

Surat Basin non-resident population projections, 2021 to 2025

Introduction

The resource sector in regional Queensland utilises fly-in/fly-out and drive-in/drive-out (FIFO/DIDO) workers as a source of labour supply. These non-resident workers live in the regions only while on-shift (refer to Notes, page 9). The Australian Bureau of Statistics' (ABS) official population estimates and the Queensland Government's population projections for these areas only include residents.

To support planning for population change, the Queensland Government Statistician's Office (QGSO) publishes annual non-resident population estimates and projections for selected resource regions. This report provides a range of non-resident population projections for local government areas (LGAs) in the Surat Basin region (Figure 1), from 2021 to 2025.

The projection series represent the projected non-resident populations associated with existing resource operations and future projects in the region. Projects are categorised according to their standing in the approvals pipeline, including stages of the environmental impact statement (EIS) process, and progress towards achieving financial close. Series A is based on existing operations, projects under construction and approved projects that have reached financial close. Series B, C and D projections are based on projects that are at earlier stages of the approvals process.

Projections in this report are derived from surveys conducted by QGSO and other sources. Data tables to supplement the report are available on the QGSO website (www.qgso.qld.gov.au).

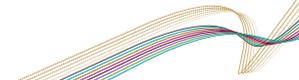
Key points

- The non-resident population of the Surat Basin was 3,260 persons in June 2020. This largely comprised FIFO/DIDO workers involved in coal seam gas (CSG) activity, including gas gathering, drilling and operation activities.
- According to Series A, the region's non-resident population will increase to 3,610 persons in June 2021, before declining and then stabilising between 3,230 and 3,270 persons from 2022 to 2025.
- Series B projects the Surat Basin's non-resident population will increase to 3,630 persons in June 2021, and remain above the Series A projection until 2024 at between 3,410 and 3,510 persons.
- There are no Series C and Series D projections for the Surat Basin published in this edition.
- At the LGA level, one projection series is presented for Maranoa (R). Series A projects minimal change in the size of the non-resident population of Maranoa (R) between 2020 (1,080 persons) and 2025 (1,040 persons).
- Under Series A, the non-resident population of Western Downs (R) is projected to peak at 2,460 persons in June 2021 and then decline to between 2,000 and 2,050 persons from 2022 to 2025. Series B projects the non-resident population to remain above the Series A projection until 2024, before falling to 2,040 persons in 2025.
- The Series A projection for Toowoomba (R) expects the non-resident population to remain at between 120 and 180 persons over the projections period.

Figure 1 Surat Basin region



In this publication, the Surat Basin region is defined as the local government areas (LGAs) of Maranoa (R), Western Downs (R) and Toowoomba (R).



Surat Basin – future influences

The Surat Basin is Queensland's main source of natural gas and a major energy province, with renewable energy projects now supplementing existing gas operations, coal mines, and coal and gas-fired electricity generation (Table 5, page 8). CSG-related activity continues to provide most of the region's resource-related employment. With major CSG infrastructure already in place, the focus has shifted to reducing costs and improving gas field performance through the use of new technology and best use of existing gas infrastructure.

Looking ahead for the gas industry in the Surat Basin:

- **Arrow Energy** continues to develop its existing Surat Basin operations, including drilling, well maintenance, and investment in facility improvements (Arrow Energy, 2020). In April 2020, Arrow Energy announced financial close for phase one of the Surat Gas Project, with construction commencing in December quarter 2020. Phase one includes 600+ wells and associated gathering, new gas and water pipelines to connect to existing facilities, and upgrades to Arrow Energy's water treatment facilities.
- **Australia Pacific LNG (APLNG)** reports that strong field performance allowed for reduced development activity while achieving record production levels in 2019–20 (Origin Energy, 2020). APLNG is planning to maintain current production levels on average out to 2023–24.
- **Gladstone LNG (GLNG)** achieved record production in 2020, with a focus on driving down operating costs by increasing production (Santos, 2021). In 2020, GLNG drilled 302 wells across its acreage, and plans to drill 180 wells in 2021 and 350 wells in 2022.
- **Queensland Curtis LNG (QCLNG)** continues to progress its current well campaign, Project Goondooloo, which will include around 250 wells and connect to existing facilities (Shell, 2021). The project commenced drilling in April 2020, with 41 wells drilled by the end of February 2021.

A number of renewable energy projects in Western Downs (R) will contribute to resource industry activity in the region. Four solar projects—X-ELIO's **Blue Grass Solar Farm**, Hana Financial Investment's **Columboola Solar Farm**, Vena Energy's **Wandoan South BESS**, and Neoen's **Western Downs Green Power Hub**—reached financial close and began construction in the second half of 2020 (Columboola Solar Farm, 2021; Neoen, 2020; Queensland Government, 2020; Sterling and Wilson, 2020; Vena Energy, 2020; X ELIO, 2020; X ELIO, 2021). All are expected to complete construction and commence operations in late 2021 or early 2022. Works also continue on AGL's **Coopers Gap Wind Farm** and Shell Australia's **Gangarri Solar Farm** (AGL, 2021; Powerlink, 2021; Shell Energy, 2021). RES Australia's **Dulacca Renewable Energy Project** continues to advance through the approvals process, with *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval granted in August 2020 and the company actively working towards achieving financial close for the project (RES, 2020).

Two sections of the Inland Rail project pass through Toowoomba (R), with both progressing through the EIS process. The draft EIS for **Inland Rail – Border to Gowrie** was released for public consultation in January 2021 (DSDILGP, 2021). The draft EIS for **Inland Rail – Gowrie to Helidon** is being prepared by the proponent and is expected to be available for public comment and submission during 2021 (DSDILGP, 2020; Inland Rail, 2021).

Projection methodology

QGSO's non-resident population projection methodology comprises four different series, which represent a range of possible outcomes arising from the future development of resource projects and operations in the Surat Basin. Each series estimates the non-resident population that would be present in each LGA at 30 June of each year from 2021 to 2025, should the listed operations and projects proceed as assumed.

The four projection series represent the estimated non-resident populations associated with existing operations and future projects. Projects are categorised according to their standing in the approvals pipeline, including stages of the environmental impact statement (EIS) process¹, and progress towards achieving financial close.

- **Series A** projection is based on the number of non-resident workers on-shift who were engaged in existing resource operations at June 2020. The projection takes into account future changes to those operational workforces as advised by company sources, as well as the estimated construction and operational workforces of Category A projects (i.e. those that are approved and have reached financial close).
- **Series B** projection includes the Series A projection plus projected growth in the non-resident population arising from Category B projects (those that have an EIS approved and are awaiting other approvals and/or financial close).
- **Series C** projection includes the Series A and B projections, plus projected growth in the non-resident population arising from Category C projects (those that have published an EIS but are not yet approved).

¹ The projections also include some projects that do not require an EIS. Such projects are still subject to other approvals.

- **Series D** projection includes the Series A, B and C projections, plus projected growth in the non-resident population from Category D projects (those that have yet to publish an EIS, including projects that have lodged an initial advice statement (IAS) as well as projects that have yet to begin the approvals process).

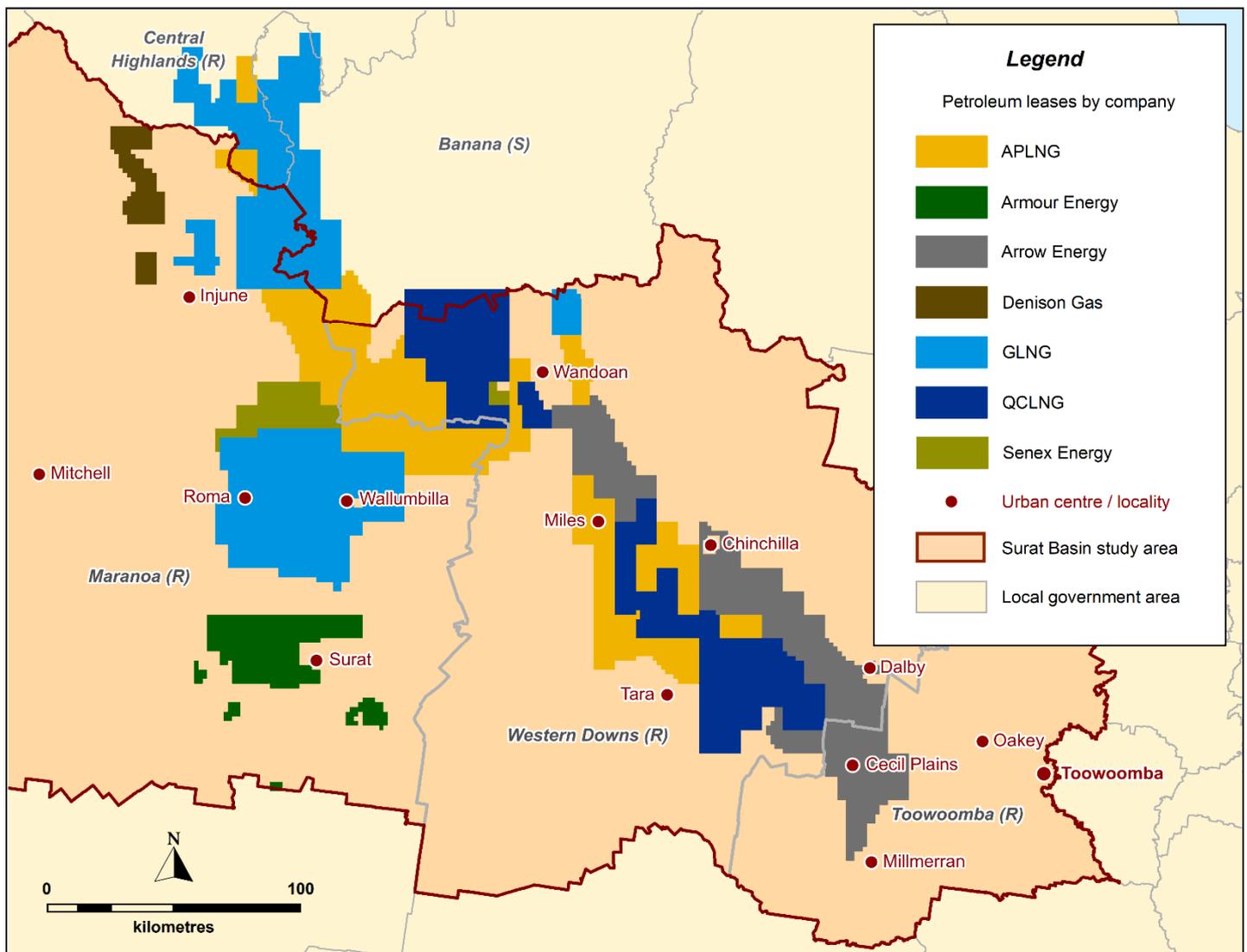
Only series containing more than one project are published in this report.

Where financial close for an approved project has been delayed indefinitely, or where it is not possible to give consideration to indicative workforce data or sequencing, the project is designated as **Category E** and is not included in any of the four projection series. Other projects that are dependent on Category E projects in order to commence are also designated as Category E and are excluded from consideration in the projections.

Users of these projections should note that there is a degree of uncertainty about the likelihood of these projects proceeding as assumed and, as such, the projections should be regarded as being indicative of the range of potential outcomes rather than forecasts of future growth. QGSO does not advocate any of the projection series as being the most likely or favoured outcome. See caveats on page 9 of this report for further details.

A full list of existing operations and projects included in each category is available in Table 5 (page 8). A map of petroleum leases by company in the Surat Basin is shown in Figure 2.

Figure 2 Petroleum leases (PLs) by company^(a), Surat Basin



(a) Includes PL applications and PLs granted as at March 2021. Does not include PLs held by other companies.

Source: Queensland Government, 2021; QGSO, 2021

Projected non-resident population, Surat Basin

The non-resident population of the Surat Basin was 3,260 persons in June 2020, declining from 4,040 persons in June 2019 (Figure 3) as a number of projects under construction were completed. CSG activity, such as drilling and maintenance, also decreased over this period as companies responded to low gas prices and COVID-19 (QGSO, 2020). Compared with June 2019, there were relatively few related infrastructure activities—such as power station maintenance and roadworks—in progress in June 2020.

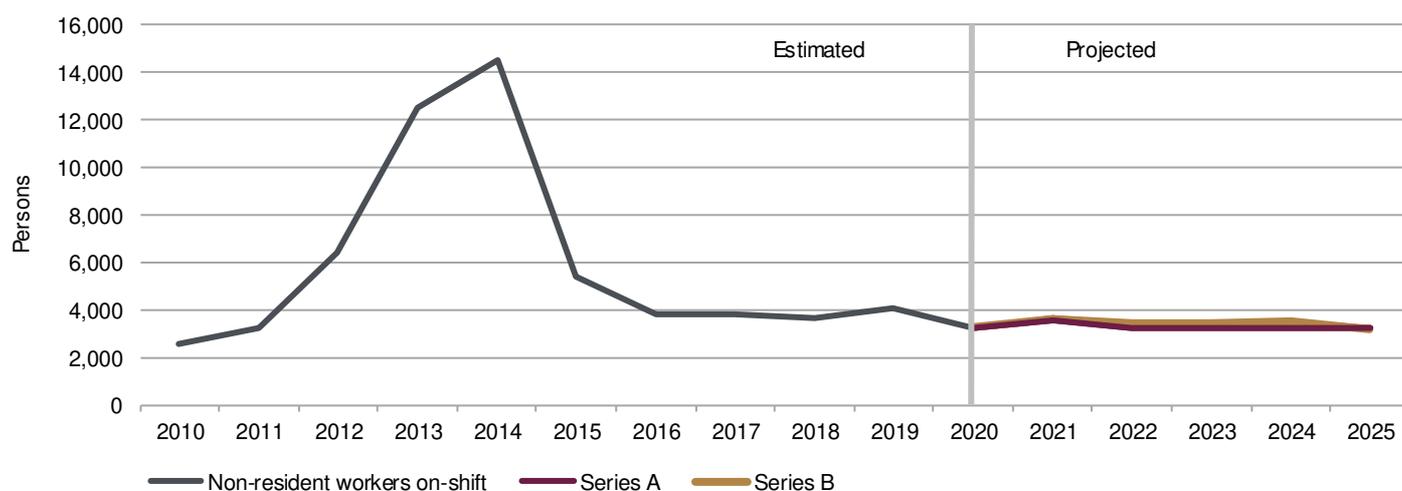
Two projections series are presented for the Surat Basin (Table 1). According to Series A, the non-resident population will increase to 3,610 persons in June 2021, before declining and then stabilising at between 3,230 and 3,270 persons from 2022 to 2025. This series reflects the non-resident workforces of CSG projects and operations, coal mines and power stations in the region. It also factors in the non-resident population impacts of several renewable energy projects that are currently under construction.

The Series B projection takes into account the additional influence of a number of renewable energy projects that have been approved but have yet to reach financial close. Series B projects the Surat Basin's non-resident population will increase to 3,630 persons in June 2021, and remain above the Series A projection until 2024 at between 3,410 and 3,510 persons.

Under the two projections series presented, the Surat Basin's non-resident population will remain well below the total (14,490 persons) reached at the peak of CSG infrastructure construction in 2014.

There are no Series C and Series D projections for the Surat Basin published in this edition.

Figure 3 Estimated and projected non-resident population, Surat Basin



Source: QGSO estimates, 2010 to 2020; QGSO projections, 2021 to 2025

Table 1 Projected non-resident population, Surat Basin

Projection series ^(a)	Number of non-resident workers on-shift at 30 June						
	Estimated		Projected				
	2020	2021	2022	2023	2024	2025	
Series A	3,260	3,610	3,230	3,270	3,230	3,230	
Series B	3,260	3,630	3,440	3,410	3,510	3,230	

(a) One project in Series B in Toowoomba (R) is excluded from the projections for the Surat Basin. Series C and Series D projections for the Surat Basin are not published.

Figures in all tables have been rounded to the nearest 10; see Notes at end of report for details.

Source: QGSO estimates, 2020; QGSO projections, 2021 to 2025

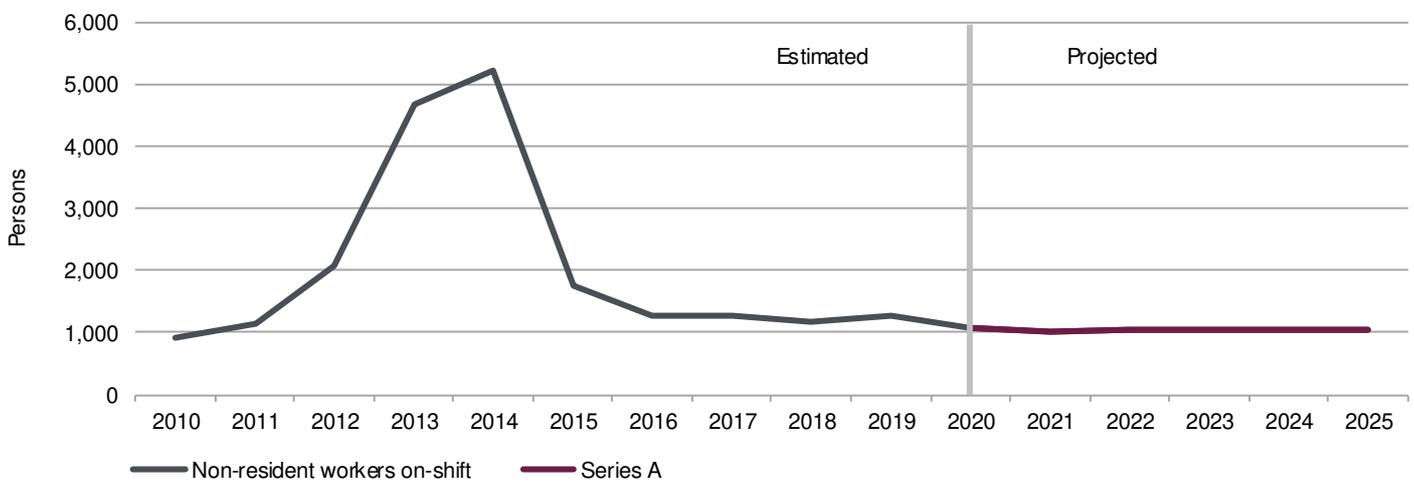
Maranoa (R)

Resource activity in Maranoa (R) is primarily associated with the CSG industry (Table 5, page 8), with most of the non-resident population engaged in CSG operations, gas gathering, drilling and maintenance activities. CSG activity in Maranoa (R) decreased between June 2019 and June 2020, which saw the non-resident population fall from 1,260 persons to 1,080 persons over this period (Figure 4).

One projection series is presented for Maranoa (R) (Table 2). Series A projects minimal change in the size of the non-resident population of Maranoa (R) between 2020 (1,080 persons) and 2025 (1,040 persons). This series includes consideration of the ongoing gas gathering, drilling and operation workforces of the APLNG and GLNG projects, as well as Denison South (Yellowbank), the Kincora Project and the Western Surat Gas Project.

There are no Series B, Series C or Series D projections for Maranoa (R), as there are no projects in these categories.

Figure 4 Estimated and projected non-resident population, Maranoa (R)



Source: QGSO estimates, 2010 to 2020; QGSO projections, 2021 to 2025

Table 2 Projected non-resident population, Maranoa (R)

Projection series ^(a)	Number of non-resident workers on-shift at 30 June						
	Estimated	Projected					
	2020	2021	2022	2023	2024	2025	
Series A	1,080	1,030	1,050	1,040	1,040	1,040	

(a) There are no Series B, Series C or Series D projections for Maranoa (R).

Source: QGSO estimates, 2020; QGSO projections, 2021 to 2025

Western Downs (R)

Western Downs (R) has the largest non-resident population of the Surat Basin LGAs and is host to a range of resource industry activity including CSG operations and projects, coal mines, coal and gas fired power stations, and renewable energy projects (Table 5, page 8). The non-resident population of Western Downs (R) decreased from 2,540 persons in June 2019 to 2,050 persons in June 2020 (Figure 5), driven by a reduction in CSG activity, including less maintenance, drilling and project construction.

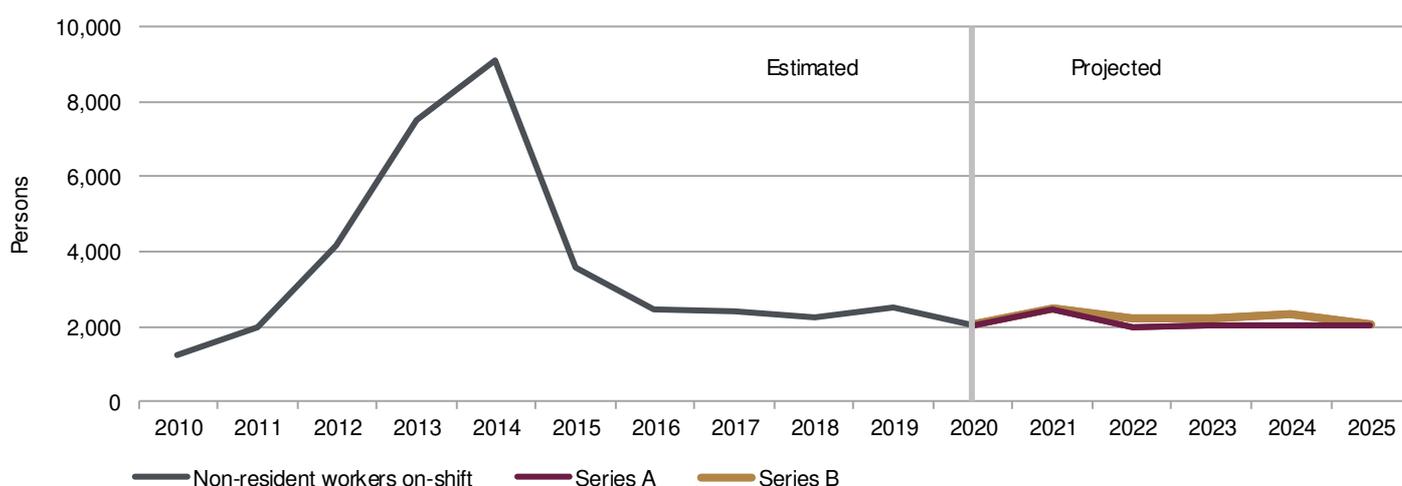
Two projection series are presented for Western Downs (R) (Table 3). The Series A projection reflects the ongoing non-resident workforces of resource operations and projects that are active in the area, as well as the influence of six renewable energy projects that will be under construction in June 2021. Under Series A, the non-resident population of Western Downs (R) is projected to peak at 2,460 persons in June 2021 and then decline to between 2,000 and 2,050 persons from 2022 to 2025.

The Series B projection for Western Downs (R) takes into account the additional non-resident population impacts of four renewable energy projects that have yet to reach financial close. Series B projects the non-resident population to increase to 2,480 persons in June 2021, then remain above the Series A projection at between 2,210 and 2,320 persons from 2022 until 2024, before falling to 2,040 persons in 2025.

There are no Series C or Series D projections for Western Downs (R), as there are no projects in these categories.

Neither of the projection series for Western Downs (R) include consideration of the Surat Basin Rail or proposed coal mining projects, which are classified as Category E (Table 5, page 8).

Figure 5 Estimated and projected non-resident population, Western Downs (R)



Source: QGSO estimates, 2010 to 2020; QGSO projections, 2021 to 2025

Table 3 Projected non-resident population, Western Downs (R)

Projection series ^(a)	Number of non-resident workers on-shift at 30 June					
	Estimated	Projected				
	2020	2021	2022	2023	2024	2025
Series A	2,050	2,460	2,000	2,050	2,050	2,040
Series B	2,050	2,480	2,210	2,200	2,320	2,040

(a) There are no Series C or Series D projections for Western Downs (R).

Source: QGSO estimates, 2020; QGSO projections, 2021 to 2025

Toowoomba (R)

Compared with the other Surat Basin LGAs, Toowoomba (R) has a relatively small non-resident population. The proximity of the large population centre of Toowoomba to most resource operations in the LGA means that workers are more likely to live locally and less likely to commute from outside the region. Non-resident workers are engaged at gas operations, power stations and coal mines, as well as in support services for the gas and mining industries (Table 5, page 8).

In June 2020, the non-resident population of Toowoomba (R) was 130 persons, down from 250 persons in June 2019 (Figure 6). This decrease was largely due to fewer workers engaged in power station maintenance and other works (QGSO, 2020). Due to the relatively small number of non-resident workers on-shift in Toowoomba (R), these activities can have a notable temporary influence on the size of the non-resident population in some years. Three solar farms under construction in the LGA were also nearing completion in June 2020.

One projection series is presented for Toowoomba (R) (Table 4). Under Series A, the non-resident population is expected to remain at between 120 and 180 persons over the projections period. This series reflects the ongoing non-resident workforces associated with coal mines, gas operations and projects, and power stations in the LGA.

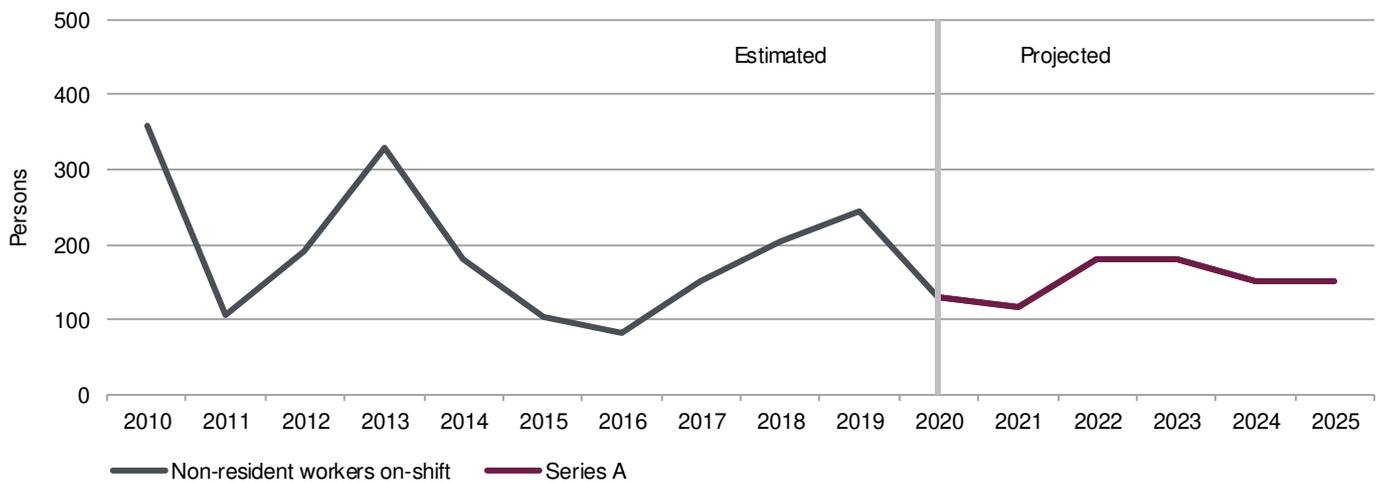
Series B in Toowoomba (R) has a single project—Bulli Creek Solar Farm—which is excluded from the projections for the Surat Basin region (Table 1).

Series C in Toowoomba (R) has a single project—Inland Rail – Border to Gowrie—which is excluded from the projections for the Surat Basin region (Table 1).

Series D in Toowoomba (R) has a single project—Inland Rail – Gowrie to Helidon—which is excluded from the projections for the Surat Basin region (Table 1).

The projection series for Toowoomba (R) does not include consideration of the New Acland Coal Mine Stage 3 Project, which is classified as Category E (Table 5, page 8).

Figure 6 Estimated and projected non-resident population, Toowoomba (R)



Source: QGSO estimates, 2010 to 2020; QGSO projections, 2021 to 2025

Table 4 Projected non-resident population, Toowoomba (R)

Projection series ^(a)	Number of non-resident workers on-shift at 30 June						
	Estimated		Projected				
	2020	2021	2022	2023	2024	2025	
Series A	130	120	180	180	150	150	

(a) Series B, Series C and Series D projections for Toowoomba (R) are not published.

Source: QGSO estimates, 2020; QGSO projections, 2021 to 2025

Table 5 Resource operations and projects, Surat Basin

Category ^(a)	Project / operation name	Company name	LGA
A	APLNG Drilling and Completions	APLNG ^(b)	Maranoa (R), Western Downs (R)
A	APLNG Surat Operations and Gas Gathering	APLNG	Maranoa (R), Western Downs (R)
A	Arrow Energy Surat Operations	Arrow Energy	Toowoomba (R), Western Downs (R)
A	Braemar Power Station	Alinta Energy	Western Downs (R)
A	Braemar 2 Power Station	Arrow Energy	Western Downs (R)
A	Blue Grass Solar Farm	X-ELIO Australia	Western Downs (R)
A	Brigalow Solar Farm	Impact Investment Group	Toowoomba (R)
A	Cameby Downs Mine	Yancoal Australia	Western Downs (R)
A	Columboola Solar Farm	Hana Financial Investment	Western Downs (R)
A	Commodore Mine	Millmerran Power Partners	Toowoomba (R)
A	Coopers Gap Wind Farm	AGL Energy	Western Downs (R)
A	Daandine Power Station	Energy Infrastructure Investments	Western Downs (R)
A	Darling Downs Power Station	Origin Energy	Western Downs (R)
A	Denison South (Yellowbank)	Denison Gas	Maranoa (R)
A	Gangarri Solar Farm	Shell Australia	Western Downs (R)
A	GLNG Drilling and Completions	GLNG ^(c)	Maranoa (R), Western Downs (R)
A	GLNG Surat Operations and Gas Gathering	GLNG	Maranoa (R), Western Downs (R)
A	Kincora Project	Armour Energy	Maranoa (R)
A	Kogan Creek Mine	CS Energy	Western Downs (R)
A	Kogan Creek Power Station	CS Energy	Western Downs (R)
A	Millmerran Power Station	InterGen	Toowoomba (R)
A	New Acland Mine	New Hope Group	Toowoomba (R)
A	Oakey Power Station	ERM Power	Toowoomba (R)
A	Oakey Solar Farm	Canadian Solar	Toowoomba (R)
A	Project Atlas	Senex Energy	Western Downs (R)
A	QCLNG Drilling and Completions	QCLNG ^(d)	Western Downs (R)
A	QCLNG Surat Operations and Gas Gathering	QCLNG	Western Downs (R)
A	Surat Gas Project	Arrow Energy	Toowoomba (R), Western Downs (R)
A	Wandoan South BESS	Vena Energy	Western Downs (R)
A	Western Downs Green Power Hub	Neoen Australia	Western Downs (R)
A	Western Surat Gas Project	Senex Energy	Maranoa (R)
A	Yarranlea Solar Farm	Risen Energy	Toowoomba (R)
B	Beelbee Solar Farm	APA	Western Downs (R)
B	Bulli Creek Solar Farm	First Solar	Toowoomba (R)
B	Chinchilla Solar Farm	First Solar	Western Downs (R)
B	Dulacca Renewable Energy Project	RES Australia	Western Downs (R)
B	Wandoan South Solar Project	Vena Energy	Western Downs (R)
C	Inland Rail – Border to Gowrie	Australian Rail Track Corporation	Toowoomba (R)
D	Inland Rail – Gowrie to Helidon	Australian Rail Track Corporation	Toowoomba (R)
E	Elimatta Coal	New Hope Group	Western Downs (R)
E	New Acland Coal Mine Stage 3 Project	New Hope Group	Toowoomba (R)
E	Surat Basin Rail	Surat Basin Rail	Western Downs (R)
E	The Range Coal	Stanmore Coal	Western Downs (R)
E	Wandoan Coal	Glencore Coal	Western Downs (R)

(a) The five categories include operations and projects, grouped according to their status in the approvals process as at March 2021. Operations that are in care and maintenance are not included in this list or the projections. See methodology (page 2) and caveats (page 9) for further details.

(b) Australia Pacific LNG (APLNG) is a joint venture between Origin Energy, ConocoPhillips and Sinopec.

(c) Santos Gladstone LNG (GLNG) is a joint venture between Santos, PETRONAS, Total and KOGAS.

(d) Queensland Curtis LNG (QCLNG) is a joint venture between QGC, CNOOC and Tokyo Gas.

Source: QGSO, 2021



Caveats

QGSO's non-resident population projections provide an estimate of the number of non-resident workers on-shift by LGA. They are based on the on-shift non-resident worker population estimates established in previous years and consider future workforce growth arising from resource industry and infrastructure projects planned for the region, as reported directly by resource companies.

Projections are based on the best available data and advice at the time of preparation. Non-resident populations are projected for the period to 2025 only, as the availability and reliability of information regarding operations and projects may diminish beyond that point. Project timeframes and workforce impacts may extend beyond the projections period. Projected numbers of non-resident workers on-shift presented in this report represent an estimate for 30 June of the indicated year. Temporary peaks and falls in project workforces may occur in between these mid-year estimates for successive years.

The four projection series represent a range of possible outcomes based on the status of projects in the EIS process at the time of production in March 2021 (see the projection methodology, page 2, for further details). These outcomes are subject to change over time as projects proceed through the approvals process. Projections reflect the cumulative impacts of multiple projects at a given point in time, and changes to any individual project will affect the projected cumulative outcome.

Only series containing more than one project are published in this report.

Series D projections include projects that are in the early stages of planning and that have yet to proceed to a published EIS. Workforce data and indicative start dates provided to QGSO for these projects are preliminary company estimates, which may not be publicly available. Both estimated workforce numbers and project timeframes are subject to change during the course of project planning. As such, Series D projections should be regarded as having a higher degree of uncertainty than the other three series.

Category E comprises projects that have completed the approvals process but where financial close has been delayed indefinitely; projects where it is not possible to consider indicative workforce data or sequencing; and other projects that are dependent on the commencement of projects in this category. These projects could not be allocated to a projection series at the time of preparation. Changes in the status of these projects could substantially alter any or all of the possible outcomes represented by the four projection series.

The projections reflect certain assumptions about the likelihood of projects advancing according to advised commencement dates, sequencing of project stages and timing of workforce peaks. Changes to any of these factors can make a significant difference to the cumulative non-resident workforce at a given point in time, particularly during construction phases. Short-term influences such as extreme weather events, industrial action, and supply chain delays can all result in changes to project scheduling and to these projections.

QGSO does not advocate any one series as being the most likely or favoured outcome and users should consider the assumptions affecting each potential scenario. Given the volatile nature of the resource sector and the inherent uncertainty about the likelihood of projects proceeding as indicated, these projections should be considered as being indicative of the range of potential outcomes rather than forecasts of future growth.

Notes

(R) – Regional Council

Non-resident workers are people who fly-in/fly-out or drive-in/drive-out (FIFO/DIDO) to work and live in the area temporarily while rostered on, and who have their usual place of residence elsewhere. Non-resident workers include FIFO/DIDO mining and gas industry employees and contractors, construction workers and associated sub-contractors. Figures in this report refer to the number of non-resident workers on-shift or present in the area at a given point in time, and should not be confused with total non-resident workforce numbers.

Data in this report are derived from surveys conducted by QGSO in 2020 and other sources. The Survey of Accommodation Providers counted the number of non-resident workers on-shift during the last week of June 2020. See the *Surat Basin population report, 2020* <https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions/surat-basin#current-release-surat-basin-population-report> for further details. The Resource Operations Employment Survey and the Resource Projects Employment Survey gathered workforce information from companies with existing operations or future projects in the Surat Basin at June 2020. A full list of operations and projects is available in Table 5 of this report.

The total number of non-resident workers on-shift for the Surat Basin represents the aggregate non-resident populations of all LGAs in the region. This total may include a small number of non-resident workers in each LGA who live elsewhere within the Surat Basin. Figures in tables have been rounded to the nearest 10. As a result of rounding, discrepancies may occur between sums of the component items and totals. Percentages and other calculations are made prior to rounding of figures and discrepancies might therefore exist between these calculations and those that could be derived from the rounded figures.

Data tables to supplement this report are available online at <https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions>



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