Gladstone region non–resident population projections, 2015 to 2021

Introduction

With the use of fly-in/fly-out and drive-in/drive-out (FIFO/DIDO) work practices, it is common for resource regions to have a large population of non-resident workers who live in the area only while on-shift. This non-resident population is not included in the Australian Bureau of Statistics’ (ABS) official resident population estimates for these areas.

To bridge this information gap, Gladstone region non–resident population projections, 2015 to 2021 provides projected numbers of non–resident workers on–shift for the local government area (LGA) of Gladstone (R) (Figure 1). The report presents three projection series, based on information provided by industry regarding existing operations and future projects. Data tables to supplement the report are available on the Queensland Government Statistician’s Office (QGSO) website (www.qgso.qld.gov.au).

Key points

Key points of this report include:

- The estimated non-resident population of Gladstone (R) grew rapidly from 1,210 persons in June 2011 to a peak of 6,660 persons in June 2014. This increase was largely due to the FIFO/DIDO construction workforces of three liquefied natural gas (LNG) projects, new port and rail projects, and associated infrastructure development.

- Fluctuations in the non-resident population of Gladstone (R) are cyclical by nature and are closely linked to levels of project construction activity. Future production workforces for these projects will be largely resident in Gladstone (R), and will have little impact on the region’s non-resident population.

- Three projection series represent a range of potential non–resident population outcomes for Gladstone (R), based on current activity and the workforces of future projects in the Environmental Impact Statement (EIS) process.

- Each series expects the non-resident population of Gladstone (R) to fall to around 3,450 persons by June 2015, as the large construction workforces of the three LNG projects and Stage 1 of the Wiggins Island Coal Export Terminal (WICET) begin to taper off.

- The Series A projection, which takes into account the FIFO/DIDO workforces of all existing operations and projects currently under construction, sees the non-resident population declining to 670 persons by June 2016, then stabilising at 590 persons by 2019 and beyond. This residual non-resident population includes the relatively small number of non-resident workers involved in ongoing operations.

- The Series B projection includes projects that have had an EIS approved but are yet to reach final investment decision (FID). This series projects the non-resident population to fall to 1,110 persons in June 2015, before increasing to a peak of 3,610 persons in June 2018. The non-resident population would then decline to 1,100 persons by June 2021 under this scenario.

- Series C projects the non-resident population to fall to 1,290 persons in June 2016, before increasing to 4,340 persons in June 2018. This series, which factors in projects that have lodged an EIS but are yet to proceed through to final approval, then follows a similar trajectory to Series B, reaching 1,190 persons in June 2021.
Gladstone region future influences

The LGA of Gladstone (R) includes Queensland’s largest multi-commodity hub. Gladstone (R) has close links with the resource sector, with around 5,200 full-time employees and contractors working in alumina refining, aluminium smelting, cement and chemicals production, rail transport and coal export operations in 2014 (QGSO, 2014). Approximately 70 million tonnes of cargo was exported through Gladstone’s Barney Point and RG Tanna Coal Terminals in 2013–14, with almost 90% comprising coal exports (Gladstone Ports Corporation, 2014).

Since 2010, employment in Gladstone (R) has been boosted by construction of three LNG processing plants, coal seam gas (CSG) pipelines, a new coal export terminal, and development of port, rail and power infrastructure. FIFO/DIDO construction workers constitute a sizeable proportion of the workforces engaged in these projects, boosting the size of Gladstone (R)’s non-resident population to 6,860 persons in June 2014.

The non-resident workforces of Gladstone (R) are expected to decrease sharply in 2015, as major projects in the region transition from construction to operational status. The first and second trains of the Queensland Curtis LNG Project (QCLNG) are expected to reach production by the third quarter of 2015 (QGC, 2014), while the Australia Pacific LNG Project (APLNG) and Santos Gladstone LNG (GLNG) will also commence production before the end of the year (Australia Pacific LNG, 2014; Santos, 2014). Stage One construction of WICET is on track for completion in early 2015, with first coal shipments expected in April 2015 (ABC, 2014; Australian Financial Review, 2015).

The ongoing operational workforces for these projects will be small compared with their construction workforces, and predominantly resident rather than FIFO/DIDO. As a result, changes to the size of Gladstone (R)’s non-resident population out to 2021 will be influenced largely by the commencement of future projects, including those currently in the development pipeline (Table 2, page 5). These include:

- two Arrow Energy gas pipeline projects, which have had an EIS approved but are awaiting FID
- two expansion stages of WICET (WEXP1 and WEXP2), which have had an EIS approved but have yet to reach FID
- the Gladstone Nickel Project, which had an EIS approved in 2009 but is yet to announce FID
- the Gladstone Steel Plant Project (formerly the Gladstone Steel Making Facility), which is yet to have an EIS approved (Boulder Steel Ltd, 2014).

Future development of the proposed Arrow LNG Plant project, which was approved by the Queensland Government in 2013, was uncertain at the time of writing, following a company announcement that the project was “off the table” (Royal Dutch Shell plc, 2015). The EIS process for another proposed Gladstone project, the Yarwun Coal Terminal, lapsed in July 2014 (DSDIP, 2015).

Projection methodology

QGSO’s 2015 to 2021 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 Gladstone (R). Each series estimates the cumulative non-resident population that would be present in the LGA at 30 June of each year to 2021, should the operations and projects listed in each category proceed according to advised timeframes and workforce numbers.

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 scenarios rather than probabilistic predictions. QGSO does not advocate any one of these four projection series as being the most likely or favoured outcome. See caveats on page 5 of this report for further details.

The four projection series are based on the workforces of operations and projects at the time of preparation. Projects are categorised and included in each scenario according to their standing in the EIS process.

- **Series A** projection is based on the number of non–resident workers on–shift who were engaged in existing resource operations and associated infrastructure activities in the area at June 2014. The projection takes into account future changes to those operational workforces as advised by resource company sources, as well as the estimated non–resident construction and operational workforces of Category A projects (i.e. those that had reached FID) at the time of preparation.

- **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 but have yet to reach FID).

- **Series C** projection includes the Series A and B projections, plus the projected growth in the non-resident population arising from Category C projects (those that have lodged an EIS, but have yet to proceed through to final approval).

- **Series D** projection includes Series A, B and C projections, plus the 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). There is no Series D projection for the Gladstone region in this edition as there are no future projects in category D.

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2. The projections also include some projects where an EIS is not or may not be mandatory.

Gladstone region non–resident population projections, 2015 to 2021
A full list of existing operations and projects included in each category is available in Table 2 (page 5), and a map of existing operations and future projects in Gladstone (R) is shown in Figure 2.

**Figure 2: Existing operations and future projects\(^{(a)}\), Gladstone (R)**

\(^{(a)}\) Future project status is current as at January 2015. Existing operations are included in Series A projections. See Table 2 (page 5) for a full list of existing operations and future projects by category. Pipelines, rail corridors, and other project locations shown in map are indicative only.

Source: QGSO, 2015
Projected non–resident workers on-shift, Gladstone region

The non-resident population of Gladstone (R) has grown rapidly since QGSO monitoring commenced in 2011 (Figure 3). The number of non–resident workers on-shift reached a peak of 6,660 persons in June 2014, an increase of 5,450 persons (or 452%) from June 2011. This steep increase largely reflects the influence of FIFO/DIDO workforces associated with construction of LNG plants for the APLNG, GLNG and QCLNG projects, as well as Stage 1 of WICET and other infrastructure projects.

The non-resident population of Gladstone (R) is projected to fall to 3,450 persons in June 2015 according to all three projection series, as construction of the three LNG projects and WICET slows (Table 1). Series A projects the non-resident population to continue to decline rapidly to 670 persons by June 2016, before settling at around 570 to 590 persons thereafter. This residual non-resident population includes the relatively small number of non-resident workers involved in ongoing operations in the area.

The Series B projection is largely influenced by construction of Arrow Energy’s LNG projects (the proposed Arrow Bowen Pipeline Project, Surat to Gladstone Pipeline Project, and Arrow LNG Plant) and subsequent stages of WICET, as well as the Gladstone–Fitzroy Pipeline Project and Gladstone Nickel Project. This series anticipates a fall to 1,110 persons in June 2016, followed by an increase to 3,610 persons in June 2018 as construction activity peaks. The non-resident population would then decline to 730 persons in June 2020 as construction tapers off, before experiencing a small increase to 1,100 persons in June 2021 as new project construction commences.

The Series C projection, which includes the additional influence of the Gladstone Steel Plant, projects the non-resident population to grow from 1,290 persons in June 2016 to 4,340 persons in June 2018, before following a similar trajectory to Series B to reach 1,190 persons in 2021.

While all three projections indicate a decline in the region’s non-resident population from the peak reached in 2014, this is to be expected. Fluctuations in the non-resident population of Gladstone (R) are cyclical by nature and are closely linked to levels of construction activity, rather than to the state of ongoing operations.

Table 1: Projected non–resident workers on-shift, Gladstone (R)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Series A</td>
<td>6,660</td>
<td>3,450</td>
<td>670</td>
<td>570</td>
<td>570</td>
<td>590</td>
<td>590</td>
<td>590</td>
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<tr>
<td>Series B</td>
<td>6,660</td>
<td>3,450</td>
<td>1,110</td>
<td>2,250</td>
<td>3,610</td>
<td>3,060</td>
<td>730</td>
<td>1,100</td>
</tr>
<tr>
<td>Series C</td>
<td>6,660</td>
<td>3,450</td>
<td>1,290</td>
<td>2,980</td>
<td>4,340</td>
<td>3,220</td>
<td>820</td>
<td>1,190</td>
</tr>
</tbody>
</table>

⁽ᵃ⁾ There is no Series D projection for Gladstone (R).
Figures in this table have been rounded to the nearest five; see notes for details.
Source: QGSO estimates, 2014; QGSO projections, 2015 to 2021
### Table 2: Resource operations and future projects, Gladstone (R)

<table>
<thead>
<tr>
<th>Category(^{(a)})</th>
<th>Project / operation name</th>
<th>Company name</th>
<th>LGA</th>
</tr>
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<tr>
<td><strong>Existing operations</strong></td>
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<td></td>
<td></td>
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<tr>
<td>A</td>
<td>Boyne Smelter</td>
<td>Pacific Aluminium</td>
<td>Gladstone (R)</td>
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<tr>
<td>A</td>
<td>Gladstone Cement Plant</td>
<td>Cement Australia</td>
<td>Gladstone (R)</td>
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<td>A</td>
<td>Gladstone rail operations</td>
<td>Aurizon Holdings</td>
<td>Gladstone (R)</td>
</tr>
<tr>
<td>A</td>
<td>Orica Yarwun</td>
<td>Orica</td>
<td>Gladstone (R)</td>
</tr>
<tr>
<td>A</td>
<td>Port of Gladstone(^{(b)})</td>
<td>Gladstone Ports Corporation</td>
<td>Gladstone (R)</td>
</tr>
<tr>
<td>A</td>
<td>Queensland Alumina Refinery</td>
<td>Queensland Alumina</td>
<td>Gladstone (R)</td>
</tr>
<tr>
<td>A</td>
<td>Yarwun Alumina Refinery</td>
<td>Rio Tinto Alcan Yarwun</td>
<td>Gladstone (R)</td>
</tr>
<tr>
<td><strong>Future projects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Australia Pacific LNG Project</td>
<td>APLNG(^{(c)})</td>
<td>Gladstone (R)</td>
</tr>
<tr>
<td>A</td>
<td>Queensland Curtis LNG Project</td>
<td>QGC (BG Group)(^{(d)})</td>
<td>Gladstone (R)</td>
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<td>A</td>
<td>Santos GLNG</td>
<td>Santos GLNG(^{(e)})</td>
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<td>Wiggins Island Coal Export Terminal (WICET) Stage 1</td>
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<td>Wiggins Island Rail Project</td>
<td>Aurizon Holdings</td>
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<td>Arrow Bowen Pipeline Project</td>
<td>Arrow Energy</td>
<td>Gladstone (R), Rockhampton (R), Isaac (R)</td>
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<td>B</td>
<td>Arrow LNG Plant</td>
<td>Arrow Energy</td>
<td>Gladstone (R)</td>
</tr>
<tr>
<td>B</td>
<td>Surat to Gladstone Pipeline Project</td>
<td>Arrow Energy</td>
<td>Gladstone (R), Banana (S), Western Downs (R)</td>
</tr>
<tr>
<td>B</td>
<td>Gladstone–Fitzroy Pipeline Project</td>
<td>Gladstone Area Water Board</td>
<td>Gladstone (R), Rockhampton (R)</td>
</tr>
<tr>
<td>B</td>
<td>Gladstone Nickel Project</td>
<td>Gladstone Pacific Nickel</td>
<td>Gladstone (R)</td>
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<tr>
<td>B</td>
<td>Wiggins Island Coal Export Terminal (WICET) Expansion – WEXP1 and WEXP2</td>
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<td>Gladstone (R)</td>
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<tr>
<td>C</td>
<td>Gladstone Steel Plant Project</td>
<td>Euroa Steel</td>
<td>Gladstone (R)</td>
</tr>
</tbody>
</table>

\(^{(a)}\) The three categories include existing operations, as well as future projects grouped according to their status in the EIS process as at January 2015. See methodology (page 2) and caveats (below) for further details.

\(^{(b)}\) Includes bulk loading facilities at RG Tanna Coal Terminal, Auckland Point and Barney Point.

\(^{(c)}\) Australia Pacific LNG (APLNG) is a joint venture between Origin Energy, ConocoPhillips and Sinopec.

\(^{(d)}\) BG Group's Australian business QGC Pty Limited is the operator and majority owner of the Queensland Curtis LNG (QCLNG) project.

\(^{(e)}\) Santos Gladstone LNG (GLNG) is a joint venture between Santos, PETRONAS, Total and KOGAS.

Source: QGSO, 2015

### 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 take into account 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. Numbers of non–resident workers on-shift are projected for the period to 2021 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 January 2015 (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.

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 literal accounts of future growth.
Notes

(R) – Regional Council  (S) – Shire

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 workers on-shift. 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 2014 and other sources. The Survey of Accommodation Providers counted the number of non-resident workers on-shift during the last week of June 2014. See the Gladstone region population report, 2014 http://www.qgso.qld.gov.au/products/reports/gladstone-region-pop-report/index.php for further details. The Resource Operations Employment Survey and the Resource Projects Employment Survey gathered workforce information from all resource companies with existing operations or future projects in Gladstone (R) as at June 2014. A full list of existing operations and future projects is available in Table 2 of this report.

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.


References


