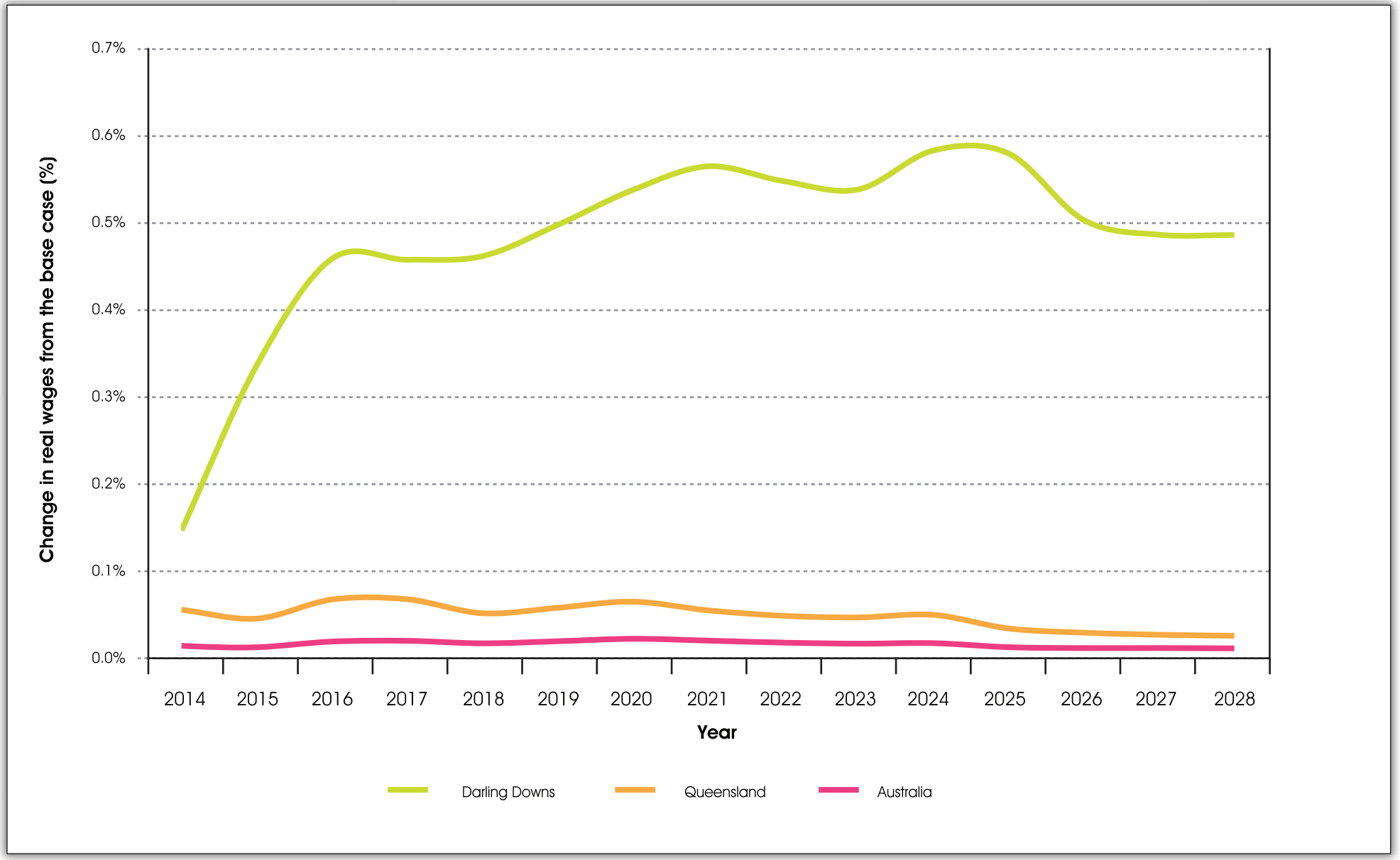
Impact of the Surat Gas Project on employment in the Darling Downs and Queensland

Figure No: **21.2**



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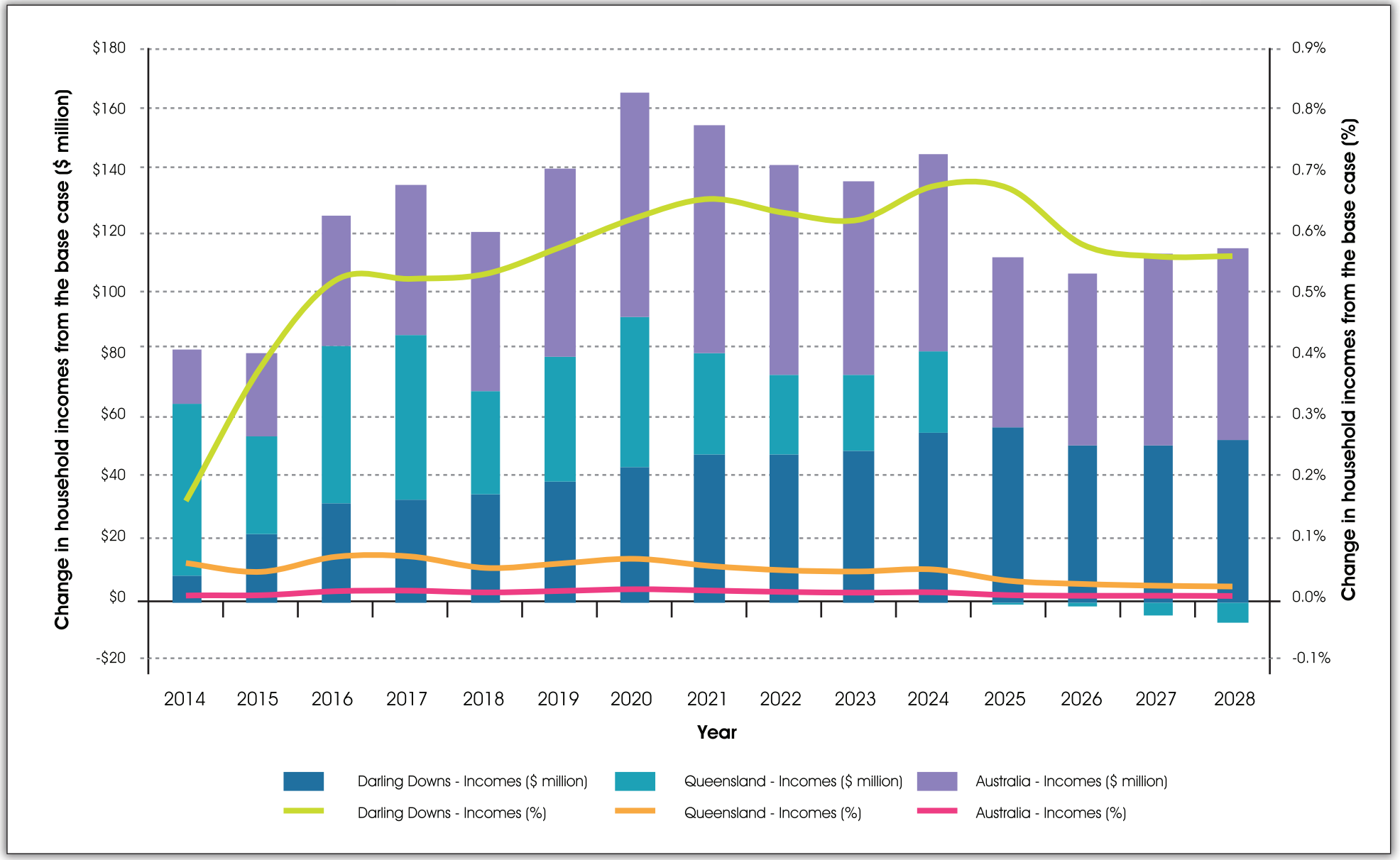
Annual percentage change in real wages as a result of the Surat Gas Project in the Darling Downs, Queensland and Australia

Figure No: 21.3



Source: Data from AEC Group.

coffey environments

Job No: 7040

File Name: 7040_04_F21.04_GL

Arrow Energy

Surat Gas Project

arrow energy go further

Impact of the Surat Gas Project on household incomes in the Darling Downs, Queensland and Australia

Figure No: 21.4

21.4.5 Impacts on Local Business and Supply Chain

Local business will have opportunities to secure new contracts and increase sales to supply and service the needs of both the project and the workforce. However, the Surat Gas Project is likely to adversely impact on some businesses and industry in the Darling Downs and the rest of Queensland as a result of:

- Competition for and draw of labour to the Surat Gas Project and its supply chain. This has the potential to exacerbate skills shortages in the region and Queensland (for both construction and energy-related skills) and place upward pressure on labour prices.
- Escalating costs of labour and other inputs to production, which could reduce business profits and viability for some businesses or industries, particularly for local business already operating at or near 'the margin'.
- The limited capacity of some local businesses to supply large contracts or to meet the quality-control requirements necessary to achieve the standards required for safety and integrity in the petroleum industry. Thus, they may not benefit from the opportunities arising from the Surat Gas Project.
- The high level of gas exports (in the form of LNG) generated by the project will support the Australian dollar, which can adversely impact on those sectors that are 'trade exposed', such as agriculture, manufacturing and tourism, resulting in these products and services becoming more expensive to foreign buyers.

21.4.6 Impacts on Local Infrastructure and Services

Infrastructure constraints are already being experienced in the region, in particular, road and rail transport infrastructure and telecommunications infrastructure. The Surat Gas Project is expected to place additional demand on this infrastructure. Further detail on the impacts on road and social infrastructure are presented respectively in Chapter 19, Roads and Transport, and Chapter 22, Social.

21.4.7 Impacts on Agriculture

The project will be geographically dispersed across the project development area. It is likely that there will be some diminished productive capacity in the agricultural land on which Arrow's facilities are located during the project's life. The scale of impacts on agricultural productivity will vary across the project development area according to the particular farming practices. There is variability in the productivity of land and variability in the financial impact of reduced productivity. It is difficult to accurately estimate the overall financial impact of lost productivity. Arrow is required to compensate landowners for any impacts on productivity. Such compensation will be through direct negotiation with impacted agricultural producers. Thus, any lost productivity is likely to be offset or negated in financial terms. Due to the limited life of the project's production facilities and the ability to rehabilitate land to a standard agreed with the agricultural producer, it is also expected that the impact to productivity will be temporary in nature. The impacts of the project's development on good-quality agricultural land are discussed further in Chapter 12, Geology, Landform and Soils, and Chapter 13, Agriculture.

21.4.8 Impacts on Public Safety

The hazard and risk assessment did not identify any risks to public safety or to the biophysical environment from accidental releases of hazardous material associated with the proposed development beyond those that could be managed through appropriate facility design and adherence to appropriate Australian and international standards. The low population density of

the region supports this assessment. The realisation of any major accident hazard would likely have an impact on production, but the dispersed nature of the proposed development (multiple facilities across a large geographical area) minimises the risk of total loss of supply for a prolonged period. Accordingly, the economic impact associated with hazard and risk is considered to be negligible. Further detail on the preliminary assessment of hazard and risk is presented in Chapter 25, Preliminary Hazard and Risk.

21.4.9 Summary of Potential Adverse Impacts Prior to Mitigation

Potential adverse impacts of the project, prior to any mitigation being implemented, include the following:

- There may be a deepening of existing skills shortages in the construction and coal seam gas industries.
- Local supply chains may not be sufficiently mature for local businesses to benefit fully from supplying the coal seam gas industry.
- The Surat Gas Project has a footprint that will potentially impact on agricultural production in the project development area.
- There may be a direct or indirect increase in the demand for residential and industrial or commercial property resulting in inflated prices.
- There may be an impact on rural property values as a result of disturbance of agricultural lands and any reduction in productive capacity
- The Surat Gas Project may generate the need for upgrades and maintenance to a range of economic infrastructure types. In addition there may be a need for additional social infrastructure to support the needs of direct and indirect migration to the region due to the Surat Gas Project.
- A potential impact on public safety as a result of the introduction of industrial infrastructure and processes into a predominantly agricultural setting.

21.5 Value of Lost or Gained Economic Opportunities

The development of coal seam gas reserves for the Surat Gas Project will provide an opportunity to develop skills and expertise that are valuable in Australia and could potentially result in a new export industry for Queensland. In addition, the extraction of coal seam gas is not anticipated to result in lost economic development opportunities as it leaves the coal resource intact for future extraction.

Potential foregone economic opportunities include local economic development opportunities that rely on gas as an input. This works in three ways: first, through the loss of large volumes of gas to export markets as this gas could alternatively have been used locally in the future; second, through price impacts that ration gas supply to manufacturing activities, and third, through exchange rate impacts that disadvantage exporters and import competing businesses.

The development of the energy resource sector has the potential to impact agricultural land uses by means of competition for land. Much of the land in the Darling Downs is used for agricultural purposes, ranging from cropping to pasture and some intensive agriculture; and there is a strong local desire to maintain the status of the agricultural industry. Development of the resources sector is unlikely to result in a material impact on domestic or global food security due to the relatively low percentage of total land area anticipated to be disturbed in the Darling Downs.

21.6 Cost Benefit Analysis

A cost benefit analysis for the Surat Gas Project shows that the net present value of the project to the Queensland economy is estimated at $1.66 billion, assuming a discount rate of 15%. The net present value shown at a range of real discount rates is presented in Table 21.6.

The cost benefit analysis identifies that the Surat Gas Project is economically desirable for Queensland, with the benefits outweighing the costs across all discount rates examined.

Table 21.6 Summary of cost benefit analysis

Real Discount Rate	Net Present Value ($ million)
6%	$6,400.6
10%	$3,587.0
15%	$1,655.4
20%	$605.5

Sensitivity analysis across three key variables (construction expenditure by the proponent, value of foregone agricultural production and net value added activity in Queensland) highlighted a 90% probability of the project returning a net present value of between $405.1 million and $2.9 billion at a discount rate of 15%. This broad range represents a relatively narrow upper (combination of all anticipated best-case) and lower (combination of all anticipated worst-case) band of outcomes for the variables examined.

21.7 Economic Protection Objectives

The economic protection objectives are to:

- Develop the local and regional skills base to support the coal seam gas industry and assist existing local business to retain skills and back-fill vacated roles.
- Provide opportunities for local business to secure supply contracts for the Surat Gas Project.
- Minimise impacts on agricultural production.
- Minimise impacts on local property markets (residential, industrial or commercial, and rural).
- Minimise the project's impact on existing community infrastructure and services.

21.8 Avoidance, Mitigation and Management Measures

Avoidance, mitigation and management measures and economic enhancement strategies have been proposed to achieve the identified economic protection objectives. Accordingly, in response to potential impacts associated with impacts on population, employment, workforce and wages, Arrow will:

- Encourage contractors engaged by the project to utilise Australian and Queensland Government skills and training programs where possible, including the Australian Apprenticeship Program. This should include providing information about and developing awareness of government incentives and programs among all contractors engaged and directing contractors to relevant agencies. [C316]
- Identify the range of skills required for the labour force and undertake a gap analysis against skills availability. Where gaps exist, in consultation with Energy Skills Queensland,

Manufacturing Skills Queensland and Construction Skills Queensland, identify the method or strategy through which these skills gaps will be filled (e.g., drive-in, drive-out options; training). [C351]

- Continue to support such programs as the CSG/LNG Industry Training Program to develop coal seam gas industry skills in the local workforce. [C319]
- Collaborate with state government, local council, local industry, industry organisations, and coal seam gas proponents to develop programs and strategies aimed at addressing issues of skill retention and back-filling vacancies as a result of labour being drawn to the Surat Gas Project from other sectors. [C320]
- Collaborate with the existing job referral services set up by other proponents to make available information on positions vacant in local businesses with similar trade or skills requirements. This will allow applicants to choose between industry and non-industry jobs. [C363]

In response to potential impacts on the property market, Arrow will:

- Provide TWAFs for non-resident construction workforce. [C378]
- Consider building construction worker camps prior to construction of production facilities to minimise any impacts on property markets during early phase construction works. [C321]
- Accommodate workers required to construct camps in temporary accommodation wherever practicable. [C322]
- Prior to decommissioning the TWAFs, consider their use during the operations phase to ease housing demand in towns. [C379]
- Continue to collaborate with other proponents in the region and identify opportunities to share temporary accommodation where possible for the construction and operations workforces. [C380]
- Develop an integrated housing strategy that considers:
  - Continued participation in initiatives set out in the Major Resource Projects Housing Policy, Draft Resource Town Housing Affordability Strategy, and the proposed Western Downs Regional Council housing affordability strategy, as well as implementation of the Surat Basin Future Directions Statement (DEEDI, 2010a).
  - Support the intent of the Surat Basin Regional Planning Framework and work with key stakeholders (i.e., state government, councils, Urban Land Development Authority, building industry, realtors and other project proponents) to identify cumulative housing impacts and to ensure that developable land is brought to market to meet demand.
  - Providing incentives to private investors and developers of accommodation, such as through head leasing agreements or rental guarantees.
  - Contributing to a government-sponsored community and affordable housing initiative.
  - Housing 'rent to buy scheme' option for workers. [C381]
- Encourage workers relocating to the area to move to towns better suited to growth by:
  - Providing accommodation advice services for workers and their families.

  - Providing work shuttle buses between work site and towns with an employment pool (e.g., Toowoomba, Dalby, Cherbourg). [C382]

- Support government reviews on housing availability and affordability and on impacts on low-income groups. [C383]

In response to potential impacts on local businesses and supply chain and to increase local expenditure on goods and services through project activities, Arrow will:

- Develop a local industry participation plan, in consultation with the Department of Employment, Economic Development and Innovation, which will be consistent with the Australian Industry Participation Plan. [C358]
- Continue to use the Industry Capability Network database for potential suppliers in the area. [C359]
- Organise local supplier information sessions to inform business of Arrow's development plans, tender opportunities for local business and how to complete tender requirements. [C361]
- Provide industry support organisations with the information that they require to assist local businesses to improve their skills base and respond to project needs. [C362]
- Examine options for establishing a local cooperative service or a network or alliances to connect local businesses and enable collaboration in meeting service supply requirements of the coal seam gas industry. [C327]
- Inform local council, economic development organisations, the Industry Capability Network and state government of goods and services required by the Surat Gas Project that are not currently available or are underserviced from within the Darling Downs.[C328]

In response to potential impacts associated with agriculture, Arrow will:

- Engage closely with landowners to minimise impacts on land and existing agricultural activities. [C369]
- Where proponent-owned land is available and it is suitable and safe to do so, consider leasing to farmers to support agricultural production on that land. [C329]
- Consult and agree with landowners on the appropriate location for infrastructure and access routes (to well sites and to and along pipelines). Clearly identify the outcome of the discussions on scaled plans of the property and clearly indicate agreed access routes using signs, temporary fencing, barricade tape or traffic control measures. [C084]
- Consult with landowners on the most appropriate method to minimise disruption to cultivation paddocks (including the introduction of additional headlands) and loss of productive land in controlled-traffic paddocks. The following measures will be considered in reaching agreement:
  - Locate infrastructure (in order of preference) outside of cultivation areas, in headlands or at the corners of cultivated areas, adjacent to boundary fences or in areas of a paddock with the lowest-quality soil.
  - Locate access tracks in headlands or adjacent to boundary fences.
  - Utilise existing access tracks and trafficked areas.

  - Align gathering lines and new access tracks parallel to the direction of cultivation, soil conservation structures and controlled traffic runs and avoid perpendicular or lateral connections.
  - Lay out drill pads in accordance with landowner requirements, subject to safety requirements, to reduce the overall impact on cultivation, where practicable. [C088]

- Develop and implement a compensation framework to 'add value' rather than just compensating for impacts. [C081]
- Clear areas progressively and implement rehabilitation as soon as possible following construction activities. [C015]

In response to potential impacts on local infrastructure and services, Arrow will:

- Collaborate with state government and local councils to assess the suitability of current planning arrangements to handle a likely increase in demand for industrial and commercial developments and to help them position themselves to reduce response times to planning applications, particularly as the number of planning applications is likely to increase. [C331]
- Assess and identify works required to manage the increased traffic volumes and road safety issues associated with the project in road use management plans prepared and regularly reviewed in consultation with the relevant council or the Department of Transport and Main Roads. [C284].
- Collaborate with the Queensland Government and other proponents of major projects being developed in the region to identify peak periods when one or more proponents will require common resources simultaneously, to allow adequate and appropriate planning. [C332]
- Encourage local population growth where it is desired and planned for, enforcing the expectation that non-local operations employees will relocate to the project development area as there are no plans to establish fly-in, fly-out or drive-in, drive-out operations. [C334]

21.9 Residual Impacts

The avoidance, mitigation and management measures outlined above will avoid or reduce the severity of the magnitude of potential impacts on economic values. Table 21.7 summarises the potential adverse impacts prior to mitigation, along with proposed avoidance, mitigation and management measures and the subsequent residual impacts, assuming implementation of the proposed avoidance, mitigation and management measures.

Table 21.7 Summary of economic impact assessment

Potential causes of impacts	Existing Environment	Pre-mitigated Impact			Summary of Avoidance, Mitigation and Management Measures	Residual Impact		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Impacts on population and the workforce								
The Surat Gas Project will likely contribute to a deepening of existing skills shortages in the construction and coal seam gas industries.	Skilled labour that has been sufficient to service the predominant industries of the region.	Almost certain	Moderate	High	• Encourage contractors engaged by the project to utilise Australian and Queensland Government skills and training programs where possible, including the Australian Apprenticeship Program. This should include providing information about and developing awareness of government incentives and programs among all contractors engaged and directing contractors to relevant agencies. • Identify the range of skills required for the labour force and undertake a gap analysis against skills availability. Where gaps exist, in consultation with Energy Skills Queensland, Manufacturing Skills Queensland and Construction Skills Queensland, identify the method or strategy through which these skills gaps will be filled (e.g., drive-in, drive-out options; training). • Continue to support such programs as the CSG/LNG Industry Training Program to develop coal seam gas industry skills in the local workforce. • Collaborate with state government, local council, local industry, industry organisations, and coal seam gas proponents to develop programs and strategies aimed at addressing issues of skill retention and back-filling vacancies as a result of labour being drawn to the Surat Gas Project from other sectors. • Collaborate with the existing job referral services set up by other proponents to make available information on positions vacant in local businesses with similar trade or skills requirements. This will allow applicants to choose between industry and non-industry jobs.	Almost certain	Minor	Medium

Table 21.7 Summary of economic impact assessment (cont'd)

Potential causes of impacts	Existing Environment	Pre-mitigated Impact			Summary of Avoidance, Mitigation and Management Measures	Residual Impact		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Impacts on housing prices and availability of affordable housing, industrial or commercial land prices and rural property values								
The Surat Gas Project has the potential to, either directly or indirectly, increase demand for residential and industrial or commercial property and thereby inflate prices. There is also some potential for the project to impact on rural property values as a result of disturbance of agricultural lands and any reduction in productive capacity	Property that has maintained or grown in economic value and has been readily available and affordable to the population of the region.	Possible	Minor	Low	• Provide temporary workforce accommodation facilities for non-resident construction workforce. • Consider building construction worker camps prior to construction of production facilities to minimise any impacts on property markets during early phase construction works. • Accommodate workers required to construct camps in temporary accommodation wherever practicable. • Prior to decommissioning the temporary workforce accommodation facilities, consider their use during the operations phase to ease housing demand in towns. • Continue to collaborate with other proponents in the region and identify opportunities to share temporary accommodation where possible for the construction and operations workforces. • Develop an integrated housing strategy that considers: – Continued participation in initiatives set out in the Major Resource Projects Housing Policy, Draft Resource Town Housing Affordability Strategy, and the proposed Western Downs Regional Council housing affordability strategy, as well as implementation of the Surat Basin Future Directions Statement (DEEDI, 2010a). – Support the intent of the Surat Basin Regional Planning Framework and work with key stakeholders (i.e., state government, councils, Urban Land Development Authority, building industry, realtors and other project proponents) to identify cumulative housing impacts and to ensure that developable land is brought to market to meet demand.	Possible	Minor	Low

Table 21.7 Summary of economic impact assessment (cont'd)

Potential causes of impacts	Existing Environment	Pre-mitigated Impact			Summary of Avoidance, Mitigation and Management Measures	Residual Impact		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Impacts on housing prices and availability of affordable housing, industrial or commercial land prices and rural property values (cont'd)								
					– Providing incentives to private investors and developers of accommodation, such as through head leasing agreements or rental guarantees. – Contributing to a government-sponsored community and affordable housing initiative. – Housing 'rent to buy scheme' option for workers. • Encourage workers relocating to the area to move to towns better suited to growth by: – Providing accommodation advice services for workers and their families. – Providing work shuttle buses between work site and towns with an employment pool (e.g., Toowoomba, Dalby, Cherbourg). • Support government reviews on housing availability and affordability and on impacts on low-income groups.			
Impacts on business								
Local business has been developing to supply the industry; however, local supply chains may not have reached maturity to maximise local benefits in terms of supplying the industry.	Local business that have engaged in or supported the agricultural industry and the rural population.	Almost certain	Moderate	High	• Develop a local industry participation plan, in consultation with the Department of Employment, Economic Development and Innovation, which will be consistent with the Australian Industry Participation Plan. • Continue to use the Industry Capability Network database for potential suppliers in the area.	Almost certain	Minor	Medium

Table 21.7 Summary of economic impact assessment (cont'd)

Potential causes of impacts	Existing Environment	Pre-mitigated Impact			Summary of Avoidance, Mitigation and Management Measures	Residual Impact		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Impacts on business (cont'd)								
The coal seam gas and gas extraction industry is an emerging industry in the Darling Downs and local businesses may not be able to maximise local benefits in terms of supplying the industry.	Local businesses that have engaged in or supported the agricultural industry and the rural population.	Almost certain	Moderate	High	• Organise local supplier information sessions to inform business of Arrow's development plans, tender opportunities for local business and how to complete tender requirements. • Provide industry support organisations with the information that they require to assist local businesses to improve their skills base and respond to project needs. • Examine options for establishing a local cooperative service or a network or alliances to connect local businesses and enable collaboration in meeting service supply requirements of the coal seam gas industry. • Inform local council, economic development organisations, the Industry Capability Network and state government of goods and services required by the Surat Gas Project that are not currently available or are underserviced from within the Darling Downs.	Almost certain	Minor	Medium

Table 21.7 Summary of economic impact assessment (cont'd)

Potential causes of impacts	Existing Environment	Pre-mitigated Impact			Summary of Avoidance, Mitigation and Management Measures	Residual Impact		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Impacts on agricultural productivity								
The Surat Gas Project has a footprint that will potentially impact on agricultural production in the project development area.	Good-quality agricultural land that, even though affected by climatic conditions, has maintained traditionally high productivity.	Likely	Minor	Medium	• Engage closely with landowners to minimise impacts on land and existing agricultural activities. • Where proponent-owned land is available and it is suitable and safe to do so, consider leasing to farmers to support agricultural production on that land. • Consult and agree with landowners on the appropriate location for infrastructure and access routes (to well sites and to and along pipelines). Clearly identify the outcome of the discussions on scaled plans of the property and clearly indicate agreed access routes using signs, temporary fencing, barricade tape or traffic control measures. • Consult with landowners on the most appropriate method to minimise disruption to cultivation paddocks (including the introduction of additional headlands) and loss of productive land in controlled-traffic paddocks. The following measures will be considered in reaching agreement: – Locate infrastructure (in order of preference) outside of cultivation areas, in headlands or at the corners of cultivated areas, adjacent to boundary fences or in areas of a paddock with the lowest-quality soil. – Locate access tracks in headlands or adjacent to boundary fences. – Utilise existing access tracks and trafficked areas. – Align gathering lines and new access tracks parallel to the direction of cultivation, soil conservation structures and controlled traffic runs and avoid perpendicular or lateral connections. – Lay out drill pads in accordance with landowner requirements, subject to safety requirements, to reduce	Likely	Minor	Medium

Table 21.7 Summary of economic impact assessment (cont'd)

Potential causes of impacts	Existing Environment	Pre-mitigated Impact			Summary of Avoidance, Mitigation and Management Measures	Residual Impact		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Impacts on agricultural productivity (cont'd)								
					the overall impact on cultivation, where practicable. • Develop and implement a compensation framework to 'add value' rather than just compensating for impacts. • Clear areas progressively and implement rehabilitation as soon as possible following construction activities.			
Impacts on local infrastructure and service capacity								
The Surat Gas Project may generate the need for upgrades and maintenance to a range of economic infrastructure types. In addition there may be a need for additional social infrastructure to support the needs of direct and indirect migration to the region due to the Surat Gas Project.	Physical and social infrastructure that has adequately serviced the needs of the community and industry.	Likely	Minor	Medium	• Collaborate with state government and local councils to assess the suitability of current planning arrangements to handle a likely increase in demand for industrial and commercial developments and to help them position themselves to reduce response times to planning applications, particularly as the number of planning applications is likely to increase. • Assess and identify works required to manage the increased traffic volumes and road safety issues associated with the project in road use management plans prepared and regularly reviewed in consultation with the relevant council or the Department of Transport and Main Roads. • Collaborate with the Queensland Government and other proponents of major projects being developed in the region to identify peak periods when one or more proponents will require common resources simultaneously, to allow adequate and appropriate planning. • Encourage local population growth where it is desired and planned for, enforcing the expectation that non-local operations employees will relocate to the project development area as there are no plans to establish fly-in, fly-out or drive-in, drive-out operations.	Possible	Minor	Low

Table 21.7 Summary of economic impact assessment (cont'd)

Potential causes of impacts	Existing Environment	Pre-mitigated Impact			Summary of Avoidance, Mitigation and Management Measures	Residual Impact		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Impacts on public safety								
Given the application of engineering standards (compliance with Australian and international Standards) for development of gas infrastructure the economic impact associated with hazard and risk are considered to be negligible.								

21.10 Inspection and Monitoring

Monitoring will be undertaken to demonstrate achievement of economic protection objectives. Monitoring and inspection of avoidance, mitigation and management measures will be implemented to ensure the impacts and residual risks continue to be minimised throughout the lifetime of the project. Monitoring of the mitigations of economic impacts will also be closely associated with the social monitoring and inspection programs described in Chapter 22, Social.