

Argentine Gas Industry – Development at the Crossroads

Roland George

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Regional Context

Given numerous uncertainties, different scenarios are developed to try and capture a likely range of future possibilities for the gas industry.

The gas market in South America's Southern Cone region underwent a major transformation process in the 1990s, following the privatization of Argentina's state-owned energy companies. The Argentine gas industry (the most fully developed one in the region at the time) matured significantly. This translated into increased gas supply, a considerable expansion of the transportation system and greater distribution capacity, all of which opened the door to a major increase in domestic demand. Argentina also became a true exporting center supplying natural gas and electric power to its neighboring countries.

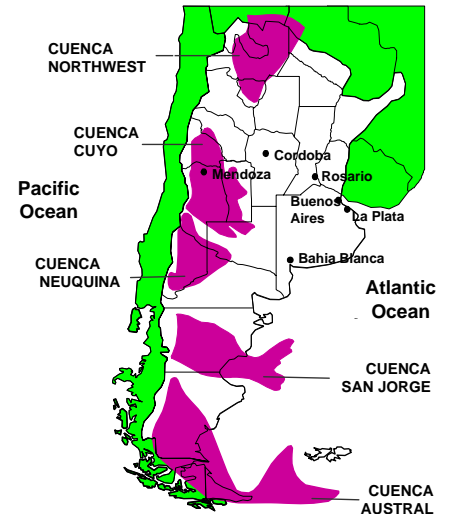
Argentine exports grew appreciably due to increased regional energy needs and insufficient availability of gas resources in other countries in the Southern Cone. This initially spurred the construction of gas pipelines to transport gas from Argentina to Chile, Brazil and Uruguay, which resulted in transportation capacity expansions and electricity interconnections with neighboring countries. This was the beginning of a real Southern Cone interregional gas market.

**FIGURE 1
ARGENTINA NATURAL GAS BASINS**

Brazil became the region's major gas demand center and the State-owned energy company, Petrobras, invested strongly in Argentina and Bolivia's upstream and downstream natural gas industry sectors in order to satisfy the growing demand.

	Year 2003 (BCM)	
	Power Reserves (*)	Production
AUSTRAL	148,60	9,02
CUYANA	0,50	0,08
NEUQUINA	344,60	29,88
NORTHWEST	129,50	8,12
SAN JORGE	40,30	3,60
TOTAL	663,50	50,72

(*) Beginning 2003



In spite of the small gas market size, Uruguay used its geographic location to its own advantage in order to develop its transportation and distribution capacity; which will allow it to implement a plan aimed at decreasing overall domestic energy costs in the future.

At the same time, as a result of the efforts undertaken by these countries' governments to promote regional integration, various private groups decided to invest large amounts of capital in an attempt to take advantage of the area's synergies. This was the case, for instance, in Bolivia, where international energy companies were allowed to participate in exploration and production activities and large natural gas reserves were discovered. Also, Chile started to import gas from Argentina in order to supply its steadily increasing natural gas demand market, causing new import pipelines to be constructed.

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The new century has so far been marked by major changes in the Southern Cone industry's structure and several major factors have led to a call for thorough analysis of the future of the regional natural gas market. These factors include political instability, successive government crises, Argentina's debt default and its impact on new investments, the pesification of existing contracts (that essentially reduced the value of existing natural gas contracts to 1/3 of their original value), the freezing of tariff rates and prices and the peso devaluation and its effects on costs, the claims lodged by private utilities' shareholders, Bolivia's institutional crisis and the resulting freezing of gas projects, Brazil's decisive penetration into the region's markets, and Argentina's post-crisis economic growth.

In spite of the existing economic and institutional weaknesses, it will be necessary for the energy industry to continue to develop in order to meet the region's increasing gas demand. Southern Cone countries will be required to undertake major efforts in order to take advantage once again of the complementary synergies and relationships, which will allow the continuation of strong energy links in the region.

Current Situation

Until the natural gas transportation and distribution systems were privatized and the oil and gas market was deregulated, domestic gas production was basically state-controlled and was used for the sole purpose of supplying domestic demand requirements. With privatization came the participation of international gas exploration and production companies in the industry and natural gas production levels doubled between 1992 and 2001. This was mainly in response to increases in demand growth from expansions in the power sector through the addition of new combined-cycle power generation plants, increased demand from residential customers, increased export requirements to neighboring countries, and the development of CNG as a motor vehicle fuel. Escalation in demand was also being observed in the industrial sector, albeit at much slower and varying growth rates.

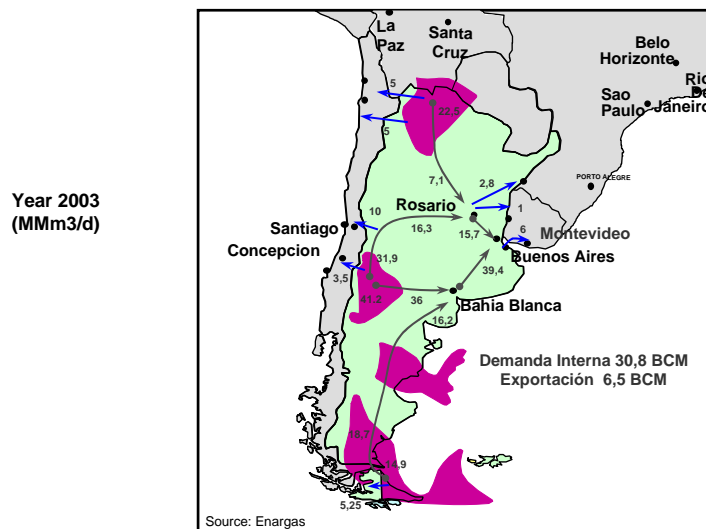
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Based on the delayed expansion of the Argentine natural gas system's infrastructure as a result of the economic crisis that took place in late 2001, a shortage in natural gas supply is developing due to increases in demand as a result of recovery of the Argentine economy. Considering that no major transportation capacity increases are possible prior to the winter of 2006, the supply shortage will only become more severe.

The Argentine gas transportation system consists of five major gas pipelines, namely the Norte and Centro Oeste Pipelines, which are part of Transportadora de Gas del Norte S.A.'s (TGN) system; and the San Martín, Neuba I and Neuba II Pipelines, operated by Transportadora de Gas del Sur S.A. (TGS). As may be inferred from the name of the two transportation licensees, they cover the Northern and Southern regions of Argentina, and connect to the Buenos Aires High Pressure Loop, which supplies the major demand center. It is important to keep in mind that Argentina has no underground or above ground gas storage facilities along the pipeline transmission network.

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**FIGURE 2
TRANSMISSION SYSTEM CAPACITY**



Transportation capacity had increased virtually non-stop from 1993 to 2001. In early 2002, given the tariff rate freeze, the currency devaluation and the transportation licensees' default on their debt repayment obligations, and the existing financial conditions, TGN and TGS were not able to invest in the transportation system infrastructure. To respond to this situation, the Argentine government needs to enact changes to the regulatory framework and its energy policies to encourage the financing of gas distribution and transportation capacity expansions.

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Current transmission pipeline capacity is entirely allocated to firm transportation contracts, which include both gas exports and gas supplying Argentina's domestic market (industry, thermal plants, distributors and other direct shippers). Distribution companies account for 68% of the transportation capacity contracted, whereas 17% is used for export purposes and 15% is directly contracted for by industrial Large Users and power stations.

The gas distribution system consists of nine licensees that cover the entire Argentine territory: Metrogas, Gasnea, Gas Natural Ban, Litoral, Camuzzi Gas Pampeana, Ecogas Centro, Ecogas Cuyana, Gasnor and Camuzzi Gas del Sur.

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Total Argentine gas demand in 2003 stood at 30 billion cubic metres (BCM). This represents a more than 60% increase from the 1993 consumption volumes. The increase in domestic consumption was the result of the installation of new gas-fired thermal plants, major industrial expansions (expansion of the Aluar aluminum plant, Profertil's production of urea, increased production of LPG as a result of natural gas processing by Mega, expansion of General Cerri, Cañadón Alfa and other plants, etc.), increases in residential demand, and the development of a market for CNG as vehicular fuel.

Currently, Argentina has eight gas export pipelines: five to Chile, two to Uruguay and one to Brazil. Natural gas was first exported in 1996 following the construction of the Bandurria (Argentina-Chile) pipeline, at volumes of 0.5 BCM. Recently the export volumes have grown to 5.6 BCM, 85% of which goes to the Chilean market, while the remainder is used to supply Brazil and Uruguay.

Resolution No. 131, passed by the former Secretary of Energy and Mining on February 9, 2001, which superseded Resolution No. 299/98, regulates gas exports. Resolution 131/01 created a mechanism for the approval of export applications, imposing a number of technical requirements to be met. In addition to the need to provide grounds justifying the export by means of an agreement or letter of intent to sell gas, the Resolution required guaranteeing supply through the certification of reserves sufficient to supply volume requirements during the entire contract term. Furthermore, exporters were required to guarantee that new demand would not affect certain conditions relating to the reserves/production ratio.

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Then, Resolution No. 265 of the Secretary of Energy [Secretaría de Energía], dated March 24, 2004, ordered the suspension and review of Resolution No. 131/01. All proceedings for the granting of gas export authorizations pending before the Secretary of Energy were also suspended in an attempt to prevent a natural gas domestic supply crisis. The resolution also suspended the export of any natural gas surpluses that would be useful for domestic supply purposes.

The Uncertain Future

The first scenario would see Argentina's gas exports restricted to the existing contractual commitments. Chile would need to resort to international markets by importing LNG to satisfy its energy demand and Bolivia would continue to balance Brazil's gas demand.

Considering the recent curtailments of natural gas deliveries to Chile and plans to build an LNG import terminal in Chile, more changes are on the way. Given the uncertainty regarding Southern Cone (especially in Argentina and Bolivia) regulatory policy, and market considerations, three potential development scenarios were analyzed by Purvin & Gertz, Inc..

The first scenario would see Argentina's gas exports restricted to the existing contractual commitments. Chile would need to resort to international markets by importing LNG to satisfy its energy demand and Bolivia would continue to balance Brazil's gas demand. Argentine gas exports would mainly supply Chile. Gas demand growth in southern and northern Chile would be supplied from Argentine basins. Exports to Brazil would be minimal. The Gasoducto del Nordeste Argentino (GNA) would not be built and the Uruguayana-Porto Alegre pipeline expansion would not be completed. The GasAndes expansion would not take place. Bolivia and Brazil would expand the Río

Grande-São Paulo (GTB) Pipeline to satisfy Brazil's domestic demand that would not be met by Brazil's indigenous gas resources. Chile would build an LNG import terminal and regasification plant to meet its gas supply shortage. This scenario allows Chile to stop relying exclusively on Argentine and Bolivian gas.

The Gasoducto Argentino del Nordeste ("GNA") scenario assumes completion of the GNA by 2007-2008. This allows additional Bolivian gas to enter the regional market. GasAndes would be expanded to meet Chilean demand. The Uruguayana-Porto Alegre gas pipeline would be completed.

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In most scenarios, gas demand growth in the Southern Cone will likely be driven requirements in the power and industrial sectors. Although Argentina will lose total market share, it will likely remain the largest gas market in the Southern Cone. In addition, the Southern Cone infrastructure will need to expand. Chile and Brazil will maintain their dominant position as the leading gas importers in the region but Argentina will likely have to share its position with Bolivia as the region's leading gas exporters.

As a final note, the Southern Cone in general is experiencing more government oversight and regulatory control of the energy business. This is evidenced by state intervention in daily pipeline operations to power plant dispatching, inter-country gas deliveries, and price controls. These policy trends do not seem to be reversing the reforms that were passed in the 1990's but rather seem to be slowing additional energy reform and deregulation needed to attract additional energy infrastructure investment in the Southern Cone.

About the Author:

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