



## The Gas Transmission Market

The physical properties of natural gas make it possible to be transported by pipeline. High pressure pipelines transport large volumes of natural gas cheaply and safely. Alternatives to pipelines for the bulk transportation of gas include specialised ships or trucks, and these are normally only used when the physical terrain, such as deep oceans or mountainous regions, make pipeline transport unfeasible.

### The economic transaction

Like transportation of many commodities, the transportation of gas is a business in its own right. In Australia, gas transportation services are almost always provided by specialist gas transmission companies that build, own and operate pipelines. The transportation companies are not involved in the process of selling gas. A customer or “shipper” on a gas transmission pipeline must make its own arrangements to secure a supply of gas, typically from an upstream gas producer, in addition to making arrangements for the transportation, by the pipeline company, of that gas. The owners of gas transmission pipelines negotiate contracts to sell transportation services to shippers.

The contracts, which set out the terms and conditions of third party access, are negotiated on commercial terms and are usually unique arrangements for each shipper on a pipeline; tailored to the shipper’s requirements. This approach is called a ‘**contract carriage**’ market.

Some typical services offered include:

- Firm forward haulage — these services enable a customer to reserve capacity on a pipeline and receive high priority services.
- Interruptible haulage — these lower cost services are sold on an ‘as available’ basis and may be interrupted or delayed at relatively short notice, depending upon constraints to the pipeline or gas supply.
- Park Services — these services enable shippers to store gas on a pipeline in order to respond to changes in the market or customer demand.

In Victoria, the Australian Energy Market Operator manages the operation of the gas transmission system (owned by APA Group) and users are not required to enter contracts. Instead, a party’s daily gas flow is determined by its bids into the wholesale gas market. The bids are despatched according to price, with the lowest bids clearing first. Pipeline charges are then based on actual gas flows following the dispatch process. The Victorian market approach is called ‘market carriage’.

### The physical transaction

Moving gas through a pipeline takes time, as gas must physically travel from the point of injection to the point of withdrawal on a pipeline. Shippers must nominate the amount of gas they wish to withdraw from a pipeline a minimum of one day in advance, so that a pipeline operator can ensure that a sufficient amount of gas is available in the pipeline to satisfy all requirements.

A shipper must notify its gas supplier of the quantity of gas it wishes to have injected into a pipeline in line with the nominations it provides to the pipeline operator.

Deviations from nominated amounts can create physical imbalances in the pipeline, impacting on operating pressure and the quantity of gas available. As a result, parties that deviate from their nominated behaviour can attract additional charges.

The high pressure and significant length of pipelines mean there are large amount of gas stored in a pipeline at any time (called “linepack”). This substantial volume of gas allows a pipeline and its shippers flexibility and the ability to change requirements rapidly.

## Gas Transmission Market Initiatives and Information

The introduction of the National Gas Law in 2008 has led to several new initiatives impacting on the gas transmission market and requiring companies to provide an increasing amount of information for governments and potential participants

### National Gas Bulletin Board (BB)

The National Gas Bulletin Board ([www.gasbb.com.au](http://www.gasbb.com.au)) shows the capacity of major transmission pipelines, the nominated daily flows and actual daily flows. The objective of the BB is to facilitate trade in gas and capacity over the relevant pipeline systems through the provision of system and market information which is readily available to all BB users.

### Gas Statement of Opportunities (GSOO)

The Gas Statement of Opportunities aims to assist existing participants and new investors in making commercial decisions about investment in infrastructure or entering into contracts in the Eastern and South Eastern Australian gas industry by providing forecasts:

- for the 10 years after the year of publication, incorporating:
  - natural gas reserves;

- capacities and constraints of production, storage and transmission facilities;
- projected annual and peak day demand for natural gas for each demand zone; and
- for a further 10 years relating to natural gas reserves and annual demand for natural gas.

The role of the GSOO is to provide information. It is not the GSOO's role to provide speculation regarding how the market might act based on these forecasts.

### Short Term Trading Market (STTM)

The STTM is a market-based wholesale gas balancing mechanism located at defined gas hubs in Sydney and Adelaide. The market uses bids, offers and forecasts to determine schedules for deliveries from the pipeline transmission users and the hubs. The market will set daily market prices and settle each hub based on the schedules and deviations from schedules.

## Observations regarding the gas transmission market

- The **'contract carriage'** model is a flexible, efficient market approach for gas transmission in Australia. It is the dominant model in Australia and is the most suitable, given the typical, long haul 'point-to-point' nature of the system. Due to the unique short haul multi-point characteristics of the Victorian system, a **'market carriage'** approach has been adopted for that system.
- Long term contracts providing revenue security are necessary in order to underpin the financing of the significant capital expenditure that is required for the development of pipeline infrastructure.
- Contracts between pipeline operators and shippers place obligations on both parties. Shippers must supply the required amount of specification quality gas and pipeline operators are required to ensure the gas is transported on behalf of shippers in accordance with the needs and interests of all shippers. The parties have legal and economic incentives to ensure that gas is delivered when required by the market.
- Gas market participants have excellent information on and understanding of the markets, a fact which is sometimes ignored. Despite lack of any conclusive evidence of information asymmetry or other market failure the burden of data provision requirements for gas market initiatives falls on regulated and unregulated businesses and is an additional cost.



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