

Surat Basin non-resident population projections, 2020 to 2026

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 12). 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 2020 to 2026.

The projection series represent the estimated 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. **The projections in this report were produced in February 2020 and do not consider impacts of the COVID-19 pandemic on the non-resident population.**

Projections in this report are derived from surveys conducted by QGSO in 2019 and other sources. Data tables to supplement the report are available on the QGSO website (www.qgso.qld.gov.au).

Key points

For the Surat Basin region:

- The non-resident population of the Surat Basin was 4,040 persons in June 2019, up from 3,630 persons in June 2018. This largely comprised FIFO/DIDO workers involved in coal seam gas (CSG) activity, including construction of additional gas gathering infrastructure, ongoing drilling programs and maintenance activities.
- According to Series A, the region's non-resident population is expected to remain below the June 2019 level throughout the projections period, declining overall to reach 3,340 persons by 2026.
- Under Series B, the Surat Basin's non-resident population will reach 4,450 persons in 2022, then decline to 3,790 persons by 2026.
- In order to preserve data confidentiality, the Series C projection for the Surat Basin is not published in this edition.
- The Series D projection anticipates the region's non-resident population will peak at 4,650 persons in 2022, before decreasing to 3,790 persons by 2026.
- At the LGA level, one projection series is presented for Maranoa (R). Series A anticipates that the non-resident population will remain relatively stable at between 1,230 and 1,240 persons for much of the period to 2026.
- According to the Series A projection for Western Downs (R), the non-resident population will decline overall, to reach 1,950 persons in 2026. Under Series B, the non-resident population of Western Downs (R) will grow to 2,880 persons in 2022, before decreasing to 2,290 persons by 2026.
- For Toowoomba (R), three projection series are presented. Series A projects the non-resident population will fall to 150 persons in June 2020 and remain around that level until 2026, with some annual fluctuations. The Series B and Series D projections anticipate some non-resident population growth at points during 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). Three major CSG projects continue to provide most of the region's resource-related employment, with activity currently focused on drilling and exploration programs and enhancement of existing gas infrastructure to sustain gas supply to Australia's domestic and overseas markets (QGSO, 2019). Some of this activity will occur in neighbouring Bowen Basin LGAs and is captured in projections for the Bowen Basin rather than the Surat Basin. Smaller gas companies have become increasingly active in the region, in response to new opportunities for exploration and development.

Looking ahead for the gas industry in the Surat Basin:

- **Queensland Curtis LNG (QCLNG)** is progressing Project Goog-a-binge, with 77 of 250 wells drilled by the end of October 2019 (QGC, 2019).
- **Australia Pacific LNG (APLNG)** is looking to maintain current strong production over the next three to five years, with the potential to increase production further by utilising spare upstream capacity (Origin Energy, 2019).
- **Gladstone LNG (GLNG)** expects to drill 350–400 wells annually between 2020 and 2025, underpinned by strong well delivery and performance from its Roma East and Arcadia fields (Santos, 2019).
- **Arrow Energy** is continuing to develop its existing Surat Basin operations, including ongoing drilling at Tipton and the Plainview East Pilot proposed to start construction in mid-2020 (Arrow Energy, 2019). The Surat Gas Project was approved by the Queensland Government in February 2019 (Queensland Government, 2019b). Arrow Energy has undertaken detailed planning for 700–800 wells to 2025 and is working towards financial close for the project.
- **Senex Energy** is working towards completing its integrated drilling campaign across its Surat Basin projects (Western Surat Gas Project in Maranoa (R) and Project Atlas in Western Downs (R)) by mid-2020 and achieving initial plateau production by the end of 2020–21 (Senex Energy, 2019).
- **Armour Energy's** Kincora project is focussing on production growth from new and existing wells, with plans to complete current work by the end of 2020 (Armour Energy, 2019).
- **Denison Gas** assumed operatorship of the Denison South (Yellowbank) assets in April 2019 and commenced activities to increase production and improve plant throughput and reliability (Denison Gas, 2019).

Over the past year, a number of renewable energy projects progressed through the approvals pipeline. Shell Australia reached financial close on the 120 MW **Gangarri Solar Farm** in February 2020 (Shell Australia, 2020). In October 2019, it was announced that Luminous Energy had signed a contract to connect its 162 MW **Columboola Solar Farm** to the state electricity network (Queensland Government, 2019c). In January 2020, Vena Energy announced that it would build a 100 MW battery near Wandoan, as the first major milestone of its **Wandoan South Project** (Queensland Government, 2020). The 240 MW **Dulacca Renewable Energy Project** was approved by the Queensland Government in March 2019 (Queensland Government, 2019a) and is awaiting Commonwealth Government approval (DoEE, 2019).

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 2020 to 2026, 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 2019. 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).

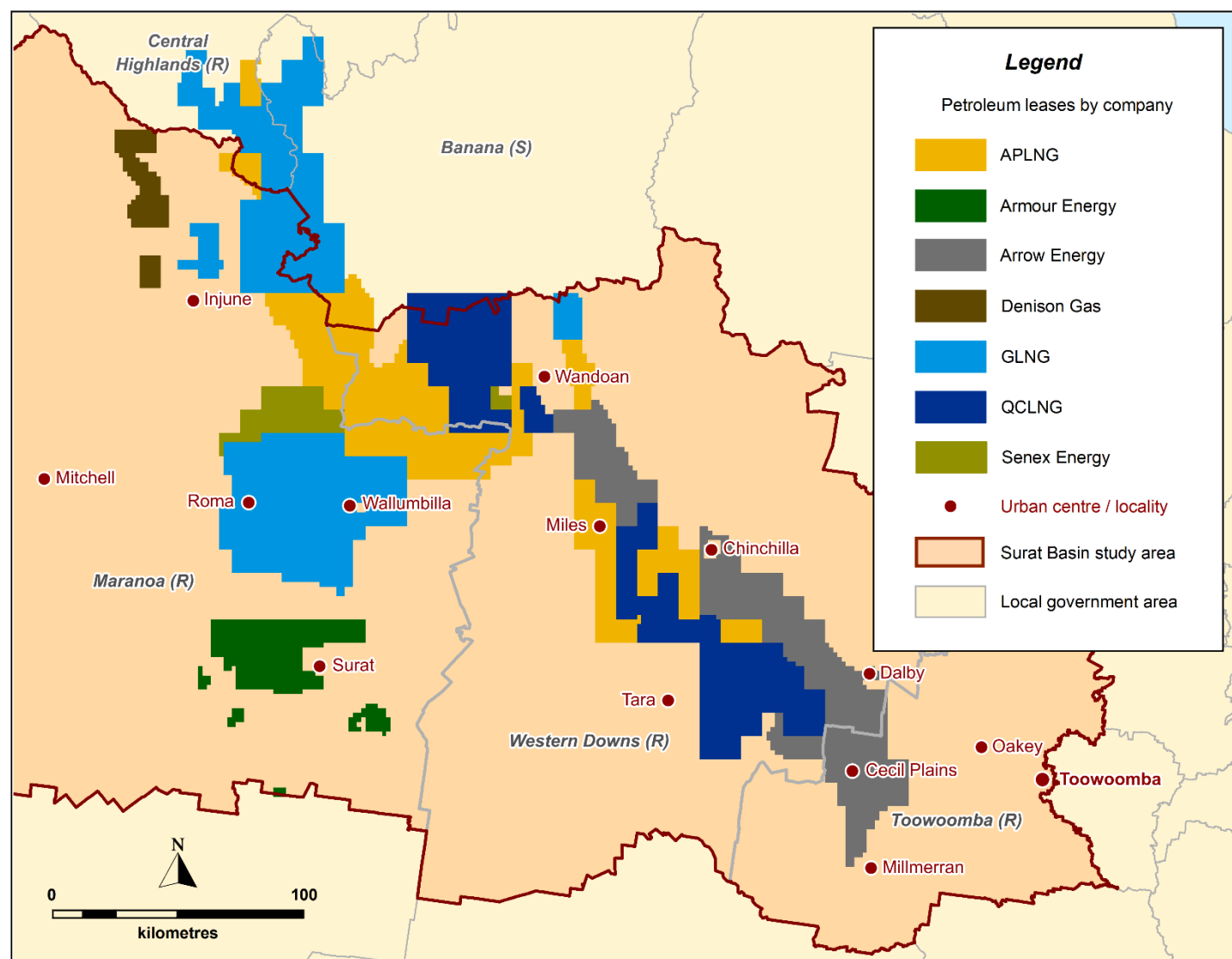
Where there is a single project in a category, or where data for a single project could be derived from published totals, the non-resident population associated with that project is excluded from the relevant projection series in order to preserve data confidentiality.

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 by company^(a), Surat Basin



(a) Includes petroleum lease applications and petroleum leases granted. Does not include petroleum leases held by other companies.

Source: DNRME, 2020; QGSO, 2020

Projected non-resident population, Surat Basin

The non-resident population of the Surat Basin was 4,040 persons in June 2019, up from 3,630 persons in June 2018 (Figure 3). FIFO/DIDO workers associated with the gas industry account for most of the region's non-resident workers on-shift. Growth in the non-resident population in 2018–19 was driven by CSG activity, including construction of additional gas gathering infrastructure, ongoing drilling programs and maintenance activities (QGSO, 2019). Construction of renewable energy projects, power station maintenance and civil works also contributed to activity in the region.

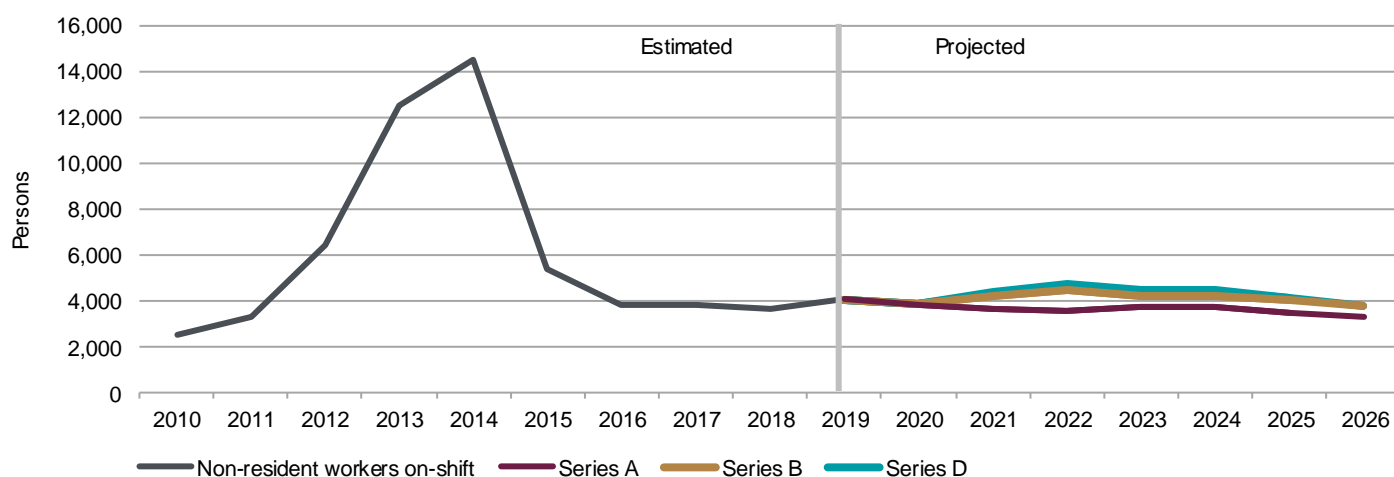
Three projection series are presented for the Surat Basin (Table 1). Under Series A, the region's non-resident population is expected to remain below the June 2019 level throughout the projections period, declining overall to 3,340 persons by 2026. This series reflects the non-resident workforces of CSG projects and operations, coal mines and power stations, and renewable energy projects that are either under construction or have reached financial close but are yet to begin construction.

Series B and Series D both project modest non-resident population growth for the region, after a small decline to 3,900 persons in June 2020. The Series B projection includes consideration of projects that have yet to reach financial close. Under this scenario, the Surat Basin's non-resident population will increase to 4,450 persons in 2022, then decline to 3,790 persons by 2026. The Series D projection factors in the additional influence of two projects in preliminary planning stages. This series projects the region's non-resident population to reach 4,650 persons in 2022, before decreasing to 3,790 persons by 2026.

As there is only one project in Series C in the Surat Basin, Series C projections for the Surat Basin are not published and the non-resident population associated with that project is also excluded from Series D projections in order to preserve data confidentiality.

Under the three projection 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.

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



Source: QGSO estimates, 2010 to 2019; QGSO projections, 2020 to 2026

Table 1 Projected non-resident population, Surat Basin

Projection series ^(a)	Number of non-resident workers on-shift at 30 June							
	Estimated	Projected						
	2019	2020	2021	2022	2023	2024	2025	2026
Series A	4,040	3,850	3,640	3,580	3,760	3,730	3,470	3,340
Series B	4,040	3,900	4,250	4,450	4,170	4,230	4,010	3,790
Series D	4,040	3,900	4,320	4,650	4,390	4,380	4,080	3,790

(a) In order to preserve data confidentiality, one project in Series C in Western Downs (R) is excluded from the projections for the Surat Basin. Figures in all tables have been rounded to the nearest 10; see Notes at end of report for details.

Source: QGSO estimates, 2019; QGSO projections, 2020 to 2026

Maranoa (R)

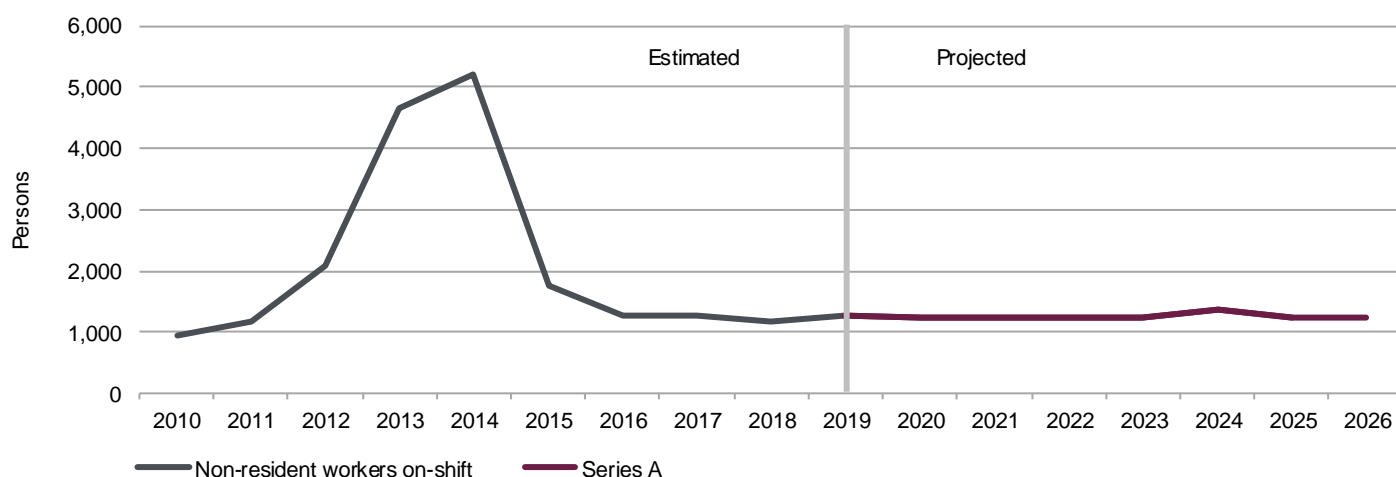
The non-resident population of Maranoa (R) is primarily associated with CSG activity (Table 5, page 8). Current and future gas developments in Maranoa (R) are located a considerable distance from large population centres, and will continue to utilise non-resident workforces for project construction and ongoing operations.

The non-resident population of Maranoa (R) in June 2019 was 1,260 persons, slightly larger than in June 2018 (1,170 persons) (Figure 4). The majority of non-resident workers on-shift were engaged in CSG operations, gas gathering, drilling and maintenance activities.

One projection series is presented for Maranoa (R) (Table 2). Series A anticipates that the non-resident population will remain relatively stable at between 1,230 and 1,240 persons for much of the period to 2026, with a small increase to 1,350 persons in 2024. This series includes consideration of the ongoing gas gathering, drilling and operations workforces of the APLNG and GLNG projects, as well as the Western Surat Gas Project, Denison South (Yellowbank) and the Kincora 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 2019; QGSO projections, 2020 to 2026

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

Projection series ^(a)	Number of non-resident workers on-shift at 30 June							
	Estimated		Projected					
	2019	2020	2021	2022	2023	2024	2025	2026
Series A	1,260	1,230	1,230	1,230	1,230	1,350	1,240	1,240

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

Source: QGSO estimates, 2019; QGSO projections, 2020 to 2026

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) increased from 2,250 persons in June 2018 to 2,540 persons in June 2019 (Figure 5), driven largely by CSG activity including construction of additional gas gathering infrastructure and maintenance activities.

Two projection series are presented for Western Downs (R) (Table 3). According to Series A, the non-resident population will decline overall, to reach 1,950 persons in 2026. This series reflects the ongoing production workforces of resource operations and projects currently active in the area, as well as the construction and production workforces of Senex Energy's Project Atlas, the Coopers Gap Wind Farm, and Gangarri Solar Farm.

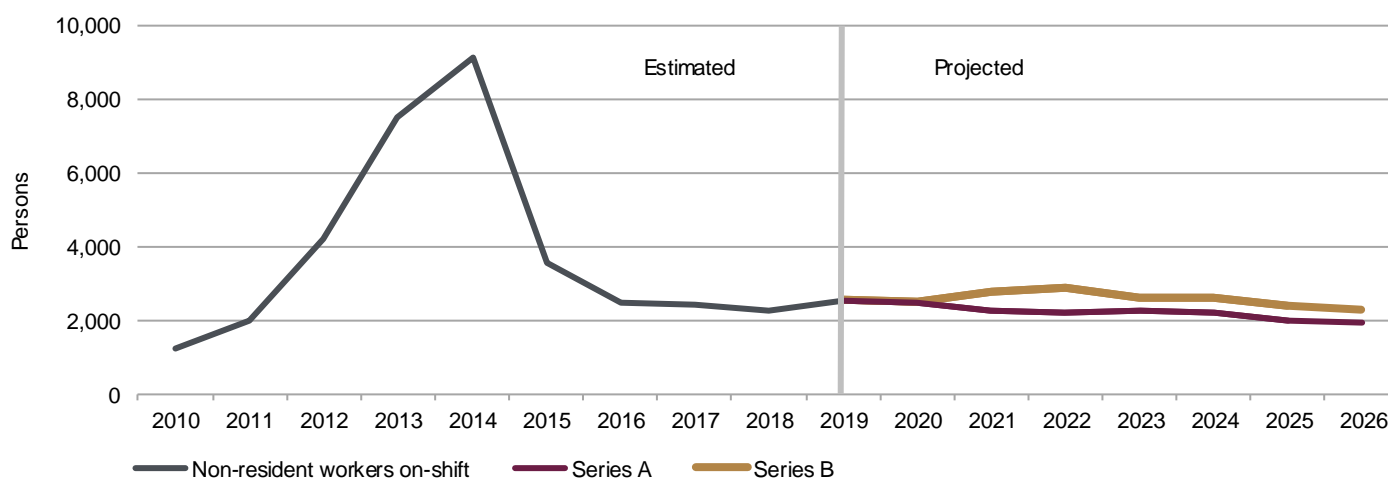
The Series B projection includes the anticipated non-resident population impacts of Arrow Energy's Surat Gas Project, and the construction of five solar projects. Under this scenario the non-resident population of Western Downs (R) will grow to 2,880 persons in 2022, before decreasing to 2,290 persons by 2026.

Series C in Western Downs (R) has a single project – the Dulacca Renewable Energy Project – and therefore is not published in order to preserve data confidentiality. The project is also excluded from the projections for the Surat Basin region (Table 1).

There is no Series D projection for Western Downs (R), as there are no projects in this category.

Neither of the projection series for Western Downs (R) include consideration of the Surat Basin Rail, Western Downs Solar Farm 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 2019; QGSO projections, 2020 to 2026

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

Projection series ^(a)	Number of non-resident workers on-shift at 30 June							
	Estimated	Projected						
	2019	2020	2021	2022	2023	2024	2025	2026
Series A	2,540	2,460	2,260	2,190	2,270	2,230	1,970	1,950
Series B	2,540	2,510	2,760	2,880	2,610	2,620	2,390	2,290

(a) Series C projections for Western Downs (R) are not published. There is no Series D projection for Western Downs (R).

Source: QGSO estimates, 2019; QGSO projections, 2020 to 2026

Toowoomba (R)

Compared with the other Surat Basin LGAs, Toowoomba (R) has a relatively small non-resident population and a different industry profile, with most workers engaged at coal mines and power stations, in support services for the gas and mining industries, and on associated civil construction projects. 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.

The number of non-resident workers on-shift in Toowoomba (R) increased from 200 persons in June 2018 to 250 persons in June 2019 (Figure 6). Additional non-resident population influences in 2018–19 included power station maintenance workers and construction workers for three solar projects that were underway in June 2019 (Table 5, page 8).

Three projection series are presented for Toowoomba (R) (Table 4). Under Series A, the non-resident population will fall to 150 persons in June 2020 and remain around that level until 2026, with the exception of 2023 and 2025 when the non-resident population is projected to reach 260 persons. This population reflects non-resident workers on-shift associated with existing resource operations in the LGA. It also takes into account the transition of three solar projects from the construction phase to full generation.

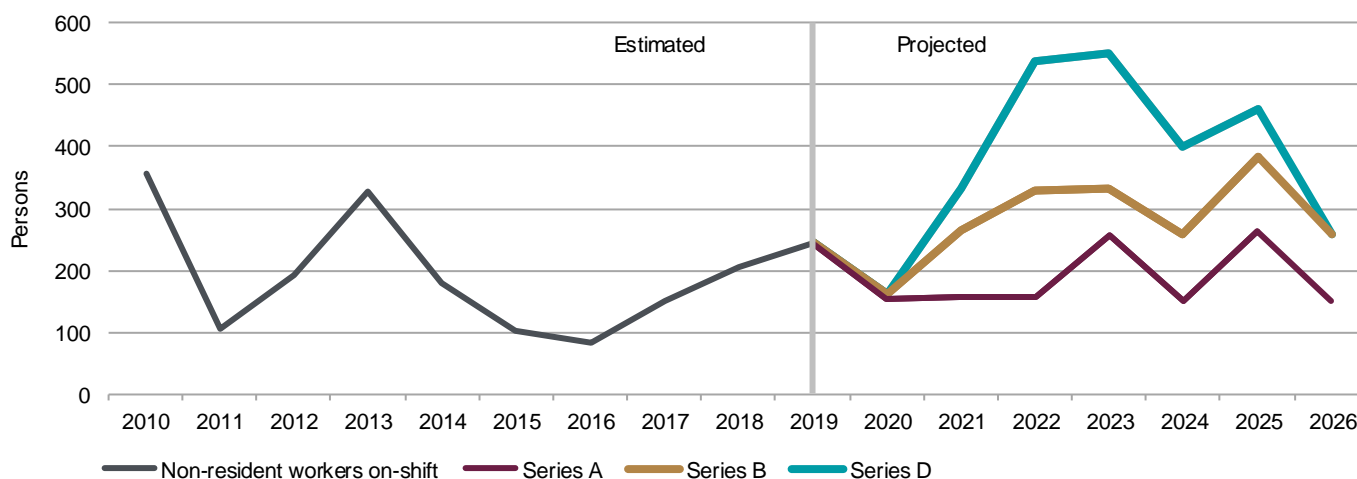
Series B factors in the additional influence of the Aatlis Hybrid Microgrid Power Project, Bulli Creek Solar Farm, New Acland Coal Mine Stage 3 Project, and Surat Gas Project. According to this series, the non-resident population of Toowoomba (R) is expected to fluctuate over the projections period, reaching a peak of 390 persons in 2025 before declining to 260 persons in 2026.

There is no Series C projection for Toowoomba (R), as there are no projects in this category.

The Series D projection, which comprises two large rail projects in the early stages of planning, sees the non-resident population growing to 550 persons in 2023, then decreasing to 260 persons by 2026.

Due to the relatively small number of non-resident workers on-shift in Toowoomba (R), seasonal power station maintenance workers, road crews and other civil construction workers may also have a notable temporary influence on the size of the non-resident population.

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



Source: QGSO estimates, 2010 to 2019; QGSO projections, 2020 to 2026

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

Projection series ^(a)	Number of non-resident workers on-shift at 30 June							
	Estimated		Projected					
	2019	2020	2021	2022	2023	2024	2025	2026
Series A	250	150	160	160	260	150	260	150
Series B	250	160	270	330	330	260	390	260
Series D	250	160	330	540	550	400	460	260

(a) There is no Series C projection for Toowoomba (R).

Source: QGSO estimates, 2019; QGSO projections, 2020 to 2026

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	Brigalow Solar Farm	Impact Investment Group	Toowoomba (R)
A	Cameby Downs Mine	Yancoal Australia	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	Arrow Energy	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	Western Surat Gas Project	Senex Energy	Maranoa (R)
A	Yarranlea Solar Farm	Risen Energy	Toowoomba (R)
B	Aatlis Hybrid Microgrid Power Project	Aatlis Utilities	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	Columboola Solar Farm	Luminous Energy	Western Downs (R)
B	New Acland Coal Mine Stage 3 Project	New Hope Group	Toowoomba (R)
B	Surat Gas Project	Arrow Energy	Toowoomba (R), Western Downs (R)
B	Wandoan South Project	Vena Energy	Western Downs (R)
B	Western Downs Green Power Hub	Neoen Australia	Western Downs (R)
C	Dulacca Renewable Energy Project	RES Australia	Western Downs (R)
D	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	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)
E	Western Downs Solar Farm	Tilt Renewables	Western Downs (R)

(a) The five categories include operations and projects, grouped according to their status in the approvals process as at February 2020. Operations that are in care and maintenance mode, including Wilkie Creek coal mine in Western Downs (R), 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, 2020



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.

The projections in this report were produced in February 2020 and do not consider the impacts of the COVID-19 pandemic on the non-resident population.

Projections are based on the best available data and advice at the time of preparation. Non-resident populations are projected for the period to 2026 only, as it is considered that the reliability of information regarding future projects diminishes considerably beyond that point. 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 February 2020 (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.

Where there is a single project in a category or where data for a single project could be derived from published totals, the non-resident population associated with that project is excluded from the relevant projection series in order to preserve data confidentiality.

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 give consideration to 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 2019 and other sources. The Survey of Accommodation Providers counted the number of non-resident workers on-shift during the last week of June 2019. See the *Surat Basin population report, 2019* <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 2019. 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>

References

- Armour Energy (2019) *Annual Report for the year ended 30 June 2019* <https://wcsecure.weblink.com.au/pdf/AJQ/02160709.pdf>
- Arrow Energy (2019) *Surat Development Update*, September 2019
https://www.arrowenergy.com.au/data/assets/pdf_file/0018/32049/Surat-Development-Update-Presentation-September-2019.pdf
- Denison Gas (2019) *Denison Gas Assumes Operatorship of Denison Trough Gas Assets*, 12 April 2019
<https://denisongas.com.au/announcement-denison-gas-assumes-operatorship-of-denison-trough-gas-assets/>
- Department of Environment and Energy (DoEE) (2019) *Dulacca Renewable Energy Project, Notification of referral decision and designated proponent – controlled action*, 15 July 2019 <http://epbcnotices.environment.gov.au/entity/annotation/96b4fd5b-4aa8-e911-ad32-00505684324c/a71d58ad-4cba-48b6-8dab-f3091fc31cd5?t=1584061498588>
- Origin Energy (2019) *2019 Investor Briefing Day*, 20 November 2019
https://www.originenergy.com.au/content/dam/origin/about/investors-media/origin_2019_ibd_final_asx.pdf
- QGC (2019) *Operations Bulletin*, December 2019 https://www.shell.com.au/about-us/projects-and-locations/qgc/news/jcr_content/par/toptasks_b78a.stream/1575449533659/e9e834acc3c70963038c8be44590be31f9c726e2/qgc-operations-bulletin-dec-2019.pdf
- Queensland Government (2019a) *Bright job outlook for Western Downs with new wind farm approved*, 11 March 2019
<http://statements.qld.gov.au/Statement/2019/3/11/bright-job-outlook-for-western-downs-with-new-wind-farm-approved>
- Queensland Government (2019b) *More gas and jobs to flow as \$10 billion Arrow project gets the green light*, 28 February 2019
<http://statements.qld.gov.au/Statement/2019/2/28/more-gas-and-jobs-to-flow-as-10-billion-arrow-project-gets-the-green-light>
- Queensland Government (2019c) *More south-west solar signs up*, 28 October 2019
<http://statements.qld.gov.au/Statement/2019/10/28/more-southwest-solar-signs-up>
- Queensland Government (2020) *Queensland's biggest battery creates base for more renewables*, 29 January 2020
<http://statements.qld.gov.au/Statement/2020/1/29/queenslands-biggest-battery-creates-base-for-more-renewables>
- Queensland Government Statistician's Office (QGSO) (2019) *Surat Basin population report, 2019*
<https://www.qgso.qld.gov.au/statistics/theme/population/non-resident-population-queensland-resource-regions/surat-basin#current-release-surat-basin-population-report>
- Santos (2019) *Santos upgrades 2025 production target to 120 mmboe*, 3 December 2019 <https://www.santos.com/wp-content/uploads/2020/02/191203-santos-upgrades-2025-production-target-to-120-mmboe.pdf>
- Senex Energy (2019) *Quarterly report for the period ended 31 December 2019*, 23 January 2020 <https://www.senexenergy.com.au/wp-content/uploads/2020/01/2021434.pdf>
- Shell Australia (2020) *Shell Australia to build its first large-scale solar farm in Queensland*, 7 February 2020
<https://www.shell.com.au/media/2020-media-releases/shell-australia-to-build-its-first-large-scale-solar-farm-in-queensland.html>