

24th World Gas Conference

Argentina, 2009

## VENEZUELAN NATURAL GAS MARKET: A PROPOSAL FOR ITS GROWING

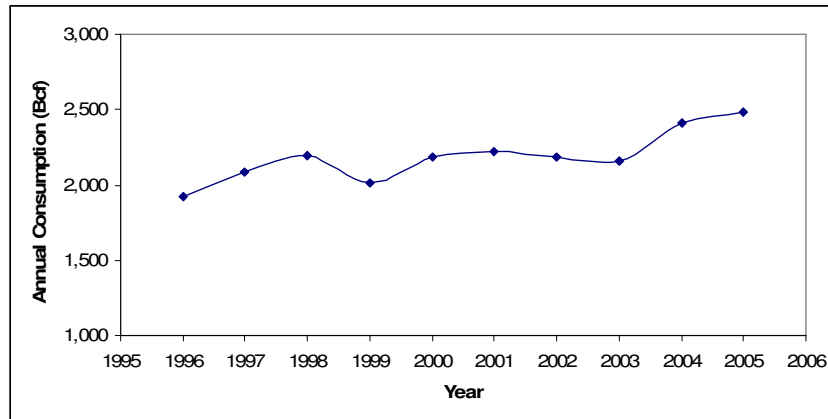
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### Background

Venezuela had 170.9 trillion cubic feet (Tcf) of proven natural gas reserves in 2007, the eighth largest reserves in the world and the second largest of American Continent. Approximately only 15% of Venezuela's gas reserves are non-associated, causing that the gas industry in Venezuela is not developed according to the resources of this country, due to its dependence of the cycles of oil business.

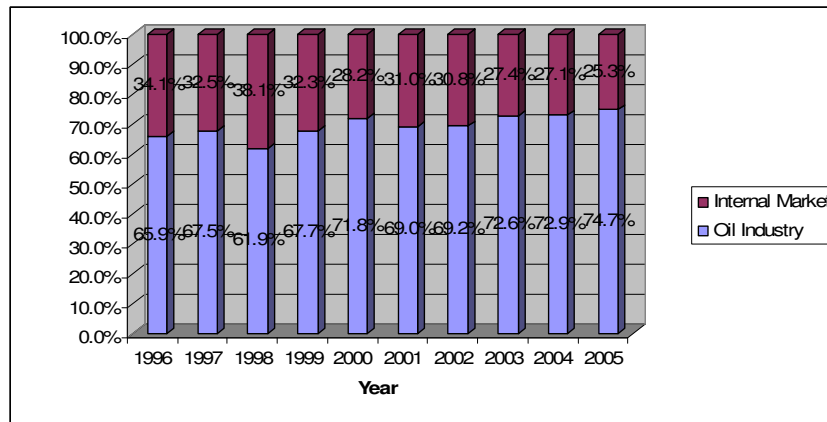
In Figure 1 is shown the consumption of natural gas in Venezuela in the period 1995 to 2005, which growth was 2.59 % inter-annual.



**Figure 1. Annual Consumption in Venezuelan Natural Gas Market. Source: PODE, 2005**

The natural gas demand in the Venezuelan internal market in 2005 indicates that 43.2 % were injected for enhanced oil recovery, 9.9% were thrown to atmosphere, 21.7 % were consumed as fuel and another uses by the oil industry and only 25.3% were sold to the internal market. From this share, only 4.95% are used by residential customers, which are equivalent to the 1.51% of the total gas consumption.

In the Figure 2 is shown the historic ratio between the gas consumption of oil industry and gas volumes for internal market, indicating that internal market only has an average of 30.7% for period 1995-2005



**Figure 2. Distribution of Venezuelan Natural Gas Market. Source: PODE, 2005**

## Aim

This paper considers the existing natural gas industry and the different economical, legal, political and social characteristics of Venezuela to propose a new structure for its natural gas market

## Methods

In order to make a proposal identified with the characteristics of Venezuela, first it were defined the status of Venezuelan Natural Gas Market and how other industries associated to national oil company of Venezuela (PDVSA) have been developed and how has been the experiences related to other commodities in Venezuela. Then, information about the market structure of natural gas in some countries in the world, such as Argentina, Hungary, Kazakhstan, USA and Spain were compiled.

All this information was evaluated in order to produce a proposal for the natural gas market structure that allow the growth of Venezuelan Natural Gas Market

## Results

The structure of natural gas industry in Venezuela, according to the Gas Hydrocarbon Law (LOHG), must be vertically separated into the following stages: production, transportation and distribution. But with almost all these stages in the hands of filial companies of PDVSA, actually the industry of the gas is integrated vertically, with some exceptions. For that circumstance, the natural gas development strategies depend of the strategies that PDVSA develops for its main product: oil.

The prices of natural gas in Venezuela are regulated by presidential decrees to low tariffs, making difficult the growth of natural gas market, due to the lack of incentives to install new

gas infrastructure, such as: gas pipelines, gas distribution system, etc. For that reason, almost all of the new gas systems are installed by PDVSA

The analysis of the gas market of the countries above-mentioned points out that when open access and unbundling are introduced to the different stages of the industry, the customer is benefited and the demand of natural gas is increased.

The proposal of this work consists in the change of the structure of the market from a vertically integrated organization that produces, transports and distributes natural gas, to a structure vertically separated. At the beginning, the stages of production and transport would continue being PDVSA responsibility. For the distribution stage, Venezuela would be divided in eight gas regions, each to be developed by independent companies financially supported by Venezuelan Government and regulated by ENAGAS, national regulatory organization. The proposal includes the strategic plan to carry out gas supply for the most people, making cross subsidies.

In the near future, the development of new gas production areas and the installation of new gas pipeline systems could be promoted using the figure of “Empresas Mixtas”, where PDVSA would hold a majority interest in representation of the state.

### **Summary**

In this work, a change of existing structure of natural gas market in Venezuela is proposed. At the beginning, the proposal include the division of Venezuela in eight regions to be attended by independent gas distribution companies, which would allow to supply natural gas to the majority of Venezuelan people, increasing the share of natural gas in the energy matrix of domestic sector. PDVSA would continue with the responsibility of the Exploration and Production and Transmission activities.