The Australian Natural Gas Industry

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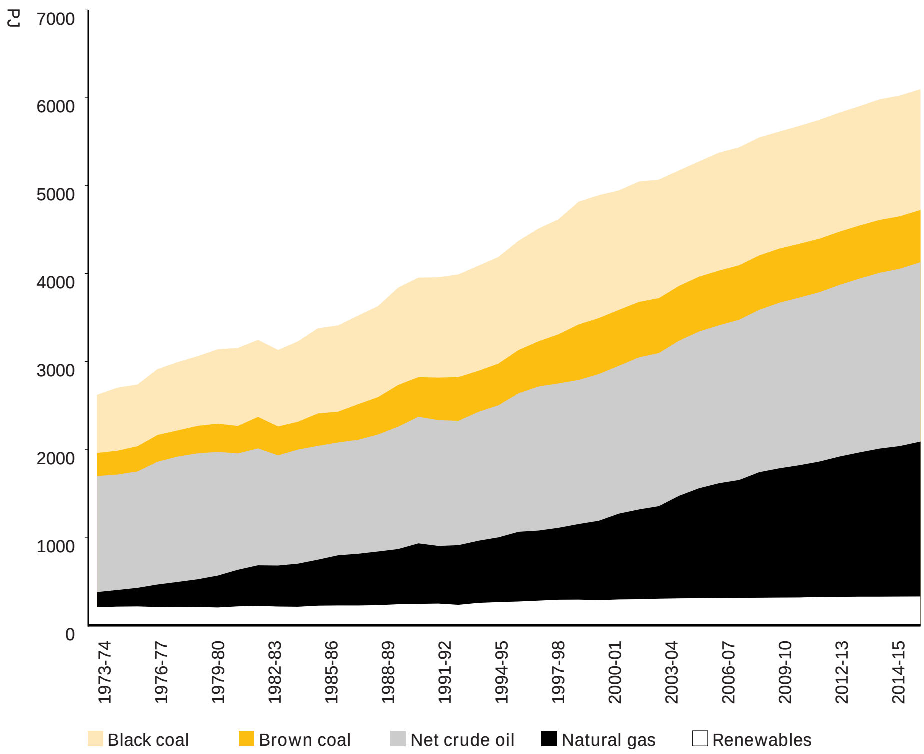
2.1 Australian Natural Gas Demand

Natural gas is Australia's fastest growing energy source and is Australia's third largest source of primary energy after oil and black coal. Annual natural gas sales nationally are approximately $4.5 billion. ABARE estimates that by the year 2000, natural gas will account for 20.3% of Australia's primary energy source and that by 2015 it will account for 28.9% of total primary energy.

Natural gas consumption is projected to grow at an average annual rate of almost 4.3% between 1999 and 2015, well above the forecast growth rate for total energy consumption at 1.4%. Historical and forecast growth in consumption of natural gas compared to other sources of energy is shown in the chart below:

ENERGY CONSUMPTION IN AUSTRALIA 1973 - 2015

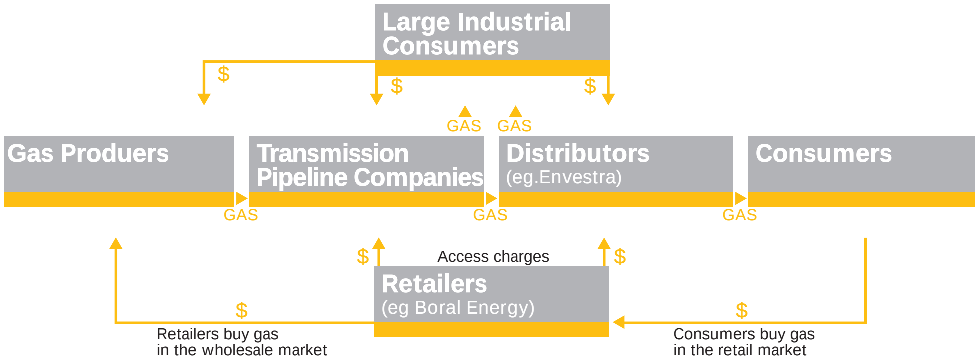


Source: ABARE Australian Energy Market Developments and Projections to 2014-15 as at April 1999.

2.2 Natural Gas Supply and Transportation

Given that Envestra is a natural gas distributor, the long-term availability of natural gas is of fundamental importance. It is expected that existing sources of supply will be able to meet Australian east coast demand for the next 33 years at current consumption rates. There are a number of potential new sources of natural gas supply once existing sources are exhausted. Ultimately, it is expected that a transcontinental pipeline and a pipeline linking the east coast to the significant reserves in Papua New Guinea will be required to satisfy demand.

2.2.1 INDUSTRY PARTICIPANTS



Producers
Natural gas production involves exploration, drilling wells, delivering the natural gas to processing plants and preparing it for transmission under high pressure through long distance pipelines to major capital cities and regional areas.

Transmission Pipeline Companies
Transmission Pipeline Companies carry natural gas from the natural gas fields, under high pressure, to the distribution networks.

Distributors
Distribution involves the delivery of natural gas to consumers through pipe networks. Distribution and retailing have historically been carried out by single entities ("gas companies") but reform of the natural gas industry has resulted in the separation of these two functions.

Retailers
Retailers purchase natural gas from producers in the wholesale market on a long-term "Take-or-Pay" contract basis and sell it to consumers in the retail market. Retailers pay a regulated Access Charge to Transmission Pipeline Companies and Distributors for providing access to their pipelines and networks to deliver the natural gas to consumers.

2.3 Natural Gas Industry Reform

Traditionally, participants in the natural gas industry were State-based vertically integrated monopoly utilities supplied primarily by a single producer under long-term natural gas supply contracts. They operated as monopolies, purchasing natural gas from producers and distributing and selling it to customers.

Under the National Competition Policy Reforms, owners of previously bundled natural gas distribution and retail businesses are required to separate their operations into distinct retail and distribution businesses. The function of distribution is separated from the competitive function of retailing natural gas.

Following the introduction of Contestability into natural gas retailing, natural gas distributors will be required to provide open access to their networks on a non-discriminatory basis to allow all licensed Retailers of natural gas to sell natural gas to Contestable customers. Distribution businesses, such as Envestra, remain sole distributors with Access Charges determined or to be determined by State Regulators on a State by State basis. Similarly, Access Charges are determined in relation to transmission pipelines (including Envestra's 640 km of transmission pipelines) by the ACCC. Over the past few years, Australia's Commonwealth, State and Territory governments have developed a National Third Party Access Code for Natural Gas Pipeline Systems. The National Access Code provides a detailed framework for establishing the mechanism to manage access rights and to determine appropriate Access Charges. As Envestra's tariffs are determined by the regulatory framework, prices over the Regulatory Period of five years are relatively predictable.

The National Access Code has been given uniform effect through reciprocal legislation in each Australian State and Territory (which has yet to be proclaimed in Queensland). Initially Retailers have been allocated customers based on their geographic area of operation. Ultimately, they will be allowed to compete for customers on the basis of price and service free of geographic constraint as the market is increasingly exposed to competition. All areas in which Envestra operates will be subject to competition by September 2001. It is anticipated that competition will lead to lower retail prices which should encourage higher volumes of natural gas usage. Contestability will occur in various markets at different times and will be "rolled-out" over time to different consumer classes.

2.4 Access Charges

Under the National Access Code, Distributors in Contestable areas of the retail natural gas market are required to provide access to their pipeline systems on a non-discriminatory basis, to enable all licensed Retailers to sell natural gas to Contestable customers. Access Charges form the central element of any Access Arrangement proposed by a network provider. It is the role of each State or Territory Regulator to assess, and ultimately approve or set, Access Charges.

Under the National Access Code, Regulators should have regard, among other things, to the legitimate business interests of network providers. This requires that network providers be given the opportunity to earn a stream of revenue that both recovers the costs incurred in providing the service, and provides an appropriate return on the value of capital assets used in providing the service.

For example, under the commonly adopted "cost of service" approach, costs which are able to be recovered comprise:

- the rate of return on the value of the capital assets of the network which is commensurate with prevailing conditions in the market for funds and the risks involved in delivering the service, where:
  - the rate of return is likely to be calculated using a Weighted Average Cost of Capital (WACC) and the Capital Assets Pricing Model used to determine the cost of equity and the cost of debt calculated according to borrowing costs associated with the asset; and
  - the asset base to which the rate of return will be applied is established after taking into consideration both the "actual capital cost" of the assets (the historical cost of the assets) and its DORC, which is the depreciated cost of replacing the existing assets with modern equivalent assets;

- depreciation of the capital asset base, where the depreciation allowed reflects the economic life of the assets; and
- efficient operating, management and other non-capital costs.

It should be noted that in assessing Access Charges under the National Access Code, Regulators have a discretion to apply different methodologies to those outlined above, although the principle that network owners should be able to recover costs and earn an appropriate return on capital assets is paramount.

Access Charges are likely to be reviewed at least every five years. This provides some protection for both network owners and customers against long term movements in volumes, interest rates and other inputs into the costs of providing the service.

Under the National Access Code, Regulators are likely to approve a schedule of prices to apply year by year until the following regulatory review, thereby allowing network owners to retain additional returns gained from achieving lower non-capital costs or increases in sales.

2.5 Regulatory Update

Set out below is a summary of the status of the Access Arrangements in each area in which Envestra operates.

REGION	STATUS	KEY DATES	
Victoria	Access Arrangements in place 17 Dec 98	31 Dec 2002	Reset Date
South Australia	Access Arrangement lodged 22 Feb 99	15 Oct 1999	Draft determination Final determination expected within six months
Queensland	Legislation passed but not expected to be proclaimed until early 2000.	Feb/Mar 2000	Access Arrangement to be lodged
Albury	Access Arrangement submitted 26 June 98	Oct 1999	Draft determination published July 1999 Final determination expected Oct 1999
Riverland/Mildura	Application to defer lodgment of the Access Arrangement approved by ACCC	30 Sep 1999	Access Arrangement due to be lodged
Mildura	Access Arrangement in place 3 June 99	Jul 2003	Reset date
Palm Valley Pipeline	Application to defer lodgment of the Access Arrangement approved by ACCC	30 June 2000	Access Arrangement due to be lodged
Alice Springs	Application to defer lodgment of the Access Arrangement approved by ACCC	30 June 2000	Access Arrangement due to be lodged

2.5.1 Victoria

The reform of the Victorian natural gas industry involved the restructuring of the State owned natural gas business into three businesses each comprising a Distributor and a Retailer:

- Stratus/Energy 21;
- Westar/Kinetik Energy; and
- Multinet/Ikon Energy.

Each Distributor serves two Retailers. Stratus currently serves Energy 21 and Kinetik. By September 2001, Distributors will be required to provide distribution services to all Retailers who supply Contestable customers connected to their networks.

The Access Arrangement for the Stratus Network was approved by the Regulator on 18 December 1998. It sets the Access Charges for the period from 1 January 1999 until the next Regulatory Period commencing 31 December 2002. Envestra can therefore be confident of the revenue forecast for Victoria for the next three and a half years, subject to variations in volume.

The Access Arrangement sets out the key inputs for the calculation of the target revenue which have been set as follows:

- a real pre-tax rate of return on assets of 7.75% per annum;
- an agreed asset valuation based on an adjusted DORC of $580 million as at 1 January 1998;
- an agreed nominal new capital expenditure programme over the next 5 years of $152.6 million;
- an assumed total nominal operating and management cost schedule for the next 5 years of $174.9 million; and
- an assumed load growth of approximately 2.9% per annum.

By the end of the Regulatory Period, 31 December 2002, Access Charges will have been reviewed through a process similar to the initial price setting process and Access Charges will be adjusted for changes in key variables including cost reductions achieved by Envestra over the previous four years. The reset process thus provides some protection for Envestra and consumers against long term movements in volumes, interest rates and other input parameters.

2.5.2 NEW SOUTH WALES

The Stratus Network includes the distribution networks of Albury Gas Company. As the Albury Gas Company distribution system is located in New South Wales, it is subject to the Gas Pipelines Access (New South Wales) Act 1998. Albury Gas Company lodged an Access Arrangement with the Regulator in June 1998 based on a DORC of $21 million. A draft ruling was made in July 1999 and is now subject to public comment. The Regulator has allowed a real pre-tax rate of return of 7.75% based on an initial capital base of $22 million. The New South Wales based consumers of the Albury Gas Company's network constitute less than 5% of total Stratus connections and therefore the Access Arrangements finalised by the Regulator will not have a significant impact on Envestra's revenue.

2.5.3 SOUTH AUSTRALIA

South Australia has adopted the National Access Code under the Gas Pipelines Access (South Australia) Act 1997. Envestra has submitted an Access Arrangement in respect of its South Australian networks to the South Australian Regulator and a final decision is expected to be made by the South Australian Independent Pricing and Access Regulator ("SAIPAR") before the end of this year.

Envestra has submitted the following key inputs for the calculation of revenue:

- a real pre-tax rate of return of 8.0% per annum; and
- an asset valuation based on a DORC at 30 June 1998 of $813.7 million.

Until Contestability and the implementation of the Access Arrangements, Envestra's revenue is determined principally by the terms of the Haulage Agreement with Boral Energy.

2.5.4 QUEENSLAND

Queensland legislation implementing the National Access Code has been passed by Parliament but is not expected to be proclaimed until early 2000. Envestra will have 90 days after proclamation to submit an Access Arrangement. The Queensland Competition Authority will have up to six months to make a determination. Until Contestability and implementation of an Access Arrangement, Envestra's revenue will be determined by the terms of the Haulage Agreement with Boral Energy.

2.5.5 NORTHERN TERRITORY

The Northern Territory has adopted the National Access Code and the ACCC performs the role of the Regulator. Envestra has applied to the ACCC and has been granted an extension to submit Access Arrangements for the Palm Valley transmission pipeline and the Alice Springs distribution network by 30 June 2000. Revenue from Palm Valley is fixed under a contract with the Power and Water Authority. This represents less than 1% of Envestra's total revenue.

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