

Australian Natural Gas

Bakers Research Note

The Australian Natural Gas Industry: An Overview

By Hai Pham

Australian gas industry structure is highly complex. It can be either classified by gas types, operational segments, deposit basins or groups of players. This report will give an overview picture of the industry from the classification of the operational segments along the supply chain including Exploration & Production, Transmission & Distribution, and Retailing. Also, the competition within each segment will be discussed to highlight the role of different group of players.

Prior to the main discussion, an overview of gas players' profile and gas products will be presented as to form the scope of the paper. It is estimated of approximately 150 gas companies currently operating in Australia and they can be grouped into three main types: International Majors (multinational companies such as BP, Chevron and Shell); Australian Majors (domestic companies with market capitalisation of over \$1 billion such as Santos, Woodside, Origin Energy, etc..) and Juniors (small cap companies with little market or production share)¹. While majority of gas players are of junior, the industry is dominated by major companies in every segment.

Companies are involved in many kinds of gas products including the conventional gas – natural gas trapped in rock that is usually associated with oil; the Coal Seam Gas (CSG) – gas created from coal peat; the Underground Goal Gasification (UCG) - gas created from underground coal; the Liquefied Natural Gas (LNG) - compressed gas for easy of exportation and the Liquefied Petroleum Gas (LPG) – a mixture of hydrocarbon gases used as a fuel in heating appliances and vehicles. However, this report will focus on three main types of gas that have been taken

¹ State of the Energy Market 2008, Australian Energy Regulator

major stakes in the industry: the conventional gas, the CSG and LNG.

Exploration & Production

The segment is considered most competitive in the industry and characterized by over 100 explorers and 30 producers¹. Within each group of players, competition is much more intensive as players tend to operate similar type of gas and aims at similar market segments.

Coal Seam Gas Production

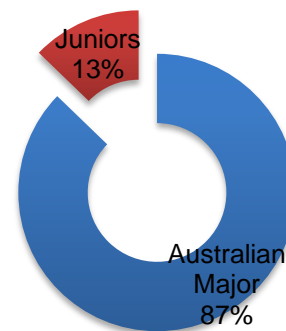


Figure 1: Coal Seam Gas production, States of the Energy Market 2008, Australian Energy Regulator

Juniors: Anglo Coal, Mitsui, Sydney Gas and others

Majors: Origin, Santos, Queensland Gas, Arrow and AGL

Juniors tend to compete with each other in the area of early phase of gas development, especially in Coal Seam Gas development. The strong competition is due to an increasing number of new entrants since 1990s as the result of rising gas demand as well as the prospect of the lucrative Coal Seam Gas sector. Examples include Sydney Gas, Beach Petroleum, and Planet Gas to name a few. Some of them have successfully moved to production stage and joined the Major group such as Arrow Energy and (former) Queensland Gas Company. As in 2008, CSG production hold by juniors accounts for 13% of the total production with the remaining belong to Australian major companies (fig 1). In conventional gas production, juniors only account for 7% of the total natural gas production share for domestic market (fig 2).

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The largest proportion of domestic gas production (in both conventional gas and Coal Seam Gas) belongs to the Australian majors. Besides production, they also competed in exploration areas. Their significant production interest and exploration budget basically represents much of the gas industry for domestic consumption. As in 2008, those companies (Santos, BHP, Woodside, Origin Energy, Queensland gas, AGL and Arrow) account for 63% of the conventional gas market share and 87% of the Coal Seam Gas market share (excluding BHP and Woodside).

Conventional Gas Production

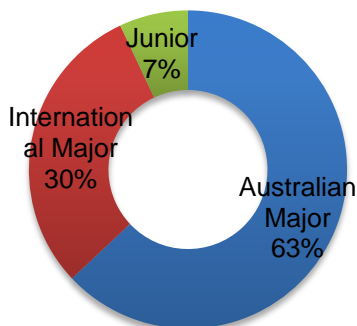


Figure 2: Natural Gas Production, States of the Energy Market 2008, Australian Energy Regulator

International Majors: Esso, Apache Energy, Chevron, Mitsui, Shell, BP

Australian Majors: Origin, Woodside, BHP Santos, Queensland Gas, Arrow and AGL

Juniors: Beach, AWE, Magella and others

The last group - the International Majors also compete in domestic gas production with 30% market share (fig.2). However, they more focus on large scale oil and LNG project. Their main market segment is overseas countries mostly in Asia Pacific region. Due to large scale investments, the group tends to operate in an inter-related set of ownerships in order to minimize the risks involved. For example, the 'gang of six' including Woodside, BHP, Shell, Chevron, BP and Japan Australia LNG equally own the LNG liquefaction plant North West Shelf.

In recent years, there has been a significant trend of merger and acquisition in this sector due to the

interest of CSG feedstock associated LNG proposals. With the Majors taking over the juniors, gas exploration and production market is envisaged to be more concentrated and of greater competition among big guys.

Transmission & Distribution

Contrary to exploration and production sector, the transmission and distribution sector is and will be expected to remain relatively concentrated to a very few domestic and international major players. Historically, pipeline was owned and operated under separate state-based regimes. The government reform in 1990s has led to many privatization activities which resulted in a number of entrants of major companies. Major consolidations in the past few years have now shaped the industry into four key players:

- **The APA Group:** The group is comprised of Australian Pipeline Trust and APT Investment Trust with interest in almost 12,000km of natural gas pipeline and over 2300km of distribution networks in all states and territories
- **SP Ausnet/Singapore Power International:** Singapore Power International has 51% interest in SP Ausnet who owns approximately 8,800km distribution network and 183km transmission gas pipeline in central and western Victoria.
- **Babcock & Brown Infrastructure:** The Company is the majority owner of the Western Australia and Tasmania distribution network. It also acquired 20% interest in the Dampier to Bunbury pipeline
- **The investment fund Hastings:** After the takeover of Epic Energy's gas transmission assets, Hastings currently own Moomba to Adelaide Pipeline (South Australia), the Pilbara Energy Pipeline (Western Australia) and the South West Queensland Pipeline.

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Victoria is the most competitive energy market with the customer switching rate reached up to 20%². The state has the most active licensed retailers and new entrants in the year 2008. South Australia market competition ranks second with the entering of three new entrants. The major retailers in South Australia including Origin and AGL Energy have seen a significant decline in their market share as the new entrants are now commanding over 25% share³. However, many other states seem to fail attract new entrants given their openness to the retail competition. Examples include Queensland, Western Australia and Northern Territory.

In summary, Australian gas industry is very competitive; with Exploration and Production as the most competitive sector, followed by the retailing sector. In exploration and production phase, Australian major companies dominate the domestic market. Meanwhile, juniors mainly are active in exploration phases and international majors compete in LNG development. On the contrary, the transmission and distribution sector are concentrated to a few domestic major players. At the downstream end of the supply chain, the retailing market is getting more competitive with the emerging of new entrants as the results of the full retail contestability in 1990s.

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²World's Hottest Energy Markets,

www.issuu.com/vaasaett/docs/worlds-hottest-energy-markets

³ Review of the Effectiveness of Competition in Electricity and Gas Retail Markets in South Australia, Origin Energy,

<http://www.aemc.gov.au/pdfs/reviews/Review%20of%20the%20Effectiveness%20of%20Competition%20in%20the%20Electricity%20and%20Gas%20Retail%20Markets%20-%20South%20Australia/aemc/001Issues%20Paper%20-%20Appendices.pdf>



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