

# Attachment 2 – Operational Information

AGN Licence Application



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# 1. Introduction

This attachment provides operational information relating to Australian Gas Networks Limited's (AGNs) proposal to distribute Liquefied Natural Gas (LPG) in Mount Barker, Littlehampton and Nairne.

This attachment has been developed in support of AGN's application to the Essential Services Commission of South Australia (the Commission) for a licence to distribute LPG. More specifically, this attachment provides information in support of the following responses in the licence application:

- *Section 2.2: Nature and Scope of Operations for which Licence is Sought* – see Section 3 of this attachment; and
- *Section 3.19 Additional Information* – see Sections 2 and 3 of this attachment.

## 2. Project Rationale

### 2.1. Strategy

As outlined in Section 4 of Attachment 1, AGN aims to be the leading natural gas distributor in Australia. Our definition of leading is to achieve top quartile performance compared with other Australian natural gas distributor on all of our key targets, this includes being sustainably cost efficient and growing the network in a prudent and efficient manner.

Consistent with our Vision, we have identified the Mount Barker, Littlehampton and Nairne region (the District) to be suitable for connection to the natural gas distribution network (see Section 2.2).

Expanding our natural gas distribution network requires an upfront investment from AGN to put the appropriate transmission and distribution infrastructure in place. In order to mitigate risk, our strategy is to establish a LPG network in the first instance in order to build load ahead of further transmission investment.

To this extent, in parallel to our LPG licence application, we are currently undertaking detailed analysis into the feasibility of bringing natural gas to the areas where we are seeking a LPG distribution licence. Should this expansion be feasible, we will consider converting our LPG networks to natural gas. Importantly however, our LPG licence application is not contingent on the feasibility of providing natural gas, as we consider the LPG network to be a growth opportunity in its own right.

Additionally, we are currently exploring other opportunities for LPG Networks within proximity of our natural gas distribution networks across Australia.

### 2.2. Background

The Mount Barker district is located approximately 30 kilometres to the south-east of Adelaide and includes the townships of Mount Barker, Littlehampton and Nairne. This district is separated from Adelaide's eastern fringe by the Adelaide Hills and is subject to colder climatic conditions than Adelaide.

In early 2010 the South Australian Government released its 30-Year Plan for Greater Adelaide (the Plan), which, amongst other things, identified land in the Mount Barker district as part of Adelaide's urban land supply.<sup>1</sup> In keeping with this Plan, land in the Mount Barker district was rezoned for urban development by the State Government in late 2010 through the Mount Barker Urban Growth Development Plan Amendment.<sup>2</sup>

In 2013, the District Council of Mount Barker (Council) retained "id consulting" to prepare a population forecast for the region.<sup>3</sup> This forecast suggests that the district's population will increase from 31,325 in 2013 to 38,000 in 2023 and 48,000 in 2033. Approximately 75% of this growth is expected to occur through the rezoning of land in the Mount Barker district.

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<sup>1</sup> [http://www.dpti.sa.gov.au/planning/30\\_year\\_plan/30\\_year\\_plan\\_2010](http://www.dpti.sa.gov.au/planning/30_year_plan/30_year_plan_2010)

<sup>2</sup> Department of Planning and Local Government, Mount Barker Development Plan Mount Barker Urban Growth, 16 December 2010.

[https://www.sa.gov.au/\\_\\_data/assets/pdf\\_file/0008/9917/Ministerial\\_Mt\\_Barker\\_Urban\\_Growth\\_DPA\\_The\\_Amendment\\_and\\_Rp\\_t\\_Approved\\_16\\_Dec\\_2010.pdf](https://www.sa.gov.au/__data/assets/pdf_file/0008/9917/Ministerial_Mt_Barker_Urban_Growth_DPA_The_Amendment_and_Rp_t_Approved_16_Dec_2010.pdf)

<sup>3</sup> District Council of Mount Barker, 2013-14 Annual Report, <http://www.mountbarker.sa.gov.au/webdata/resources/files/Final%20Annual%20Report%202013-14%20Amended%2016th%20Dec-1.pdf>.

The Council is also expecting that, when fully developed, the population of greater Mount Barker will be around 53,000 while the district population will be around 65,000.<sup>4</sup> The average household size is also expected to be higher in the Mount Barker district (2.8 – 3.0 persons per household<sup>5</sup>) than it is in Adelaide, which when coupled with the colder climatic conditions, suggests higher than average gas use in this district.

AGN's existing South Australian natural gas distribution network does not currently extend as far as Mount Barker, so with the support of the South Australian State Government, Council and developers, AGN has been examining the technical and financial viability of extending the natural gas distribution network to this region and, consistent with this licence application, is also pursuing the development of a LPG distribution network in the District.

### 2.3. Consistency with the National Gas Objective

We operate our networks in accordance with the National Gas Law (NGL), National Gas Rules (NGR) and various state-based operating guidelines. The overarching requirement of the NGL is the National Gas Objective (NGO), which requires AGN to:

*"promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply"*<sup>6</sup>.

This proposal is consistent with the NGO as it is in the long-term interests of consumers (see Section 2.4).

Additionally, the granting of a LPG reticulation licence and the potential reticulation of natural gas to the District is also consistent with the Essential Services Commission Act which states that the Commission must have regard to "ensuring consumers benefit from competition and efficiency".

### 2.4. Customer Benefits

The reticulation of LPG in the District by AGN provides the following benefits to customers:

- natural gas and LPG is a low carbon energy choice with significantly lower carbon intensity than electricity generated from coal;
- the continued use of natural gas ensures a diversified and competitive energy mix, which competition can assist in putting downwards pressure on energy prices and also increases the security of supply to customers;
- support for industrial projects which use natural gas as a key input;
- natural gas is safe and reliable; and
- the reticulation of LPG may result in the extension of AGN's natural gas distribution network, which would result in lower prices for all South Australian's as our largely fixed cost base would be spread over a larger customer base.

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<sup>4</sup> District Council of Mount Barker, "Land on the Table: 2013 to 2014 Annual Report", 10 February 2015, pg. 3.

<sup>5</sup> .id Consulting. "District Council of Mt Barker population forecasts", <http://forecast.id.com.au/mount-barker>

<sup>6</sup> National Gas (South Australia) Act 2008, s23.

## 2.5. Stakeholder Engagement

As outlined in Section 2.3, we are committed to operating our networks in a manner that is consistent with the long-term interests of consumers. To achieve this, and to underpin our 2016 to 2021 Plans for the South Australian natural gas distribution network, we have implemented a robust stakeholder engagement program.<sup>7</sup>

During our recent engagement, stakeholders told us that they:

*"supported expanding and improving the network where there is a clear benefit to residents and businesses."*

and that they:

*"are concerned about risking energy costs and control over their bill."<sup>8</sup>*

Our proposed reticulation of LPG and potential expansion of the natural gas distribution network is consistent with feedback from our stakeholders as it:

- provides residents and businesses with a choice of fuel, noting that in general, increased competition puts downwards pressure on energy prices;
- provides businesses and industrial users access to a previously unavailable feedstock; and
- should AGN proceed with the natural gas distribution network expansion, would result in lower prices for all South Australian's as our largely fixed cost base would be spread over a larger customer base.

Furthermore, AGN's proposed extension of the network to Mount Barker has received broad support from the South Australian Minister for Mineral Resources and Energy:<sup>9</sup>

*"The Government of South Australia has considered this proposal and considers that there are many benefits of extending the gas network into Mount Barker. Access to natural gas will allow Mount Barker residents to take advantage of an alternative low emission energy source for various applications including cooking, water heating and space and central heating. Natural gas can also be used for a wide range of commercial and industrial applications. Provision of natural gas in Mount Barker will offer residents and businesses greater choice and improve energy security."*

## 2.6. Supporting Information

Attachment 6 provides a presentation that further summarises AGN's strategy and approach to reticulating the District.

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<sup>7</sup> AGN's Gas Access Arrangement for the South Australian natural gas distribution network: <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/australian-gas-networks-sa-access-arrangement-2016-21>

<sup>8</sup> Australian Gas Networks, "South Australian Access Arrangement Information, Chapter 3", July 2015.

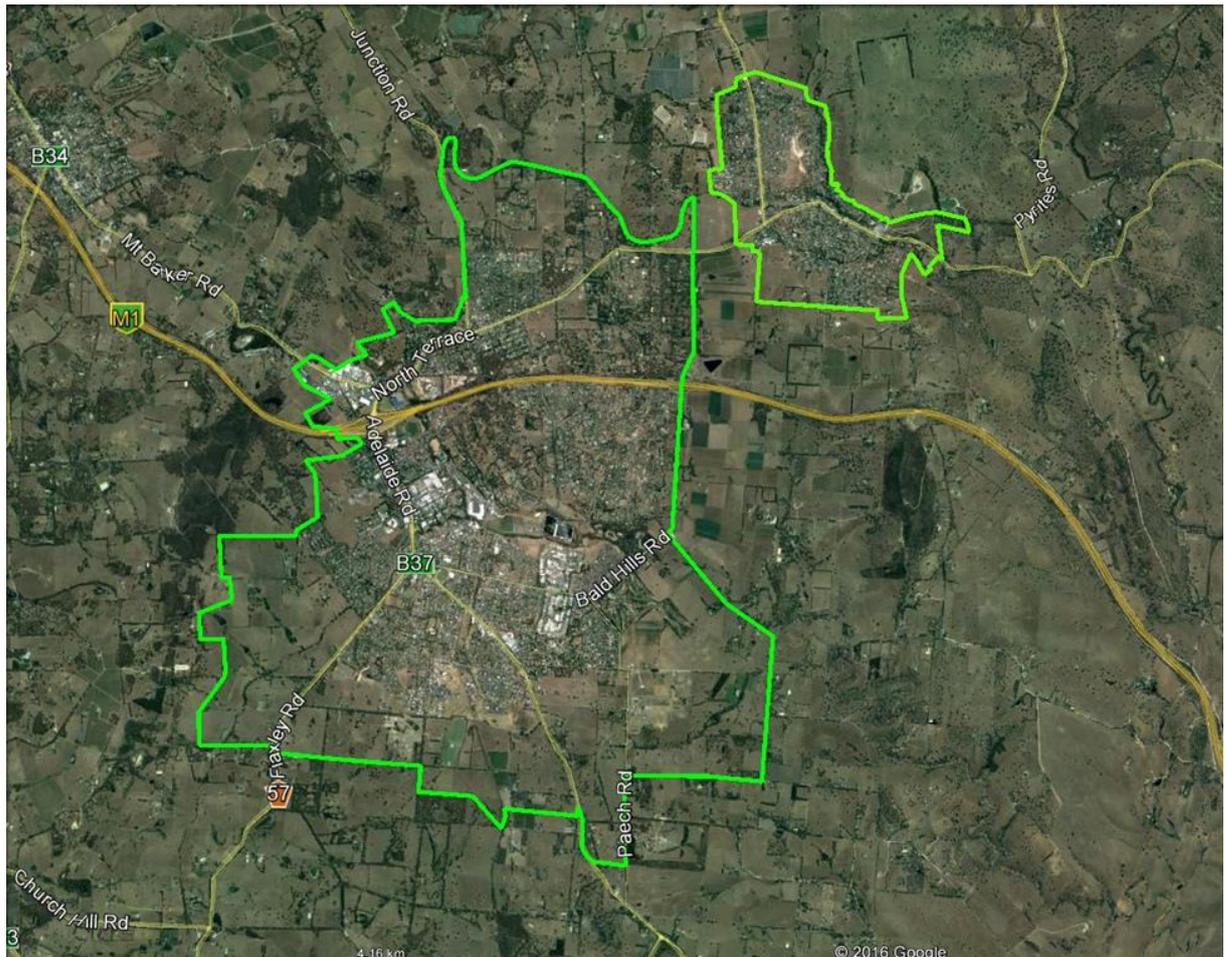
<sup>9</sup> Hon. Tom Koutsantonis, Letter to Warwick Anderson (AER), 20 November 2015, <http://www.aer.gov.au/system/files/Government%20of%20South%20Australia%20-%20Additional%20submission%20on%20Australian%20Gas%20Networks%20proposed%20Access%20Arrangement%20for%202016-2021%20-%2020%20November%202015.PDF>.

## 3. Scope of Operations

### 3.1. Location

AGN is seeking a LPG distribution licence for the Mount Barker, Littlehampton and Nairne area which is approximately 30 kilometres south-east of Adelaide.

Figure 1: Mount Barker, Littlehampton and Nairne Region



As outlined in Section 2 of this attachment, this operation is the first step in a wider strategy of growing our natural gas distribution network to the District.

### 3.2. Expected Capacity of Distribution System

#### 3.2.1. Initial Plans

As outlined in Section 2, the Mount Barker District has been identified as a growth area, with a climate favourable for natural gas consumption. AGN is currently discussing the provision of gas reticulation with a number of companies developing various new residential estates in and around Mount Barker. It is anticipated that LPG will be reticulated through these estates, and reticulation will be installed as the various stages of each estate are developed.

Initially the reticulation systems will be stand-alone within each development, but as developments increase and mature there may be potential to link them together in an integrated network.

AGN currently has submitted a proposal to the owners of one development to reticulate Stages 1 and 2 with LPG. Should that be accepted, this development will be the first of AGN's LPG reticulations. Further information on this development is provided in Section 3.2.2.

AGN is also working with other developers for the potential reticulation of their estates.

### **3.2.2. Residential Development Opportunity**

This development is located on rural land in Mt Barker. The development envisages a large number of allotments to be delivered over numerous stages during a five to seven year period.

The distribution system for the first two stages will include approximately 1,765 metres of 63mm and 90mm polyethylene (PE) gas mains (refer below for further description of the distribution system).

The site will be ready for installation of common trench services in January 2017, and the first homes are planned to commence construction in May through June 2017.

A LPG storage tank location has been identified and Safe Work approvals attained.

### **3.2.3. Potential Future**

As discussed earlier (Section 2.2) there may be the future potential to convert the distribution systems to natural gas, depending on the outcome of current feasibility and design work.

Should natural gas not eventuate in the future, it is possible that the LPG distribution system may be expanded over time to supply up to approximately 12,500 domestic customers and 260 commercial customers.

## **3.3. Type of Distribution System**

A LPG Distribution System typically consists of an underground network of nominal 110 mm, 90 mm and 63 mm PE SDR 11 "Tiger" fusion welded gas pipes, configured to provide gas to all homes in an estate for the optimum design and cost. The majority of gas pipes are installed in "common trench" with electricity and communications infrastructure, and trunk mains will be installed as necessary, depending on the size of each development and potential for interconnection of individual developments.

25 or 20 mm PE branch "service lines" supply each individual customer meter box, with pressure reduction regulators and retail meters operating at a nominal 2.75 kPa(g) pressure to the customer.

Underground PE ball valves are installed at various points within the Distribution System to provide positive isolation of selected streets/sections of reticulation, in case of emergency, without disruption to other gas customers.

### **3.4. Relationship with the Retail Network**

AGN is currently in discussions with a number of LPG suppliers, who will own LPG supply infrastructure and provide the LPG.

#### **3.4.1. Supply Details**

LPG will be supplied by natural vaporization from two nominal 3 tonne above ground LPG bulk storage vessels at the location provided by the developer within the area.

LPG will be injected initially at a nominal pressure of 100 kPa (g) but this may be increased to up to 140 kPa(g) as demand grows. If required, additional surface type vaporization equipment will be installed to meet high winter peak demands of short duration.

As further stages of the development are constructed, additional LPG storage tanks will be installed and interconnected to a pressure reduction and metering station. The LPG storage tanks will be kept at or above 30% capacity by regular deliveries of LPG using articulated road tankers.

#### **3.4.2. Limits of Supply Responsibilities**

AGN anticipates that the commercial arrangements between it and the LPG supplier will be such that the LPG supplier owns and maintains the LPG storage tanks, withdrawal pipework and pressure regulators and valving to supply LPG vapour into AGN's distribution system.

The LPG supplier will be also responsible for maintaining adequate stock of LPG in the storage vessels, by regular deliveries using its own or contractors' tankers.

AGN will own and maintain the underground PE distribution network, customer inlets and meters, and there will be a defined delineation of the ownership limits of each company's infrastructure. AGN will provide the same customer services as it does for all other networks it owns, including meter reading, customer call centre and response services and emergency response. Customers will utilise the same contact process, phone numbers and website as they do now.

In the same manner as its natural gas networks, AGN will be responsible for gas "haulage" through the network and for customer metering, while the LPG supplier provides the bulk LPG fuel and is the Gas Retailer.