

NATURAL GAS REGULATION IN BRAZIL: FRAMEWORK TO STIMULATE COMPETITION IN SAO PAULO STATE FROM 2011

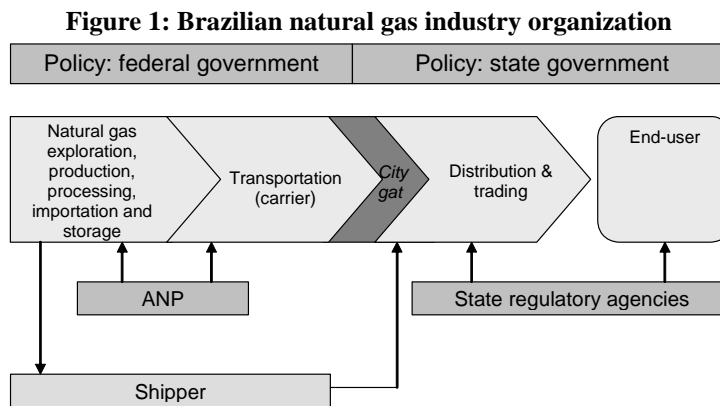
[Paulo Henrique de Mello Sant Ana, State University of Campinas, +55 (19) 3289 5499 phsantana@fem.unicamp.br]

[Gilberto De Martino Jannuzzi, State University of Campinas, +55 (19) 3289 5499, jannuzzi@fem.unicamp.br]

[Sergio Valdir Bajay, State University of Campinas, +55 (19) 3289 5499, bajay@fem.unicamp.br]

Overview

Regulation of the natural gas industry is recent in Brazil. The agencies regulating this industry, both in Federal and state levels, were set up only in the late 90's. Figure 1 shows the current natural gas industry organization in Brazil. This paper proposes a new regulatory framework to pave the way to competition in retail trade of natural gas in the state of Sao Paulo from 2011. At this year, a regulatory mark in the state will liberalize the retail trade for industry and electricity generation. It is important to point out that the authors are not worried here about arguing for a more market oriented, or a heavier handed regulation, since both structures can produce distorted results, as demonstrated by several experiences all around the world, and the efficacy of corrective actions depends on how advanced are the antitrust legislation and performance based regulation available in each case.



Methods

Market planning of natural gas in Sao Paulo State is done through a market outlook. Demand is projected using simple logistic curve estimation. On the supply side, projection considers Petrobras Strategy Planning. Proposed regulatory framework considers international experience and Brazilian characteristics, both in upstream and downstream levels.

Results

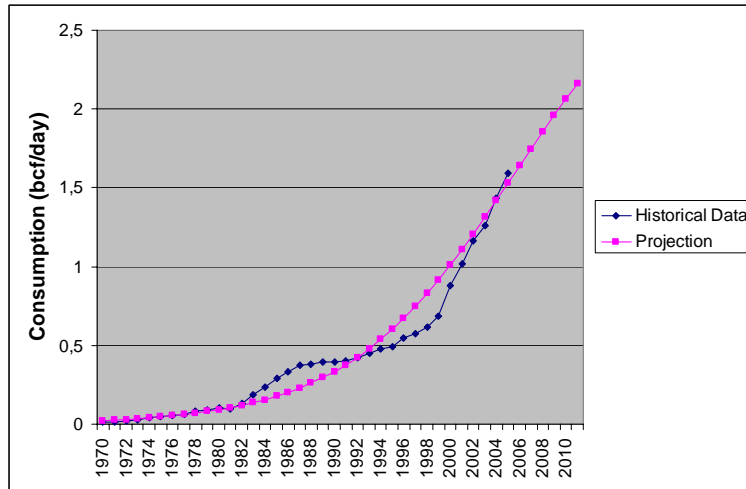
Brazilian natural gas market is concentrated in the Southwest part of Brazil, and the interstate system is interconnected in the major markets. It means that a natural gas oversupply in Brazil would directly reflect in Sao Paulo State, that is located in the Southwest. Basically, if there is natural gas capacity in the pipeline, it's possible to stimulate lower prices through pipeline optimization, the creation of a spot market, interruptible contracts, and allowing open access for third parties.

Figure 1 shows an optimistic (aggressive) demand scenario for natural gas in 2011 for Brazil - excluding for electricity generation. It was done through a simple logistic modeling. For electricity generation, it was considered that 100% of generation capacity of natural gas plants will be used in 2011. This would reflect in a projection of 1,71 bcf/day in 2011 for the demand. On the supply side, Petrobras is running an aggressive national gas supply plan. This plan will increase supply of natural gas from 1,60 bcf/day in 2005 to 4,27 bcf/day in 2011 (Petrobras, 2006). Table 1 summarizes natural gas outlook for Brazil in 2011. This shows that, in the optimistic scenario considered for 2011, Brazil would have an oversupply of 0.4 bcf/day.

For the upstream, this paper considers that Bill 334/07, that is currently being discussed in the Brazilian Congress, will be approved. Although the transition to a competitive market will be probably slow - because the existing pipelines would have an exclusiveness period from 8 to 15 year from the Law promulgation - it's necessary to introduce some changes in downstream regulation to create conditions for retail competition in the state of Sao Paulo for the industry and electricity generation sectors.

Next tariff revision at Sao Paulo State will initiate in 2009. This paper proposes the following measures to stimulate competition, security of supply, transparency and to avoid cross-subsidy in the state of Sao Paulo: 1) Changing the Maximum Margin MM_t that considers all sectors for a Maximum Margin for each one – eliminating cross-subsidy; 2) Allowing K_t factor to be positive in the residential, commercial and cogeneration sectors; 3) Accounting unbundling of distribution and trading in downstream activities in 2009, then a legal separation from 2011; 4) For the distribution system, considering firm allocated capacity as fixed costs and physical gas movement as variable costs; 5) Open access to distribution pipeline through a capacity and/or gas transportation payment; 6) Renegotiation incentives for demising take or pay contracts, and the switching of long-term to short-term contracts between shippers and LDC's; 7) Stimulate the Creation of a market center; 8) Standardization and harmonization of proceedings and rules; 9) Prohibition that any upstream party participate in end-user gas trading; 10) Monitoring contracts of supply and demand, working together with federal agency for supply and demand flexibilization, focusing in the security of supply.

Figure 2: evolution and projection of Brazilian natural gas demand, excluding natural gas for electricity generation



	Demand		Supply
	2005	2011 (projection)	2011
Electricity Generation	0,25	1,71	
Other consumption	1,53	2,16	
TOTAL	1,78	3,87	4,27

Table 1: natural gas market outlook for 2011

Conclusions

Regulation of the natural gas industry is recent in Brazil. The agencies regulating this industry, both in Federal and state levels, were set up only in the late 90's. The state of Sao Paulo will have the largest part of its industrial and electricity generation market matured by 2011. However, competition will not freely develop in these sectors from 2011 if upstream and downstream and regulation stays as it is. If nothing is done, 2011 will just be a regulatory mark, without any practical inferences.

Bill 334/07 for the upstream and the downstream framework proposed in this paper would be the initial condition to stimulate competition in Sao Paulo State. If both are implemented, it would probably: 1) create a wholesale and a retail gas market; 2) stimulate risk management tools, i.e. derivative instruments; 3) promote a shift from long-term to short-term contracts between LDC's and shippers; 4) create a spot and future markets; 5) promote a move towards spot and futures gas price indexation in mid- and long-term supply contracts. Competition would probably bring end-user prices down, as it happened in USA and the United Kingdom (IEA, 1998). However, government and regulators should work together on planning activities and the security of supply, to avoid possible shortage problems that happened in these countries.

References

- IEA. Natural Gas Pricing in Competitive Markets. International Energy Agency, Paris, FR. 179p., 1998.
 Petrobrás S/A. Plano Estratégico 2007-2011. Rio de Janeiro, 2006.